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Growing Hydroponic Raspberries, part 2

Why a Greenhouse to grow Raspberries?

There are some specific advantages to growing raspberries in a greenhouse over field grown berry's. First, raspberries have a relatively low chilling requirement for over-wintering, about 45 days below 45°F. Then the plants can be brought into the greenhouse from the cold to bring them out of dormancy early. They also prefer cool growing temperatures (55°F to 70°F), so the cost of heating the greenhouse is less than it would be for other crops. Growers in areas that winter begins early, have the added advantage of satisfying the chilling requirements (over-wintering) earlier. Those in warmer claimants may find it beneficial to use a separate chilling room to speed up the process.

Also in most locations they don't need supplemental lighting to produce high yields. One study did a test using both supplemental light and without. The plants with supplemental lighting began to flower 2 weeks earlier, but the total yield over the season (about 4 months) was just about even for both tests. Another advantage to growing [raspberries](#) in a greenhouse is that greenhouse plants are not subject to the foliage and berries getting wet by rain or dew. Wet raspberries are very susceptible to rotting, and damaged berries are useless and won't sell. So just by using a greenhouse to grow them in, you will significantly increase the profitable/usable yield of your plants.

Greenhouse raspberry plants are typically watered via-drip system whether they are grown hydroponically or not. But growing them hydroponically

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significantly reduces the possibility of soil born diseases being introduced to the root systems, provided they were certified virus indexed plants to start with, resulting in healthier plants. Because the fruit has been kept dry (out of the rain and morning dew), the storage and shelf life of ripe raspberries (under refrigeration) is greatly increased, thus stays fresher longer for the consumer. In addition, many of the insects/pests that can be a problem during the summer months are not active during the off season in the cold winter months.



Growing your hydroponic Raspberries

Even with all the requirements that raspberry plants have (size, trellising, chilling etc.), they have been grown in practically all types of [hydroponic growing systems](#), even NFT, [DWC](#) and Aeroponic. Some growers may even use grow bags full of growing medium, and simply cut a slit in the bag to insert the plants in and use a non recovery drip irrigation system. A well fed raspberry plant doesn't necessarily have a large root system for it's size, it can be even smaller than that of a mature tomato plant, but still last for years. As always [hydroponic growing medium](#) is mostly a personal choice, however it's important to make sure the growing medium drains well and doesn't remain to wet. Typical growing mediums used for raspberries by most growers include: sand, vermiculite, peat and perlite, either by themselves, in equal parts, or in just about any combination of them.

Probably the most common type of hydroponic system to grow raspberries in is a drip system. Either as a recovery ,or non-recovery system (also called run to waste). Non-recovery simply means that the [nutrient solution](#) is not



returned back to a central reservoir, but is allowed to run off. Depending on the size and age of the plant, growers use buckets starting from 3 gallons and transplanting into larger buckets up to 7 gallons as they get bigger. All the plants energy is stored in the roots, so make sure to take care to do as

little damage as possible to them when transplanting if doing so. Also make sure not to let the roots dry out before, during, or after transplanting.

To determine how many raspberry plants can fit in your greenhouse, just calculate how many plants you can fit in a row, spacing them two feet apart. For florican-fruiting plants, determine how many rows you can have with about 5 1/2 to 6 feet between rows, remembering to leave at least 3 feet between the end rows and the greenhouse walls (for harvesting etc.). Rows for primocane-fruiting varieties can be spaced closer, at about four feet apart. Closer spacing can result in pour air circulation that can lead to disease.

Optimum Growing Conditions

Growing Raspberry plants using [hydroponics](#) gives the grower maximum control of the plants nutrition, and naturally quality. According to one study raspberries grow better with a higher proportion of N relative to P and K. Another study used the same [nutrient formula](#) they used for strawberries with very good results. Raspberry's are a crop that can tolerate low light levels, and even lots of cloudy days. So even though supplemental lighting may increase a yield somewhat, the cost of running



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the lights may out-way any increase in yield from of using them. Not to mention, considering the add expense of installing them if they were specifically installed for the raspberry crops only.

Raspberries thrive in cool climates, with the optimal daytime temperatures around 72°F, and nighttime temps around 55°F to 60°F. But like any plant, they can tolerate and adapt to higher or lower temps, as well as fluctuations.



The optimum humidity range is between 65% -75%. Humidity levels above 90% will encourage fruit molding and pour pollination. Humidity levels below 65% will encourage mite infestations as well as pour pollination also.

A supporting trellis system is an important part of good raspberry production. As the fruiting laterals become heavily weighted down with berry's and foliage, they will tend to bend over and break from the weight. Once the growing season is over all the leaves can be trimmed off, and the old canes can be pruned off as well. Pruning and trellising will affect plant growth, fruit quality and quantity, as well as size. So you should get to know your canes.



Pollinating Raspberry's

Unfortunately pollination is probably the biggest drawback to greenhouse and off season production of raspberries for most growers. Unlike some crops that can be pollinated by shaking the plants, air currents and a just a good breeze, raspberries need to be pollinated by insects. More than 30 flowers can be produced by one single fruiting lateral, and most buds that reach 2mm continue to develop, set fruit and mature. Insect pollination is essential for good fruit set. Hand pollination is to labor intensive, not to mention to hard to keep track of which flowers were pollinated to be cost effective.

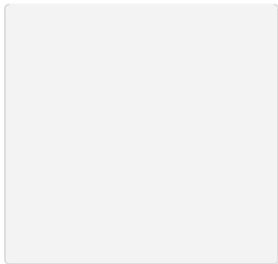
For summertime crops, some greenhouses may be built with openings that allows outside bees to come inside to pollinate. But depending on the size of operation that may still be inadequate to pollinate all the flowers, although a beehive can be brought into the greenhouse for adequate pollination. For the home grower, planting flowering plants around openings in the greenhouse will attract bees inside to pollinate the raspberries. For off-season (wintertime) crops, most bee hives are inactive, especially in northern areas. Even inside a greenhouse it may not be warm enough for bees to be active enough, even above the optimal temp for raspberries of 72°F.

Bumblebees are very good pollinators, and remain active in much cooler temperatures than bees. They are also quite docile and wont sting unless provoked. But bumblebee hives don't have a long life-span like bees do. Bumblebee hives will last about 10 to 12 weeks or so. Depending on the variety of raspberry and if your staggering the production cycle or not, you may need more than one bumblebee hive to pollinate your crops. The stigmas of the flowers may only remain receptive to pollination for about 6 days or so, so it's important to have your pollinators ready when the flowers begin to open. For growers serious about raspberry production, it may be well worth their while to learn to raise bumblebees themselves, especially for year



round production.

Along with bees and bumblebees as pollinators, [Blue Bottle Fly's](#) are a recent option for pollination. Like bumblebees the blue bottle fly's will remain active in cooler temperatures than bees will. Blue bottle fly's are also suited for use in greenhouses. They don't like to stay in one place, and tend to fly off. But work well in confined spaces like a greenhouse environments. It's important to remember bees, bumblebees and fly's are all insects also, the use of pesticides will have a negative effect on them as well. Most growers are learning that the use of beneficial insects for



pest control will still allow them to be able to control the pest populations, as well as not effect the other beneficial insects like the important pollinating insects.

[Growing Hydroponic Raspberries, part 1](#)

Useful links

- [Greenhouse Raspberry production guide](#) (Cornell University, pdf)
- [High Tunnel Raspberries and Blackberries](#) (Cornell University, pdf)
- [Greenhouse Raspberry Production for Winter Sales](#)
- [Pruning Raspberries, Blackberries and Gooseberries](#)
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Growing Hydroponic Raspberries, part 1

Typically raspberries are not considered good plants to grow hydroponically by growers because they are long term plants that depending on type of raspberry plant, may not produce any fruit in the first year. Because there are no real large producers of out of season raspberry's in the USA, most of them are imported from Mexico and Chile during the off season. That results in poor quality as well as higher prices because of the long distance they have to travel get to market. Even with the high prices and low quality of off season raspberry's, people are still apparently willing to spend their money on them. And for those people who like fresh raspberries, growing their own can be very rewarding.

Raspberry's are a high value crop that can sell for between \$3 and \$6 for a 1/2 pint during the off season, and typically sell for around \$3 or more when they are in season. Each plant can produce 8 to 11 1/2 pints of berry's in one season (about 4 months) for second year plants, and 3 or 4 year old plants can produce as much as 20 1/2 pints or more in a season. Let say they sell at \$3.50 for a 1/2 pint, and each plant yields 11, 1/2 pints, that's a total of \$38.50 (11, 1/2 pints at \$4.50= \$49.50) of product from each plant. So there's a lot of potential for profit, especially when rotating plants to provide for both in and out of season berry's. Even so very little information exists on hydroponically grow off season raspberry's. Yet because they are a highly perishable product, there is always a demand for fresh locally grown high-quality raspberry's.

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Types of Raspberries

There are two basic types of raspberries plants (called canes). **Primocane-fruiting** (Fall-Bearing, and/or everbearing) and **Florican-fruiting** (Summer-bearing). **Primocane-fruiting**, produces fruits at the top of the first year canes. If allowed to over-winter, these same canes will produce fruit again on the lower portions of the canes in early summer of the second year. However the second year fruit of the primocanes is said to be less quality than the first year fruit. Some growers will sacrifice the second-year crop in favor of the smaller but higher quality late fall primocane crops by pruning



the canes to the ground, at either the end of the first years harvest or in early spring of the next year before they begin to grow again. Then new canes will continue to grow and fruit each year in late summer.

Florican-fruiting (only produce fruit from buds on second-year canes), and unlike primocane-fruiting raspberries, these canes

must stay intact through the winter and into the following growing season to fruit. Also, during second-year of florican-fruiting raspberry plants, while the canes are flowering and fruiting new first-year canes are growing (also called primocanes because these are the first year canes). These will produce fruit in the following second year. At the end of the harvest year the second year canes (floricanes) should be cut to make room for the new primocanes that will fruit the following year. If not they will just die and not produce fruit anyway, taking energy away from the fruiting canes.

Advantages and Disadvantages

Primocane-fruiting Advantages

- long harvest season from the same plant
- less labor moving plants in and out of the greenhouse because of the long season
- higher density of plants can be placed in the same space
- only a simple trellis is required for support



Primocane-fruiting Disadvantages

- mites and other pests can build up during the longer harvest season
- bees must be active thought the long season for pollination
- Primocane plant yields are lower than florican

Florican-fruiting Advantages


- superior flavor and fruit size than primocane
- shorter harvest season, but with higher yields
- easy to schedule plant rotations for production cycles
- bees have a shorter season they need to be active
- pests easier to control because of shorter growing season

Florican-fruiting Disadvantages

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- larger plants so they take up more space
- plants require more trellising support than primocane
- plant requires more labor in manipulation of the canes
- it may be two years before the full potential yields are realized
- accumulation from the chilling is required to come out of dormancy

Raspberry cultivars

For some reason not all raspberry cultivars (variety of a plant) produce well in the greenhouse environment. Some of the varieties that have shown to do well in the greenhouse include: (primocane varieties) Caroline, Josephine,



Autumn Bliss, Autumn Britten, (Florican varieties) Tulameen, Chilliwack, Cascade Delight and Encore. The Tulameen variety seems to be a particular favorite for its large size as well as its flavor, and also seems to be particularly resistant to insects and disease.

Growers that want to grow raspberries for profit will want to obtain high quality virus indexed plants from a reputable source. Preferably from a nursery that sells certified virus indexed stock. Certified virus indexed raspberry stock is propagated from plants that have never been exposed to the outdoor environment. They are grown under very strict conditions in order to be free of pests and viruses, including soil born pests and pathogens. Field grown plants can be used, but are much more likely to introduce pests and disease into the greenhouse that can affect the entire crop. Also virus indexed raspberry plants generally grow more vigorously, as well as be more productive and even tend to live longer.

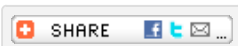
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Easy to Build Hydroponic System

One of the easiest hydroponic systems to build is commonly called a DWC (deep water culture) system. Although typically called a DWC system, it's usually really a combination of hydroponic systems. A true DWC system is nothing more than a water culture system, with a deeper reservoir instead of a shallow one. Depending on how it's built, most DWC systems combine a water culture system with one or more of these, drip, aeroponics and/or flood and drain systems. The easiest way to construct one is using a five gallon bucket with a lid, and a regular plastic pot. Cutting a hole in the bucket lid for the plastic pot to sit in without falling through.

The nutrient solution is placed inside the bucket where there is usually an air stone (connected to an air pump) is also placed. The air stone provides oxygen to the roots, and helps them to keep from suffocating in the water. Then the lid (with the pot) is set on top of the five gallon bucket. From there you have the basic DWC hydroponics system design. The key to the DWC system working is that the plants root system (either part or all of them) be submerged in the nutrient solution. From there you can make many variations, like if you wanted to recirculate the nutrient solution, and weather you wanted to recirculate it using a drip system, misters (aeroponic), or flood and drain. There are just too many variations to cover them all, but I will try to cover the most common ones.

Basic system

Without using a recirculating nutrient solution this would be the most basic, inexpensive and easiest. Without using a recirculating system the water level is very important, because the roots that are hanging in air (inside the

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bucket) are likely to dry out. Also the roots that are in the growing medium (in the pot) wont get any moisture and dry out. So you will want the water level to be just above the bottom of the pot with the plants in it, that will allow the growing medium to wick up the nutrient solution, and keep the hanging roots wet.



Even though it's a basic system, there are a couple of things that will make it easier to use, and

grow your plants. First is, you will want a way to drain the nutrient solution in order to make nutrient changes easier. The easiest way to do this is by simply just securely placing an end cap (or plug) on the drain tube that can be removed to drain the bucket/s. Another easy way is by installing a plastic or PVC "ball cock valve" at the bottom of the buckets.

Simply opening the valve will drain the buckets, then the new solution can be poured in from the top, right on the growing medium without even opening the lid. The next thing is you'll want to be able to check the water level easily. A simple elbow connector installed in the side of the buckets with clear vinyl tubing running all the way up to the top of the bucket will make it easy to see the water level inside the bucket. Just make sure it's covered when your not checking it to prevent algae growth in the clear tube.

The most common DWC/drip system

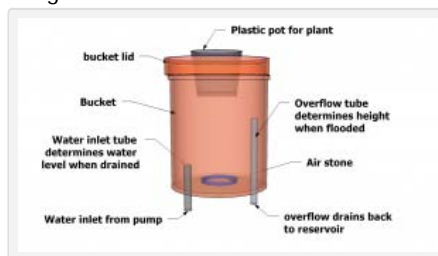
The most common DWC setup is probably the combination drip system, especially when using 2 or more buckets at the same time. Again there many variations on this type of setup you can do. But you wont need the clear tubing on the outside of the bucket for viewing the water level. You can set the water level by the placement of a overflow tube. The height of the overflow tube will keep the water level constant. Each time the drip system waters the plants, it drips down into the bucket filling it to the point of the overflow tube. The overflow tube then drains back to the nutrient reservoir, to be pumped back through the drip system again.



Because the water is recirculating between the buckets and a reservoir, the drain tube with the ball cock valve to drain the bucket with may not be needed. You will be able to just change the nutrient solution that's in the reservoir. There will still be the nutrient solution in the buckets, but as the new nutrient solution circulates through the system, it will mix with the old nutrient solution. So whether you want a drain on each bucket depends on weather you want to be able to get as much of the old nutrient solution out as you can when doing a nutrient change.

DWC/flood and drain system

The DWC/flood and drain system is fairly simple also, and as always can have many variations as well. The only real difference is how the water is pumped to the buckets. Instead of dripping down from above, the nutrient solution is pumped into the buckets from below the plants, through the water inlet tube. Then when the pump shuts off, the water begins to drain back down through the pump, and through the same inlet tube it was pumped up in.




DWC/aeroponic system

The DWC/aeroponic system is very similar to the DWC/drip system setup. Again the only real difference is the nutrient delivery system. Where the drip system drips down through the growing medium into the buckets, the aeroponic variation sprays the roots from inside the buckets with misters. The overflow tube would need to be low enough to allow the misters to spray the roots. But the water level in the buckets doesn't need to be real high anyway, because the misters will keep the hanging roots moist and from drying out.

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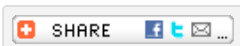
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But you do want it high enough to keep a good amount of water at the bottom of the buckets.



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Aquaponics or Hydroponics

Aquaponics, also known as the integration of hydroponics with aqua culture, is gaining increased attention as a bio-integrated food production system.

Hydroponics and aquaponics are close and often considered the same, but there are some distinct differences. With aquaponics, fish and plants are grown together in one integrated living soil-less ecosystem. The biggest difference is the nutrient source for the plants. With Hydroponics the nutrients are provided by refined chemical salts. With aquaponics, fish waste from living fish provides the food source for the plants, and the plants and plant beds can provide a natural filter for the water the fish live in.

Aquaponic systems are a bit more complex than a regular hydroponic system because the nutrients are derived from the living ecosystem itself. Also with aquaponics there's usually a series of filtration tanks needed to remove the accumulating solids as well as the degassing of accumulating gasses like hydrogen sulfide, methane and nitrogen from the system. There is also the plant to fish ratio to consider, not enough fish equals not enough nutrients to support the plants.

Aquaponic Systems

Typically aquaponic systems consist of several parts. A rearing tank (fish tank), solids removal tank (to keep solids from building up in the system), bio-filter (to remove the accumulating chemicals and gasses, as well as promote the growth of the beneficial bacteria and microorganisms), hydroponic system (where the plants are grown without soil), and lastly a sump pump (that circulates the water supply).

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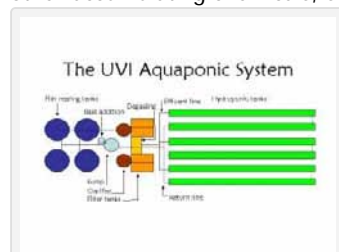
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Depending on the setup type of a aquaponic system, it may or may not be using planter beds to grow the plants. Planter beds are like raised flower-beds that are usually filled with gravel (also called "gravel beds"). These gravel beds not only act as a bio-filter that strips out ammonia, phosphorus as well as other accumulating chemicals, so



that freshly cleansed water can be recycled back to the fish tanks. But they are also the breeding ground for beneficial bacteria and microorganisms that break down the fish waste into the raw elements (nutrients) the plants can then absorb. These beneficial bacteria and microorganisms are essential to an aquaponic system working, because without them to turn fish waste into nutrients, the plants would not get the

nourishment they need to grow.

Aquaponic systems that are not growing the plants in gravel beds, but rather using a more traditional hydroponic system like a water culture or flood and drain systems, still require the beneficial bacteria and microorganisms to work. These traditional hydroponic systems don't have the large surface area (like within the gravel beds) for the beneficial bacteria and microorganisms to largely grow and multiply. But they can be added directly to the water as a bacterial starter culture and grow in a separate in line bio-filter.

Growing the Fish

The fish of course are an important part of the aquaponic system. The most common fish that's raised in commercial aquaponic systems is tilapia. Some other fish that have been used include catfish, bass, crappies, trout, carp, pacu, goldfish and cod. Tilapia is a warm water fish so they can also tolerate higher water temperatures, though most fresh water fish that can tolerate crowding should do well in aquaponic systems.



There are typically three ways of fish rotation in commercial aquaponic setups, Sequential rearing, Stock splitting and Multiple rearing units. Sequential rearing is where multiple age fish are raised in the same tank, then when the oldest ones are ready to harvest they are selectively caught and removed. Then new baby fish are added to replace them. Stock splitting involves stocking very high densities of baby fish, then periodically splitting the population in half as they get bigger until there ready to harvest. Multiple rearing units involves using a series of sequentially larger tanks. As the fish get larger they are either herded through a hatch between adjoining tanks, or into "swim-ways" connecting distant tanks moving them all as a group into the next size tank. All the multiple rearing units are usually connected to one filtration system that feeds the plants.

An important factor is the water to plant ratio. That also has many variables, but can range anywhere from a 1:1 ratio to a 1:4 ratio. The variation in range depends on type of hydroponic system used (gravel vs. raft etc.), fish species, fish density, feeding rate, plant species, as well as the depth of the growing beds etc.. You need enough fish waste to provide a constant amount of nutrients, but you don't want waste to accumulate in the system or growing beds. The solids removal tank will take care of most of that, although if using the gravel beds solely as the bio-filter without a solids removal tank, solids can build up in the gravel beds.

Conclusion

Aquaponic systems are complex carefully choreographed living

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ecosystems that can provide both fish and produce. But most commercial aquaponic farms need to run at full production for both fish and produce in order to be profitable. On the other hand, even though more complex than a regular hydroponic system, it can be quite rewarding to grow both plants and fish together. But be patient because it will likely take some time, as well as trial and error to get quite good at it (as with most things).



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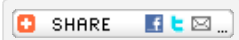
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1 comment to Aquaponics or Hydroponics



[Sylvia Bernstein](#)

[October 16th, 2010 at 9:26 am](#)

You've done a pretty good job of describing how a commercial aquaponics system here, but please understand that the extra filtration complexity is only in a commercial raft, or DWC, system. In a media based system, which is what home and small scale commercial growers are using, there is no extra filtration and clarifying needed. It becomes a simple flood and drain system. The fish water is pumped directly into the media bed (gravel or Hydroton) where the ammonia is converted to nitrates by beneficial bacteria, and the rest of the waste is converted to the remaining elements the plants require through microbes and worms. The water returns to the fish tank clean.

I have grown for many years both hydroponically and aquaponically and I actually find aquaponics the easier of the two methods. I don't measure or worry about EC or ratios of Grow and Bloom formula, I just feed the fish. I never dump and replace my nutrient water. There is no pythium – ever. It is really a great way to grow, so thanks for bringing aquaponics to the attention of your readers!

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Build Your Own Hydroponics Bucket Drip System

Even though this system is designed to grow 4 plants in 5 gallon buckets, you can easily adapt it to grow more or less plants as you wish, as well as in larger or smaller

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containers/buckets. You should be able to get all the materials needed at local stores like Home Depot, Lowe's, Wal-Mart, Target, Big lots, Kmart etc. I got the five gallon buckets at Home Depot for about \$2.50 each, and the 18 gallon storage tote at Wal-Mart for \$3.50. The black vinyl tubing and "T" connectors, I got at Lowe's. I also got the fountain pump from Lowe's (in the gardening section). That was the most expensive part of the whole system. The pump was about \$40, but for this system you don't need a pump as large to do the job, but it does allow you to expand on the system in the future.

Just make sure any pump you use has a removable filter, If not you will want to create one to keep debris out of it. The Through holes/Bulkhead fittings come in all sizes and shapes. They are used in all sorts of industry's, but most home improvement stores carry them somewhere in the store, and very likely have them in more than one place. The Through holes/Bulkhead fittings come in all sizes and shapes. The ones that I used for this system I found at Home Depot for \$1.97, right next to the electrical conduit.

System Parts List

- 4 Five Gallon Buckets (for plants)
- 4 Through

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Holes (also called bulkhead fittings)

- Black Vinyl Tubing (for both fill and drain lines), also blue Vinyl tubing from a hydroponic supply shop will work fine.
- 1 Submersible Fountain Pump
- 18 to 30 Gallon Storage Tote (for reservoir)
- Inexpensive Lamp Timer (with lots of on/off cycles to turn pump on and off with)
- Hydroponic Growing Medium (to support plants and hold moisture for the roots)
- One Inexpensive furnace Filter (to keep growing medium from getting in the tubing)
- A Few "T" Connectors that Fit the Vinyl tubing your using (how many depends on your final configuration)
- Two Cans of Inexpensive Black Spray Paint, and Two Cans of Inexpensive White Spray Paint (in order to light proof the buckets and reservoir)
- (Optional) A small amount of PVC tubing and connectors (for return line ends)



You will need to make sure the end of the through hole that the vinyl tubing will go on (end without the threads and nut), will fit the size tubing you are using. The ones I used will fit 5/8 inch inside diameter tubing. If not you can use two sizes of tubing and/or using a hose clamp to tighten it up. Also you may find that a old garden hose will fit just fine, and can be substituted for the vinyl tubing for the return (drain) lines.

Getting Started

First step is to trace the side of the through hole with the thread and nut, on the bottom of all 4, five gallon buckets. You'll want it to be close to the edge of the bucket, but not so close you wont be able the thread the nut on in order to install it (about an inch). That's so you will be able to set it upright on a table or bench, and most of the buckets weight will still be supported and it wont tip over.

I use a rotary tool to make the holes, but if you don't have one you can make the holes any way you want. Even a hot metal coat hanger will be able to melt the plastic nicely, then just scrape any burs off with a razor blade to make the edge soothe. It's important that you don't make the holes too big, or it may leak. It should be just big enough to stick the threaded side of the through hole in, without noticeable gaps. Now insert the through hole and tighten it up. Just make sure you have the rubber gasket on the right side. In most cases (depending on the particular through holes your using) it will most likely be on the outside of the bucket, and only the nut on the inside.



Now you'll need to light proof the buckets. Turn the buckets upside down, and put tape all around the through hole (so you don't get paint on or in it). Give the buckets a couple of coats of black spray paint, or as many as needed to block all the light. Then because the color black absorbs heat, give the buckets a couple of coats of white spray paint. This will reflect light and help keep the root zone temperatures from getting hot. Make sure you only paint the outside, you don't want paint to come in contact with the roots or nutrient solution.

The reservoir is quite simple, just paint the base and lid (outside) of the 18 to 30 gallon storage tote the same way you did the buckets. Painting it black to block light, and then white to reflect light. Once painted, cut a notch in the lid

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for the electrical cord and hose from the pump to go through. Then another hole or two for the return line/s where you plan it to be.

Setting the system up

There are so many different configurations to setting up the system, there's no way to explain them all. The buckets can be setup on a table, bench, wall etc.. But the one thing that you need to be sure of is that the reservoir is at least 6 inches below the buckets. Otherwise the nutrient solution won't be able to flow back into the reservoir. The design is simple, the pump pumps the nutrient solution up to the top of the buckets, where it drips down through the bucket, and out the through hole at the bottom. Then the return tubing drains it back into the reservoir.



You can run the return lines different ways, but it should be a gentle slope all the way back to the reservoir. You can see that I connected the return lines from two buckets together with a "T" connector, then back to the reservoir. The PVC at the end of the line's going back into the reservoir is not necessary, although it does help keep the flow draining back more even. The tube coming out the side of the reservoir and looping back

up through the center of the table, is the line that pumps up the nutrient solution from the pump to water the plants.

Getting the buckets ready to put the plants in is also quite simple, but just a few steps. First cut the filter part out of the furnace Filter, then cut a piece off to place over the through holes. This will keep the growing medium out of the tubing, but still allow the water to flow easily out the bottom. Now that you have the filter in place, place some rocks on top of that. I would fill about the bottom third with rocks. This holds the filter in place, and adds weight to the bucket keeping them firmly in place. (Note:) Be sure to clean and sanitize the rocks first by soaking them in bleach water for about an hour, then rinsing again. This reduces the chances of any root diseases.



On top of the rocks place the growing medium. I like coco chips myself, and that's what I used when building this system. Coco chips and coco fiber are basically the same thing, but the chips just larger partial sizes. Now make a loop using the vinyl tubing and a connecting "T" for all 4 buckets. These will be the dripper's that will water the buckets. Once



you have made them, take a paperclip and heat one end up with the flame of a candle, then poke some holes in the tubing ring with it. Notice that I cut a notch in the side of the buckets just large enough to hold the watering line in place snugly.

As with the drain lines, the feed (watering) line setup will depend on the configuration and positing of where you place your buckets.

In this picture you can see how I have run the lines to my buckets. The feed line comes up through a hole in the center of the table. Then is split into 2 lines using a "T" connector, then each of those lines is split into two lines again using the same "T" connectors. Essentially splitting one feed line into 4 separate lines (one to each bucket).

I used a digital timer

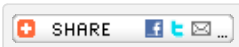


with this system (I already had it), but I later got another one for a different system for \$5.95 at Kmart. It had plenty of settings and even a cover over the dial. For best

results with the timer, make sure it 's rated for 15 amps (usually called heavy duty). You will also want a timer that has pins for the on/off cycles all around the dial, not just a few (for analog timers). That's because it will need to be turned on and off many times during the day. Digital timers usually have many on/off cycles that can be set.

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The Science Barge

With all the environmental issues facing the planet these days, it's not often you hear about real viable solutions to any of the problems that can be fully taken advantage of right now. But the Science Barge project (started in 2006) is one of those viable solutions. By taking common technology, and combining them together, the Science Barge project is showing that there's at least one answer to the planets problems that can be implemented today. Without waiting decades for the technology to be developed and perfected first.

The Science Barge is a floating, sustainable urban farm project, that's owned by Groundwork Hudson Valley in NY. There funded by federal, corporate, and foundation support as well as receiving individual donations. The Barge may be a small scale project, but the goal is to help educate and show future farmers that a self sustaining farm can be done on a large scale. By not only serving as a model for future farms, but it's also serving as an ongoing educational tool to students, collages and the general public. Another goal is to get people to think outside the box, by simply showing them that growing food can be done in lots more places then were conventionally thought to be unusable for crops, and food production. Can you imagine crops growing on rooftops, buildings, floating on lakes or oceans, suspended above parking lots and highways, on top of sports stadiums and Schools.

What makes the Science Barge different

The Science Barge program is a 135 foot long flat bottom boat based in Yonkers NY. that takes hydroponics and aquaponics, as well as being green to the next level. By using solar, wind, and bio-fuels (with no carbon emissions) to fully power the

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
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project. Water storage tanks hold rainwater from a rainwater catchment system, as well as a RO system (Reverse Osmosis) that purifies river water to irrigate the crops. The used water is also



recycled so there is no waste-water run-off going back into the environment. The water demand for irrigating all the plants on the barge is about 75 to 150 gallons per day, that's less than 1/4 the demand for the same amount of field grown plants. The fruits and vegetables grown on the Science Barge also require seven times less space to grow than traditional field grown crops.

They get all of the electricity they need from wind, solar and bio-fuels. They have five internally regulated wind turbines (with a total 2.0 kW of power), two passive solar trackers, including solar charge controller and auto-transformer. These solar panels track the sun's path for maximum efficiency (with a total 2.45 kW of power). All of this electricity is stored in a bank of



battery's on-board the barge. The battery bank is capable of storing a two day reserve of needed electricity. But well you just never know, so they also have a generator that has been converted to run on used vegetable oil (bio-fuel), just in case. The barge's daily power demand is about 25 kWh. Large farming operations that don't use all the electricity generated from the solar and wind generators, can also sell the excess electricity to the

electricity company's for an added source of income.

Along with regular hydroponics, they are also utilizing the technology of aquaponics on the Science Barge. Aquaponics is a little bit different than traditional hydroponics, it's a process where the nutrient solution is created in a controlled living environment of living fish, water-plants, and microorganisms that break down the organic material (fish waste etc.), into the raw elements the plants can then absorb from the roots. Among other things, the aquaponic system on the science barge is home to crayfish, goldfish, catfish, and is able to grow edible food. The Science Barge also contains a small man made wetland area, that's located underneath the solar panels that is used to recycle the used water from the hydroponic, and aquaponic systems.

But is it really all that efficient?

The Science Barge is able to grow 2000 pounds of fruits and vegetables in an area about the size of a single bedroom apartment, all in a single growing season. Unlike field grown plants where there's only one growing season a year, because you control the plants environment when growing hydroponically, you can have anywhere from 4 to 8 growing seasons in a single year (depending on crop/plant). There's no off season in hydroponics, plants are grown and when their done their immediately replaced with new plants, all year long. So along with being able to grow 7 times more produce in the same amount of space, and using less than 1/4 of the water to do it, then multiplied by many more seasons per year in the same space. Well I'll let you



do the math. And on top of all that, it's completely environmentally sustainable too.

The only downside would be the higher start-up costs, mainly from building

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the greenhouses, wind turbines, solar panels, and battery bank to store the energy. That's the main stumbling block, but due to the much higher yields will quickly more than pay for itself. Especially when you factor in all the savings from not needing all the very expensive heavy equipment needed to plow and condition the soil, spray pesticides, as well as harvest traditionally grown field crops. From my point of view, I don't see how we can afford to continue to grow crops the traditional way anymore.

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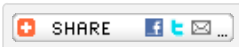
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The Importance of Calcium for Hydroponics

There are so many different manufactures of hydroponic nutrients on the market, and you always here the question which nutrients work best. While the answer to that is really based on what plants your growing, simply because some nutrients are formulated for specific types of plants, and some nutrients are formulated for general use. But just about all commercially manufactured nutrients are formulated to provide a well balanced nutrient solution that will generally supply your plants with all the nutrients they need, and in the right ratios. But that doesn't mean your plants wont ever become deficient of some essential nutrient/s (element/s), and will never show any signs or symptoms of a deficiency. Even if there in abundant supply in the nutrient solution. This can be a calcium problem.

It's normal to think that if there's a deficiency in the plant, it must be deficient in the nutrient solution. But that's not always the case. Plant chemistry is a very complex process where each element affects others, as well as environmental conditions. Calcium is a major building block for plants, and like any other element, can become deficient in plants even when in plentiful supply in the nutrient solution. But a calcium deficiency is very difficult to diagnose because it has such a wide range of symptoms, and can simply look like other deficiencies and/or diseases.

Why Plants Need Calcium

Calcium is used in the plants cell walls during their formation, It's basically

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required for the stability and function of the cell membrane, and it acts like a kind of glue or cement, binding the cell walls together. So if adequate calcium is not in the cell tissue during the formation of the cell walls, the plant tissues will simply be less stable and prone to breaking down. It then can look like a wide verity of symptoms of disease and/or deficiencies, that also makes the plant tissue more prone to getting disease and viruses from other environmental conditions and/or insects.

Once the cells are formed, the calcium is glued/cemented in place and becomes immobile. Because calcium has then become immobile within the plant, a constant supply of calcium is needed for healthy growth as the plant continues to grow. If there's a lack of calcium supply within the plant, once the cells are already formed, they can't be repaired by an increase of calcium supply to the cells that have already been formed. But the new plant growth can grow healthy and normal. When other elements are in excesses, calcium also helps act as a buffer for the root system. Calcium even plays a part in activating enzymes that regulate the flow of water movement within the plant cells, and is therefore vital for new cell growth and division.

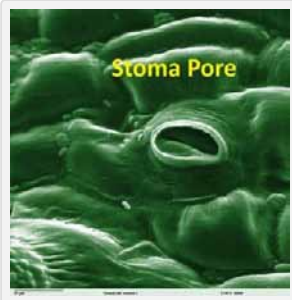
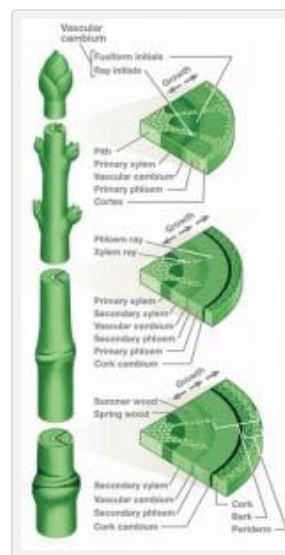
Factors that Influence Calcium Availability

Plants have two basic types of tissues to transport the minerals and sugars they need for growth though the plant, the **xylem** and **phloem**. These act as the circulation system for the plant, like vein's and blood vessels in a human. The xylem vessels carry water along with the dissolved nutrients from the roots up stems to the leaves and fruit. Water is lost from the foliage by transpiration (like exhaling in humans), through small pores in the stems and leaves called **stoma**. This creates a suction which draws up water from the roots through the xylem vessels, and distributed all around the plant.

Any condition that affects plant transpiration will affect the water flow/uptake through the xylem. Since the calcium is transported primarily through the xylem, this will affect the calcium nutrition of the plant. Slow uptake of water into the plant can lead to calcium deficiencies, even if there's plenty of calcium in the nutrient solution. Therefore encouraging transpiration is one of the best ways to ensure the plant is getting the calcium it needs all the time. Environmental conditions like high humidity and little or no air flow, slow down transpiration of the plant. Adding ventilation is the simplest way to encourage plant transpiration. High temperatures and water stress also affect calcium intake. Keeping the plants stress free, with good ventilation, will go a long way to good calcium nutrition.

Also not all parts of the plant will transpire at the same rates. The tips and edges of new and/or fast growing foliage, as well as fruits tend to transpire at slower rates than the already established older foliage. Because of this, a calcium deficiency in the plant tissue can appear in the form of "Tip Burn" and/or "Blossom End Rot" (BER). But both Tip Burn, and Blossom End Rot can be caused by other things, making a calcium deficiency quite difficult to diagnose.

It's also important to maintain a well balanced nutrient solution. Most all commercially made hydroponic nutrients are well balanced. Although as the plants take up nutrients from the nutrient solution, the balance tends to be thrown off. Another important factor to consider is the strength of the nutrient solution, nutrient solutions that are too strong can inhibit calcium uptake from the plants roots.



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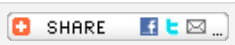
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Using Ultraviolet Light, and Ozone Treatments for Disease Control in Hydroponic Nutrient Solutions

With any hydroponic nutrient solution, there can sometimes be unwanted pathogens, bacteria and/or fungi that can grow out of control in it. It's not uncommon for these disease and viruses causing microbes to be in the nutrient solution. In fact, it's very common for many different pathogens, bacteria, and fungi to be in the nutrient solution. it's just when the unwanted microbes grow into numbers that largely out weigh the beneficial microbes, that they can cause a problem. Much like the human immune system, the nutrient solution is a living environment, the beneficial microbes in the nutrient solution act as the plants immune system, keeping the damaging microbes at bay.

Once the pathogenic microbes get a strong foothold, they are very difficult to get back under control without doing damage to the plants. Simply changing the nutrient solution is not usually good enough, by then they have already imbedded themselves on the plants roots causing diseases and viruses. Once that happens, aside from constant care of fungicides and/or H2O2 treatments (that can also do damage to the plants). The only other option is the direct addition of beneficial microbes into the new nutrient solution once it has been changed, in hopes of keeping the pathogenic microbes from out numbering the beneficial ones again. But that wont fix any disease problems that may already exist, just helps keep it from getting too much worse. After that, the plants need to be discarded and the whole system needs to be sanitized to

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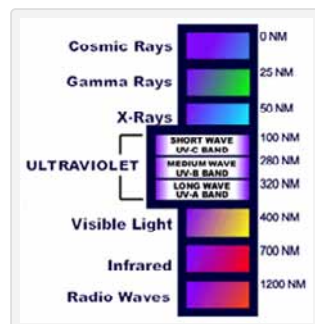
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How Ultraviolet Light (UV) Works

UV light has been used as a water purification system for well over 50 years, so it's not new technology. Although for hydroponic systems, it can be safely used to kill microorganisms without adding harmful chemicals like chlorine to the nutrient

solution. Because the UV light only penetrates the water so far down depending on how strong the light source is. The nutrient solution is run through a tube where the water level is sufficient for the light to be able to penetrate all the way through the water. The water then runs through the tube at a flow rate that allows the light to have sufficient time for the UV radiation to kill the organisms. The UV radiation will kill most of the microorganisms directly, or it will sterilizes them. Once a microorganism is sterilized, it cant reproduce and simply dies.



The UV radiation treatment is safe for people and animals, so don't worry about glowing nutrient solutions, or glowing plants from radiation. In fact, many people subject themselves to direct UV radiation every day to get a tan at the tanning salon. Once out of the direct UV light (that's inside the tube) there is no more UV radiation, in which case new microorganism that haven't been subjected to the light source yet will be able continue to multiply. That's why the nutrient solution is generally run through the UV light (in the tube) on a continuously flowing basis, keeping new microorganism from being able to multiply.

How Ozone Treatments work

Ozone Treatment is similar to using an air pump to oxygenate the nutrient solution, although Ozone has an extra Oxygen molecule that is highly unstable. That doesn't mean that it's dangerous, just that the third molecule dissipates quite quickly (it has a very short half life). The added oxygen molecule makes Ozone a very powerful oxidizing agent, and can result in the elimination of the unwanted pathogens, bacteria and fungi that can cause the diseases and viruses to the plants. With Ozone Treatments, it's not easy to achieve good reliability due to the short half life, and difficulty in getting good concentrations of Ozone into the nutrient solution. For this reason Ozone Treatments are generally just used in commercial operations.

Ozone treatment systems require an ozone generator, and some of the oxygen from the air that flows through the generator is converted into Ozone. Then just like an air pump and air stones are used to help oxygenate the nutrient solution, the ozone enriched air (O3) is pumped into the nutrient solution as a stream of bubbles. Contact time between the solution and Ozone bubbles is critical to it's efficiency, especially due to the very short half life of the (O3) molecules. The Ozone bubbles need to pass through a very deep solution tank usually called an "absorption tower," this allows the Ozone bubbles to stay in contact with the solution as long as possible for maximum efficiency.

Downsides to using Ultraviolet and Ozone treatments

Both ultraviolet , and Ozone treatments can breakdown some of the iron chelate in the nutrient solution, and that may cause some precipitation of manganese compounds. They also may reduce the "beneficial" micro-flora, which can play a role in suppressing plant disease and viruses. Also if you use any insecticides and/or fungicides in your nutrient solution, UV and Ozone treatments can also breakdown many of the organic compounds in them, once these organic compounds are broken down, some can become toxic to plants. Lastly Ozone can sometimes be damaging to certain plastic parts, mostly for commercially made NFT systems.

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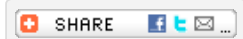
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Mulla Mahmadsob A.
[August 27th, 2010 at 1:19 am](#)

Respected sir,

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Grafting Hydroponic Plants

The main idea behind grafting is to simply take a variety of plant with a desirable above ground characteristics, and connect it to the roots of a variety with desirable under ground characteristics. Grafting is a propagation technique where the living tissue of two different plants are joined, and fused together into one plant. The top part of a contributing plant can be stems, leaves, flowers, and/or fruits, this part is called the scion. The bottom part of the plant contributes the roots and support, this part is called the rootstock (or understock).

Although grafting usually refers to joining only two plants together, you can join as many as needed. Multiple grafts are commonly done with fruit trees. For instance in order to get multiple varieties of apples from one tree, or to get multiple varieties of citrus like lemons, limes, oranges, tangerines and grapefruit from just one tree. Grafting is not limited to trees, grafting vegetables and/or any other plant follows the same principle as grafting fruit trees.

Why Graft Your Plants

Besides just for the obvious fun of it, there are other reasons that grafting your plants may be useful. Some of these benefits include:

- **To Take advantage of a particular rootstocks**, Some rootstocks varieties may have superior growth habits, disease and insect resistance, drought tolerance, or may even be better adapted to a particular climate than that produced naturally by an ungrafted plant.

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Where the scion (top) of another variety may have a desired fruit size, flavor, or even plant size etc..

- **To Optimize cross-pollination**, Not all plants are self pollinating, some require pollination from another variety for good fruit set, and some plants have either male or female flowers but not both. To ensure good fruit set on the female flowers, a male plant must be growing nearby. Grafting a section of a male plant to a female plant can increase good cross pollination.
- **To Increase the growth rate of seedlings**, Grafting seedling onto a more mature plant can increase the growth rate of the seedlings because the root system is already established.
- **To Perpetuate clones**, Clones of some species of plants can't be reproduced from vegetative cuttings easily, because the percentage of cuttings that successfully root is quite low. But many of them can however be grafted onto seedling rootstocks.
- **Creating new Varieties** Some varieties of plants don't actually come from seeds. Some are difficult and/or just about impossible to reproduce strictly from cuttings or other techniques.

Grafting limitations

All kinds of plants can be grafted including fruits, vegetables, trees, bushes, flowers, but not all plants can be grafted together. The only real way to tell if it can be grafted is simply to try. But generally speaking plants that are closely related graft together best, and form a good graft union. A poor graft union usually results in plants that either grow poorly, break off or just eventually die.

Types of Grafts

Although there are many different so called types of grafts (Cleft Graft, Bark Graft, Side-Veneer Graft, Splice Graft, Whip and Tongue Graft, Saddle Graft, Bridge Graft and Inarch Graft) they all basically really come down to two types of grafting techniques, top grafting and side grafting. With top grafting the scion is matched to the new stem (plant) by placing it directly on top of the rootstock stem. In most cases the scion and understock are of exact or nearly equal size. Another type of top grafting consists of splicing the scion to the side of the stem of the new rootstock (even of different sizes). In which case several scions may be attached to a single rootstock, or stem of a rootstock. The different names (types) are just given to explain the different types of cuts used to match the two stems together.

With side grafting, a partial cut is made into the stem of the scion plant (leaving the rootstock attached), then placing it onto the cut-off stem of the rootstock. At that point both the top (scion), and the bottom (rootstock) still have their root systems attached. Once the graft has successfully formed a good union, the root system of the scion (top) is severed from it's original root system, leaving the scion to now live solely on the new rootstock.

Taking Care of the Graft

Both preparation, and post-graft care should be taken to insure success. It's usually better to do the grafting in the morning or late afternoon when it's cooler so they don't wilt, and to avoid water stress. Also if you can, it's best to do your grafting on cloudy days, in the shade, and/or in a cool greenhouse. You should keep the grafting area and cutting utensils as clean as you can (like cleaning off the cutting blade in-between cuts) to help prevent plant diseases from getting in the graft.

All graft cuts must be smooth and straight so they will fit and line up correctly. It's a good idea to practice by cutting some extra twigs of the same size as the ones you intend to graft. Once you have made the matching cuts, it's important not to let the cuts dry out. You shouldn't try to cut more plants than you can graft together in a few minutes in order to keep the cuts from drying out, and the plants from wilting. Although, you can wrap the cut ends in a wet towel, or place them in a cup of cool water temporary if necessary. When attaching the graft, you want to make sure the stems are lined up correctly in order to form a good union, also you'll want to wax over the cuts to help prevent diseases. Once complete you'll need to secure the graft, this can be done a number of ways (like wrapping, tying, clamps etc.) depending on the size, and what type of graft your doing.

After grafting, it's best to keep the plants in a warm but shaded place, about 80-85 degrees F. Also you should try to keep them in a place with high humidity (hopefully 95% relative humidity if possible) until the grafts heal. Regular misting is helpful as well to keep humidity high (just not real wet). It will likely take about a week for the graft to heal. Once the grafts heal, set

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them out in direct sunlight again a little longer each day in order to slowly acclimate them to the direct sunlight again. Continue to mist them if needed to prevent wilting. Once the grafts have healed and formed a good union, and shortly after growth starts (usually about 2 to 6 weeks depending on the plants), you'll want to remove the binding material such as string, cord or even some types of nursery tape to prevent [Girdling](#) (basically choking the plant) because they won't easily expand with the plant growth.

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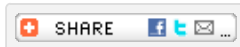
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Hydroponics in Antarctica

Who says you cant grow hydroponic crops anywhere? How about in the Antarctic, the coldest harshest continent on the planet. The only continent that has such harsh conditions there are no permanent human residents on the entire continent. The only residents are 1,000 to 5,000 people that reside throughout

the year at research stations scattered across Antarctica. Out of all the dozens of research stations, only three are permanently manned year round, and they rotate the personal during the summer season. Well if you can grow hydroponic crops in that type of environment, you can grow hydroponically anywhere.

[The National Science Foundation's Office of Polar Programs \(NSF/OPP\)](#)

oversees all of the research stations in Antarctica. Many of the research stations have built greenhouses to grow fresh produce to feed the crews manning the stations. This is especially important for the few research stations that are in operation year round. Supply's cant be flown in because like the north pole, most of Antarctica is in total darkness for about 4 months of the year. That combined with bad weather conditions like record lows of -117 F (without the wind chill), and unpredictable blizzard like winds, makes it extremely risky for planes to land and take off to bring in supply's most of the year. So these stations simply can't be re-supplied over winter months. All material and personnel must be flown in and stockpiled during the Summer season.

Once the supply planes stop after the Summer season, the fresh produce quickly runs out. So if there going to have any fresh fruits and

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vegetables during these long cold months, they simply need to grow it all on site at the research station themselves. The availability of fresh fruits and vegetables for meals, as well as flowers in the dining and recreation areas, has a great effect and impact, to the overall morale of all the personnel during those long dark winter months.

Hydroponics in Antarctica is not exactly new, they have been using hydroponic systems in Antarctica since the 1980's. Although it was not intended as part of the research, but just to help provide fresh perishable fruits and vegetables to the researchers, in order to make life at the research stations more bearable. Though over the years, and through trial and error from the personnel at the research stations, as well as their persistence, they have been able to make hydroponics on Antarctica quite productive. Providing as much as 250 plus pounds of food monthly with less than 700 square feet of greenhouse space.

The Antarctic Greenhouses

The Antarctic greenhouse at the [McMurdo \(US\) research station](#) is not your ordinary greenhouse though. With the help of the researchers in Antarctica, the University of Arizona's "[Controlled Environment Agriculture center](#)" has developed the most sophisticated state-of-the-art growth chamber (greenhouse) on the planet. It's also a prototype for space stations, including those future stations planned for the Moon, and Mars. It's called the "[South Pole Food Growth Chamber](#)" ([SPFGC Project](#)). The Growth Chamber was first completed and delivered to the South Pole McMurdo research station in February of 2004.



It's a completely sealed, automated atmospheric, CO2 enriched, climate controlled greenhouse. This includes recirculating the waste heat given off by the water-jacketed HPS lamps to supplement the heat needed to heat the greenhouse. Also the hydroponic nutrient delivery system, and pH adjusting system, as well as all the environmental conditions are computer controlled by the [ARGUS agricultural environmental control system](#) and equipment. It records, controls and displays all key aspects of the environmental conditions for current, and later analysis. The Growth Chamber is fully operated by volunteer's at the research station, and with each personnel change the new personnel needs to be trained to operate it all.



Some of the typical hydroponics crops grown in the Antarctic include tomatoes, lettuces, spinach, various dark leafy greens, cucumbers, bell and hot peppers, beans, zucchini, snow peas, fennel, as well as all kinds of herbs. Growing hydroponically allows the grower to grow out of season crops as well as all year round, and with the fully climate controlled greenhouse it's always the perfect season for the plants. By using this to their advantage, that allows the personnel in Antarctic to continually rotate the plants so they always have fresh ready to eat produce from these crops.

Also by germinating seedlings on a regular basis, they make sure they always have replacement plants ready to place in the hydroponic systems once they have harvested the older ones. This significantly reduces the time that's needed to go from seeds to maturity (or before they begin to fruit), and helps to make sure they have a continuous supply of fresh produce all the time.

Conclusion

Well perhaps ordering your own "South Pole Food Growth Chamber (SPFGC)" is out of the question, but it just goes to show that just about anything can be done. Not many of us have such extreme conditions to deal with, but all it takes is some trial and error, persistence, patients, and ingenuity to find a way to solve any conditions and/or problems that you may be facing with your hydroponic gardens.

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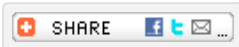
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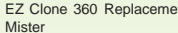
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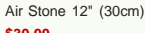
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
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
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Corona Discharge w/1 cell

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What should I know about hydroponics?



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hello, my class is learning about hydroponics. Like how they work and stuff like that. Right now we are growing lettuces the hydroponic way. the way we are doing it is we have a container with stones with our lettuces in it we the lettuces up the top and the roots hiding under the stones and another container with the water and when we put them together the roots dangle in the water and we have a straw to blow bubbles. Is this just home made way to do it or is there some fancier way of doing it? please give me an answer!!!!

I am doing a science fair project about hydroponics and need some more info and thought that this might be the place. e-mail me info at cockatiel8@juno.com

Thanks

Sorry I don't do homework.

what can you tell me that is bad about hydroponics?

my e-mail is myonlyloveisu@hotmail.com

finding the correct nutrients and chemicals for pH control and the equipment needed like pumps, timers and lights at a decent price.

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Low Price
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Shopping Today
to Save!
IGrowHydro.com/Low...

I have 2 questions, one about lights and the other about food at the end of a cycle. I am currently working with 2-1000W bulbs on a small 8'x4' bed and I have heard about rotating lights and lights that are on tracks. My question is if I use one of the lighting above, can I reduce the bulb size from 1000W to 600 or even 400W and still not effect the plants. There are two different bulbs at this time and I have been told that the would do good with all spectrums of light.

I would put just one 1000 W on a 6 ft. track mover. If your garden is square (6X6ft.) then I would use one 400 HPS and one 400 MH on a two arm sun circle light mover. All spectrums is best if you can afford it.

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& Redondo
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The food question is that I am told that my tomato plants should be flushed with clean water at the before I am going to harvest. I was wondering if this is necessary and if so how long should this be done. By the way I have learned a great deal about hydroponics from your site and hope to learn more in the future.

I have never flushed mine and I sure don't get any complaints on the taste of my tomatoes. Tomatoes are harvested sometimes for months as they ripen so it would be a good idea to flush your system every few weeks anyway.

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Ken.....click on [page 1](#) of this Bulletin Board and start reading. Nearly every question you have has been discussed on this website before. Explore my friend. Everything I know about hydroponics I learned from this site.

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High yield without
high power bills
www.haightsolidstate....

Frank

Hi, Stan Putter, Re your reatives in RSA. There is a very good book on the SA market. **HYDROPONICS** By Dudly Harris ISBN 086977283x. It tells you everything you need to know about hydroponics. I am also prepared to help. My EMail addr. is westa@intekom.co.za

We are learning about hydroponics in our science class, and we are going to be setting up a hydroponics lab in our room. What would be the basic setup for making a lab, and do you have any tips? Thanks a lot!

For learning purposes a lot of small gardens are better than larger systems so they can be compared with one another for testing nutrients and light differences.

Four students can be assigned to each garden to compare results.

I will be setting up a virtual reality model this spring that schools can copy or just use the VR one as their teaching model.

Ron

This is one of the most comprehensive sites about hydroponics I have run across yet! Glad I found you but I have been looking so long my eyes are swimming and I can serach no longer.

Can you reccommend an approach for a classroom [hydroponics system](#)? We already have equipment and basic

understanding of the technology. I am looking for guidance on plant selection and the mixing of several plants in one table. I want the middle school students to track growth rates, adjust pH etc but last years group just had a tomato plant race.....seems like underutilization of the benefits of hydroponics (and I do not like tomatoes anyway).

I am thinking that a kitchen garden would be a practical application which could easily be replicated in a students home life. If I have four groups each grow a different plant and compare growth rates among groups, what plants would work well. Since we are in a school situation, fast growers are critical in order to have mature plant before the semester ends. Any ideas? This is a technology class in Idaho with a space station simulation which is an excellent application of the technology and the primary educational link in the class to hydroponics.

Thanks, Gina Sartor gsartor@geocities.com

I have been growing a certain plant now for a number of years. I have been using soil i have had success i have become quite good at what i do. However I live in the UK and this particular plant is frowned upon by some (lets call them uneducated) people. I have decided to start growing hydroponically as people i talk to tell me i would get a better crop. Obviously i have also been reading all about hydroponics from a number of places. I have to say this site is definitely one of the better sites i have visited you explain in very good detail how things should be done. When i set up, this site will be visited over and over until i get it right..... keep up the good work.....KENNY SWANSEA WALES UK

This is John White again. My science fair hypothesis says that plants in potting soil will grow better than in a hydroponic garden. I said this because I don't know about hydroponics yet and wanted to learn if it was just as good as growing in soil. After reading my research I learned that hydroponics gives plants the same nutrients as potting soil but in a different way. I was hoping you could comment on my hypothesis for my project by saying whether you think plants do better in hydroponics or just the same as in soil. Thank you for your time. I think hydroponics is cool! John White

What is some statistical information about hydroponics?

What are some negative things about hydroponics?

Information about hydroponics is all over the web. You can start by looking through this site. If that ain't enough, try the below sites for info & do it yourself units. There are a bunch more, you just have to look!!!!

INFORMATION: <http://www.foothillhydroponics.com/brochure/brochure1.htm>

<http://www.maximumyield.com/index1.html>

<http://www.gtghydroponics.com/webfaq.htm>

BUILD YOUR OWN:

<http://www.hydroponicsonline.com/11plant1.htm>

<http://www.ns.net/~bennu/>

http://www.hydroponics.net/learn/build_ebb_flow.asp

<http://www.overgrow.com/iss2/bubbler.html>

RON

do you grow marijuana not that u would post it if u did but u mite

I am a marijuana decriminalization proponent and not afraid to speak out after living and learning the facts of our 30 year old drug war.

Everything I learned about hydroponics was from pot growing books and magazines like High Times in the early 80's because that's all I could find. "Ask Ed"

After building my [first greenhouse](#) in 1991 I had a sheriff helicopter hovering over it checking what I was growing. My neighbors freak out. I don't know what they were growing but I was growing veggies.

I didn't realize I bought land in an area known as marijuana row.

So with a sign like [Pipe Dreams Hydroponics](#) out in front of my place do you really think I got balls big enough to try and grow pot.

I will admit that this web site was first started as my way of thumbing my nose at our elected officials for being so stupid but now has grown into a business.

And because of that you may have noticed that I do censer some pot questions because our paid politicians have passed a law making it a crime to answer such questions over the internet.

So until you pot heads start getting involved and petitioning your elective officials we will only be growing veggies on this web site.

Ron

Dear Ron, Great site! But I've got a problem. I am trying to do a hydroponic garden on a very limited budget. Everything about hydroponics seems to be economical except lighting. The price of lighting is way, way, way out of my budget. Do you have any suggestions on cheap lighting? What about fluorescent lights? I have lots of 4 foot fixtures for free, I would only have to buy bulbs. What about the outside lights that come on at dark (street lights). I think they are HID. Any help would be great.

If they are Metal Halide or High Pressure Sodium or Low Pressure Sodium at any wattage would be more economical than fluorescents. I found 3 - 400 watt MH at my local flea market for 30 bucks apiece that came out of a factory. I had to buy new bulbs but I saved a lot of money. They are out their.

Hi~ I am doing a report/experiment with hydroponics. I was wondering if anyone could give me a simple explanation about hydroponics and some things hydroponics is used for. Thanks alot. Molly Anne

Ron, You have a neat site. I teach science and I just got a new science lab with attached green house. I want to grow tomatoes, peppers and lettuce with your 11 plant hydroponics system. I know very little about hydroponics. Is there any books or sources you could recommend for me to research?
Thanks.....indy

As we speak I have been working on a special Hydroponics Projects Section where individual and groups like class rooms can collaborate on projects across the country or the world. Coming in the next couple of weeks. One of the best how to books is HYDROPONIC Home Food Gardens by Howard M. Rush

im looking for some information about hydroponics, i am building a farm for my agriculture class and for a FFA project. i am wondering what i need to do to sprout the seeds before i plant them and i also need to know what are some good quick growing plants to grow, and if i could get any tips on quick growth i would really appreciate it. Josh Buoni If you can e-mail me with info i would be very grateful Dragonhcky@aol.com (or) spyderjmb@aol.com thank you

Hey folks, Does anyone have an answer for the question I asked about Hydroponics in Haiti, submitted on 07/07/05?

Greetings from Venezuela.(South America)

I'm very interested in learning a lot about Hydroponics. In Venezuela is difficult to find books about it and the Perlita.

What I need to know to start a successfully home garden project? For the future I'm interested too in comercial Hydroponics.

Thanks in advance for your help.

Christian Castillo castilloch@cantv.net

I am growing weed plants this summer in maine outdoors and i heard to make more room for buds to grow on the plants that you have to clip the branches and leaves off in certain places and at certain growth stages. Is this true? If it is and you know: how often, when, and where on the plant do you trim. Also if you have any other grow tips i would really appreciate it if you could write them in the reply. Also, this is most definitely the best, most informative web site about hydroponics i have seen. That is why i am now one of your members.

[Pruning tips](#) plagiarized from High Yield Indoor Gardening by Simon Wright

Hello Ron, All of the info I've found on the net so far is about hydroponics in seasonal climates. Do you know where I can find out about growing in a tropical climate? Thanks, Ross

Sorry no. Hot climates have just as much of trouble growing as cold climates without a climate controlled greenhouse which can be expensive.

Ron, I am working on a new system; it is a sub-level hydroponic grow hole for production of tomatoes, basically. My plans are for a 14x70 ft. 6 ft. below ground level to use geo therm temps. after looking at all the systems, your pipe dream is really impressive. Is it possible to get more info from , and about your system ?

what kind of info? everything I know about hydroponics is on this web site. what else do you need to know?

Hi, members of my family in S. Africa are wanting to start a commercial hydroponics operation. They plan to do a variety of veggies, but especially marrows, which is a type of squash. I have been asked to see what I can find out about hydroponics for them. This operation will be located in Noodtgedacht in the Cape Province S. Africa. Any assistance will be greatly appreciated. Thanks a bunch, Stan Putter

Hi Ron,

People are always looking for the right kind of [grow lights](#) to use at a good price and I have (20) Complete 400 Watt Metal Halides with the hoods and enclosed multi tap ballasts and a removable top plate for adding a cooling fan for just under \$80. + shipping. I can e-mail pictures if anyone is interested. Thanks for having the best site about hydroponics!

Mike from Mo mpsweeney@hotmail.com

Are these lights new or used?

I ordered hidu kush what's the cheapest way to grow it

In dirt pots because their is nothing cheap about hydroponics.

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Best selection of grow supplies, Co2 tanks, nutrients, and knowledge



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Get your grow on! Low prices and large inventory...
HealthyHarvestHydro.com

What are the advantages of hydroponics over the usual method of growing plants in soil?

faster growing and less root borne diseases.

what's the best n cheapest pump

<http://www.hydroponicsonline.com/Store/pump.html>



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in hydroponics, do you also feed the plant even at night ? isn't it photosynthesis needs water and sun light to make plant food ? what if you dont use HID lamps in your growing room, only sun light, wont the water kill the plant if you water them at night ? Have you heard of the [Aero Garden](#)? thanks RON
CARTMAN

What size cups are used in the 1/2 inch system ? Thanks in advance Franklin Wagner jw2324@aol.com

what are the disadvantages of using hydroponics?

Cost

Ads by Google < > Can I have an hydroponic system completely outside using the 11 plant design. I do not know if I can put it straight light sun or I need any kind of shade.

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Yes you can grow outside and it depends on the kind of plant you want to grow if it needs shading or not.

watts with out worry sounds like you got an answer mayby its something you just cant put your finger on good luck & smile

Hydroponics & Grow Lights

Discount pricing on brand name hydroponic growing systems. www.plantlightinghydr...

I would like to sell two 15X60 hydroponic greenhouses with all heaters fans piping everything. Call me Capt. Bill 252 321 3991 or cell 252 341 9312 Greenville n,c,or email generalgooff@hotmail.com Thanx

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RE: SLD 26 PVC pipe

Here in Washington state, I just walked into Home Depot with a 2 liter pop top in my pocket. The cheaper 1" PVC pipe (not schedule 40) fit perfectly. It's labeled SDR21.

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i need to current nutrient solution for cucumber .

Hey, Ron;

I hear a lot about Formula One A & B, but where can I get some? Gary in Virginia

www.wormsway.com is the only place but let them know where you heard about them because they pretend I don't exist even though I have sent thousands of dollars worth of business their way. Some day I will buy Worms Way.

How can Hydroponic plants grow?

magic

Check out my web-site and see if it is a product you may be interesting in selling. Here is a link to the site
www.indoorgardensystems.com

my name is Casanova and I'm asking who can make my own hydroponic system by buying the products at a hardware store. can you help me . I need to know what are the supplies I need. thank you.

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How do I build an aeroponics system?

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BLAKE,

I know you have received a lot of requests for plans covering your aeroponics system and the howtohydroponics. If your still in the mood to share, I'd sure appreciate a copy of each.

Thanks Jay Corry e-mail:jcorr@worldnet.att.net

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Hi Ron, I am currently commencing building a cheap / simple [Aeroponics](#) Setup, but require some additional information.

1.)I am using a 32" x 20" container with a height of 32" 2.)I will have 6 smallish pots neatly placed in precut holes in the container suspended, with holes in allowing the roots to delicately hang down. 3.) Below in the center I have 1 mister attached to a hose and then out to a small fish tank pump , on reverse to allow for spraying water not oxygen.

Do you think the one mister is sufficient for the whole kit. and what should the mainly water solution that is sprayed upon the roots up of beside just the water.



Ads by Google Any help would be of greatly appreciated.

Thanks Tristan

i was just wondering if someone had plans for a small aeroponics system. Any help would be appreciated. thanks

Ron and anyone else who could provide useful input:

I realize that there is no one "perfect timer" for all aero/hydroponics setups, but I believe I'm on the right track. I've drawn up a schematic for a programmable timer (yes - it can be programmed by just about anyone!) that will have programmable ON and OFF times. The ranges for both are 1-255 seconds, or 10-2550 seconds (in 10 second intervals), or 1-255 minutes (in 1 minute intervals), or 10-2550 minutes (in 10-minute intervals). The On and OFF times do NOT have to be the same, as both will be programmed separately.

I realize that the upper range of this timer is a bit ridiculous; however, should anyone want to use it as a light timer ON for 16 hours and OFF for 8 hours, it would work for that, as well as for an aeroponics setup, where it might be required to come on for one minute, and off for four minutes. My 11-plant system that I built from Ron's plans requires 3.5 minutes to hit the overflow, so I can set the timer for that application to 210 seconds of ON time, and 20 minutes OFF time.

The timer is in the construction phase now (prototype), and I still have to program the microcontroller. Programming the timer will be an easy task - just look the required time up on the chart and flip the switches for the ON and OFF times. Just to make sure I had an easy to use system, I showed it to my 12yr. old daughter and asked her how would it have to be set for various times. She aced the test every time, so I know it will be easy to understand & use.

If this were to be the perfect timer for aero/hydroponics, would it require any other features? The reason I ask, is if I take this thing to a commercial level, I'd want to include all the features I could in it. I've already heard someone mention multiple outlets on it so as to use one outlet for the [pumps](#) & one for lights. Would there be an interest in this timer when finished?

Ron - I am looking for info here. If this qualifies as someone selling a product, I apologize. This isn't a product - at least not yet. I'm just trying to find out some info so that the final version could be pretty much universal as far as useability in the hydroponics/aeroponics world.

I thank you for your input.

Jim

Aeroponics: should the nutrient solution be sprayed continuously or intermittently? NFT: should the [nutrient solution](#) flow continuously or intermittently?. Raft system: how to reduce the heat in the nutrient solution?.and how to aerate the nutrient solution? Subagyo(eska38@yahoo.com)

Tailwheel

regarding aeroponics ... check this out <http://go.to/freshfields>

or

<http://www.philonline.com/~klique88>

Bill, Brett,

you see the picture that looks like a long rectangular chamber ?

well, a 40ft x 4ft chamber holds 397 lettuce ... give and take.

its made of styro for insulation. you put mist nozzle which produces .4mm or even smaller drops of water.

you need a power spray for that. a normal pump, including jet pump won't do. tried that, just waste my money on that.

power spray adds water and air when it pump out the water. the air that it produces produces the mist required in aeroponics.

oh, about the distance of the mist nozzle. well, it depends on the mist nozzle you can get.

in Epcot and singapore, they put the nozzle close to each other

well, i hope i did answer some of your questions.

if you need more info, just email me at

freshfields@guest.sendit.se


Attn: Freshfields

Speaking of tables, you may have interest in a system at: <http://www.hydrofarm.com/content/articles/hydroart.html>

Not aeroponics, but a top fed drip system with a return to the tank. I would guess that you could plant just about anything here. It uses perlite as a grow medium.

Incidentally, I turned my monitor upside down to view the pictures. It was easier to do that than to download them than use a photo program to rotate them. Thanks.

Tailwheel

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Hi My Name is Keena, I'm an 8th grade student in FL. I am in an association called TSA (technical student association). As one of our first activities we have to do a project (of course). In groups of two we had to pick either Aeroponics or Hydroponics and make a display board w/ report and make a working model. I picked Hydroponics, but I don't really know too much about it. I know what Hydroponics is, but I'm still kind of shaky. I want to do a really good project to help me on competetion level but I can't buy a kit, it doesn't need to be big and fancy, and I don't want to spend alot of money.....CaN ANYONE HELP ME??

I saw the picture of the Hydroponics gardens you had, but they are way too difficult, Can you show plans for simpler ones, and cheap parts, also would a fish tank pump work??(tryin to save money)

My group in class has to do a project comparing hydroponics and aeroponics. Can you please tell us what would be the cheapest and quickest way to grow mint with hydroponics?

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Hydro Store**

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Low prices and
large inventory...
HealthyHarvestHydro....

I built the 11 plant garden and now have progressed further. . . I'm very interested in aeroponics but I have some questions.

Is any type of growth medium used in the systems that spray the roots with fine mist? If not, how are the plants supported? I have been looking at the systems for sale on growking.com and I want to build one. Has anyone else done this?

Does anybody have any plans/ diagrams that they can point me to?

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NEW 300W model
High yield without
high power bills
www.haightsolidstate....

Thank you, Eddie Noyes

Attn: Eddie Noyes

Re: Aeroponics

See my post to Pingman on Sept. 02. Go to http://www.stonernet.org/spongebud/growroom_mechanics.htm This website has info on building a system based on the Growking system.

You might pay attention to what he says about nutrient concentration used in a mist system. I made a aeroponic setup about 1-2 months ago and trashed it after using it a couple of weeks. The nutrient started coating a white powder throughout the pipes and sprayers. This guy says that you should cut the concentration down using the mist system.

Tailwheel

What are the differences between Hydroponics and Aeroponics?

Why Hydroponics are more common in Singapore?

I've been doing some serious surfing on the web this morning and have ran into some articles dealing with growing in tropical countries. (Maylasia, Thailand, etc.)

I've noted that one of the problems faced in Florida is the relatively high temperatures during the Summer months and I face the same here in California, although it is a dry heat with no humidity.

Anyway, the gist of the information is that due to the high heat in these tropical countries, the local growers have turned to Aeroponics because the misting of the nutrient solution is cooled as it is sprayed out in the tank chamber and this helps keep the temperatures down on the roots.

My question is has anyone here done any serious investigation into Aeroponics? I've been to many webpages and they look pretty simple to build out of common stuff found at any major home improvement store.

Tailwheel

Tailwheel,

I also live in California and have the same temperature problem as you (see my post yesterday). Last year I built an aeroponics unit as described at www.howtohydroponics.com and it worked great. I used standard miniature spray heads and had no problems with them getting plugged. The only disadvantage I can see with this type of unit is that it would be very difficult to build a very large unit. I used a 45 gallon tub for four tomato plants. This year I wanted a larger garden so I changed to drip and ebb and flow systems and this is when I ran into the temperature problems.

Good luck.

Bill S.

Hey ron, Your site inspired me to build my own Hydroponic machine 2 years ago. I was going nowhere in life back then, 2 years later I have made aeroponic machines for people who needed to purchase them in a discreet manner. Although I only made one of your 11 planters and then went on into aeroponics. You were my inspiration and I would like to thank you for the site.

Remember me in your will.

howdo from yorkshire, i would like to hear your comments on aeroponics as i am currently building a 14 site unit but i am having difficulty finding retailers of small high pressure pumps and spray nozzels here in england any help would be great.....cheers!..cheeky

Ron...AWESOME site!! Have you experimented with an Aeroponics set-up? Can you direct me somewhere if you have not? Thanks alot...again, great site and super info!! ~Ron

Yes I built one last week. Will post pictures this weekend.

Here they are. [Picture 1](#), [2](#), [3](#), [4](#), [5](#)

Was wondering what the advantages of ebb&flow are over say NFT, Drip, and Aeroponics. Also, if a system was built large enough, would a banana do well in ebb&flow??

Looking for Bill S

Bill one.5 years ago you sent me plans for a aeroponics system since then My computer has crashed if so could you send them to me again steve_voss@hushmail.com

Thanks


Steve

Aeroponics I put up the free plans that I received from Blake <http://the-locate-corner.com/bills.html>

i like a set of Aeroponics too Ricky165@prodigy.net

I am impressed with your web-page and knowledge of hydroponics. I am just a beginner and am learning a great deal from hydroponics online. My e-mail address is weirdweviewong@yahoo.com I am wondering whether I can still purchase a pump and other hydroponic hardware thru your website??? Please advise... thanks. I am very interested in aeroponics too... Sincerely, Steve

Yes. Who said you couldn't.

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Hi Ron,

Great Site, and special thanks for taking the time to help us wannabes...I have 2 questions if you would be so kind:

1. I use a 48 pin timer. This floods my system for 30 minutes, then drains for 30 minutes. Is there some way to shorten the flood cycle, or should I just extend the time between flood cycles. I fear that I am over watering.

You can clamp the hose from the pump a little or use a flow control valve so it take longer to fill but it will also take longer to drain because of the smaller hole. You can put an air stone in your tank to add more oxygen so it won't matter if you water longer.

2. I have been considering trying to an aeroponics (misting) system, and was wondering if you knew of any nutrient metering system that would allow me to run the misters from a garden hose with nutrients adding into the spray continuously, eliminating the need for a tank. Thanks, Gerry

I got one that you screw onto an outside facet and then you put fertilizer pellets in so as you water they dissolve. But it was for dirt plants. The same setup for hydroponics is very elaborate and expensive because you have to deal with adding pH and nutrients into the water line precisely.

Hey Ron, Any plans or suggestions on aeroponics (Ein Gedi Method)???

Comming.

Ron, hello from Spain. Which techniques can I use to recycle water in hydroponics or aeroponics ?
Christian.

ebb and flow, NFT, drip systems all reuse the water.

I am looking for plans for an aeroponics set up. Wondering if I can use 5 gallon pails with lids fed from a common

reservoir. Also ,what type of nozzle could be used?

Does anyone know the difference between an Ebb and Flow system, and Hydroponics, ? and which one would be better for indoor growing of African Violets and Poppies, with a 1500 watt metal halide light source

Ebb and Flow (aka) Flood and Drain is a kind of hydroponics. Just as NFT (nutrient film technique), Aeroponics, Drip emitter systems are all forms of hydroponics. Any system where plants are grown without soil could be considered hydroponics.

how many type of vegetables can be grown using aeroponics technique

most

I use GH Flora series nutes and I have seen different proportions of the 3 parts over the net. The differences are very large. For example, I've seen this 3 formulas:

The Standard:

Young Plants: 5ml of each for 1 US Gal Veg. Phase: 5ml of Bloom, 10 ml of Micro and 15 ml of Grow for 1 US gal
Bloom or fruiting : 5 ml of Grow, 10 ml of Micro and 15 ml of Bloom for 1 US Gal.

A formula for constant feeding or aeroponics:

Young Plants: 3ml of each for 1 US Gal Veg. Phase: 2ml of Bloom, 4 ml of Micro and 6 ml of Grow for 1 US gal
Bloom or fruiting : 2 ml of Grow, 4 ml of Micro and 6 ml of Bloom for 1 US Gal.

A formula for intermittent feeding or drip:

Young Plants: 3ml of each for 1 US Gal Veg. Phase: 3ml of Bloom, 6 ml of Micro and 12 ml of Grow for 1 US gal
Bloom or fruiting : 4 ml of Grow, 7 ml of Micro and 13 ml of Bloom for 1 US Gal.

Actually, I use a 11 plant system, but not like a real ebb-flow system. The feeding is a drip system on grow rocks that runs 15mn on / 15mn off. The pipes are used to collect the drain flow.

So, can this system be compared to a ebb-flow/intermittent system, or a constant feeding unit. And which formula should I use. I thing that the 3rd formula, which is half between the Standart and the constant one, is approx. the better for me. Am I wrong? Thank you for the HUGE support on your site.

In Aeroflow Hydroponics, are the roots sprayed with nutrients constantly, or In intervals (once every 30 min). Does the water drain out as soon as it is applied and recirculated? Do you know the advantages of aeroponics as opposed to hydroponics like rate of growth and yield? thanx

Good Afternoon I am new to Hydroponics. I am building a hybrid Aeroponics/NFS. Can I use compost tea made from

worm castings/stinging nettle (as I have been told the nettles are a rich source of nitrogen, and it is a common weed where I live) as direct feeding solution? If this won't work, please let me know of another solution. Thank you. Robert Barfield Minot ND uthke@ndak.net

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About "cloneinator" aeroponics system: 1) Beware rubbermaid aeroponics systems sold in the NW US. They have several problems to watch out for: a) Fluores. light too far from starts. b) white translucent tray promotes algae in reservoir. c) Fluores. light inside cover makes too much heat. d) Fluores light not grounded- dangerous and problematic with any timer use. e) Fluores light not bright enough. f) Exhaust fan keeps humidity

too low for clones. g) Spray jets do not aerate, mist not fine enough. h) No-name or mfr'r or directions.

2) aeroponics a very demanding method of cloning- unpredictable variations occurring daily (after rework of hardware) including ph, reservoir versus top temps, humidity.

3) Appreciate the forum with its many viewpoints and experiences. Thanks.

Clone phone home!

To the "remote user" that wanted mist nozzles for aeroponics - just type in "mist/misting nozzles" on yahoo and a myriad/plethora of options will come up. Conical nozzles, spinlocks and fog nozzles in size 1/8th work the best. I don't think you'll have enough pressure for 56 nozzles with that small of a pump - even if they are low pressure 15-40 PSI nozzles- increase to a 350-500 GPH pump for atomization. Don't forget extra filter screens - you'll need em!

From: "Clone Phone Home"

Regarding: Aeroponics Pump and Rubbermaid "Cloneinator".

Yet another problem, surely the worst: After making appropriate adjustable spray nozzles from pump bottle sprayers, I find the pump provided in the "Cloneinator" provides ample flow (GPH) but totally inadequate pressure.

Higher pressure is Required for properly functioning aeroponics, as this is how the water is atomized, that is, turned into a very fine mist. Large droplets soak the medium with a low-oxygen spray, thus negating any positive results from an aeroponic system.

Note: Rubbermaid reservoir-basket is the only part of the entire system that functions as anticipated.

Note: I found that most any soil fertilizer- bloom or veg, does not contain necessary micronutrients REQUIRED for aeroponic (or hydroponic) success.

call me Aero-head

Re: Hand pollinating tomatoes

Very gently flick the blossom using your thumb and forefinger to shake the pollen loose. You may also try a hormone for tomatoes that is sprayed onto the blossom available from a garden center.

As far as growing lettuce is concerned, I've never tried it, but why not give it a shot using a bubbler system. Seems that it is somewhat close to aeroponics used for lettuce. It might work.

Tailwheel

Please send me the howtohydro and/or aeroponics plans, thanks, test4echo@altavista.com

Question?

I would like to make a aeroponics clone starter. I have a plan to make the device(5 gallon pail design) but need to know about the mist system. How fine does the mist have to be? Can it be more of a stream or do I need a true mist? Should I use a combo of the two? What size pump? Considering a Rio 180, big enough? Are the mini sprinklers I see in the catalogs what I need?

Don't know

Question #2

Have a three by three indoor grow area that needs to support three or four tomato plants. Do I need a 400HPS light or is a 250 enough?

400 W, tomato plants love light.

Thanks for the input

Dean

Ron, I am planning on using your Miracle grow/Calcium Nitrate/Epsom salt nutrient in an aeroponics system. I was wondering if I should maybe cut the nutrient in half, and use 1/2 tsp of Miracle grow 1/8 tsp of Epsom salt, and 1/8 tsp of Calcium Nitrate per gallon of water there will be no medium, and therefore no buffer for the roots. I would also ask the same question about a water culture/aero hybrid system that I am building that is similar to the AeroFlo by General Hydro. Thanks a bunch.

Darren

Not a clue.

What is the ratio of space required for hydroponic or even aeroponics cultivation as compared to traditional outdoor gardening??

It has been proven that 2000 square feet of outdoor garden space is able to produce 700 lbs of fruits and vegetables in one year (if done just right). If this is so, how much space does it require to produce the same amount of produce using hydroponics and aeroponics. This can be a general number or ratio because we are not talking about any specific crop. This might be easier to answer than the last posting. Thanks!!

Please e-mail answers back to me at daa1@ra.msstate.edu ASAP Thanks!!

Daniel Ashworth, Jr.

About the same space. The benefit comes by the fruit finishing sooner and more weight.

Attn: CM

Re: Peppers in aeroponics

How about a description of your aeroponic setup. Pump brand, size, and model. Tank size, media used, nutrient used, etc. Maybe a web page pointing to something similar.

Tailwheel

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what is the best hydroponics system for watermelons?

will different concentrations of sugar affect how quickly water moves across a membrane?

Can I grow Ginger by hydroponics method on commercial basis

I loved her on Gilligan's Island.

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Ron

Is the 11 plant garden suitable for growing tomato's in or should the distances between the planters be increased to allow for the growth of the tomato's when they fill out.

i have 17 diamond grow lights with 34 bulbs 3 1000dhps 14 460wattdhps some hoods need 2800 for all would like to know best place to sell these thanks 4 your help email at dcinfl@msn.com

hey ron, george in crescent city fl. running a 12 plant gallon system(flow)15 min on,15 min off daylight hours only. various types cherry toms doing great. larger types are all suffering blossom end rot & or radial cracking at the tops. using ionic 2 part grow & bloom solution. the system is outside & in the sun. what gives?
tia,george.<bmmcnaught@usa.net>

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I had a few tomatoes with end rot but that cleared up but no cracking yet which is caused by the heat. I grow under 70 percent shade cloth and is the only reason they haven't crack even though it has been in the 90's. Cover them bad boys up. Forget what the experts say. I've been told for 15 years that you can't grow in that much shade but I do it every year. [Live Archive 6-20-01](#)

Thanks, Ron!!! I read your BB everyday. I think this is the best site with the most information that I have come across, and it has encouraged me to try hydroponics... I also GREATLY enjoy your answers! I am never certain if you are answering with good humor or with a little irritations! I choose the humor, and it usually gets my day off to a wonderful start! Thanks for all of the wonderful information!

Martha

I have to admit my humor leans towarded the sarcastic side but I think that is good because sarcasms without humor is like aaahhh. like aaahhh well it's like something..

i want to start growing my tomato and peppers with HID lighting instead of my VHO fluoros, i live in Akron/Cleveland Ohio and i would like to find a retail store i could buy one or two son agro 430 watt fixtures but so far all dry results. Thanks

Kenny (kennyk667@hotmail.com)

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Hey Ron, I saw that you were working on a hydroponics Christmas tree and was wondering what plant are you using (pine?) I can't wait to see how it turns out! Mandy

I will finish it way before Christmas and post pictures to show how to build your own.

If I were going to fertilize and water my vegetables is there an order I should do it in that would be best, or should I not do one right after the other?

I would like to set up greenhouses for cucumbers, peppers and squash. I can't seem to locate the links that explain how to build a commercial setup. I saw one a few weeks ago, but can't find it now that I am looking for it. Any help would be appreciated. Thanks Sean

hi, i set up a hydroponics system that has about 12 plants growing in it right now. I use the formula 1 A and B for the solution. i am having somewhat good results, but i dont know what kind of lighting i should use. what do you

recommend as the best for the cheapest price. thanks, cc

HPS or MH

i live in the greater Daytona beach area and i was wonder if anyone knew where i could find a new or used grow light?? hps 150 or 250 watt any help would be nice

Information about hydroponics is all over the web. You can start by looking through this site. If that ain't enough, try the below sites for info & do it yourself units. There are a bunch more, you just have to look!!!!

INFORMATION: <http://www.foothillhydroponics.com/brochure/brochure1.htm>

<http://www.maximumyield.com/index1.html>

<http://www.gtghydroponics.com/webfaq.htm>

BUILD YOUR OWN:

<http://www.hydroponicsonline.com/11plant1.htm>

<http://www.ns.net/~bennu/>

http://www.hydroponics.net/learn/build_ebb_flow.asp

<http://www.overgrow.com/iss2/bubbler.html>

what are the future uses of hydroponics

I want to start indoor plants for my garden. Can someone help me! I need to know what I need to buy, how to build it and how to use it... Can someone help? Email me at FubuStyle5@AOL.com Thanks Chris

How can I find a threaded tee and a hose connector?

Ron, You are a good man, thanks for answering my questions, your info is very helpful and appreciated.

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Hi~ I am doing a report/experiment with hydroponics. I was wondering if anyone could give me a simple explanation about hydroponics and some things hydroponics is used for. Thanks alot. Molly Anne

Ron, love your site. Have made the 11 plant garden and all is going ok...so far. One question. In some posts you say to use Calcium Chloride, and in other posts you say to use Calcium Nitrate, both with Miracle Grow. Which should I use? I have access to both. Thanks!

Brett

It's Nitrate I'm not sure where Chloride came from. That is a mistake.

Attn: Pingman

Yes, I have a GE 15 minute timer and run it 15 mins. on/off 24 hrs./day. Except between 10 AM and 6PM it's set to 30 mins. on and 15 mins. off cause that's the hottest part of the day.

The feed tubing I use is .156 in. inside diameter, and I'm beginning to think that it's a bit small. I got a length of 3/4 in. PVC tube yesterday and some 1/4 in. inside diameter feed tubing yesterday at Home Depot to experiment with. I'm first going to drill 10 holes in the 3/4 in. and countersink them, then press the .156 tubing in the holes and check what kind of flow I get. Then I will do the same again with larger holes for the 1/4 in. inside diameter feed tube and check the flow again. With 49 outlets needed on my other garden, I need more flow and want to use regular PVC pipe

instead of the smaller pipe used on the Dig Corp. emitter system. If it works, I'll send a sketch to Ron.

Sorry about the promised pics, I've just been too busy to get out in the back yard and get them, maybe this morning I can do it.

Tailwheel

i like a set of Aeroponics too Ricky165@prodigy.net

how do i kill mushrooms growing in the lawn my dogs eat them and then are ill.

Does anyone know where to find graphs and charts of hydroponics? It is for my science project!! Please help me!

Eugene,E-Mail me at westa@intekom.co.za for details of supplies in ZA.westa

Ron, A lot of my tomatoes developed cracks radiating from the stem. I there an easy way to correct this?

what kind of fertilizers should i use?could i perlite and vermiculite?

I Am Holding A Halogen's, 150 Watts, 3000 Lumens Its For General Lighting But If I Can Use A Couple Of These Instead Of The \$2-300 And Up Light Bulb For The Plants Through The Winter. We Can All Benefit From This Knowledge. Please Let Me Know About This, And I Need To Know How To Set Up An Aquarium for DROSERA CAPILLARIS

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some one help im growing about 20 plant in a closet. i have 1 150 hps lamp...and no funds to buy anymore. how can i supplement the light? also i recently purchased "general hydroponics" flora series, grom bloom micro in what concentrations do i use these's? i want some good smoke this fall thanks please respond soon:)

please read answer above.

I'm a newbie at hydroponics. Sorry about the paragraph but without all the info it might be hard to help me out. I recently started a Dwarf Tropical Papaya in a large square of rockwool (2x2x3 I think), kept it in a mini greenhouse, and when the roots began protruding from underneath(about 4-5 inches tall, 10 leaves), I transplanted it into a powergrower.

This is my second try with this plant and would appreciate it if anyone could help me narrow down what I might be doing wrong.

The first plant showed the first signs when its older leaves, only one at first, started to wrinkle upward toward the edges. I then noticed super tiny white bugs running around in the rockwool, and kind of summed it up as a bug problem. Couldn't seem to keep them away, used liquid soap mixed in with water and poured it all over until soaked. This seemed to work, for a while at least, then they came back. The plant just got worse and died. I haven't noticed any of these bugs with my second plant attempt, but the same symptom is appearing. Except this time I felt the "mottled" leave which was curling and wrinkled upward around the edges, and it was dried out and crackly. I have some ideas, but need to know the most likely cause, might be a combo of all though.

1st off, is it a bad idea to mix both growing mediums, will the rockwool end up being too moist while the grow rocks (Hydroton) might dry out=over/under watering? What might be a suggested schedule for water? Or should I start over and start one without the rockwool right in the power grower?

Could humidity be a problem? It is sitting on a bucket of water, and I do have a humidifier on just about all the time located about 4 feet away from this plant.

Draft? Its winter here, and its located about 2 feet away from sliding glass doors. I am trying to fix this by putting up plastic walls (saran wrap if I have too), until I find a suitable dome that would fit. Any domes made for a power grower?

Nutrient problem? I switched from Shultz seedling/rooting fertilizer works great!) to General Hydroponics 3 part system micro, floro- bloom) and kept it at mild general use, and only watered once a day for 30min. because the rockwool seemed to stay wet and I dug down a bit and it seemed moist in the grow rocks as well. I'm going to go back to using the Shultz diluted fertilizer and hand pour it until it comes back. it was doing so well before)

Lighting problem? I don't have space for HPS or Halide lights yet and use a vita-lite(24 in.) and full spectrum reptile light.

Another bug problem? I have recently noticed super tiny white and round things that don't move on some of the leaves, only where the base of the stem meets the leaf. I also saw what looked like sap bubbles on parts of the tree trunk still somewhat green and soft) and leaf stems, as if something might be biting it, never saw this before so don't know if this could be something else.

I am going to be looking closely every day and remove anything like these things if I see them. I think I summed up everything I could think of. I really need some help because all the books

I've read have so many possible problems that could be effecting my plant that it's hard to narrow it down without experience. Sorry again for the long paragraph.

Mark

Want to know how to build a garden?

FYI CoCo Bricks

For the article, go to <http://www.hydroponics.net/>

Upper left hand corner, click on : "General Hydroponics"

On the next page, in the left hand column, click on: Growing Media, click on "CoCo Peat"

On the next page, click under Description, click on: CoCo Peat (Case of 24). The article is here.

Sorry, but you must go through all these pages to get it.

More information is at <http://www.groworganic.com>

Haven't been signing my posts, but I'm Tailwheel

Ron,

First, I have to thank you for such a wonderful web site, and the obvious time and effort you have put into it at no charge to us. I've been able to establish some great hydroponics garden setups on my apartment patio. This hydroponics thing is so cool.

Question - I've been using Formula One nutrient and my plants have been blooming and producing fine for a while now. In your opinion, is it any benefit to use the Florabloom (General Hydroponics product I think) during the blooming stage or does the Formula One work just as well. Thanks again.

I have been using Formula One for 15 years and I swear by it. You don't need to add anything. Just increase the ppm for blooming. 1500 ppm or higher.

Help! My plants, now about 12 days under a 1000W MH lamp (18 hour veg stage), are doing something very strange. Some of the stems, for about 1/4" just above the growing medium, are turning brown and shriveling, making it

necessary to stake the small plants. Not all plants are doing this – only about half of them. So far they are not dieing but I fear they will in time. I'm using a (General Hydroponics) mild nutrient solution, 900-1000 ppm, ph of 6, grow room has plenty of ventilation and temp about 70 degrees, feeding sparingly – 1 time a day with ebb & flow system in grorocks medium (started plants in rockwool cubes). Water temp is kept about 80 degrees. Any suggestions?

Watering one time a day! I water every 20 minutes. Your plants can't get enough nutrients being watered once a day.

ive built a system similar to the waterfarm that general hydroponics makes (drip system using a aquarium pump, 5 gallom bucket and a 3.5 gallon bucket) i was wondering how often and how long i should let it run for and in what intervals I.E 20min 3 times day? Or can i leave it on all day?

If you are using grorocks like I am with my banana tree then you can let it run 24/7.

Attn: Virginia420

In your post you said 3 tablespoons per gallon of nutrient solution. Just make sure of your numbers, because that will FRY most smaller plants. Using General Hydroponics solutions, even a teaspoon per gallon of each is a bit much for clones.

Brett

Hi Folks, Another question, I bought General Hydroponics Flora-Gro (quart) for my 12 gallon reservoir, 6 plant set up. After doing some more research (reading Ron's site), I got the impression I have to also mix it with Flora-Micro and Flora Bloom for the nutrient to work correctly. Is this the case, or will just Flora-Gro work? I have had a clone in there for 3 days, it hasn't died, but doesn't seem to be growing either. By the way, I mixed 3tsp. per gallon, not tbsp as mentioned in my previous post. Any help would be gratefully appreciated. Virginia420

I think you have to mix the micro with the grow or bloom. Which ever you are using but don't mix the grow with the bloom.

First off I would like to say thanks for providing such a great site Ron; I have spent many days studying the abundant material here. I have a couple of questions for the hydro veterans regarding my 16-plant garden that I modeled after Ron's design, consisting of various vegetables (bell; jalapeno; hot-cherry; cayenne peppers, tomatoes, yellow crook neck squash, garlic-chives, and cucumber).

Now for the Questions... I am using General Hydroponics' Flora Advanced Nutrient System. I have not been able to pin down how to identify the plant's transition from vegetative to bloom phase, to blooming and ripening phases.

How do I best recognize the phase transitions?

Most of my plants are young, 6 inches tall or less, and not yet blooming, except for the bell pepper and the cucumber, which are at least 10 inches tall with a couple of flowers. How should I handle the different nutrient formulas for plants in slightly different growth phases?

That is the problem with those two part grow and bloom nutrient formulas. When to change to the bloom mix. That is why when I did use a liquid solution I used Formula One A&B because you use the same mix throughout the life of

the plant. You just increase the ppm as the plants matures.
I would switch when I saw fruit on at least half the plants in your garden.

When stringing the plants up is it better to wait until there is fruit on them, or start supporting them early on (I am using Dixie cups and grow rocks).

Are there any newbie mistakes I can avoid when stringing the plants?

wait for the fruit so you won't have to do it twice unless your plants are falling over.

Thanks again for providing a outstanding resource for first time hydro gardeners. GB

How well does the Chem-Gro nutrient hold and maintain it's ph? I've had great luck with both Ionic and General Hydroponics nutrient and was wondeing how Chem-Gro compared.

Hello Ron,

First thanks for this site, After doing much "lurking" I decided to build the 11 plant system, and the thing has worked wonderfully..

The plants are in day 24 of vegetative growth and have looked perfect.... until I noticed last night that 2 plants have begun "wilting" new fan leaves are "drooping". this is occurring on new growth and there has been absolutely no change in color, i.e. there are still deep green, I have searched all of the grow guides and message boards on the net and have not been able to find any causes, I have heard that "Under watering" may be the culprit, but I water 6 times a day for 10 mins and the other 9 plants look perfect.... Here is my system.. once again thanks for this site Ron and this board, it has helped me a great deal..

6 times a day might not be enough. I flood my garden every 30 minutes.
You will find at times that some plants will just wilt and die. Caused by damping off of the plant stem right above the root ball, cutting all the capillaries to the plant and killing it. It doesn't happen often but when it does the plant can't be saved. If a plant looks like it's about to wilt and die then I would clone it to keep the strain going.

Light: Hydrofarm Super Grow wing 430w HPS, 20" from plants, 18 hr on, 6 hr off Pump: Maxi flow 160gph, watered 6 times a day for 10 mins each on period, only watered while light on Temps: day ~74f, night ~63f Air Pump: whisper 10-30 gallon, 2 air lines and 2 12" airstones Grow Medium: Hydrotron Grow Rocks Nutrients: General Hydroponics 3 part system at 1/2 strength, have been also adding 1/2 tsp of epsom salts throughout veg growth to this Water: distilled @ ph 6.0.. No PPM meter

thanks Ron....

"uses Medicinally enjoys Recreationally Freedom Fighter.... p.s. good luck to your brother

Ron

What kind of fertilizer do you use for growing tomato's? Is there any brand that is better than the others?

Can someone explain how the Rainforest system made by General Hydroponics operate?? As I understand from reading the description, it does not require a misting nozzle. How is that possible?? Hope to hear from you soon. Thanks!!

What is a good stable acid to use for PH control. Ive heard that muric acid works. How about sulfuric acid like used in hot tubs. Id like to know your opinion Ron. Thanks23

I use General Hydroponics Up which is phosphoric acid, citric acid, and ammonium bisulfate. And pH Down that is potassium carbonate and potassium hydroxide but I don't know at what proportion or I would mix my own. Any chemist out there want to try?

Ok I've read all the letters to date [anybody else with a question should do the same, the repetition is mind numbing] so a few questions?

When you gave your miracle gro formula you gave a mixture for seedling, and for mature; but then you gave ppm for 3 stages of veg + flowering. Is the first just a shorthand for those mixing their own without an expensive meter for PPM or shouldn't the mixture change with the 3 stages of veg + flowering?

So I know it's not Calcium Chloride it's Calcium Nitrate. I have a book Beginning Hydroponics by Richard E. Nicholls 1977, that suggests Calcium Sulphate which is what gypsum and Plaster of Paris are made of. Household item [plaster of paris] anyone know why I can't/shouldn't use it. It's very soluble does it precipitate out easily?

Just curious why is there never any discussions about NPK. Is it just understood that whatever formula you use these three are in over abundance?

Thanks

P.S. The site is much better than a lame book from 1977!

The formula for seedling and mature plants is from a commercial mix of Fertilizer (Miracle-gro), Calcium Nitrate, and Magnesium Sulfate.

The ppm discussions were in reference to liquid hydroponic solution formulated for hydro like General Hydroponics or Formula One.

I am using the commercial mix with the tomato plants I am growing now.

Never heard the plaster of paris thing.

Would anyone know if tap water at about 130ppm could be used with general hydroponics (micro, grow, bloom) without harming my plants? Just wondering if 130ppm is considered high for tap water too? Thanx. Mark

130 is about right for tap water. My well water is 250 PPM. If your water has a lot of chlorine you can let it sit in a open bucket for 24 hours to let it evaporate before use.

Hi Ron, Hi all, I've been lurking recently and now have a legit question. I am growing tomatoes in a 6 plant 2 litre bottle system, I transplanted 4 weeks ago, they have tomatoes about the size of a 1/2 dollar. It is now time to change the solution, I have had the solution set up for growing phase, should I now change the nutrient to blooming phase or keep the grow phase mix? I am using general hydroponics solutions. Thanks to Ron and this site, this is my 2nd growing season and it only gets better! Tony in Va.

Because greenhouse tomatoes are indeterminate, which means they grow and produce fruits continually, all you can do is compromise and change your solution to bloom about half way through to completion which is about two months for tomatoes that take about four months total to finish.

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Grow Box Quiz

Hello Ron,

Thanks a heap for all the help. I have no choice but to build a grow box because of limited space. I've read your Q&A and pretty much substituted grow box for closet to help get myself started, but I'd like to double check.

So far I have 4 Power Growers (sorry, I found your site after I bought them) and a 430 Watt Son Agro.

I'm planning on building a box and hanging the Son Agro at the top with a chain in which I can adjust the distance. Also, I will put in intake and exhaust fans.



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The simple box: 2x4s and plywood lined with Mylar. Can you point out some obvious-to-you-but-not-me stuff that I MUST get, do, or not do before I start. Very limited resources where I live and I very much appreciate your input.

Pablo

You need two boxes. one for the plants and a lower one for the reservoir. [Like this.](#)

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Hi. I'm the guy who asked about the cannabis plant. I am thinking of making an ebb/flow system for my plants, for the

simple reason that it would take up less vertical space than using the 2 litre system. I am gonna be growing in 4ft tall grow box, and the reservoir and grow tray alone are going to take up about 20 inches, so I need to spare as much room as I can. I am going to be using sterilized lava rocks in the grow tray which will hold six plants. I have 3 questions.

1. Will the 2 inch pvc hose connector that I am using to both fill and drain the system get clogged up by the lava rocks, and prevent the system from draining? If so, how can I prevent this?

No lava rocks should not clog up any size.

2. How often should I flood the system? I will be on a 24 hr. lighting schedule for veg. growth.

Every 20 or 30 minutes.

3. I want to try to use Miracle grow as my nutrient. What would be the best kind to use for growing buds?

I wouldn't use Miracle-Gro if I was growing pot. I would use a real hydroponics solution from any of the grow stores mention on this web site.

I know this is a lot of questions, but I want to make sure that I get everything right the first time. Thank you for your time.

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I would like to know how to grow hydroponics roses? I would like to know the growing system, growing mediums, pH, EC, TDS rage, cF, light, temperature, humidity, CO2 and nutrient use for growing hydroponics roses. You can e-mail me at: dallairer@hotmail.com

Me too.

i've heard you can increase yeild of a hydroponics crop with oestrogen. when should it be added to the grow feed and in what quantities?

hi Ron, In the 11 plant garden i understand that the pump goes on for 30 minute and off for 30 minutes around the clock. When the pump is on is since the garden is over the tank ,you pump the water into the garden and the excess of water goes through the overflow back to the tank, When the pump is off does the water back-down through the pump to get back to the tank with gravity or it stays in the garden ????? Is it OK to use an external pump (i got a pump from an old soda carbonator, type restaurant use in post mixt to put co2 in pepsi) ?

Yes it does drain back through the pump.

An external pump would work for a drip from the top system but for an ebb and flow the filled garden needs a way to drain back to the reservoir when the pump shuts off. If your external pump does that then it should work.

I am really interested in Purchasing a Pipe dreams 160 but I am concerned that it may not produce the same weight you might get with soil. The cup spaces look to be too close together. I would like to get at least an ounce of my favorite vegetable after a seven or eight week flowering cycle. I know it can be done in soil with a 3 week veg. cycle first but can the same thing be done with this system? If so what is the recommended veg. time to do this or maybe recommended plant height. Anyone out there know what I'm talking about? Your help would be greatly appreciated.

Thanks, James

Weight has more to do with seed verity than with growing in soil or hydroponics.

How can I grow hydroponic tomatoes and cucumbers together in a 20' x20' greenhouse?

It is not recommended growing different plants in the same greenhouse but I do.

how do i connect a high pressure sodium ballast to a electricity supply

From Gardening Indoors by G. F. Van Patten [Very large picture\(208 KB\)](#)

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i live in the greater Daytona beach area and i was wonder if anyone knew where i could find a new or used grow light?? hps 150 or 250 watt any help would be nice

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Hi Ron, A ? or 2. Has anyone heard of new light Fluorex Tech. Full Spectrum Light 500w. If so how does it compare to MH in practical use. Priced at around \$50

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I am always skeptical of grow light makers claims of a better product. My advice is go ahead and try them if you can afford it. With the price of tomatoes going higher and higher maybe you can try experimenting with new equipment.



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the deference between a grow light & a security light is the transformer of gases some nasty fumes because its made to run out doors if you can stand the smell they will work its kinda like you get what you pay for better off with a grow light or a green house

Re: Difference between [HPS lights](#)

There is no real difference between the lights you buy at the hardware store and at a hydroponics store. The ones at a hardware store often times have a built in ballast, and a grow light has a remote ballast, making it a bit cooler. The light they put out is the same, given the same reflector, which you can build. If the wattage is the same, go for the

cheaper light.

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Brett < >

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Hello, Maybe you can help me I live in an area where there is no indoor gardening supply stores. Needless to say when buying a grow light I prefer to pay cash for fairly obvious reasons...I mean is it safe and secure to order these things online or by mail or is your name registered in some government computer as a possible drug cultivator even though it might be a shed full of tomatoes your intending to grow?? I just like my privacy thats all and I was wondering if ordering these things by mail or internet is in fact secure from the prying eyes of law enforcement. Any personal knowledge regarding this or advice? Thanks for your time.

Our government has giving law enforcement the power to do just about anything they want in the name of the war on drugs. The last Bush we had in the Whitehouse tried to put every indoor grow store out of business (Operation Green Merchant) and even harassed buyers by subpoenaing their UPS records. Now we got another Bush along with a Dick and Colon running the show now. And we all know daddy bush is pulling the strings.

All I can say is that I do not give, sell, trade any member information on this web site. I would even go as far as saying that I would not surrender my records even under the threat of jail.

I am a card carrying member of the ACLU and would love for the government to knock on my door with a subpoena. As for them hacking into my system is another story. Ever time they bust one of those kids that hack into NASA or IBM, they slap them on the wrist and give them a job to hack for them. That's why internet privacy legislation is so important.

so it would work if I used an HPS ballast. would I benefit switching bulbs, has anybody tried this? It seems like everything I read says how one type of light is better then the other for specific plants, please excuse my lack of knowledge on this, but the two lights have two different purposes. from what I understand metal halide is more of a grow light and HPS is more of a flowering inducing type of bulb. Making the plant think it better get its butt in gear and produce. So my thought on it is use halide till right before flowering, or in my case tomatoes till they start growing out then switch to HPS wouldn't the plant think it needs to produce and be more into producing the tomatoes then continue growing like it would under a halide. sorry about the length I got the late shift tonight.

a cheap and easy way to start seeds is to take a 1 or 2oz plastic bathroom cup(the kind u use to put mouth wash in), put a hole in the bottom, shread sum newspaper, wet it, put in the cup, drop in a couple of seeds, add a thin layer of shreaded newspaper on top and water everyday with a diluted hydroponic nutrient solution(maybe 1/4 tsp per gallon), put in a tray in warm place that gets sum sun or under a grow light...hope someone can use this,

-poorboy

can a 175 watt mercury vapor light be used for a grow light ?

NO

If I use a grow light, how high above my plants do i need to place it?

18 inches without glass and 12 with. That's also using a light mover.

Hi Ron,

I am just starting to play with hydroponics for the first time. I have four tomato plants in a Hydorfarm MegaGarden which are about 18" tall and have been doing very well. The system is set up to flood the roots once a day with Hydrofarm 7-7-7 nutrient once a day for 30 minutes starting at about 7 AM. I started using the system at the beginning of Dec. and have changed the nutrient once in the beginning of January. I am using a two bulb grow light flourescent fixture for 18 hours each day. In the last few days I have noticed that the top foliage wants to curl toward the end of the day. When I first noticed it the top stem of the tallest plant was actually curled like a curly cue with the leaves also curling. I assumed that it needed more nutrient and turned on the pump. By the next morning it looked better. I must admit that the plant had grown to within an inch or two of the plant top. I have since raised the light and started to have two 30 minutes of nutrient flooding, but I still have similar symptoms, just not as bad (no curly cues just curled leaves). I also checked the pH this morning and found it to be right at 7.0. Have you got any suggestions as to what it might be or how to eliminate the problem?

I am also interested in trying to do an analysis of the possibility of growing tomatoes for a profit. Where can I get info on the basics for the analysis, such as: - Optimal spacing of plants - Average yield of a typical plant - Wholesale market prices of tomatoes and other potential crops - Typical crop producing life span of a tomato plant

hello ron. i enjoy your site I noticed a grow light in my local hardware store. It a Sylvania Gro-lux, 20watts, 875 lummen(450@one foot), 80 degree,10,000 hrs,fits in a 110 normal socket, priced at under twenty dollars. Do you know about this, and do you have any comments about it.

Good for a low light indoor ornamental plants but useless for high light plants like veges.

Please help!

My tomatoes were thriving under my 400W MH grow light, on 14 hour days. In fact, they were blooming like crazy and the little tomatoes were about the size of shooter marbles. Then disaster struck. They started to wilt. The wilting just continued for about 5 days. I changed the nutrient bath to straight water, I even cleaned out the tank and all the parts. I'm wondering if this could have been caused by the MH lamp? Would switching to a HP sodium have saved my babies? Or does this sound like another problem. This was my first crop and I was so excited to see them fruiting. Any help would be greatly appreciated!!

Erik - erik@fencefarm.com

If a plant just wilts overnight it is most likely pinch off where the capillaries are cut off and the plant dies. If all the plants wilt in a garden then it is a root problem cause by a solution or pH problem. You did right by flushing and changing the solution.

Lights shouldn't have anything to do with wilting.

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Grow Box Quiz

Ron, Have you heard of a product the will move the light rays from one area to another? What I want to do is have the [grow light](#) in one room and the plants in another. I have a problem with heat. When have 30 - 1500 watt bulbs running and the room gets rather warm. I am trying to find a way maybe with fiber optics or a light pump to transfer adequate light into the plant room. Place, power and money are not the problem. Heat is. We have a 2500 sqft underground bunker we are using beside a stream that we have used to generate powerwith. Have you heard of any body pumping light from one room to another. CJ



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Yo, Ron;

Can you please explain the "Yeast and Sugar Fermentation in a Bottle" trick? I would like a good, but cheap way to add CO2 to my 24" x 24" x 6' grow room, and don't spend enough time with the plant to breathe on it enough.

Fermentations is a way to add CO2 to small grow rooms if you can handle the smell. Use a one gallon plastic milk jug and mix one cup of sugar and a packet of brewers yeast with about three quarts of warm water. This concoction is changed one to four times daily as needed. Half of the solution is poured out, then 1 1/2 quarts of water and another cup of sugar are added. Add more yeast if needed.

This is for the person that was asking about lighting. Yes street lights and most other outdoor lights used for for lighting large parking lots are [HID grow lights](#). But there is a few things you need to now for safety reasons if you are

going to operate one of these indoors. I currently use a 400 watt high pressure sodium that was made to be used outdoors. Although these are not recommended for indoor use they can be successfully used if you pay attention to what you are doing. First these units are made to be water tight so the ballast is part of the unit sealed inside. This makes the unit run very hot a lot hotter than the ones made to be run indoors. Outside they get plenty of good cool air and heat is transferred. If you decide to run one of these indoors you need to make sure you suspend this unit from the top of the ceiling hanging down somewhere in the middle of the room so it has good airspace all around. I have mine suspended from the ceiling using two 4' 3/8-16 steel rod and toggles to mount it to the ceiling. Make sure it is anchored well because these units can be very heavy I think mine is about 45 pounds. Next you need a [fan](#) to be blowing on this unit continually so you can transfer the heat away from this unit and out your growroom. I use a 20inch oscillating fan and snap the button on back so it stays still. It sits on a stool at the back of my room right behind the light so it vents the heat out the front and pulls cool air in the bottom. It is very important you transfer the heat away or the unit could over heat and ruin the ballasts and start a fire. If you are able to obtain a light and you are sure you can vent heat properly you next need to wire it another important step that needs to be done properly. The power demands in the [ballast](#) of this type of light can be 110v or 220v this is something you will need to check before using. On the light where the power supply wires go in there is a cover with screws normally the ballast is under this cover. Remove the cover the three supply wires going into the cover cover should be black white green make sure the black wire is attached to the wire inside the unit marked 110v and not on the 220v wire going to the ballast a big rectangular box, sometimes its marked on the ballast next to the supply terminal. you need to what the terminal is marked that the black wire is going to 110v or 220v a lot of these ballast have four terminals and give you the option to wire it either way. But most regular three prong household outlet are only 110v that's why this is important. Some places use them 220v volt because it uses less amps and is cheaper to run but this you need a 220v service and most households aren't equipped with this so be sure to what your light is wired to draw before using. Next you need to get power supply cord no smaller than 14 gauge wire remember the bigger the number the smaller the wire. I use a heavy-duty air conditioner supply cord if you call somewhere to find it ask for a pigtail it make it easier for the person to understand what you want. After you get the cord you'll find that most of the time the wires on the light and the wires on the pigtail are the same. then just match them up and connect with wire nuts. black is usually power, green is ground, white is common. sometimes the common can be red and the ground can be blue or just bare wire. once your SURE all of this has been done your light is ready to be plugged in and put to work. I don't recommend this type of light for really small grow rooms because heat could be a problem and may result in a buried out light or worst of all fire. this cove

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The 3 - 400 watt [MH factory lights](#) I bought at the flea market did have the 220 watt ballast connected to the top of the light but being a jack-off of all trades I dismantled them and ran a long cord from the light to the ballast so I could remotely place the hot ballast outside the room, eliminating the excess heat. I once read a book about electricity. You must have read the same book.

Ron

I have built a 4'x8' raft table. I have designed a hood that is 8'x4'x4' made of 1" white styrafoam, j bead and metal studs, the light hangs in the middle of hood and can be lowered with or without the hood. A few questions I have before I build today are; -is white styrafoam a good [reflector](#)? -If I paint will it be more reflective? -does it ignite easily? -If styrafoam is out would mylar work in a system like this? -will I have a heat problem? if so will a fan blowing from one end cool it enough? Any pointers are appreciated. I will be growing basil and such which should top out at 2'. Thanks in advance

Slow start: I kept my plants under 2 4' fluorescents until they were about 1 1/2 feet tall. Lower branches are small on all plants three plants still 1 ft. tall the rest 2 1/2 ft. are they bad plants or is it due to low light. now I have a 400 MH

for the last week. Will they get bushier under the new light.

It's the different variety of plant is what determines if a plant is bushy or spindly. Some plants do poorly no matter how good your grow rooms is because good indoor plants are bread. When you get a plant with good characteristics clone it over and over again to keep it going. You can take a clone from a clone for a couple years before losing it.

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hi ron

regarding CO2 enrichment

know of any home remedy where i can enrich my growing area with CO2 ?

burn something ?

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CO2 is one of the by-products of combustion. Any hydrocarbon fuel can be burned to produce CO2, except for those containing sulfur dioxide and ethylene which can be harmful to plants.

You can use dry ice. Two pounds of dry ice will raise the CO2 level in a 10-by-10 grow room to about 2000 ppm for 24 hours.

Fermentations is another way to add CO2 to small [grow rooms](#) if you can handle the smell. Use a one gallon plastic milk jug and mix one cup of sugar and a packet of brewers yeast with about three quarts of warm water. This concoction is changed one to four times daily as needed. Half of the solution is poured out, then 1 1/2 quarts of water and another cup of sugar are added. Add more yeast if needed.

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Growing Asparagus hydroponics how long before you would get to harvest it? And can you make a profit at growing it hydroponics? And do you know of some one that is doing it now? mrugly1@hotmail.com

Can you give me the specifications to build an aquarium using a tall clear glass vase, hydroponic peace lillies, and Beta fish. Key i need is how to keep the peace lilly at top of vase (what can fasten it for removal when needed) and where can i obtain peace lillies?

Assistance would be greatly appreciated

No

What does the future hold for hydroponic produce?

I have been wanting to start with hydroponics for some time now and bought some nutrient off the shelf 3 years ago. I eventually built a experimental plant now and used the nutrient,planting cabbage without success.

Does the stuff go off

Hannes Richard

I have poppies growing and so far about 2wks after germination and they seem to be doing well. The plants have nice and sturdy stems, although some are turning a purpleish color. Is this a symptom of a problem? Also, when i sowed the seedlings in the peat pellets, i accidentally must have put up to 7 seedlings in some pods. These particular pellets are awesome seeing the great growth, but i am wondering what to do because i dont think they can be this close to eachother, ie, less potent when harvested. I need to know if i can replant them or if i would not be a problem or even if i should just cut the smaller ones and hope for the best with the big ones.

i agree, give ron a break. dope is for dopes, go to the proper site!

I'm going to be building the 11 bottle system, what is a good starting point or the watering.. How many times per day, and how long on and off.. Thanks

Dave from Ottawa

Every half hour or so as long as the light is on. You don't need to water at night.

my plants are flowering and i have a couple that look completely dead. the leaves are yellow and wrinkled up, what is the best way to clip them? they have been on 12/12 for the last week, is it to late to save these plants? thanx

Are there currently any studies or unanswered questions in hydroponics? Does anyone have any ideas about a science project I can do on hydroponics?

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What's the best solution for growing garlic with hydroponics?

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So much for hydro-garlic!

Erik me@erikhoover.net

I bet you didn't have a vampire problem.

Just a quick comment on growing garlic hydroponically.

Don't do it! I tried, with much success, simply planted some cloves in some perlite and watered them with a simple nutrient. Under a 400 W MH light, the plants flourished.

Sounds good right?

What you may forget about it how STRONG garlic smells. The stems are easily as strong smelling as the cloves.

So if you don't mind stinking up your grow room. (Or maybe you'd like to cover up the smell of something else!) then go for it. I can tell you after about a month, I came home and my wife had went into the basement and pitched the whole lot! :)

hi ron

is it normal to experience EC level going up as days pass ? water level go down ...

isnt it while plant eats up the nutrient in water, the EC should go down ?

zingman

When you experience some evaporation of your nutrient solution then the PPM would rise some.

Hi Ron, What are the dimensions of your 11 plants systems? (Length X Width of the piping only) I'm thinking of building a housing for the 11 plant systems. Thanks!!

Let me get my damn measuring tape out again. Would someone write this down so I don't have to do it again. 35" X 17" pipe only no bottles.

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Ron,

I'm just now getting a 16 plant bottle system started. I bought some plants from the nursery and am in the process of washing the roots. My problem is: The planting media in the nursery pots contains many large particles of leaves, and other fairly large particles of wood chips, etc.

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It's difficult to get the roots 100% clean, before transplanting in the grow rocks, because the root system in the plant is like a net, it holds all the larger particles and you can't get them out.

Do you have any suggestion on what to do?

Tailwheel

As long as the particles won't dislodge from the roots then it is ok to leave them. It only becomes a problem when particle work there way through your system and clog your pump.

How can I reduce my high power bill? I am running 3 1000w and 4 400w grow-18/6 bud-12/12 any help would be appreciated. chazza57

By downsizing. If your power bill is out of the norm of your neighborhoods then you might be real close to being raided no matter what you are growing.

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I'm a High School student, and I'm doing a science fair project on growing grass in hydroponics, and seeing which type of fertilizer works best. If yall could give me any info. about what types I should use and which types work best, I would appreciate it a lot! Thanks for yalls time! P.A.

I was a mailman for 10 years and ran across several people using hydroponics and became interested and now im retired from there and have moved to puerto rico and need a hobby -small income or more . Thinking of a commercial hydroponics garden with the goverment backing and would like to know if you would aprove and the do's and the dont's. After all that, I would like to say thanks for what you are offering for free, seems as though you are caught up in the moment of mother nature at its best and that is why I'm asking you as to someone that has a vested interest. I to love mother nature and the money is only something that will offer me more of the outdoors. Thanking you in advance and do hope that you still have the love of it all Terry king

Just want to say thanks for actually replying to my post. Not many sites actually do. Mike

I know the overflow pipe in your 9 plant garden can go anywhere on the system. My question to you is how do connect the other end of the overflow pipe to the reservoir if your system isn't sitting on top of the reservoir? My guess is a hose of some kind?

Yes you can use flexible hose or add PVC fittings and pipe to run it anywhere you like. Sometimes I even put the tanks outside of the grow room and run the overflow and pump hose to the garden.

Ron, I planted my 21 cup unit 3 weeks ago with a mix of tomato and pepper plants. Everything was going great until today when I noticed just 1 pepper plant was starting to wilt. I checked the roots and they were starting to brown and getting soft. All of the other plants are growing just fine, but I'm worried that what happened to this one plant will spread to the others. Any ideas? Thanks John

For some reason every once in awhile a plant will develop damping off and just die with the same plants next to it not effected at all. I always have plants to stick in it's place.

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p>Does anyone know of any hydroponic systems suitable for growing herbs and a range of vegetables in a window box type structure? (I live in an apartment which only has a small balcony.) The system would need to be suitable for 'outside use' as it would be exposed to the elements. Thanks, Jim

Hello fellow hydroponics friends. I have two questions if this board would be so kind as to answer them.

Q: Another one of those “how long should I run my pump questions”! I understand that with out light you can't have photosynthesis. Thus, making it useless to run your pump during no light; right? However, this is where my question fits in. Can your plan roots dry out over night if you don't run the pump at least one time? I ask this because I do run my pump at night three times (ever 2.5 hours or so) and I have not had the balls to experiment with this nagging question.

I water 24 hours because of frequent power outages so I won't have to keep resetting my timers.

Q: This question is for any person on the board who might know about herbs growing. I have research herb growing on line and can't find any good web sight dealing with herbs and hydroponics (it's a conspiracy, he he ha ha). I am wondering if the rule of thumb in growing herbs is much like other leafy plants. I ask this question because on one web sight this guy was growing all his herbs with “an EC (Electrical Conductivity) level of 2000 and a pH of 6.8.” Is this PH correct? Seems to me to be high. However, this guy grows for a living in California. If any one is interested in the article you can find it at <http://www.aquaponics.com/articleherbs.htm>. Thanks for any help y'all can provide.

Blue Skies, Free Flyer

Ron, I put together Gurgle Garden that I saw hyperlinked on page 14 of your bulletin board. My pump is definitely powerful enough, but water doesn't make it up to the top of the drip area. I used aquarium tubing, etc and followed the directions as depicted by the diagram. How does air forced into the solution through the tee in turn forces solution back up into the tube connected to the same tee? Any ideas on what's wrong? Thanks.

You need to suck on the tube to get the siphon effect going. The pump blows air down to the tee and then back up the long hose to the plant along with water droplets. It doesn't flow like when a submersible pump is used. Try giving the tubes a shake to get it going.

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I would like to know how to grow hydroponics roses? I would like to know the growing system, growing mediums, pH, EC, TDS rage, cF, light, temperature, humidity, CO2 and nutrient use for growing hydroponics roses. You can e-mail me at: dallairer@hotmail.com

Me too.

ron i grow chile peppers and herbs in my 15 bottle sys can i use your 10-8-22 on both plants in the sys claude ps i built your 11 bot sys some time ago and having real good luck with it and now i have add to it to15 bot sys

yes it is an general purpose hydro-solution

Have you ever grown a plant called Lion's Tail or Lion's Ear? Just looking for some insight.

I grow a plant called Horse's Tail.

what dose epsom salt do to your plants

adds a needed supplement and makes your plants green.

what should the pH be for strawberries and what kind of a medium should I use to shoot the plants?

5.5 - 6.8 vermiculite

Greetings all bud growers,

I have a few questions regarding growing some good kind bud in the 11 Hydro set up shown on this site.

1. First of all, how do you hold the rooted seeds in the 2 liter bottles.

Start your seeds in vermiculite and when your seedlings get big enough (about 3") then carefully place them in the 16 ounce solo cup with the grow rocks. Then place them in the 2-liter bottle garden.

2. What kind of lighting would you recommend, this setup will be in a large closet approx 12' long x 6' wide.

I would use 3 - 400 Watt Metal Halide or 3 High Pressure Sodium or a mix of the two.

3. I will be using a controller that is interfaced with my computer via Ethernet and using relays I can control the lighting, and the watering. What is the best schedule of lights and watering for the first 2 weeks of growth, till they start budding.

Water ever 20 minutes for maximum force feeding the bastards. Vegetation stage lights has to be on at least 16 hours a day, if your on a budget, or as much as 24 hours if you have deep pockets. Then change the light cycle to 12 on 12 off to induce budding.

4. I do not want to start with 11 plants, maybe 5 at first and then clone the females that way I can attain a never ending harvesting cycle.

must be a light smoker

5. What kind of mixture of Formula A Hydro solution w/ water do you use. And how large of a Rubbermaid tank do you use for the 11 Plant setup?

Read the label on the bottle and 11 gallon container is shown in my pictures but you can use any size larger than that if you don't want to fill it so often..

Any other information that you all can provide me with would be greatly appreciated, this is my first attempt at indoor gardening, only other thing I've grown is P.cubensis ...

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RE: growing legal tobacco
Ask any of my relatives in Kentucky, or any of the farmers in
Tennessee. (* smile *)
Yes, there is no law against growing tobacco.
There are even ornamental tobacco plants (nicotina, I beleive).
I was talking to a friend who is a tobacco farmer, and he even
grows the starts for the plants, you guessed it!,
hydroponicly/hydroponically (whichever is correctly spelled!)
Take it easy.

Signed, --HillJack--

Ads by Google how do you set up a hydroponics tomatoe plant, i want to make
one for an assignment to show hydroponics is better then normal soil but i dont know how to set it up.

Hello Ron,

I started a small NFT system three weeks ago. Today I changed out the solution and made a new batch using the same formula as before. However within an hour the plants began to wilt as if they were not being watered at all. The NFT system I'm using is a constant flow, it was down for no more than 5 minutes while changing the solution. Any ideas why this would happen? The only difference I can see is the water temperature...the old batch @ 74 degrees the new batch @ 63 degrees. The plants have recovered, but I would like to know what to do differently the next time.

Thanks Mark

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I am desperately in search for a good source (be it internet/book) on algae control in hydroponic systems. Any or all information/sources you may know of would be much appreciated. This is for a college report, so if you have no answers please don't fake it Thank you kindly for your time. Josh spivakjm@cobleskill.edu

Ron can you post any recipe's that one can use for a foliar spray for N, P, Mg, Fe, Cu, Zn, B, Mo, Mn, supliments anything would be greatly appreciated.

Hello Ron (or whomever can answerer my query) I just started out on my hydroponic quest and I was trying to find some cheep growing solution. I remember finding a place on the web that had some in dry form for only \$5.00 or sow. But please give me any information you might have. I'm just a beginner.

The cheapest I have ever used is Nutri-sol but I can't find it anymore. So now I mix my own.

Attn: Brett, RE: Germinating seeds without using dirt.

I just lost 16 plants cause of the heat here, over 100 degrees every day.

I don't know if this will work, but I just sprouted my replacement plants (squash and bush beans) using a diluted rooting nutrient to soak a paper towel, then wrapping the seeds up and putting them in a plastic sandwich bag. After 3 days, strong roots developed from most of the seeds.

I transplanted the seeds in Scotts seed starter mix bought at Home Depot, however, I think that next time, I will try to use the small grow rocks (1/4 inch dia.) in the system and plant the rooted seeds directly in the cups and start off with a diluted nutrient until the first true leaves develop.

From sites I've found on the web, I believe this may work. You may want to try it.

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How do I go about growing tomato?

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What is the optimal Ph for growing tomato plants in a hydro system. Also what light regement is needed to induce flowering in tomato plants?

Around 6.0 pH and tomato flowering is not determined by light cycles like pot. I would use 18 hours of light in a 24 hr period.

With any hydroponic setup and when growing tomato like plants, what should the ppm be when you transplant the seedlings to your growrocks?

600 - 700 ppm

Then as you go on thru the veg stage what should the ppm be?

700 - 1100 ppm

Lastly, what should it be during flower stages?

1100 - 1500 ppm

I'm very interested in growing tomato in solution of [hydroponic nutrients](#) (without any material like soil, just water and minerals), and so to do this the quantity of nutrients needed per day must be known. Well, do you know where i can get such information? I'd be very thankful, if you send a letter to me. (id_est@pochtamt.ru)

no

Ron

Is the 11 plant garden suitable for growing tomato's in or should the distances between the planters be increased to allow for the growth of the tomato's when they fill out.

Ron

What kind of fertilizer do you use for growing tomato's? Is there any brand that is better than the others?

Ron

I don't know whether it is in the comments or not, but how far apart should the spacing be when growing tomato plants. Thanks

Ok, I hope this doesn't seem like a dinky question compared to all of the other "high-tech", and "big-word" questions. So, I just started the 11 Plant Garden system, and I am growing tomato plants. My question is: Do I need to change the nutrient supplement or the nutrient substance itself, when the plants get larger? -amanda-

you need to increase the strength of your solution as your plants mature. But if you are using a two part "Grow and Bloom" nutrients then yes you would be changing the supplements as you went from one to the other. You would also be adding even more supplements if your mix called for adding micro nutrients to your solution.

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I would like to know if anyone has tried growing Okra using hydroponics and what the average yield might be. You can email me at wilkinson@intellex.com

I got four okra plants just starting. I will let you know how they do.

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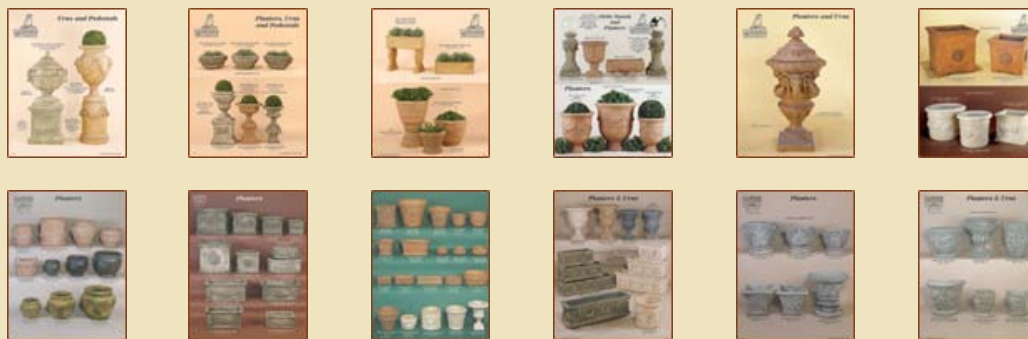
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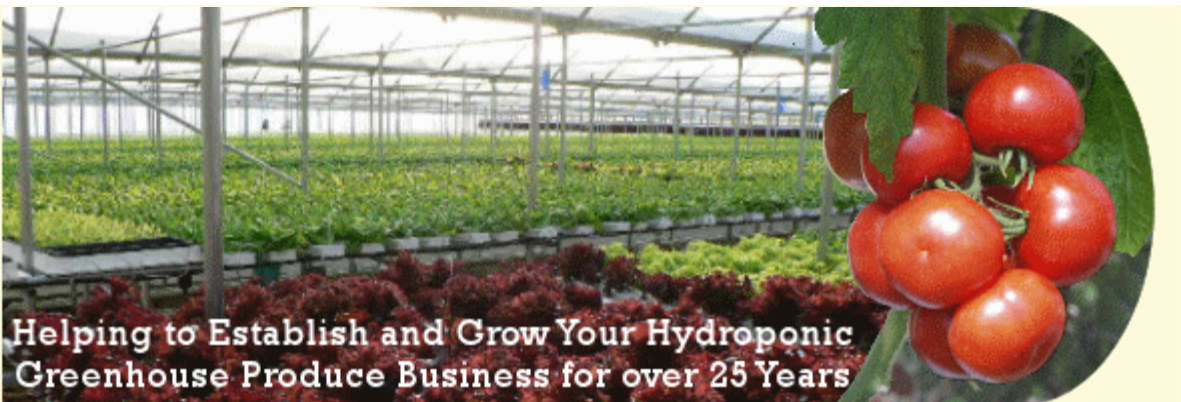
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Our Facility is located at:

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What is the optimal Ph for growing tomato plants in a hydro system. Also what light

dear ron, i've just ordered your "[hydroponic plant food](#)" online my question is calcium nitrate still needed to make it complete or is it really a complete plant food to be added to water for plant feeding? otik

Yes It says just to add a little Epson Salt

i have heard of a idea of "hyper ventilating" please tell me if im just stupid and tired but is it true say if you enclose a hydroponic plant in a fish tank with the proper [grow lights](#) and fill the tank for say 6 hours with co2 and then 6 hours of oxygen that the plant "hyperventilates" and forces the plant to suck up a lot of nutrients and makes it grow "beefier" and faster. i heard this idea from a pretty much rocket scientist who majored in growing plants (hydroponically) who was able to grow a choice plant in a week to say 4 feet

sounds interesting.

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one more question im a beginner and have a lot of them but any way can i use ammonium nitrate and a solution of miracle grow as my mix for your 11 plant system? and if so how much ntrate should i use

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Read answer above. It's calcium nitrate not ammonium nitrate. Teaspoon per gallon.

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How does the temperature of the water in a hydroponic plant effect root growth?

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Anyone tell me what (which way) can household ammonia help a hydroponic plant? Please?!

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hey ron... i went to my local hardware and garden shop and they didn't have hydroponic plant food so i bought an all purpose plant food that was 2-10-10, if i bought something to add more nitrogen to that would it be sufficient for growing tomatoes and (or) cotton?????

It might work if you add some calcium nitrate and some epsom salt to it.

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hey ron im using pea gravel as a medium with continuous watering during light operation. is this ok? also im using peter professional plant food 20-20-20 for my nutrient, please advise (tomato,pepper,assorted herbs)thanks t.j.o

No it ain't ok. They will start to die anytime now. Peter's does make [hydroponic plant food](#) but what you got their is for dirt. You can add some Magnesium Nitrate and some Epsom salts to that and you might grow something but by using the most basic system you could use you would better off using

real hydroponic plant food.

how do i use a fish pump to use on a hydroponic plant system? --thanx: andrexh@hotmail.com

I'm tring to do a science Fair project for school and I'm having trouble find the right nutrient to put in the water for my hydroponic plant's environment. I want to use something that you found around a house. I told my teacher I was going to use lime juice but I don't know what effect lime juice would have on the plant. My teacher says I have to have something that say Lime helps plant grow. CAN ANYONE HELP ME OUT E-mail me at Babydesk87@Hotmail.com

I'm a student and I am conducting an experiment. I was wondering; How do [hydroponics systems](#) work? How do you grow a hydroponic plant?

A submersible pump comes on and pumps nutrient enriched water to plant roots that are grown in a number of inert materials as expanded clay aggregate (grow rocks), spun volcanic rock (rockwool), perlite, pores gravel, lava rock, or as with some hydroponic systems, no medium at all.

Steve: Go to Hydro Gardens and Parts. It is the third item down listed under Hydroponic Plant Food. Nurse Duckett

Hi! I'm looking for help with my 5th grade son's science fair project. He really wants to do a great job with a Hydroponic Plant. He wants to demonstrate how it grows differently in soil.

Which plants, how long will it take? Interesting facts?

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What are some good hydroponic plants?



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i am doing a project on the effect of ph levels of water on the growth of hydroponic plants and i need help...e-mail me at guardangel2005@aol.com thanx-melissa

Dear Hydroponics Experts, I need help for my 9th grade biology project. This project is planned to be on the effect of pH levels on the growth of hydroponic plants. I am a 9th grader at South Lakes High School in Reston, Virginia which is in Fairfax County. From most of my research so far I have been able to see what some of the effects may end up to be, but I still need a lot more information for my 9th grade bio-project to be a success. If you have any ideas or further information, it would be greatly appreciated. Thanks!

dear ron,

wonder if you can help me out with this hydroponic problem.

you see, i tried my hand on pokchoy (oriental brassica) and the result was below expectation.

first, the stalk is smaller than organically grown second, the pokchoy in hydroponics wilt faster than expected after harvest.

however, the leaf size is ok, very green and no holes. no leaf miner. the root length is nice. long enough with lots of rootlets along the side.

could my problem originated from sunlight. i place my hydroponic system in a east-west orientation with opaque plastic on top of it to prevent rain water getting into the system.

or could it be temperature. my temperature ranges from 24C to 32C (yes, tropical Philippines I am from)

regarding the water stress, is it normal with hydroponic plants ? is water stress the main reason why after harvest, it wilts faster than expected ?

thanks and MERRY CHRISTMAS

Stanley Ho

I'm looking for ornamental hydroponic plants - apparently it is common in Europe and would like to find a vendor in the US, preferably in the Miami area...

I love hydroponic plants, they're my friends. :)

Would fish be able to grow in hydroponics solution? i have an idea for a very cool garden if you can lmk i am very curious.

No but some hydroponic plants will grow in fish water.

How can Hydroponic plants grow?

magic

re: confused about 11plant13html

its a bad drawing. there is only one over flow pipe which in the picture is crossing blue water with the horizontal feeder pipe- it should be broken in diagram cause it does not reconnect with the feeder pipe. the feeder pipe should also be broken at its end to show that it could extend to other bottles.

i think im going to make something similar without the cut off two liter bottle. in its place could go a plastic sack (filled with 10 liters perlite) supported by a thin wire upside down lampshade type thing and sealed around a tube extending from the tee with a rubber band. a screen would have to be stuck in the extension tube and pea gravel laid on top of perlite. What can you grow in a cut off two liter bottle? a head of lettuce?

Yes Lettuce and Tomatoes and Greens and Herbs all grown not in a two-liter bottles but in a 16 ounce cups sitting in a cut off two liter bottle. Hydroponic plants don't need a lot of roots when you are delivering all the nutrients to the plant. Hydroponically grown plants don't need a lot of roots unlike with dirt growing where the roots have to go looking for water and food. You want all the energy for producing fruit and not for root production. Unless you are growing potatoes or carets.

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How should hydroponic seeds be started?

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Hi Ron

I've been a long time viewer of your web site and enjoy it very much. Definitely the best hydro site on the web, congrats on your success with it. I have started up a system for tomatoes and wanted to know if you could tell me what variety of toms you have the best luck with and if they are indeterminate or determinate.

Thanx alot Scott

I use what ever they are selling at my local nursery. Big Boy, Better Boy, Heat Wave, Roma. But I am partial to Super Bush a stocky patio type that only grows about four feet by maturity. And they can be grown in the 2-liter systems or the gallon drip systems.

I am sure if I ordered the expressive real hydroponic seeds I would get higher yields but first I got to finish my greenhouse as soon as this cold weather is over. We have had more freezes this year than in the last 5 years.

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Hi Ron I just built your 11 plant system I have 3 question 1. How do you set up the seeds in the 2 liter bottles which 2 books that I have bought on hydroponics have not answered the seeds I want to grow is pot

Start your seeds in vermiculite or dirt first and when they get a good root system then carefully wash off the roots and place them in your garden.

2. And for the pump do you need a timer or do you leave it on all the time

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Yes you need a timer to water every hour or so.

3. What is a good ready made nutrient to use I don't want to mix it for pot

As long as it is formulated for hydroponics any of the popular brands are ok if you follow the mixing instructions.

Sorry for all the stupid questions but I am having a hard time finding the answers from the 2 books that I own on the subject

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Thanks DC

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just found this site- there is a god- where or what is best information on small (very small)indoor growing for #1 cash crop ie. step by step info start to finish? any suggestions

Read ever page on this web site from start to finish.

hey ron i asked the question with 400 hps, the tops of the leaves have been turning a gold color and dying, I went to change the [hydroponic nutrient solution](#) (it was about 3 weeks old) and i know i had about 7 gallons in there, when i drained it i only had 3 because of evaporation but do the nutrients evaporate too? if not could i have an overdose of nitrogen problem? or do you think it's just the heat from the light? I have i thermometer in there, and it's been getting about 90 degrees alot more than the 72 you suggest dim. im thinking of taking the solution out, and running plain water for a couple of days? good idea? thanks ron

90 degrees is to hot and until you get that into the 70's range everything else you do is pointless. Because it's so hot in your room your plants absorbed most of that solution to stay alive so I don't think it was from evaporation.

I found out years ago that every grow room that I built for clients I had to add an air-conditioner to control heat. Something most grow stores don't ever mention when they sell you all that expensive hydro equipment. As for your nutrient strength and evaporation question I will have to check my books and get back to you. It is always a good idea to flush your system periodically to remove fertilizing salts.

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what is the best hydroponic setup possible if i want to force feed and bulk up a plant in the shortest time possible! and what nutrient do i use

Attention: John White

There is NO comparison between growing in hydroponics and potting soil. Hydroponics wins hands down. Keep in mind that in hydroponic growing, the plants are being force fed nutrients whereas in soil, the plants put out more roots seeking nutrients in a form it can use.

I usually buy 6 packs of seedlings at my local Home Depot. Those that I don't put in a hydroponic setup, go into the ground. The difference in the growth rate and production of fruit is almost unbelievable using a hydro system. An added benefit is that I hav'nt had any bug problems in the hydro garden and am able to grow without using any poison sprays.

With any hydroponic setup and when growing tomato like plants, what should the ppm be when you transplant the seedlings to your growrocks?

600 - 700 ppm

Then as you go on thru the veg stage what should the ppm be?

700 - 1100 ppm

Lastly, what should it be during flower stages?

1100 - 1500 ppm

does the plant grow more fast while using the hydroponic method

A cup is 8 ounces or approx. 1/4 liter.

i am doing a major assignment at school and i am going to make a hydroponic garden and a soil garden and see which will grow faster and healthier, i know how to make the garden but i dont what chemicals you need and when to put them in, can you help me?

This is for the person that was asking about lighting. Yes street lights and most other outdoor lights used for for lighting large parking lots are HID lights. But there is a few things you need to now for safety reasons if you are going to operate one of these indoors. I currently use a 400 watt high pressure sodium that was made to be used outdoors. Although these are not recommended for indoor use the can be successfully used if you pay attention to what you are doing. First these units are made to be water tight so the ballast is part of the unit sealed inside. This makes the unit run very hot a lot hotter than the ones made to be run indoors. Outside they get plenty of good cool air and heat is transferred. If you decide to run one of these indoors you need to make sure you suspend this unit from the top of the ceiling hanging down somewhere in the middle of the room so it has good airspace all around. if have mine suspended from the ceiling using two 4' 3/8-16 steel rod and toggles to mount it to the ceiling. Make sure it is anchored well because these units can be very heavy I think mine is about 45 pounds. Next you need a fan fan to be blowing on this unit continually so you can transfer the heat away from this unit and out your growroom. I use A 20inch oscillating fan and snap the button on back so it stays still. It sits on a stool at the back of my room right behind the light so it vents the heat out the front and pulls cool air in the bottom. It is very important you transfer the heat away or the unit could over heat and ruin the ballasts and start a fire. If you are able to obtain a light and you are sure you can vent heat properly you next need to wire it another import step that needs to be done properly. The power demands in the ballast of this type of light can be 110v or 220v this is something you will need to check before using. on the light where the power supply wires go in there is a cover with screws normally the ballast is under this cover. Remove the cover the three supply wires going into the cover cover should be black white green make sure the black wire is attached to the wire inside the unit marked 110v and not on the 220v wire going to the ballast a big rectangular box, sometimes its marked on the ballast next to the supply terminal. you need to what the terminal is marked that the black wire is going to 110v or 220v a lot of these ballast have four terminals and give you the option to wire it either way. But most regular three prong household outlet are only 110v that's why this is important. Some places use them 220v volt because it uses less amps and is cheaper to run but this you need a 220v service and most households aren't equipped with this so be sure to what your light is wired to draw before using. Next you need to get power supply cord no smaller than 14guage wire remember the bigger the number the smaller the wire. I use a heavy-duty air conditioner supply cord if you call somewhere to find it ask for a pigtail it make it easier for the person to understand what you want. After you get the cord you'll find that most of the time the wires on the light and the wires on the pigtail are the same. then just match them up and connect with wire nuts. black is usually power, green is ground, white is common. sometimes the common can be red and the ground can be blue or just bare wire. once your SURE all of this has been done your light is ready to be plugged in and put to work. I don't recommend this type of light for really small grow rooms because heat could be a problem and may result in a buried out light or worst of all fire. this cove

The 3 - 400 watt MH factory lights I bought at the flea market did have the 220 watt ballast connected to the top of the light but being a jack-off of all trades I dismantled them and ran a long cord from the light to the ballast so I could remotely place the hot ballast outside the room, eliminating the excess heat. I once read a book about electricity. You must have read the same book.

Ron

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Do plants need a specific hydroponic solution?

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What is the optimal Ph for growing tomato plants in a hydro system. Also what light

can i use miracle grow in water as a hydroponic solution?

If you add some [calcium nitrate](#) and epson salt to it you can.

what is the composition of hydroponic solution for cucumber? and in what page?



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Ron,

I am going to be try to plant bulbs in a hydroponic solution. Do you think bulbs will grow hydroponically?

Thanks!

MR. MATT B.

I would think so.

how long does it take to grow a succesful carnation in hydroponic solution?

Just another quick question. When do I change my hydroponic solution to the flower mix? Should I do it at the same time as I change the lights to 12/12. Or should I wait a specified time? Please advise. Thanks,
V_12(v_12@yahooka.com)

Yes, No.

I was wondering if anyone knows how to make some sort of hydroponic solution yourself from stuff that is semi-easily accessible? If our society crumbles, it would be nice to have a hydroponic farm, but hard to buy the solution, you know?

I just priced calcium nitrate. It was 23 dollars a pound around here. Can anything be substituted for it? I will eventually go with a normal hydroponic solution.....this is just to get me by for a bit. Thanks,

Brett

Not that I know about.

I am going to be try to plant bulbs in a hydroponic solution. Do you think bulbs will grow hydroponically?

Sure.

If your leaves are drooping perhaps you solution has a Na^+ (salt) build up. An increase in Na^+ causes an increase in osmolarity of your hydroponic solution; thus the turgor pressure in plant cells decreases because H_2O diffuses out of the cells and into the hypertonic solution. Your plant is now dehydrated. IN OTHER WORDS...Add more water to your solution. Also replentish your resevoir more often because plants make salts as they grow. Remember to record the results of your new concentrations.

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Nurse Duckett

on Peter's Hydrosol

give me your email address and i will send you my own little computer program on what other mix to use just to make my hydroponic solution

yes, peters hydrosol is not enough to make your plant grow well, need to put in more stuff in it

pzing

Ok I've read all the letters to date [anybody else with a question should do the same, the repetition is mind numbing] so a few questions?

When you gave your miracle gro formula you gave a mixture for seedling, and for mature; but then you gave ppm for 3 stages of veg + flowering. Is the first just a shorthand for those mixing there own without an expensive meter for PPM or shouldn't the mixture change with the 3 stages of veg + flowering?

So I know it's not Calcium Chloride it's Calcium Nitrate. I have a book Beginning Hydroponics by Richard E. Nicholls 1977, that suggests Calcium Sulphate which is what gypsum and Plaster of Paris are made of. Household item [plaster of paris] anyone know why I can't/shouldn't use it. It's very soluble does it precipitate out easily?

Just curious why is there never any discussions about NPK. Is it just understood that whatever formula you use these three are in over abundance?

Thanks

P.S. The site is much better than a lame book from 1977!

The formula for seedling and mature plants is from a commercial mix of Fertilizer (Miracle-gro), Calcium Nitrate, and Magnesium Sulfate.

The ppm discussions were in reference to liquid hydroponic solution formulated for hydro like General Hydroponics or Formula One.

I am using the commercial mix with the tomato plants I am growing now.

Never heard the plaster of paris thing.

Hi ron, My name is Curt and i am doing a project for my science class. It is hydroponics. And i was wondering if it would be all right to use miracle grow as the hydroponic solution and if it is how much should i use?

Miracle Gro is ok for a short period of time before you have problems. Use at a low mix like 1/4 teaspoon per gallon of water and throw in a dash of Epson salt if you have it.

I have a few Q. I'm in the 6th grade and I'm doing a science fair project... I'm doing my project o hydroponics. My teacher told me to compare plants grown in soil and seeds grown in a hydroponics solution. I want to know if I could make a hydroponic solution at home and not spend any money. If I'm off track please email me at Kljhad@yahoo.com thaks jessica

Ron,

Do hydroponic gardens need to be in a greenhouse or can they be outdoors (no overhead cover).

I can imagine that rainwater could get introduced into the hydroponic solution (via the plant sites) and weaken it. Do you see this as a possible problem? Have you heard of any possible solutions?

I plan to grow tomatoes in my backyard and need to know if I require an overhead cover.

Thaning You In Advance, Oscar

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Please anyone: I need help in setting up a system to grow hydroponic strawberries. I have a hybrid ebb and flow gully setup--6 rain gutters each 5'long.Can I utilize this system for strawberries? Larry Middleton, WI

Hi Ron, When I try to click on "here is my drawing of the garden" ([gurgle garden](#)), it comes up "object not found". Could you please email me the jpg of that drawing. Thanks. Bernie

Ron, when adjusting my pH level, how fast of a drop in pH can the plants take. On my pH down, the bottle suggests slight increments of .5 within a 24hr period. (but I think that is when dealing with fish). What if my pH is way out of whack and is in need of a dramatic change right now? Say it is over 7 and needs to get down to 6. How fast can this change take place. I want to do it immediately.--Please help, and thank you.--Brigin down the pH.

Change it till you get it right. Just do it in small increments to keep from yo-yoing up and down. It is a good idea to check it again a few hours later after it is well mixed.

how do I test my water supply for hardness?

I have a phototron, I dont want to sent soil samples in to get check. I cant get the budding fertilzer solution with out this process. What liquid fertilzer solution do you recomend. wes

Formula One A&B

In these hydro systems using the fill and drain method...how many times should it fill and drain in a 24 hr period and how long should it be full and empty?

Dear Ron,

I'm the guy who wrote from Argentina a while back. I know you recommended that I forget the whole prospect of the 11 plant garden, but I was able to build it successfully. It turned out great with 1 1/2" PVC (which in Argentina I think is similar in internal diameter to US 1"). I got the bottle caps to fit and seal in each PVC opening perfectly and I installed a flow control valve at the entry point into the system. My question is this: is a 200-300 gph pump (the smallest I could find) still too powerful, even with the flow control valve? Can I make the system flood slowly enough? Or do I really have to wait until my next trip to the states to get a smaller pump?

Ideally, I need to get these Amsterdam babies germinated before Christmas... I'm anxious. I don't want to wait until that next trip to the US.

Please help. Thanks a million.

You could try [what a member said](#) a few questions back. Use a tee at the pump with one hose going to the garden and a flow control valve on the other end that flows back to the tank. That will release most of [pump pressure back](#) to the nutrient tank with the added benefit of creating air bubbles in your nutrient tank. Open or close the valve to determine how much water to pump to the garden. Ron

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What is the best way to control the water's Ph in a 11 plant system.

Eric

[pH up or down from any hydroponic supply source.](#)

Re: Calcium Nitrate

Look in the yellow pages under "agriculture chemicals". I bought a 50 lb. bag of 15.5-0-0, just like the one Ron shows in the website. It cost me \$15.00. With the sales tax, it came to \$16.25.

Tailwheel

I'm new and have never done hydroponics. I'm thinking about buying a hydro garden to grow hot peppers with. How good do hot peppers grow this way and if I do get a garden do I need that rockwool stuff? Thanks!

if you glue the cup to bottle how do you clean the cup after a grow

About the 11 plant system. Do you have to make holes on the reservoir for the over flow pipe and pump line? How big and whats the best way to it? Thanks

Ron, just wanted to let ya know that your site rules! Ever since I found it I've been checking back all the time. I'm new to Hydro, and decided to try the Miracle grow mixture. I've read that some readers have had a hard time finding calcium chloride, but you can get the stuff just about anywhere, I bought mine at Walgreen's, its the salt to melt your driveways with. A lot cheaper too, Aquatico is selling 4 pounds of it for \$7.90, I bought 9.5 lbs for \$6.99! Made by Prestone, and they says its safe for plants too. They don't list any other ingredients except for CaCl, so I hope there aren't any unlisted stuff in there. I don't think there will be though. Maybe I will email them and find out for sure b4 using it. Hope this helps some of your visitors. Mark

I'm worried about running out of vertical space. In order to keep as much growing space as possible, what is the smallest reservoir I could use?
Josh Hermanson

the deference between a grow light & a security light is the transformer of gases some nasty fumes because its made to run out doors if you can stand the smell they will work its kinda like you get what you pay for better off with a grow light or a green house

I want to now about hydroponic grass for beef cattle, where I can read about this (in spanish please) Thanks, Martin

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Are there any plans for a hydroponic system?

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I have been surfing the net for about 5 years and this is the first site I have ever seen that was this informational without having to pay for something. If I ran a web site that allowed me to put up your banner I would. I am Building my own Hydroponic system just because I found this site. 20 minutes ago I had no Idea I would be gardening this summer but now I am. Plus if i build one good enough, my friends said they would by it off me for their controversial growing plants. I'm just growing regular plants. Keep up the good work!

Because big business has clogged up the internet with so much of their crap that I don't even bother to serf anymore.

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I am fixing to buy a hydroponic system and I have a question about two systems I am in between. Eve's Garden 6, or the Waterfarm 6. I was thinking about the waterfarm because I wanted to separate three on one side (under 24 Hr. light) and the other three under in the other side of my cabinets (under 12/12 light). Could you help me with my problems? If you could send me your answer to tha_chronic_1@yahoo.com

i don't get it, yet...

i am new to this site and i have a question: first of all, please don't mind my bad english. i am from holland, you know. if i build, let's say the 11 bottle hydroponic system, and i turn on the pump and

fill the system with water/nutrients, then what happens? does the water drain off just like an ebb & flow system, or does the waterlevel drop because the plants absorb it? i can imagine the water running back through the pump after it is switshed off. anybody! please answer my question! if i can figure out how this thing exactly works, i might even try to build this system myself. greetings, reynold




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what nutricece would i use for a hydroponic system that is found in a house or normal store

I'm in the process of setting up a hydroponic system, I am going with a 400hps & 400mh I am in now in search of ideas for a sun circle. I have found them but not cheap, HELP.

Here is my first mover I built 15 years ago and it still works. Made from a barbeque rotisserie motor and a 90 degree gear reducer that weighs about 30 pounds. The light is connected to a ball barring made from a bicycle axel. The light cord is connected to a wall causing the light to rotate as the mover goes around and around. This set up will only work with one light because with two the cords would get tangled.

Here's an easy passive hydroponic system that I gave a try. Not meant for Hydro but I said what the hell. Very low maintenance too. Any way, I filled one of those terra cotta "self watering" planters with just grow rocks, started a plant in rockwool, then transplanted the cube and plant in the grow rocks. All I've been doing is filling the outer part with nutrients whenever it got really low. I found some cool painted ones at Home Depot, not the usual orange terra cotta. It's a small plant tho (Syrian Rue), but I have since bought 2 more store plants, rinsed them of as much dirt as possible, and stuck them in. They are both about 9-12 inches, and have started growing new leaves this spring already. The only planters I've seen like these are small, so only small plants would work, great for house plants tho, and beginners. Wonder if larger plants would work as well, if I could find or make a larger one? Maybe this will interest any newbies that want an intro with using nutrient solutions with low light plants. Inexpensive, no hydroponic pumps or special lighting, atleast so far. Mark.

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Im gonna bulid the 11 pipe hydroponic system. Im a new grower so i dont know much What the hell is a solo cup, I know it goes inside of the 2 litter bottle thats all. And what do you use to grow, I mean, What do you put inside of the 2 litter bottles, soil just water, rockwool, ect. Another thing is the pump. What is its specific name so i can ask for it in a store and were do i get it?

A solo cup is just a plastic drinking cup sold everywhere.

The cup are used to hold the grow rocks. (a man made clay fired ceramic material.)

The pump used are called submersible pumps. They are rated GPH (gallon per hour) and you need one around 100 GPH.

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I have just transplanted some young tomato plants into a hydroponic system. The ends of the leaves are starting to turn brown. Any suggestions?

Mike Tesnohlidek

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May be to high of a solution mix. That will turn leaves brown.

What would you use for a nutrient solution in the 11 plant hydroponic system displayed on this site?

www.AeroGarden.com Also I would like to thank the maker and members of this site it has been a big help with my project for school.

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does n e one know about how much it would cost to make the 11 plant hydroponic system? And were i could pick up a pump and a timer? your info will be greatly appreciated!

Here

i am making the 11 plant hydroponic system and i was wondering how should i fasten the pvc piping down to the nutrient container? thanx for your responoses!!

why? You growing in a hurricane. You can use bungee cords to hold the sucker down or if you need a more permanent way use elastic ties. Just ask the cops for some the next time you are busted. They use them for hand cuffs.

can you skip from vegging to blooming in a hydroponic system??

I am building an enclosed hydroponic system and am trying to anticipate whether it will work. I bought an extra large rubbermaid storage bin for \$16.99 at my local Home Base store. I placed some plastic rectangular cubes inside and have set some pots with growing cherry tomato plants in gro rocks on the cubes. The tomatoe plants are long enough that the tops stick out of some cutouts that I made along the edge of the lid. This way I can take the lid on and off without lifting the plants. The pump, tubing and spray nozzles are all inside the storage bin. The spray nozzles are low pressure 180 degree nozzles designed for drip irrigation systems but they seem to work well enough to cover the grow rocks inside the baskets. The plastic bin holds about 15gal of water and the pump turns on for 30 min and off for 30 min during the day and off all night. Do you think I might have since the roots and about 18 inches of plant stem are always inside the storage bin?

I am a 11th grader in high school and I am considering doing a science project on the success of different hydroponic nutrient solutions on hydroponically grown plants. is this at all possible? how much would it cost to set up a functioning hydroponic system?

hi ron,
what is the best method to control or to remove the problem of damping off in a hydroponic system ?
im using sponge as a medium.
regards,
Oh Chin Singapore

About the CO2 trick read once that rabbit pooh gives out good level of CO2 too maybe have some rabbit under your growing frame. feed them with lettuce from your hydroponic system and they will give you good amount of pooh for CO2.

Can I have an hydroponic system completely outside using the 11 plant design. I do not know if I can put it straight light sun or I need any kind of shade.

Yes you can grow outside and it depends on the kind of plant you want to grow if it needs shading or not.

Greetings from Spain.

Where can I find free hydroponic system plans in internet ?

What about using halogen lamp as an artificial grow light source ?

Thanks in advance.

Wrong light spectrum from a halogen.

yea i built the 11 plant hydroponic system what do i put in the containers i heard you have to put in rockwool or perlite and vermiculite but i dont know what they are?

Then you probably won't know what grow rocks are. What I recommend you use.

Hi Ron, About a week ago I built a 11 plant garden and when everything was going well. Until a couple days ago. I bought a timer from Wal-mart that is set up to water for 15 min on and 45 min off it was only \$9. Every hour. Is that too much water for small plant?

No That sounds just right for small plants.

Also I can not find a place that sells hydroponic nutrients. Does Wal-mart sell it or maybe I just can not find it?

No they don't. You can find hydroponics nutrient solution on the web. Use your favorite search engine to find some.

I tested the ph today and it was above 7. Is this the reason the leaves are a little brown or is it too much water?

Yes to high of pH.

I have been using a nutrient that is made for soil because I can not find another one. Is that the reason why they are browning?

Yes you are cooking them.


The ph was fine when I transplanted them to the hydroponic system, and five days later it was over 7. How often do you have to adjust the ph?

As often as necessary.

and what changes the ph so fast?

From using non-hydroponic nutrient solution.

I appreciate all the help you have given me, the site is very interesting. Thanks.

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what is TDS and what does it mean please help

The concentration of nutrients in water is measured on a numerical scale of parts per million (PPM). This number basically tells you how much fertilizer is dissolved in your water. By closely monitoring this concentration you can maintain the best level of nutrients to meet your crop's requirements. You will need a TDS (total dissolved solids) meter that measures PPM. You also use the this meter to gauge when it's time to fill your hydroponic system with a fresh mix. Generally, young plants prefer concentrations around 400 to 600 PPM, while mid-growth would be around 700 to 1000, and established or fast-growing plants need levels around 1100 to 1500.

Tomato

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dear ron,

wonder if you can help me out with this hydroponic problem.

you see, i tried my hand on pokchoy (oriental brassica) and the result was below expectation.

first, the stalk is smaller than organically grown second, the pokchoy in hydroponics wilt faster than expected after harvest.

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however, the leaf size is ok, very green and no holes. no leaf miner. the root length is nice. long enough with lots of rootlets along the side.

could my problem originated from sunlight. i place my hydroponic system in a east-west orientation with opaque plastic on top of it to prevent rain water getting into the system.

or could it be temperature. my temperature ranges from 24C to 32C (yes, tropical Philippines I am from)

regarding the water stress, is it normal with hydroponic plants ? is water stress the main reason why after harvest, it wilts faster than expected ?

thanks and MERRY CHRISTMAS

Stanley Ho

I am looking for a complete hydroponic system for growing fodder for livestock consumption. Does anyone know where I can find such a system?

how often do you feed plants in a hydroponic system.how long should the pump be on and off in a flood and drain system.

Can I cultivate honeydew melon by hydroponic system.I have lot of land and growing honydew melon. So kindly advice me as above system. Thanking you Sir Yours sincerly Moammed Nabi Khan S-1/181 Saudabad Malir Karachi-75080 Sind Pakistan

I am currently planning to build a hydroponic system, if anyone is interested email me at tspier2@.localnet.com

what is the simplest hydroponic system?

my name is Casanova and I'm asking who can make my own hydroponic system by buying the products at a hardware store. can you help me . I need to know what are the supplies I need. thank you.

Is it good to cultivate Lettuce in Aeroponic or Hydroponic system , which is the best? Ibrahim Ali

NFT

looking at buying a Cropking 4 bay hydroponic system would like to know if anyone knows anything about Cropking and there systems please E-mail me at krohm@mail.ohio.net thanks

Question: I would like to get started on a beginner's scale with hydroponics in our hobby greenhouse that is 10 by 48. Do you have any suggestions where I could get a setup that would get me started? Mike S

i need to know how to/when to feed my homemade hydroponic system

How do you remove plants that are root bound from an NFT hydroponic system without damage to the plants that are left?

On the 11 plant hydroponic system can you please tell me what kind of pump is in the design. I am setting the system

for a science fair project. Thank you for your help!!!! -christa

Ron, you have a very informative sight on practical applications for building a inexpensive hydroponic system, keep up the good work. My question is what other house plants can be grown in a manner similar to the spider plant and ivy. Any info that you can share I would truly appreciate.

Thanks, JC

absolutely. houseplants grow so well that plants like the aloe-vera plant fall out off the cups because they grow so much.

i want to setup a hydroponic system. i looked at the 11 plant design. what do i do after i build this? how do i start it up? seeds? nutrients? any help for this aspiring farmer would be appreciated.

you need to read previous Q & A pages to find out.

hi my nane is james i'm in the 10th grade could you please tell me how to build the watch it grow hydroponic system

yea i built the 11 plant hydroponic system and im going to get a pump right and ive seen pics of a tube coming out of a container does that connect to the 1/2 inch hose connecter does that bring water up back to flow or is that to give to oxygen to the roots ,sorry but im new to this

Yes it pumps water up to the system.

how long before u can add seedlings to hydroponic system...and long before i can put them under a 600w hps full spectrum light

Rick: I was not able to add this before in response to your posting on ppm and percent fertilizer, but here is some more: you can guesstimate that 1 mMHO is somewhere in the range of 635 to 650 ppm. I consider this only an approximate value since it really deppends on many factors such as salt index of the particular fertilizer salt, the temperature at which the reading is taken, etc.Anyway, 640ppm for each mMHO is more or less OK for calculating a nutrient formula. matita@coqui.net

Ron, would you have any infro on growing pototoes using a hydroponic system.thanking you in advance.jim at plantdr@gate.met

Hi Ron, I am considering designing and building a larger hydroponic system for tomatoes. I plan to change the nutrient solution every 2-4 weeks, as recommended. Can you give me a rule of thumb for how much nutrient solution is required per plant (gal./plant) so that I don't waste nutrient or the nutrient doesn't become too weak before the next change. I hope to have my system up and running this spring. Thanks a bunch.

I just transplanted a Grand Nane banana plant (1 ft.tall) to my 5 gal. constant drip hydroponic system, Im using a 8" net pot with 4" rockwool and grow rocks and was wondering if this size is big enough and if the holes in the net pot are also big enough for the roots to get through? can anybody tell me a good nutrient recipe for this system and plant? I also heard that epsom salts was not good for banana plants, is this true?.....Thanks, Bob

how do you make a hydroponic system using a rubbermaid container?

I am looking for a manufacturer who produces a 1/2 inch rubber (bulkhead) grommet seal to insert a plastic barb fitting into a plastic water container. I am trying to make a dutch bucket hydroponic system and need this grommet for the nutrient flow lines. Larry

Try www.aquaticceco.com they have a good selections of bulkheads.

Hi I am a sixth grade student in Palm Beach, Florida. I am doing a science project with hydroponics. Do you have any advise?

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TO THOSE HAVING TROUBLE STRIKING SEEDS.

Ron, I hope you don't mind me giving tips here, I dont want to interfere with your professional and experience knowledge, which, I might add, is much more than I have myself. However, after reading the messages, so many have asked how to strike seeds and when to transfer them to the hydroponics so I thought, with the little, but successful knowledge I have striking seeds, here is a tip or 2.

I have 1250 commercial parsley plants. Parsley, is one of the most challenging seeds to strike due to its slowness and less vigorous characteristics compared to other plants.

I have successfully sown about 2000 parsley seeds using the following technique (these plants then go into a NFT commercial set up)

I use vermiculite only I fill the tubes with vermiculite (the tubes I use, are the ones that then go straight into the system later, so there is no transplanting shock to the plant and much less labor for me).

I then water the tubes to add as much moisture as I can to each tube

I then plant about 6 parsley seeds to each tube. I add about 6 as parsley seed is very small and difficult to handle individually and it gives me more success with striking as if 5 do not strike, I still have 1 which will strike.

I cover the seeds with about a cm of vermiculite and water in with a very fine spray

For the first 2 days, wait till late afternoon to water as then, the sun here in Australia has warmed up the water in the hose and water the seeds with the warm water.

After day 2, water once a day, at any time but prefer afternoon, when the water is not as cold.

After 10 days, my seeds sprout and I continue watering daily, and also foliar spray with a very weak nutrient, after 3 leaves are evident.

Prick out all but the 2 strongest seedlings.

When the roots appear from the bottom of the tube, transfer it to the hydroponic system and watch them grow before your eyes, so to speak.

Prick out the weakest of the 2 seedlings but note here with parsley as a particular plant:

we have found that parsley is happier with competition from other plants. With competition from other plants it produces longer stems which is what we want to achieve to harvest it commercially. So, sometimes, I will leave 2 or 3 seedlings in the one pot, however this is speaking from a commercially viable unit only.

Note that I use a commercial seedling table - the table is simply a table with a drainage point to allow all excess water to flow through.

Parsley has a reputation of taking about 30 days to germinate but I germinate mine in about 10 days, 15 days in the middle of winter which is still an excellent result.

I am new to this hydroponic system. I built your 16 plant one, Mr. Ron.

Of course I had leaks all over the place but my observations were.

You need to save that seal that is in the bottle caps and cut a hole in it and put in back in the cap. Or go buy rubber washers at the hardware store.

I was expecting the water to completely drain from the system. However it did not. It wont hurt the root systems to be under water? Does the water stay there till the plants use it up? Have I done something wrong?

The garden will stay full until the pump shuts off. Then the water drains back through the pump to the container.

How long do I run the pump?

Until the plant roots are soaked then drain immediately.

How many minutes an hour do i do this?

3 times an hour

\ The overflow worked well. I am not sure what to expect.

I am growing in an hydroponic system. About a week ago, I noticed small brown spots started appearing on the

margins of older leaves. Now it seems to be spreading to the younger ones as well. Can anyone help? TIA

HOW DOES THE HYDROPONIC SYSTEM WORK?

The timer turns the pump on. The pump sitting in the nutrient solution reservoir pumps the solution up the hose to the garden to supply the plant roots with food. The plant roots will use as much nutrient as it needs and the rest is returned back to the reservoir for the next feeding. Determined by your timer setting. About every 15 minutes. The overflow pipe keeps the water from rising to high in the cups. This is the ebb and flow or flood and drain hydroponic system.

I am a first time grower. I want to know what the best timing schedule for an indoor hydroponic system would be. I have a 460 watt bulb.

It depends on what medium you use. Grow rocks hold a lot of oxygen so you can water every 1/2 hour. Rockwool holds moisture more so you can water less maybe every hour. And it also depends on the size of your plants. Small plants don't need to be watered as often as larger plants. You might be a last time grower after that answer.

I'm in the process of setting up a hydroponic system, I am going with a 400hps & 400mh I am in now in search of ideas for a sun circle. I have found them but not cheap, HELP.

Here is my [first mover](#) I built 15 years ago and it still works. Made from a [barbeque rotisserie motor](#) and a 90 degree gear reducer that weighs about 30 pounds. The light is connected to a ball bearing made from a bicycle axel. The light cord is connected to a wall causing the [light to rotate](#) as the mover goes around and around. This set up will only work with one light because with two the cords would get tangled.

Hi im building my own hydroponic system{11 plants} using the instructions you provide using pvc and my question was. How do i plant the seeds? we have everything ready and working but if we put a seed in there it just goes into the system. So what do we use to keep that seed in bottle with out it going into the system?

dear Ron,

i am having difficulty in getting nutrient for hydroponic system from where i am. furthermore, i cant find any chemist who will do the formulation for me nor guranty that the nutrient mix is correct.

right now, i am using 30-10-10 for my veggie. the content are as follow :

N ... 30% P2O3 ... 10% K2O ... 10% Magnesium ... 0.120% iron ... 0.040% manganese ... 0.020% boron ... 0.015% copper ... 0.007% zinc ... 0.005% molybdenum ... 0.002% calcium ... 0.090% vitamin B1 ... 0.075%

will this water soluble fertilizer work in hydroponic system ?

thanks,

o2ten

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I am desperately in search for a good source (be it internet/book) on algae control in hydroponic systems. Any or all information/sources you may know of would be much appreciated. This is for a college report, so if you have no answers please don't fake it Thank you kindly for your time. Josh spivakjm@cobleskill.edu

Does anyone know anything about a volmatic valve system? It is widely used by the Danish people for their ebb and flow hydroponic systems. I am curious as to how it works. Does it have the same function as the American drain/fill and overflow fittings? If so, what are the advantages of using a volmatic valve system? Whatever info you share with us is greatly appreciated. Thanks!!

How does one grow bog plants or emergent nymphaes (lotuses, iris) using hydroponic systems ? Radha Krishna dradhak@runbox.com

Hey folks, came across a great link for a TDS tester. It is a cheap one, and I don't know the quality, but it is like half the price as any others I have seen. Ron, or anybody else, let me know if this is a great deal. I really appreciate this site.....I now have built three hydroponic systems, and a greenhouse to put them in. It is a great hobby.

Brett

<http://www.hannainst.com/products/testers/primos25.htm>

I was wondering how long should vegging take for hydroponic systems. To make myself clear it's grown on 6 by 8 tables with water pump up and then drains down. If possible can I skip the vegging stage and start blooming.

Dear sir/lady Thank you for your attention to training hydroponic systems. My name is Majid Kazemnezhad. a 28 years old man. I am not graduated of agriculture university. But I love nature specially fast hydroponic systems , because it doesn't need big places. Please send to me : 1- How can I study lessons about it in my own home. 2- Address of books, magazines, cd's, training films and etc. 3- Do you know any producer or your member in Iran or Turkey. How about the other countries... 4- As I am interested in establishing an institute in order to produce crops and ... which services you give to your members like me. E_mail: hydro_majid2002@yahoo.com Thank you.

have you tried growing star fruit plants hydroponically and was it successful

If they aren't too woody of a plant like roses or a dry plant like cactuses just about any plant can be grown in hydroponic systems.

I'm a student and I am conducting an experiment. I was wondering; How do hydroponics work? How do you grow a hydroponic plant?

A submersible pump comes on and pumps nutrient enriched water to plant roots that are grown in a number of inert materials as expanded clay aggregate (grow rocks), spun volcanic rock (rockwool), perlite, porous gravel, lava rock, or as with some hydroponic systems, no medium at all.

Ron,

You told me to mix my used rockwool in the compost pile. COMPOST? Do you actually grow anything in the ground anymore? Does the rockwool make your compost a nice consistency, how does it help composting.

New2Hydro Holly

Just consistency and oxygenation.

Just about all the plants I have planted in my yard came from my hydroponic systems when they got to large. That's why I love it here in Florida because you can grow plants all year round.

Does anyone know of any hydroponic systems suitable for growing herbs and a range of vegetables in a window box type structure? (I live in an apartment which only has a small balcony.) The system would need to be suitable for 'outside use' as it would be exposed to the elements. Thanks, Jim

Hello Ron -- do you have a "minature greenhouse" plan for our perusal?? The one you built for your hydroponic systems is perfect for our needs since we have limited space and at the sametime, want a roof for our system. There are a couple of minature greenhouse snapshots in your picture index, using pvc pipes (for frame) and clear fibergalss/plastic (for roof). It would be greatly appreciated if you share the plan with us. Thanks, Wayne

Hello Ron -- please comment on the potential of using pvc gray pipes (plastic electrical conduit pipes) for 2-liter hydroponic systems. Those pipes are UV-protected, but I am wondering if they are safe compared to Schedule 40 pvc pipes. Hope to hear from you soon. Thanks, Wayne

Hi,

My son is going to start on a hydroponic project in his ag class at school. We live in Central NC. Is there anyone else close by that has some hydroponic systems setup that we could come look at? I did notice on the members garden area, that there is someone in VA.

Thanks

Write to Ray at nscubaguy@aol.com

Anyone using computer control for their hydroponic systems? I'm in the process of building a system which will be controlled by an Applied Digital programmable controller. The control program will be written on a PC using their Windows based software. I will be controlling such things as pumps, fans, lamp heat exhaust. System will also monitor temperature, humidity, and tank liquid levels and sound alarms when things are not going right. Anybody out there using control technology on their hydroponic systems? I would be interested in hearing about your application.

Dave

I have the capability to computerize my hydro systems if I had the time by using X-10 technology. I have the hole house system that can control everything if I ever take the time. It works though your electrical system in your house. Very inexpensive. www.x10.com or www.smarthome.com

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How can I grow a hydroponic tomato garden in a limited space of 2'x2'?

hey ron, george crescent city fl. planning to build a couple of your yard gardens for use this summer when i have to shut the greenhouse down. with the heat here in fl do i need some shade cloth over the garden or just clear plastic as in your pics? ps, you were right about greenhouses only good for winter use in fl.

I even tried a variety called Heat Wave last spring and they still didn't produce. I have manage for the first time to save 100 tomato plants this year by using kerosene heaters. I will be selling tomatoes online overnight express very soon. I will be building a large scale open field hydroponic tomato system next spring. Who needs a greenhouse?

Yes I don't grow without shade cloth or my tomato plants wilt from the heat.

is a [hydroponics system](#) suitable for the tropics? i'm an indonesian

The largest hydroponic tomato grower moved from Florida to Hawaii because of the weather so I don't see why not. And Carol from Hawaii does OK. <http://www.hydroponicsonline.com/carol.htm>

I am a college student learning about the agriculture business. A project of mine is to set up a working business plan for a commercial hydroponic tomato greenhouse. Because of the extreme amount of information on the web I am having

trouble locating reliable information on expected typical yeilds, and about average timing from propagation of [seed](#) to harvest. If anyone can help locate this information it would be very helpful. Thank you. Danny

Date: 20 May 2001 Time: 13:10:45 Comments I have started a hydroponic tomato garden. The plants have been in it about 18 days and have really been looking good. I have noticed in the past few days that the better boy's leaves have curled up. The others are doing well though. Also, there is a brownish looking residue in the tubes and some of the roots have this brownish look to them now. The roots used to look white when they first started to grow. Is this some sort of fungus or algae growth? Should I do something about it? If someone could offer some info, I would welcome it.

Thanks, Eric ejordon21@home.com

18 days is to early to worry. Just keep an eye on them longer before you panic.

New reponse:

It has been just over one month now and almost all of my tomato plants are gone. The leaves continued to curl up and they stopped growing. They arent dead yet, but they might as well be. I was using a hydroponic fertilizer and adding one teaspoon per gallon of water as directed. If anyone knows a better fertilizer to use or know what I am doing wrong, I would appreciate the help on it.

Eric ejordon21@home.com

If your pH is to low or to high it won't matter what kind or how much fertilizer you use it won't help.

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Hi Ron I have grown Hydroponic Tomatoes going on three years now, I just ran into your web site. Maybe you can help me with a question I have? Would there be a quick way to take Chlorine out of my 75gal. tanks of water before adding my tomato formula. I know I could let it sit for 24 hours and that helps. But I was thinking maybe something quicker. I ask this too hopfully better my formula for the plants. I do have a page to see what I have been doing if you cut and paste <http://face-up.tripod.com/caricatures/id12.html> Thank you MikeNewsome.com

I here those reverse osmosis filters are cost effective.

hi there, I am very new to this and have a question, I am an architectural student and am designing a building which houses hydroponic tomatoes. I just want to know what the minimum height at which I can build my greenhouse would be or is that a how long is a piece of string question? is it really just case of how many tomatoes I want to grow will depend on the size of greenhouse??

thanks: euan

It depends on the type of tomato plants you grow. Some tomato plants can grow up to twelve ft. high.

We are commercial growers of hydroponic tomatoes. We grow them under plastic. We are thinking of adding some HID lights to supplement the limited sunlight we get in New England during the winter. Does anyone have any advice or experiences in terms of types of lights to get; metal halide sodium, agrosun, etc., height from plant, length of time to leave lights on, differences in yield, ir cooled v. water cooled, etc? Thanks. Mike

Hello Ron , I am currently studying year 12 VCE food technology and are featuring a topic of our studies on food and technological development. I am focusing my main topic on the hydroponic farming of tomatoes. I was wondering whether you could help guide me in the right direction and answer some of these simple questions The advantages of the hydroponic tomatoes over other similar traditional products? The growing, which enabled the product of hydroponic tomatoes to be developed? And whether you have any significant points about hydroponic tomatoes? Or a diagram on how hydroponics works? Any of this help would be greatly helpful to help for my future studies. And whether you have any other websites that focus on hydroponic tomatoes Hope to hear from you soon and thank you for your help Thank you

Ron how much Ph should be in the water for tomatoes? Also how often do I fertilize? Your input would be great. And no I'm not completely stupid I'm just a high school student in an Ag class with an IDIOT for a teacher. Thanks a bunch!

To whom it may concern: I'm a freshman science student in high school doing a science project on growing hydroponic tomatoes. Is there a decent hydroponic nutrient solution on the market that's already mixed and ready to go? If so, what is it and where can I get some fast? AuntHC

Jeez Ron, I've used transplanted nursery plants from Home Depot in my garden. The plants are just now recovering from the transplanting shock and are now setting blossoms. The plants are only about 1/4 inch in diameter main stem diameter, and about 2-3 inches tall. I don't think they are strong enough to support fruit yet.

Am I just being used to planting things in the ground, or is this a phenomenon that I've never experienced.?

What is your experience in seemingly premature blossoming?

I have always had to tie up my hydroponic tomatoes and other heavy fruit plants so I wouldn't worry how big or the age of the plant as long as it produces healthy fruit.

hi, i'm doing a research project for school, and i am trying to find out how varying the amount of nitrogen or level of pH can effect hydroponic tomatoes. any suggestions? thanks, crystal

Ron. I am an experienced (Canadian) grower of hydroponic tomatoes. I am interested in locating a supplier for panda film grow tubes (1000 ft /roll works great for me, as it does about one house at a time). Any suggestions for suppliers? (by the way it has been almost -30c for the last week or two. Any chance someone wants to swap heating bills?

Are these tube lights you are referring to fusion lights. I am very interested in finding a supplier for fusion lights.

How do I keep my hydroponic tomatoes healthy after I plant them?

Feed them the correct nutrients, Keep them at the correct temperature, adjust the pH every day, protect them from predators and play heavy metal music at the highest volume you can turn your stereo to. They like that.

hi RON. My 11 plant system !!!works!!! I have 5 tomato plants and left one of the same age planted on plain soil. The growth difference has been dramatic, but lately my hydroponic tomatoes have a white powder like in the stem at the base where come from the growrocks. Is this salt? or maybe fungi? What could cause the problem? Even if my plants die I wouldn't call it a failure. I plan to keep trying. thanks for the help CARLOS AT PLANTATION

Yes that is fertilizer salts residue. Nothing to worry about. You can flush with clean water every couple weeks to get rid of salts buildup and any mold that will inevitable be present.

Hello All,

I live in the Midwest and was considering converting my spare bedroom into a room devoted mainly for growing hydroponic tomatoes. The room measures about 12'x10' and is made from wood and plaster. Can someone point me in the right direction please?

Rick.

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Do hydroponic vegetables make money?

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Can anyone recommend a good fertilizer mix for hydroponic vegetables (namely corn)?

Thank you, Robin Harkey

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Doesn't seem to be many farms around. Is it impractical? Tired of the rat race. My pipe dream would be a small home with greenhouses in my back yard, room for a horse and a dog and be able to make a living with hydroponics. What do you think?

If you can lean to grow good hydroponic vegetables, you will have people lined up to buy them at any price if the quality is there.

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I've never had a "chemical" taste with any of my hydroponic vegetables. However, I have heard it said, that flushing the system with water 2 weeks before harvest is good.



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do u use dirt or just water?

water

I am a new bee :

i would have that looked at

O And what type and size pump?

submersible, from 60 to 120 GPH

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Ron;

In regard to the brewers yeast that you copied from a book - Do you know if the requirement for brewers yeast is mandatory, or will regular yeast (like Flieshman's, used in bread) work. Better yet, What was the title of the book?

Gardening Indoors by George F. Van Patten

I purchased the 11-plant garden and am very confused. I am a first time hydroponics user and am demonstrating if hydroponics or soil works better for the city of Chicago science fair. I would like to know how to germinate the seeds. I tried just putting them in the cups and having the pump on a timer, but all I got was smelly mold. Does anyone have any suggestions?? I really need to know, so please e-mail me at nodoubt1516@hotmail.com.

Start your seeds in vermiculite, perlite or rockwool starter cubes and transplant to the garden when they are 3 or 4 inches tall.

As far as books go. I would get my hands on anything I can find on a subject. I am new to hydro but not new to making many different projects. I find that every book has at least one thing different than the next. That one thing may save your butt one day. Books are cheap and you don't have to plug them in. And if you need info you can take it with you to the greenhouse. Kinda tough to do with a puter. (just my two cents) Cliff

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would. I am Building my own Hydroponic system just because I found this site. 20 minutes ago I had no Idea I would be gardening this summer but now I am. Plus if i build one good enough, my friends said they would by it off me for their controversial growing plants. I'm just growing regular plants. Keep up the good work!

Because big business has clogged up the internet with so much of their crap that I don't even bother to serf anymore.

This is the best web page on hydroponics, the format and the picture illustration are great!!! I am a beginner in hydroponic in Thailand. I am growing lettuce with NFT ,after a few weeks of perfect growth, the roots become brown color and the plant growth is stunt. What is the problem and how to cure them?

Something isn't right with your nutrient solution if your roots aren't white. PPM or pH or both.

I have been surfing the net for about 5 years and this is the first site I have ever seen that was this informational without having to pay for something. If I ran a web site that allowed me to put up your banner I

Very nice site and various design setups. I wish I could have read this material about 10 years ago when I was experimenting in hydroponics. I have recently been reading about fish ponds and various types of filters, one type being a vegetative filter utilizing water plants. These seem quite effective in removing excess nutrients from the water. I recently found a site <http://koi.ajiang.com/> where the pond owner has used a hydroponic filter stocked with land plants to remove excess nutrients from the water in a balanced ecosystem approach. I am intrigued by this strategy and would be interested in your comments on such a concept. I would also be interested in any design and suitable plants

recommendations you could offer for an application of this type.

sharkdude1@yahoo.com

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I called a hydroponic expert, he said I didn't have a draining system, what does a draining system do?

The water drains back to the tank when the pump shuts off and about 30 minutes later the pump comes on and floods the garden, then the pump shuts off and it drains again. It's that simple.

what is hydroponic?

hello, my class is learning about hydroponics. Like how they work and stuff like that. Right now we are growing lettuces the hydroponic way. the way we are doing it is we have a container with stones with our lettuces in it we the lettuces up the top and the roots hiding under the stones and another container with the water and when we put them together the roots dangle in the water and we have a straw to blow bubbles. Is this just home made way to do it or is there some fancier way of doing it? please give me an answer!!!!

Trying to reduce the cost of my fertilizer:

Check out www.gardensalive.com , Fruit Trees Alive- Build-Up Formula Fertilizer in their catalog. This fertilizer claims to have a high concentration of micronutrients. One catalog list copper and sulfur as some of the macro/micronutrients. At 9.95 for 3lbs, this stuff would be a lot cheaper, even with the \$5 shipping than what I am paying for fertilizer (\$12.50 for 1 lb at the local store). Given I have a fruit tree I can use this stuff on if it doesn't work, I am going to order a 3lb bag. Just thought I posted this, so, someone else might also give it a try. The real trick is figuring out how much to add to each gallon of water.

Also, I having been adding one liter of compost tea into each ten gallons of water along with my dry hydroponic fertilizer. My plants seem to love it. It also lowers my PH and seems to help to keep it low.

Hi Ron,

We just put a hydroponic garden (tomatos peppers and basil) out on our deck and find that we are constantly putting in pH down every day. Is this what is to be expected all of the time or will the pH problem level off. Also, is the 90 day harvesting rate for tomatoes from seed to harvest?

I haven't a clue about the pH problem.
90 days is what it says on most tomato seed packages.

Is There a way to make your own Hydroponic grow lights?

Please help

Hey Ron i was wondering if you can make your own Hydroponic Lights and in the 11 plant System do you need to put pea gravel in the cups or just the Plant by itself P.S You have really inspired me to a new Hobby

Yes if you buy a ballast, a socket and a bulb. But then you have to wirer it all together. Home Depot has a 175 Watt HPS yard light for \$50.00.

Crushed lava rock would be better than pea gravel and better yet grow rocks.

what does it mean hydroponic

from the Greek words: "hydro" which means "water" and "ponics" which means "working" Put them together and you got "water-working" gardens.

Dear Ron, I'm planting tomatoes hydroponically but using soil fertilizer because hydroponic fertilized is not yet available in our place. I've followed your instruction to add micronutrients, calcium nitrate & magnesium. Everything is ok (plant healthy & growth rate is fine). However, when flower start to bloom, fruit will not develop & my plant starts to die starting w/ the upper leaves curling up. Hope you can help me w/ this.

dear ron, i've just ordered your "hydroponic plant food" online my question is calcium nitrate still needed to make it complete or is it really a complete plant food to be added to water for plant feeding? otik

Yes It says just to add a little Epson Salt

I am fixing to buy a hydroponic system and I have a question about two systems I am in between. Eve's Garden 6, or the Waterfarm 6. I was thinking about the waterfarm because I wanted to separate three on one side (under 24 Hr. light) and the other three under in the other side of my cabinets (under 12/12 light). Could you help me with my problems? If you could send me your answer to tha_chronic_1@yahoo.com

What does the future hold for hydroponic produce?

i don't get it, yet...

i am new to this site and i have a question: first of all, please don't mind my bad english. i am from holland, you know. if i build, let's say the 11 bottle hydroponic system, and i turn on the pump and fill the system with water/nutrients, then what happens? does the water drain off just like an ebb & flow system, or does the waterlevel drop because the plants absorb it? i can imagine the water running back through the pump after it is switshed off. anybody! please answer my question! if i can figure out how this thing exactly works, i might even try to build this system myself. greetings, reynold

I am building a hydroponic garden for a science project, and i came up with a problem. I built a Ebb and Flow garden with pvc pipe, and i cut a long slot instead of separate holes. Now i am wondering what would be the best way to insert my groing medium, and how to do it. Thank you.

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How much does a simple hydroponic garden cost to set up? I'm thinking about using hydroponic growing as a science project experiment.

I invite you all to take a look at a new revolutionary hydroponic growing machine called the Wonder Grower. Go to www.ebay.com and search for Wonder Grower or Wonder Herb Grower to learn more about it. It saves you space, has a low energy consumption, and has a maximum yield of 6 weeks. There is nothing like it out there. My e-mail address is imionline2@hotmail.com.

If i want to just grow 2 tomato plants in a hydroponic machine, what kind of stuff do i need? Including everything that you would need to grow...

what is the best hydroponic setup possible if i want to force feed and bulk up a plant in the shortest time possible! and what nutrient do i use

can i use miracle grow in water as a hydroponic solution?

If you add some calcium nitrate and epson salt to it you can.

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i have heard of a idea of "hyper ventilating" please tell me if im just stupid and tired but is it true say if you enclose a hydroponic plant in a fish tank with the proper lighting and fill the tank for say 6 hours with co2 and then 6 hours of oxygen that the plant "hyperventilates" and forces the plant to suck up a lot of nutrients and makes it grow "beefier" and faster. i heard this idea from a pretty much rocket scientist who majored in growing plants (hydroponically) who was able to grow a choice plant in a week to say 4 feet

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sounds interesting.

one more question im a beginner and have a lot of them but any way can i use ammonium nitrate and a solution of miracle grow as my mix for your 11 plant system? and if so how much ntrate should i use

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Read answer above. It's calcium nitrate not ammonium nitrate. Teaspoon per gallon.

Where on the net can I find hydroponic methods??-student

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CropKing.com/Hydroponics

I have a 5.2 hector hydroponic for roses project from Holland to build in my ranch in México, so Could you help me on letting me know any web addresses in which I can learn more about. (historical prices, growing methods, main seasons, etc for roses) Thank you. Julio Herrera mezquite@yahoo.com.mx

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How can I grow hydroponic tomatoes and cucumbers together in a 20' x20' greenhouse?

It is not recommended growing different plants in the same greenhouse but I do.

Hi to Whomesoever it matters.. HELP ...HELP...HELP.. I ma writing on behalf of the women and children of a village whose men have been either killed or disappeared in the air during the civila war that still is raging and harvesting lives in Algeria (North Africa), the women that suddenly found themselves obliged to support their families, would start a hydroponic culture starting with letu'ce as it is the easiest product to start with, these women have acquired a land about 2000 square meters and would like to use that for the production. Can anyone among you all there, help or contribute with what you may have to share in knowledge about how to start, what is needed etc... not as far as the culture itself is concerned for the time being, because the land is naked and tehre is nothing on it. Your help would be to explain what to do from scratch as to say take a step at at a time. The climate is warm and hot in summer, humid and grey in winter, there is access to nature gas for the warming if needed but the water sometimes cut off, so a recycled or closed irrigation system is highly appreciated.... so, what is to be done first ?? Build a house that will become a green house with time ?? please take it from here and share of your advice, comments, directions, tips, hints etc...and for that... your highest reward is that you are saving maybe 1000's of ppl that have no more hope for the

future in a very rich country that knows no human values..thanks in beforehand for your valuable help.. M.S Noor.

I went to a store that sells hydroponic items. I asked the clerk if it was difficult to get a 6-10 tomato plant system. He said no but then I told him that I have no CLUE about gardening and I asked him "what percent of people that purchase everything that is needed have success without reading and doing extensive research." He said that the percent rate is between 75% and 80%. He was on the rude side and not to upfront with some of his response. My Question is

Why would the % of success rate not be 99% ?

Assuming 1% purchase everything that is needed and can not follow directions (or something)

Hello...can I advertise a commercial hydroponic greenhouse for sale on this site?

No.

hi, we're doin an experiment in school where we plant rye grass seeds in potting soil with miracle gro and dirt with miracle gro. the controlled group would be potting soil with water and dirt with water. can anyone give me any info on miracle gro, and is it a hydroponic? any chemical info would be really helpful. thanks

Anyone looking to try out an Organic Hydroponic nutrient should check out the MetaNaturals line of nutrients. I'm trying them out myself - working very well too I might add. Trick thing about this stuff is that you don't have to adjust ph once it's in your system and the microbes are working. It takes care of itself. I thought they were pulling my chain on this one, but it does work. If it sounds interesting, they have quite a bit of info on their site. Check it out - <http://www.metanaturals.com> Mike

Does anyone out there have experience in raising Hydroponic Watermelons?

i am doing a project on the effect of ph levels of water on the growth of hydroponic plants and i need help...e-mail me at guardangel2005@aol.com thanx-melissa

hello first what a great site, Second i am a chef and I am trying to grow a hydroponic herb garden. Basil, mint, sage, chives, parsley, and maybe some heirloom tomatoes. All my plants keep dying and i dont think i have the correct fertilizer. Can you grow these plants hydroponically and what I am dong wrong. Any help would be greatly appreciated.

Yes wrong fertilizer.

what nutrice would i use for a hydroponic system that is found in a house or normal store

what is the composition of hydroponic solution for cucumber? and in what page?

Hi Ron I have grown Hydroponic Tomatoes going on three years now, I just ran into your web site. Maybe you can help me with a question I have? Would there be a quick way to take Chlorine out of my 75gal. tanks of water before adding my tomato formula. I know I could let it sit for 24 hours and that helps. But I was thinking maybe something quicker. I ask this too hopfully better my formula for the plants. I do have a page to see what I have been doing if you cut and paste <http://face-up.tripod.com/caricatures/id12.html> Thank you MikeNewsome.com

I here those reverse osmosis filters are cost effective.

How does the temperature of the water in a hydroponic plant effect root growth?

I don't know

What are the best books to get a complete novice/idiot into hydroponic gardening. I want to grow peppers if that makes a diff. TIA

Hi, I was wondering if you had a good recipe for hydroponic nutrients, I live in an area that is far from modern civilization but I have access to just about any kind of manure you can think of, even elephant. but I'm nowhere close to any grow shops and having them shipped is out of the question. I sure would appreciate any help, thanx, Tim

I'm in the process of setting up a hydroponic system, I am going with a 400hps & 400mh I am in now in search of ideas for a sun circle. I have found them but not cheap, HELP.

Here is my [first mover](#) I built 15 years ago and it still works. Made from a [barbeque rotisserie motor](#) and a 90 degree gear reducer that weighs about 30 pounds. The light is connected to a ball barring made from a bicycle axel. The light cord is connected to a wall causing the [light to rotate](#) as the mover goes around and around. This set up will only work with one light because with two the cords would get tangled.

hi there, I am very new to this and have a question, I am an architectural student and am designing a building which houses hydroponic tomatoes. I just want to know what the minimum height at which I can build my greenhouse would be or is that a how long is a piece of string question? is it really just case of how many tomatoes I want to grow will depend on the size of greenhouse??

thanks: euan

It depends on the type of tomato plants you grow. Some tomato plants can grow up to twelve ft. high.

I am new to hydroponics, and would like to find a web page with a description and the pros and cons of each of the several hydroponic methods. Does one exist where this info is all together?

Hey RON, Per your comments on 25 MAR 2000.

damn why didn't I think of that. I got to figure out how to make money off my ideas instead of someone else.

Why don't you put a advertisement on ebay to let people know who you are. Also, So you can get the credit that you deserve rather than this guy stealing your pictures. I believe that you said you originally got the idea from a high times long ago. You can tell people about your web site. To bad you don't sell your hydro nutrients any more. You could sell that stuff on there and your pre-cut 11 plant systems. When people buy them, I bet you could whip up one in 5 minutes flat. Have it in the mail the next day and cash in YOUR pocket. "Food for thought"

I have been selling gardens for years and that's not the problem. After building them, boxing them up for shipping, driving to the UPS office, it was a lot of work for very little profit. Hydroponic How To software is what I am working on now.

Ron, Just signed on tonite . A comment about starting on a tight budget. I bought plastic shoe boxes w/tops @ Savon Drug store for a \$1.00 a piece. Very carefully Drilled holes in the ends w/ 5/8" wooden doles for plugs. Started seeds from K-Mart Burpee. Experimenting w/ sand, Vermeculite,perlite potting soil. Tomatoes in the Nutrient of 9-4-15, are doing very well, laying the roots flat,compared to potting soil, parsley very slow from seed, cilantro,cucumbers, & sunflowers the same. My 1st year. Hydroponic Nutrient was ordered from HollistersHydroponics out of Irvine,Ca my home ter- ritory. Jim

I am desperately in search for a good source (be it internet/book) on algae control in hydroponic systems. Any or all information/sources you may know of would be much appreciated. This is for a college report, so if you have no answers please don't fake it Thank you kindly for your time. Josh spivakjm@cobleskill.edu

Here's an easy passive hydroponic system that I gave a try. Not meant for Hydro but I said what the hell. Very low maintenance too. Any way, I filled one of those terra cotta "self watering" planters with just grow rocks, started a plant in rockwool, then transplanted the cube and plant in the grow rocks. All I've been doing is filling the outer part with nutrients whenever it got really low. I found some cool painted ones at Home Depot, not the usual orange terra cotta. It's a small plant tho (Syrian Rue), but I have since bought 2 more store plants, rinsed them of as much dirt as possible, and stuck them in. They are both about 9-12 inches, and have started growing new leaves this spring already. The only planters I've seen like these are small, so only small plants would work, great for house plants tho, and beginners. Wonder if larger plants would work as well, if I could find or make a larger one? Maybe this will interest any newbies that want an intro with using nutrient solutions with low light plants. Inexpensive, no pumps or special lighting, atleast so far. Mark.

Im gonna bulid the 11 pipe hydroponic system. Im a new grower so i dont know much What the hell is a solo cup, I know it goes inside of the 2 litter bottle thats all. And what do you use to grow, I mean, What do you put inside of the 2 litter bottles, soil just water, rockwool, ect. Another thing is the pump. What is its specific name so i can ask for it in a store and were do i get it?

A solo cup is just a plastic drinking cup sold everywhere.

The cup are used to hold the grow rocks. (a man made clay fired ceramic material.)

The pump used are called submersible pumps. They are rated GPH (gallon per hour) and you need one around 100 GPH.

Ron, How do you feel about using smooth textured lava rock for a hydroponic growing medium? I have a 1200GPH pump, can I use this monster for a 20 plant 1" system or will it blow my veggies out of the 2-litter bottles? Will placing several several over flow fittings in the system slow down the water flow? Thank you for this informative website.

All you can do is give it a try with smooth lava rock. Never tried ether. I think you can redirect as much as need be and with that size pump you won't have to put an air stone in your reservoir because the redirected flow will create plenty of bubbles.

the guy from feb 1 has a good idea fitting the caps on the 3 litter bottles i saw those bottles at walmart there just like the 2s only there 3 with bigger cap im going there

i have a question about hydroponic nutrient solutions i saw one that's called phat hydro from canada, it seems like the nutrient levels are kinda low it's a two part veg a and veg b, a is (1.5-0-2.6) and b is (.5-.5-5.0). then the bloom is a (2-0-2)and b (1-.6-2) what is the best n-p-k for veg and what is best for budding? great site by the way

I wouldn't worry to much about the formula as long as it says that it's for hydroponics on the bag or bottle. The important thing is feeding your plants the right amount at the right time. (the PPM)

Hi Ron. I'm working on a report for one of my classes. I need to know what the biological aspect of bacteria are in a hydroponics unit. Or, How will the bacteria help the fish? Can you help? Thanks. Natasha

I would go to www.aquaticceo.com and ask for their catalog. They specialize in fish farming and hydroponic equipment and you can lean a lot from their catalog.

You can build your own aquaponics garden by placing the 11 Plant Garden without the container on top of a fish aquarium. Don't use the ebb and flow method but instead you need to run 1/4 inch spaghetti lines from the submersible pump in the fish tank up to each bottle/plant. This drip method doesn't use as much water as ebb and flow so your fish wont be sucking air ever time the pump comes on. You need to filter out the fish poop after it has release its nutrients in the water. Remove the old fish tank light and add a grow light above your garden that will serve duel purposes for plants and the fish.

Don't expect to grow high users of nutrients like tomato plants but stick to growing plants like bibb lettuce. The problem is hydro plants like a pH of 5.5, 6.0 and fish like it at around 8.0 so you will have compromise on that and put it at maybe 7.0.

I have just transplanted some young tomato plants into a hydroponic system. The ends of the leaves are starting to turn brown. Any suggestions?

Mike Tesnohldek

May be to high of a solution mix. That will turn leaves brown.

see the worlds most efficient hydroponic garden on cbc. newsworld wensday sept. 26 4pm. or cbc. 6 oclock national news [canada now] also Wednesday, in the future now segment. the spot is about future home appliances. if you can,t wait check out www.omegagarden.com or searching for omega garden via google.com will yield even more interesting pics

Ron,

I am going to be try to plant bulbs in a hydroponic solution. Do you think bulbs will grow hydroponically?

Thanks!

MR. MATT B.

I would think so.

Anyone tell me what (which way) can household ammonia help a hydroponic plant? Please?!

Is there available in USA a hydroponic forage kit or plan for producing livestock feed via hydroponics? I know in Australia the whole system is available, but I am not aware of any such on this side of the pond. Thank you.

I am doing an assignment on merchandising, displaying and selling hydroponic lettuces. I need information on the nutritional value of lettuces, their use, storage requirements and recipes in which they are used. I also need information on display conditions (temp, lights), how you can tell when they aren't saleable, and what you can do to ensure freshness while on display

If I new all that I'd be growing and selling lettuce myself.

do you have plans of your banana tree bucket drip system anywhere? I would like to try it

Comments

Hydroponic banana bucket plans - www.gurglegardens.com

Kitty litter as hydroponic grow media?

non odorous and non clumping kitty litter as media

The argument is that the cheap stuff is just plain clay

So I wonder if you bake the kitty litter would it end up like growrox? Maybe ya have to nuke it instead? I am going to buy some tomorrow and experiment. Also has anyone ever heard of using crushed coral (aquarium grade) as a medium? I would think it would hold oxygen well with all those holes. It runs 6 bucks for 30 lb. 60 bucks for 50 liters of growrox is just a bit much for all I want. I checked the yellow pages online and the closest Hydro store listed is 78 miles away. I havnt called them yet to see if they even stock it. I tried the home depot route with orchid rocks per Tailwheels tip. They say they cant get(order)that item any longer. There is a similar product at the depot called orchid mix that has grow rocks and charcoal and some other ingredients in it. I am not sure about using that. I have sifted 5 gallons of smaller gravel out of a load of regular granite gravel and as soon as your hydro mix reaches me my sprouts are going in my 2 liter garden... Ready to hydro in Ga.

Grow rocks are clay fired in a kiln and that's pretty hot. Not your basic household oven. Coral or any inert substance can be used as a medium. All you have to do is make sure that it doesn't brake down to quick (like vermiculite) and it doesn't leach undesirable substance into your system thus harming your plants. I promise to set up test gardens this spring to see which mediums work best.

Hi Ron

ive been a long time viewer of your web site and enjoy it very much. Definitely the best hydro site on the web, congrats on your success with it. I have started up a system for tomatoes and wanted to know if you could tell me what variety of toms you have the best luck with and if they are indeterminate or determinate.

Thanx alot Scott

I use what ever they are selling at my local nursery. Big Boy, Better Boy, Heat Wave, Roma. But I am partial to Super Bush a stocky patio type that only grows about four feet by maturity. And they can be grown in the 2-liter systems or the gallon drip systems.

I am sure if I ordered the expressive real hydroponic seeds I would get higher yields but first I got to finish my greenhouse as soon as this cold weather is over. We have had more freezes this year than in the last 5 years.

3 questions - Can you be a little more specific as how to mount the gallon jugs to the 4" PVC pipe, the pictures aren't all that clear? And, what nutrient would you use if you're growing a variety of vegetables, tomatoes, peppers, lettuce, etc, all being fed from a common nutrient tank? What emitter rate do you use in your drip system?

I just drill a hole big enough for the gallon jugs to pop threw the 4" sewer pipe. The jug is held up by the wood or metal frame. The kind I sell is a [general purpose hydroponic mix \(10-8-22 \)](#). It does say to add 1/4 teaspoon of epon

salt to the gallon mix if you are growing vegetables like tomatoes or cucumbers.
I don't use emitters I just let the solution flow every 20 minutes.

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it. Ron

Please copy and distribute!

Thanks for doing my report Ron, I got a B+ it would have been an A but I got some bbq sauce and koolaid on it.

We are commercial growers of hydroponic tomatoes. We grow them under plastic. We are thinking of adding some HID lights to supplement the limited sunlight we get in New England during the winter. Does anyone have any advice or experiences in terms of types of lights to get; metal halide sodium, agrosun, etc., height from plant, length of time to leave lights on, differences in yield, ir cooled v. water cooled, etc? Thanks. Mike

how long does it take to grow a succesful carnation in hydroponic solution?

We are in a Agriculture class in Decatur, Illinois and we have a hydroponic test kit and we have just set up a hydroponic area where we are growing lettuce. We are trying to find out what is the exceptable ranges for growing lettuce. The ranges such as Nitrate Nitrogen range, Phosphorus range, Potassium range, Ammonia Nitrogen range, Sulfate range, Iron range, and Calcium and Magnesium range. This would help us a great deal if we would know these things.

Could any one tell me what the feeding cycle would be for a hydroponic garden. What i mean is how many times does the pump feed the plants in a 24 hr cycle. How many times and for how long of a duration do they stay on thx
Stuck in the mud.

GREAT SITE!!!! I haven't done any hydroponic gardening or soil gardening for that matter, but have been interested in it for many years. Your plans for the 11 plant garden are interesting and simple. I have a question though what size reservoir does it use? Some folks have asked about the "555" timer, Radio Shack has a book p/n 276-5010, that shows

schematics for all sorts of devices that may be helpful w/ automation.

Hello Ron , I am currently studing year 12 VCE food technology and are featuring a topic of our studies on food and technological development. I am focusing my main topic on the hydroponic farming of tomatoes. I was wondering whether you could help guide me in the right direction and answer some of these simply questions The advantages of the hydroponic tomatoes over other similar traditional products? The growing, which enabled the prodcut of hydroponic tomatoes to be developed? And whether you have any significant points about hydroponic tomatoes? Or a diagram on how hydroponics works? Any of this help would be greatly helpful to help for my furture studies. And whether you have any other websites that focus on hydroponic tomatoes Hope to hear from you soon and thankyou for your help Thankyou

Ron- I am new at hydroponic gardening and I am building your 11 plant system. Reseaching the internet I located a timer that can be set 15 min. on and 15 min. off. It costs approximately \$15.00 at <http://www.4hydroponics.com> and is manufactured by a company called Grasslin. I have not had a chance to use it yet but is appears to be perfect for our systems. Thanks for your web site as it is the best hydroponic site on the web.

how do pumpkins do in a hydroponic garden?

Do you have any information on expected crop yields for hydroponic production of veggies? Jaco, Bloemfontein, South Africa

I would love a couple marketing tips on how to market a new hydroponic retail store

Dear fellow hydroponic fans We have a hydroponic barley shed which has been operational for 12months. No problems till now, suddenly we have some sort of snowy white growth attacking the sprouted seeds. Any ideas what it is? How to treat it? We are at present shutting down for a week to completely clean out the nutrient tank and dripper pipes(system).It seems to become active when the sprouts are 3-4 days old. Any help would be appreciated.

Hi, I am From Rodrigues Island,Island Situated in the Indian Ocean,I want to start Hydroponic culture of Lettuces and Tomatoes.Want to have some advice to begin. Mail to:xtelle24@hotmail.com

Shawn Here!!! I was wondering do know if blueberries can be grown in a Hydroponic Greenhouse setting? Do you know of anygood websites or success stories regarding this topic? sskinner89@hotmail.com

Could you let me know which kind of hydroponic process is good for growing leafy vegetables like basil and pok-choy with the least cost effective in mind. Would it be possible to make one myself or I have to order from a manufacturer?
BK

Attn: Pingman

Go to: http://www.stonernet.org/spongebud/growroom_mechanics.htm

I'm not into pot, but this site has a lot of information on growing using a bubbler system. Explore the whole site, the guys setup really looks very sanitary to me.

FYI, I sent for and received a booklet outlining the proceedings of the first Non-Circulating hydroponic workshop held in Hawaii in 1997 from the Asian Vegetable Research and Development in Taiwan. Their primary goal is to develop systems for growing in HOT countries, SE Asia, India, etc.

They mention in the text that there are actually two sets of roots that a plant develops, one set for oxygen and one set for nutrient. I've just started studying the whole booklet (55 pages) and feel that maybe the bubbler system setup would exploit these two sets of roots and maximize plant growth. What you've mentioned seems to confirm that.

If you want, you can email me at tailwheel@asia.com and I will scan the booklet and send it to you in jpg format.

Maybe I'll just set up a system myself and see what happens. I've got a bunch of plants ready to go now and no place to put them. I could probably knock something out in a few hours if I can find the time.

Tailwheel

I was wondering if you could tell me what the #1 selling hydroponic magazine in the world is? Also could you please tell what the #1 greenhouse manufacturer is? Thank you.

Saw an HPS light, the kind for outside use, at a home center for about \$40. What's the difference between that and the expensive ones sold by the hydroponic companies?

Thanks,

Jeff

I made my VERY FIRST hydroponic garden yesterday thanks to this website! It's a very basic gurgle garden but it works great. I'm using perlite now but would like to try grow rocks. I'm using organic nutrients from MetaNaturals: <http://bella-via.com/>

Grow Rocks: Where can I buy them the cheapest? Are there any online sources?

FireCloud

Try to find them as close to you as possible because the shipping will hurt.

What would you use for a nutrient solution in the 11 plant hydroponic system displayed on this site? Also I would like to thank the maker and members of this site it has been a big help with my project for school.

Any nutrient solution formulated for hydroponics will work fine.

How can I grow a hydroponic tomato garden in a limited space of 2'x2'?

Does anyone know anything about a volmatic valve system? It is widely used by the Danish people for their ebb and flow hydroponic systems. I am curious as to how it works. Does it have the same function as the American drain/fill and overflow fittings? If so, what are the advantages of using a volmatic valve system? Whatever info you share with us is greatly appreciated. Thanks!!

We are a group of engineering students and we have been asked to submit a proposal for an urban gardening center. Where would be the best place to find information on hydroponics and where hydroponics will be in the twenty first century? We would appreciate your reply. Thanks, Team Solutions

Ron, I'm about to start my first hydroponic garden and I have a few questions

1. I want to grow roses and I would like to know which type of lights would be the best?
2. The set up I have right now is the cascade system is that good for roses?

thats it for now but I'll some more later for sure.

I'm in 8th grade, and I need to build a hydroponic garden for \$25.00, or less, for my science fair project. I looked EVERYWHERE and found nothing for that price range. The garden isn't supposed to be the latest model, but it's supposed to GROW!!!! If anyone has any information, or can donate, or lend something, PLEASE ANSWER. Leave your e-mail address, or something. THANKYOU FOR AT LEAST READING!!! Sincerely, I.M. Clueless

I am in Northern Maine, USA and I am interested in visiting a comercial or hobby hydroponic garden. Does anyone know of a place to visit near Camden, ME that would be willing to show me around? I am interested in starting an operation in the Republic of Panama. I will be in town till 2 October. Thanks I would appreciate any response.

I just found your web page yesturday and think it it outstanding!!! Today I came back thinking of ordering your kit to get started (wanted to have a working model). Now it is not there to order or see. Do you still sell the kit? Let me

know, I want to get started soon!!

Mike

Ron how much Ph should be in the water for tomatoes? Also how often do I fertilize? Your input would be great. And no I'm not completely stupid I'm just a highschool student in an Ag class with an IDIOT for a teacher. Thnaks a bunch!

we are trying to create a tomato hydroponic experiment and would like some ideas on a simple experiment for a 10th grade project that is cheap and simple.

Does anyone know where the website for the Hydroponic Society of America has moved to?

The url given in all the search engines does not work.

To whom it may concern: I'm a freshman science student in high school doing a science project on growing hydroponic tomatoes. Is there a decent hydroponic nutrient solution on the market that's already mixed and ready to go? If so, what is it and where can I get some fast? AuntHC

hey ron... i went to my local hardware and garden shop and they didn't have hydroponic plant food so i bought an all purpose plant food that was 2-10-10, if i bought something to add more nitrogen to that would it be sufficient for growing tomatoes and (or) cotton?????

It might work if you add some calcium nitrate and some epsom salt to it.

hey ron, george crescent city fl. planning to build a couple of your yard gardens for use this summer when i have to shut the greenhouse down. with the heat here in fl do i need some shade cloth over the garden or just clear plastic as in your pics? ps, you were right about greenhouses only good for winter use in fl.

I even tried a verity called Heat Wave last spring and they still didn't produce. I have manage for the first time to save 100 tomato plants this year by using kerosene heaters. I will be selling tomatoes online overnight express very soon. I will be building a large scale open field hydroponic tomato system next spring. Who needs a greenhouse?

Yes I don't grow without shade cloth or my tomato plants wilt from the heat.

Hi All,

I recently opened a website/store that offers hydroponic supplies. I did this for two main reasons: first, I'm a software

engineer and wanted to build an ecommerce web site; second, hydroponics is my hobby and I wanted to get stuff as cheap as possible.

I talked to Ron about offering you guys a special deal. Everything I have is at least 10% off list (some 15% off and most following in the next couple of months) and you guys can get an extra 10% off with this coupon (at the checkout cart use the code: hydroponics). That will likely bring my profit margin to about next to nothing.

I'm adding new stuff to my database all the time. I'm a dealer for a couple garden supply wholesalers and one light wholesaler. If you want something that's not on my site let me know. Most likely I can get it but just haven't listed it yet.

So, please check out www.dogstarlabs.com and see what I have available.

Jeff jeff@dogstarlabs.com

does n e one know about how much it would cost to make the 11 plant hydroponic system? And were i could pick up a pump and a timer? your info will be greatly appreciated!

[Here](#)

i am making the 11 plant hydroponic system and i was wondering how should i fasten the pvc piping down to the nutrient container? thanx for your responoses!!

why? You growing in a hurricane. You can use bungee cords to hold the sucker down or if you need a more permanent way use elastic ties. Just ask the cops for some the next time you are busted. They use them for hand cuffs.

How does one grow bog plants or emergent nymphaes (lotuses, iris) using hydroponic systems ? Radha Krishna drradhak@runbox.com

This is John White again. My science fair hypothesis says that plants in potting soil will grow better than in a hydroponic garden. I said this because I don't know about hydroponics yet and wanted to learn if it was just as good as growing in soil. After reading my research I learned that hydroponics gives plants the same nutrients as potting soil but in a different way. I was hoping you could comment on my hypothesis for my project by saying whether you think plants do better in hydroponics or just the same as in soil. Thank you for your time. I think hydroponics is cool! John White

Attention: John White

There is NO comparison between growing in hydroponics and potting soil. Hydroponics wins hands down. Keep in mind that in hydroponic growing, the plants are being force fed nutrients whereas in soil, the plants put out more roots seeking nutrients in a form it can use.

I usually buy 6 packs of seedlings at my local Home Depot. Those that I don't put in a hydroponic setup, go into the ground. The difference in the growth rate and production of fruit is almost unbelievable using a hydro system. An added benefit is that I hav'nt had any bug problems in the hydro garden and am able to grow without using any poison sprays.

Hello Online,

Looking for some info on a hydroponic project for lettuce, living in the Caribbean and looking into the possibility of cultivating lettuce by hydroponic. Anyone with input into this would be highly welcome, thanking you in advance I could be e-mail at twinpilot12@yahoo.com, Eugene Duzant is the name to contact. Thank you again

Hello Ron (or whomever can answerer my query) I just started out on my hydroponic quest and I was trying to find some cheep growing solution. I remember finding a place on the web that had some in dry form for only \$5.00 or sow. But please give me any information you might have. I'm just a beginner.

The cheapest I have ever used is Nutri-sol but I can't find it anymore. So now I mix my own.

Hello, my name is Ian. I have to do a science fair project at school, and I was thinking of doing something involving hydroponics (I'm not quite sure what to do, but I'd like to use hydroponics). If anybody could help me out with this (where to get hydroponic stuff, info. on hydroponics, etc.) it'd be greatly appreciated. If you could help me, my email is Malchori@aol.com Thanks! Ian

The moisture probe will be used as a feedback to a controller to automate the hydroponic process. I plan on using the bag technique to grow tomatoes. I plan on using peat moss and perlite as the medium. My goal is to have the prob calibrated to keep the correct moisture level in the bag at all times.

I live in the Atlanta area and I see a niche market for tomatoes in the winter months. Caterers and fine restaurants are begging for good FRESH vegetables. My goal is to build a business growing hydroponic vegs. Any advice is welcomed. Joe

I love the sight, so in appreciation, and to keep this sight the last word on the subject, here's a bit of trivia.

The only song (as far as I know) ever to mention Hydroponics Is the Title song of Donald Fagan's (Steely Dan) Kamakiriad. The Song (whole album) is about a futuristic car and the lyric goes

It's not a freeway bullet or a bug with monster wheels
It's a total biosphere
The farm in the back is hydroponic
Good fresh things every day of the year.

I take comfort in the fact that somebody in pop culture not only knows what it is, but that he knows that it's not just for growing the #1 cash crop.

Where in the USA can I find hydroponic tomatoes and lettuce seeds? And the prices to those seeds? Cody Johnson Tarkio, Missouri P.S. If Any one wants to e-mail me about this matter my e-mail address is johnson_cody90@hotmail.com

I have been asked to give a report on hydroponic fertilizers and I need to know percentage wise how much nitrogen, Phosphorous, and Potassium should be in the fertilizer to best help plants grow. Val in MT

Hey folks, came across a great link for a TDS tester. It is a cheap one, and I don't know the quality, but it is like half the price as any others I have seen. Ron, or anybody else, let me know if this is a great deal. I really appreciate this site.....I now have built three hydroponic systems, and a greenhouse to put them in. It is a great hobby.

Brett

<http://www.hannainst.com/products/testers/prim025.htm>

I just came from one of your stores, which I had visited for the first time since it opened. Although your prices are quite high I was pleased with your selection of gluten-free products, and was planning to shop there frequently in the future. That was changed when I heard my car and license plate described over the public address system. When I responded, I was told that they page people routinely when they think a care has been parked for too long in their lot. The car owner then must come to the customer service desk to demonstrate that he or she is, in fact, in the store. I don't like being harassed when I'm shopping, so I will use your store only when I cannot get a product anywhere else. I suggest that this policy is counter productive from your viewpoint, and extremely distasteful for customers. James Duffy, jim-jane @erols.com

That would be hard to do considering I don't have a brick and mortar store yet. I wish I owned every hydroponics store you happen to walk into I didn't invent hydroponics. And if you are talking about Worm's Way, they only advertise with me. I don't own them or any other hydroponic company that post on this web site except Pipe Dreams Hydroponics.

could somebody send me information ref if it is possible to grow hydroponic asparagus in a commercial way, I am from Argentina thank you mearenaza@hotmail.com

can you skip from vegging to blooming in a hydroponic system??

I was wondering how long should veging take for hydroponic systems. To make myself clear it's grown on 6 by 8 tables with water pump up and then drains down. If possible can I skip the veging stage and start blomming.

Ron,I have a question. I am new at hydroponic's growing. I am starting with a 7 plant water garden, and am going to try and start out with growing tomatoes. I was wondering how long should i let the timer go before it turns off? Thank You. S.

Just another quick question. When do I change my hydroponic solution to the flower mix? Should I do it at the same time as I change the lights to 12/12. Or should I wait a specified time? Please advise. Thanks,
V_12(v_12@yahooka.com)

Yes, No.

hey ron im using pea gravel as a medium with continuous watering during light operation. is this ok? also im using peter professional plant food 20-20-20 for my nutrient, please advise (tomato,pepper,assorted herbs)thanks t.j.o

No it ain't ok. They will start to die anytime now. Peter's does make hydroponic plant food but what you got their is for dirt. You can add some Magnesium Nitrate and some Epson salts to that and you might grow something but by using the most basic system you could use you would better off using real hydroponic plant food.

Ron, I just found your site!!! Whoaaaa the best hydroponic website in the cyberworld!!

Can you kindly answer the following questions before I mess up my plants?

1) Im using 2 liter bottle setup to grow some kind bud. Once I put my 3" sprouts into the grow rocks, from then on how often do you flood the system? Like what's the water cycle from then to maturity? How many times per day and for how long?

2) In growing with limited height (5 1/2') with a 400 watt hps, when is it a good time to switch to buddin stage?

I water every 20 or 30 minutes in all my gardens no mater what I'm growing and whatever age of the plants. I also water 24 hours because it's convenient not because you have to.

I am building an enclosed hydroponic system and am trying to anticipate whether it will work. I bought an extra large rubbermaid storage bin for \$16.99 at my local Home Base store. I placed some plastic rectangular cubes inside and have set some baskets with growing cherry tomato plants in gro rocks on the cubes. The tomatoe plants are long enough that the tops stick out of some cutouts that I made along the edge of the lid. This way I can take the lid on and off without lifting the plants. The pump, tubing and spray nozzles are all inside the storage bin. The spray nozzles are low pressure 180 degree nozzles designed for drip irrigation systems but they seem to work well enough to cover the grow rocks inside the baskets. The plastic bin holds about 15gal of water and the pump turns on for 30 min and off for 30 min during the day and off all night. Do you think I might have since the roots and about 18 inches of plant stem are always inside the storage bin?

how do i level out the ph in water 4 a hydroponic unit?

Hi, I'm doing a science project on hydroponic farming, using the Water Culture method, i need to know how to get the best results, especially with pea plants & carrots, if anyone can give me some advice, than post it on the bulletin board, please address it to J.S. of Fl

hi ! i am interested in starting a hydroponic vegetable garden as a business, what size should the garden be to be commercially viable ? would appreciate a reply.

I was wondering if anyone knows how to make some sort of hydroponic solution yourself from stuff that is semi-easily accessible? If our society crumbles, it would be nice to have a hydroponic farm, but hard to buy the solution, you know?

I am a 11th grader in high school and I am considering doing a science project on the success of different nutrient solutions on hydroponically grown plants. is this at all possible? how much would it cost to set up a functioning hydroponic system?

heres a cheap and easy to build and maintain system that can built for around 20,30\$ or so materials required: (1)rubbermaid type container (10 to 20 gallon) (2)16oz. minimum to (whatever)24-32ounce solo brand (solo more durable than dixie brand)plastic cups. with holes either melted with wood burning tool or cut with razor knife or similar implement. (3)gro-rocks or lava rock 1/4" to 1/2"approximate size (4)aquarium style air pump with hose and air stone(s) (5)aquarium ph test kit and a 1 part hydroponic nutrient (aquaculture hydroponics in az. and eco hydroponics in washington state make good inexpensive products)2 and 3 part may be used but get costly to use year round.liquid sea kelp 4oz. liquid measure per ten gallons water can be used as micro nutrient supplement/growth stimulant if desired. trace cup lip onto lid of container then trace a magic marker line inside that line so solo cup will be suspended in hole. carefully cut out with a razor knife.2 holes about 6" from handles works well for tomaters or pepper plants 6 or 8 works for leaf lettuce. fill container almost full,add 1/2 strength nutrient for sprouts to seedling stage,adjust ph to 6 to6.8 range ,add bubbler to nutrient tank add cups so nutrient is approx 1/2 to 3/4 covering cups kick back and watch em grow.top off tank with water as needed.more nutrient may be added as plants mature to bring up to full strength. thats all for now,happy growing! dudley groright says grow your own vegies, they just taste better.

For those of you looking for parts to make a NTF or Aeroponic system, here are the sources I use for getting some of the special parts.

See the plastic net growing cups in the hydroponic section of this web page.

<http://www.aquaticecosystems.com/Aquatic1v1/> They have the best price I have found anywhere.

The spray nozzles can be purchased from a company in CA. <http://www.waterrite.com/dripcatpg6.htm> They are made by TORO Agricultural Irrigation products division. The part part number is "HAR SFJ408". They are called Barbed Fogger - 2 GPH. A bag of 100 cost me \$35.00. That's 35 cents each. Most cost 50 cents or more that I have used in the past. This is the only source I have found so far for this spray nozzle.

Robert Gates rgates@pdq.net

p>hi! it's JS of FL, to answer your question Ron, i'm from the planet Zorglon3, [just kidding], i am however, from the space coast, which is why i'm doing this project, because i figure that it'd be awfully messy 2 bring soil into space, so we may have 2 use hydroponic farming. Also, if we ever do settle on other planets, most of them, including Mars, have stronger gravity, [could ya'tell i want 2 work at NASA someday?] so i want to see how well hydroponics would work in stronger gravity. btw, thanks for the info on the lettuce fertilizer!

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I just priced calcium nitrate. It was 23 dollars a pound around here. Can anything be substituted for it? I will eventually go with a normal hydroponic solution.....this is just to get me by for a bit. Thanks,

Brett

Not that I know about.

Ron, In the Hydroponic Society of America email comments someone stated that Bell Peppers only need about 400 - 500 PPM strength solution, otherwise they burn and/or don't grow well. I was thinking of growing Bell Peppers, is this true ? Thanks

Different plants do need different strengths of solution. I can't find any reference to the ppm for peppers in my books. But I am feeding my peppers at twice that and they seem to be doing ok except for the wilting from the heat during the hot mid-day.

Hi would anyone want to stop by this MSN community?

<http://communities.msn.com/Hydroponics>

Post some pictures share some knowledge!

I posted the first hydroponic picture on MSN when it first started years ago. I wonder if that black and white picture is still there.

Hey ron, Your site inspired me to build my own Hydroponic machine 2 years ago. I was going nowhere in life back then, 2 years later I have made aeroponic machines for people who needed to purchase them in a discreet manner.

Although I only made one of your 11 planters and then went on into aeroponics. You were my inspiration and I would like to thank you for the site.

Remember me in your will.

Dear sir/lady Thank you for your attention to training hydroponic systems. My name is Majid Kazemnezhad. a 28 years old man. I am not graduated of agriculture university. But I love nature specially fast hydroponic systems , because it dosen't not need big places. Please send to me : 1- How can I study lessens about it in my own home. 2- Address of books, magazines, cd's, training films and etc. 3- Do you know any producer or your member in Iran or Turkey. How about the other countries... 4- As I am interested in establishing an institute in order to produce crops and ... which services you give to your members like me. E_mail: hydro_majid2002@yahoo.com Thank you.

I am trying to grow a a 2-4 plant-hydroponic garden. I ordered the following unit, for \$70, from Harvest Moon Hydroponics.

here is the description The recently redesigned HomeGarden System is an outstanding unit for the beginning hydroponic gardener. The submerging the grow rocks. A full-length airstone and external air pump continuously supply oxygen to the reservoir. Capillary matting surrounds the grow rocks and keeps medium moist and helps deliver nutrient-rich water to the starter cubes on top of the system.

total cost is a factor (limited budget), my question is can someone rank in order from most important to get exactly what is listed on here and what items you can cut costs by purchasing something like what you need.

Example could be Lights or is what I already purchased really not needed ?

PLEASE HELP ME! thanks

YOU ARE INVITED...to attend the 2nd Annual International Indoor Gardening and Hydroponic Expo at the Vancouver Trade & Convention Centre on May 4th and 5th. There will be over 100 booths and displays and experts from all over the world will be present to share there knowledge of indoor gardening and hydroponics. This is a truly unique oppportunity for all those with interest in these areas or someone looking to get a start in this rapidly growing industry. Saturday May 4th is designated as 'Dealers Day' with the doors open from 1pm to 7pm. Sunday the general public is welcome and the doors are open from 11am to 5pm. Entry to the show is FREE! Please contact us for more information via email. Hope to see you there. Cheers Steve

I have a multipart question. What is most important in a hydroponic environment or what gives hydroponics a greater advantage, the oxygen rich environment or the amount nutrients it can absorb in a given amount of time. Because I was wondering if it is possible to use a growth chamber that incorporates hydroponics with soil. Neo

No they are totally two different ways of growing.

what is in hydroponic water????

hydroponic nutrient solution

Ron, I want to do a hydroponic study with my school. Could the 11 plant system work in a classroom or do we need to build a greenhouse? Do you know of anyone willing to donate a system to my school--Calvary Baptist School, New Orleans, La.

a cheap and easy way to start seeds is to take a 1 or 2oz plastic bathroom cup(the kind u use to put mouth wash in), put a hole in the bottom, shread sum newspaper, wet it, put in the cup, drop in a couple of seeds, add a thin layer of shreaded newspaper on top and water everyday with a diluted hydroponic nutrient solution(maybe 1/4 tsp per gallon), put in a tray in warm place that gets sum sun or under a grow light...hope someone can use this,

-poorboy

G'day from sunny Queensland!

I just wanted to drop a quick word to Ron to praise him not only for an excellent on-going tutorial in hydroponic gardening in text and pictures, but for the fantastic work he's done in educating the masses on this wonderful (and addictive!!) hobby.

I've been gardening for a couple of months now, using principles that Ron has displayed on the pages here, as well as other ideas I've gleaned over the internet.

All in all, I keep coming back, Ron... yours is definitely the best of sites! Please keep up the good work.

Dave Stygall Qld Australia.

We built your 11 plant hydroponic garden, but how do we put the plants in it? We saw the picture with a plastic cup in the bottle, but how does that work? Lathrop Adv. Tech. Class

Wash the dirt off the plant roots.

Put a few rocks in the bottom of the solo cup.

Place the plant in the cup and fill it up with rocks.

About the little cups again: So plants go in the little cups and cups go in the 2-liter? And the roots are in the cup, or do they extend out? How big should the holes be? Thanks!

It's OK for the roots to grow outside of the solo cup but don't let the roots go down the pipes and plug up your garden. If you water the plants often enough the roots don't need to go looking for water. The holes in the solo cup should be small enough to keep the medium from going through.

how do i use a fish pump to use on a hydroponic plant system? --thanx: andrexh@hotmail.com

have you tried growing star fruit plants hydroponically and was it successful

If they aren't too woody of a plant like roses or a dry plant like cactuses just about any plant can be grown in hydroponic systems.

im a little confused about the chemicals you put in the water. Do they come in jugs, if so where can i get them and how much do i put in?, and what type

The more expensive hydroponic solutions come in bottles and can be ordered online from a number of links on this web site. Or if you are on a budget and can wait a week I will be selling 5 lb. boxes of hydroponic nutrient solution cheap.

Can you grow green beans and asparagus and squash hydroponic?mrugly1@hotmail.com

yes and yes and yes

For co2 enrichment methods go to

<http://www.hydrofarm.com/content/articles/co2.html>

So I go here and it says: When organic matter decomposes due to bacterial action, carbon dioxide is generated. Plants grow lush and vigorously on a tropical jungle floor as a result of this natural decay of dead plant and animal matter. This can increase the available CO2 content from the normal 300 PPM amount to over 1,000 parts per million. This can also be done indoors, for little cost, but is odorous and unsanitary. For these and other reasons, it is not highly recommended. The sterile conditions of a well-set-up hydroponic grow room or greenhouse could be disrupted and adverse bacteria, bugs and disease induced with detrimental effects on your plants.

I have to say that composting does not stink if its done right. Also the bacteria that get introduced to the greenhouse are the helpful types that destroy harmful critters. I would say that this company wants to sell you high priced co2 generators that could be replaced by scraps from your kitchen and 2 plastic trashcans. Tom

We are now organizing the 2001's China International Agriculture & Vegetable Fair in Shouguang City, Shandong Province, China. China has the biggest population in the world, and over the 60% population's vegetable consumption comes from Shouguang. The biggest national vegetable collection and distribution center is located in Shouguang. Shouguang's vegetables are sold to over 200 large or medium-sized cities of provinces. They are also exported to over ten countries and regions such as: Hong Kong, Macao, Russia, Korea, and the Southeast Asian Countries. Nearly 100 varieties of vegetables from over 10 provinces and cities are sold in this market. So it has become a center for vegetable collection and distribution, price formation and information exchanges for the whole country. Shouguang's Vegetable Wholesale Market was appraised as one of the 10 top specialized wholesale markets on subsidiary agricultural products in the country and was also called the biggest one in China. In 1995 it was named as "The Native Place of Vegetable in China" by the state. At present, more than 500 kinds of famous and fine vegetable categories from more than 30 countries, such as America, Japan, and Holland, etc. are being planted and produced in Shouguang City. China (Shouguang) International Vegetable Fair will open in Shouguang City on 20th to 26th April, 2001. There

will be over 8,000 domestic enterprises concerned with agriculture, agricultural machinery & equipment (planting, breeding, aquatic food, fruit trees, green houses, seed, ecotype protection facilities, ecotype fertilizer, chemical fertilizer, pesticide, botany, flower, irrigation works, etc.) will be attending the fair. The State Ministry of Agriculture, the State Ministry of Science & Technology, the State Ministry of Financial, and the Governors in charge of agriculture in local provinces, will in attendance with their delegations at the fair. It is estimated about over 600,000 visitors will attend the six days of the Fair. The Fair will not only show the great achievements of vegetable planting and high-technology used, but also supply the best opportunity to meet the specialized enterprises for trading or hi-tech exchanging on the field of agriculture. You are warmly welcome to participate or recommend the enterprises in your country to participate the Fair. We regard this as a "Hot Commercial Opportunity", and it will make the enterprises much more popular in China--the biggest market in the world.

Please do not hesitate to contact us for further information.

Mr. James Lee

Tel:+86 10 67189644/67160307/67157031 Fax:+86 10 67157027 Email:aitabj@263.net

Website:<http://2001sgfair.51.net>

Want to buy a few million hydroponic gardens.

Hi folks, here are a few real good tips I would like to share with you. most common Problems

These are the most common problems people encounter growing hydroponically:

Yellowing bottom leaves/older growth

The Nitrogen story:

Nitrogen is a transferable element (this means the plant can move it around as needed). If a plant is not receiving enough Nitrogen from the roots then it will rob Nitrogen from the older growth. In Hydroponics, usually the pH is too high and has locked out the available Nitrogen. Always check the pH before increasing nutrient level.

Save the plant: Leach! Check the pH, and adjust if necessary to 5.8 - 6.3. Check and maintain nutrient level. You may foliar feed (spray) with a pinch of CaNO₃ (Calcium Nitrate) in a Litre of pH balanced water for quick results.

Leaf tips curl up

This is usually a Magnesium deficiency caused by a too low pH level.

Save the plant: Leach, check and adjust the pH level. You also may foliar feed (spray) with a pinch of MgSO₄ (Magnesium Sulphate) in a Litre of pH balanced water for quick results.

Leaf tips curl under / leaf tip burn (browning)

The Nutrient level is too high.

Save the plant: Leach and decrease the nutrient level.

Leaching

Leaching should be done at every reservoir change and before countering any problem. This will rid the medium and root zone of toxic salt build up.

To leach, rinse the root zone with straight pH balanced water.

Use twice as much liquid as the hydroponic container would have held when empty.

I hope this info helps some one out there and thanks for all the info I have gotten from you all. Montana Mogy P.S. Ron I love the old bus.

Geez Ron!! From looking through your pics I must say, you are very ingenuities. Very impressive!! Just curious, are you making a living with your Hydroponic ventures??

Barely and only because I don't have a family to support. Also I work 12 hours a day every day including holidays. Can't afford to higher help yet. But my goal for the future is to open the largest home hydroponics grow store in the country in Deland Florida in a couple years.

Dear Hydroponics enthusiasts,

I am a science writer, currently residing in Massachusetts. A few weeks ago, I e-mailed several United Nations refugee relief organizations, in the countries surrounding Afghanistan. I thought that, during the hard winter coming up, they might want to learn about possible ways to use hydroponics to help feed refugees. They responded to my e-mail today, and they are very, very interested.

They are anxious to hear more about websites or companies that focus on educational materials for hydroponics. Their return e-mail to me is appended to the bottom of this e-mail. I thought some of you might be interested in helping, and capable of doing so.

I don't know how you might wish to work things from a commercial standpoint, but it seems like this could be a terrific way to save some lives in Central Asia. They are interested in hearing about educational materials that would help them teach hydroponics. Here is the e-mail address of the UN's FAO (Food and Agriculture Organization) office in Iran, followed by a website you may wish to peruse before contacting them, if you do decide to contact them. FAO-IRN@FIELD.FAO.ORG <http://www.fao.org/ag/AGL/AGLW/AQUASTAT/iran1.htm>

In the e-mail I sent to the FAO, I very succinctly put forth the suggestion that hydroponics might be a way to help freezing, starving refugees make it through the winter, by helping them learn to grow some vegetables indoors.

I sincerely hope that you are able to come to some kind of arrangement with one another. Please only e-mail them if you have serious, constructive ideas. Also, please e-mail me if you have any questions whatsoever. Best, Ed Sugrue ed_sugrue_alb95@post.harvard.edu

>To: "Mr. Edward Sugrue" <EDSUGRUE@HOTMAIL.COM> >Subject: Message from FAO representation in Iran. Learning >Hydroponics >Date: Wed, 12 Dec 2001 15:46:00 -0800

>Dear Mr. Sugrue: >Your message of Dec 01 was forwarded to our representation in Iran >and we would like to welcome any information you may be able to > provide us with on low cost setup for hydroponic production. We will >do our share in preparing this material in Simple Farsi language to >be used both for Iran and Afghanistan for publicaion and possible >distribution. We strongly feel that these small initiatives can >sometime go a long way.

>We will also visit the sites which you have mentioned.

>Thank you for your assistance and Happy holidays. >Ali Y. Hakimi >Officer in Charge >FAO, Iran

Fellow Hydroponic Hobbyist's BEWARE!!! Please don't try using the tiny 5/16 Lava Rock as Grow media!! I thought it would be the perfect media, but now have found that I just about killed 3 of my banana pups. Apparently the stuff packs in so tight that it holds too much water (and doesn't allow much aeration). Roots started turning Black and rotting (and these are in a Gurgle setup). Also spoke with a fellow that says Lava is known for its ability to hold bacteria. That is why it is used in pond filters. All this after spending hours trying to clean and sterilize the Damn things. I so badly want for nobody to make this mistake that I will sell them 50L bags for \$22+ shipping (about \$50 delivered) hope this doesn't get me kicked off message board but this is an issue that needs dealing with. If interested contact me through www.gurglegardens.com If you must try the Lava, use the 3/4-1 inch size (but beware) Mike

50L Bags of hydrotron is what I mean in my previous post (\$50 is worst case w/shipping depending on where you live) Mike www.gurglegardens.com

With any hydroponic setup and when growing tomato like plants, what should the ppm be when you transplant the seedlings to your growrocks?

600 - 700 ppm

Then as you go on thru the veg stage what should the ppm be?

700 - 1100 ppm

Lastly, what should it be during flower stages?

1100 - 1500 ppm

How well does citrus in a hydroponic system ? What are the optimum conditions ? Any advice or hint ? Maybe a book or website. I didn't find anything about it.

Thanks a lot.

Ruediger.storm@zedat.fu-berlin.de

I haven't tried citrus but get a load of this [banana tree](#) in my pool. I haven't figured out how I'm going to get it out next year if it gets an bigger.

Hydroponics don't do well with woody type plants like orange trees, rose bushes or other types of trees . Hydroponics is more for water loving plants like my banana tree.

Howdy Ron,

I have read and heard that every so often it is necessary to leach the system with fresh water. I know that soil and rockwool can retain salts and other stuff that can be toxic to the plants. Is this also true of your 11 plant system when using grow rocks?

Yes grow rocks can have a build up of fertilizing salts over time.

If so how often would you suggest doing this?

I would flush the system when you change the nutrient solution. Every few weeks. An easy way to do that is fill your tank up with clean water and let it water a few dozen times. Or if you have access to a drain then unhook the pump and run the hose from the garden to the drain. Then use a water hose and run clean water from the top of each plant cup. That will flush all the salts from the rocks and out though the system to the drain.

Right now my plants are nearly a month old and very healthy, about 4 inches tall. I initially was watering 6 times daily. Moved up to 8 times daily. I am now going to increase the frequency again to 12 times daily. When the plants get a little bigger I plan on one last jump to 24 on-off a day. The plants have been very healthy and their growth rate is admirable. Have you ever tried this type of gradual increase with an indoor system?

Yes that is exactly how you do it.

This is my first attempt and I feel fortunate that it has run so smoothly. I don't want to mess up. Will the change in watering cycle shock the plants or cause them to suffocate?

That is what I like about grow rocks so much is that they hold so much oxygen between watering. One of the reasons why hydroponic growing is so much faster is because you are force feeding the plants by watering them if they want it or not. As long as your pH and PPM is correct for the plants age then you can't water to much. Most plants do need a dry out period so don't think by watering all the time will increase yields.

When I send my plant into flowering I was thinking of a conversion bulb, but I will loose 40 watts! Would you recommend that I just get a bigger HPS ballast at that time? I want the best fruit I can get and am wondering how much of a yield increase I can expect by going from a 400 MH to a 600 HPS or even from the 400 MH to a 1000 HPS.

Conversion bulbs are OK if you are on a budget but if you can afford it I would go with the 1000 HPS because theirs is no such thing as to much light when it comes to increased yield. Especially in the bud room.

Thanks for all the help you give us amateurs.

Later, Frank

Dear Hydroponic Growers could you help me start a garden somehow.

Start by reading every page on this web site and then get back to us. Ron

hi ron,
what is the best method to control or to remove the problem of damping off in a hydroponic system ?
im using sponge as a medium.
regards,
Oh Chin Singapore

Ron,

Your site is the most informative hydroponic site I've seen. I plan to build a 20 bottle gallon system. Can I build it as an ebb and flow system, or should it be a top drip system? Could you give me the relative advantages of the one you prefer?

I would go with the ebb and flow if you have an intermediate timer so you can water correctly. And I would use the drip from the top if you use one of those cheep timers. The ebb and flow gardens work best when the water rises to the correct height and immediately drains back to the tank and then repeats every 20 or 30 minutes. You set how many minutes it takes to reach the height you want and you don't have to use an over flow pipe. Ron

Hi Ron I am interested in hydroponic fodder, I have started a pilot plant small unit at home ,I have some questions about the system requirements . Any reliable reference please ?

Yours sincerely Mic Heja

Dear Hydroponics Experts, I need help for my 9th grade biology project. This project is planned to be on the effect of pH levels on the growth of hydroponic plants. I am a 9th grader at South Lakes High School in Reston, Virginia which is in Fairfax County. From most of my research so far I have been able to see what some of the effects may end up to be, but I still need a lot more information for my 9th grade bio-project to be a success. If you have any ideas or further information, it would be greatly appreciated. Thanks!

About the CO2 trick read once that rabbit pooh gives out good level of CO2 too maybe have some rabbit under your growing frame. feed them with lettuce from your hydroponic system and they will give you good amount of pooh for CO2.

Can I have an hydroponic system completely outside using the 11 plant design. I do not know if I can put it straight light sun or I need any kind of shade.

Yes you can grow outside and it depends on the kind of plant you want to grow if it needs shading or not.

I want to now about hydroponic grass for beef cattle, where I can read about this (in spanish please) Thanks, Martin

I am going to be try to plant bulbs in a hydroponic solution. Do you think bulbs will grow hydroponically?

Sure.

Does anyone know or have any idea about the hydroponics market. Like the market size, target market, the development and competition or the problem now exist.

Canada is a problem because their commercial hydroponic farmers are government subsidized against any and all loses they may incur.

Greetings from Spain.

Where can I find free hydroponic system plans in internet ?

What about using halogen lamp as an artificial light source ?

Thanks in advance.

Wrong light spectrum from a halogen.

I'm trying to do a science Fair project for school and I'm having trouble find the right nutrient to put in the water for my hydroponic plant's environment. I want to use something that you found around a house. I told my teacher I was going to use lime juice but I don't know what effect lime juice would have on the plant. My teacher says I have to have something that say Lime helps plant grow. CAN ANYONE HELP ME OUT E-mail me at Babydesk87@Hotmail.com

If soil bound plants have the same needs as hydroponic plants...wouldn't straight water and miracle gro be sufficient to use in a small ebb and flow system, considering some of the solution would stay in the rockwool/grorocks after "flooding"?

p.s I am talking house plants, not organic.

Totally different ways of growing. With dirt you have a buffer between the plant and the fertilizer. A different chemical reaction with hydro than with dirt. That's why it's takes longer to kill a plant in dirt than hydro. With hydroponics you don't have that buffer so you see results immediately, good and bad.

You can use miracle-gro if you add what's missing. Calcium Nitrate and Magnesium Sulfate.

yea i built the 11 plant hydroponic system what do i put in the containers i heard you have to put in rockwool or perlite and vermiculite but i dont know what they are?

Then you probably won't know what grow rocks are. What I recommend you use.

i have two questions, but first i have been raising plants using hydroponics (built all my own beds) for ten years or longer. everything was perfect. then i moved. now i have built two new gardens. and lot of alga formed (a new problem for me but i did build these beds a lot different then my first ones) so i tore them apart and cleaned everything with clorax, painted the outside of the beds black to eliminate the light to the water storage. now one bed works beautifully, one kills everything i plant. i am presently tearing the bad bed apart again and flushing everything with clean water. is this the thing to do?

Yes

can there be clorax residue remaining causing the damage?

No

second while dismantling the bed i noticed that the pea gravel is staying damp between feeding, therefore the roots are also remains damp (not wet, just damp) is this a problem? if so why only one bed?

Damp should be OK but check your draining for that bed. Flow control valves on every bed can equalize the levels to each bed. Then make sure all the beds drain completely before watering again.

i pump water twice a day (have done this schedule for years) for about 1 hour at a time. there are overflow drains in the top beds so excess water drains back into holding tank. there are also drains in the upper bed that drain all the water off the roots, after pump shuts down, in about 1/2 hour. anybody have any ideas? now back to work cleaning the bad bed until i hear from, hopefully, all or some of you. thanks how does one join this hydroponic club? wally i believe you will get my address but if not try RuthK@Quintex.com. (life isn't east for a boy named ruth so i go by wally)

this is wally again, forgot a couple of important facts that should have been included in my question. each of my gardens have their own pump and their own water/nutrient holding tanks (50 gallons) the only thing common is the timer that turns them both on and an hour later turns them both off. thanks again---wally at ruthk@quintex.com

Well then forget what I said up their and switch one garden nutrient tank that is doing good and use that one for your problem bed. If the same problem continues then that bed is possessed so call an exorcist.

Have you ever tried mixing the miracle grow recipe with a commercial hydroponic nutrient? Maybe even alternating between the two when topping off. Never seen it discussed but seems to me this would save money while insuring the necessary nutrients are supplied. I have just started mixing half & half and am wondering if this is going to cause some kind of trouble later.

I wish I knew. Let us know if it works.

Can I make my own hydroponic nutrient solution?

Yes if you are a chemist.

Ron, I have just discovered your site, and I am finding it very useful, I am a bit of a back yard inventor and I have an idea for building a hydroponic setup using styro-foam can you tell me if there is any problem with this material being used in hydroponics, If not I would like to build a proto type and try it out, Thanks and keep up the good work, Thanks Chris

Yes you can use Styrofoam packing peanuts also known as ghost turds or just about any inert porous material that can hold oxygen. All the medium is to hold up the plant. The growing comes from the nutrient solution and not the medium. Send us a picture if you are successful.

Re: Hot Peppers

You must visit <http://www.hotpepperclub.homestead.com>

This site has info on how to build your own hydroponic garden just for hot peppers.

tailwheel

Does anyone know if the hydroponic garden in Naples, New York, called "The Living Wall" still exists? Robert A. Rowe robertarowe@prodigy.net

I am preparing to build a small indoor hydroponic garden.

I'm sure as I progress in this project I will have many questions, but 3 come to mind initially

First a little detail. I am planning this garden as a prototype for a future "off grid" garden. I will have electrical generating capability, but will have to be "careful" of electrical usage.

I want to be able to grow enough tomatoes for personal use 12 months out of the year. So the garden will be small, and needs to be energy efficient.

Q1. I have read that the primary growing mediums are various products that resemble small pebbles. How does the pumped nutrients rise up to the level of the small plants growing on top of the stomas (or do you pump the growing chamber so full of nutrients that the liquid reaches the top of the growing medium ?

Yes the water needs to rise high enough to wet the roots of the plants.

Q2. In order to minimize light requirements, is it appropriate to grow "arctic" varieties of tomatoes, or are they heavily compromised as to flavor and texture.

Hard to say. Some varieties do taste better than others.

Q3. Since I want to minimize the use of electricity what would be the minimum wattage for an HPS (Or is there something better) light to bring 1 good tomato plant to good production during the winter?

I noticed Home Depot sells a 175 Watt HPS for \$45.00. That would be my minimum for one tomato plant.

Thank you in advance for your time in helping out a beginner.

Regards, George Clay 1)

HELP ANYONE

i built a 11 container garden and i am using lecca (round redish-brown rock) for a medium the question i have is how often do i water because i have excellent drainage and no fear of nutrient build up because i am not using rockwell cubes on this site it said every 20 to 30 minutes but my hydroponic salesman says start out at 3 times per day but that does not seem enough for i just switched from deep water where the roots were constantly submerged can anyone help i am very confused....jmycap

The advantage of Hydroponics is that you are forced feeding the plants if they like it or not. That's why with Hydroponics you can grow faster than with dirt. As long as you've got good and fast drainage then you can water every 30 minutes or so.

Dear Ron: Hydroponicsonline. is a fabulous service! Thank you, it's full of information and best of all the pictures are self explanatory. ¿Do you have anything on hydroponic forage? I intend to build a hydroponic grass producing unit, and I want to know which is better, a mechanical (rotating) unit or a hydraulic one (with pump, hoses and sprayers. Congratulations again. By the way, what is your surname? Enrique Miralles Santa Cruz, BOLIVIA e-mail address: emiralles@nur.edu

I'm a student and I am conducting an experiment. I was wondering; How do hydroponics work? How do you grow a hydroponic plant?

A submersible pump comes on and pumps nutrient enriched water to plant roots that are grown in a number of inert materials as expanded clay aggregate (grow rocks), spun volcanic rock (rockwool), perlite, pores gravel, lava rock, or as with some hydroponic systems, no medium at all.

Ron or anyone else - Since I had so many tomatoes that germinated a while back, I put one tomato to float in a small container of hydroponic nutrient solution with an air stone. It grew like crazy, and I transferred it into a 5 gallon bucket, again floating in solution with two air stones, and it quickly grew 7 immature tomatoes. I woke up one morning and all the leaves on the plant were completely wilted. It pretty much died that day. The plant (roots) have never touched soil, so it can't be a soil borne disease. Only thing I can think of is that the bucket sits on my cement patio, and the solution became too hot. Any ideas on what went wrong? I have two other aquafarm type drip systems I built that are doing great, and another tomato floating that's small but doing great so far. Thanks, Tim

Sounds like a bad case of damping off. One of the reasons for damping off is to much watering and I would say your system qualifies.

I would like to sell two 15X60 hydroponic greenhouses with all heaters fans piping everything. Call me Capt. Bill 252 321 3991 or cell 252 341 9312 Greenville n,c,or email generalgooff@hotmail.com Thanx

Hey Ron, I started the 11 plant garden and am using a commercial hydroponic fertilizer. I check and correct the ph daily. My timer is 15 min on and 15 off. Problem is the leaves on the plants are turning brown on the edges and dying off. the plants keep growing and are about 2 feet tall and are blooming. What could be causing this dying off

Cliff Lasiter

Alamogordo, New Mexico

I am looking for both tomato and pepper hydroponic nutrient solution compositions (in ppm). As exemplified in a Howard Resh text, Hydroponic Food Production, the formulation for lettuce was:

Ca: 200ppm NH4: 25 ppm S04: 113ppm Cu: 0.1ppm Mg: 40 ppm NH3: 165ppm Fe: 5 ppm Zn: 0.1ppm K : 210ppm P04: 50ppm Mn: 0.5ppm B: 0.5ppm Mo: 0.05 ppm Hence, for bell peppers and tomatoes, I am seeking the same types of profiles.

Would appreciate your assistance,

MO at MO38188@AOL.COM

Here is what's in the book. [Page 1 \(40 KB\)](#) / [Page 2 \(40 KB\)](#)

Hi Ron, About a week ago I built a 11 plant garden and when everything was going well. Until a couple days ago. I bought a timer from Wal-mart that is set up to water for 15 min on and 45 min off it was only \$9. Every hour. Is that too much water for small plant?

No That sounds just right for small plants.

Also I can not find a place that sells hydroponic nutrients. Does Wal-mart sell it or maybe I just can not find it?

No they don't. You can find hydroponics nutrient solution on the web. Use your favorite search engine to find some.

I tested the ph today and it was above 7. Is this the reason the leaves are a little brown or is it too much water?

Yes to high of pH.

I have been using a nutrient that is made for soil because I can not find another one. Is that the reason why they are browning?

Yes you are cooking them.

The ph was fine when I transplanted them to the hydroponic system, and five days later it was over 7. How often do you have to adjust the ph?

As often as necessary.

and what changes the ph so fast?

From using non-hydroponic nutrient solution.

I appreciate all the help you have given me, the site is very interesting. Thanks.

Hello Ron, Thank you to post hydroponic nutrient solution compositions on date 19 feb 2000. Would you check page1 and page 2 ..are they the same ? Would you please re-post page2 ? Bangkok

Sorry. Good harvest this month. [Page 2 \(40 KB\)](#)

Ron,

You told me to mix my used rockwool in the compost pile. COMPOST? Do you actually grow anything in the ground anymore? Does the rockwool make your compost a nice consistency, how does it help composting.

New2Hydro Holly

Just consistency and oxygenation.

Just about all the [plants](#) I have planted in my yard came from my hydroponic systems when they got to large. That's why I love it here in Florida because you can grow plants all year round.

what is TDS and what does it mean please help

The concentration of nutrients in water is measured on a numerical scale of parts per million (PPM). This number basically tells you how much fertilizer is dissolved in your water. By closely monitoring this concentration you can maintain the best level of nutrients to meet your crop's requirements. You will need a [TDS \(total dissolved solids\) meter](#) that measures PPM. You also use the this meter to gauge when it's time to fill your hydroponic system with a fresh mix. Generally, young plants prefer concentrations around 400 to 600 PPM, while mid-growth would be around

700 to 1000, and established or fast-growing plants need levels around 1100 to 1500.

why do the bottles you grow in have to be painted white, will the light from a HID lamp hurt the roots if the bottle is not painted please take the time to fill me in on this You are the only person I trust getting information from that wont put my garden at risk please respond and keep up the excellent work. CLUELESS

The bottles are painted to help cut down on the algae buildup caused by the light hitting the water in your garden. A lot of people are concerned about the algae in hydroponic gardens. Even though it's not pretty, *algae is your friend*. You can't grow with hydroponics and not experience the green slime. Algae is a sign of healthy water and robust life; not a sign of contamination or problems and only becomes a problem when it grows so thick as to cut off oxygen to the plant beneath. If that happens just rinse with tap water to remove.

Dear Ron, Great site! But I've got a problem. I am trying to do a hydroponic garden on a very limited budget. Everything about hydroponics seems to be economical except lighting. The price of lighting is way, way, way out of my budget. Do you have any suggestions on cheap lighting? What about fluorescent lights? I have lots of 4 foot fixtures for free, I would only have to buy bulbs. What about the outside lights that come on at dark (street lights). I think they are HID. Any help would be great.

If they are Metal Halide or High Pressure Sodium or Low Pressure Sodium at any wattage would be more economical than fluorescents. I found 3 - 400 watt MH at my local flea market for 30 bucks apiece that came out of a factory. I had to buy new bulbs but I saved a lot of money. They are out their.

what is the size of the reservoir and where can I get one. For the 11 Plant Hydroponic Garden.

11 gallons and at any Wall-Marts, K-Marts, est.

dear ron,

wonder if you can help me out with this hydroponic problem.

you see, i tried my hand on pokchoy (oriental brassica) and the result was below expectation.

first, the stalk is smaller than organically grown second, the pokchoy in hydroponics wilt faster than expected after harvest.

however, the leaf size is ok, very green and no holes. no leaf miner. the root length is nice. long enough with lots of rootlets along the side.

could my problem originated from sunlight. i place my hydroponic system in a east-west orientation with opaque plastic on top of it to prevent rain water getting into the system.

or could it be temperature. my temperature ranges from 24C to 32C (yes, tropical Philippines I am from)

regarding the water stress, is it normal with hydroponic plants ? is water stress the main reason why after harvest, it wilts faster than expected ?

thanks and MERRY CHRISTMAS

Stanley Ho

I am looking for a complete hydroponic system for growing fodder for livestock consumption. Does anyone know where I can find such a system?

Please anyone: I need help in setting up a system to grow hydroponic strawberries. I have a hybrid ebb and flow gully setup--6 rain gutters each 5'long.Can I utilize this system for strawberries? Larry Middleton, WI

Hey Ron, I'm planning on building you're 11 plant system. I'm still trying to figure out exactly how it works. I'm aware that the pump pumps the water and nutrient sol. into the pvc system and fills the bottles to the height of the runoff, at which point that's as high as the water goes. Then from what I've heard, I'm pretty sure it drains after it fills the bottles. This should happen on a 30 min. schedule, (if possible 20) My questions (if you have the time to answer please) are the following? 1. Where does the water go when the bottles drain (I know back in the reservoir), but how? I would maybe guess the runoff but it doesn't look like it work unless it siphoned the water out the system into the tank and the hole in the top is supposed to prevent siphoning.

It drains back through the pump when it shuts off. The overflow is only to keep the water from rising to high in the bottles.

2. What are some good hydroponic solutions for growing (particurly for the headers interest, if u get my drift)? Should I change solutions as the plant enters different life stages? How often should I change solutions (I read 2 weeks somewhere, but not sure)?

Formula One from www.wormsway.com is the best nutrient solution I have used because you use it through the hole life of your plants. Change your solution if you detect a problem with your plants.

3. Are HPS or MH lighting too hot for an inclosed space (I'm planning on ventilating very well with 4 10" fans or so bringing fresh air in)?

You have to vent the hot air out of your room from the lights some how. Blowing hot air around your room won't do anything.

If they are too hot, will 3 2-bulb cool-white 4' fluorescents fixtures work? One hanging directly above, and the two others on each side at 45 degree angles towards the plants?)

No fluorescents are useless unless used for seedlings.

4. If I did use HPS or MH what watt would you suggest, should I use one or 2 bulbs?

One of each is best.

I love your site, you have some really good ideas, now I know what to get mom for x-mas next year :) She loves plants, especially ferns. Thanx

ron I am a 7th grader considering doing a hydroponics garden for a science fair project? Do you think this will be to difficult. We feel we could build the 11 plant garden-but we're unclear on what else we need to get started. Should I start the seeds in dirt 1st or buy plants already growing. I want to compare plants growing hydroponic to growing in soil. Thanks Matt

I would buy plants that will fit in the solo cups and wash the dirt off. Buy a few more to keep in dirt to compare with. If you can get the solution right then it won't take long to see the difference.

help I have complete plant collapse and the roots are brown and rotten whats happening?

TQ for your dedications, it teach me a lot and to understand more about hydroponic. TQ again.

I'm looking for ornamental hydroponic plants - apparently it is common in Europe and would like to find a vendor in the US, preferably in the Miami area...

How do you feel about using reverse osmosis to purify water. I have found a company which sells hydroponic reverse osmosis systems for \$195.00 Canadian / \$145.00 US. They produce 6 - 8 gallons of water a day.I want to build a small set up for about 4-6 tomato plants (is this considered a small set up?). Will the amount of water this reverse osmosis system produces be enough to keep up to my watering needs? Thanks for your help

what are the definitions of hydroponic?

I love hydroponic plants, they're my friends. :)

how often do you feed plants in a hydroponic system.how long should the pump be on and off in a flood and drain system.

i am doing a major assignment at school and i am going to make a hydroponic garden and a soil garden and see which will grow faster and healthier, i know how to make the garden but i dont what chemicals you need and when to put them in, can you help me?

i am doing a major assignment at school and i am going to make a hydroponic garden and a soil garden and see which will grow faster and healthier, i know how to make the garden but i dont what chemicals you need and when to put

them in, can you help me?

whatis the defination of hydroponic

Can I cultivate honeydew melon by hydroponic system.I have lot of land and growing honydew melon. So kindly advice me as above system. Thanking you Sir Yours sincerly Moammed Nabi Khan S-1/181 Saudabad Malir Karachi-75080 Sind Pakistan

Does anyone know of any hydroponic systems suitable for growing herbs and a range of vegetables in a window box type structure? (I live in an apartment which only has a small balcony.) The system would need to be suitable for 'outside use' as it would be exposed to the elements. Thanks, Jim

If your leaves are drooping perhaps you solution has a Na^+ (salt) build up. An increase in Na^+ causes an increase in osmolarity of your hydroponic solution; thus the turgor pressure in plant cells decreases because H_2O diffuses out of the cells and into the hypertonic solution solution. Your plant is now dehydrated. IN OTHER WORDS...Add more water to your solution. Also replentish your resevoir more often because plants make salts as they grow. Remember to record the results of your new concentrations.

I love your site Ron but, excuse me for being a tech-nerd needing the "reason behind the science". You stated that "every time you add water to your system, you need to add the appropriate amount of nutrients". This is difficult for me, and obviously others, to understand. Remembering back to my high school science class, if I had 1000 PPM of nutrients in a solution and somehow I magically made half of that solution evaporate instantaneously, I would then have 2000 PPM in my solution. Thus, by adding water with more nutrients, I have effectively brought the PPM ratio up to 1500 PPM when the container is full again (150% of the original ratio). Doesn't this also hold true with hydroponic solutions? Or do the nutrients also evaporate?

Hi Ron, Thanks for a wonderful site. I got a lot of really useful, relevant info from it. I'm setting up a 20 plant veggie experiment in 2 liter soda bottles in part of a 9' X 12' greenhouse. The greenhouse has mist nozzles and 2 exhaust fans that are thermostatically controlled to keep the temp around 85 deg. I'm in Northern CA and it does get hot here. I have a question about a plant food that we've been using here at home for house plants called Eleanor's VF-11. It's a concentrate that's used for both foliar and root feeding. It dilutes out to 1 oz./gal. Recently, I've recently heard several radio ads for using it for hydroponics. The analysis on the bottle of concentrate says: N 0.15%, Available Phosphoric acid,0.85%, K_2O 0.55%. I was wondering if you have ever used it, heard about it or know anything about it's value as a hydroponic nutrient for veggies. I care to experiment with tomatoes, bibb lettuce, cucumbers, chives, eggplant, etc. but I do want to have some success for starters. I plan to get a TDS meter and a ph meter and run my pump for 5 min every 20 min. I'm also planning on using Gro-Rocks for the medium. Any thoughts, comments, or ideas from you would be greatly appreciated. I am a semi retired Electromechanical Engineer with a well equipped machine shop and electronic room so making controls, timers, gadgetry for this project is a snap. In a few days I'll have pics/info available for easily attaching/removing the bottles. I worked out a method that looks great now, but I need to be sure about it after I get up and running. Thanks again, Marvin PS I spoke with Eleanor today and she refered me to her

website www.vf-11plantfood.com. There's a testimonial letter on it from a guy she says is a real expert in hydroponic culture who's been using VF-11 for years. I've been unable to reach him today, but I'll keep trying. He's in Vallejo, CA, not too far from me. I will take a ride up to see him after I speak with him by phone. I'll keep you posted.

I am currently planning to build a hydroponic system, if anyone is interested email me at tspier2@.localnet.com

I have set up a floating hydroponic garden for a science project, but only one seed has germinated in 10 days, and it is growing slower than the same plants in soil. WHY ARE MY SEEDS NOT GERMINATING???? This is a big problem... Should I take some plants out of the soil setup and transplant them into the rockwool cubes that I used to germinate the seeds? PLEASE HELP!

I am trying to come up with a catchy name for my hydroponic-grown plant essential oils. I like "waterborn", but it has been taken by a perfume company....any ideas?

what is the simplest hydroponic system?

I am impressed with your web-page and knowledge of hydroponics. I am just a beginner and am learning a great deal from hydroponics online. My e-mail address is weirdweviewong@yahoo.com I am wondering whether I can still purchase a pump and other hydroponic hardware thru your website??? Please advise... thanks. I am very interested in aeroponics too... Sincerely, Steve

Yes. Who said you couldn't.

Can anyone recommend a good fertilizer mix for hydroponic vegetables (namely corn)?

Thank you, Robin Harkey

TO: Robin Harkey Hey Robin. I was asking some questions about hydroponic corn a couple of weeks ago. I think we may be the only two wanting to try it. I have been too busy to look for universities that deal with agriculture and/or hydroponics. I might just do that tonight. If you would like to compare notes drop me a line. cliff@gloryroad.net

i dont know what you are trying to clone but the way i clone plants uses some dixie cups and some vermiculite. fill the cups with vermiculite and stick in a plant cutting. water until damp but not WET and keep damp for about a week until root nodes form then transplant into soil or hydroponic medium. (it helps to keep the vermiculite warm) ~Ryan

Can I use well water to feed my hydroponic garden?? Or do i need a water softner. I also notice that I have slow plant growth could this be from me using well water???

where in the world could i find a ph meter for hydro solution i live in gainesville florida

can i buy a hydroponic multimeter that reads ph and the nutrient (cf).

I am planning a hydroponic garden, 4 meters x 8 meters, and am planning to cover it with shade cloth. I am living in Thailand, where it is very sunny, and can be very hot in the afternoon. I am not sure what color shade cloth I should use. We can buy both Black and green. second question is that I am planning to plant a variety of veggies and herbs, namely Tomatoes, Peppers, Spinach, lettuce, Chinese cabbage , and some beans. I do not want to have two separate nutrient systems, and would like to know the best nutrient for all plants mentioned.

ron,

do you know of any hydroponic commercial grower or aeroponic commercial grower in the NEW ENGLAND area or CALIFORNIA that i can visit ?

sixto ututin, south africa

No But maybe some other members out their might.

ron,

my hydroponic veggies wilt fast after harvest. some say its water stress ... hydroponic veggies are so spoiled and pampered that when you harvest them, the condition they are use to is not present anymore, that is why they wilt fast. according to one, something to do with cuticles in their leaves. she said, i have to let the cuticles grow so that it can stay or look fresh even after harvest.

now my question is, do you have same experience ?

Here in Florida everything spoils quick. I got people waiting in line for my tomatoes so I don't keep them long enough for them to spoil. I chop up peppers and freeze them an I dehydrate herbs and spices. My compost pile gets the rest.

This is my first year teaching agriculture and I am trying to get some hydroponics going. My greenhouse is set up this way: I have feeder tubes for taking up the fertilizer directly into the water flow; I have lines that run across the greenhouse the spray spickets coming out of the main lines; I have a furnace and fans running on both ends. My questions are as follows: Can I grow tomatoes and watermelons on the same watering line with the same fertilizer and watering times? For my fertilizer I mixed Grow More (hydroponic) 4-18-38 (NPK) (8 ounces), 4 ounces of calcium

nitrate, and 4 ounces of magnesium sulfate in 100 gallons. This was the recommendation on the sack for seediness Does it sound right?

Yes that sounds right for a standard commercial hydroponic mix and can be used for a variety of vegetables.

The solution is being sprayed on through the spickets. How often should I leave these on and how often?

You didn't say if your water returns to a reusable reservoir but from your description I don't think so. So watering cycles are tricky with a non retrievable system. You want to try and water only what the plants consumes so all your nutrient solution doesn't run out the bottom to wherever. Disney World does this by weighing 1 plant in each row measuring how much water the plant consumes thus letting the system water all the plants in that row the same. I would wish your garden to a reusable system if possible unless you have deep pockets.

I am transplanting them from a soil mix into perlite for the hydroponic substrate. How big do the plants need to be before transplanting?

Let them get well rooted before washing the dirt off and they will have a better chance for survival.

We tried to do some in class but I believe the watermelons damped off (looked like they had been pinched at the medium level) and the tomatoes leaves wilted, turned a brown color, and died. Any suggestions would be helpful. My name is Mike T Tesnohlidek and I teach ag. science in Nyssa, Oregon. Thanks

I have seen people instead in Miracle Grow and Dyna Gro products time and time again. Growing either in a soilless mix or hydroponically requires a very well researched fertilizer solution that is proper for that environment. Dyna Gro levels of mineral makeup are off balanced. Europonic Nutrients or Ionic seem to be the elite outstanding products. Also Bcuzz stimulators has popped up in a lot of growing magazines. Keep you eyes out for more. Tell me what yal think!

- Educated Hydroponic Grower -

my name is Casanova and I'm asking who can make my own hydroponic system by buying the products at a hardware store. can you help me . I need to know what are the supplies I need. thank you.

Jeez Ron, I've used transplanted nursery plants from Home Depot in my garden. The plants are just now recovering from the transplanting shock and are now setting blossoms. The plants are only about 1/4 inch in diameter main stem diameter, and about 2-3 inches tall. I don't think they are strong enough to support fruit yet.

Am I just being to used to planting things in the ground, or is this a phenome thing that I've never experienced.?

What is your experience in seemingly premature blossoming?

I have always had to tie up my hydroponic tomatoes and other heavy fruit plants so I wouldn't worry how big or the age of the plant as long as it produces healthy fruit.

Can you please explain why salt is necessary in hydroponic nutrients, or is it just a byproduct?

I know it has to be flushed from your medium and system periodically so I would say it's a byproduct but I don't know what I'm talking about.

What exactly is Hydroponic???

Growing plants without soil.

ron

hi there what is your source of P ?

you see, i tried using Monopotassium Phosphate as my P source and it turn out to be a failure. 3 weeks into that chemical and it seems my roots ain't growing the way it should

when i change to Peter's Hydrosol, just in 12 hours, new root hair starts to pop out.

wonder if you have answer to this mystery

thanks

pzing

I am using a :

5-11-26 Hydroponic Water Soluble Fertilizer - 5 ounces

Calcium Nitrate - 4 ounces

Magnesium Sulfate - 2 ounces

I mix all three in a blender with enough water to liquefy it.

Then I mix that to my reservoir and use my meter to adjust to the correct ppm and pH.

Correction

I was just informed by someone who knows that I shouldn't mix the Calcium Nitrite with the hydro mix because of conflicting chemicals.

So I will add the Calcium Nitrite separately to my reservoir.

I should have known it was left out of the hydro mix for a reason.

Nurse Duckett

on Peter's Hydrosol

give me your email address and i will send you my own little computer program on what other mix to use just to make my hydroponic solution

yes, peters hydrosol is not enough to make your plant grow well, need to put in more stuff in it

pzing

Is hydroponics more environmentally friendly than organic gardening? What are the benefits?

You can't get any more environmentally friendly than hydroponic growing because the nutrient water in hydro systems are retrievable and don't run off into the ground, season after season. Even organic gardening in dirt creates a problem over time.

Not even 20 miles from me here in Central Florida the state had to buy out the vegetable muck farms north of Lake Apopka. Because of decades of fertilizer runoff into the lake it virtually killed one of the largest lakes in Florida.

Birds are dieing and the alligators are even born deformed.

There is a restoration project going on to try and save it.

Hydroponics is the future and will be the only way to grow as more dirt farms disappear.

I am new to hydroponic gardening and I have small children. Are any of the materials harmful to children? Do I need to be careful about keeping them away from my garden (other than for the obvious reason of avoiding damage to my plants!!)?

Some houseplants are harmful to kids and animals but I don't know which ones.

Ron, What is the best way to root tomato cuttings? Will the tomatoes not develop correctly if the cuttings have flowers on them. Im not growing indoors so i can't really adjust the light cycle.

Also, do you have a favorite homemade hydroponic design that I could try building? I'd like to try one that I could keep inside or out in case I decide to grow indoors. I built a decent water culture system as well as a scrappy ebb and flow.

Finally, I'm saving up for a MH light and mover. Where could I get a good deal? Thanks!

Trent San Clemente, CA

With vermiculite. Flowers don't matter. If they fall off they will grow more. You live in California the home of Indoor Grow Stores, You should have no trouble ordering a light close to home for shipping cost consideration.

how do i care for my hydrangia bushes ?

I don't do plants, I do hydroponic gardens.

what is the best hydroponic method to grow lettuce?

NFT

Is it good to cultivate Lettuce in Aeroponic or Hydroponic system , which is the best? Ibrahim Ali

NFT

Can anyone recommend a type of tomato for hydroponic growing? Also, does anyone know what type of pepper is used in a chili rejeno? Thanks Mike

I'm looking for a company to assist our family farms in a complete hydroponics conversion. Not just an equipment supplier, but a company that can plan, build, install, train, etc. The whole nine yards.

Any suggestions?

There is a hydroponic company in Hawaii that will be partners with you and give you all the money and help you need. But they won't even talk to you if you don't have at least a 5 acre greenhouse. But I can't remember their name. They use to be here in Florida but moved to Hawaii because of the perfect greenhouse growing conditions.

Differences between planting hydro and ground.

On June 1, I transferred plants bought from Home Depot into my 16 bottle system. I had a cucumber left over, so I put it into the ground. The plant in the ground is about 3 times the size of the ones in the hydro system. The difference is, that the hydro plants have several fruit and the one in the ground has only 1 fruit. The hydro plant roots are just now peeking out of the holes in the cups, so obviously, the hydro roots are smaller resulting in smaller plants and leaf structure.

The question? Is this normal?

The reason hydro plants do not need as much roots as with dirt is because you are force feeding the plant every 30 minutes. With dirt plants the roots need to go searching for food and water in the ground to grow. Thus all the energy goes into root production instead of fruit production as with hydroponic plants.

I just finished another system 49 cups, using 1 liter water bottles and Dixie 16 oz. cups. I have a hell of a time finding 2 liter soda bottles, but the caps are the same and I can change later to 2 liter bottles when I collect them. I planted white corn from seed into most of the cups and transferred the plants from my first system to the new one. It looks pretty crowded, but if the thought about smaller plants is true, I should be OK. I'll try to get pictures off to Ron today. The system is 50 in. X 50 in. and uses a 20 gal. nutrient solution on a 30 min. timer. I plan to use it for corn, peas, and other crops that grow up, not out.

Yesterday, I bought a storage box at K-Mart that's 24"X36"X8" deep. I can make 9 4" dia. holes in the lid about 7-1/2 in. apart, and use 4 sprinklers inside the box which will be the tank. It's a 19 gal capacity and I figure that I can use a 10 gal. nutrient batch as the spray will be contained in the box itself. I will send Ron pictures as the project is finished. I experimented with several spray heads to find something that would work using a low pressure pump, and finally had to modify a off the shelf head to work. I can adjust the spray to any shape I want using a Rio 600 pump. I have a design in mind that I can connect 5 of these trays together and have 1 tank feeding all 5. The system will be 10 ft. long and 3 feet wide.

Finally, I have been using the 1 tsp. Miracle grow, 1/4 tsp. Calcium Nitrate, Epsom salts/gallon formula. My first fruit I grew got blossom end rot. This indicates a lack of Calcium according to information I've found on the web. Ron, would you suggest that I increase the amount of Calcium nitrate in the solution?

Tailwheel

Yes you should double the Calcium Nitrate and Epson salts for mature plants. The 1/4 teaspoon is for seedlings and young plants.

does the plant grow more fast while using the hydroponic method

Amigo Ron:

I just started with my 25, two-liter-bottle garden and I had a hell of a time trying to come up with the right amount of fertilizer and so on. My system works with a sumergable pump (2100 lt/hr) and the reservoir has an 80 lt capacity and I'm using triple 14 as fertilizer and 80 cc of folial fertilizer, too. The Ph level was too high and I used hydrogen peroxide (9% v) to make it go down to about 6.8.

What I would like to know, besides the righth proportions of fertilizer, is what products can I use to rise or lower the Ph without ruinnig the plants and ,of course, the fertilizer mixture? Can I use the same products people use to adjust the Ph in swimming pools? If so, I will appreciate a list of what i can and cannot used and the amounts in grams, please.

Thank you and best regards

Saludos

Julian Pena D Venezuela

Hey Ron, Quick Question. I am considering opening a hydroponic retail store in a large city. The closest place to buy anything hydro is at least an hour away. Do hydroponic dealers make a decent living? And can you direct me to some wholesalers that can get me started? Thanks.

I would like to start out real basic with a passive wick system. Any good literature on setting this system up? Pros/cons, wick thickness/# wicks for 1/2 gallon containers with 6" rockwool slabs? etc. Some say this is great beginner system while others say it keeps the medium too wet etc.

Hello Ron -- do you have a "[minature greenhouse](#)" plan for our perusal?? The one you built for your hydroponic systems is perfect for our needs since we have limited space and at the sametime, want a roof for our system. There are a couple of minature greenhouse snapshots in your picture index, using pvc pipes (for frame) and clear fibergalss/plastic (for roof). It would be greatly appreciated if you share the plan with us. Thanks, Wayne

Hi Ron, I am a novice at this and my results are varied. I'm using a commercial two step nutrient solution in a drip system with perlite and metal halide lights My tomato plants do well until they start to flower, and then the leaves start to turn yellow and curl up, sometimes with brown spots. I thought they were getting too much water so cut back to 2x a day, but from what I read, most other hydroponic gardens get watered much more often. Drainage does not seem to be a problem, but my roots did look somewhat brown last time I pulled a plant...Any suggestions?

looking at buying a Cropping 4 bay hydroponic system would like to know if anyone knows anything about Cropping and there systems please E-mail me at krohm@mail.ohio.net thanks

Question: I would like to get started on a beginner's scale with hydroponics in our hobby greenhouse that is 10 by 48. Do you have any suggestions where I could get a setup that would get me started? Mike S

i need to know how to/when to feed my homemade hydroponic system

Hi I have started a new hobbie with hydroponic gardening for the elderly folks I take care of and was wondering if anyone could donate some books or magazines on the subject? Would be much appreciated. Thankyou Sincerly Bonne

Would fish be able to grow in hydroponics solution? i have an idea for a very cool garden if you can lmk i am very curious.

No but some hydroponic plants will grow in fish water.

if mixing a two part hydroponic solutions together tends to precipitate some compounds, making them unavailable to the plants, would it be possible to feed the plant with solution "A" for five (5) minutes, followed by five minutes break, then finally five minutes of solution "B" Jerry Ching

I doubt it.

I'm having trouble finding calcium choride, is there any chemical than can replace calcium chloride in a nutrient solution? Or do you have any suggestions on where to find it. None of the places around here sell it or hydroponic nutrient solution.

I order everything I need on the internet. Me and the UPS driver is on a first name bases.

Try:

- www.wormsway.com
 - www.aquaticeco.com
 - www.hydro-gardens.com
 - **V-J Growers Supply 800 222-4503**
-

Could someone give me some basic info about hydroponic gardening in general. I am doing a science project and I need some help to get an "A"

How do you remove plants that are root bound from an NFT hydroponic system without damage to the plants that are left?

On the 11 plant hydroponic system can you please tell me what kind of pump is in the design. I am setting the system for a science fair project. Thank you for your help!!!! -christa

Ron, you have a very informative sight on practical applications for building a inexpensive hydroponic system, keep up the good work. My question is what other house plants can be grown in a manner similar to the spider plant and ivy. Any info that you can share I would truly appreciate.

Thanks, JC

absolutely. houseplants grow so well that plants like the aloe-vera plant fall out off the cups because they grow so much.

i want to setup a hydroponic system. i looked at the 11 plant design. what do i do after i build this? how do i start it up? seeds? nutrients? any help for this aspiring farmer would be appreciated.

you need to read previous Q & A pages to find out.

hi, i'm doing a research project for school, and i am trying to find out how varying the amount of nitrogen or level of pH can effect hydroponic tomatoes. any suggestions? thanks, crystal

hi my nane is james i'm in the 10th grade could you please tell me how to build the watch it grow hydroponic system

Kitty litter as hydroponic grow media?

I have been reading on various pond sites that some people use non odorous and non clumping kitty litter as media in slotted pots to grow various water plants. The argument is that the cheap stuff is just plain clay. There seems to be some agreement that the clay may bind phosphorous and thus limit undesirable algae growth. They also recommend adding potassium so that the plants may better utilize the phosphorus directly (potassium as a cofactor). What are your thoughts on these topics?

sharkdude1@yahoo.com

You have sparked my curiosity and I will pick up a bag and give it a try and post the results.

Ron. I am an experienced (Canadian) grower of hydroponic tomatoes. I am interested in locating a supplier for panda film grow tubes (1000 ft /roll works great for me, as it does about one house at a time). Any suggestions for suppliers? (by the way it has been almost -30c for the last week or two. Any chance someone wants to swap heating bills?

Are these tube lights your are referring to fusion lights. I am very interested in finding a supplier for fusion lights.

is hydroponics suitable for the tropics? i'm an indonesian

The largest hydroponic tomato grower moved from Florida to Hawaii because of the weather so I don't see why not. And Carol from Hawaii does OK. <http://www.hydroponicsonline.com/carol.htm>

How do I keep my hydroponic tomatoes healthy after I plant them?

Feed them the correct nutrients, Keep them at the correct temperature, adjust the pH every day, protect them from predators and play heavy metal music at the highest volume you can turn your stereo to. They like that.

How can Hydroponic plants grow?

magic

yea i built the 11 plant hydroponic system and im going to get a pump right and ive seen pics of a tube coming out of a container does that connect to the 1/2 inch hose connector does that bring water up back to flow or is that to give to oxygen to the roots ,sorry but im new to this

Yes it pumps water up to the system.

Ron, Trialbozz here from Victoria BC. I've been reading your discussion board and must say it has answered many questions I have had. I noticed you have shied away from questions regarding aquariums. I have a 50 gal tank and have a filtering problem and have been looking to hydroponics to solve it. As a test I am going to set up a one or two plant system using the gurgle garden setup just as a test. I have read peoples problems with the air pump working so i just did a little experiment and solved the problem of the flow not working. When I first installed the tee in the airline the air just shot right past it.

So as a solution I took an old film canister and one of the aquarium fittings (the clear kind used to mount air stones to the end of the hose) I took and cut the air stone part flush with the shoulder on the fitting. Then I drilled a hole one size too small for the other end of the fitting to fit through and forced it through the hole from the inside of the film canister.

Then I used a small piece of tubing just long enough to slip over the end sticking out of the canister bottom and attach it to one of the ends at the top of the tee.

Then as in your diagram attached one end to my air pump and the other end goes to the plant.

Then using a suction cup mount for air hose mounted the whole thing open end down at the lowest point I could. This delivered about two ounces of water per min depending on how much air I feed to the canister. The reason this works is the canister fills with air to the point that the pressure is enough to push the water through the air line.

Once the air has cleared the chamber water fills the line until the air pressure builds again.

Hope this helps some of you out there. Cheap it is but hey it worked. If you are interested I'll keep you posted as to how the aquarium/hydroponic thing works.

tffn Trailbozz

could u cut holes in the bottom of a bin and then put your plants in with perlite, rockwool, growrocks etc. in pots and just flood it with a nutrient solution and then it would be ebb and flow

Yes it would. It is as simple as that. Rubbermaid containers, a submersible pump, grow medium, hydroponic nutrient solution and you got yourself a hydroponic garden.

hey ron

what would be a good nutrient solution for growing with hydroponics

p.s. i built your 11 plant hydro system if it makes a difference. thanx for your assistance

Liquid hydroponic mixes cost more but are easier to use than powdered water soluble mixes. But as long as they are formulated for hydroponics and not dirt and you follow the direction on the label then all it comes down to is ease of use.

Hi, I represent a company in Sarnia, Ontario, Canada that manufactures equipment that is removing scale (calcium) build up in water lines and preventing new scale from forming. Is this something that hydroponic greenhouses would be interested in

Yes Very much so.

Hey Ron,I represent a Hydroponic Wholesaler in both Canada and in the US. We offer the latest and greatest in Hydroponic growing techniques-although we have inexpensive (lighting and nutrient) systems available definitely if bigger yields (Tomatoes or otherwise) is what you want-spend a little more or re-invest into your system when you can afford to-it will pay for itself in no time-laughin all the way to the bank

Shannon@www.washingtonlighting-ps let's talk advertising

Give me a brake.

Greetings Ron, I have studied and built hydroponic and aquaculture farms for others and finally built a greenhouse of my own. Climate controlled, drip irrigated, 3000sq foot beauty all for under 10K...remind you of you? (inexpensive ingenuity) My question for you is this...I've been recently studying about Wasabi. I know that it has been done successfully hydroponically in New Zealand. Do you have any info on this plant that might be helpful to me? I have found a source for the plant but I would have to transplant it from soil. If any other small hydro farms wish to comment please reply to hydrogenics@outerbounds.net I would love to hear from you.

Sincerely, Steve

What kind of a plant is a Wasabi. Do you look at it, eat it, or smoke it.

For the Gurgling Bucket. Turn the tee that's in the reservoir 90 deg so that the air in is going into the single end and suspend it so the liquid will enter the bottom and the air bubbles will push the nutrient up the line. Other words put the tee section as the input and one end as the pump output. Exchange the to lines and rotate 90 degrees. I hope this is clear.

I built it and now I'm not clear. Send me a drawing. Here is another [Air Powered Hydroponic Garden \(103 KB\)](#) that I got off the internet. You can modify this garden and use grow rocks or other medium instead of rockwool.

I've heard of people using fish emulsion as a nutrient for hydroponic units - can this be done? is anything else needed to make it work? by the way your site has helped me out a lot -josh

I have wondered the same thing. Can anyone help me and josh. We might have to do our own testing.

Hey hows it goin i am a first time hydroponic grower and i have just recently built your 11 plant hydro system but i dont know how far up the water is supposed to go into the rockwool medium in the 2 liter bottles so please help me out and e-mail me if you can! punx_riot@hotmail.com

Haven't never used rockwool with my 2-liter bottle gardens so I don't know for sure but my guess is about an inch because the rockwool will act like a sponge and soak up the solution.

Hey, Ron...I have ordered MH lights for my growing but green green green plants. In the meantime, I was wondering when someone would normally expect blossoming in tomato plants. Does it happen really quickly, or do they usually reach a certain age or size? I'm going to be impatient every step of the way! Thanks, Meredith

Sorry but I have never grown tomato plants indoors under lights. My only experience in growing tomatoes comes from natural sun light. I am in the process of building a high tech indoor hydroponic digital video studio to answer just those type of questions so stay tuned.

I have a small hydroponic greenhouse for growing my vegetables & would like to try a few roses in it also. I would like to grow the long stem kind like one would purchase in a flower shop. My question is, does this take a special kind of rose plant, because the ones I grow in my yard do not have the long stems like you would purchase in a flower shop or is it just the way you grow and prune them? Thanks for your help. J.B.

how long before u can add seedlings to hydroponic system...and long before i can put them under a 600w hps full spectrum light

Ok I've read all the letters to date [anybody else with a question should do the same, the repetition is mind numbing]
so a few questions?

When you gave your miracle gro formula you gave a mixture for seedling, and for mature; but then you gave ppm for 3 stages of veg + flowering. Is the first just a shorthand for those mixing there own without an expensive meter for PPM or shouldn't the mixture change with the 3 stages of veg + flowering?

So I know it's not Calcium Chloride it's Calcium Nitrate. I have a book Beginning Hydroponics by Richard E. Nicholls 1977, that suggests Calcium Sulphate which is what gypsum and Plaster of Paris are made of. Household item [plaster of paris] anyone know why I can't/shouldn't use it. It's very soluble does it precipitate out easily?

Just curious why is there never any discussions about NPK. Is it just understood that whatever formula you use these three are in over abundance?

Thanks

P.S. The site is much better than a lame book from 1977!

The formula for seedling and mature plants is from a commercial mix of Fertilizer (Miracle-gro), Calcium Nitrate, and Magnesium Sulfate.

The ppm discussions were in reference to liquid hydroponic solution formulated for hydro like General Hydroponics or Formula One.

I am using the commercial mix with the tomato plants [I am growing now.](#)

Never heard the plaster of paris thing.

One of the hottest products to ever hit the Hydroponic gardening stores in British Columbia is now available throughout North America. Go to the following website and if you are interested in this product please email us at ssi@island.net and we can tell you more. <http://sneakyboyproductions.com/bigredshredder/>

hey ron,george in crescent city fl.this will be my first year with a winter greenhouse.will be growing various hot peppers,tomatoes,& some herbs using the drip system in a 12 x 24 greenhouse.i am trying to estimate how much heat i will need to get thru the winter.books say 75 degrees is the optium temp.should i try to maintain this temp 24 a day or just during the nite & exceptionally cold daytime temps.don't want to under or over estimate the system.tia,george

75 degrees is strictly for indoor growing. Green house growing is a whole new ball game. The ideal system for hydroponic growing would be a covered greenhouse with plastic sides that could be rolled up as soon as the sun started to heat things up. Shade cloth also helps when it gets too hot and also helps to keep the bugs out. I hope to have my greenhouse roof on before the first frost or all the pictures of plants that you see in HydroRon Live will be dead.

Suggestion for the person looking for a moisture meter. Look at foothill-hydroponic.com. They have one listed but it doesn't give a description or picture. I have never needed one and am not sure why one would be needed, but if I'm missing something, someone please let me know.

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.
Ron

I'm trying to build the 11 plant garden for students at a high school. Can you give me any more instruction on how to?

[Click here.](#)

How is the piping attached to the bin,

It just sits on top.

what kind of pump is in it,

60 to 120 GPH submersible pump can be used.

and how do you attach the pump?

With a 1/2 inch rubber hose that connects to a 1" PVC tee with a 1/2" connector on the garden.

Another question: what is a very simple nutrient solution we can use for our first system at a high school.

No such thing as a simple hydroponic nutrient mix but check here for members ideas.

This is all new for me and the students. Please help us.

Can a modest living be made with hydroponic farming? Doesn't seem to be many farms around. Is it impractical? Tired of the rat race. My pipe dream would be a small home with greenhouses in my back yard, room for a horse and a dog and be able to make a living with hydroponics. What do you think?

If your can lean to grow good hydroponic vegetables, you will have people lined up to buy them at any price if the quality is there.

Hi ron, My name is Curt and i am doing a project for my science class. It is hydroponics. And i was wondering if it would be all right to use miracle grow as the hydroponic solution and if it is how much should i use?

Miracle Gro is ok for a short period of time before you have problems. Use at a low mix like 1/4 teaspoon per gallon of water and throw in a dash of Epson salt if you have it.

re: confused about 11plant13html

its a bad drawing. there is only one over flow pipe which in the picture is crossing blue water with the horizontal feeder pipe- it should be broken in diagram cause it does not reconnect with the feeder pipe. the feeder pipe should also be broken at its end to show that it could extend to other bottles.

i think im going to make something similar without the cut off two liter bottle. in its place could go a plastic sack (filled with 10 liters perlite) supported by a thin wire upside down lampshade type thing and sealed around a tube extending from the tee with a rubber band. a screen would have to be stuck in the extension tube and pea gravel laid on top of perlite. What can you grow in a cut off two liter bottle? a head of lettuce?

Yes Lettuce and Tomatoes and Greens and Herbs all grown not in a two-liter bottles but in a 16 ounce cups sitting in a cut off two liter bottle. Hydroponic plants don't need a lot of roots when you are delivering all the nutrients to the plant. Hydroponically grown plants don't need a lot of roots unlike with dirt growing where the roots have to go looking for water and food. You want all the energy for producing fruit and not for root production. Unless you are growing potatoes or carets.

I've never had a "chemical" taste with any of my hydroponic vegetables. However, I have heard it said, that flushing the system with water 2 weeks before harvest is good.

hi RON. My 11 plant system !!!works!!! I have 5 tomato plants and left one of the same age planted on plain soil. The growth difference has been dramatic, but lately my hydroponic tomatoes have a white powder like in the stem at the base where come from the growrocks. Is this salt? or maybe fungi? What could cause the problem? Even if my plants die I wouldn't call it a failure. I plan to keep trying. thanks for the help CARLOS AT PLANTATION

Yes that is fertilizer salts residue. Nothing to worry about. You can flush with clean water every couple weeks to get rid of salts buildup and any mold that will inevitable be present.

Steve: Go to Hydro Gardens and Parts. It is the third item down listed under Hydroponic Plant Food. Nurse Duckett

Can you recommend any sources of seeds that are especially compatible with hydroponics. I am looking for vegetable seeds like tomatoes, cucumbers, etc. Thanks

Does anyone know of companies that will insure hydroponic greenhouses?

last december 14, a Malaysia guy raised to question on the possible connection between hydroponic produce and cancer causing chemicals in the nutrient solution. well, i made some research and found out that too much NITRATE can cause cancer and this problem does not confine to hydroponic farm produce but also soil farm produce too. as a matter of fact, some years ago, somewhere in China, they have to relocate the whole village when they found out the nitrogen content in the village soil is too high and the cabbage they grow causes cancer.

mankind

Rick: I was not able to add this before in response to your posting on ppm and percent fertilizer, but here is some more: you can guesstimate that 1 mMHO is somewhere in the range of 635 to 650 ppm. I consider this only an approximate value since it really deppends on many factors such as salt index of the particular fertilizer salt, the temperature at which the reading is taken, etc.Anyway, 640ppm for each mMHO is more or less OK for calculating a nutrient formula. matita@coqui.net

Hola Ron; My name is Ivan and I am a hydro-loco from Puerto Rico. I have gone all over the net looking for anyone growing cherry tomatoes in a hydroponic outdoors system like I do; and I've had no luck. My home brewed system is a top-spray (peat-lite in 5 gal.pots)system placing two plants/pot. Nutrients flow is timed in 14 individual stations of 200 pots each, fed from a 2000 gal.tank (lots of work every day). I sell my tomatoes to a local chain and I'd like to try some other crops like zucchini so I don't have to trellis them(still more work). I don't grow my tomatoes in a greenhouse because we have no winter frost in the Caribbean plus the wind does my plant shaking for me (nice!). If there is someone around doing something like my cherry tomatoes I would like to hear from them. I enjoy your page very much; Nice job. My English is just fair, sorry about any mistakes. E-mail:matita@coqui.net

Ron, would you have any info on growing potatoes using a hydroponic system. Thanking you in advance. jim at plantdr@gate.net

Hi Ron, I am considering designing and building a larger hydroponic system for tomatoes. I plan to change the nutrient solution every 2-4 weeks, as recommended. Can you give me a rule of thumb for how much nutrient solution is required per plant (gal./plant) so that I don't waste nutrient or the nutrient doesn't become too weak before the next change. I hope to have my system up and running this spring. Thanks a bunch.

I am a college student learning about the agriculture business. A project of mine is to set up a working business plan for a commercial hydroponic tomato greenhouse. Because of the extreme amount of information on the web I am having trouble locating reliable information on expected typical yields, and about average timing from propagation of seed to harvest. If anyone can help locate this information it would be very helpful. Thank you. Danny

Hi! I'm looking for help with my 5th grade son's science fair project. He really wants to do a great job with a Hydroponic Plant. He wants to demonstrate how it grows differently in soil.

Which plants, how long will it take? Interesting facts?

I have a few Q. I'm in the 6th grade and I'm doing a science fair project... I'm doing my project on hydroponics. My teacher told me to compare plants grown in soil and seeds grown in a hydroponics solution. I want to know if I could make a hydroponic solution at home and not spend any money. If I'm off track please email me at Kljhad@yahoo.com thaks jessica

dear Ron,

will a 30-10-10 NPK fertilizer be good for hydroponic cabbage growing ?

generation Y

I would like to know the source for seeds that are recommended in Howard Resh's book Questions and Answers. I have a small hydroponic hobby setup and do not wish to buy a huge amount of seeds. Can you help me.

Ron,

Do hydroponic gardens need to be in a greenhouse or can they be outdoors (no overhead cover). I can imagine that rainwater could get introduced into the hydroponic solution (via the plant sites) and weaken it. Do you see this as a possible problem? Have you heard of any possible solutions?

I plan to grow tomatoes in my backyard and need to know if I require an overhead cover.

Thanking You In Advance, Oscar

Hello Ron -- please comment on the potential of using pvc gray pipes (plastic electrical conduit pipes) for 2-liter hydroponic systems. Those pipes are UV-protected, but I am wondering if they are safe compared to Schedule 40 pvc pipes. Hope to hear from you soon. Thanks, Wayne

Hi, First off I have to say that this is the most informational and helpful hydroponic site I have found. I based most of my research for building my own setup off of this site. I had an idea about getting moisture to my roots and have it be extremely oxygen rich by using the discharge of a small humidifier that would spray mist nutrient solution directly onto dangling roots. Would this work? Also, how do I go about posting my own pictures on this site. Thanks Again, Big Pepper Paul

do you know of any supplier of hydroponic water pumps run by solar energy?

Is it feasible to use hydroponic techniques outdoors? Here in North Carolina my soil is extremely prone to fus, and vert, wilt. ncbigdan@yahoo.com

I just transplanted a Grand Nane banana plant (1 ft.tall) to my 5 gal. constant drip hydroponic system, I'm using a 8" net pot with 4" rockwool and grow rocks and was wondering if this size is big enough and if the holes in the net pot are also big enough for the roots to get through? can anybody tell me a good nutrient recipe for this system and plant? I also heard that epsom salts was not good for banana plants, is this true?Thanks, Bob

how do you make a hydroponic system using a rubbermaid container?

I am looking for a manufacturer who produces a 1/2 inch rubber (bulkhead) grommet seal to insert a plastic barb fitting into a plastic water container. I am trying to make a dutch bucket hydroponic system and need this grommet for the nutrient flow lines. Larry

Try www.aquaticeco.com they have a good selections of bulkheads.

Could we use a tank made of steel plate for hydroponic?

Line it with a plastic bag or you will have one rusty mess.

Today what is the most common hydroponic crop in the U.S

tomatoes, cucumbers, lettuce

Ron, What nutrients if any should be added to the hydro solution for the flowering phase?

Ether start using a hydroponic fertilizer that says bloom or if you use only one fertilizer then you just increase the amount of fertilizer for blooming thus increasing the ppm.

I'd like to know if anyone has tried to grow PALM seedlings using the hydroponic method? Palm seedlings are notoriously slow growers, so I'm looking for a way to speed up that stage of growth. Also, the seedlings would require transplanting into a soil medium at some point - would the "shock factor" be too much?

I've always had a problem growing woody type plants like trees and shrubs with hydroponics. As for the shock value. From hydro to dirt is easier than the other way.

Ron, what type of fertilize are you using. I've been buying the more expensive hydro- fert but if another works fine let me in on it?

What an incredible collection of pictures Ron. I haven't had good luck with hydroponic chives. Have you started any fro seed or just transplanted existing plants?

Adriana, Sarasota

You need calcium nitrate and magnesium sulfate added to standard fertilizer like Miracle-Gro for tomatoes. Or real hydroponic nutrient solution if you are are serious grower.

Ron

I have a question about indoor lighting. I am on an extremely tight budget with my hydroponic growing, but I need to get some sort of lighting for growing indoors. I know that metal halide, and high pressure sodium are the best but are way out of my price range. I have 2 choices: halogen and flourescent. I know halogen lights are not cost efficient, but since I don't pay an electric bill this is of no concern to me. Which would you recommend? I made the 6 plant garden and it's all ready to go except for the lighting. I'll be growing tomatoes and peppers. Any info you can give me will be greatly appreciated.

Thanks,
Darren

Hi, my name is Ariel and I'm new in this tecnology. I'm looking for advices about using coconut fiber (cocopeat), peat moss, rockwool, etc. I'd would like to know what are the advantages and disadvantages for using this substrates (prices, quality, quantity, etc.). I'm not sure if this items are used in hydroponic areas but i'd like to use in tradicional farming. Is there somebody than could help me??? Thanks a lot;;

Hi,

My son is going to start on a hydroponic project in his ag class at school. We live in Central NC. Is there anyone else close by that has some hydroponic systems setup that we could come look at? I did notice on the members garden area, that there is someone in VA.

Thanks

Write to Ray at nscubaguy@aol.com

Hi I am a sixth grade student in Palm Beach, Florida. I am doing a science project with hydroponics. Do you have any advise?

From: "Clone Phone Home"

Regarding: Aeroponics Pump and Rubbermaid "Cloneinator".

Yet another problem, surely the worst: After making appropriate adjustable spray nozzles from pump bottle sprayers, I find the pump provided in the "Cloneinator" provides ample flow (GPH) but totally inadequate pressure.

Higher pressure is Required for properly functioning aeroponics, as this is how the water is atomized, that is, turned into a very fine mist. Large droplets soak the medium with a low-oxygen spray, thus negating any positive results from an aeroponic system.

Note: Rubbermaid reservoir-basket is the only part of the entire system that functions as anticipated.

Note: I found that most any soil fertilizer- bloom or veg, does not contain necessary micronutrients REQUIRED for aeroponic (or hydroponic) success.

call me Aero-head

First, I would like to comment you on such an excellent site. Hydroponics is gaining popularity here in Australia but there is still little information for the commercial grower.

My question might be "too scientific" for you to answer, and at the end of the day we might need to consult a hydroponic consultant but here goes: we are growing parsley on a commercial basis and I have a major problem being that after harvesting, the parsley droops or wilts. This is a major problem for a commercial setup as it brings in much less money per bunch. Our system is nft with 1250 plants, with the hope of doubling this, when I can solve this problem.

I have an E.C meter which I use daily to check the e.c on the water and also do a ph test daily with both - drops and litmus paper.

I have a "gut feeling" that I should change the nutrient. I currently use a local "brand name" for hydroponics. I try and keep the EC at 1.2 to 1.3 and PH at 7.

Have you any idea why the stalks would droop after harvesting? Thank you in advance and again, I commend you on such a useful and informative site. After all the websites I have pursued, yours in definitely no.1 for useful information.

TO THOSE HAVING TROUBLE STRIKING SEEDS.

Ron, I hope you don't mind me giving tips here, I dont want to interfere with your professional and experience knowledge, which, I might add, is much more than I have myself. However, after reading the messages, so many have asked how to strike seeds and when to transfer them to the hydroponics so I thought, with the little, but successful knowledge I have striking seeds, here is a tip or 2.

I have 1250 commercial parsley plants. Parsley, is one of the most challenging seeds to strike due to its slowness and less vigorous characteristics compared to other plants.

I have successfully sown about 2000 parsley seeds using the following technique (these plants then go into a NFT commercial set up)

I use vermiculite only I fill the tubes with vermiculite (the tubes I use, are the ones that then go straight into the system later, so there is no transplanting shock to the plant and much less labor for me).

I then water the tubes to add as much moisture as I can to each tube

I then plant about 6 parsley seeds to each tube. I add about 6 as parsley seed is very small and difficult to handle individually and it gives me more success with striking as if 5 do not strike, I still have 1 which will strike.

I cover the seeds with about a cm of vermiculite and water in with a very fine spray

For the first 2 days, wait till late afternoon to water as then, the sun here in Australia has warmed up the water in the hose and water the seeds with the warm water.

After day 2, water once a day, at any time but prefer afternoon, when the water is not as cold.

After 10 days, my seeds sprout and I continue watering daily, and also foliar spray with a very weak nutrient, after 3 leaves are evident.

Prick out all but the 2 strongest seedlings.

When the roots appear from the bottom of the tube, transfer it to the hydroponic system and watch them grow before your eyes, so to speak.

Prick out the weakest of the 2 seedlings but note here with parsley as a particular plant:

we have found that parsley is happier with competition from other plants. With competition from other plants it produces longer stems which is what we want to achieve to harvest it commercially. So, sometimes, I will leave 2 or 3 seedlings in the one pot, however this is speaking from a commercially viable unit only.

Note that I use a commercial seedling table - the table is simply a table with a drainage point to allow all excess water to flow through.

Parsley has a reputation of taking about 30 days to germinate but I germinate mine in about 10 days, 15 days in the middle of winter which is still an excellent result.

What is the best way to control the water's Ph in a 11 plant system.

Eric

pH up or down from any hydroponic supply source.

Hi. Elvis here. Just to thank you for all the information you sent me on hydroponic growers. Geez I never expected hydroponically grown pickles & suchlike to become popular. Please dont tell the feds im still alive as I noticed you had sent an "enc" of your hydroponic growers to the FBI. Regards Elvis "Hydro" Presley

I don't think you are growing pickles.

Is anyone out there practicing aquaponics (i.e. aquaculture and hydroponics)? Would appreciate some discussion as we just completed the fish tank (2000 gal) and started building up the hydroponic beds, outside in West Central Florida.

Not yet. Everything I know about it I read in Aquatic Eco-systems catalog. I'm sure you have it if you are into fish stuff. They are in Apopka FL

I hope to legally grow pot for medicinal purposes. I plan to use the 2-liter system. My questions: How far apart should the 2-liter bottles be spaced, center to center, to grow pot to full term.

Indoor pot plants need one square foot per plant so that's 12 inches from center to center. Try to keep your plants small, under 30 inches at term.

Second, which hydroponic fertilizing solutions would you recommend for the growth stage and the budding stage?

Any of the liquid concentrated hydroponic solutions work well but my favorite is [Formula One A & B](#) because it's cheaper than the others and you use the same mix for veg and bud stage, you just increase the PPM for budding.

Ron, I've studied hydroponics in books and on the Net for many months. No other person has more solid knowledge on hydroponics than you do. Thank you so very, very much for the incredible work you're doing to help people like me throughout the world. You're truly one helluva human being!

Ah shucks

hello Ron, i am a high school student from s. west Washington, and i am starting my own small hydroponics growing system. i have all of my equip. and i am ready to plant. i have two questions for you; 1.can you recommend any fertilizers to promote fast & healthy growth of tomatoes?

Any of the liquid concentrated hydroponic solutions work well but my favorite is [Formula One A & B](#) because it's cheaper than the others and you use the same mix for veg and bud stage, you just increase the PPM for fruiting.

2.what are some of the differences between tomato cultivars used in hydroponics? Thank you for your time, chris

Hi!!Ron, I'm new, in hydroponic stuff, and I really need to know all about de nutrients and chemical substances. I live in Mexico, so please forgive my English. My name is Itzel Morales, thanks. This is very important to me.

[Click Here.](#)

Can I get a paragraph on hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics,

you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants.

Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for

the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to

use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your

plants' roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.

Ron

I am new to this hydroponic system. I built your 16 plant one, Mr. Ron.

Of course I had leaks all over the place but my observations were.

You need to save that seal that is in the bottle caps and cut a hole in it and put in back in the cap. Or go buy rubber washers at the hardware store.

I was expecting the water to completely drain from the system. However it did not. It wont hurt the root systems to be under water? Does the water stay there till the plants use it up? Have I done something wrong?

The garden will stay full until the pump shuts off. Then the water drains back through the pump to the container.

How long do I run the pump?

Until the plant roots are soaked then drain immediately.

How many minutes an hour do i do this?

3 times an hour

\ The overflow worked well. I am not sure what to expect.

Hello, I am in the process of building a 24x72 green house. I will be using hydroponic methods to grow vegetables. I am curious about yields for certain plants. I cannot find any info. I especially want to try peppers, green beans and tomatoes what kind of yield will these give me. I am familiar with what they'll produce in the garden. I have seen so many stat's on what I can expect. Would any be able to lend me some insight on pounds per plant per growing period. Thanks MW

I am growing in an hydroponic system. About a week ago, I noticed small brown spots started appearing on the margins of older leaves. Now it seems to be spreading to the younger ones as well. Can anyone help?

TIA

Is there a good rule of thumb that I can use to relate the dilution rates of soil fertilizers for hydroponic solutions? For example, I've got some Green Light Super Bloom (12-55-6) that calls for 2 tsp per gal of water. To make a hydro soln, in general, would it be good to use the same dilution rate and just add 1/2 tsp of calcium nitrate and 1/2 tsp of epsom salt?

Thanks

That would be my guess. Watch your plants though and cut back if you notice fertilizer burn.

Date: 20 May 2001 Time: 13:10:45 Comments I have started a hydroponic tomato garden. The plants have been in it about 18 days and have really been looking good. I have noticed in the past few days that the better boy's leaves have curled up. The others are doing well though. Also, there is a brownish looking residue in the tubes and some of the roots have this brownish look to them now. The roots used to look white when they first started to grow. Is this some sort of fungus or algae growth? Should I do something about it? If someone could offer some info, I would welcome it.

Thanks, Eric ejordon21@home.com

18 days is to early to worry. Just keep an eye on them longer before you panic.

New reponse:

It has been just over one month now and almost all of my tomato plants are gone. The leaves continued to curl up and they stopped growing. They arent dead yet, but they might as well be. I was using a hydroponic fertilizer and adding one teaspoon per gallon of water as directed. If anyone knows a better fertilizer to use or know what I am doing wrong, I would appreciate the help on it.

Eric ejordon21@home.com

If your pH is to low or to high it won't matter what kind or how much fertilizer you use it won't help.

What type of hydroponic is a tomato plant?

the regular kind

I am interested in starting a hydroponic garden. Who is the cheapest online retailer where I can purchase my equipment?

probably not from me right now

Ron, I am working on a new system; it is a sub-level hydroponic grow hole for production of tomatoes, basically. My plans are for a 14x70 ft. 6 ft. below ground level to use geo therm temps. after looking at all the systems, your pipe dream is really impressive. Is it possible to get more info from , and about your system ?

what kind of info? everything I know about hydroponics is on this web site. what else do you need to know?

I have started a hydroponic tomato garden. The plants have been in it about 18 days and have really been looking good. I have noticed in the past few days that the better boy's leaves have curled up. The others are doing well though. Also, there is a brownish looking residue in the tubes and some of the roots have this brownish look to them now. The roots used to look white when they first started to grow. Is this some sort of fungus or algae growth? Should I do something about it? If someone could offer some info, I would welcome it.

Thanks, Eric ejordon21@home.com

18 days is to early to worry. Just keep an eye on them longer before you panic.

Where can I find information about growing roses in a green house with hydroponic methods.

HOW DOES THE HYDROPONIC SYSTEM WORK?

The timer turns the pump on. The pump sitting in the nutrient solution reservoir pumps the solution up the hose to the garden to supply the plant roots with food. The plant roots will use as much nutrient as it needs and the rest is returned back to the reservoir for the next feeding. Determined by your timer setting. About every 15 minutes. The overflow pipe keeps the water from rising to high in the cups. This is the ebb and flow or flood and drain hydroponic system.

I am a first time grower. I want to know what the best timing schedule for an indoor hydroponic system would be. I have a 460 watt bulb.

It depends on what medium you use. Grow rocks hold a lot of oxygen so you can water every 1/2 hour. Rockwool holds moisture more so you can water less maybe every hour. And it also depends on the size of your plants. Small plants don't need to be watered as often as larger plants. You might be a last time grower after that answer.

Hi I would like to grow some hydro. I am planning to use the 11 plant garden. Anyone with tips for a successful batch would greatly be appreciated. I plan to germinate them by leaving them in a wet towel for a day or two and then putting them in.

What kind of nutrients should I use to get a potent crop?

Any concentrated hydroponic nutrient solution will work.

I am growing them indoors so can you tell me what type of lighting I should use as well? I know the lights can get pricey, what is the price range usually at, and how much does it cost to operate them, because I heard that in the early stages the lights should be on 24hrs a day.

About 60 dollars per 1000 W room per month. That includes vents, fans, pump and light.

How long does it take before, I can enjoy the fruits of my labor?

About 6 months from germinating the seeds, sexing the plants (male & female), Cloning mother plants, 6 weeks veg. stage, and 8 weeks bud stage. Enjoy.

Thank you in advance for any help that can be offered. I would like to also say this is a wonderful site. Hydroponics is very cool!

novice KB (kiler bud)

I'm in the process of setting up a hydroponic system, I am going with a 400hps & 400mh I am in now in search of ideas for a sun circle. I have found them but not cheap, HELP.

Here is my first mover I built 15 years ago and it still works. Made from a barbeque rotisserie motor and a 90 degree gear reducer that weighs about 30 pounds. The light is connected to a ball bearing made from a bicycle axel. The light cord is connected to a wall causing the light to rotate as the mover goes around and around. This set up will only work with one light because with two the cords would get tangled.

Anyone using computer control for their hydroponic systems? I'm in the process of building a system which will be controlled by an Applied Digital programmable controller. The control program will be written on a PC using their Windows based software. I will be controlling such things as pumps, fans, lamp heat exhaust. System will also monitor temperature, humidity, and tank liquid levels and sound alarms when things are not going right. Anybody out there using control technology on their hydroponic systems? I would be interested in hearing about your application.

Dave

I have the capability to computerize my hydro systems if I had the time by using X-10 technology. I have the hole house system that can control everything if I ever take the time. It works though your electrical system in your house. Very inexpensive. www.x10.com or www.smarthome.com

Ron,

Where do you buy your Hydroponic Special nutrient mix? What sizes does it come in? I'm assuming a 50lb bag?

Thanks

From Hydro-Gardens Inc.

Hi im building my own hydroponic system{11 plants} using the instructions you provide using pvc and my question was. How do i plant the seeds? we have everything ready and working but if we put a seed in there it just goes into the system. So what do we use to keep that seed in bottle with out it going into the system?

Check out some of my recent Hydroponic projects:

<http://www.geocities.com/WallStreet/District/9046/hydro/cloner.htm>

Very cool. Hydroponics don't get any simpler than that.

Re: Recent hydroponic projects

Great page!

My first attempt was using a 4" pipe system and 3" net pots in a ebb & flow system, but I discarded the idea because of roots clogging the pipes.

I've also tried other systems, too many to list again, but you can seamy history by reading all the posts here. Presently, I'm trying a system where I'm using a 20 gal. sterlite box and 32 oz. cups with tomatoes. I'm top feeding the plants using a circulating pump and a airstone in the tank. The cups are NOT immersed in the nutrient, but the roots do hang down and are in the nutrient. So far, so good, I have many fruit and the plants are really healthy.

I might suggest that instead of fabricating the tank out of foam, you check at Home Depot for a concrete mixing tub that is generally the same dimensions of your fabricated tank, only it's 6" deep. Cost is about \$3.50. I'm going to use one for a floating lettuce/spinach tray this winter to see how I do. By next spring, I will use them to make a constant flow system with a foam lid and holes for the 32 oz. cups.

Tailwheel

What is the ratio of space required for hydroponic or even aeroponics cultivation as compared to traditional outdoor gardening??

It has been proven that 2000 square feet of outdoor garden space is able to produce 700 lbs of fruits and vegetables in one year (if done just right). If this is so, how much space does it require to produce the same amount of produce using hydroponics and aeroponics. This can be a general number or ratio because we are not talking about any specific crop. This might be easier to answer than the last posting. Thanks!!

Please e-mail answers back to me at daa1@ra.msstate.edu ASAP Thanks!!

Daniel Ashworth, Jr.

About the same space. The benefit comes by the fruit finishing sooner and more weight.

anyone ever tried to grow roses in a hydroponic greenhouse?

Dear Ron: My wife and I live in Queensland, Australia, & are small commercial growers of culinary herbs in 2" propagation tubes. We only produce 100doz per week in a gravel system and a few in pipes. The gravel is in a material called "clip lock", which is an industrial galvanised steel roofing; the flat tray being about 200mm wide(8"). The beds are 1.8m (6') wide and 40m (? 130' long). We get this product 2nd hand from large industrial buildings when demolished, for about 80c to \$1 a linear meter. Now we also do similar numbers of potted colour (which are annuals like petunias, marigolds and doz of others) in 4" pots. We always grew these on weed-mat on the ground and overhead watered, until one day I decided to clean out a spare hydroponic gravel bed of the gravel, and put the potted colour in, and irrigate them by pouring the water in one end and returning it to the dam from the other. (identical to the hydroponics). Our total losses have diminished by around 8-12%, our overhead irrigation had used 15,000litres/day. Now we use 1,200 litres day (recycled of course), and it now seems it is costing me more in electricity and annual repairs to run my pump off the dam than it would cost me to purchase water from my local Council (throw the pump in the bottom of the Dam and fill it in). Now for the CRUNCH: We are moving in to seedlings (veg and flower) in small 6 & 8 cell punnets. The traditional method of delivering water is by overhead propagation misters, with an array of balance arms, heads, pipes etc, etc. My question to your readers: (1) has anyone successfully raised seedling in punnets by "flood & drain" (2) Has any one any ideas on what I could use as a container to flood and drain, keeping in mind it must be around 2.4m (8') x 1.2m (4') (32sq feet). I could (and probably will) try my clip-lock roofing material, but I am looking for other ideas, so if anyone can comment, I would be pleased to hear from them. Cheers, Phillip.

Dear Ron, I just found this web site. My daughter would like to perform an experiment for her science fair comparing soil planting to hydroponics. I have taken out several books for her and have searched several web sites, and yours so far has had the best information. Any ideas as to the best and least complicated way for a 9 year old to set up a hydroponic test garden? I bought gravel, some seeds and a plastic container. I'm unsure of the nutrient mixture, if I can buy it and dilute it or if I have to find all the ingredients separately. Any advice would be a tremendous help as I am a novice hydroponicist. Thanks! Cheryl Long Island

Could anyone please tell me some of the Colleges & Universities particularly good to go to for learning how to own a hydroponic food production business? any replies would be greatly appreciated. much thanks, - coolerthenyou@yahoo.com

Hello All,

I live in the Midwest and was considering converting my spare bedroom into a room devoted mainly for growing hydroponic tomatoes. The room measures about 12'x10' and is made from wood and plaster. Can someone point me in the right direction please?

Rick.

dear Ron,

i am having difficulty in getting nutrient for hydroponic system from where i am. furthermore, i cant find any chemist who will do the formulation for me nor guranty that the nutrient mix is correct.

right now, i am using 30-10-10 for my veggie. the content are as follow :

N ... 30% P2O3 ... 10% K2O ... 10% Magnesium ... 0.120% iron ... 0.040% manganese ... 0.020% boron ... 0.015% copper ... 0.007% zinc ... 0.005% molybdenum ... 0.002% calcium ... 0.090% vitamin B1 ... 0.075%
will this water soluble fertilizer work in hydroponic system ?

thanks,
o2ten

Have you heard of Israel Corporation of Agricultural Applications (I.C.A.A). We are asking proposals from them for developing a controlled greenhouse for commercial use.

juliet

No but their is a lot of hydroponic greenhouses in the mid-east. Something to do with their soil like not any.

at what temp. should hydroponic crops be grown?

75 degrees Fahrenheit is the ideal temperature for most plants.

High, I'm a newbie at hydroponic gardening and I need to know how I can produce a successful crop with in 3 to 4 months with minimal risk. I live in a isolated town of about 100 people and need to make some extra cash to enjoy life and of coarse stay high can anyone help me? my e-mail for this purpose is:

14567pops@excite.com

I wouldn't touch that question with a ten foot spleaf.

Greetings can u suggest some good cash crops to be grown hydroponicly? also, how organic can hydro farming get?

First see what can be grown in your area then you will know if you will need a greenhouse. I grow tomatoes under shade cloth here in Florida to extend the growing season when it gets hot. Vegetables especially organic vegetables bring the best prices. Their is a number of organic hydroponic mixes on the market. I tried some years ago made from 10,000 year old bat shit. I'm glad I had an open greenhouse because of the smell.

In the 11 plant hydroponic garden, what type of timer is available to create an ebb and flow on a regular basis? The regular timers I have only have an "off" time and "on" time once in a 24 hour cycle. Also, what medium is used for the original starters in the halved plastic 1 liter bottle plant holders? Thank you very much, Bobby

They are hard to find but they are timers out there that have 48 pins that gives you 30 minutes on time and 30 minutes off time for 24 hours. Keep looking. I use nothing but grow rocks in the 2 liter garden.

to BILLY THE BACK ...

This is not a English spelling web site this is a hydroponic web site.

from

BILLY UP YOURS

What is hydroponics?

Do you mean hydroponics:

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil.

In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution.

There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for

the food and water that's mixed into the soil.

Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements.

In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plants' roots.

Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.

Ron

I have a rock wool construction board that was given to me. Can I strip the backing off both sides and use this as my hydroponic media after rinsing it?

Even though it basically is the same material it isn't used in growing plants because of building codes they have to treat it with fire retardant. Plants don't like fire retardant.

dear ron,

i have been doing hydroponic veggie growing for 2 months only but i noticed that my hydroponic veggie (pok choy) wilt faster than soil grown.

one friend of mine attribute it to the growing condition of hydroponics which is water abundant. once its harvested, the water loss is too fast for it to cope up that is why it wilts faster.

can you please confirm this and what remedy can be done with this problem ?

Stanley Ho

I don't know what pok choy is but may be you can stick them in a water vase like flowers until use.

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When it comes to gardens, there are many medium options. Here is a brief summary of what several different mediums do: 1) Rockwool-for to...



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What does growing weed involve?

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I am growing weed this summer and i was wondering what the best way to do it is. I am a beginner and i was wondering because i want to grow really bad. I want to grow good weed that is gonna make people say "DAMN THAT IS SOME GOOD SHIT!"

what is the fastest way to produce hydro in the greatest quantity.

Blake, I'd like the plans too, Thanks Gustovbros@aol.com

Finding thin-wall PVC. I couldn't find this, until someone told me that 200psi PVC is thin-wall. He was right. Take the bottle cap with you and check it for fit before you buy it:)

I have some cucumber plants, that seem to be doing great, but some of the cucumbers have strange shapes, thin at the top but then get really fat towards the bottom, like a pear, and the bottom part is a lighter shade then the rest of the cucumber, any diagnosis. Thanks Chris

I'm looking for the cheapest pump (submersible, I think) possible for the 11 plant system. If anyone has one they would like to sell (or donate) or knows where we can get one, please e-mail jwhitsitt@netscape.net . Thanks.
HydroJon

RE: Novice/idiot pepper grower

You don't need a book to read to get started. Just do it. All the information you need is right here at this website.

I would suggest that you can use the 11 plant system for peppers, but you should use a 32 oz cup, grow rocks, and trim the 2 liter bottle a little taller for the larger cup. This should give you enough root room for pepper plants. Flood and drain every 15 minutes.

Tailwheel

can you turn a highbay light sideways instead of hanging it down?

Not unless it is a universal bulb which can be used ether horizontal or vertically. It will work but the life of the bulb will be greatly accelerated .

hey ron what could i use to get rid of the smell in doors besides venting of the good stuff.

Ion generators help. Automatic injector room fresheners is one way. Or you can tell people that you have converted to Buddhism and that's why you are burning incense all the time.

if you want to kill all mold put a ozone generator in there on low for a few days borrow one not to long though or your product will smell like hay but look killer trust me no one will want it after the ozone treatment get more fresh air movement that's a must good luck

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Has anyone else built a growroom?



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This is for the person that was asking about lighting. Yes street lights and most other outdoor lights used for for lighting large parking lots are HID lights. But there is a few things you need to now for safety reasons if you are going to operate one of these indoors. I currently use a 400 watt high pressure sodium that was made to be used outdoors. Although these are not recommended for indoor use the can be successfully used if you pay attention to what you are doing. First these units are made to be water tight so the ballast is part of the unit sealed inside. This makes the unit run very hot a lot hotter than the ones made to be run indoors. Outside they get plenty of good cool air and heat is transferred. If you decide to run one of these indoors you need to make sure you suspend this unit from the top of the ceiling hanging down somewhere in the middle of the room so it has good airspace all around. if have mine suspended from the ceiling using two 4' 3/8-16 steel rod and toggles to mount it to the ceiling. Make sure it is anchored well because these units can be very heavy I think mine is about 45 pounds. Next you need a fan fan to be blowing on this unit continually so you can transfer the heat away from this unit and out your growroom. I use A 20inch oscillating fan and snap the button on back so it stays still. It sits on a stool at the back of my room right behind the light so it vents the heat out the front and pulls cool air in the bottom. It is very important you transfer the heat away or the unit could over heat and ruin the ballasts and start a fire. If you are able to obtain a light and you are sure you can vent heat properly you next need to wire it another import step that needs to be done properly. The power demands in the ballast of this type of light can be 110v or 220v this is something you will need to check before using. on the light where the power supply wires go in there is a cover with screws normally the ballast is under this cover. Remove the cover the three supply wires going into the cover cover should be black white green make sure the black wire is attached to the wire inside the unit marked 110v and not on the 220v wire going to the ballast a big rectangular box, sometimes its marked on the ballast next to the supply terminal. you need to what the terminal is marked that the black wire is going to 110v or 220v a lot of these ballast have four terminals and give you the option to wire it either way. But most regular three prong household outlet are only 110v that's why this is important. Some places use them 220v volt because it uses less amps and is cheaper to run but this you need a 220v service and most households aren't equipped with this so be sure to what your light is wired to draw before using. Next you need to get power supply cord no smaller than 14guage wire remember the bigger the number the smaller the wire. I use a heavy-duty air conditioner

supply cord if you call somewhere to find it ask for a pigtail it make it easier for the person to understand what you want. After you get the cord you'll find that most of the time the wires on the light and the wires on the pigtail are the same. then just match them up and connect with wire nuts. black is usually power, green is ground, white is common. sometimes the common can be red and the ground can be blue or just bare wire. once your SURE all of this has been done your light is ready to be plugged in and put to work. I don't recommend this type of light for really small grow rooms because heat could be a problem and may result in a buried out light or worst of all fire. this cove

The 3 - 400 watt MH factory lights I bought at the flea market did have the 220 watt ballast connected to the top of the light but being a jack-off of all trades I dismantled them and ran a long cord from the light to the ballast so I could remotely place the hot ballast outside the room, eliminating the excess heat. I once read a book about electricity. You must have read the same book.

Ron

Hello All,

I live in the Midwest and was considering converting my spare bedroom into a room devoted mainly for growing hydroponic tomatoes. The room measures about 12'x10' and is made from wood and plaster. Can someone point me in the right direction please?

Rick.

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I am trying to grow a a 2-4 plant-hydroponic garden. I ordered the following unit, for \$70, from Harvest Moon Hydroponics.

here is the description The recently redesigned HomeGarden System is an outstanding unit for the beginning hydroponic gardener. The submerging the grow rocks. A full-length airstone and external air pump continuously supply oxygen to the reservoir. Capillary matting surrounds the grow rocks and keeps medium moist and helps deliver nutrient-rich water to the starter cubes on top of the system.

total cost is a factor (limited budget), my question is can someone rank in order from most important to get exactly what is listed on here and what items you can cut costs by purchasing something like what you need.

Example could be Lights or is what I already purchased really not needed ?

PLEASE HELP ME! thanks

I would like to know if anyone has tried growing Okra using hydroponics and what the average yield might be. You can email me at wilkinson@intellex.com

I got four okra plants just starting. I will let you know how they do.

I am just starting at this and was thinking about growing strawberries. Any help on this would be great. Ph levels, water cycles, how much sunlight, a good solution. Thanks. I will be using the 11 plant ebb system.

dear ron,
i need you opinion on this observation ...
i got two test specimen of pokchoy. one hydroponically grown and one soil grown.

(1) there are less veins in the leaves of hydroponically grown pokchoy. these veins are suppose to be the system in the leaf that brings food to the various part of the leaves;

(2) i place a cut soil grown pok choy leaf and a pok choy hydroponically grown side by side for 2 hours. after that time, i noticed that the hydroponically grown pokchoy wilted faster than the soil grown.

possible causes:

- a. i suspect calcium deficiency bec. my Ca content is less than 100ppm while it is suggested that it should be at least 200ppm;
- b. water retention in my hydroponically grown veggie is low maybe because of the cell wall is less stronger than that of the soil grown specimen. Remember, Calcium help build cell walls.
- c. hydroponically grown veggies are use to more water than soil grown, therefore, once its harvested, it wilt faster (my guess).

your expert opinion on this scebario is be greatly appreciated.

ROCK

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Ideas for a good high pressure sodium light?

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Where can I purchase a [high pressure sodium light](#) in the Yorkshire area?

Hi Ron. I have a question about color spectrums. Could you supplement a high pressure sodium light with some sort of blue shade to add a little bit of the blue part of the spectrum that it lacks?

how dangerous is it to run a 400w HPS light and pump

If the light was made for indoor growing then they are pretty safe. It's when you start using street lights and wiring your own then you might burn down your house.

why are my hydrangia,s not getting any flowers?

Hi, i'm very impressed of your work with bottles and pvc pipes, but how many pounds of tomatoes do you get for each plant a harvest ? , and how many harvest do you obtain a year crop ?. I'm thinking like you, that the hydroponics crop could be a very good business for now and especial in my country (Venezuela) where every thing is becoming expensive and bad quality. I'be happy if you answer me the question before, because is very important the fiel data in a system like yours.

from venezuela, please to meet you,

rob.

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Tailwheel,

I had reached the same conclusion as you that converting the 2 liter system to drip might take care of the root clogging problem.

I am going to grow something in one of my 2 liter systems this fall to see what happens.

Bill S

I'd love those plans as well. I'd like to see their design. Thanks.

felix. slinky9dog@hotmail.com

Dear Ron, I really appreciate your cause and your impact on the hydroponics community. Keep up the good work. How much electricity a average household would be able to use before it start razing uncle sam's eyebrows?? I have 2 1000 watt [hps grow lights](#) running at the flowering state and 500 watt dual light mh/hps for the vegetative state and four 4' [flourescent](#) tube for the mothers? Thats alot of electricity. Please advise.

John from Ohio.

I would petition my state legislators to decriminalize what ever you wanted to grow and stop acting like you are doing something wrong. Stand up for you rights and use all the f*cking electricity you want to John.

my question is what size ends do you use in watering of the plants. how much water dripping into pots

I only use gph drip ends to restrict the flow slightly on the first few plant sites because the water flow is stronger closer to the pump. . I'd just use one-quarter inch plastic tubing. the water just flows 15 minutes on 15 off.

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What is the history of hydroponics?

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p>no comments .discuss the history of hydroponics?

How big of a pump does it take to run that gallon set up??

I use about a 500 GPH for about 80 jugs.

Hey Scott,

Spray your plants with some milk. Blossom-end rot is caused by a calcium deficiency.

Hi Ron. No I was not referring to "fusion lights". I am referring to co-extruded polyethylene tubes which are black on the inside and white on the outside, i.e. "panda film"

I have a rock wool construction board that was given to me. Can I strip the backing off both sides and use this as my hydroponic media after rinsing it?

Even though it basically is the same material it isn't used in growing plants because of building codes they have to treat

it with fire retardant. Plants don't like fire retardant.

for yr ph problem 1. buy a good ph-meter 2 use canna (dutch brand) ph- or ph+. For the plants you have in mind, the ph- level must be 5,2> to <5,6. Oon the internet their are many sites where you can find all the answers on all yr questions concerning growing yr plants. with a litte effort of course.

Hey Ron,

Quick question!

What kind of pump, how many gpm, and where to get it (fish store perhaps)?

I am using the 11 plant 2L system with a 18 gallon rubbermaid.

Thanks

Submersible 50 to 120 GPH pump and yes.

Ron, Am building the 11 plant setup...a tad modified of course...would like to know the depth pf the bottles after cutting, and how you folded over the edge... Also, I will be using a ceramic medium, and rooting the seeds in Rockwool cubes (1 1/2") so I would like to know the approximate height of the water.... Many folks have different opinions on the timing of the feed/water cycle...15min on/45 off..???

I have only recently started to experiment with hydro and have a small setup at home. I tried Pak Choi in an NFT system. I bought the plants as seedlings and washed the roots, inserted them into tubes with a small block of grow wool for support. Instead of the leaves forming a spinach type bunch as I believe Pak Choi and Bok Choy etc should the plants have become long and spindly with the leaves separated 30-40mm along the stem. The plants have been in for around 6 weeks and are now starting to flower. Is this normal for Pak Choi in hydro? Has anyone had similar with chinese cabbages?

Long and spindly usually means not enough light.

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Hello everyone. I just joined the club. My question is this. I am planning on making a homemade hydroponics system with a 10 gallon aquarium. Basically the system consists of an aquarium with the nutrients in the bottom and burlap on the top holding the growing medium and a pump for aeration. I am planning on trying tomato plants in this system. Has anybody tried this or would I be better off purchasing a small commercial system?

Hey Ron I want to make a seedling/clone box. Its 1' by 2' and 2ft high. A 24" 2 bulb florescent fixture fits perfect in the box. I intend on putting my 10" by 20" seedling/clone tray in there.

Is that enough lighting for this setup? Or should I put 2 24" 2 bulb fixtures (4bulbs)?

Also, do i cover mylar all around the box?

I can vent the box out easily too, so that's not a prob.

Thanks

4 is better than 2 and I would use mylar if you go with just 2 bulbs.

Do I have to use aerator or pump to supply oxygen if greenhouse is outdoor?

It helps indoors or out.

How do I make an inexpensive NFT system, I see one on the site but can't seem to find any plans for them. Also where can I get supplies in my area inexpensively, net pots alone run about a dollar or more each around here, not to mention expanded clay.

why do plants grow faster in only water than in the ground

ATTENTION: WINDSHIELDS BILL---Hydro NFT Lettuce

Go to: <http://www.bee.cornell.edu/extension/CEA/LettuceHandbook/Lettuce%20Main.htm>

Perhaps your answer is there. If not, contact me at tailwheel@asia.com

like the color

My hydrangias leaves are turn brown and dry on the edges, what is causing this. I am in west central florida

I have a small garden and a friend told me that you can use baking soda to increase the levels of CO2. Does this sound right to you? If so please explain. Beside from buying a CO2 regulator do you know of any other ways of increasing CO2 levels in limited space. Clay. tiona@tac.com.au

i need a drip set up for 4 plants in a 4'x 18 x 19.5 external reservoir. I'm first time grower and wants to keep system in check

How to grow Lettuce with hydroponics

In a NFT system.

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?i have a space of 2.5"W 3'L 6'H .covered with aluminum foil and i have placed mirrors on the floor . I would like to know how many plants i can fit the room ? How many metal halide lamps i need ? and is it better to place my lamps over my plants or on the walls?

6 or 9 plants and 250 MH would work and 400 MH would be better over your plants.

why does it called canadian sheild

Is there a way to tell male and female plants from the seeds?

No

Nurse Duckett

on Peter's Hydrosol

give me your email address and i will send you my own little computer program on what other mix to use just to make my hydroponic solution

yes, peters hydrosol is not enough to make your plant grow well, need to put in more stuff in it

pzing

I am new to growing hydroponically, although I have read a ton on the subject. My question is: which system is the best and can you give me a breakdown on them all and the pros and cons for all? I mean NFT, DRIP AND ALL. I plan on starting out with like 20 plants! I would appreciate the help. jay email: jayscustom@hotmail.com

im new at this i just started today for an school project and im wondering where i can find rockwool cubes

Sorry about the bulletin board malfunction
Ron

If you need assorted PVC fittings, I found a great site that has most everything. Go to <http://www.spearsmfg.com> Manufacturing, Inc. They have barbed 1x1/2 reducing tees for hooking up your pump hoses (for 2 bucks, too and a bunch of other hard-to-find fittings.
-Richard

I am writing a paper on hydroponics as a career and I need the following questions answered for my research. What level of education is needed for this particular career? Do you have to be licensed or certified? Are there any laws that need to be considered before entering this career? Is there a demand for trained employees? What are the salary ranges? What are the advantages or disadvantages of this kind of work? What is a typical day like? Is it more physical labor or administrative? Your help will be very much appreciated! Thank You! UT Student

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p>Hello Ron , I am currently studing year 12 VCE food technology and are featuring a topic of our studies on food and technological development. I am focusing my main topic on the hydroponic farming of tomatoes. I was wondering whether you could help guide me in the right direction and answer some of these simply questions The advantages of the hydroponic tomatoes over other similar traditional products? The growing, which enabled the prodcut of hydroponic tomatoes to be developed? And whether you have any significant points about hydroponic tomatoes? Or a diagram on how hydroponics works? Any of this help would be greatly helpful to help for my furture studies. And whether you have any other websites that focus on hydroponic tomatoes Hope to hear from you soon and thankyou for your help Thankyou

Happy Holidays! I recently found a Phototron II and it is fully operational (lights anyway). However, I am a complete novice on the system and how hydroponics work in such a device. What do I need to acquire to get started (i.e. growing medium, fertilizer solution, pumps, BOOKS, test kits, etc.). I dreamt of owning one of these thing since high school so I hope it has been worth the wait!

Sorry that garden is all hype. You can't grow much with florescence lights, the light source in them.

I am a student doing research on hydroponics. I am going to test how the different plant nutrients affect plant growth. I'd like to know which nutrients are the most essential (I'm assuming phosphorus, nitrogen and potassium) and how I might go about setting up different nutrient solutions to be able to do the experiment

Hello All,

I live in the Midwest and was considering converting my spare bedroom into a room devoted mainly for growing hydroponic tomatoes. The room measures about 12'x10' and is made from wood and plaster. Can someone point me in the right direction please?

Rick.

what is the highest concentration of thc in plant known to man and what is that plants name
souless_desire@yahoo.com

I have a small garden and a friend told me tha you can use baking soda to increase the levels of CO2. Does this sound right to you ? If so please explain.Beside from bying a CO2 regulater do you know of any other ways of increasing CO2 levels in limited space. Clay. tiona@tac.com.au

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I would like to know how to grow hydroponics roses? I would like to know the growing system, growing mediums, pH, EC, TDS range, cF, light, temperature, humidity, CO2 and nutrient use for growing hydroponics roses. You can e-mail me at: dallairer@hotmail.com

Me too.

I am interested in finding commercial grade growing systems for lettuce that can be built by myself.

Hello Ron!! Here is a question about the assembly of your 2-liter system, using PVC glue. It is obviously clear that PVC primer is needed to secure bottle caps in thinwall inserts to prevent leaks. However, do you still have to use PVC glue to assemble the rest of the system, including thinwall inserts inside fittings and overflow pipe?? If so, how is it possible to replace certain components if they break?? For instance, bottle caps don't last forever due to wear and tear. There is no way to replace the fittings if the entire assembly is glued

together. Hope to hear from you soon before I put my system together. Thanks, Wayne

what kind of pump do u use on the 11 plant hydro anybody please help

<http://www.hydroponicsonline.com/Store/pump.html>

HI---IS THERE ANY BRAND OF NUTRIENT YOU CAN BUY OF THE SHELF IN HOME DEPOT OR GARDEN SHOPS THANKS BOB M

Hello Ron!! Here is a question about the assembly of your 2-liter system, using PVC glue. It is obviously clear that PVC primer is needed to secure bottle caps in thinwall inserts to prevent leaks. However, do you still have to use PVC glue to assemble the rest of the system, including thinwall inserts inside fittings and overflow pipe?? If so, how is it possible to replace certain components if they break?? For instance, bottle caps don't last forever due to wear and tear. There is no way to replace the fittings if the entire assembly is glued

together. Hope to hear from yousoon before I put my system together. Thanks, Wayne

hey ron im using pea gravel as a medium with continuous watering during light operation. is this ok? also im using peter professional plant food 20-20-20 for my nutrient, please advise (tomato,pepper,assorted herbs)thanks t.j.o

No it ain't ok. They will start to die anytime now. Peter's does make hydroponic plant food but what you got their is for dirt. You can add some Magnesium Nitrate and some Epson salts to that and you might grow something but by using the most basic system you could use you would better off using real hydroponic plant food.

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Hey Blake can i have the how to hydroponics too ok thank you RICKY165@prodigy.net

Have you ever used earthworms manure plus styrofoam little balls as a growing media? How come we use just peat and not earthworms manure considering its high cations interchange capacity?

Alex

This is likely a pretty stupid question, but I'm in the process of building a garden now, my question is: How often are you supposed to add nutrient to the solution?

Every time you add water to your tank. If you just added water it would dilute your solution to a lower ppm. That's fine too if that is what you want to do.

MOLD and FUNGUS problem. Yes,I have one. Wish not to paint the plants. I am interested in humidity beads.

hi guys i am fairly new to hydroponics and want to build the 11 plant garden. i understand all about building it but

dont understand the folowing: do you just stick your medium in the pop bottles then plant your plant and turn the water on? what is the whole thing about the PH? what is it suppost to be like? do you use a grow medium? or do you just make something to hold the top part of the plants out of the water? what size of pump shuold you use for the 11 plant garden? sorry for all of the questions but i really need to know. -jon borrrderjon@aol.com

What kind of pop bottle do you use? Do you paint them white or do they come like that?

2-liter and I use vinyl spray paint.

Anyone have experience doing hydroponics outside in South Florida?

Spinach?

yuk!

who invented hydroponics

how to kill mold

I would like to set up greenhouses for cucumbers, peppers and squash. I can't seem to locate the links that explain how to build a commercial setup. I saw one a few weeks ago, but can't find it now that I am looking for it. Any help would be appreciated. Ron, I believe, has tried a few times to send info but my computer will not open the files.

Ron, you've been a great help and we are getting ready to build a permanent greenhouse in northern Texas. I have read your sight and now have a question about how to control the temperature here when it reaches 100+ - do I understand that since I have a low dewpoint (less than 60) that I cannot use a swamp cooler and must use an air conditioner? if so, what size do you recommend of a 12 x 14 greenhouse that will get a lot of shade, but the temps are high - thx novice

Here in florida most greenhouses have to shut down the hottest months and use that time to clean the greenhouse and all the equipment for the next growing season. Some growers switch to plants that can tolerate higher heat like ornamentals and most herbs and spices. To cool it with an air conditioner it would have to be a big one because you would wear out a window model fast.

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i am looking for a place in Florida to buy hydroculture plants. any suggestions?

George,

I've been sprouting my pepper seeds in seedling mix (from the garden supply store). I've have great luck doing it this way. I use a 72 seedling tray for a 10x20 flat. Moisten the mix and follow the directions on the seed envelope. I'm pretty close to 100% germination and 100% to vegetable stage. I place the flat under flourescent light and transplant into hydro (ebb&flow, NFT, or aeroponic) after second set of leaves. So far, I have had no disease problems at all.

CM

BTW, I've had great luck with ebb&flow and NFT (nothing easier than NFT). But my peppers grown aeroponically have outgrown all other methods (nearly double the speed of ebb&flow).

Just want to say thanks for actually replying to my post. Not many sites actually do. Mike

where can I find a web site that show me how to built a simple pvc greenhouse?

Howdy Ron,

I have read and heard that every so often it is necessary to leach the system with fresh water. I know that soil and rockwool can retain salts and other stuff that can be toxic to the plants. Is this also true of your 11 plant system when using grow rocks?

Yes grow rocks can have a build up of fertilizing salts over time.

If so how often would you suggest doing this?

I would flush the system when you change the nutrient solution. Every few weeks. An easy way to do that is fill your tank up with clean water and let it water a few dozen times. Or if you have access to a drain then unhook the pump and run the hose from the garden to the drain. Then use a water hose and run clean water from the top of each plant cup. That will flush all the salts from the rocks and out though the system to the drain.

Right now my plants are nearly a month old and very healthy, about 4 inches tall. I initially was watering 6 times daily. Moved up to 8 times daily. I am now going to increase the frequency again to 12 times daily. When the plants get a little bigger I plan on one last jump to 24 on-off a day. The plants have been very healthy and their growth rate is admirable. Have you ever tried this type of gradual increase with an indoor system?

Yes that is exactly how you do it.

This is my first attempt and I feel fortunate that it has run so smoothly. I don't want to mess up. Will the change in watering cycle shock the plants or cause them to suffocate?

That is what I like about grow rocks so much is that they hold so much oxygen between watering. One of the reasons why hydroponic growing is so much faster is because you are force feeding the plants by watering them if they want it or not. As long as your pH and PPM is correct for the plants age then you can't water to much. Most plants do need a dry out period so don't think by watering all the time will increase yields.

When I send my plant into flowering I was thinking of a conversion bulb, but I will loose 40 watts! Would you recommend that I just get a bigger HPS ballast at that time? I want the best fruit I can get and am wondering how much of a yield increase I can expect by going from a 400 MH to a 600 HPS or even from the 400 MH to a 1000 HPS.

Conversion bulbs are OK if you are on a budget but if you can afford it I would go with the 1000 HPS because theirs is no such thing as to much light when it comes to increased yield. Especially in the bud room.

Thanks for all the help you give us amateurs.

Later, Frank

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Would someone have plans for hydrogardens?

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Install Repair Troubleshooting Call Mark 949-200-7539 24/7

sprinklerrepairguy.com/valve



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Can you recommend any sources of seeds that are especially compatible with hydroponics. I am looking for vegetable seeds like tomatoes, cucumbers, etc. Thanks

Attn: Pingman

Yes, I have a GE 15 minute timer and run it 15 mins. on/off 24 hrs./day. Except between 10 AM and 6PM it's set to 30 mins. on and 15 mins. off cause that's the hottest part of the day.

The feed tubing I use is .156 in. inside diameter, and I'm beginning to think that it's a bit small. I got a length of 3/4 in. PVC tube yesterday and some 1/4 in. inside diameter feed tubing yesterday at Home Depot to experiment with. I'm first going to drill 10 holes in the 3/4 in. and countersink them, then press the .156 tubing in the holes and check what kind of flow I get. Then I will do the same again with larger holes for the 1/4 in. inside diameter feed tube and check the flow again. With 49 outlets needed on my other garden, I need more flow and want to use regular PVC pipe instead of the smaller pipe used on the Dig Corp. emitter system. If it works, I'll send a sketch to Ron.

Sorry about the promised pics, I've just been too busy to get out in the back yard and get them, maybe this morning I can do it.

Tailwheel

Just got finished building the 11 plant Garden.. Thanks for the plans! Gonna start watering(flooding) every 30 min..

does it hurt to flood during the night? My thinking is that the roots would dry out if I didn't... Thanks Jay

Can tomatoe seeds grow just using soap water?

What are the disadvantages of hydroponics growing ?

Ain't none.

In reference to the thinwall 1" SDR 26 Pipe, Is the pressure rating 200 or 160 PSI?

Jimmy

Is it safe to eat vegetables grown in hydroponics nutrient solution media comapared to those grown in soil media

Leaks with 2 litter caps. I found using the water bottle caps that come with the pop-up work better. They are little bit taller and they already have a hole in them. Just pop off the pop up and break the the little plastic end off. I tried PVC cement and had a lot of leaks. I switch to RED Hot Blue Glue and it work a lot better. Beats me why they call it Red hot, it is blue and not hot and does smell.

Mark

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p>definitions of hydroponics

when did hydroponics start in singapore

Is it safe to eat vegetables grown in hydroponics nutrient solution media compared to those grown in soil media

if we could see hydroponics plants pictures it would be a nice way of learning.

Hey, Tony in Va... Where are you at? How's the bug problem coming? M, in Va, w/ tom's out the wazoo, out in the yard...

For information on Perlite use instead of Grow Rocks go to Members Projects Page and find Glen Seibert's web page and you will find info and pictures on Perlite use and/or use the search engine and type in paint strainer. I hope this helps. I am a lazy gardner and prefer Perlite to Grow Rocks as I dump the Perlite after each season. I hope this helps.

Nurse Duckett

I have a small hydroponic greenhouse for growing my vegetables & would like to try a few roses in it also. I would like to grow the long stem kind like one would purchase in a flower shop. My question is, does this take a special kind of rose plant, because the ones I grow in my yard do not have the long stems like you would purchase in a flower shop or is it just the way you grow and prune them? Thanks for your help. J.B.

Tips on finding SDR 26 (Thinwall) PVC:

This stuff can be hard to find. It is not used for general plumbing applications. Therefore, most hardware stores and do-it-yourself chains don't carry it.

To find it, try an Irrigation Systems & Equipment company near you. Try the yellow pages at www.yahoo.com, input your address, and search on "Irrigation Systems". It will list a host of companies in our area.

Truthfully, the EASIEST way to get this is to order it from Ron for \$.25 a piece. Most of these Irrigation companies won't even sell you the small amount you need, unless they happen to have it sitting around. It will make a difference in the maintainability of your system. And no, Ron does not know me and has not paid me to say this. Good luck! - Shango

Also check out www.plumbingsupply.com. Excellent selection of Drip Irrigation Equipment and hardware. Also carry submersible pumps. No SDR 26 though.

DEAR SIR, I WOULD LIKE TO KNOW THE FOLLOWING INFORMATION 1. COCOPEAT FLOWER CULTIVATION - ROSE AND GERBERA. 2. ADDRESSES OF COMMERCIAL HYDROPONIC FLOWER GROWERS. THANKING YOU, G.R.VENUGOPAL

Previous Question: [Would someone have plans for hydrogardens?](#) | [Return to question list](#)

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Hi Ron. I'm working on a report for one of my classes. I need to know what the biological aspect of bacteria are in a hydroponics unit. Or, How will the bacteria help the fish? Can you help? Thanks. Natasha

I would go to www.aquaticceo.com and ask for their catalog. They specialize in fish farming and hydroponic equipment and you can learn a lot from their catalog.

You can build your own aquaponics garden by placing the 11 Plant Garden without the container on top of a fish aquarium. Don't use the ebb and flow method but instead you need to run 1/4 inch spaghetti lines from the submersible pump in the fish tank up to each bottle/plant. This drip method doesn't use as much water as ebb and flow so your fish won't be sucking air every time the pump comes on. You need to filter out the fish poop after it has released its nutrients in the water. Remove the old fish tank light and add a grow light above your garden that will serve dual purposes for plants and the fish.

Don't expect to grow high users of nutrients like tomato plants but stick to growing plants like bibb lettuce.

The problem is hydro plants like a pH of 5.5, 6.0 and fish like it at around 8.0 so you will have to compromise on that and put it at maybe 7.0.

when do you know that its harvesting time

hi i just built two plant system i have a timer that works with 30min settings where do i find a pump to get 24hr. worth of sort setting????

[Any home improvement store and most pet stores sell submersible pumps.](#)

This ??? is about the 11 plant system. Could someone tell me if it would be a good idea to pump air into the pipe system when the water is not running. Would this be a good way to oxygen to the roots of the plant??

Any help would be great

Thx

V_12 v_12@yahooka.com

George, I had problems with root rot using rockwool. If you decide to go that way make sure your cycle is designed to let the rockwool dry out some. Watch the pH too. Rockwool does have some pH stability problems too. There are some new growing medias (like rockwool) that are better. I'll see if I can track down a name later.

CM

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p>Hello Ron , I am currently studing year 12 VCE food technology and are featuring a topic of our studies on food and technological development. I am focusing my main topic on the hydroponic farming of tomatoes. I was wondering whether you could help guide me in the right direction and answer some of these simply questions The advantages of the hydroponic tomatoes over other similar traditional products? The growing, which enabled the prodcut of hydroponic tomatoes to be developed? And whether you have any significant points about hydroponic tomatoes? Or a diagram on how hydroponics works? Any of this help would be greatly helpful to help for my furture studies. And whether you have any other websites that focus on hydroponic tomatoes Hope to hear from you soon and thankyou for your help Thankyou

Hi, I'm doing a science project on hydroponic farming, using the Water Culture method, i need to know how to get the best results, especially with pea plants & carrots, if anyone can give me some advice, than post it on the bulletin board, please address it to J.S. of FL

p>hi!it's JS of FL, to answer your question Ron, i'm from the planet Zorglon3,[just kidding], i am however, from the space coast, which is why i'm doing this project, because i figure that it'd be awfully messy 2 bring soil into space, so we may have 2 use hydroponic farming. Also, if we ever do settle on other planets, most of them, including Mars, have stronger gravity, [could ya'tell i want 2 work at NASA someday?]so i want to see how well hydroponics would work in stronger gravity.btw, thanks for the info on the lettuce fertilizer!

I am doing a science project and i need to know the affects on a plant if it is just set in water and not planted in siol

can someone please help!!!

Hay Ron Great web site. Finding alot of information on my new hobby. I Did the eleven plant system and it works great. Now I need to Know if you have made a home made, lighting system.

Dear Ron, What is the better meter to use. An EC meter or a TDS meter. Thanks. Edwin

I only know how to read the one that reads PPM (parts per million). So that's the one I recommend.

Hello, my name is Ian. I have to do a science fair project at school, and I was thinking of doing something involving hydroponics (I'm not quite sure what to do, but I'd like to use hydroponics). If anybody could help me out with this (where to get hydroponic stuff, info. on hydroponics, etc.) it'd be greatly appreciated. If you could help me, my email is Malchori@aol.com Thanks! Ian

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Trying to reduce the cost of my fertilizer:

Check out www.gardensalive.com , Fruit Trees Alive- Build-Up Formula Fertilizer in their catalog. This fertilizer claims to have a high concentration of micronutrients. One catalog list copper and sulfur as some of the macro/micronutrients. At 9.95 for 3lbs, this stuff would be a lot cheaper, even with the \$5 shipping than what I am paying for fertilizer (\$12.50 for 1 lb at the local store). Given I have a fruit tree I can use this stuff on if it doesn't work, I am going to order a 3lb bag. Just thought I posted this, so, someone else might also give it a try. The real trick is figuring out how much to add to each gallon of water.

Also, I having been adding one liter of compost tea into each ten gallons of water along with my dry hydroponic fertilizer. My plants seem to love it. It also lowers my PH and seems to help to keep it low.

Hey Ron, I started the 11 plant garden and am using a commercial hydroponic fertilizer. I check and correct the ph daily. My timer is 15 min on and 15 off. Problem is the leaves on the plants are turning brown on the edges and dieing off. the plants keep growing and are about 2 feet tall and are blooming. What could be causing this dieing off

Cliff Lasiter

Alamogordo, New Mexico

Ron, What nutrients if any should be added to the hydro solution for the flowering phase?

Ether start using a hydroponic fertilizer that says bloom or if you use only one fertilizer then you just increase the amount of fertilizer for blooming thus increasing the ppm.

Date: 20 May 2001 Time: 13:10:45 Comments I have started a hydroponic tomato garden. The plants have been in it about 18 days and have really been looking good. I have noticed in the past few days that the better boy's leaves have curled up. The others are doing well though. Also, there is a brownish looking residue in the tubes and some of the roots have this brownish look to them now. The roots used to look white when they first started to grow. Is this some sort of fungus or algae growth? Should I do something about it? If someone could offer some info, I would welcome it.

Thanks, Eric ejordon21@home.com

18 days is to early to worry. Just keep an eye on them longer before you panic.

New reponse:

It has been just over one month now and almost all of my tomato plants are gone. The leaves continued to curl up and they stopped growing. They arent dead yet, but they might as well be. I was using a hydroponic fertilizer and adding one teaspoon per gallon of water as directed. If anyone knows a better fertilizer to use or know what I am doing wrong, I would appreciate the help on it.

Eric ejordon21@home.com

If your pH is to low or to high it won't matter what kind or how much fertilizer you use it won't help.

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How should I start making a hydroponic garden?



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
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Hi Ron,

We just put a [hydroponic gardening system](#) (tomatos peppers and basil) out on our deck and find that we are constantly putting in pH down every day. Is this what is to be expected all of the time or will the pH problem level off. Also, is the 90 day harvesting rate for tomatoes from seed to harvest?

**I haven't a clue about the pH problem.
90 days is what it says on most tomato seed packages.**

I am building a hydroponic garden for a science project, and i came up with a problem. I built a Ebb and Flow garden with pvc pipe, and i cut a long slot instead of separate holes. Now i am wondering what would be the best way to insert my groing medium, and how to do it. Thank you.

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How much does a simple hydroponic garden cost to set up? I'm thinking about using hydroponic growing as a science project experiment.

see the worlds most efficient hydroponic garden on cbc. newsworld wensday sept. 26 4pm. or cbc. 6 oclock national news [canada now] also Wednesday, in the future now segment. the spot is about future home appliances. if you can,t wait check out www.omegagarden.com or searching for omega garden via google.com will yield even more interesting pics

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics, you provide all the [hydroponic nutrients](#) to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it. Ron

Thanks for doing my report Ron, I got a B+ it would have been an A but I got some bbq sauce and koolaid on it.

Could any one tell me what the feeding cycle would be for a hydroponic garden. What i mean is how many times does the pump feed the plants in a 24 hr cycle. How many times and for how long of a duration do they stay on thx Stuck in the mud.

how do pumpkins do in a hydroponic garden?

I made my VERY FIRST hydroponic garden yesterday thanks to this website! It's a very basic gurgle garden but it works great. I'm using perlite now but would like to try grow rocks. I'm using organic nutrients from MetaNaturals: <http://bella-via.com/>

Grow Rocks: Where can I buy them the cheapest? Are there any online sources?

FireCloud

Try to find them as close to you as possible because the shipping will hurt.

Ron, I'm about to start my first hydroponic garden and I have a few questions

1. I want to grow roses and I would like to know which type of lights would be the best?
2. The set up I have right now is the cascade system is that good for roses?

thats it for now but I'll some more later for sure.

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I'm in 8th grade, and I need to build a hydroponic garden for \$25.00, or less, for my science fair project. I looked EVERYWHERE and found nothing for that price range. The garden isn't supposed to be the latest model, but it's supposed to GROW!!!! If anyone has any information, or can donate, or lend something, PLEASE ANSWER. Leave your e-mail address, or something. THANKYOU FOR AT LEAST READING!!! Sincerly, I.M. Clueless

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I am in Northern Maine, USA and I am interested in visiting a comercial or hobby hydroponic garden. Does anyone know of a place to visit near Camden, ME that would be willing to show me around? I am interested in starting an operation in the Republic of Panama. I will be in town till 2 October. Thanks I wouldk appreciate any response.

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This is John White again. My science fair hypothesis says that plants in potting soil will grow better than in a hydroponic garden. I said this because I don't know about hydroponics yet and wanted to learn if it was just as good as growing in soil. After reading my research I learned that hydroponics gives plants the same nutrients as potting soil but in a different way. I was hoping you could comment on my hypothesis for my project by saying whether you think plants do better in hydroponics or just the same as in soil. Thank you for your time. I think hydroponics is cool! John White

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I am a 11th grader in high school and I am considering doing a science project on the success of different nutrient solutions on hydroponically grown plants. is this at all possible? how much would it cost to set up a functioning hydroponic system?

I am trying to grow a a 2-4 plant-hydroponic garden. I ordered the following unit, for \$70, from Harvest Moon Hydroponics.

here is the description The recently redesigned HomeGarden [Hydroponic System](#) is an outstanding unit for the beginning hydroponic gardener. The submerging the grow rocks. A full-length airstone and external air pump continuously supply oxygen to the reservoir. Capillary matting surrounds the grow rocks and keeps medium moist and

helps deliver nutrient-rich water to the starter cubes on top of the system.

total cost is a factor (limited budget), my question is can someone rank in order from most important to get exactly what is listed on here and what items you can cut costs by purchasing something like what you need.

Example could be Lights or is what I already purchased really not needed ?

PLEASE HELP ME! thanks

We built your 11 plant hydroponic garden, but how do we put the plants in it? We saw the picture with a plastic cup in the bottle, but how does that work? Lathrop Adv. Tech. Class

Wash the dirt off the plant roots.

Put a few rocks in the bottom of the solo cup.

Place the plant in the cup and fill it up with rocks.

About the little cups again: So plants go in the little cups and cups go in the 2-liter? And the roots are in the cup, or do they extend out? How big should the holes be? Thanks!

It's OK for the roots to grow outside of the solo cup but don't let the roots go down the pipes and plug up your garden. If you water the plants often enough the roots don't need to go looking for water. The holes in the solo cup should be small enough to keep the medium from going through.

Re: Hot Peppers

You must visit <http://www.hotpepperclub.homestead.com>

This site has info on how to build your own hydroponic garden just for hot peppers.

tailwheel

Does anyone know if the hydroponic garden in Naples, New York, called "The Living Wall" still exists? Robert A. Rowe robertarowe@prodigy.net

I am preparing to build a small indoor hydroponic garden.

I'm sure as I progress in this project I will have many questions, but 3 come to mind initially

First a little detail. I am planning this garden as a prototype for a future "off grid" garden. I will have electrical generating capability, but will have to be "careful" of electrical usage.

I want to be able to grow enough tomatoes for personal use 12 months out of the year. So the garden will be small, and needs to be energy efficient.

Q1. I have read that the primary growing mediums are various products that resemble small pebbles. How does the pumped nutrients rise up to the level of the small plants growing on top of the stomas (or do you pump the growing

chamber so full of nutrients that the liquid reaches the top of the growing medium ?

Yes the water needs to rise high enough to wet the roots of the plants.

Q2. In order to minimize light requirements, is it appropriate to grow "arctic" varieties of tomatoes, or are they heavily compromised as to flavor and texture.

Hard to say. Some varieties do taste better than others.

Q3. Since I want to minimize the use of electricity what would be the minimum wattage for an [HPS grow lights](#) (Or is there something better) light to bring 1 good tomato plant to good production during the winter?

I noticed Home Depot sells a 175 Watt HPS for \$45.00. That would be my minimum for one tomato plant.

Thank you in advance for your time in helping out a beginner.

Regards, George Clay 1)

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Ron,

You told me to mix my used rockwool in the compost pile. COMPOST? Do you actually grow anything in the ground anymore? Does the rockwool make your compost a nice consistency, how does it help composting.

New2Hydro Holly

Just consistency and oxygenation.

Just about all the [plants](#) I have planted in my yard came from my hydroponic systems when they got to large. That's why I love it here in Florida because you can grow plants all year round.

Dear Ron, Great site! But I've got a problem. I am trying to do a hydroponic garden on a very limited budget. Everything about hydroponics seems to be economical except lighting. The price of lighting is way, way, way out of my budget. Do you have any suggestions on cheap lighting? What about fluorescent lights? I have lots of 4 foot fixtures for free, I would only have to buy bulbs. What about the outside lights that come on at dark (street lights). I think they are HID. Any help would be great.

If they are Metal Halide or High Pressure Sodium or Low Pressure Sodium at any wattage would be more economical than fluorescents. I found 3 - 400 watt MH at my local flea market for 30 bucks apiece that came out of a factory. I had to buy new bulbs but I saved a lot of money. They are out their.

what is the size of the reservoir and where can I get one. For the 11 Plant Hydroponic Garden.

11 gallons and at any Wall-Marts, K-Marts, est.

i am doing a major assignment at school and i am going to make a hydroponic garden and a soil garden and see which

will grow faster and healthier, i know how to make the garden but i dont what chemicals you need and when to put them in, can you help me?

i am doing a major assignment at school and i am going to make a hydroponic garden and a soil garden and see which will grow faster and healthier, i know how to make the garden but i dont what chemicals you need and when to put them in, can you help me?

I have set up a floating hydroponic garden for a science project, but only one seed has germinated in 10 days, and it is growing slower than the same plants in soil. WHY ARE MY SEEDS NOT GeRMinating???? This is a big problem... Should I take some plants out of the soil setup and transplant them into the rockwool cubes that I used to germinate the seeds? PLease HELp!

Can I use well water to feed my hydroponic garden?? Or do i need a water softner. I also notice that I have slow plant growth could this be from me using well water???

I am planning a hydroponic garden, 4 meters x 8 meters, and am planning to cover it with shade cloth. I am living in Thailand, where it is very sunny, and can be very hot in the afternoon. I am not sure what color shade cloth I should use. We can buy both Black and green. second question is that I am planning to plant a variety of veggies and herbs, namely Tomatoes, Peppers, Spinach, lettuce, Chinese cabbage , and some beans. I do not want to have two separate nutrient systems, and would like to know the best nutrient for all plants mentioned.

For the Gurgling Bucket. Turn the tee that's in the reservoir 90 deg so that the air in is going into the single end and suspend it so the liquid will enter the bottom and the air bubbles will push the nutrient up the line. Other words put the tee section as the input and one end as the pump output. Exchange the to lines and rotate 90 degrees. I hope this is clear.

I built it and now I'm not clear. Send me a drawing. Here is another [Air Powered Hydroponic Garden \(103 KB\)](#) that I got off the internet. You can modify this garden and use grow rocks or other medium instead of rockwool.

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

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In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots.

Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.

Ron

Can I get a paragraph on hydroponics?

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you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants.

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Ron

I am interested in starting a hydroponic garden. Who is the cheapest online retailer where I can purchase my equipment?

probably not from me right now

In the 11 plant hydroponic garden, what type of timer is available to create an ebb and flow on a regular basis? The regular timers I have only have an "off" time and "on" time once in a 24 hour cycle. Also, what medium is used for the original starters in the halved plastic 1 liter bottle plant holders? Thank you very much, Bobby

They are hard to find but they are timers out there that have 48 pins that gives you 30 minutes on time and 30 minutes off time for 24 hours. Keep looking. I use nothing but grow rocks in the 2 liter garden.

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What is hydroponics?

Do you mean hydroponics:

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Ron

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What is the optimal Ph for growing tomato plants in a hydro system. Also what light

What are the best books to get a complete novice/idiot into hydroponic gardening. I want to grow peppers if that makes a diff. TIA

book p/n 276-5010, that shows schematics for all sorts of devices that may be helpful w/ automation.

Ron- I am new at hydroponic gardening and I am building your 11 plant system. Reseaching the internet I located a timer that can be set 15 min. on and 15 min. off. It costs approximately \$15.00 and is manufactured by a company called Grasslin. I have not had a chance to use it yet but is appears to be perfect for our systems. Thanks for your web site as it is the best hydroponic site on the web.

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G'day from sunny Queensland!

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I just wanted to drop a quick word to Ron to praise him not only for an excellent on-going tutorial in hydroponic gardening in text and pictures, but for the fantastic work he's done in educating the masses on this wonderful (and addictive!!) hobby.

I've been gardening for a couple of months now, using principles that Ron has displayed on the pages here, as well as other ideas I've gleaned over the internet.

All in all, I keep coming back, Ron... yours is definitely the best of sites! Please keep up the good work.

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Dave Stygall Qld Australia.

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I am new to *hydroponic gardening* and I have small children. Are any of the materials harmful to children? Do I need to be careful about keeping them away from my garden (other than for the obvious reason of avoiding damage to my plants!!)?

Some houseplants are harmful to kids and animals but I don't know which ones.

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sized to Industrial
models
www.ReefPlayground...

Hi I have started a new hobby with hydroponic gardening for the elderly folks I take care of and was wondering if anyone could donate some books or magazines on the subject? Would be much appreciated. Thankyou Sincerly Bonne

Could someone give me some basic info about hydroponic gardening in general. I am doing a science project and I need some help to get an "A"

One of the hottest products to ever hit the Hydroponic gardening stores in British Columbia is now available throughout North America. Go to the following website and if you are interested in this product please email us at ssi@island.net and we can tell you more. <http://sneakyboyproductions.com/bigredshredder/>

High, I'm a newbie at hydroponic gardening and I need to know how I can produce a successful crop with in 3 to 4 months with minimal risk. I live in a isolated town of about 100 people and need to make some extra cash to enjoy life and of coarse stay high can anyone help me? my e-mail for this purpose is:

14567pops@excite.com

I wouldn't touch that question with a ten foot spleaf.

The Other Side Hydroponic

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tanks,nutrients,and knowledge



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I just found your web page yesterday and think it is outstanding!!! Today I came back thinking of ordering your kit to get started (wanted to have a working model). Now it is not there to order or see. Do you still sell the kit? Let me know, I want to get started soon!!

Mike

We are now organizing the 2001's China International Agriculture & Vegetable Fair in Shouguang City, Shandong Province, China. China has the biggest population in the world, and over the 60% population's vegetable consumption comes from Shouguang. The biggest national vegetable collection and distribution center is located in Shouguang. Shouguang's vegetables are sold to over 200 large or medium-sized cities of provinces. They are also exported to over ten countries and regions such as: Hong Kong, Macao, Russia, Korea, and the Southeast Asian Countries. Nearly 100 varieties of vegetables from over 10 provinces and cities are sold in this market. So it has become a center for vegetable collection and distribution, price formation and information exchanges for the whole country. Shouguang's Vegetable Wholesale Market was appraised as one of the 10 top specialized wholesale markets on subsidiary agricultural products in the country and was also called the biggest one in China. In 1995 it was named as "The Native Place of Vegetable in China" by the state. At present, more than 500 kinds of famous and fine vegetable categories from more than 30 countries, such as America, Japan, and Holland, etc. are being planted and produced in Shouguang City. China (Shouguang) International Vegetable Fair will open in Shouguang City on 20th to 26th April, 2001. There will be over 8,000 domestic enterprises concerned with agriculture, agricultural machinery & equipment (planting, breeding, aquatic food, fruit trees, green houses, seed, ecotype protection facilities, ecotype fertilizer, chemical fertilizer, pesticide, botany, flower, irrigation works, etc.) will be attending the fair. The State Ministry of Agriculture, the State Ministry of Science & Technology, the State Ministry of Financial, and the Governors in charge of agriculture in local provinces, will in attendance with their delegations at the fair. It is estimated about over 600,000

visitors will attend the six days of the Fair. The Fair will not only show the great achievements of vegetable planting and high-technology used, but also supply the best opportunity to meet the specialized enterprises for trading or hi-tech exchanging on the field of agriculture. You are warmly welcome to participate or recommend the enterprises in your country to participate the Fair. We regard this as a "Hot Commercial Opportunity", and it will make the enterprises much more popular in China--the biggest market in the world.

Please do not hesitate to contact us for further information.

Mr. James Lee

Tel:+86 10 67189644/67160307/67157031 Fax:+86 10 67157027 Email:aitabj@263.net

Website:<http://2001sgfair.51.net>

Want to buy a few million hydroponic gardens.

why do the bottles you grow in have to be painted white, will the light from a HID lamp hurt the roots if the bottle is not painted please take the time to fill me in on this You are the only person I trust getting information from that wont put my garden at risk please respond and keep up the excellent work. CLUELESS

The bottles are painted to help cut down on the algae buildup caused by the light hitting the water in your garden. A lot of people are concerned about the algae in hydroponic gardens. Even though it's not pretty, *algae is your friend*. You can't grow with hydroponics and not experience the green slime. Algae is a sign of healthy water and robust life; not a sign of contamination or problems and only becomes a problem when it grows so thick as to cut off oxygen to the plant beneath. If that happens just rinse with tap water to remove.

how do i care for my hydrangia bushes ?

I don't do plants, I do hydroponic gardens.

Hi Ron, I am a novice at this and my results are varied. I'm using a commercial two step nutrient solution in a drip system with perlite and metal halide lights My tomato plants do well until they start to flower, and then the leaves start to turn yellow and curl up, sometimes with brown spots. I thought they were getting too much water so cut back to 2x a day, but from what I read, most other hydroponic gardens get watered much more often. Drainage does not seem to be a problem, but my roots did look somewhat brown last time I pulled a plant...Any suggestions?

Ron,

Do hydroponic gardens need to be in a greenhouse or can they be outdoors (no overhead cover).

I can imagine that rainwater could get introduced into the hydroponic solution (via the plant sites) and weaken it. Do you see this as a possible problem? Have you heard of any possible solutions?

I plan to grow tomatoes in my backyard and need to know if I require an overhead cover.

Thaning You In Advance, Oscar

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Hello...can I advertise a commercial hydroponic greenhouse for sale on this site?

No.

Shawn Here!!! I was wondering do know if blueberries can be grown in a Hydroponic Greenhouse setting? Do you know of any good websites or success stories regarding this topic? sskinner89@hotmail.com

I have a small hydroponic greenhouse for growing my vegetables & would like to try a few roses in it also. I would like to grow the long stem kind like one would purchase in a flower shop. My question is, does this take a special kind of rose plant, because the ones I grow in my yard do not have the long stems like you would purchase in a flower shop or is it just the way you grow and prune them? Thanks for your help. J.B.

anyone ever tried to grow roses in a hydroponic greenhouse?

I'm in the process of setting up a hydroponic system, I am going with a 400hps & 400mh I am in now in search of ideas for a sun circle. I have found them but not cheap, HELP.

Here is my [first mover](#) I built 15 years ago and it still works. Made from a [barbeque rotisserie motor](#) and a 90 degree gear reducer that weighs about 30 pounds. The light is connected to a ball bearing made from a bicycle axel. The light cord is connected to a wall causing the [light to rotate](#) as the mover goes around and around. This set up will only work with one light because with two the cords would get tangled.

Hey Ron, What are your thoughts on the bubbler type systems for growing various plants, do they work better for some plants than others? I am interested because of not having to move water. Bout the best details I have found are on one that a guy is using for dope, he gives wonderful details and pictures. Here is a link, how bout giving us your opinion on this type hydro system. Thanks, DC http://www.stonernet.org/spongebud/growroom_mechanics_new.htm

Very interesting. I will study it in detail today and get back with you. I will also pick up some Rubbermaid tubs today and build a similar aeroponic Garden that uses a small submersible pump instead of an air pump.

Anyone have experience doing hydroponics outside in South Florida?

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Is There a way to make your own Hydroponic grow lights?

Please help

Kitty litter as hydroponic grow media?

non odorous and non clumping kitty litter as media

The argument is that the cheap stuff is just plain clay

So I wonder if you bake the kitty litter would it end up like growrox? Maybe ya have to nuke it instead? I am going to buy some tomorrow and experiment. Also has anyone ever heard of using crushed coral (aquarium grade) as a medium? I would think it would hold oxygen well with all those holes. It runs 6 bucks for 30 lb. 60 bucks for 50 liters of growrox is just a bit much for all I want. I checked the yellow pages online and the closest Hydro store listed is 78 miles away. I havnt called them yet to see if they even stock it. I tried the home depot route with orchid rocks per Tailwheels tip. They say they cant get(order)that item any longer. There is a similar product at the depot called orchid mix that has grow rocks and charcoal and some other ingredients in it. I am not sure about using that. I have sifted 5 gallons of smaller gravel out of a load of regular granite gravel and as soon as your hydro mix reaches me my sprouts are going in my 2 liter garden... Ready to hydro in Ga.

Grow rocks are clay fired in a kiln and that's pretty hot. Not your basic household oven. Coral or any inert substance can be used as a medium. All you have to do is make sure that it doesn't brake down to quick (like vermiculite) and it doesn't leach undesirable substance into your system thus harming your plants.

I promise to set up test gardens this spring to see which mediums work best.

For co2 enrichment methods go to

<http://www.hydrofarm.com/content/articles/co2.html>

So I go here and it says: When organic matter decomposes due to bacterial action, carbon dioxide is generated. Plants grow lush and vigorously on a tropical jungle floor as a result of this natural decay of dead plant and animal matter. This can increase the available CO2 content from the normal 300 PPM amount to over 1,000 parts per million. This can also be done indoors, for little cost, but is odorous and unsanitary. For these and other reasons, it is not highly recommended. The sterile conditions of a well-set-up hydroponic grow room or greenhouse could be disrupted and adverse bacteria, bugs and disease induced with detrimental effects on your plants.

I have to say that composting does not stink if its done right. Also the bacteria that get introduced to the greenhouse are the helpful types that destroy harmful critters. I would say that this company wants to sell you high priced co2 generators that could be replaced by scraps from your kitchen and 2 plastic trashcans. Tom

where in the world could i find a ph meter for hydro solution i live in gainesville florida

Amigo Ron:

I just started with my 25, two-liter-bottle garden and I had a hell of a time trying to come up with the right amount of fertilizer and so on. My system works with a sumergable pump (2100 lt/hr) and the reservoir has an 80 lt capacity and I'm using triple 14 as fertilizer and 80 cc of folial fertilizer, too. The Ph level was too high and I used hydrogen peroxide (9% v) to make it go down to about 6.8.

What I would like to know, besides the rigth proportions of fertilizer, is what products can I use to rise or lower the Ph without ruinnig the plants and ,of course, the fertilizer mixture? Can I use the same products people use to adjust the Ph in swimming pools? If so, I will appreciate a list of what i can and cannot used and the amounts in grams, please.

Thank you and best regards

Saludos

Julian Pena D Venezuela

Kitty litter as hydroponic grow media?

I have been reading on various pond sites that some people use non odorous and non clumping kitty litter as media in slotted pots to grow various water plants. The argument is that the cheap stuff is just plain clay. There seems to be some agreement that the clay may bind phosphorous and thus limit undesirable algae growth. They also recommend adding potassium so that the plants may better utilize the phosphorus directly (potassium as a cofactor). What are your thoughts on these topics?

sharkdude1@yahoo.com

You have sparked my curiosity and I will pick up a bag and give it a try and post the results.

Ron, I am working on a new system; it is a sub-level hydroponic grow hole for production of tomatoes, basically. My plans are for a 14x70 ft. 6 ft. below ground level to use geo therm temps. after looking at all the systems, your pipe dream is really impressive. Is it possible to get more info from , and about your system ?

what kind of info? everything I know about hydroponics is on this web site. what else do you need to know?

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My group in class has to do a project comparing hydroponics and aeroponics. Can you please tell us what would be the cheapest and quickest way to grow mint with hydroponics?

Hello Ron, your site is very nice. I am in SC California w/ a small enclosed vented 3' 1/2" by 2' 1/2" by 5' tall room. What is the max light? I've heard 400, but am concerned with the heat... fire? Just want to produce not reduce. What are my options if any? Thanks, Todd.

That's kind of a small pace for a 400 W. I would use 250 W. unless your hood is vented also.

hi ron, can comments left on bulletin board be traced. thanks

no

Hey Folks I was wondering if anyone had used Styrofoam peanuts as a medium, and if it worked, I'm considering using them cuz they're the right price (free)

Bigfoot

has anyone ever grown using co2 from a source of baking soda and vinegar is there any other methods to create co2 for a small sealed grow area. thank you

co2 Enrichment

I know this was asked of a small growing area, but if you have a greenhouse you can compost inside it to produce co2, or bring compost inside and put it on the floor of the grow area. A bale of hay will give off co2 also if you get it wet. It will also incinerate from the inside if you don't watch it. I have a compost bed to the right as I go in my GH door, I also have a 2 can bioreactor inside. <http://www.cfe.cornell.edu/compost/garbagecans.html>

The co2 levels in my GH are sky high. the vent pipe also gives off heat for these cold georgia nights. Just sayin... Tom

what is the best, reliable PH and PPM meters?

I like the Dip Stick from New Zealand. .

Greetings Ron, I have studied and built hydroponic and aquaculture farms for others and finally built a greenhouse of my own. Climate controlled, drip irrigated, 3000sq foot beauty all for under 10K...remind you of you? (inexpensive ingenuity) My question for you is this...I've been recently studying about Wasabi. I know that it has been done succesfully hydroponically in New Zealand. Do you have any info on this plant that might be helpful to me? I have found a source for the plant but I would have to transplant it from soil. If any other small hydro farms wish to comment pleast reply to hydroganics@outerbounds.net I would love to hear from you.

Sincerely, Steve

What kind of a plant is a Wasabi. Do you look at it, eat it, or smoke it.

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Hey Ron i was wondering if you can make your own Hydroponic Lights and in the 11 plant System do you need to put pea gravel in the cups or just the Plant by itself P.S You have really inspired me to a new Hobby

[Sprinkler Valve Repair](#) sprinklerrepairguy.com/valve

Install Repair Troubleshooting Call Mark 949-200-7539 24/7

Yes if you buy a ballast, a socket and a bulb. But then you have to wirer it all together. Home Depot has a 175 Watt HPS yard light for \$50.00.

Crushed lava rock would be better than pea gravel and better yet grow rocks.

[Pea Gravel](#) www.WesternMaterials.net

Sand-Gravel, Rock, Base, Fill, Dirt High Quality-We'll Beat Any Bid!

If i want to just grow 2 tomato plants in a hydroponic machine, what kind of stuff do i need? Including everything that you would



need to grow...

high, i'm new here,and i have a question that may sound dubm.i've built the 11 plant garden and i'm looking to grow some buds! i need to know how long to have the pump come on and off for. i was thinking 15min. on and 15min. off. is that right? trying

My name is dave hiltz and I live in maine and I am new at hydroponics and would like to build the 11 plant garden and I wanted to know what the total parts list was less the seeds. Also how I go about starting the seeds, And the continued maintenance of the system? thank you dave. E-Mail; schraderhiltz@hotmail.com

craig, try at least once an hour & only long enough to wet the medium. i water every 30 min. i think you are starving your plants. once at midnight keeps everything wet even though photosynthesis cannot take place without light of some sort. george

Re: Pak Choy

There are many kinds of Pak Choy. Some are large like you see in any market, and some are classified as "baby" types. Some have tightly grouped leaves and some are spread out a little more. By and large, when small yellow flower buds appear, it's time to eat them, flower and all. We normally use them for stir frying, or in soup noodle dishes.

Tailwheel

Beautiful Planters

Manufacturers of Concrete Planters, Fountains, and Fine Statuary



MelonHead Hoods

Stores in Anaheim & Redondo Beach. \$134 each in stock

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IF U READ THE PREVIOUS PAGES U WILL LEARN ALL YOUR ??'S

thanks to who ever had the idea about the web page, sorry about taking so long getting the plans out I lost me isp and just got back on line anyways i just make a page so every one can get the plans.

here is the address, the picture takes a while to load but then you can print it

<http://www.geocities.com/free99701>

then click on the link.

pretty soon I will start posting picts and get a message board, and of course a link to hydroponicsonline.com

-Blake

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Can I make my own hydroponic nutrient solution?



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Anyone looking to try out an [Organic Hydroponic nutrient](#) should check out the MetaNaturals line of nutrients. I'm trying them out myself - working very well too I might add. Trick thing about this stuff is that you don't have to adjust ph once it's in your system and the microbes are working. It takes care of itself. I thought they were pulling my chain on this one, but it does work. If it sounds interesting, they have quite a bit of info on their site. Check it out - <http://www.metanaturals.com> Mike

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Ron, Just signed on tonite . A comment about starting on a tight budget. I bought plastic shoe [grow boxes](#) w/tops @ Savon Drug store for a \$1.00 a piece. Very carefully Drilled holes in the ends w/ 5/8" wooden doles for plugs. Started seeds from K-Mart Burpee. Experimenting w/ sand, Vermeculite,perlite potting soil. Tomatoes in the Nutrient of 9-4-15, are doing very well, laying the roots flat,compared to potting soil, parsley very slow from seed, cilantro,cucumbers, & sunflowers the same. My 1st year. Hydroponic Nutrient was ordered from HollistersHydroponics out of Irvine,Ca my home ter- ritory. Jim



Ads by Google i have a question about hydroponic nutrient solutions i saw one that's called phat hydro from canada, it seems like the nutrient levels are kinda low it's a two part veg a and veg b, a is (1.5-0-2.6) and b is (.5-.5-5.0). then the bloom is a (2-0-2)and b (1-.6-2) what is the best n-p-k for veg and what is best for budding? great site by the way

I wouldn't worry to much about the formula as long as it says that it's for hydroponics on the bag or bottle. The

important thing is feeding your plants the right amount at the right time. (the PPM)

To whom it may concern: I'm a freshman science student in high school doing a science project on growing hydroponic tomatoes. Is there a decent hydroponic nutrient solution on the market that's already mixed and ready to go? If so, what is it and where can I get some fast? AuntHC

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heres a cheap and easy to build and maintain system that can built for around 20,30\$ or so materials required: (1)rubbermaid type container (10 to 20 gallon) (2)16oz. minimum to (whatever)24-32ounce solo brand (solo more durable than dixie brand)plastic cups. with holes either melted with wood burning tool or cut with razor knife or similar implement. (3)gro-rocks or lava rock 1/4" to 1/2"approximate size (4)aquarium style air pump with hose and air stone(s) (5)aquarium ph test kit and a 1 part hydroponic nutrient (aquaculture hydroponics in az. and eco hydroponics in washington state make good inexpensive products)2 and 3 part may be used but get costly to use year round.liquid sea kelp 4oz. liquid measure per ten gallons water can be used as micro nutrient supplement/growth stimulant if desired. trace cup lip onto lid of container then trace a magic marker line inside that line so solo cup will be suspended in hole. carefully cut out with a razor knife.2 holes about 6" from handles works well for tomaters or pepper plants 6 or 8 works for leaf lettuce. fill container almost full,add 1/2 strength nutrient for sprouts to seedling stage,adjust ph to 6 to6.8 range ,add bubbler to nutrient tank add cups so nutrient is approx 1/2 to 3/4 covering cups kick back and watch em grow.top off tank with water as needed.more nutrient may be added as plants mature to bring up to full strength. thats all for now,happy growing! dudley groright says grow your own vegies, they just taste better.

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a cheap and easy way to start seeds is to take a 1 or 2oz plastic bathroom cup(the kind u use to put mouth wash in), put a hole in the bottom, shread sum newspaper, wet it, put in the cup, drop in a couple of seeds, add a thin layer of shreaded newspaper on top and water everyday with a diluted hydroponic nutrient solution(maybe 1/4 tsp per gallon), put in a tray in warm place that gets sum sun or under a [grow light](#)...hope someone can use this,

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-poorboy

im a little confused about the chemicals you put in the water. Do they come in jugs, if so where can i get them and how much do i put in?, and what type

The more expensive hydroponic solutions come in bottles and can be ordered online from a number of links on this web site. Or if you are on a budget and can wait a week I will be selling [5 lb. boxes of hydroponic nutrient solution](#) cheap.

Have you ever tried mixing the miracle grow recipe with a commercial hydroponic nutrient? Maybe even alternating between the two when topping off. Never seen it discussed but seems to me this would save money while insuring the necessary nutrients are supplied. I have just started mixing half & half and am wondering if this is going to cause some kind of trouble later.

I wish I knew. Let us know if it works.

Can I make my own hydroponic nutrient solution?


Yes if you are a chemist.

Ron or anyone else - Since I had so many tomatoes that germinated a while back, I put one tomato to float in a small container of [hydroponic nutrient](#) solution with an air stone. It grew like crazy, and I transferred it into a 5 gallon bucket, again floating in solution with two air stones, and it quickly grew 7 immature tomatoes. I woke up one morning and all the leaves on the plant were completely wilted. It pretty much died that day. The plant (roots) have never touched soil, so it can't be a soil borne disease. Only thing I can think of is that the bucket sits on my cement patio, and the solution became too hot. Any ideas on what went wrong? I have two other aquafarm type drip systems I built that are doing great, and another tomato floating that's small but doing great so far. Thanks, Tim

Sounds like a bad case of damping off. One of the reasons for damping off is to much watering and I would say your system qualifies.

Hello Ron, Thank you to post hydroponic nutrient solution compositions on date 19 feb 2000. Would you check page1 and page 2 ..are they the same ? Would you please re-post page2 ? Bangkok

Sorry. Good harvest this month. [Page 2 \(40 KB\)](#)

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Hi Ron, Thanks for a wonderful site. I got a lot of really useful, relevant info from it. I'm setting up a 20 plant veggie experiment in 2 liter soda bottles in part of a 9' X 12' greenhouse. The greenhouse has mist nozzles and 2 [hydroponic exhaust fans](#) that are thermostatically controlled to keep the temp around 85 deg. I'm in Northern CA and it does get hot here. I have a question about a plant food that we've been using here at home for house plants called Eleanor's VF-11. It's a concentrate that's used for both foliar and root feeding. It dilutes out to 1 oz./gal. Recently, I've recently heard several radio ads for using it for hydroponics. The analysis on the bottle of concentrate says: N 0.15%, Available Phosphoric acid,0.85%, K2O 0.55%. I was wondering if you have ever used it, heard about it or know anything about it's value as a hydroponic nutrient for veggies. I care to experiment with tomatoes, bibb lettuce, cucumbers, chives, eggplant, etc. but I do want to have some success for starters. I plan to get a TDS meter and a ph meter and run my pump for 5 min every 20 min. I'm also planning on using Gro-Rocks for the medium. Any thoughts, comments, or ideas from you would be greatly appreciated. I am a semi retired Electromechanical Engineer with a well equipped machine shop and electronic room so making controls, timers, gadgetry for this project is a snap. In a few days I'll have pics/info available for easily attaching/removing the bottles. I worked out a method that looks great now, but I need to be sure about it after I get up and running. Thanks again, Marvin PS I spoke with Eleanor today and she refered me to her website [www.vf-11plantfood.com](#). There's a testimonial letter on it from a guy she says is a real expert in hydroponic culture who's been using VF-11 for years. I've been unable to reach him today, but I'll keep trying. He's in Vallejo, CA, not too far from me. I will take a ride up to see him after I speak with him by phone. I'll keep you posted.

i need to know how to/when to feed my homemade hydroponic system

I'm having trouble finding calcium choride, is there any chemical than can replace calcium chloride in a nutrient solution? Or do you have any suggestions on where to find it. None of the places around here sell it or hydroponic nutrient solution.

I order everything I need on the internet. Me and the UPS driver is on a first name bases.

Try:

- www.wormsway.com
 - www.aquaticceco.com
 - www.hydro-gardens.com
 - V-J Growers Supply 800 222-4503
-

could u cut holes in the bottom of a bin and then put your plants in with perlite, rockwool, [growrocks](#) etc. in [hydroponic pots](#) and just flood it with a nutrient solution and then it would be ebb and flow

Yes it would. It is as simple as that. Rubbermaid containers, a submersible pump, grow medium, hydroponic nutrient solution and you got yourself a hydroponic garden.

I'm trying to build the 11 plant garden for students at a high school. Can you give me any more instruction on how to?

[Click here.](#)

How is the piping attached to the bin,

It just sits on top.

what kind of pump is in it,

60 to 120 GPH submersible pump can be used.

and how do you attach the pump?

With a 1/2 inch rubber hose that connects to a [1" PVC tee with a 1/2" connector on the garden.](#)

Another question: what is a very simple nutrient solution we can use for our first system at a high school.

No such thing as a simple hydroponic nutrient mix but [check here](#) for members ideas.

This is all new for me and the students. Please help us.

You need calcium nitrate and magnesium sulfate added to standard fertilizer like Miracle-Gro for tomatoes. Or real hydroponic nutrient solution if you are are serious grower.

Ron

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[Hydroponic Set Up](#)
[Hydroponic Grow Box](#)
[Hydroponic Nutrients](#)

Hi I would like to grow some hydro. I am planning to use the 11 plant garden. Anyone with tips for a successful batch would greatly be appreciated. I plan to germinate them by leaving them in a wet towel for a day or two and then putting them in.

What kind of nutrients should I use to get a potent crop?

Any concentrated hydroponic nutrient solution will work.

I am growing them indoors so can you tell me what type of [grow lighting](#) I should use as well? I know the lights can get pricey, what is the price range usually at, and how much does it cost to operate them, because I heard that in the early stages the lights should be on 24hrs a day.

About 60 dollars per 1000 W room per month. That includes vents, fans, pump and light.

How long does it take before, I can enjoy the fruits of my labor?

About 6 months from germinating the seeds, sexing the plants (male & female), Cloning mother plants, 6 weeks veg. stage, and 8 weeks bud stage. Enjoy.

Thank you in advance for any help that can be offered. I would like to also say this is a wonderful site. Hydroponics is very cool!

novice KB (kiler bud)

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What hydroponic nutrients should I use?

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Hi, I was wondering if you had a good recipe for hydroponic nutrients, I live in an area that is far from modern civilization but I have access to just about any kind of manure you can think of, even elephant. but I'm nowhere close to any grow shops and having them shipped is out of the question. I sure would appreciate any help, thanx, Tim

Hi Ron, About a week ago I built a 11 plant garden and when everything was going well. Until a couple days ago. I bought a timer from Wal-mart that is set up to water for 15 min on and 45 min off it was only \$9. Every hour. Is that too much water for small plant?

No That sounds just right for small plants.

Also I can not find a place that sells hydroponic nutrients. Does Wal-mart sell it or maybe I just can not find it?

No they don't. You can find hydroponics nutrient solution on the web. Use your favorite search engine to find some.

I tested the ph today and it was above 7. Is this the reason the leaves are a little brown or is it too much water?

Yes to high of pH.

I have been using a nutrient that is made for soil because I can not find another one. Is that the reason why they are browning?

Yes you are cooking them.

The ph was fine when I transplanted them to the hydroponic system, and five days later it was over 7. How often do

you have to adjust the ph?

As often as necessary.

and what changes the ph so fast?

From using non-hydroponic nutrient solution.

I appreciate all the help you have given me, the site is very interesting. Thanks.

Can you please explain why salt is necessary in hydroponic nutrients, or is it just a byproduct?

I know it has to be flushed from your medium and system periodically so I would say it's a byproduct but I don't know what I'm talking about.

I am new to hydro and having great success with my tomatoes, but my sweet peppers just grew tall, leaves turned up and spotty and die off. Fruit is very small, lots of blooms then nothing. Can anyone help. Thanks Sandy
rdgypsys@strato.net

I started seeds in peat pellets, and have the lil root tails appearing in 4 days. I want to transplant to rockwool 4x4 cubes. I read you should attempt to remove all peat pellet substance. at what age/height should I move the plants to rockwool and begin the hydrogardening and how do I keep them upright w/out the peat pellet?

Previous Question: [Can I make my own hydroponic nutrient solution?](#) | [Return to question list](#)

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What plants grow best hydroponically?



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Dear Ron, I'm planting tomatoes hydroponically but using soil fertilizer because hydroponic fertilized is not yet available in our place. I've followed your instruction to add micronutrients, calcium nitrate & magnesium. Everything is ok (plant healthy & growth rate is fine). However, when flower start to bloom, fruit will not develop & my plant starts to die starting w/ the upper leaves curling up. Hope you can help me w/ this.

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i have heard of a idea of "hyper ventilating" please tell me if im just stupid and tired but is it true say if you enclose a hydroponic plant in a fish tank with the proper [grow lighting](#) and fill the tank for say 6 hours with co2 and then 6 hours of oxygen that the plant "hyperventilates" and forces the plant to suck up a lot of nutrients and makes it grow "beefier" and faster. i heard this idea from a pretty much rocket scientist who majored in growing plants (hydroponically) who was able to grow a choice plant in a week to say 4 feet

sounds interesting.



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one more question im a beginner and have a lot of them but any way can i use ammonium nitrate and a solution of miracle grow as my mix for your 11 plant system? and if so how much ntrate should i use

Read answer above. It's calcium nitrate not ammonium nitrate. Teaspoon per gallon.

Hello -- I just want to mention that Art Smith from Alabama Hydroponics (<http://www.alabamahydroponics.com>) is

kind enough to host Tomato Challenge 2002. The basic objective is to grow tomatoes hydroponically and you can use any system to achieve that objective. In case you are curious about the rules, please visit his website and learn about them. As a matter of fact, that site should be viewed as an excellent place to get feedback from other tomato growers. I had a lot of fun with Tomato Challenge 2001 last year and met some really cool people on the internet. hydroponically. Hope to see you all at the contest. Happy Growing, Wayne

How do you prune peppers grown hydroponically? I need help please.

You clip any new flower clusters that form after the first few peppers start growing. The key is to let the fruit that's left to grow to the same size at harvest.

Attn: Pepper Pruner

I've never heard of anyone pruning their vegetables, unless you're talking about trimming the roots of some plants grown hydroponically in an ebb & flow system.

What are you talking about?

I want to become hydroponically competent. Do you have a good reference for the hydrotyro?
I would like to start a small business raising plants and selling (retail and wholesale when I become efficient enough). Lots of energy, but spinning wheels!!!
Rick D. rykpa@yahoo.com

I plan to grow plants hydroponically for my science fair. I'm going to order a ready made kit, but i'm lost after that. If you'll please let me know how to get started actually growing the plants I would greatly appreciate it.

Ron,

I am going to be try to plant bulbs in a hydroponic solution. Do you think bulbs will grow hydroponically?

Thanks!

MR. MATT B.

I would think so.

How do you grow potatoes hydroponically? I would prefer to grow them outside. I was thinking a raised bed that contained clay pebbles and perlite. Use a drip system that had a feed back to nutrient solution. Any ideas. Email me at somersfam@alltel.net Thanks, Tim

Yes I grew a small red potato in [grow rocks](#) once. I also saw on TV where a guy was growing sweet potatoes under

black plastic in a NFT trough system with no medium. I got to try that method soon.

I currently have a 55 gallon african cichlid fish tank with a undergravel filter. I was curious if the fish water would make a good solution to grow a few plants hydroponically. I wanted to assemble the 11 plant [hydroponic system](#) at waist level next to the tank since the tank in question sits on the bottom of a double stand. the ph is 8.5 would this be too high and what plants would you suggest I try first. Also what other water tests should I do and what results should I look for.

Yes it is called aquaponics. I helped build one for the Biology Lab at Fisk University a few years ago.

You can only grow low nutrient hungry plants like lettuce and some herbs.


The problem is that fish like the water pH 8.5 and plants like it at 6.0 so the only thing you can do is compromise at set the pH at around 7.0

It would also be a good idea not to use expensive fish because you might be feeding your plants expensive fish emulsion when your fish start croaking.

I'm looking for brands of growbags or peatbags adaptable to field- or greenhouse sizes! It would be to grow strawberries. If you have information about "big" growbags or about the way to grow strawberries hydroponically, I would be very glad to hear from you!...

carl.guillemot@caramail.com

Thanks for your answer, Tschüß,

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Hey Ron, Its been a while since I last visited your site great stuff as always...Anyways my question is I want to get more information on growing chilli peppers hydroponically....Can you point me to the right direction...thanks

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I presently grow tomatoes commercially hydroponically. I want to expand into peppers and cucumbers. Does anyone have any information on growing these crops on a large commercial basis, or any suggestions on alternative crops which have proven to be lucrative. We mainly wholesale to stores in our area and would like to enlarge our product line. I can be reached by e-mail at tbiaggi98@yahoo.com THANKS!!

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I have been growing a certain plant now for a number of years. I have been using soil i have had success i have become quite good at what i do. However I live in the UK and this particular plant is frowned upon by some (lets call them uneducated) people. I have decided to start growing hydroponically as people i talk to tell me i would get a better crop. Obviously i have also been reading all about hydroponics from a number of places. I have to say this site is definitely one of the better sites i have visited you explain in very good detail how things should be done. When i set up, this site will be visited over and over until i get it right..... keep up the good work.....KENNY SWANSEA WALES UK

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how many plants can i grow in an 8X8 green house, using the pvc piping?? steve

Depends on if you are a beginner or if you have any experience growing at all. So when you start out you won't grow much at all until your experience grows. So it will depend on how good you get at growing hydroponically to determine how many plants you can grow in that space. Ah! Hell about 50 plants.

ATTN: John White

Are you saying that growing in potting soil is better than growing hydroponically????

Umm... I'm thinking about growing plants hydroponically as a science project for school and I've been researching it for awhile but i'm still not sure what plant would be best/easiest to grow. I only have until may-ish to grow them, and I'd like to do it as simply as possible so any suggestions would be really nice... thank you!!

Has anyone been able to raise bulbs such as daffodils, crocus or hyacinth hydroponically. Thank you

can a plant grown hydroponically have to much [hydroponic nutrients](#) and if so what damaging affects could it have on the plant besides dying ?

can a plant grown hydroponically have to much nutrients and if so what damaging affects could it have on the plant besides dying ?

Hello everyone! I am an undergraduate student, at the moment I am conducting my research experiment for my thesis entitled "Effect of Different Fertilizer Formulations On Growth And Yield Of Modified Hydroponically Grown Bell Pepper" . I would be very grateful to have your comments on my title: . My email address is: george_olayres@yahoo.com.

I need to know the basics of hydroponically growing plants.

[Start with page 1](#)

I am a 11th grader in high school and I am considering doing a science project on the success of different nutrient

solutions on hydroponically grown plants. is this at all possible? how much would it cost to set up a functioning [hydroponic system](#)?

Yeah man, cool site! Couple buddies told me about it. Dude, Ive learned so much.

I was wanting to know when growing hydroponically (in this case a few plants of skunk bud) in the 2 liter 9 plant setup that I learned to build off of this site!!!!, what should the PPM range be from when you put the sprouts into the grow rocks through the vegetive stage,flowering stage and finally maturity????

Please let me know Ron because Im a first time hydro grower and I dont want it to be a nightmare. Thanks, choke420!

You talk just like a police officer would talk if he was gathering information to use to close this web site down. Try again.

Hi, I bought the 11 plant garden last year and have been happy with the results. I can't find any online info on growing st john's wort hydroponically. I was wondering if anyone could share anything. Email address is warmth@cheerful.com. Thanks in advance.

Hello -- I just want to mention that Art Smith from Alabama Hydroponics (<http://www.alabamahydroponics.com>) is kind enough to host Tomato Challenge 2002. The basic objective is to grow tomatoes hydroponically and you can use any system to achieve that objective. In case you are curious about the rules, please visit his website and learn about them. As a matter of fact, that site should be viewed as an excellent place to get feedback from other tomato growers. I had a lot of fun with Tomato Challenge 2001 last year and met some really cool people on the internet. hydroponically. Hope to see you all at the contest. Happy Growing, Wayne

i am interested in starting to grow strawberries hydroponically, is it difficult ? how long approx till they are ready to eat using a [430w hps grow light](#) indoors?? Jr

have you tried growing star fruit plants hydroponically and was it successful

If they aren't too woody of a plant like roses or a dry plant like cactuses just about any plant can be grown in hydroponic systems.

what nutrient solution should I use if i am growing chile peppers hydroponically?

The kind I sell. You use 1 teaspoon of [hydro 10-8-22 mix](#) and 1/4 teaspoon of epon salt for vegetables.

Hi folks, here are a few real good tips I would like to share with you. most common Problems

These are the most common problems people encounter growing hydroponically:

Yellowing bottom leaves/older growth

The Nitrogen story:

Nitrogen is a transferable element (this means the plant can move it around as needed). If a plant is not receiving enough Nitrogen from the roots then it will rob Nitrogen from the older growth. In Hydroponics, usually the pH is too high and has locked out the available Nitrogen. Always check the pH before increasing nutrient level.

Save the plant: Leach! Check the pH, and adjust if necessary to 5.8 - 6.3. Check and maintain nutrient level. You may foliar feed (spray) with a pinch of CaNO₃ (Calcium Nitrate) in a Litre of pH balanced water for quick results.

Leaf tips curl up

This is usually a Magnesium deficiency caused by a too low pH level.

Save the plant: Leach, check and adjust the pH level. You also may foliar feed (spray) with a pinch of MgSO₄ (Magnesium Sulphate) in a Litre of pH balanced water for quick results.

Leaf tips curl under / leaf tip burn (browning)

The Nutrient level is too high.

Save the plant: Leach and decrease the nutrient level.

Leaching

Leaching should be done at every reservoir change and before countering any problem. This will rid the medium and root zone of toxic salt build up.

To leach, rinse the root zone with straight pH balanced water.

Use twice as much liquid as the hydroponic container would have held when empty.

I hope this info helps some one out there and thanks for all the info I have gotten from you all. Montana Mogy P.S. Ron I love the old bus.

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dear ron,

i need you opinion on this observation ...

i got two test specimen of pokchoy. one hydroponically grown and one soil grown.

(1) there are less veins in the leaves of hydroponically grown pokchoy. these veins are suppose to be the system in the leaf that brings food to the various part of the leaves;

(2) i place a cut soil grown pok choy leaf and a pok choy hydroponically grown side by side for 2 hours. after that time, i noticed that the hydroponically grown pokchoy wilted faster than the soil grown.

possible causes:

a. i suspect calcium deficiency bec. my Ca content is less than 100ppm while it is suggested that it should be at least 200ppm;

Money

www.misterlandscape...

b. water retention in my hydroponically grown veggie is low maybe because of the cell wall is less stronger than that of the soil grown specimen. Remember, Calcium help build cell walls.

Tomato Gardening Tips

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Armstrong Center Today.

ArmstrongGarden.com

c. hydroponically grown veggies are use to more water than soil grown, therefore, once its harvested, it wilt faster (my guess).

your expert opinion on this scebario is be greatly appreciated.

ROCK

I'm experimenting with hydroponically grown strawberries and wanted to know if you know of any other similar experiments I could research *Aly*

I am going to be try to plant bulbs in a hydroponic solution. Do you think bulbs will grow hydroponically?

Sure.

I am new to growing hydroponically, although I have read a ton on the subject. My question is: which system is the best and can you give me a breakdown on them all and the pros and cons for all? I mean NFT, DRIP AND ALL. I plan on starting out with like 20 plants! I would appreciate the help. jay email: jayscustom@hotmail.com

what exactly is a bullet pipe with a vile on it and how exactly do you intend to grow plants hydroponically using this device??

Just like hanging up on some a-hole. poof he's gone.

Dear Ron

I read that legumes e.g.. snap beans need soil bacteria to take in nitrogen. Can I grow snap beans hydroponically?

Rossa

What all can you grow hydroponically?

What all can you grow hydroponically?

I have seen people instead in Miracle Grow and Dyna Gro products time and time again. Growing either in a soilless mix or hydroponically requires a very well researched [fertilizer solution](#) that is proper for that environment. Dyna Gro levels of mineral makeup are off balanced. Europonic Nutrients or Ionic seem to be the elite outstanding products. Also Bcuzz stimulators has popped up in a lot of growing magazines. Keep you eyes out for more. Tell me what yal think!

- Educated Hydroponic Grower -

are watermelons good to grow hydroponically?

Yes because they are a water loving plant.

I have never grown hydroponically. I want to grow tomatoes in winter also Hot [hydroponic peppers](#). I know from reading through your forum determinate is the only way to go. I have 8ft. ceiling is that ok for 2 pepper and 2 tomatoes using the ebb and flow you designed at 18inches apart from center.

Yes

Dear Ron I am a hydroponics enthusiast growing leafy and fruit vegetables. Lately I have been concerned about reports that hydroponically grown vegetables may have a high nitrate content. High nitrates in food have been implicated in gastric carcinoma (cancer).I use a universal nutrient formula containing approx.190ppm nitrogen (supplied by Calcium nitrate and KNO₃;no ammonium compounds). I wonder if you or anyone has any information confirming or refuting the theory/any other solutions to the problem. Thank you. Dr.Nagappan Penang,Malaysia

Hi, I am asking for a comparison between water requirement in hydroponically culture and soil culture. I want to find how much water will be saved in NFT or [Ebb and flow](#) systems (for tomato or cucumber for example) if I change my soil system to hydroponically system.

Thank you and best regards. Hamid

is there a specific type of hydroponics that is better than others? i am tryig to grow salvia divinorum hydroponically.

We are thinking of starting a system to grow tomatoes hydroponically here in Missouri. I dont know much about it yet. I would like to hear from anyone in my area that is doing this. Please respond to both addresses GoldeLock2 and Retread30 Thank you, Mary

Any work been done on the growing of wine grapes hydroponically? Would be very interested in comments and views. excellence@hot.co.za

Me too. Lake County is becoming quite a wine grape grower and I would like to show them a different way to grow them.

Re: Viticulture and Hydroponics Ron, Thanks for your comment "Me too". Nudge,nudge wink wink. I understand work has been done in Israel on the growing of table grapes interspersed with cash crops such as tomatoes and cucumbers. There are a number of upsides I have been told. Do you or any of your site Members have any experience or comments with respect to the growing of wine grapes hydroponically. Is it commercially viable?

John Storey

excellence@hot.co.za

The only problem I see is that I just have not seen any woody plants like grape, roses, shrubs and just about every other kind of tree except banana trees grown hydroponically and I suspect they are really just big plants.

I want to grow HOT peppers. I live in San Francisco. No luck outdoors - anyone here have luck growing peppers hydroponically? TIA

Just a quick comment on growing garlic hydroponically.

Don't do it! I tried, with much success, simply planted some cloves in some perlite and watered them with a simple nutrient. Under a [400 W Metal Halide light](#), the plants flourished.

Sounds good right?

What you may forget about it how STRONG garlic smells. The stems are easily as strong smelling as the cloves.

So if you don't mind stinking up your grow room. (Or maybe you'd like to cover up the smell of something else!) then go for it. I can tell you after about a month, I came home and my wife had went into the basement and pitched the whole lot! :)

So much for hydro-garlic!

Erik me@erikhoover.net

I bet you didn't have a vampire problem.

Greetings Ron, I have studied and built hydroponic and aquaculture farms for others and finally built a greenhouse of my own. Climate controlled, [drip irrigated](#), 3000sq foot beauty all for under 10K...remind you of you? (inexpensive ingenuity) My question for you is this...I've been recently studying about Wasabi. I know that it has been done succesfully hydroponically in New Zealand. Do you have any info on this plant that might be helpful to me? I have found a source for the plant but I would have to transplant it from soil. If any other small hydro farms wish to comment pleast reply to hydroganics@outerbounds.net I would love to hear from you.

Sincerely, Steve

What kind of a plant is a Wasabi. Do you look at it, eat it, or smoke it.

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[Ebb Flow Hydroponics](#)

[Hydroponic Grow Box](#)

[Hydroponic Set Up](#)

[Hydroponic Lights](#)

RE: growing legal tobacco

Ask any of my relatives in Kentucky, or any of the farmers in Tennessee. (* smile *)

Yes, there is no law against growing tobacco.

There are even ornamental tobacco plants (nicotina, I beleive).

I was talking to a friend who is a tobacco farmer, and he even grows the starts for the

plants, you guessed it!, hydroponicly/hydroponically (whichever is correctly spelled!)

Take it easy.

Signed, --HillJack--

re: confused about 11plant13html

its a bad drawing. there is only one over flow pipe which in the picture is crossing blue water with the horizontal feeder pipe- it should be broken in diagram cause it does not reconnect with the feeder pipe. the feeder pipe should also be broken at its end to show that it could extend to other bottles.

i think im going to make something similar without the cut off two liter bottle. in its place could go a plastic sack (filled with 10 liters perlite) supported by a thin wire upside down lampshade type thing and sealed around a tube extending from the tee with a rubber band. a screen would have to be stuck in the extension tube and pea gravel laid on top of perlite. What can you grow in a cut off two liter bottle? a head of lettuce?

Yes [Lettuce](#) and [Tomatoes](#) and [Greens](#) and [Herbs](#) all grown not in a two-liter bottles but in a 16 ounce cups sitting in a cut off two liter bottle. Hydroponic plants don't need a lot of roots when you are delivering all the nutrients to the plant. Hydroponically grown plants don't need a lot of roots unlike with dirt growing where the roots have to go looking for water and food. You want all the energy for producing fruit and not for root production. Unless you are growing potatoes or carets.

Hello everyone, My name is George Olayres from Philippines. Please comment on my thesis title "Effect of Different [Nutrient Solutions](#) On Growth And Yield Performance Of Hydroponically-Grown Bell Pepper". I am planning to use 100% sand as the growing media and commercially available inorganic fertilizer as my alternative source of 'Nutrient Solutions'

I am looking for ammonium sulphate, calcium super phosphate(treble super phosphate), pottasium sulphate, magnesium sulphate(epsom salts) for growing tomatoes hydroponically. Has anyone done something similar? Do you know what places carry these? Please email ProngsPotter14@aol.com

rachel=o)

Try www.hydro-gardens.com

What are the importance of growing plants hydroponically? please put better and more accurate pictures on your website

Please send me some money for a better camera.

Hi. Elvis here. Just to thank you for all the information you sent me on hydroponic growers. Geez I never expected hydroponically grown pickles & suchlike to become popular. Please dont tell the feds im still alive as I noticed you had sent an "enc" of your hydroponic growers to the FBI. Regards Elvis "Hydro" Presley

I don't think **you** are growing pickles.

can potatoes be grown hydroponically? If so what would be a good system?

I did grow a small red potato in grow rocks years ago. Tune in to the [HydroRon Live Show](#) this fall. I will be building a potato growing system and other systems live online and take questions live from members.

You said that strawberries grown hydroponically need 16-18 hours of light each day. Where did you get that info?

Just where did I say that. The only strawberries that I am growing are under natural light. These [strawberry plants](#) are over a year old.

Yep - I grow vast amounts of cucumbers, i have 2 massive parsley plants, grew eggplants last season, and have grown baby carrots and spring onions in vermiculite. It's no economically viable to grow rice hydroponically, so i haven't bothered trying.

anyone had luck growing fruit hydroponically? Like kiwi fruit

I haven't had much luck with tree type fruit except banana trees.

some of the leaves of my hydroponically grown carnations go white then die. why?

don't no

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O.K. I'm a little slow. Looked all thru previous messages for size of reservoir, then found it hiding in "Order Your Own Hydroponics Garden". Thanx anyway, Chris in N.C.

I am looking to set up a Hydroponics garden and I am just looking for a list of the required elements such as chemicals.. and lighting requirements...

Hi Ron. Here at unc charlotte scanning last years questions and comments pages. my assignment is to write a paper on growing a hydroponics garden in a limited space such as a small section like 3x3 ft. What would be the beginners garden and what to expect out of it when following instructions precisely. My example is using bean plants and what kind of maximum yield can I expect from using the basic elements. Food light pump water. sincerely henry ridenhour

Ron,

First, I have to thank you for such a wonderful web site, and the obvious time and effort you have put into it at no charge to us. I've been able to establish some great hydroponics garden setups on my apartment patio. This hydroponics thing is so cool.

Question - I've been using Formula One nutrient and my plants have been blooming and producing fine for a while

now. In your opinion, is it any benefit to use the Florabloom (General Hydroponics product I think) during the blooming stage or does the Formula One work just as well. Thanks again.

I have been using Formula One for 15 years and I swear by it. You don't need to add anything. Just increase the ppm for blooming. 1500 ppm or higher.

ron I am a 7th grader considering doing a hydroponics garden for a science fair project? Do you think this will be to difficult. We feel we could build the 11 plant garden-but we're unclear on what else we need to get started. Should I start the seeds in dirt 1st or buy plants already growing. I want to compare plants growing hydroponic to growing in soil. Thanks Matt

I would buy plants that will fit in the solo cups and wash the dirt off. Buy a few more to keep in dirt to compare with. If you can get the solution right then it won't take long to see the difference.

I was a mailman for 10 years and ran across several people using hydroponics and became interested and now im retired from there and have moved to puerto rico and need a hobby -small income or more . Thinking of a commercial hydroponics garden with the goverment backing and would like to know if you would aprove and the do's and the dont's. After all that, I would like to say thanks for what you are offering for free,seems as though you are caught up in the moment of mother nature at its best and that is why I'm asking you as to someone that has a vested interest. I to love mother nature and the money is only something that will offer me more of the outdoors. Thanking you in advance and do hope that you still have the love of it all Terry king

Could I have a hydroponics garden in a corner bedroom which has 3 windows on 2 sides? I am only interested in growing vegetables.

Hi, I am looking at building the 11 plant hydroponics garden. I would to know what is being used for the bottle on the top of the system to place your plant in, also what kind of vegetables grow well in this kind of system?

Thank You newbie

how do i know how much chemicals to put in my hydroponics garden

Hi Ron, How do you figure out how big is a nutrient tank to use? My hydroponics garden has 40 plant heads connect by 1 inch pcv (modified from your 9 plant garden).

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hello Ron, i am a high school student from s. west Washington, and i am starting my own small hydroponics growing system. i have all of my equip. and i am ready to plant. i have two questions for you; 1.can you recommend any fertilizers to promote fast & healthy growth of tomatoes?

Any of the liquid concentrated hydroponic solutions work well but my favorite is [Formula One A & B](#) because it's cheaper than the others and you use the same mix for veg and bud stage, you just increase the PPM for fruiting.

2.what are some of the differences between tomato cultivars used in hydroponics? Thank you for your time, chris

I left a request for a remedy to acid chewing up my pump housing and got a response from George in Cresent City FL (04 Jan 2001). One word . . . "excellent". Thank you George.

Blake:

The plans you mentioned back in April - are they still available? My email is jmorton3@aol.com. Thanks!

Jim

I am attempting to build a 100 plant garden in my classroom. What suggestions do you have for me. Is it possible??? I

hope you can help or it can be done! Sincerely, the Middle school tech man

A 100 plant is no different than the 11 plant or 16 plant garden. Just a bigger pump and reservoir. Don't use an over flow pipe for large gardens. Just set your cycle timer to how many minutes it takes the water to rise to the correct height every 30 minutes or so.

a cheap and easy way to start seeds is to take a 1 or 2oz plastic bathroom cup(the kind u use to put mouth wash in), put a hole in the bottom, shread sum newspaper, wet it, put in the cup, drop in a couple of seeds, add a thin layer of shreaded newspaper on top and water everyday with a diluted hydroponic nutrient solution(maybe 1/4 tsp per gallon), put in a tray in warm place that gets sum sun or under a grow light...hope someone can use this,

-poorboy

worried customer, ordered parts a week and a half ago, still not received. what's going on. parts a must. are they in the mail? Or did I get scamed? Please let me know. will update in one week or when parts received.

J. Wright

It's on the way. Your order was so large it took a little longer to send to Canada. They said it takes longer because it has got to go threw customs.

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I was messing around on this wild and crazy internet looking for hydroponics information, and stumbled upon your site. Congratulations! You have the best site I've found so far.

Ron, I am growing in aerated water and my plants are doing well. I have noticed that algae is forming in the water itself. Will this cause problems for my plants? If so, can I get a common anti-algae agent that would normally be used in a fountain or pond or aquarium? Will that hurt my plants. Thanks

Put a lid on your container to keep the light from hitting the water, that's what causes algae. You can't grow hydroponically without some algae. It means your water is healthy and has nutrients in it. I would start to worry if I didn't see some algae on my gardens. If it builds up to where it becomes a problem then change your water.

My tomatoe plants look healthy and are getting tomatoes on them. why are the leaves starting to curl like they are going to die

Hey Ron, What are your thoughts on the bubbler type systems for growing various plants, do they work better for some plants than others? I am interested because of not having to move water. Bout the best details I have found are on one that a guy is using for dope, he gives wonderful details and pictures. Here is a link, how bout giving us your

opinion on this type hydro system. Thanks, DC http://www.stonernet.org/spongebud/growroom_mechanics_new.htm

Very interesting. I will study it in detail today and get back with you. I will also pick up some Rubbermaid tubs today and build a similar aeroponic Garden that uses a small submersible pump instead of an air pump.

We built your 11 plant hydroponic garden, but how do we put the plants in it? We saw the picture with a plastic cup in the bottle, but how does that work? Lathrop Adv. Tech. Class

Wash the dirt off the plant roots.

Put a few rocks in the bottom of the solo cup.

Place the plant in the cup and fill it up with rocks.

About the little cups again: So plants go in the little cups and cups go in the 2-liter? And the roots are in the cup, or do they extend out? How big should the holes be? Thanks!

It's OK for the roots to grow outside of the solo cup but don't let the roots go down the pipes and plug up your garden. If you water the plants often enough the roots don't need to go looking for water. The holes in the solo cup should be small enough to keep the medium from going through.

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ron: i am planning to make your hydroponics kit which you show in the 8 lesson hydroponics tutorial, and i probably plan to place it inside in a room with little to no ambient light. If i grow beans, what type of light/lights would be the best setup in terms of cost effectiveness vs. how well they provide the plants with light? i would welcome any input that anyone has on this topic.

P.S. i am building this for a science project

Can I find poisonous plants?

I just got my system built and thought I would use a perlite/sand mixture. Right now it is about 60%/40% respectively. Should this work

I don't know. Let us know if it does.

What remedies do I have for an outdoor flower garden if my water is extremely hard AND over-chlorinated by the city treatment folks?

I just got started in hydroponics and am having a few problems. I am using Bcuzz products and an agritest-1 meter (which does not seem to work with Bcuzz). How often do I add more nutrients? I added the correct amount to water to start off with but I have no idea how fast the system uses the nutrients? Can I just add a lot of nutrients or can over feeding cause problems?

You add nutrients every time you add water to your tank. You only add plain water if you want to dilute your solution. You change the entire tank every two weeks or sooner if you detect a problem with your plants.

Hey i just built an ozone generator for about ten buck, It works really well, For about 10.00 bucks more im gonna put a small fan on it to make it even better. The reason it was so cheap is that i found an old neon transformer. You can buy them off ebay and make the cost go up about 25.00 bucks.

I also have been researching a method called Scrog (Screen of green, not sea) which involves training the plants under a piece of chicken wire. and sending the buds up through the hole, very efficient for fluorescent lights, because the effect is a 2d canopy of leaves, so you can grow with fluorescents and keep the light about 6 inches from every leaf. You see the reason fluorescent to good is because the light diffuses and is very weak after about 12 inches, so your lower leaves are staved for light, so you all can see the advantage of keeping al the leaves on the same plane.

Together with rons bleach bottle idea or maybe even 2liter bottle, you can make a very high output compact garden. An expected yield for a 2x2 8 ft tall box is (2 oz per square foot) 8 oz's per crop. now double the size 4x4 8ft tall (16 square ft) 2 lbs per crop.

another idea... use one size light to big. if you need a 250 watt light get a 400. now veg for 20 hours with a 250 wat bulb (you can use any bulb smaller than the ballast, bulbs draw power, ballasts don't push) then flower with a 400 at 12 on 12 off. the result you have lots o ligt for the important stage, (BUDDING of course:) but way more importantly, your power DOES NOT FLUCTUATE WITH EACH CROP!!! The power companies dont care how much power you use, Some dio have programs to watch for the tell-tale fluctuation. that coupled with a cheap homemade ozone generator, and you are covered in style.

I have a tendency to ramble and misspell, (especially when im in a hurry, like now) so please post questions or email me at fox@ovis.net. Why should i help anyone? Two reasons, first and foremost, to share the wealth. second, I don't have anywhere to grow :(so by helping you all i can feel as if im growing. id rather you all post any questions you have so every one can learn, but feel free to email.

ps i also have a local copy of a web page i found on wiring your own lights i can give to anyone.

Giga-Funk

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I am impressed with your web-page and knowledge of hydroponics. I am just a beginner and am learning a great deal from hydroponics online. My e-mail address is weirdweviewong@yahoo.com I am wondering whether I can still purchase a pump and other hydroponic hardware thru your website??? Please advise... thanks. I am very interested in aeroponics too... Sincerely, Steve

Yes. Who said you couldn't.

Ron, is that some new Long-Stem Hybrid Romaine lettuce in your "what`s new" page? Sure looks Yummy!!

No it just grew that way before I harvested it. It was good. I ate salad for three weeks.

how do i kill mushrooms growing in the lawn my dogs eat them and then are ill.

Hello.. I have been gardening in organo-hydroponics solutions for about one year now, with varied success. Once I learned the correct quantities of organic substances to put in, I was getting comparable results to the general purpose solution. I believe that the one problem with the organo-hydroponics systems is that the nutrients are not in plant soluble form. Anyhow, I was reading in a book somewhere that carbonic acid (basically CO2 dissolved in water) takes

undissolved nutrients from the humus (or other organic matter), and makes them plant soluble. I'm doing some experiments at the moment, but I believe it is important to let the carbonic acid sit for about 12 hours to let the CO2 dissipate after putting your nutrients in, as carbonic acid is slightly alkaline. Has anybody had any experience with this??

Michael, mstrates@croftj.net

Ernst I think that would depend on how much of any specific type of vegetables your family likes. Kind of a learning curve. Are you planning on growing all year or just in a traditional growing season? I noticed you live in Iowa. You will definitely need a greenhouse if you plan anything for winter. I built an inexpensive one for about \$150-\$175.
<http://www.sherrysgreenhouse.com/TomUhl.html> Cliff

what is the green matter growing on the perlite in our ebb and flow system?

how about baking soda (sodium bicarbonate) to lower ph (in a pinch)?

duh, I meant "raise" ph.

HOW TO MAKE A HOMEMADE HYDROPONIC TANK

HI Ron, where the heck can I find 1" SDR-26 PVC? I've called just about every plumbing supplier in the Baltimore area as well as some irrigation wholesalers. So far I'm lost, I guess I'll just have to get some from Pipe Dreams. Any other suggestions?

I guess you will. I'll send you all you need already cut 1 inch long for a few bucks.

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Our class is having a radish growing contest, how do i grow the biggest radish?

what number of cf would i put in a mini hydroponics set if i was growing 1 radish we are having a competition at school who can grow the biggest radish

What equipment is needed?a list?

I like your 11 plant garden, can you tell me what I would need to expand you 11 plant garden to 33 plants?

How about some more information on the aeroponic unit that holds 397 heads of lettuce.

Bill S.

Att: Tailwheel

When are you going to post the drip emitter system sounds pretty neat I would like to try. also are you using clorox

jugs for your 32 ounce cups

Pingman

RON!! I'm using the nft type of gardening in a homemade planter. its a 12"/12"/12" box with a 3' piece of 3"i.d. pvc run through. I run a 15 gph pump into both ends of the pvc constantly and the nutrient solution drains into the center. my questions are 1 when I turn my pump off all the water drains back into the tank.(syphon) do you know of any easy backflow controls? Can I run my pump only 15 min every hour? I also have a 8" bubble wand (no Im not bragging) directly in the pvc. will this give the roots enough o2 and keep the water from stagnating? Im currently growing sweet peppers and 2 birdhouse gourd plants I transplanted about a week ago and the peppers look great but the some of the leafs on the gourd plant are kind of wilting on the sides any ideas, comments? Im using hydro farms liquid all purpose 7-7-7 THANKS RON U DA MAN!!!!!!!!!!!!

You didn't mention what if any type of medium you are using. Submersible pumps are designed to drain back through the pump when they shut off.

You can water every so often if you are using a medium to hold a little moister between waterings. If you aren't using a medium then you do have to run the pump continuously and putting an air bubbler in your tank is one of the best things you can do.

Maybe gourd plants don't like that much water.

Thanks for the help on watering. I am using a 1'lift@ 185 gph. Its a little overkill but was the only pump I could find. Should I barely open the valve until it fills and empties within say 2 to 5 min or?? min. Also, what kind of timer do i get and where? Thanks DR Greenthumb

The timer you buy will determine how long you have to water. I use 15 min. on 15 min. off 24 hour timer. So that will give your pump 15 minutes to fill the garden to the right height. Your plants don't need to be watered for that long but a cycle timer that lets you set the on time by minute increments cost a lot more.

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Hi, I have some free time this summer and I want to try growing a plant hydroponically. I don't want to spend a lot of money because I don't have much, ha ha ha. Anyway, I want to do this in a water solution. Anyone give me some tips or links to where I can find a picture or plans for a 1-plant aqua hydroponics setup? Thanks.

Oh, one more question...how do plants grown hydroponically get the carbon necessary for them to grow?

Thanks: arjun

Chlorophyll, the substance that gives plants their green color, converts carbon dioxide (CO₂) from the air, water (containing nutrients) and light energy into carbohydrates and oxygen. This process is called photosynthesis. What results is plant life. You then eat the carbohydrates and breath the air.

I am looking at starting a large-scale hydroponics setup using the Ebb and Flow system. My problem is my property only has Artesian Bore water that is fairly high in calcium carbonate. This stuff builds up at an alarming rate anywhere that water evaporates like sprinklers and drippers. My question is would this pose serious problems in an Ebb and Flow system? If so, do you know of any way to filter or counteract it?

Reverse osmosis filter system is the best to use.

Ron; Looking at the past posts I came across one that offered the plans to build a timer using a 555 chip. I would appreciate any information you may have on that post. The person who posted the message didn't put his e-mail

address on it.

Thanks, RickR29288@aol.com

Which has better results: Ebb and Flow or a Nutrient Flow System??

Ron, thinking about coming to Florida soon. Would you be willing to give a "tour" of your layout?

Yes

Hi Folks, Another question, I bought General Hydroponics Flora-Gro (quart) for my 12 gallon reservoir, 6 plant set up. After doing some more research (reading Ron's site), I got the impression I have to also mix it with Flora-Micro and Flora Bloom for the nutrient to work correctly. Is this the case, or will just Flora-Gro work? I have had a clone in there for 3 days, it hasn't died, but doesn't seem to be growing either. By the way, I mixed 3tsp. per gallon, not tbsp as mentioned in my previous post. Any help would be gratefully appreciated. Virginia420

I think you have to mix the micro with the grow or bloom. Which ever you are using but don't mix the grow with the bloom.

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I am gonna be growing in 4ft tall grow box, and the reservoir and grow tray alone are going to take up about 20 inches, so I need to spare as much room as I can. I am going to be using sterilized lava rocks in the grow tray which will hold six plants. I have 3 questions.

1. Will the 2 inch pvc hose connector that I am using to both fill and drain the system get clogged up by the lava rocks, and prevent the system from draining? If so, how can I prevent this?

No lava rocks should not clog up any size.

2. How often should I flood the system? I will be on a 24 hr. lighting schedule for veg. growth.

Every 20 or 30 minutes.

3. I want to try to use Miracle grow as my nutrient. What would be the best kind to use for growing buds?

I wouldn't use Miracle-Gro if I was growing pot. I would use a real hydroponics solution from any of the grow stores mention on this web site.

I know this is a lot of questions, but I want to make sure that I get everything right the first time. Thank you for your time.

Has anyone used the new organic hydroponics solution called Metanaturals

the pH level in my hydroponics solution is to high. how do i lower it?

Hi. I'm the guy who asked about the cannabis plant. I am thinking of making an [ebb/flow](#) system for my plants, for the simple reason that it would take up less veticle space than using the 2 litre system.

Would fish be able to grow in hydroponics solution? i have an idea for a very cool garden if you can lmk i am very curious.

No but some hydroponic plants will grow in fish water.

I have a few Q. I'm in the 6th grade and I'm doing a science fair project... I'm doing my project on hydroponics. My teacher told me to compare plants grown in soil and seeds grown in a hydroponics solution inside [pots](#). I want to know if I could make a hydroponic solution at home and not spend any money. If I'm off track please email me at Kljhad@yahoo.com thaks jessica

what, besides water, has a pH of 7? Do I need [hydroponic reflectors](#) to go with my lights?

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Re: Difference between HPS lights

There is no real difference between the lights you buy at the hardware store and at a hydroponics store. The ones at a hardware store often times have a built in ballast, and a grow light has a remote ballast, making it a bit cooler. The light they put out is the same, given the same reflector, which you can build. If the wattage is the same, go for the cheaper light.

Brett

I just came from one of your stores, which I had visited for the first time since it opened. Although your prices are quite high I was pleased with your selection of gluten-free products, and was planning to shop there frequently in the future. That was changed when I heard my car and license plate described over the public address system. When I responded, I was told that they page people routinely when they think a car has been parked for too long in their lot. The car owner then must come to the customer service desk to demonstrate that he or she is, in fact, in the store. I don't like being harassed when I'm shopping, so I will use your store only when I cannot get a product anywhere else. I suggest that this policy is counter productive from your viewpoint, and extremely distasteful for customers. James Duffy, jim-jane @erols.com

That would be hard to do considering I don't have a brick and mortar store yet. I wish I owned every hydroponics store you happen to walk into I didn't invent hydroponics. And if you are talking about Worm's Way, they only advertise with me. I don't own them or any other hydroponic company that post on this web site except Pipe Dreams Hydroponics.

Here`s a cool Idea for a small 4 plant ebb&Flow Garden. Would work great for lettuce. Pic here - <http://members.aol.com/runboy7426>

do you have a graph of economics of hydroponics

Where can I purchase a high pressure sodium light in the Yorkshire area?

hey, ron where do you go to buy grow rock and will fish tank rock work.If I use merical grow for my nuteints will it work. I am doing this for a scince project and think that Hydroponics are really think that it is COOL!!!! I built your 11 plant system and everone thinks it's COOL. Thank you for your site and hope your buiness does Great this spring and summer.

At the grow store. No. And No.

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Attn: Tim

Re: End Rot

Most of the info. I've found says that this condition is the result of low calcium in your solution. I would suggest that you try to find a stock solution from a hydroponics supplier. What are you feeding your plants now?

Tailwheel

Hi Ron, Thanks for a wonderful site. I got a lot of really useful, relevant info from it. I'm setting up a 20 plant veggie experiment in 2 liter soda bottles in part of a 9' X 12' greenhouse. The greenhouse has mist nozzles and 2 exhaust fans that are thermostatically controlled to keep the temp around 85 deg. I'm in Northern CA and it does get hot here. I have a question about a plant food that we've been using here at home for house plants called Eleanor's VF-11. It's a concentrate that's used for both foliar and root feeding. It dilutes out to 1 oz./gal. Recently, I've recently heard several radio ads for using it for hydroponics. The analysis on the bottle of concentrate says: N 0.15%, Available Phosphoric acid, 0.85%, K₂O 0.55%. I was wondering if you have ever used it, heard about it or know anything about it's value as a hydroponic nutrient for veggies. I care to experiment with tomatoes, bibb lettuce, cucumbers, chives, eggplant, etc. but I do want to have some success for starters. I plan to get a TDS meter and a ph meter and run my pump for 5 min every 20 min. I'm also planning on using Gro-Rocks for the medium. Any thoughts, comments, or ideas from you would be greatly appreciated. I am a semi retired Electromechanical Engineer with a well equipped machine shop and electronic room so making controls, timers, gadgetry for this project is a snap. In a few days I'll have pics/info available for easily attaching/removing the bottles. I worked out a method that looks great now, but I need to be sure about it after I get up and running. Thanks again, Marvin PS I spoke with Eleanor today and she referred me to her

website www.vf-11plantfood.com. There's a testimonial letter on it from a guy she says is a real expert in hydroponic culture who's been using VF-11 for years. I've been unable to reach him today, but I'll keep trying. He's in Vallejo, CA, not too far from me. I will take a ride up to see him after I speak with him by phone. I'll keep you posted.

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Ron, How often should I flood my 11 plant system with tomatoes and peppers? I'm using a combination of rockwool and growrocks for my medium.

every half hour or so

You don't need to aerate your nutrient solution. The easiest way to do it if you really want to, is to allow the pump to continue for 30 seconds or so longer than is needed to reach the overflow. The nutrient solution falling back into the tank will aerate it.

I would like to know if any1 know a good source for hydroponics

What is the best way to control the water's Ph in a 11 plant system.

Eric

pH up or down from any hydroponic supply source.

I heard that a mixture of epon salts (1 tsp) and a gallon of water is good for getting rid of bugs on my plants. Is this true?

sure can't hurt them

My aeroponic tomato plant in my basement started to flower last week. It has been growing for about 2 months. When will I see tomatoes? It gets 18 hours of 1000watt light every day. Do I need to reduce the light time to get it to produce tomatoes?

<http://www2.oardc.ohio-state.edu/hydroponics/tomatoes/Expert/Decision.htm> here is the link to the algorith site it is the answer to a lot of my questions! thank you all ! can anyone help with the sea of green questions?

Have you heard of Israel Corporation of Agricultural Applications (I.C.A.A). We are asking proposals from them for developing a controlled greenhouse for commercial use.

juliet

No but their is a lot of hydroponic greenhouses in the mid-east. Something to do with their soil like not any.

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Re: Outdoor flower garden

When you fill your nutrient tank, just do it a day or so in advance of adding the nutrients. The chlorine should evaporate from the water all by itself.

Not much you can do about hard water except live with it. I have very hard city water here (lots of scaling on plumbing fixtures) but it doesn't seem to have any effect on the nutrients or how the plants take them up. Don't worry about it.

Tailwheel

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I would like to know if the hydroponics System would work on a tropical island like Puerto Rico. And what types of plants would work here. Also what would be the best design to use for a Hydroponics system. Does anybody have a design that I can use down here, it should be simple and cost effective? Thanks.

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Misc Comments:

To the person who doesn't have access to electricity... I think you mean, to 120 V AC (like from the power company) -- hey, most folks in California are in the same boat (grin).

You have a couple of options for pumping water. One is not to hard and will let you use standard Rio pumps: Get a marine battery or deep-cycle batter (Wal-Mart, about \$36) and run a power inverter (\$30, if you shop) from it. The standard (\$36) battery has about 1380 watt-hours energy (115 AH * 12 v). The converter is _supposed_ to be about 90% efficient, so that leaves you about 1242 WH. If you use the Rio 180 (rated at 3.4 W for about 45 gph at 2 foot head) you can run it for 400 hours continuous before needing to recharge the battery (remember,

DEEP cycle or marine -- this kind of discharge will ruin an automobile battery). Seeing as you don't need to run it CONTINUOUSLY, you can get a longer time between charges. Suppose you use a timer and set it to do 10 minutes every 1/2 hour... (20 min/ 60 min), that's three times the amount of time... 1200 hours to max discharge. About 50 days. Personally, I'd do it much less -- how about once a month, give the battery a good charge. Heck, get two batteries and charge one while it rides around in the trunk of your car... once a month, swap'em.

Even easier -- the heck w/ the inverter, get a marine bilge pump. Get the smallest on you can find, as the larger ones will pump a LOT of water. Figure it this way... if you've got a multi thousand dollar boat at the dock, if there's ANY

water building up in the bilge, you want it out ASAP. Anyway, if you get a 12v marine bilge pump, you run it directly. All you need to add is the timer.

If you've got more \$\$ than I do, you can charge your battery where it sits... The 3.4 W [hydroponic pump](#), run for 10 minutes every 30 minutes, will only use 13-14 watts per 12 hour day (you don't have to run the pump during the dark, accord to the stuff I've read here). You only have to replenish those 14 watts to the battery each day. ASSuME 6 hours of good strong light a day, you only need about 2 and a half watts at 13.8 volts, or 175 milliamps to fully charge the batt. You can get some great solar battery chargers that will more than top that for not much \$ (current prices are about \$7/watt for solar cells). Heck, you can do even better with a stack of cheap surplus NiCd batteries to run the pump w/ the solar battery charger to recharge them. Wow, I think I'm on (to) something here... too much caffiene, I think. Sorry, I got a little carried away. Suffice it to say, if you've got enough sunlight to grow yer plants, you've also got enough to power pumps to circulate your nutrient. (I think I figured out my summer project... grin).

To the person who was talking about the "patio container system" (box), filled w/ soil (earth), with the reservoir in the bottom... it's call an "Earthbox" and there are a ton of pages that talk about it. OK, maybe only 50 pounds of pages. It's an over-priced system, meant for those who have no interest (or confidence) in experimenting. It's a very simple system -- water reservoir in the bottom, media (soil) area on top, and the two meet through capillary action where two columns of the media (soil) descend into the reservoir. From what I've read, you may have to replenish the reservoir a couple of time each WEEK (not each day) in HOT weather... in normal wx? Who knows. If you're lazy (I am), You'd hook up a hose and a float-valve in the reservoir, and let it replenish itself when it gets low. Because fertilizer is added directly to the media (in a "band"), you don't mess with mixing nutrients. Personally, I think that their way is probably not as good as good old hydroponics -- nutes in the fluids, nothing in the media -- but then, I'm not selling an over-priced system to old folks who don't want to build stuff. I'm all FOR building stuff (hm... where did I put those solar cells?)

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You could build a similar system for about \$10, or, you could pay \$30 (and about \$7 shipping) to buy one. The earthbox site tells you everything you need to know about it, including their "magic" "fertilizer band" -- it is not a hydroponics system, although it could be converted into one easily. For more info, read the container gardening forum at Garden Web... <http://forums.gardenweb.com/forums/contain/>

Hey, they also have a hydro forum, but there's better info here, by far. <http://forums.gardenweb.com/forums/hydro/>

Luck, folks

I want to start a hydroponics system but I have do it on a very tight budget. What are some things I can use to get the seeds germinated at home, without buying anything, or something cheap?

How's it going, Ron? Listen, I just bought a hydroponics system (250 watt MH) and have a nice a little variety of sprouts. I have already transferred the sprouts (4 leaves - 2 of which are spiked) in their rock wool starter block into the aggregate, lava rock. My question is, should I be using the 250 watt [grow light](#) for the vegetative phase or would fluorescents work just as well? And how far should they be away? I am also running the solution 3 times a day, at 8 hour intervals.

Thanks,
Daddyo

Fluorescents are only good for the first few weeks of plant life. Use the 250 W and put it between 18 to 24 inches from your plants.

Hello everyone. I just joined the club. My question is this. I am planning on making a homemade hydroponics system with a 10 gallon aqarium. Basically the system consists of an aquarium with the nutrients in the bottom and burlap on the top holding the [growing medium](#) and a pump for aeration. I am planning on trying tomato plants in this system. Has anybody tried this or would I be better off purchasing a small commercial system?

hi, i set up a hydroponics system that has about 12 plants growing in it right now. I use the formula 1 A and B for the solution. i am having somewhat good results, but i dont know what kind of lighting i should use. what do you recommend as the best for the cheapest price. thanks, cc

HPS or MH

This is one of the most comprehensive sites about hydroponics I have run across yet! Glad I found you but I have been looking so long my eyes are swimming and I can serach no longer.

Can you reccommend an approach for a classroom hydroponics system? We already have equipment and basic understanding of the technology. I am looking for guidance on plant selection and the mixing of several plants in one table. I want the middle school students to track growth rates, adjust pH etc but last years group just had a tomato plant race.....seems like underutilization of the benefits of hydroponics (and I do not like tomatoes anyway).

I am thinking that a kitchen garden would be a practical application which could easily be replicated in a students home life. If I have four groups each grow a different plant and compare growth rates among groups, what plants would work well. Since we are in a school situation, fast growers are critical in order to have mature plant beofre the semester ends. Any ideas? This is a teachnology class in Idaho with a space station simulation which is an excellent application of the technology and the the primary educational link in the class to hydroponics.

Thanks, Gina Sartor gsartor@geocities.com

Can you tell me how my daughter and I can make a [hydroponics system](#) for science. She is in 6th grade so I would like to make something easy for her to understand. Is this possible?

In my hydroponics system, I'm growing basil. We have a major whitefly problem. I'm afraid of spraying with organic pesticides because the leafs will go black. How do I get rid of the whiteflies organically???

The only real safe way is with predator mites (*Encarcia Formosa*) that lay there eggs in whitefly larvae. But you have to introduce them to your garden early and a lot of them to be effective.
Or just use Safer Soap bug spray and yellow sticky traps like I do.

I'm doing a ISU project for my grade 12 biology class on hydroponics. I've made a small hydroponics system and am growing peas. My project is on the effects of certain chemicals on the pea plants. I have 5 hydroponics systems which the peas are being grown in merical gro. In each container there is a different chemical (0.5 molar solution) along with the merical gro they are, potassium phosphate, calcium carbonate, sodium sulfate, potassium carbonate, and potassium nitrate. I was wondering if you had any tips or useful information. I would greatly appreciate it. Also in the container of sodium sulfate tiny black dots that are in a web have appeared on one of the pea seeds, just wondering if you had any idea of what they could possibly be.

Spider Mites

in the 11 plant hydroponics system what is used to keep the medium(perlite)from flowing through the bottom and into the reservoir?

Paint strainers work well.

I recently started my hydroponics system. (i'm doing the drip system.) I've got two questions. How often should I water the plant and am I supposed to recycle the water and nutrients that drips into my reservoir back into the plant?

With the drip system you can water continuous for large plants if you use grow rocks. If you don't then read reply below. Yes you recycle the same water and when you need to add more water mix a gallon at a time with the correct amount of nutrient mix if you don't have a ppm meter. (About one tablespoon per gallon of water for most mixes.) That way you can keep track of how much you are adding.

Dear Ron, I am setting up a hydroponics system in an inner-city 6th grade classroom and I want to use fish waste for nutrients. Are there any examples of this on a small scale? What plants work best for this scenario? Thank you!

Ron, You have a neat site. I teach science and I just got a new science lab with attached green house. I want to grow tomatoes, peppers and lettuce with your 11 plant hydroponics system. I know very little about hydroponics. Is there any books or sources you could recommend for me to research?
Thanks.....indy

As we speak I have been working on a special Hydroponics Projects Section where individual and groups like class rooms can collaborate on projects across the country or the world. Coming in the next couple of weeks. One of the best how to books is HYDROPONIC Home Food Gardens by Howard M. Rush

I am looking for information and would like any pointers anyone can give me on where to find it. What I'm looking for is:

1. Measure of edible food produced per given area of common grains and vegetables. 2. Measure of Oxygen produced and CO2 recycled per given area. I am interested in making a small air-tight environmental hydroponics system. I need to know which plants produce and consume X for a given quantity of edible foodstuffs. Thanks!

Warren.

Yea Right.

is there a worlds biggest hydroponics system? teagan perkinson and nadia mantell whakatane intermediate school technology block

Hello, I have never tried hdroponics only outdoor dirt growing. Would I have enough room for a small scale hydroponics system in a room 3 feet*4 feet*8to12 feet high?

I am new to hydroponics and have a general question.

When do you transplant the seedlings to the hydroponics system. In general I am talking about the 11 plant system that you have plans for. Also what is used to support the plant?

Thanks.

When they are well rooted wash off the dirt or vermiculite . Place in a half cup of rocks. Fill the rest of the cup with rocks.

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I'm want to build a aero-hydroponics system like the one made from round PVC piping is there anyone who can tell me where to get directions or has them to give me I'm figuring about 5 pipes wide and 6 feet long give or take. Please email me if you can help. drastik69@hotmail.com. I just think you can make something as good or better than the aeroflo unit by yourself with a little advice.

Ron,

I'm setting up an indoor hydroponics system and wanted to know how to manually cross pollinate tomato or other plants since the bees can't do their job indoors? Also, do you need to grow male/female plants for this?

Thanks Tim

Hello Ron!!

Why are my plants yellowing towards the end of the flowering cycle? I'm using an all-round nutrient pre-mixed solution, is this the best thing to do? Also, while you're there, which hydroponics system of growing do you think is the most energy efficient? Thank you, from Peaches.

I would increase the strength of your solution. The big lower fan leaves do turn yellow in the flowering stage because they aren't needed anymore and should be removed.

Gudday there. Firstly, this site is fabulous. Wonderful what you have done here. A true center for knowledge. Well anyway...I am starting a hydroponics system. Finally got sick of dreaming, started building. However, I want to grow something different, something pretty. Does anyone know of a good flower, small, that loves water and would be good to grow from a seed? Would love some info. Thank you very much. I appreciate immensely how you approach this web page. Fabulous, fabulous!!! Russó

I have discovered that almost any ornamental plants like flowers grow very well in hydroponics and they transplant well to dirt pots for resale with minimal shock.

Is growing plants in sand, considered "Hydroponics system"?!

RE:Is growing plants in sand, Considered "Hydroponics system"?!

Yep - any inert medium can be used in hydroponics. beach and river sand contain no nutrients, and is therefore inert.

What are the economical impacts of using the hydroponics system?

What are the economical impacts of using the hydroponics system?

can i put fish in my hydroponics system to provide nutrients to the plant

yes but don't put hydro fertilizer in their with them.

what is the best hydroponics system for watermelons?

whats up ron? Im going to build a aquafarm hydroponics system to grow my super dwarf banana plant and need to know a good brand of nutrients. I cannot mix my own because i am not that intelligent haha... So do u know any good brands that will work for my plant? thank you very much, Nattycongohermit

is the water from a pond inhabited by fishes and decayed leaves be beneficial for use in a hydroponics system? and why?

not enough fish and that other stuff would too.

Hi Ron, I'm thinking of using Miracle Gro 15-30-15 for my [hydroponics system](#). Do I need to add anything else to this solution? Thanks Jack Minn

What kind of hydroponics system Should I buy to grow some kick ass green bud? (Marijuana)

Kind of hydroponics systems has nothing to do with growing KAB. What ever kind you buy or build you should try keeping tomatoes plants alive before you waste a lot of money on KAB.

[Hydroponic Chillers](#)

Quality Chillers at Low Prices Nano sized to Industrial models



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looking for cheap, reliable, and easy to use hydroponics systems up to 3 to 4 m2.muchas gracias JV

I'm doing a ISU project for my grade 12 biology class on hydroponics. I've made a small hydroponics system and am growing peas. My project is on the effects of certain chemicals on the pea plants. I have 5 hydroponics systems which the peas are being grown in merical gro. In each container there is a different chemical (0.5 molar solution) along with the merical gro they are, potassium phosphate, calcium carbonate, sodium sulfate, potassium carbonate, and potassium nitrate. I was wondering if you had any tips or useful information. I would greatly appreciate it. Also in the container of sodium sulfate tiny black dots that are in a web have appeared on one of the pea seeds, just wondering if you had any idea of what they could possibly be.

Spider Mites

Hello.. I have been gardening in organo-hydroponics solutions for about one year now, with varied success. Once I learned the correct quantities of organic substances to put in, I was getting comparable results to the general purpose solution. I believe that the one problem with the organo-hydroponics systems is that the nutrients are not in plant soluble form. Anyhow, I was reading in a book somewhere that carbonic acid (basically CO₂ dissolved in water) takes undissolved nutrients from the humus (or other organic matter), and makes them plant soluble. I'm doing some experiments at the moment, but I believe it is important to let the carbonic acid sit for about 12 hours to let the CO₂ dissipate after putting your nutrients in, as carbonic acid is slightly alkaline. Has anybody had any experience with this??

Michael, mstrates@croftj.net

What kind of hydroponics system Should I buy to grow some kick ass green bud? (Marijuana)

Kind of hydroponics systems has nothing to do with growing KAB. What ever kind you buy or build you should try keeping tomatoes plants alive before you waste a lot of money on KAB.

What kind of hydroponics would i get to grow cannabis . I need to know where to start. I didn't realize there were so many different systems.

Kind of hydroponics systems has nothing to do with growing cannabis. What ever kind you buy or build you should try keeping tomatoes plants alive before you waste a lot of money on cannabis.

Previous Question: [What's a good location for a hydroponics system?](#) | [Return to question list](#)

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What makes a hydroponics tomato different?

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Books?

Would anyone recommend one or both of these books?

Hydroponics Tomato Production by Jack Ross

or

Hydroponics Tomatoes for the Home Gardener by Howard M. Resh

I am doing a reaserch on it and I want to Know what minerals are in the water. how new is this way of growing. how much does a bigone cost(the type they use to sellfood).

Hi How do I find out what size pots to use and on hydrorons 11 plant garden does the size of the container matter?

Comment

Ron,

Could you please explain the relationship between a fertilizer which has N-P-K expressed in percent (ex. 10-10-10) and PPM, can the percentage be converted to PPM.

Further is the correct conversion from milliSiemens(mMhos/cm) to PPM. 1 PPM = 6.5 mMhos.

Thanks for your time

Rick

I made my VERY FIRST hydroponic garden yesterday thanks to this website! It's a very basic gurgle garden but it works great. I'm using perlite now but would like to try grow rocks. I'm using organic nutrients from MetaNaturals: <http://bella-via.com/>

Grow Rocks: Where can I buy them the cheapest? Are there any online sources?

FireCloud

Try to find them as close to you as possible because the shipping will hurt.

I would love a couple marketing tips on how to market a new hydroponic retail store

Ron, you have a mighty fine hydroponics site. Could you add a "Return to Top" at the bottom of each page"?

I'll put it on my list of things to do this year.

I am doing a reaserch on it and I want to Know what minerals are in the water. how new is this way of growing. how much does a bigone cost(the type they use to sellfood).

Somebody commented on the bulletin board about his tomato plants going yellow with brown spots. This sounds awfully alot like tomato blight to me. Spray all of your good plants with a chemical called copper oxychlorate, or a mixture of a few spoons of copper sulphate, and a spoon of sodium tetraborate (sp?) sold in supermarkets as Borax. Spray this mix LIGHTLY onto the plants, and run water through your nutrient solution a few times to get rid of the traces. Burn all infected plants. Michael <mstrates@croftj.net>

bloom formula

RON, I have a dilemma. I have a 55 Gal. barrel buried in the ground for the nutrient solution. The average temp here is 85-90 F. Would using an air stone in ambient air raise the solution temp to the ambient air temp? Would it make a

difference?

No different unless you put the air pump inside a refrigerator.

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hi ron,

i bought some Habanero pepper seeds. do you think this will grow well in hydroponics ? got any tips in growing pepper ?

Hydroponics Superstore IGrowHydro.com/Lowest-Price

Low Price Guarantee - Expert Help Start Shopping Today to Save!

thanks

castro

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Peppers grow very well in hydroponics because they are water loving plants. Start your seeds in vermiculite or dirt before you put them in the hydro system.



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This is the best web page on hydroponics, the format and the picture illustration are great!!! I am a beginner in hydroponic in Thailand. I am growing lettuce with NFT ,after a few weeks of perfect growth, the roots become brown color and the plant growth is stunt. What is the problem and how to cure them?

Something isn't right with your nutrient solution if your roots aren't white. PPM or pH or both.

Very nice site and various design setups. I wish I could have read this material about 10 years ago when I was experimenting in hydroponics. I have recently been reading about fish ponds and various types of filters, one type being a vegetative filter utilizing water plants. These seem quite effective in removing excess nutrients from the water. I recently found a site <http://koi.ajiang.com/> where the pond owner has used a hydroponic filter stocked with land plants to remove excess nutrients from the water in a balanced ecosystem approach. I am intrigued by this strategy and would be interested in your comments on such a concept. I would also be interested in any design and suitable plants

recommendations you could offer for an application of this type.

sharkdude1@yahoo.com

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ron, last september i purchased a 1000w sunagro light for my eb-flow system(s). since this purchase, many generations of healthy sprouts have dwindled and died by the time they should have been ready to pick and eat. It's been eight months, and now the life of the bulb will be questioned...but i don't believe it's the life of the bulb. I believe there is something genuinely wrong with the spectrum or the quality of the light being emitted. I have grown hydroponics for many years now with metal halides and this is the first time i made the switch to a high pressure sodium. I have questioned everything (pH, fertilizer, quality of clones, ventilation, insects,), and I have still no answer as to why my once buldging tomatoes now look like cherry tomatoes by the end of the flowering cycle. I honestly believe it is the light I purchased. With the price of the light close to 500 smackers and all the electricity and time wasted, my faith in my favorite hobby is soon to be lost. So, my question to you is...

Have you ever heard of a high-pressure sodium light (sunagro to be specific) having a faulty spectrum (maybe showing a visible light that is possibly too red)?

I contacted the dealer and he insisted that out of 17 years he has never heard of this problem before. But, i think the dealers are full of shit and they often times try to remedy the most pressing problems by getting you to buy their other products which don't even have enough evidence of being any type of help. I can give you a list of all the shit i've bought to fix this problem (ionizers, box fans, co2, bug repelents, hormone boosters, shock resisters,)

I am fed up spending the money on such a rewardless hobby. Help, before it's too late!

Because HPS lights are at the red end of the light spectrum and are more for flowering I can understand having a problem in your early growth stages of your plants but not threw the flowering stage.
I would add a 400 MH on a sun circle to cover any missing light spectrum. But that means spending more money.

hello, my class is learning about hydroponics. Like how they work and stuff like that.Right now we are growing lettuces the hydroponic way.the way we are doing it is we have a container with stones with our lettuces in it we the lettuces up the top and the roots hiding under the stones and another container with the water and when we put them together the roots dangle in the water and we have a straw to blow bubbles.Is this just home made way to do it or is there some fancier way of doing it? plese give me an answer!!!!

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Has anyone used the new organic hydroponics solution called Metanaturals

Ron and anyone else who could provide useful input:

Green Leaf Hydro - Online www.greenleaf-hydroponics.com
Stores in Anaheim & Redondo Beach. \$30 OFF \$250 or more. In Store Only

I realize that there is no one "perfect timer" for all aero/hydroponics setups, but I believe I'm on the right track. I've drawn up a schematic for a programmable timer (yes - it can be programmed by just about anyone!) that will have programmable ON and OFF times. The ranges for both are 1-255 seconds, or 10-2550 seconds (in 10 second intervals), or 1-255 minutes (in 1 minute intervals), or 10-2550 minutes (in 10-minute intervals). The On and OFF times do NOT have to be the same, as both will be programmed separately.



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I realize that the upper range of this timer is a bit ridiculous; however, should anyone want to use it as a light timer ON for 16 hours and OFF for 8 hours, it would work for that, as well as for an aeroponics setup, where it might be required to come on for one minute, and off for four minutes. My 11-plant system that I built from Ron's plans requires 3.5 minutes to hit the overflow, so I can set the timer for that application to 210 seconds of ON time, and 20 minutes OFF time.

The timer is in the construction phase now (prototype), and I still have to program the microcontroller. Programming the timer will be an easy task - just look the required time up on the chart and flip the switches for the ON and OFF times. Just to make sure I had an easy to use system, I showed it to my 12yr. old daughter and asked her how would it have to be set for various times. She aced the test every time, so I know it will be easy to understand & use.

If this were to be the perfect timer for aero/hydroponics, would it require any other features? The reason I ask, is if I take this thing to a commercial level, I'd want to include all the features I could in it. I've already heard someone mention multiple outlets on it so as to use one outlet for the pumps & one for lights. Would there be an interest in this timer when finished?

Ron - I am looking for info here. If this qualifies as someone selling a product, I apologize. This isn't a product - at least not yet. I'm just trying to find out some info so that the final version could be pretty much universal as far as useability in the hydroponics/aeroponics world.

I thank you for your input.

Jim

I can't seem to find any info on this, so if someone could direct me...

I get the concept of hydroponics, but what do you do when the plant becomes too big for the system? Or does it? The roots have to expand, but does this system "keep them in check" or do you just have to eventually transplant to normal soil?

-DJ YoYoBLitZ

Hi, recently I have watched a TV program about world news and that was this segment on hydroponics research in UK (Dr David a famous scientist with TV program on nature discovery) They claimed that they use very little water. Can I have most info on this new hydroponics. Pls. advise, Thanks Eric Khoo

could hydroponics be used in an extremely large-scale basis?

Hydroponics is currently used on an extremely large scale on the west coast of Canada, you should see the size of some of these greenhouses. Some of them are over 5 acres. They grow awesome tomatoes, as the plant grows they keep hoisting it up to the roof of the building. The plants grow to 10 feet tall.

this may sound like a dumb question, but when starting off your hydroponics garden, i am wishing just to start the seeds off from the get go n the rockwool cubes, do i just put them in the cube hole and germinate, ,do i have to cover the hole with another substance, , how do i go about it? also i am using the 11 plant system, but i think i am going to make it with 3 liter bottles instead of 2 liter bottles, how much rockwool should i put in there? should i use the small bag of cubes, or should i intermix it with the slab? thanks for all your help:)

is this process cost effective, it sounds as though it takes a lot money to get setup and then to run atmosphere control. what i actually mean is can hydroponics be cheaper to run than normal outdoors soil grown farms?

Ron, I think the site is great. I have it bookmarked and come back often. I have built my own 2 plant system based off of the 11 plant system you sell. I have run into a few problems and have over come them.

Now I need some advice. I am still learning this stuff and I am only growing one tomato plant...well it was growing.

It looks half dead. I think I may have over feed it. I have a 10 gallon tank. I added 5 gallons of distilled water, with a tablespoon of Miracle-Grow for plants and tablespoon of Miracle-Grow for tomatoes for each gallon. I let it run a couple of days and then thought that it should have been 1/2 tablespoon for each gallon and added 5 gallons of distilled water to even it out. So I have 10 gallons of water, 5 tablespoons Miracle-Grow for plants and 5 tablespoons of Micacle-Grow for tomatoes. The tips started to brown and curl under. I then added 5 tablespoons of Epson Salt. Any words of wisdom?

We are considering applying for a grant for a small hydroponics project for our kindergarten-1st grade classroom. I know this is great science learning, but I've no idea what we might be able to grow. Most importantly, I'm not sure what essential questions we should explore/generate or what daily activities we could pursue.

We would appreciate any responses or suggestions. I might add that we are in rural, remote Alaska with winters down to minus 50 below, so a successful hydroponics class would have implications for a much larger community project.

I look forward to any and all responses. Sincerely, Thomas Brock and the Aniak K-1 Class

dear ron, i am new to hydroponics and im on a budget. recently i was looking for timers or my pump, but i could only find a 24 pin one. i was wondering if i could do an hour on hour off cycle to water my plants Thnx smalls

Dear Sirs,

It is our great pleasure to inform you that Kish Trade Promotion Center (ktpc)-
affiliated to Kish Free Zone Organization (KFZO) Intends to hold & organize the
The Second International Greenhouse Produce & Related Equipment Exhibition
in Kish Island from 11-16 feb.2003, with the cooperation of Ministry Jihad Agriculture
, Bank of Agriculture & Mahestan Kish Hydroponics Company.

We would like to officially invite your esteemed company to take part in this exhibition.

Confident that your participation will enrich the content of this show.

For more information please visit our site, <http://www.kishtpc.com>

Looking forward to receiving your letter of interest.

Kinds Regards,

M.Kouhestani

Secretarial of Greenhouse Produce Exhibition

I would like to know if the hydroponics System would work on a tropical isalnd like Puerto Rico. And what types of plants would work here. Also waht would be the best design to use for a Hydroponics system. Does anybody have a design that I can use down here, it should be simple and cost effective? Thanks.

Dear Ron. I am a student at Warwickshire college in England and i am trying to research a project on growing trees using hydroponics. So far i have only found information regarding herbaceous plants and tropical plants like banana trees. Have you any links/information that may be of use at all. -Thanks- Richard Johnson . e-mail.
PIGLET1969@hotmail.com

I get tired of pulling weeds so I am building three 11 plant systems per your website's design. My questions are - 1)If I added dishwashing soap to the circulating brew to reduce surface tension, would that increase the plant uptake of nutrients or could it cause problems. Also I saw your banana plant picture 'Wow"! 2) Can Hydroponicly grown plants or trees be transplanted to soil without any problems?. Florida Fred -first timer at hydroponics

some one help im growing about 20 plant in a closet. i have 1 150 hps lamp...and no funds to buy anymore. how can i supplement the light? also i recently purchased "general hydroponics" flora series, grom bloom micro in what concentrations do i use these's? i want some good smoke this fall thanks please respond soon:)

please read answer above.

hi, how much water do you put in for the 11 setup garden? also i couldn't find marical grow that say for hydroponics, only for veggs. steve

10 gallons and I refuse to answer the second question.

Here's an interesting site if you're into tomatoes.

<http://www.oardc.ohio-state.edu/hydroponics.tomatoes/expert/decision.htm>

This algorithm is set up for greenhouses, but gives useful nutrient and growing information anyway. Just slide the scale until you get 100% in the right side window, then read what you have to do to get optimal growing conditions.

Tailwheel

hello Ron. well your web page has really inspired me i first came here to learn how to grow a certain "bud" that u self said to learn to grow tomatos before attempting to grow that plant but im not asking you to tell me how to grow it just to tell me if what i have learned from this site is correct. the 11 plant system with the bottles about 6 to 12" apart. grow lights: florescent to grow them then hps (dont know what that means) light for flowering. (the super big question i have no answer 4): not sure what to use as a nutrient??? mirical grow?flooding 15 on 15 off. light 24hrs on then when it matures 18 on,6 off hrs. can i use a sump pump? got one really cheap. keeping temp at 72 degrees. and im going to use rbroken up cleaned lava rocks for the fact of unavalibility/expence of grow rocks. and it would be computer controled. and hopefully if it grows ill keep it all to my self. if it makes a difference hydroponics from your site has inspired me to look into taking a course in collage next semester as a elective. thanx again for your help whether u answer me or not! great site!

Hi Ron. I am new at hydroponics. I was wondering how long to you have the timer to come on and how long do you flood the plants for? I am using a homemade 7 plant system, Thank You, S.

15 on 15 off 24/7

TDS (total dissolved solids) means just that. Even though your TDS reads OK for the maturity of the plant you are growing it does not tell you if the combination of ingredients are correct. That is why you change your solution every two weeks because there is no way of telling how off you are with only a TDS meter.

Ok so yall say this over and over... I am new to hydroponics. I started in jan this year. I tested my Ph 3 times now. It

was always near 6.7 I added Ph down and it goes right back up... I have never used a tds meter, when my water gets low I replace it and throw in some of Rons hydro food. I haven't changed my water once. My garden is gorgeous. I have already ate many spinach and bibb lettuce salads. I have zucchinis out the wazoo and 40 or 50 tomatos getting ready to ripen. I think all you need is some water and some hydro solution. Keep yer bells and whistles, they aint needed. Tucker406@aol.com

Now that's what I like to hear. I really think it's got something to do with Karma. I tell people to get your Karma right and you won't have a problem growing.

Hello -- I just want to mention that Art Smith from Alabama Hydroponics (<http://www.alabamahydroponics.com>) is kind enough to host Tomato Challenge 2002. The basic objective is to grow tomatoes hydroponically and you can use any system to achieve that objective. In case you are curious about the rules, please visit his website and learn about them. As a matter of fact, that site should be viewed as an excellent place to get feedback from other tomato growers. I had a lot of fun with Tomato Challenge 2001 last year and met some really cool people on the internet. hydroponically. Hope to see you all at the contest. Happy Growing, Wayne

looking for cheap, reliable, and easy to use hydroponics systems up to 3 to 4 m2.muchas gracias JV

I am doing a science fair project about hydroponics and need some more info and thought that this might be the place. e-mail me info at cockatiel8@juno.com

Thanks

Sorry I don't do homework.

HI Ron: I'm a novice to hydroponics. I built already my 11 plants pvc system. I have a fertilizer called: DYNA-GRO and the formula on the label reads: 7-9-5. and also says that it contains 11 trace elements (don't know what that means) but it has no indication about the correct amount of fertilizer per gallon for, say, tomatoes or peppers. I'm assuming that 1/2 tsp of fertilizer for a gallon would be enough to start. Do you know the brand? do you know the correct amount per gallon? PLEASE !!!HELP!!!. CARLOS ESPINOZA PLANTATION FL.

That's what my guess would be. 1/2 teaspoon is about standard for young plants then I would increase that to a full teaspoon as they mature. Trace elements are needed along with N-P-K for healthy plant growth.

Ron, first off GREAT SITE! I cant believe I've been working with hydroponics for ten years and haven't searched out this place before. Q- I've always used the same old drab system, double buckets an hydrocorn with a drip and just need a change. The system Im going to is 4" PVC, with 4" mesh pots inserted into precut holes in the pipe. Now... can I have a constant flow just running over the roots throughout the lighting cycle or would I be better off with a timed feeding? Theoretically I would feed in one end and drain out the other with the roots suspended into the solution. I looked around the site for the answer but didn't see this discussed, if it's staring me in the face somewhere (probably is) my apologies. Thanks in advance

That is just a form of NFT growing. Yes the water has to flow continuously.

Misc Comments:

To the person who doesn't have access to electricity... I think you mean, to 120 V AC (like from the power company) - hey, most folks in California are in the same boat (grin).

You have a couple of options for pumping water. One is not too hard and will let you use standard Rio pumps: Get a marine battery or deep-cycle battery (Wal-Mart, about \$36) and run a power inverter (\$30, if you shop) from it. The standard (\$36) battery has about 1380 watt-hours energy (115 AH * 12 v). The converter is supposed to be about 90% efficient, so that leaves you about 1242 WH. If you use the Rio 180 (rated at 3.4 W for about 45 gph at 2 foot head) you can run it for 400 hours continuous before needing to recharge the battery (remember, DEEP cycle or marine -- this kind of discharge will ruin an automobile battery). Seeing as you don't need to run it CONTINUOUSLY, you can get a longer time between charges. Suppose you use a timer and set it to do 10 minutes every 1/2 hour... (20 min/ 60 min), that's three times the amount of time... 1200 hours to max discharge. About 50 days. Personally, I'd do it much less -- how about once a month, give the battery a good charge. Heck, get two batteries and charge one while it rides around in the trunk of your car... once a month, swap'em.

Even easier -- the heck w/ the inverter, get a marine bilge pump. Get the smallest one you can find, as the larger ones will pump a LOT of water. Figure it this way... if you've got a multi thousand dollar boat at the dock, if there's ANY water building up in the bilge, you want it out ASAP. Anyway, if you get a 12v marine bilge pump, you run it directly. All you need to add is the timer.

If you've got more \$\$ than I do, you can charge your battery where it sits... The 3.4 W pump, run for 10 minutes every 30 minutes, will only use 13-14 watts per 12 hour day (you don't have to run the pump during the dark, accord to the stuff I've read here). You only have to replenish those 14 watts to the battery each day. ASSuME 6 hours of good strong light a day, you only need about 2 and a half watts at 13.8 volts, or 175 milliamps to fully charge the batt. You can get some great solar battery chargers that will more than top that for not much \$ (current prices are about \$7/watt for solar cells). Heck, you can do even better with a stack of cheap surplus NiCd batteries to run the pump w/ the solar battery charger to recharge them. Wow, I think I'm on (to) something here... too much caffiene, I think. Sorry, I got a little carried away. Suffice it to say, if you've got enough sunlight to grow yer plants, you've also got enough to power pumps to circulate your nutrient. (I think I figured out my summer project... grin).

To the person who was talking about the "patio container system" (box), filled w/ soil (earth), with the reservoir in the bottom... it's call an "Earthbox" and there are a ton of pages that talk about it. OK, maybe only 50 pounds of pages. It's an over-priced system, meant for those who have no interest (or confidence) in experimenting. It's a very simple system -- water reservoir in the bottom, media (soil) area on top, and the two meet through capillary action where two columns of the media (soil) descend into the reservoir. From what I've read, you may have to replenish the reservoir a couple of time each WEEK (not each day) in HOT weather... in normal wx? Who knows. If you're lazy (I am), You'd hook up a hose and a float-valve in the reservoir, and let it replenish itself when it gets low. Because fertilizer is added directly to the media (in a "band"), you don't mess with mixing nutrients. Personally, I think that their way is probably not as good as good old hydroponics -- nutes in the fluids, nothing in the media -- but then, I'm not selling an over-priced system to old folks who don't want to build stuff. I'm all FOR building stuff (hm... where did I put those solar cells?)

You could build a similar system for about \$10, or, you could pay \$30 (and about \$7 shipping) to buy one. The earthbox site tells you everything you need to know about it, including their "magic" "fertilizer band" -- it is not a hydroponics system, although it could be converted into one easily. For more info, read the container gardening forum at Garden Web... <http://forums.gardenweb.com/forums/contain/>

Hey, they also have a hydro forum, but there's better info here, by far. <http://forums.gardenweb.com/forums/hydro/>

Luck, folks

what is hydroponics and how is it similar and different from soil growing

RE: what is hydroponics and how is it similar and different from soil growing

Hydroponics is the growing of plants in a nutrient solution. There is no soil involved, only an inert medium in most cases.

all you new people learning hydroponics, go thru the pages on this site. learn that way before you ask simple questions, i did. give ron a chance to get to some of us with real grow questions.

what can you tell me that is bad about hydroponics?

my e-mail is myonlyloveisu@hotmail.com

finding the correct nutrients and chemicals for pH control and the equipment needed like pumps, timers and lights at a decent price.

When you plant in the bottles using the cups, what medium are you putting into the plastic cups that you have your seeds in?

I start my [seeds in vermiculite](#) and then [transplant them to the 16 oz solo cups with grow rocks](#).

When you place the cups in the bottles, are the cups "planted" into a medium such as gravel?

The cup with the plant sits inside the [2-liter bottle](#).

PS: I am new to hydroponics and I found your site very helpful. Thanks for your efforts!

My name is Rock Ishijima, Los Angeles County, have been looking for those who have been enjoying hydroponics in my area. I would like to visit them and learn more about it.

Hello all My name is Ahren And i am building the 11 bay hydroponics unit that is posted on this site (for a school project) I need to ask all you ppl out there for the best nutrient solution that you have found, You can Reach me at Cyberdweeb2@juno.com thanks for your time

-- AHREN --

I am new to hydroponics, and would like to find a web page with a description and the pros and cons of each of the several hydroponic methods. Does one exist where this info is all together?

Hi there,

Living in Botswana and working in the clothing industry, I would like to start a small commercial operation and I am thinking of growing vegetables. I do think this systems could be an answer in this country. So the question is how much experience does one need on hydroponics or is this only for high qualified agricultural engineers. Any comment on this idea is welcome as well as any information for me to learn more about. Thanks to all of you.

ike90@homail.com

It takes money more than experience to build an efficient commercial greenhouse.

How can I talk to you Ron? My name is Louis Larsen #801-253-7695. I need to get advice on how to start doing hydroponics. I have built the greenhouse, and have different designs. I need to know which is best to suit my needs and space (6 X 10) feet. email: hlarsen@altavista.com

With e-mail [Contact Us](#)

dear ron,

i think i have a problem with my cabbage on hydroponics. after 5 weeks, it just grown by 3 nodes. i dont think its a very good progress.

somebody told me that i might be experiencing bolting. what is bolting ? how can i prevent it and what are the physical manifestation of bolting ?

btw, i am in Philippines where temperature runs above 32 C in the middle of the day. i keep the system cool down by placing it indoor with indoor lamps. i cool the roots with temperature control nutrient solution.

o2ten

glad your back enjoy your site and i like hydroponics as a hobby

I built a 11-plant garden. The sump is getting algae. How to I get rid of it? Should I paint the RubberMade "sump" to keep out light? The "Home Hydroponics..." book by Lem Jones claims that you can prevent it by keeping a tight lid on the sump. I have a small 2.5 inch round hole for the cord, and water line. I can tape this up. Anyone else had this problem? thanks, mark

I want to start a hydroponics system but I have do it on a very tight budget. What are some things I can use to get the seeds germinated at home, without buying anything, or something cheap?

Dear Ron, I am 14 and I am really into hydroponics. I am wanting to make the 11 plant garden but I can't find the pump. What is the estimated cost and also, what's the best brand. I really like your site and I am a member. Thanks
Cameron Burnett

Question on transplanting

Last Thursday, I transplanted squash, cucumber, and eggplant. The squash looks like it played 1 game with Michael Jordan. I mean, it's limp. The other plants look as if nothing happened. I went to the hydro shop the other day and the guy there told me to add a little vitamin B-1 to the nutrient solution. I use it all the time when planting in the ground and it works fine, but in hydroponics, I'm wondering if I just plain overdosed the transplants cause I started feeding them Ron's straight nutrient right off the bat. The plants' old leaves seem to be withering, but the new growth is the healthiest green I've ever seen on a plant.

I guess the question is: Should I cut the nutrient dose in half for a week or two after transplanting? Then give them the full treatment. Seems to me that I read that I should do this somewhere on this website, but there's so much info. here, I can't find it now.

I'll send Ron pics when I figure out how to connect my camera to the back of the computer and transfer the images.

Tailwheel

Yes I would cut way back for the first couple weeks. Then slowly increase the dosage every week.

hey ron, george in crescent city fl. you were right about greenhouses are too hot for summer use here in fl. using 70% shade cloth, 2 roof turbines, 2 exhaust fans & a small swampcooler still had temps in the 90's. i threw in the towel & moved 2 of the hydro units outside. peppers & tomatoes are alive but almost no growth. my question is for outside use in this heat does the nutrient solution need to be cooled for good growth or should i just forget about summer hydroponics & go fishing?

My peppers on my back porch are also suffering because of the heat. I don't think they will make it to maturity because it ain't even august yet the hottest month.

I don't think cooling the solution will help that much.

My Heat Wave tomatoes in my pool garden are starting to bloom but I have to let the garden drip continuously during the hot part of the day.

I'm just going to get my commercial garden ready for this autumn's growing season.

I'm a newbie at hydroponics. Sorry about the paragraph but without all the info it might be hard to help me out. I recently started a Dwarf Tropical Papaya in a large square of rockwool (2x2x3 I think), kept it in a mini greenhouse, and when the roots began protruding from underneath (about 4-5 inches tall, 10 leaves), I transplanted it into a powergrower.

This is my second try with this plant and would appreciate it if anyone could help me narrow down what I might be doing wrong.

The first plant showed the first signs when its older leaves, only one at first, started to wrinkle upward toward the edges. I then noticed super tiny white bugs running around in the rockwool, and kind of summed it up as a bug problem. Couldn't seem to keep them away, used liquid soap mixed in with water and poured it all over until soaked.

This seemed to work, for a while at least, then they came back. The plant just got worse and died. I haven't noticed any of these bugs with my second plant attempt, but the same symptom is appearing. Except this time I felt the "mottled" leave which was curling and wrinkled upward around the edges, and it was dried out and crackly. I have some ideas, but need to know the most likely cause, might be a combo of all though.

1st off, is it a bad idea to mix both growing mediums, will the rockwool end up being too moist while the grow rocks (Hydroton) might dry out=over/under watering? What might be a suggested schedule for water? Or should I start over and start one without the rockwool right in the power grower?

Could humidity be a problem? It is sitting on a bucket of water, and I do have a humidifier on just about all the time located about 4 feet away from this plant.

Draft? Its winter here, and its located about 2 feet away from sliding glass doors. I am trying to fix this by putting up plastic walls (saran wrap if I have too), until I find a suitable dome that would fit. Any domes made for a power grower?

Nutrient problem? I switched from Shultz seedling/rooting fertilizer works great!) to General Hydroponics 3 part system micro, flo-ro- bloom) and kept it at mild general use, and only watered once a day for 30min. because the rockwool seemed to stay wet and I dug down a bit and it seemed moist in the grow rocks as well. I'm going to go back to using the Shultz diluted fertilizer and hand pour it until it comes back. it was doing so well before)

Lighting problem? I don't have space for HPS or Halide lights yet and use a vita-lite(24 in.) and full spectrum reptile light.

Another bug problem? I have recently noticed super tiny white and round things that don't move on some of the leaves, only where the base of the stem meets the leaf. I also saw what looked like sap bubbles on parts of the tree trunk still somewhat green and soft) and leaf stems, as if something might be biting it, never saw this before so don't know if this could be something else.

I am going to be looking closely every day and remove anything like these things if I see them. I think I summed up everything I could think of. I really need some help because all the books

I've read have so many possible problems that could be effecting my plant that it's hard to narrow it down without experience. Sorry again for the long paragraph.

Mark

Want to know how to build a garden?

hi, I'm doing a project on hydroponics and i need to know the advantages and disadvantages of it, And i also need to know why it has developed please can u help me and reply a.s.a.p

no

Ron, What size (how many gallons per hour) pump do you use in the 11 plant garden that is made with 1" pipe?

You can use a small pump like a 60 GPH without a flow control. So you can use almost any larger size if you use a flow control valve to slow or redirect some of the water back to your tank. So if you add more units you just open up the valve to accommodate more units. That's why it is a good idea to always buy a larger pump because from experience you will want to expand when you catch the hydroponics bug.

What size (how many gallons per hour) pump would you use for a garden twice that size?

You could probably fill 3 11 plant gardens with a 120 GPH pump if they were right above the tank. It would just take longer to fill more units which could be an advantage if your timer only has 30 minutes on/off pins.

How do you figure gallons per hour for any size garden?

If a pump won't fill a certain garden or take to long to fill then I know I need a larger size. If water starts to come out

of the little hole in the over flow pipe then the pump is to large for the system. So I can either add a flow control valve to slow down the water to the garden or I could add another over flow pipe somewhere in the garden to handle the increase in water volume.

I have 2 questions, one about lights and the other about food at the end of a cycle. I am currently working with 2-1000W bulbs on a small 8'x4' bed and I have heard about rotating lights and lights that are on tracks. My question is if I use one of the lighting above, can I reduce the bulb size from 1000W to 600 or even 400W and still not effect the plants. There are two different bulbs at this time and I have been told that the would do good with all spectrums of light.

I would put just one 1000 W on a 6 ft. track mover. If your garden is square (6X6ft.) then I would use one 400 HPS and one 400 MH on a two arm sun circle light mover. All spectrums is best if you can afford it.

The food question is that I am told that my tomato plants should be flushed with clean water at the before I am going to harvest. I was wondering if this is necessary and if so how long should this be done. By the way I have learned a great deal about hydroponics from your site and hope to learn more in the future.

I have never flushed mine and I sure don't get any complaints on the taste of my tomatoes. Tomatoes are harvested sometimes for months as they ripen so it would be a good idea to flush your system every few weeks anyway.

the guy from feb 1 has a good idea fitting the caps on the 3 litter bottles i saw those bottles at wallmart there just like the 2s only there 3 with bigger cap im going there

i have a question about hydroponic nutrient solutions i saw one that's called phat hydro from canada, it seems like the nutrient levels are kinda low it's a two part veg a and veg b, a is (1.5-0-2.6) and b is (.5-.5-5.0). then the bloom is a (2-0-2)and b (1-.6-2) what is the best n-p-k for veg and what is best for budding? great site by the way

I wouldn't worry to much about the formula as long as it says that it's for hydroponics on the bag or bottle. The important thing is feeding your plants the right amount at the right time. (the PPM)

Simple passive hydroponics. I am thinking about going passive. Will this work: Some grow rocks in 2 liter bottles, sitting on a tray in a tub of nutrient about 2 inches deep. Whenever it dries out I add more nutrient solution. Is that how simple it can be? How high should the rocks be and where should the seedling be? And I plan on using fluorescent bulbs. What wattages would work? All I want to do is grow two plants for fun. Sorry for the rambling. I just am pretty excited about trying something new. But I need to really keep it simple, I have roommates. Thanks..

Hi Ron. I'm working on a report for one of my classes. I need to know what the biological aspect of bacteria are in a hydroponics unit. Or, How will the bacteria help the fish? Can you help? Thanks. Natasha

I would go to www.aquaticceo.com and ask for their catalog. They specialize in fish farming and hydroponic equipment and you can lean a lot from their catalog.

You can build your own aquaponics garden by placing the 11 Plant Garden without the container on top of a fish aquarium. Don't use the ebb and flow method but instead you need to run 1/4 inch spaghetti lines from the submersible

pump in the fish tank up to each bottle/plant. This drip method doesn't use as much water as ebb and flow so your fish wont be sucking air ever time the pump comes on. You need to filter out the fish poop after it has release its nutrients in the water. Remove the old fish tank light and add a grow light above your garden that will serve duel purposes for plants and the fish.

Don't expect to grow high users of nutrients like tomato plants but stick to growing plants like bibb lettuce.

The problem is hydro plants like a pH of 5.5, 6.0 and fish like it at around 8.0 so you will have compromise on that and put it at maybe 7.0.

What kind of science project could i do with hydroponics for a ninth grade science fair at a magnet high school?

What types of plants grow best using the hydroponics method? If you have any suggestions please email me at pretty_n_pink39@hotmail.com

Hi there. im a high school student whose doing my science research project on hydroponics vs. regular soil growing. I need help on how to build a low maintenance passive hydro system. I would deeply appreciate an email with any sites, tips, or advice. my email is FUZZYStarz@aol.com thanks a bunch and please help me out!

Ken.....click on [page 1](#) of this Bulletin Board and start reading. Nearly every question you have has been discussed on this website before. Explore my friend. Everything I know about hydroponics I learned from this site.

Frank

Hi, Stan Putter, Re your reatives in RSA. There is a very good book on the SA market. HYDROPONICS By Dudley Harris ISBN 086977283x. It tells you everything you need to know about hydroponics. I am also prepared to help. My EMail addr. is westa@intekom.co.za

Is there available in USA a hydroponic forage kit or plan for producing livestock feed via hydroponics? I know in Australia the whole system is available, but I am not aware of any such on this side of the pond. Thank you.

What do hydroponics have to do with tetrahydracarbonol content?

nothing

How to grow Lettuce with hydroponics

In a NFT system.

I want to start a passive hydroponics project, and would like to know what kind of materials am i going to need to start?

My brother is into hydroponics. Any ideas for stocking stuffers? He lives in another state, so I don't have any info on the system he uses. Thanks, Colleen

Ron or anyone I was wanting to know if your guys every tried to grow a avocado tree in your systems. I'm starting some plants with my kids and thought i would transplant them in the spring to see how big they can grow. May be will get my greenhouse finished this summer.

Frank

I have had a problem trying to grow woody plants like roses and shrub type plants. Plants that love water do best in hydroponics so if avocado falls in that category it might be possible.

where can I get some info on hydroponics in this website?

take another toke.

We are learning about hydroponics in our science class, and we are going to be setting up a hydroponics lab in our room. What would be the basic setup for making a lab, and do you have any tips? Thanks a lot!

For learning purposes a lot of small gardens are better than larger systems so they can be compared with one another for testing nutrients and light differences.

Four students can be assigned to each garden to compare results.

I will be setting up a virtual reality model this spring that schools can copy or just use the VR one as their teaching model.

Ron

How's it going, Ron? Listen, I just bought a hydroponics system (250 watt MH) and have a nice a little variety of sprouts. I have already transferred the sprouts (4 leaves - 2 of which are spiked) in their rock wool starter block into the aggregate, lava rock. My question is, should I be using the 250 watt light for the vegetative phase or would fluorescents work just as well? And how far should they be away? I am also running the solution 3 times a day, at 8 hour intervals.

Thanks,
Daddyo

Fluorescents are only good for the first few weeks of plant life. Use the 250 W and put it between 18 to 24 inches from your plants.

Hi Ron I am a beginner in growing tomatoes with hydroponics. I heard i few different things from people on what to do and don't know which to trust

I have been growing a batch for maybe two weeks i am using two different seeds of tomatoes. So far the big ones have a long stem and two leaves. I have been keeping my light on 24/7 and i manually water them twice a day using a pump to fill my tank from a reservoir. I always make sure the rockwool looks as wet as possible.

Keeping the light on 24/7 is that bad for the plants at all?

No

How important is a micronutriunt tester?

I can't imagine growing without one.

How important is a PH tester?

Can get by with an inexpensive test kit that I will be selling nest week. pH meters have to many calibration problems.

What temperature should I keep my plants at?

75 degrees

Any suggestions would really help me out thanks...

Brett Kalluminait2001@yahoo.com

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it. Ron

Please copy and distribute!

Thanks for doing my report Ron, I got a B+ it would have been an A but I got some bbq sauce and koolaid on it.

i've heard you can increase yeild of a hydroponics crop with oestrogen. when should it be added to the grow feed and

in what quantities?

I am only beginner on Hydroponics Worlds. I wanna know that why we must treat water with ozone and UV light for using in Hydroponics. I mean both UV and Ozone at the same time. Why we must use both for high expenses

Hello everyone. I just joined the club. My question is this. I am planning on making a homemade hydroponics system with a 10 gallon aquarium. Basically the system consists of an aquarium with the nutrients in the bottom and burlap on the top holding the growing medium and a pump for aeration. I am planning on trying tomato plants in this system. Has anybody tried this or would I be better off purchasing a small commercial system?

i am planning on an undergrad thesis on hydroponics could you suggest some possible areas where i could make a study on? please?

-pat

hi guys i am fairly new to hydroponics and want to build the 11 plant garden. i understand all about building it but dont understand the following: do you just stick your medium in the pop bottles then plant your plant and turn the water on? what is the whole thing about the PH? what is it supposed to be like? do you use a grow medium? or do you just make something to hold the top part of the plants out of the water? what size of pump should you use for the 11 plant garden? sorry for all of the questions but i really need to know. -jon borrrderjon@aol.com

I am a student doing research on hydroponics. I am going to test how the different plant nutrients affect plant growth. I'd like to know which nutrients are the most essential (I'm assuming phosphorus, nitrogen and potassium) and how I might go about setting up different nutrient solutions to be able to do the experiment

O.K. I'm a little slow. Looked all thru previous messages for size of reservoir, then found it hiding in "Order Your Own Hydroponics Garden". Thanx anyway, Chris in N.C.

what exactly is hydroponics? who found out about them or discovered this could work?

Hi My Name is Keena, I'm an 8th grade student in FL. I am in an association called TSA (technical student association). As one of our first activities we have to do a project (of course). In groups of two we had to pick either Aeroponics or Hydroponics and make a display board w/ report and make a working model. I picked Hydroponics, but I don't really know too much about it. I know what Hydroponics is, but I'm still kind of shaky. I want to do a really good project to help me on competition level but I can't buy a kit, it doesn't need to be big and fancy, and I don't want to spend a lot of money.....CaN ANYONE HELP ME??

I saw the picture of the Hydroponics gardens you had, but they are way too difficult, Can you show plans for simpler ones, and cheap parts, also would a fish tank pump work??(tryin to save money)

Hi. My name is Jon Whitsitt, and a friend and I are conducting an experiment with hydroponics. Our teacher wants us to mix all the nutrients ourselves, and we only need something called "trace elements" if anyone could give us a hand, it would be greatly appreciated. Thanks for your help.

My group in class has to do a project comparing hydroponics and aeroponics. Can you please tell us what would be the cheapest and quickest way to grow mint with hydroponics?

i love hydroponics, i wish that it actually worked

Hello Ron , I am currently studying year 12 VCE food technology and are featuring a topic of our studies on food and technological development. I am focusing my main topic on the hydroponic farming of tomatoes. I was wondering whether you could help guide me in the right direction and answer some of these simple questions The advantages of the hydroponic tomatoes over other similar traditional products? The growing, which enabled the product of hydroponic tomatoes to be developed? And whether you have any significant points about hydroponic tomatoes? Or a diagram on how hydroponics works? Any of this help would be greatly helpful to help for my future studies. And whether you have any other websites that focus on hydroponic tomatoes Hope to hear from you soon and thank you for your help Thank you

when did singapore start hydroponics?

Hi, you seem very helpful with this stuff so I would like to ask you some questions. Is it possible to take a cutting dip it in rooting gel and grow roots in well filtered water with plant gravel and an air pump? The cuttings end would always be in the filtered water in gravel and in high humidity and low light. also What is the proper PH level for Hydroponics.. I have seen 5.8 - 6.8 Would it be better lower or higher here. Thanks

I am looking to set up a Hydroponics garden and I am just looking for a list of the required elements such as chemicals.. and lighting requirements...

where does hydroponics first develop?

will this work & whats it called?? a five gallon bucket filled with water/nutrient an air rock on the bottom, the plant being held in standard basket with hydroton clay,the roots are in water 24/7 the bucket is emptied,cleaned and fresh water/nutr. added every 7-10 days.comments?? suggestions???

Hello I am just starting with Hydroponics. My first plants are so weak and and of are beginning to die. What it is supposed to be wrong. I live in Venezuela. Regards Hugo Perdomo

Fertilizer For Hydroponics. My ? is where in southern california or online can i purchase the ingredients to mix my own formula based on dr. hoagland formula? email me liquid_smoother@yahoo.com or reply here on the boards

i want to do hydroponics for a science fair project but i have some questions. Does it still count as hydroponics if you water your plants once a week but don't use any soil? could i just make a little rack that the plants are clipped to through a water bottle top and have the roots dip in the water? Do i have to have a "system" or is there anything way less time consuming and inexpensive i can do for my project?

I need advice. My name is Kiyon an I am 24 years old, I live in the caribbean. There is greate demand for short crops in my country, example tomatoes, lettuce, sweet pepper and cucumbers. I would like to start growing tomatoes hyderponically, but there is no help or info on such. I have a market to tap into which is to provide 5,000 lbs of tomatoes pre week. I need to be educated. A system best suits my climate,size of greenhouse, seed that can be used, equipments and plans needed for construction, training in the field of hydroponics so I can also help others help themselves. kiyonhenry@hotmail.com what ever you offer will be of use to me in developing my business plan. Thank You.

I'm reading a book on hydroponics, and it has an example that I want to try, but I am having trouble finding some parts. The list is as follows: • One length of Marley Flowline UPVC square section-guttering 6.5ft (2m) long by 4.5in (11.4cm) wide. • Four stop-ends for the square-section guttering. • Four support brackets for the square-section guttering. • A length of black UPVC electrical conduit, 0.8in (2cm) outside diameter. (This is sold at DIY stores as 'PVC round conduit heavy gauge black 2cm X 2m'. • Two tank fittings to adapt the conduit tubing into the UPVC house guttering. These are sold as '20mm adapter with male bush black'. An alternative to the conduit and tank fittings could be the downcomer unit sold with the guttering; this is, however, much larger and more suited to the greenhouse system. • A cold water UPVC tank sold as '4 gallon/18 litres with lid'. If a larger tank can be accommodated then this would give longer periods between solution changes; the nutrient balance should be maintained using a cF 1meter while topping up with water. • A spreader mat. • An 18W submersible pump with a head of 5ft (1.5m). • A tap to control the flow. Ok so I think I can use stuff from www.warwickshirefascias.co.uk for the guttering, but where the heck am I supposed to get the two tank fittings to adapt the conduit tubing into the guttering?? (it says there will be a hole cut into the guttering for the adapter thing) And what the heck is a spreader mat? I found some stuff for the conduit but I don't think it's UPVC. And where am I supposed to get a tap? I'm completely LOST LOST LOST. Help?

hi, i set up a hydroponics system that has about 12 plants growing in it right now. I use the formula 1 A and B for the solution. i am having somewhat good results, but i dont know what kind of lighting i should use. what do you recommend as the best for the cheapest price. thanks, cc

HPS or MH

Re: Difference between HPS lights

There is no real difference between the lights you buy at the hardware store and at a hydroponics store. The ones at a hardware store often times have a built in ballast, and a grow light has a remote ballast, making it a bit cooler. The light they put out is the same, given the same reflector, which you can build. If the wattage is the same, go for the cheaper light.

Brett

Science Fair:

I'm 15 and am in 10th grade. I wanted to do something with hydroponics and so I started researching. I don't know what the certain percentages are for the nutrients that must go into the plant solution or where i could get them. Any ideas?

**Please read Q & A Page 2 thru 53 above. Or use the [Search Page](#) to narrow your search.
It's just like homework ain't it.**

Hi:

I am new to hydroponics and wanted to know if a pump that circulates the water is necessary. Is it okay to have free standing water if you have an oxygen pump. Also, is it okay to have a clear tank, or should it be so that light can't get in. Answers would be greatly appreciated. Thanks

Yes a pump is necessary and yes a clear tank will get slimy from the light hitting the water.

What would you use for a nutrient solution in the 11 plant hydroponic system displayed on this site? Also I would like to thank the maker and members of this site it has been a big help with my project for school.

Any nutrient solution formulated for hydroponics will work fine.

Hi Ron. Here at unc charlotte scanning last years questions and comments pages. my assignment is to write a paper on growing a hydroponics garden in a limited space such as a small section like 3x3 ft. What would be the beginners garden and what to expect out of it when following instructions precisely. My example is using bean plants and what kind of maximum yield can I expect from using the basic elements. Food light pump water. sincerely henry ridenhour

Can I use Shultz Fertilizer in an EBB and flow system. Like the 10-60-10 stuff.

Thanks

We are a group of engineering students and we have been asked to submit a proposal for an urban gardening center. Where would be the best place to find information on hydroponics and where hydroponics will be in the twenty first century? We would appreciate your reply. Thanks, Team Solutions

I have been wanting to start with hydroponics for some time now and bought some nutrient off the shelf 3 years ago. I eventually built a experimental plant now and used the nutrient,planting cabbage without success.

Does the stuff go off

Hannes Richard

This is one of the most comprehensive sites about hydroponics I have run across yet! Glad I found you but I have been looking so long my eyes are swimming and I can serach no longer.

Can you reccommend an approach for a classroom hydroponics system? We already have equipment and basic understanding of the technology. I am looking for guidance on plant selection and the mixing of several plants in one table. I want the middle school students to track growth rates, adjust pH etc but last years group just had a tomato plant race.....seems like underutilization of the benefits of hydroponics (and I do not like tomatoes anyway).

I am thinking that a kitchen garden would be a practical application which could easily be replicated in a students home life. If I have four groups each grow a different plant and compare growth rates among groups, what plants would work well. Since we are in a school situation, fast growers are critical in order to have mature plant beofre the semester ends. Any ideas? This is a teachnology class in Idaho with a space station simulation which is an excellent application of the technology and the the primary educational link in the class to hydroponics.

Thanks, Gina Sartor gsartor@geocities.com

Hi. We are students at Providence College working on a hydroponics website for our environmental politics class. We are unable to find information on large-scale hydroponics operations. If anyone could be of assistance in providing us with information about publications or websites pertaining to this, please e-mail us at jyande00@providence.edu
Thanks so much!!!

Hi, i´m very impressed of your work with bottles and pvc pipes, but how many pounds of tomatoes do you get for each plant a harvest ? , and how many harvest do you obtain a year crop ?. I´m thinking like you, that the hydroponics crop could be a very good business for now and especial in my country (Venezuela) where every thing is becoming expensive and bad quality. I´be happy if you answer me the question before, because is very important the fiel data in a system like yours.

from venezuela, please to meet you,

rob.

can i get info on hydroponics

Do you have any "how to" videos available for sale? It would help me a lot to be able to see how to build one of your units.

I would like to know if it is alright to grow hydro tomatoes in Euclyptus, oak, poplar ,and pine shavings

Bruce McDougald mertis@lantic.co.za

If anyone has or knows of a site with detailed designs of a hydroponics center, please email me at diehard_3fan@yahoo.com I'm working on an engineering project and have to design and urban gardening center!
Thanks

Hello there Hydro World,

We are starting a commercial lettuce operation in Mexico and I am interested on people who want to share experiences on the Deep Flow Tech. We are in the lettuce growing business. Any Ideas about controlling Algae? Good growing to you all!

JPS.

Algae is your friend when it comes to hydroponics. Without algae there is no nutrients in the water.
Have you ever seen plants growing from of a swimming pool?

Check out the lastest and great resources for Hydroponics!

[Http://www.hydroponicshangout.com](http://www.hydroponicshangout.com)

Remember a good over all pH is 6.0

I have been growing a certain plant now for a number of years. I have been using soil i have had success i have become quite good at what i do. However I live in the UK and this particular plant is frowned upon by some (lets call them uneducated) people. I have decided to start growing hydroponically as people i talk to tell me i would get a better

crop. Obviously i have also been reading all about hydroponics from a number of places. I have to say this site is definitely one of the better sites i have visited you explain in very good detail how things should be done. When i set up, this site will be visited over and over until i get it right..... keep up the good work.....KENNY SWANSEA WALES UK

Happy Holidays! I recently found a Phototron II and it is fully operational (lights anyway). However, I am a complete novice on the system and how hydroponics work in such a device. What do I need to acquire to get started (i.e. growing medium, fertilizer solution, pumps, BOOKS, test kits, etc.). I dreamt of owning one of these thing since high school so I hope it has been worth the wait!

Sorry that garden is all hype. You can't grow much with florescence lights, the light source in them.

Hi All,

I recently opened a website/store that offers hydroponic supplies. I did this for two main reasons: first, I'm a software engineer and wanted to build an ecommerce web site; second, hydroponics is my hobby and I wanted to get stuff as cheap as possible.

I talked to Ron about offering you guys a special deal. Everything I have is at least 10% off list (some 15% off and most following in the next couple of months) and you guys can get an extra 10% off with this coupon (at the checkout cart use the code: hydroponics). That will likely bring my profit margin to about next to nothing.

I'm adding new stuff to my database all the time. I'm a dealer for a couple garden supply wholesalers and one light wholesaler. If you want something that's not on my site let me know. Most likely I can get it but just haven't listed it yet.

So, please check out www.dogstarlabs.com and see what I have available.

Jeff jeff@dogstarlabs.com

Hello my name is John W. .I'm in the 6th grade. I'm using hydroponics for my Science Fair at school. My teacher wants us to have an expert comment us on our hypothesis. My hypothesis is: I believe the plants in potting soil will grow bigger, stronger and faster because of minerals in it. Could you please comment on my hypothesis? Thank you John White at jpwjr2002@yahoo.com.

ron: i am planning to make your hydroponics kit which you show in the 8 lesson hydroponics tutorial, and i probably plan to place it inside in a room with little to no ambient light. If i grow beans, what type of light/lights would be the best setup in terms of cost effectiveness vs. how well they provide the plants with light? i would welcome any input that anyone has on this topic.

P.S. i am building this for a science project

This is John White again. My science fair hypothesis says that plants in potting soil will grow better than in a

hydroponic garden. I said this because I don't know about hydroponics yet and wanted to learn if it was just as good as growing in soil. After reading my research I learned that hydroponics gives plants the same nutrients as potting soil but in a different way. I was hoping you could comment on my hypothesis for my project by saying whether you think plants do better in hydroponics or just the same as in soil. Thank you for your time. I think hydroponics is cool! John White

Attention: John White

There is NO comparison between growing in hydroponics and potting soil. Hydroponics wins hands down. Keep in mind that in hydroponic growing, the plants are being force fed nutrients whereas in soil, the plants put out more roots seeking nutrients in a form it can use.

I usually buy 6 packs of seedlings at my local Home Depot. Those that I don't put in a hydroponic setup, go into the ground. The difference in the growth rate and production of fruit is almost unbelievable using a hydro system. An added benefit is that I hav'nt had any bug problems in the hydro garden and am able to grow without using any poison sprays.

what is the environmental impact of hydroponics?

How can you recycle Nutrients using hydroponics?

What is one future use of hydroponics?

Hello, i am a 4th grader with a science project on hydroponics. i need as much information as you can possibly give me. step by step procedure, list of materials, authors of books on this subject, sources, my teacher told me to get it from encyclopedia, researchers, librarians, or from my computer. if you can help me please send information to my mommy also phylliscarter66@netscape.net thank you

What is some statistical information about hydroponics?

I would like to know if any1 know a good source for hydroponics

I have to do a chemistry project for school using hydroponics. The thing is I don't have any experience in hydroponics. I already did some research and i have purchased the following equipment: 400 watt MH lamp, 5 and 10 gallon Rubbermaid containers, air pump, water pump. I don't know what kind of nutrients to use or growing medium. I also

need ideas on something easy to grow that would react well to different types of nutrients. Ideas on home-made nutrients are the main point that iam aiming for. And you have to keep in mind that this is for a school chemistry project.

You can Email at sub4chaser@yahoo.com

Hello, I am new to hydroponics and am going to build the basic 11 plant garden to try to grow tomatoes. There are two questions I have at the top of my head.

- 1) what kind of pump should I use:
 - 2) is there anything I should know about growing the tomatos?
-

Can I use calcium chloride for hydroponics, I have no access to calcium nitrate.

I'm a small-scale veggie grower, using hydroponics for some of my crops. I'm thinking about starting up a hydroponics ezine (online magazine), to share information I've found about cost-effective building methods, growing strategies, online resources, etc. I'm trying to determine how much demand there would be for such an online magazne, before I go through all the work of creating it. Would any of you be interested in subscribing to such an ezine, for about \$10 a year?

What are some negative things about hydroponics?

Many people seem to have no idea as the the chemicals involved in hydroponics, so I'll take a shot at these. Fist off, Calcium chloride is NOT a substitute for Calcium nitrate. Some of the chemicals that are absolutely necessary include: Calcium nitrate, Potassium phosphate, Magnesium sulfate, small amounts of chelated metals (Fe,Cu,Mn,Zn EDTA) and trace amounts of boric acid, molybdc acid, and cobalt sulfate. Other chemicals are necessary for pH control, acids to lower pH -phosphoric or nitric acid, and Potassium hydroxide to raise pH if necessary, or sanitation chemicals like hydrogen peroxide. For those people who are not chemists, it is best to use a nutrient specific for hydroponics - Look for high percentages of nitrate verses ammonia/urea. Stay away from soil nutrients like miracle grow as they do not use calcium nitrate, but rather urea.

Hi Ron i am interested in hydroponics, i live in Cavite philippines, can you advise me of shops/businesses that supply nutrient and hydro growing equipment in my area or Manila Thanks Ray (aussie as well)

FYI CoCo Bricks

For the article, go to <http://www.hydroponics.net/>

Upper left hand corner, click on : "General Hydroponics"

On the next page, in the left hand column, click on: Growing Media, click on "CoCo Peat"

On the next page, click under Description, click on: CoCo Peat (Case of 24). The article is here.

Sorry, but you must go through all these pages to get it.

More information is at <http://www.groworganic.com>

Haven't been signing my posts, but I'm Tailwheel

i need some help with a class project where i want to compare growing plants w/hydroponics to growing plants in soil, & vice versa.

Hello, my name is Ian. I have to do a science fair project at school, and I was thinking of doing something involving hydroponics (I'm not quite sure what to do, but I'd like to use hydroponics). If anybody could help me out with this (where to get hydroponic stuff, info. on hydroponics, etc.) it'd be greatly appreciated. If you could help me, my email is Malchori@aol.com Thanks! Ian

Been busy building a list of on-line suppliers for us hobbyist. Lights, medium, nutrients & pumps. For lights go to www.hydroponics.net. The grow max jr mh is \$154, the hps-\$189. For water pumps go to graystonecreations.com. Cheapest anywhere. Nutrient is hard to figure out cause mixing ratios are different but if your looking for cheap, quikgrow.com has a 3 part solution for \$6.00 per liter. Medium, depending on how much you need is \$30 for 50ltr at futuregarden.com or hydroponics.net has the best price for a smaller quantity, 3.5 gallons for \$10. I got all my supplies, except nutrient, from these people and am happy with all of it.

what is hydroponics

[growing plants without dirt](#)

I love the sight, so in appreciation, and to keep this sight the last word on the subject, here's a bit of trivia.

The only song (as far as I know) ever to mention Hydroponics Is the Title song of Donald Fagan's (Steely Dan) Kamakiriad. The Song (whole album) is about a futuristic car and the lyric goes

It's not a freeway bullet or a bug with monster wheels
It's a total biosphere
The farm in the back is hydroponic
Good fresh things every day of the year.

I take comfort in the fact that somebody in pop culture not only knows what it is, but that he knows that it's not just for growing the #1 cash crop.

I'm a High School student, and I'm doing a science fair project on growing grass in hydroponics, and seeing which type of fertilizer works best. If yall could give me any info. about what types I should use and which types work best, I would appreciate it a lot! Thanks for yalls time! P.A.

back to dirt it was nice at first then low water fert. burn next time pump burn out whats next back to dirt will still read your great site iv done tests & dirt seems to grow faster hydro no way you just have to judge for your self

All you have to do is watch as my tomato plants mature then you will have good idea how fast one can grow with hydroponics . Read the dates on the pictures as I post them everyday. Pictures don't lie.
You can also watch them all die if we get an early freeze here in Florida before I get my greenhouse enclosed.

Does anyone have the pdf file edition 2 of How-to-Hydroponics? This is one that used to be able to be downloaded, but required the Soft-lock key that you had to purchase before you were able to open the pdf file. I've managed to screw up my drive, and don't have a copy, and you can't download that version any more. I doubt that it has enough info to be worth another \$20. And, I've already purchased the key to edition 2. Thanks for your help. Jim Bradley -- Maryville, MO USA (jbradley@msc.net)

Please disregard my question regarding a copy of edition 2 of "How-to Hydroponics" that I'd posted earlier. I found a copy on an archive CD that I'd burned. Jim Bradley

I would like to know if anyone has tried growing Okra using hydroponics and what the average yield might be. You can email me at wilkinson@intellex.com

I got four okra plants just starting. I will let you know how they do.

first off would like to compliment on the wonderful site. my question is i would like to start in hydroponics and i am planning on building the system out of two 5 gal. buckets can i use aquarium gravel as my medium or should i use clay, i want to grow bananas so any help with that would be helpful thanks

The more porous the medium the better.

I'm doing a science fair project on hydroponics and it is very hard to find information on this topic. It would be very helpful if you could help me find valuable information on this topic. Thank You.

Hi my name is Matt! I am doing a project for PJAS (Pennsylvania Junior Academy of Science) and I want to do a topic dealing with hydroponics. And I was wondering if anybody had any ideas. If you do please post them on. THANKS!!

Information about hydroponics is all over the web. You can start by looking through this site. If that ain't enough, try the below sites for info & do it yourself units. There are a bunch more, you just have to look!!!!

INFORMATION: <http://www.foothillhydroponics.com/brochure/brochure1.htm>

<http://www.maximumyield.com/index1.html>

<http://www.gtghydroponics.com/webfaq.htm>

BUILD YOUR OWN:

<http://www.hydroponicsonline.com/11plant1.htm>

<http://www.ns.net/~bennu/>

http://www.hydroponics.net/learn/build_ebb_flow.asp

<http://www.overgrow.com/iss2/bubbler.html>

Hey Ron! I am wondering what plant will grow good in this weather using hydroponics.

I am growing tomatoes, peppers, and herbs of all kinds. It is getting kind of cool at night (45 degrees) now. My tomatoes are just showing and if we have an early frost they will be history. I will try to cover them if that happens.

the pH level in my hydroponics solution is to high. how do i lower it?

Can you tell me how my daughter and I can make a hydroponics system for science. She is in 6th grade so I would like to make something easy for her to understand. Is this possible?

Hi all, I am stuying on black pumice rocks- volcanic lava rocks for Hydroponics uses and about the demand of it in Hydroponics market. I need all kind of information about it... Even only one sentence!!! Thanks, Yonca

I want to grow blackberries with hydroponics and controlled lighting to increase the harvest season. Is this being done anywhere else? How can I get reliable advise on the system I should build and the nutrient solution?
gasmike2@aol.com

hello i am trying to grow some of that indoor, where can i find a a sealed and odor less hydroponics or some other indoor(greenhouse) jay69ela1981@yahoo.com

hello i am trying to grow some of that indoor, i am trying to grown some northern lights. where can i find a sealed and

odor less hydroponics or some other indoor(greenhouse)..easy to use ,,i looking for something new or used..a good price.. thanks,,JPitz jay69ela1981@yahoo.com

hello, i hope someone can help me with this.i am doing a feasibility study on hydroponics as part of my college curriculum...its my thesis.can anyone send me info on the equipment needed, materials, and the cost and where can i purchase them? im from the philippines...thank you.email me at baby_joy_19@yahoo.com

hello, i hope someone can help me with this.i am doing a feasibility study on hydroponics as part of my college curriculum...its my thesis.can anyone send me info on the equipment needed, materials, and the cost and where can i purchase them? im from the philippines...thank you.email me at baby_joy_19@yahoo.com

I just came from one of your stores, which I had visited for the first time since it opened. Although your prices are quite high I was pleased with your selection of gluten-free products, and was planning to shop there frequently in the future. That was changed when I heard my car and license plate described over the public address system. When I responded, I was told that they page people routinely when they think a car has been parked for too long in their lot. The car owner then must come to the customer service desk to demonstrate that he or she is, in fact, in the store. I don't like being harassed when I'm shopping, so I will use your store only when I cannot get a product anywhere else. I suggest that this policy is counter productive from your viewpoint, and extremely distasteful for customers. James Duffy, jim-jane @erols.com

That would be hard to do considering I don't have a brick and mortar store yet. I wish I owned every hydroponics store you happen to walk into I didn't invent hydroponics. And if you are talking about Worm's Way, they only advertise with me. I don't own them or any other hydroponic company that post on this web site except Pipe Dreams Hydroponics.

RON

do you grow marijuana not that u would post it if u did but u mite

I am a marijuana decriminalization proponent and not afraid to speak out after living and learning the facts of our 30 year old drug war.

Everything I learned about hydroponics was from pot growing books and magazines like High Times in the early 80's because that's all I could find. "Ask Ed"

After building my first greenhouse in 1991 I had a sheriff helicopter hovering over it checking what I was growing. My neighbors freak out. I don't know what they were growing but I was growing veggies.

I didn't realize I bought land in an area known as marijuana row.

So with a sign like Pipe Dreams Hydroponics out in front of my place do you really think I got balls big enough to try and grow pot.

I will admit that this web site was first started as my way of thumbing my nose at our elected officials for being so stupid but now has grown into a business.

And because of that you may have noticed that I do censor some pot questions because our paid politicians have passed a law making it a crime to answer such questions over the internet.

So until you pot heads start getting involved and petitioning your elective officials we will only be growing veggies on this web site.

Ron

What are the differences between Hydroponics and Aeroponics?

Why Hydroponics are more common in Singapore?

Anyone have experience doing hydroponics outside in South Florida?

concerning hydroponics outside in florida. i am goin to try it next week after this cold gets out of here. ron doesn't seem to have a problem. he has some outdoor gardens on his site. i'm in crescent city & i am getting temps. of 115 in the greenhouse already. time to move outside. george in cc fl.<bmmcnaught@usa.net>

what kinds of nutrients does a plant need in hydroponics.

what are the disadvantages of using hydroponics?

Cost

Ron,

First, I have to thank you for such a wonderful web site, and the obvious time and effort you have put into it at no charge to us. I've been able to establish some great hydroponics garden setups on my apartment patio. This hydroponics thing is so cool.

Question - I've been using Formula One nutrient and my plants have been blooming and producing fine for a while now. In your opinion, is it any benefit to use the Florabloom (General Hydroponics product I think) during the blooming stage or does the Formula One work just as well. Thanks again.

I have been using Formula One for 15 years and I swear by it. You don't need to add anything. Just increase the ppm for blooming. 1500 ppm or higher.

hi ron,

i am growing my lettuce on hydroponics. well, its 2 weeks to harvest, yet the leaves are still too open as in its not closing.

is it a problem of K ? will a higher K keep the lettuce open ?

thanx

rapala

Here is a [head of lettuce](#) I grew that wouldn't turn into a head but it still tasted good. Bibb or Leaf lettuce is better for hydroponics.

heres a cheap and easy to build and maintain system that can built for around 20,30\$ or so materials required: (1)rubbermaid type container (10 to 20 gallon) (2)16oz. minimum to (whatever)24-32ounce solo brand (solo more durable than dixie brand)plastic cups. with holes either melted with wood burning tool or cut with razor knife or similar implement. (3)gro-rocks or lava rock 1/4" to 1/2"approximate size (4)aquarium style air pump with hose and air stone(s) (5)aquarium ph test kit and a 1 part hydroponic nutrient (aquaculture hydroponics in az. and eco hydroponics in washington state make good inexpensive products)2 and 3 part may be used but get costly to use year round.liquid sea kelp 4oz. liquid measure per ten gallons water can be used as micro nutrient supplement/growth stimulant if desired. trace cup lip onto lid of container then trace a magic marker line inside that line so solo cup will be suspended in hole. carefully cut out with a razor knife.2 holes about 6" from handles works well for tomaters or pepper plants 6 or 8 works for leaf lettuce. fill container almost full,add 1/2 strength nutrient for sprouts to seedling stage,adjust ph to 6 to6.8 range ,add bubbler to nutrient tank add cups so nutrient is approx 1/2 to 3/4 covering cups kick back and watch em grow.top off tank with water as needed.more nutrient may be added as plants mature to bring up to full strength. thats all for now,happy growing! dudley groright says grow your own vegies, they just taste better.

p>hi!it's JS of FL, to answer your question Ron, i'm from the planet Zorglon3,[just kidding], i am however, from the space coast, which is why i'm doing this project, because i figure that it'd be awfully messy 2 bring soil into space, so we may have 2 use hydroponic farming. Also, if we ever do settle on other planets, most of them, including Mars, have stronger gravity, [could ya'tell i want 2 work at NASA someday?]so i want to see how well hydroponics would work in stronger gravity.btw, thanks for the info on the lettuce fertilizer!

Hi Ron, My name is Leslie and im new to hydroponics. I have my 9 plant garden in the works and a couple questions arose.

1) I have a 11.5 Rubbermaid reservoir and the only pump that I can locate is a 150 GPH. I already built my overflow pipe , is this pump considered small enough? I don't need a valve controller do I?

That size is fine and you will know if you need a flow control valve if water comes out the little hole on top of the over flow pipe.

2) Also what is a good timer? What timer do you use??

I use the [cheap kind](#) for some gardens with overflow pipes and an \$80. Dayton cycle timer for my large gardens without overflows.

3) I know that you cap off 3 corners of the tees in the 9 plant garden, but the 4th is where the pump hose goes through. I know that but if im using 1 inch pvc, do I use a threaded tee and 1/2 in hose connector for the 4th corner??

That is correct.

Thanks Ron Ill keep in touch!

Hello Ron! Thank you for the opportunity of this site.

I'm looking for a job with hydroponics in Florida. I have good experience with lettuce and other folliages. My home phone is (813) 661.4841 or e-mail: fsantanaus@yahoo.com

If this could be posted, I'd be most grateful. Yours, Fernando Santana.

Hi would anyone want to stop by this MSN community?

<http://communities.msn.com/Hydroponics>

Post some pictures share some knowledge!

I posted the first hydroponic picture on MSN when it first started years ago. I wonder if that black and white picture is still there.

I am just getting started in the hydroponics world and wanted ordered a 3-way light, soil, water PH tester. The company I ordered it from said they were out of stock and would not get any more. I have looked elsewhere online and have not yet found another. Do you know where I can find one or are they reliable? What kind of tester should I get? I did not want to spend a lot of money. Any info would be appreciated.

Careful those dirt pH and soil testers are different than hydro testers. It might be a good thing they were out.

hi, I've built the 11 plant system and I have some tomato plants growing in gro rocks & Flora series. I put the tomatoes in the system less than 2 month ago. The tomatoes don't grow very much (are 7 or 8 inches high) but they started flowering already. Should I leave these flowers or prune. This is my first attempt with hydroponics. I'm in Mexico City, lots of light and warm weather, not very hot yet. Thanks a lot, Victoria victoria@quetzal.innsz.mx

Flowers turn into tomatoes so if you prune the flowers then you just lost your fruit.

hi, I have to do a science fair project. So I chose hydroponics because it looked interesting. I am growing yellow peppers. My set up is my plants are in a small tin with different watering solutions because I want to see which one works best. I have been trying to grow my plants for about 5 days but they just aren't germinating if you could please give me some advice please write me back at LewisT@grenvillecc.ca

Hello -- I just want to mention that Art Smith from Alabama Hydroponics (<http://www.alabamahydroponics.com>) is kind enough to host Tomato Challenge 2002. The basic objective is to grow tomatoes hydroponically and you can use any system to achieve that objective. In case you are curious about the rules, please visit his website and learn about them. As a matter of fact, that site should be viewed as an excellent place to get feedback from other tomato growers. I had a lot of fun with Tomato Challenge 2001 last year and met some really cool people on the internet. hydroponically. Hope to see you all at the contest. Happy Growing, Wayne

This is going to be the first year I will not have a garden of tomatoes and peppers in my yard since I retired 14 years ago. Arthritis has claimed most of my body and my ability to garden has been cut by 90%. I would like to try hydroponics so I can still have a crop. I need something simple and with low maintenance. Please can anyone help me.

Thanks

Steven

I am trying to grow a 2-4 plant-hydroponic garden. I ordered the following unit, for \$70, from Harvest Moon Hydroponics.

here is the description The recently redesigned HomeGarden System is an outstanding unit for the beginning hydroponic gardener. The submerging the grow rocks. A full-length airstone and external air pump continuously supply oxygen to the reservoir. Capillary matting surrounds the grow rocks and keeps medium moist and helps deliver nutrient-rich water to the starter cubes on top of the system.

total cost is a factor (limited budget), my question is can someone rank in order from most important to get exactly what is listed on here and what items you can cut costs by purchasing something like what you need.

Example could be Lights or is what I already purchased really not needed ?

PLEASE HELP ME! thanks

YOU ARE INVITED...to attend the 2nd Annual International Indoor Gardening and Hydroponic Expo at the Vancouver Trade & Convention Centre on May 4th and 5th. There will be over 100 booths and displays and experts from all over the world will be present to share their knowledge of indoor gardening and hydroponics. This is a truly unique opportunity for all those with interest in these areas or someone looking to get a start in this rapidly growing industry. Saturday May 4th is designated as 'Dealers Day' with the doors open from 1pm to 7pm. Sunday the general public is welcome and the doors are open from 11am to 5pm. Entry to the show is FREE! Please contact us for more information via email. Hope to see you there. Cheers Steve

Attn: All Tomato growers

Here's a list of URL's that you may find interesting on different things that may harm or kill your plants.

http://www.hydroponics.net/learn/nutrient_deficiencies.asp

<http://www.orst.edu/Dept/NWREC/vegindex.html>

<http://eesc.orst.edu/agcomwebfile/garden/vegetable/veggieflowers.html>

I am really interested in Purchasing a Pipe dreams 160 but I am concerned that it may not produce the same weight you might get with soil. The cup spaces look to be too close together. I would like to get at least an ounce of my favorite vegetable after a seven or eight week flowering cycle. I know it can be done in soil with a 3 week veg. cycle first but can the same thing be done with this system? If so what is the recommended veg. time to do this or maybe recommended plant height. Anyone out there know what I'm talking about? Your help would be greatly appreciated.

Thanks, James

Weight has more to do with seed verity than with growing in soil or hydroponics.

hey, ron where do you go to buy grow rock and will fish tank rock work.If I use merical grow for my nuteints will it work. I am doing this for a scince project and think that Hydroponics are really think that it is COOL!!!! I built your 11 plant system and everone thinks it's COOL. Thank you for your site and hope your buiness does Great this spring and summer.

At the grow store. No. And No.

This week I was going through the web and found so many places to buy pumps and so many pumps to choose from. The best I found so far was http://www.fountainology.com/outdoor/via_aqua_pumps.html

Any insight on this or any one of you tried this company before?

A friend of mine on-line said that the VA2600 worked well for him but I would like a more expert outlook on this.

Thanks!

I have just got into hydroponics and started looking on the web for pumps. The best place I found was: http://www.fountainology.com/outdoor/via_aqua_pumps.html The VA1300 and VA2600 are working best for me and prices are so low for the quality.

I have a multipart question. What is most important in a hydroponic environment or what gives hydroponics a greater advantage, the oxygen rich environment or the amount nutrients it can absorb in a given amount of time. Because I was wondering if it is possible to use a growth chamber that incorporates hydroponics with soil. Neo

No they are totally two different ways of growing.

Hello, does anyone out there know much about growing strawberries hydroponicly. I live in Taiwan and its hot and humid most of the time. I know the plant likes cool temperatures and have read that you can cool the nutrient solution, and use shadecloth with fans to reduce air temps. Is there any problem with nutrients at 60 or 65 and air temps at 80. If you have any information, I would appreciate it. Its especially hard to find much information on hydroponics in tropical places. Thank you. Jack

I am a South African who would like to establish a commercial hyroponics operation. I have absolutely no experience

in hydroponics, but strongly believe that it is the way to go in SA, particularly as we do not have a lot of arable land. please advise on I should go about establishing a commercial hydroponics operation, in terms of costs, requirements, crops, etc.

Thanks MN

Dear Ron, Thanks for a great site, I really has helped me with various questions. => I have a Hydroponics Waterfarm and a drip system using a aquarium pump (aerophonic?). My plants are in Grodan Rockwool and planted in legga. Can I leave the drip system om 24/7 or how often?

Regards Dan from Denmark, Europe

That might be to much for rockwool. Rockwool stays wet longer than grow rocks so you might have a root rot problem.

hi ron,

just wondering ... can one grow orchids using hydroponics ?

thanks

kiwi

Yes but what nutrient mix to use I don't know.

How easy is it to grow mint using hydroponics?

easy

What plants are easiest to grow using hydroponics?

most

I am new to hydroponics, and i have a few plants in soil and a few in the 11 plant garden. I have taken clones from the plants in soil, and they are doing fine in vermiculite and plain water. I also have taken a few clones from my hydro-plants, and they are not doing fine in only vermiculite and water. Do I need to use a mild nutrient solution for theses clones? Is vermiculite o.k. or should the clones be put in the 11 plant garden? and watered 3 times per hour? any info will help out alot, thanks

Yes you should use 1/4 strength solution for clones.

Growing Asparagus hydroponics how long before you would get to harvest it? And can you make a profit at growing it hydroponics? And do you know of some one that is doing it now? mrugly1@hotmail.com

Hi folks, here are a few real good tips I would like to share with you. most common Problems

These are the most common problems people encounter growing hydroponically:

Yellowing bottom leaves/older growth

The Nitrogen story:

Nitrogen is a transferable element (this means the plant can move it around as needed). If a plant is not receiving enough Nitrogen from the roots then it will rob Nitrogen from the older growth. In Hydroponics, usually the pH is too high and has locked out the available Nitrogen. Always check the pH before increasing nutrient level.

Save the plant: Leach! Check the pH, and adjust if necessary to 5.8 - 6.3. Check and maintain nutrient level. You may foliar feed (spray) with a pinch of CaNO₃ (Calcium Nitrate) in a Litre of pH balanced water for quick results.

Leaf tips curl up

This is usually a Magnesium deficiency caused by a too low pH level.

Save the plant: Leach, check and adjust the pH level. You also may foliar feed (spray) with a pinch of MgSO₄ (Magnesium Sulphate) in a Litre of pH balanced water for quick results.

Leaf tips curl under / leaf tip burn (browning)

The Nutrient level is too high.

Save the plant: Leach and decrease the nutrient level.

Leaching

Leaching should be done at every reservoir change and before countering any problem. This will rid the medium and root zone of toxic salt build up.

To leach, rinse the root zone with straight pH balanced water.

Use twice as much liquid as the hydroponic container would have held when empty.

I hope this info helps some one out there and thanks for all the info I have gotten from you all. Montana Mogy P.S. Ron I love the old bus.

Geez Ron!! From looking through your pics I must say, you are very ingenuities. Very impressive!! Just curious, are you making a living with your Hydroponic ventures??

Barely and only because I don't have a family to support. Also I work 12 hours a day every day including holidays. Can't afford to higher help yet. But my goal for the future is to open the largest home hydroponics grow store in the country in Deland Florida in a couple years.

In my hydroponics system, I'm growing basil. We have a major whitefly problem. I'm afraid of spraying with organic pesticides because the leaves will go black. How do I get rid of the whiteflies organically???

The only real safe way is with predator mites (Encarcia Formosa) that lay their eggs in whitefly larvae. But you have to introduce them to your garden early and a lot of them to be effective. Or just use Safer Soap spray and yellow sticky traps like I do.

Have you ever heard of Peter's Fertilizer? I cannot find it in the stores anymore. I read something about the Scott's Company selling the Peter's line to Alljack Celex. Then I found Alljack makes the KGRO GRO BEST products. Is this the same as Peter's?

Melissa

Peter's is a well known company that makes fertilizer for dirt and hydroponics. In this age of big business who knows who owns what. Pretty soon a few companies will own everything. They already own our government.

Dear Hydroponics enthusiasts,

I am a science writer, currently residing in Massachusetts. A few weeks ago, I e-mailed several United Nations refugee relief organizations, in the countries surrounding Afghanistan. I thought that, during the hard winter coming up, they might want to learn about possible ways to use hydroponics to help feed refugees. They responded to my e-mail today, and they are very, very interested.

They are anxious to hear more about websites or companies that focus on educational materials for hydroponics. Their return e-mail to me is appended to the bottom of this e-mail. I thought some of you might be interested in helping, and capable of doing so.

I don't know how you might wish to work things from a commercial standpoint, but it seems like this could be a terrific way to save some lives in Central Asia. They are interested in hearing about educational materials that would help them teach hydroponics. Here is the e-mail address of the UN's FAO (Food and Agriculture Organization) office in Iran, followed by a website you may wish to peruse before contacting them, if you do decide to contact them. FAO-IRN@FIELD.FAO.ORG <http://www.fao.org/ag/AGL/AGLW/AQUASTAT/iran1.htm>

In the e-mail I sent to the FAO, I very succinctly put forth the suggestion that hydroponics might be a way to help freezing, starving refugees make it through the winter, by helping them learn to grow some vegetables indoors.

I sincerely hope that you are able to come to some kind of arrangement with one another. Please only e-mail them if you have serious, constructive ideas. Also, please e-mail me if you have any questions whatsoever. Best, Ed Sugrue ed_sugrue_alb95@post.harvard.edu

>To: "Mr. Edward Sugrue" <EDSUGRUE@HOTMAIL.COM> >Subject: Message from FAO representation in Iran. Learning >Hydroponics >Date: Wed, 12 Dec 2001 15:46:00 -0800

>Dear Mr. Sugrue: >Your message of Dec 01 was forwarded to our representation in Iran >and we would like to welcome any information you may be able to > provide us with on low cost setup for hydroponic production. We will >do our share in preparing this material in Simple Farsi language to >be used both for Iran and Afghanistan for publication and possible >distribution. We strongly feel that these small initiatives can >sometime go a long way.

>We will also visit the sites which you have mentioned.

>Thank you for your assistance and Happy holidays. >Ali Y. Hakimi >Officer in Charge >FAO, Iran

Attn: Pingman, Re: boxes

Yep, I found under bed storage boxes at K-Mart that look like they could be used. Go to the storage box area in the store and look way up high next to the wall for them. They won't be displayed with the regular storage boxes. Cost is around 15.00. Some are plain boxes, some have wheels and some have a drawer built in. The plain box w/lid is maybe 4 ft. lg. X2-1/2 ft. wide and has a reasonably flat lid.

You may want to hit: <http://www.greenair.com/plastics.htm> and take a good look there for plastic boxes. The prices seem pretty good to me.

I'm still looking for a pump that will give me between 20-30 psi for the spray system. I ran a test on my little 160 gal/hour pump and there's not enough pressure to operate the sprinkler.

If anyone knows shat pump to use, let me know.

Tailwheel

Hi, I have some free time this summer and I want to try growing a plant hydroponically. I don't want to spend a lot of money because I don't have much, ha ha ha. Anyway, I want to do this in a water solution. Anyone give me some tips or links to where I can find a picture or plans for a 1-plant aqua hydroponics setup? Thanks.

Oh, one more question...how do plants grown hydroponically get the carbon necessary for them to grow?

Thanks: arjun

Chlorophyll, the substance that gives plants their green color, converts carbon dioxide (CO₂) from the air, water (containing nutrients) and light energy into carbohydrates and oxygen. This process is called photosynthesis. What results is plant life. You then eat the carbohydrates and breath the air.

Hi. I'm the guy who asked about the cannabis plant. I am thinking of making an ebb/flow system for my plants, for the simple reason that it would take up less veticle space than using the 2 litre system. I am gonna be growing in 4ft tall grow box, and the reservoir and grow tray alone are going to take up about 20 inches, so I need to spare as much room as I can. I am going to be using sterilized lava rocks in the grow tray which will hold six plants. I have 3 questions.

1. Will the 2 inch pvc hose connector that I am using to both fill and drain the system get clogged up by the lava rocks, and prevent the system from draining? If so, how can I prevent this?

No lava rocks should not clog up any size.

2. How often should I flood the system? I will be on a 24 hr. lighting schedule for veg. growth.

Every 20 or 30 minutes.

3. I want to try to use Miracle grow as my nutrient. What would be the best kind to use for growing buds?

I wouldn't use Miracle-Gro if I was growing pot. I would use a real hydroponics solution from any of the grow stores mention on this web site.

I know this is a lot of questions, but I want to make sure that I get everything right the first time. Thank you for your time.

How well does citrus in a hydroponic system ? What are the optimum conditions ? Any advice or hint ? Maybe a book or website. I didn't find anything about it.

Thanks a lot.

Ruediger storm@zedat.fu-berlin.de

I haven't tried citrus but get a load of this [banana tree](#) in my pool. I haven't figured out how I'm going to get it out next year if it gets an bigger.

Hydroponics don't do well with woody type plants like orange trees, rose bushes or other types of trees . Hydroponics is more for water loving plants like my banana tree.

Hello Ron,

Your site is great, and already a 'mini-history' of hydroponics (going back nearly 3 1/2 years)

I couldn't find much on using anything but 2L or 1 gal containers--but it seems that a 'hybrid' system using 3L+ and 1.5L bottles would be ideal for say lettuce and tomatoes, etc. Any ideas about a design and pump, etc?

Also, re: lighting. What do you suggest for a greenhouse that is in the shade (east side of house) for at least half of the day: sodium or MH, or one of the newer 'warm MH' Phoenix Gary

Because your greenhouse is sunny for the first half of the day with mostly white sunlight then I would use HP sodium because that's the kind of light you would be lacking the last half of the evening. Ron

I'm doing a ISU project for my grade 12 biology class on hydroponics. I've made a small hydroponics system and am growing peas. My project is on the effects of certain chemicals on the pea plants. I have 5 hydroponics systems which the peas are being grown in merical gro. In each container there is a different chemical (0.5 molar solution) along with the merical gro they are, potassium phosphate, calcium carbonate, sodium sulfate, potassium carbonate, and potassium nitrate. I was wondering if you had any tips or useful information. I would greatly appreciate it. Also in the container of sodium sulfate tiny black dots that are in a web have appeared on one of the pea seeds, just wondering if you had any idea of what they could possibly be.

Spider Mites

I'm starting a hydro system and wondering if i can continuously run water through my system. I'm new to this whole process and would like to know about active hydroponics thanks

You can if you put an air stone in your tank to add a lot of oxygen but it's not recommended because your roots do need that ebb and flow action for healthy growth. NFT systems are continuous running and work well because the water is flowing and doesn't sit in almost stagnate water. Ron

in the 11 plant hydroponics system what is used to keep the medium(perlite)from flowing through the bottom and into the reservoir?

Paint strainers work well.

Can we use liquid from a first, second or third stage hog lagoon as a source for our hydroponics nutrient stream?

Dear Hydroponics Experts, I need help for my 9th grade biology project. This project is planned to be on the effect of pH levels on the growth of hydroponic plants. I am a 9th grader at South Lakes High School in Reston, Virginia which is in Fairfax County. From most of my research so far I have been able to see what some of the effects may end up to be, but I still need a lot more information for my 9th grade bio-project to be a success. If you have any ideas or further information, it would be greatly appreciated. Thanks!

Are there currently any studies or unanswered questions in hydroponics? Does anyone have any ideas about a science project I can do on hydroponics?

<http://www2.oardc.ohio-state.edu/hydroponics/tomatoes/Expert/Decision.htm> here is the link to the algorithm site it is the answer to a lot of my questions! thank you all ! can anyone help with the sea of green questions?

Help! My plants, now about 12 days under a 1000W MH lamp (18 hour veg stage), are doing something very strange. Some of the stems, for about 1/4" just above the growing medium, are turning brown and shriveling, making it necessary to stake the small plants. Not all plants are doing this – only about half of them. So far they are not dieing but I fear they will in time. I'm using a (General Hydroponics) mild nutrient solution, 900-1000 ppm, ph of 6, grow room has plenty of ventilation and temp about 70 degrees, feeding sparingly – 1 time a day with ebb & flow system in grorocks medium (started plants in rockwool cubes). Water temp is kept about 80 degrees. Any suggestions?

Watering one time a day! I water every 20 minutes. Your plants can't get enough nutrients being watered once a day.

Does anyone know or have any idea about the hydroponics market. Like the market size, target market, the development and competition or the problem now exist.

Canada is a problem because their commercial hydroponic farmers are government subsidized against any and all losses they may incur.

If soil bound plants have the same needs as hydroponic plants...wouldn't straight water and miralce gro be sufficient to use in a small ebb and flow system, considering some of the solution would stay in the rockwool/grorocks after "flooding"?

p.s I am talking house plants, not organic.

Totally different ways of growing. With dirt you have a buffer between the plant and the fertilizer. A different chemical reaction with hydro than with dirt. That's why it takes longer to kill a plant in dirt than hydro. With hydroponics you don't have that buffer so you see results immediately, good and bad.

You can use miracle-gro if you add what's missing. Calcium Nitrate and Magnesium Sulfate.

I purchased the 11-plant garden and am very confused. I am a first time hydroponics user and am demonstrating if hydroponics or soil works better for the city of Chicago science fair. I would like to know how to germinate the seeds. I tried just putting them in the cups and having the pump on a timer, but all i got was smelly mold. Does anyone have any suggestions?? I really need to know, so please e-mail me at nodoubt1516@hotmail.com.

Start your seeds in vermiculite, perlite or rockwool starter cubes and transplant to the garden when they are 3 or 4 inches tall.

i have two questions, but first i have been raising plants using hydroponics (built all my own beds) for ten years or longer. everything was perfect. then i moved. now i have built two new gardens. and lot of alga formed (a new problem for me but i did build these beds a lot different then my first ones) so i tore them apart and cleaned everything with clorax, painted the outside of the beds black to eliminate the light to the water storage. now one bed works beautifully, one kills everything i plant. i am presently tearing the bad bed apart again and flushing everything with clean water. is this the thing to do?

Yes

can there be clorax residue remaining causing the damage?

No

second while dismantling the bed i noticed that the pea gravel is staying damp between feeding, therefore the roots are also remains damp (not wet, just damp) is this a problem? if so why only one bed?

Damp should be OK but check your draining for that bed. Flow control valves on every bed can equalize the levels to each bed. Then make sure all the beds drain completely before watering again.

i pump water twice a day (have done this schedule for years) for about 1 hour at a time. there are overflow drains in the top beds so excess water drains back into holding tank. there are also drains in the upper bed that drain all the water off the roots, after pump shuts down, in about 1/2 hour. anybody have any ideas? now back to work cleaning the bad bed until i hear from, hopefully, all or some of you. thanks how does one join this hydroponic club? wally i believe you will get my address but if not try RuthK@Quintex.com. (life isn't east for a boy named ruth so i go by wally)

this is wally again, forgot a couple of important facts that should have been included in my question. each of my gardens have their own pump and their own water/nutrient holding tanks (50 gallons) the only thing common is the timer that turns them both on and an hour later turns them both off. thanks again---wally at ruthk@quintex.com

Well then forget what I said up their and switch one garden nutrient tank that is doing good and use that one for your problem bed. If the same problem continues then that bed is possessed so call an exorcist.

I found your website, and it I have become very interested in starting hydroponics in my house. The plans that are on

your page are beautiful, but how do I start to grow the plants? Do i start with seeds, or do i start with sprouted plants? Also, how do I anchor the plant in the growth chamber. Any information on these questions, and anything else would be greatly appreciated. My email addy is mightysquirrel@hotmail.com Thanks for your time

I've just started experimenting w/ hydroponics. I planted tomatoes in a bucket drip system, tomatoes grew like mad. It has put on quite a few buds but hasn't flowered yet. The buds have been on for quite some time, over a month and still no flowers, while the tomatoes in my garden have flowers and also small tomatoes on them. am using mirical gro and epsom salt. what's going on???

You need to add some calcium nitrate to that and adjust your pH between 5.7 - 6.1

I have a question for my homework..."Describe how a yield of tomatoes is affected by the use of hydroponics. You will need to make a comparison with yield in another production system. you will need to compare the yield with figures" Can anyone help me please. Email Hayley at bahau@infogen.net.nz

I am wondering if there are any free sites that give nice blueprints for DIY hydroponics gardens. The 11 garden is really nice and I am having loads of fun, but I want to try a new system....

I recently started my hydroponics system. (i'm doing the drip system.) I've got two questions. How often should I water the plant and am I supposed to recycle the water and nutrients that drips into my reservoir back into the plant?

With the drip system you can water continuous for large plants if you use grow rocks. If you don't then read reply below. Yes you recycle the same water and when you need to add more water mix a gallon at a time with the correct amount of nutrient mix if you don't have a ppm meter. (About one tablespoon per gallon of water for most mixes.) That way you can keep track of how much you are adding.

Ron, I have just discovered your site, and I am finding it very useful, I am a bit of a back yard inventor and I have an idea for building a hydroponic setup using styro-foam can you tell me if there is any problem with this material being used in hydroponics, If not I would like to build a proto type and try it out, Thanks and keep up the good work, Thanks Chris

Yes you can use Styrofoam packing peanuts also known as ghost turds or just about any inert porous material that can hold oxygen. All the medium is to hold up the plant. The growing comes from the nutrient solution and not the medium. Send us a picture if you are successful.

I'm new and have never done hydroponics. I'm thinking about buying a hydro garden to grow hot peppers with. How good do hot peppers grow this way and if I do get a garden do I need that rockwool stuff? Thanks!

ive built a system similar to the waterfarm that general hydroponics makes (drip system using a aquarium pump, 5 gallon bucket and a 3.5 gallon bucket) i was wondering how often and how long i should let it run for and in what intervals I.E 20min 3 times day? Or can i leave it on all day?

If you are using grorocks like I am with my banana tree then you can let it run 24/7.

HELP ANYONE

i built a 11 container garden and i am using lecca (round redish-brown rock) for a medium the question i have is how often do i water because i have excellent drainage and no fear of nutrient build up because i am not using rockwell cubes on this site it said every 20 to 30 minutes but my hydroponic salesman says start out at 3 times per day but that does not seem enough for i just switched from deep water where the roots were constantly submerged can anyone help i am very confused....jmycap

The advantage of Hydroponics is that you are forced feeding the plants if they like it or not. That's why with Hydroponics you can grow faster than with dirt. As long as you've got good and fast drainage then you can water every 30 minutes or so.

Hi Ron, I am looking to grow alfalfa using hydroponics and would like advise and feedback from members with experience of this.

Attn: Virginia420

In your post you said 3 tablespoons per gallon of nutrient solution. Just make sure of your numbers, because that will FRY most smaller plants. Using General Hydroponics solutions, even a teaspoon per gallon of each is a bit much for clones.

Brett

>Live in South Africa. New to Hydroponics. Have some ideas. Need assistance with Nutrient Formulas. Can you help ??? ... have joined your free member- ship. Great to be onboard. > >Kind regards Eugene Lombard

Eugene, check the FAQ. There are some links there that may help. Personally, I've been through the Miracle Gro and do it yourself thing. I buy the real stuff now. What I currently use (and am pretty happy with) are the Rockwool nutrients. Good luck.

CM

Hi Folks, Another question, I bought General Hydroponics Flora-Gro (quart) for my 12 gallon reservoir, 6 plant set up. After doing some more research (reading Ron's site), I got the impression I have to also mix it with Flora-Micro and Flora Bloom for the nutrient to work correctly. Is this the case, or will just Flora-Gro work? I have had a clone in there for 3 days, it hasn't died, but doesn't seem to be growing either. By the way, I mixed 3tsp. per gallon, not tbsp as mentioned in my previous post. Any help would be gratefully appreciated. Virginia420

I think you have to mix the micro with the grow or bloom. Which ever you are using but don't mix the grow with the bloom.

I'm a student and I am conducting an experiment. I was wondering; How do hydroponics work? How do you grow a hydroponic plant?

A submersible pump comes on and pumps nutrient enriched water to plant roots that are grown in a number of inert materials as expanded clay aggregate (grow rocks), spun volcanic rock (rockwool), perlite, pores gravel, lava rock, or as with some hydroponic systems, no medium at all.

Dear Ron, I am a teacher at George Junior Republic School for adjudicated youth in Grove City, Pennsylvania. This year I have one senior who is interested in hydroponics for his senior project. We have looked over your website and are interested in purchasing your 11 plant garden. Would this be a good idea for a senior project? We would appreciate any comments or suggestions. Thanks Craig Wozniak

Dear Ron, I am setting up a hydroponics system in an inner-city 6th grade classroom and I want to use fish waste for nutrients. Are there any examples of this on a small scale? What plants work best for this scenario? Thank you!

hey im new to hydroponics any suggestions on getting started. Can you transplant to the outdoors after you start if you wish? thanks Ray Smith searay58@fuse.net

I have just built a greenhouse and my hydroponics are doing well.Ihave just bought a bluelab truncheon nutrient meter. could you tell me the correct readind for my tomatoes as the meter reads p p m 500 and p p m 700 in uk they use 500 and in usa 700

Ron, Several years ago while surfing sites concerning hydroponics I saw a page dealing with different aspects of hydroponics and one item they had for sale was a software program for mixing nutrients.

I believe the name of this program was ProChem or something like that. Do you happen to know where I could get this program or the site/page where it is sold?

Thanks

Steve

No but if you find it I would like to check it out.

First off I would like to say thanks for providing such a great site Ron; I have spent many days studying the abundant material here. I have a couple of questions for the hydro veterans regarding my 16-plant garden that I modeled after Ron's design, consisting of various vegetables (bell; jalapeno; hot-cherry; cayenne peppers, tomatoes, yellow crook neck squash, garlic-chives, and cucumber).

Now for the Questions... I am using General Hydroponics' Flora Advanced Nutrient System. I have not been able to pin down how to identify the plant's transition from vegetative to bloom phase, to blooming and ripening phases.

How do I best recognize the phase transitions?

Most of my plants are young, 6 inches tall or less, and not yet blooming, except for the bell pepper and the cucumber, which are at least 10 inches tall with a couple of flowers. How should I handle the different nutrient formulas for plants in slightly different growth phases?

That is the problem with those two part grow and bloom nutrient formulas. When to change to the bloom mix. That is why when I did use a liquid solution I used [Formula One A&B](#) because you use the same mix throughout the life of the plant. You just increase the ppm as the plants matures.
I would switch when I saw fruit on at least half the plants in your garden.

When stringing the plants up is it better to wait until there is fruit on them, or start supporting them early on (I am using Dixie cups and grow rocks).

Are there any newbie mistakes I can avoid when stringing the plants?

wait for the fruit so you won't have to do it twice unless your plants are falling over.

Thanks again for providing a outstanding resource for first time hydro gardeners. GB

Hi Ron, About a week ago I built a 11 plant garden and when everything was going well. Until a couple days ago. I bought a timer from Wal-mart that is set up to water for 15 min on and 45 min off it was only \$9. Every hour. Is that too much water for small plant?

No That sounds just right for small plants.

Also I can not find a place that sells hydroponic nutrients. Does Wal-mart sell it or maybe I just can not find it?

No they don't. You can find hydroponics nutrient solution on the web. Use your favorite search engine to find some.

I tested the ph today and it was above 7. Is this the reason the leaves are a little brown or is it too much water?

Yes to high of pH.

I have been using a nutrient that is made for soil because I can not find another one. Is that the reason why they are browning?

Yes you are cooking them.

The ph was fine when I transplanted them to the hydroponic system, and five days later it was over 7. How often do you have to adjust the ph?

As often as necessary.

and what changes the ph so fast?

From using non-hydroponic nutrient solution.

I appreciate all the help you have given me, the site is very interesting. Thanks.

I am a FFA member going on to a regional competition and need information on Hydroponics. What is it? Is it more expensive way to grow? Is it the future for space? Let me have PRO's and CON's of this amazing way to grow food. Thanks Kasey_CA@hotmail.com

why do the bottles you grow in have to be painted white, will the light from a HID lamp hurt the roots if the bottle is not painted please take the time to fill me in on this You are the only person I trust getting information from that wont put my garden at risk please respond and keep up the excellent work. CLUELESS

The bottles are painted to help cut down on the algae buildup caused by the light hitting the water in your garden. A lot of people are concerned about the algae in hydroponic gardens. Even though it's not pretty, *algae is your friend*. You can't grow with hydroponics and not experience the green slime. Algae is a sign of healthy water and robust life; not a sign of contamination or problems and only becomes a problem when it grows so thick as to cut off oxygen to the plant beneath. If that happens just rinse with tap water to remove.

Dear Ron, Great site! But I've got a problem. I am trying to do a hydroponic garden on a very limited budget. Everything about hydroponics seems to be economical except lighting. The price of lighting is way, way, way out of my budget. Do you have any suggestions on cheap lighting? What about fluorescent lights? I have lots of 4 foot fixtures for free, I would only have to buy bulbs. What about the outside lights that come on at dark (street lights). I think they are HID. Any help would be great.

If they are Metal Halide or High Pressure Sodium or Low Pressure Sodium at any wattage would be more economical than fluorescents. I found 3 - 400 watt MH at my local flea market for 30 bucks apiece that came out of a factory. I had to buy new bulbs but I saved a lot of money. They are out their.

dear ron,

wonder if you can help me out with this hydroponic problem.

you see, i tried my hand on pokchoy (oriental brassica) and the result was below expectation.

first, the stalk is smaller than organically grown second, the pokchoy in hydroponics wilt faster than expected after harvest.

however, the leaf size is ok, very green and no holes. no leaf miner. the root length is nice. long enough with lots of rootlets along the side.

could my problem originated from sunlight. i place my hydroponic system in a east-west orientation with opaque plastic on top of it to prevent rain water getting into the system.

or could it be temperature. my temperature ranges from 24C to 32C (yes, tropical Philippines I am from)

regarding the water stress, is it normal with hydroponic plants ? is water stress the main reason why after harvest, it wilts faster than expected ?

thanks and MERRY CHRISTMAS

Stanley Ho

Calcium Chloride Source Pool stores carry tubs of a hardness product with 77% calcium chloride and 23% inert products. Any idea whether this is alright for hydroponics?

You know I see those products but I have never have gotten the balls enough to try them. I did use some of my pool pH down once in my hydro garden when I ran out of my regular pH down. But I didn't use it long enough to see if it would have a deferential effect on my plants. I sure wish I stayed awake in chemistry class so I would know what all that means.

Let that be a lesson from HydroRon. If you want to grow good pot then stay in school and stay awake in chemistry class.

hi ron,how tall will my pot plants get in your 11 bottle system. and do they all mature in the bottles.i was reading on another site where they sell a step by step video on hydroponics to grow three plants yielding 4 oz per plant.but requires 9 sq ft.per plant.im getting a confused on needed space for your 11 plant system? my grow room is a tub shower inclosed.thanks ron

1 square ft. per plant is the ideal size for a 18 to 24 inch tall plant. The 11 plant garden bottles are to close for large plants unless you bend them this way and that way.

I have never heard of someone getting 4 oz per indoor plant. They just want to sell videos. Weight depends mostly on the seeds you use and not the system you grow in.

Who first attempted hydroponics or discovered it?

ron I am a 7th grader considering doing a hydroponics garden for a science fair project? Do you think this will be to difficult. We feel we could build the 11 plant garden-but we're unclear on what else we need to get started. Should I start the seeds in dirt 1st or buy plants already growing. I want to compare plants growing hydroponic to growing in soil. Thanks Matt

I would buy plants that will fit in the solo cups and wash the dirt off. Buy a few more to keep in dirt to compare with. If you can get the solution right then it won't take long to see the difference.

Can you grow any kind of illegal drugs using hydroponics?

Illegal is relative. It depends on where you live and what special interest groups control your politicians to past laws that benefit them.

help I have complete plant collapse and the roots are brown and rotten whats happening?

Hi~ I am doing a report/experiment with hydroponics. I was wondering if anyone could give me a simple explanation about hydroponics and some things hydroponics is used for. Thanks alot. Molly Anne

who invented hydroponics

what is the definition of hydroponics?

how do you set up a hydroponics tomatoe plant, i want to make one for an assignment to show hydroponics is better then normal soil but i dont know how to set it up.

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how do you set up a hydroponics tomatoe plant, i want to make one for an assignment to show hydroponics is better then normal soil but i dont know how to set it up.

when and where did hydroponics first happen?

were did hydroponics first happend

when did hydroponics first begin?

when did hydroponics first begin?

when did hydroponics first start?

Has anyone used hydroponics with Olive cuttings? Please contact galexander@tasmal.com Thanks

Hi I live in a fairly Hot and Humid place with an average temperature of 28,C.year round. I know that Hydroponics does not do well in this climate for certain vegs. My question is, what system could I use (Large one) for maybe commercial use later on that would suit this weather, AND what sort of crop would do well in Humidity? Many thanks

Do plants grow faster in soil or when using hydroponics

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Do plants grow faster in soil or when using hydroponics

what are the future uses of hydroponics

what is the definition of hydroponics?

I was a mailman for 10 years and ran across several people using hydroponics and became interested and now im retired from there and have moved to puerto rico and need a hobby -small income or more . Thinking of a commercial hydroponics garden with the goverment backing and would like to know if you would aprove and the do's and the dont's. After all that, I would like to say thanks for what you are offering for free,seems as though you are caught up in the moment of mother nature at its best and that is why I'm asking you as to someone that has a vested interest. I to love mother nature and the money is only something that will offer me more of the outdoors. Thanking you in advance and do hope that you still have the love of it all Terry king

How well does the Chem-Gro nutrient hold and maintain it's ph? I've had great luck with both Ionic and General Hydroponics nutrient and was wondering how Chem-Gro compared.

Does anyone know where to find graphs and charts of hydroponics? It is for my science project!! Please help me!

Hi Ron, Thanks for a wonderful site. I got a lot of really useful, relevant info from it. I'm setting up a 20 plant veggie experiment in 2 liter soda bottles in part of a 9' X 12' greenhouse. The greenhouse has mist nozzles and 2 exhaust fans that are thermostatically controlled to keep the temp around 85 deg. I'm in Northern CA and it does get hot here. I have a question about a plant food that we've been using here at home for house plants called Eleanor's VF-11. It's a concentrate that's used for both foliar and root feeding. It dilutes out to 1 oz./gal. Recently, I've recently heard several radio ads for using it for hydroponics. The analysis on the bottle of concentrate says: N 0.15%, Available Phosphoric acid, 0.85%, K₂O 0.55%. I was wondering if you have ever used it, heard about it or know anything about it's value as a hydroponic nutrient for veggies. I care to experiment with tomatoes, bibb lettuce, cucumbers, chives, eggplant, etc. but I do want to have some success for starters. I plan to get a TDS meter and a ph meter and run my pump for 5 min every 20 min. I'm also planning on using Gro-Rocks for the medium. Any thoughts, comments, or ideas from you would be greatly appreciated. I am a semi retired Electromechanical Engineer with a well equipped machine shop and electronic room so making controls, timers, gadgetry for this project is a snap. In a few days I'll have pics/info available for easily attaching/removing the bottles. I worked out a method that looks great now, but I need to be sure about it after I get up and running. Thanks again, Marvin PS I spoke with Eleanor today and she referred me to her website www.vf-11plantfood.com. There's a testimonial letter on it from a guy she says is a real expert in hydroponic culture who's been using VF-11 for years. I've been unable to reach him today, but I'll keep trying. He's in Vallejo, CA, not too far from me. I will take a ride up to see him after I speak with him by phone. I'll keep you posted.

Hi, has anyone tried to grow garden grass in hydroponics ?

Ron, i have a couple of questions. First of all, I was wondering if it is possible to use an irrigation system for hydroponics. In other words my idea is to hook up a fertilizer mixer/dispenser to the water outlet and let the mixture flood the 9 plant garden setup. I plan on attaching a timer so that everything is controlled. When draining the system is it necessary to recycle the mixture or would discarding it cost too much money?

Has anyone ever heard of anyone growing sweet corn using hydroponics?

passive hydroponics is the easiest. you fill a bucket with nute juice and set a plant in a smaller container with a growing medium (pebbles or sand...) then set the plant into the juice. the simplest active hydroponics uses bubblers- same design but add a bubbler to the bottom of the nute juice. thants my 2 cents... ~Ryan

email me at mycarbumps@caraudio.com

I am impressed with your web-page and knowledge of hydroponics. I am just a beginner and am learning a great deal from hydroponics online. My e-mail address is weirdweviewong@yahoo.com I am wondering whether I can still purchase a pump and other hydroponic hardware thru your website??? Please advise... thanks. I am very interested in aeroponics too... Sincerely, Steve

Yes. Who said you couldn't.

TO: Robin Harkey Hey Robin. I was asking some questions about hydroponic corn a couple of weeks ago. I think we may be the only two wanting to try it. I have been too busy to look for universities that deal with agraculture and/or hydroponics. I might just do that tonight. If you would like to compare notes drop me a line. cliff@gloryroad.net

disadvantages of using hydroponics to generate food in Singapore

Hello. This is my first time writing here. My husband and myself are strongly considering building a hydroponics greenhouse in early 2003. I am attempting to get a source for ordering all of the materials and equipment needed to start up. Can you recommend a vendor that would be able to give us a price quote and start up information? Thanks. Susan

Ron,

You're an interesting guy with an interesting site. I really appreciate your time in making this info available to all.

We bought a new house last year and I immediately built a propagation table and "volunteered" at the local nurseries keeping all their plants trimmed back and "recycling" them on my propagation table. Hydroponics seems like the logical next step.

My first question concerns temperature. My table is in the basement (in Atlanta) and I took the bottom of a cartop carrier, filled it with sand and put heating cables in it to keep the temp at 70. I sink the pots as far as possible, and it seems to be working fine.

Yes I think keeping the your water/medium at 70 degrees is a good idea. Here in Florida our problem is hot water. That's why I put my tanks in the ground. Water chillers are very expensive.

I found plans to "float" plants in a tank over an airstone which I think is my best bet. I can use an aquarium heater to keep the temp at 70 or so. Any thoughts or suggestions?

Secondly, once it warms up I'm thinking of selling some plants at the local flea market to fund larger systems. I see you did that with spider plants. Does this method alter the characteristics of the plant in any way? Do they transplant well into soil because of the type of roots? Also, do they still need support once transplanted into soil, or is the support only necessary because of the substrate they're growing in under hydroponics?

Again, I really appreciate your time.

The only different characteristics that people commented on was why the tips of my spider plants weren't burnt. Because I grew them in hydro before I transplanted to dirt pots for resell. Some plants like tomato and pot go through a slight shock period when transplanted from hydro to dirt. But with most plant like ornamentals, herbs & spices you don't even notice the transition. Tall plants will need support until they are well rooted.

Hello Ron,

First thanks for this site, After doing much "lurking" I decided to build the 11 plant system, and the thing has worked wonderfully..

The plants are in day 24 of vegetative growth and have looked perfect.... until I noticed last night that 2 plants have begun "wilting" new fan leaves are "drooping". this is occurring on new growth and there has been absolutely no change in color, i.e. there are still deep green, I have searched all of the grow guides and message boards on the net and have not been able to find any causes, I have heard that "Under watering" may be the culprit, but I water 6 times a day for 10 mins and the other 9 plants look perfect.... Here is my system.. once again thanks for this site Ron and this board, it has helped me a great deal..

6 times a day might not be enough. I flood my garden every 30 minutes.

You will find at times that some plants will just wilt and die. Caused by damping off of the plant stem right above the root ball, cutting all the capillaries to the plant and killing it. It doesn't happen often but when it does the plant can't be saved. If a plant looks like it's about to wilt and die then I would clone it to keep the strain going.

Light: Hydrofarm Super Grow wing 430w HPS, 20" from plants, 18 hr on, 6 hr off Pump: Maxi flow 160gph, watered 6 times a day for 10 mins each on period, only watered while light on Temps: day ~74f, night ~63f Air Pump: whisper 10-30 gallon, 2 air lines and 2 12" airstones Grow Medium: Hydrotron Grow Rocks Nutrients: General Hydroponics 3 part system at 1/2 strength, have been also adding 1/2 tsp of epsom salts throughout veg growth to this Water: distilled @ ph 6.0.. No PPM meter

thanks Ron....

"uses Medicinally enjoys Recreationally Freedom Fighter.... p.s. good luck to your brother

hi ron,i'm new to hydroponics and just built your 11 plant garden (plan to grow tomatoes and peppers, maybe some other things to). i live in the tropics (puerto rico) and have sun year round. my question is "how many on and off watering cycles should i use every day for the crops i specified? also what would be the best cash crops as far as vegetables are concern for this region?

The hotter it is in your area the more you want to water.

What you said and them other things too.

After I build my system where do I go from there? What kind of "medium" should I use for tomatoes? Is there a better solution to use? Do I just put the seeds in and turn it on? I read that people turn the system on and off. How often should I do this. I know these may sound like dumb questions but I am very new to this and any info would be greatly appreciated. Also, do you recommend any books that would help me learn hydroponics. Thanks again.

Look at every page on this web site then come back here and ask me.

Ron, You have a neat site. I teach science and I just got a new science lab with attached green house. I want to grow tomatoes, peppers and lettuce with your 11 plant hydroponics system. I know very little about hydroponics. Is there any books or sources you could recommend for me to research?

Thanks.....indy

As we speak I have been working on a special Hydroponics Projects Section where individual and groups like class rooms can collaborate on projects across the country or the world. Coming in the next couple of weeks. One of the best how to books is HYDROPONIC Home Food Gardens by Howard M. Rush

This is my first year teaching agriculture and I am trying to get some hydroponics going. My greenhouse is set up this way: I have feeder tubes for taking up the fertilizer directly into the water flow; I have lines that run across the greenhouse the spray spickets coming out of the main lines; I have a furnace and fans running on both ends. My questions are as follows: Can I grow tomatoes and watermelons on the same watering line with the same fertilizer and watering times? For my fertilizer I mixed Grow More (hydroponic) 4-18-38 (NPK) (8 ounces), 4 ounces of calcium nitrate, and 4 ounces of magnesium sulfate in 100 gallons. This was the recommendation on the sack for seediness Does it sound right?

Yes that sounds right for a standard commercial hydroponic mix and can be used for a variety of vegetables.

The solution is being sprayed on through the spickets. How often should I leave these on and how often?

You didn't say if your water returns to a reusable reservoir but from your description I don't think so. So watering cycles are tricky with a non retrievable system. You want to try and water only what the plants consumes so all your nutrient solution doesn't run out the bottom to wherever. Disney World does this by weighing 1 plant in each row measuring how much water the plant consumes thus letting the system water all the plants in that row the same. I would wish your garden to a reusable system if possible unless you have deep pockets.

I am transplanting them from a soil mix into perlite for the hydroponic substrate. How big do the plants need to be before transplanting?

Let them get well rooted before washing the dirt off and they will have a better chance for survival.

We tried to do some in class but I believe the watermelons damped off (looked like they had been pinched at the medium level) and the tomatoes leaves wilted, turned a brown color, and died. Any suggestions would be helpful. My name is Mike T Tesnohlidek and I teach ag. science in Nyssa, Oregon. Thanks

Ron, What type of system would work for growing hot peppers? They thrive on direct sun, so would I need to cover the system or can the system be in direct sunlight exposed to the elements? Do you have a suggestion on how to grow Habanero peppers with hydroponics?

I am growing a few different kinds of peppers now including Habanero in my 16 plant garden. I moved the garden in my pool greenhouse that has 70 % shade cloth but it still reaches 90 degrees in their. I turn the pump on full time during the hot part of the day. I will post new pictures soon.

Hi Ron,

Great Site, and special thanks for taking the time to help us wannabes...I have 2 questions if you would be so kind:

1. I use a 48 pin timer. This floods my system for 30 minutes, then drains for 30 minutes. Is there some way to shorten the flood cycle, or should I just extend the time between flood cycles. I fear that I am over watering.

You can clamp the hose from the pump a little or use a flow control valve so it take longer to fill but it will also take longer to drain because of the smaller hole. You can put an air stone in your tank to add more oxygen so it won't matter if you water longer.

2. I have been considering trying to an aeroponics (misting) system, and was wondering if you knew of any nutrient metering system that would allow me to run the misters from a garden hose with nutrients adding into the spray continuously, eliminating the need for a tank. Thanks, Gerry

I got one that you screw onto an outside facet and then you put fertilizer pellets in so as you water they dissolve. But it was for dirt plants. The same setup for hydroponics is very elaborate and expensive because you have to deal with adding pH and nutrients into the water line precisely.

im looking for some information about hydroponics, i am building a farm for my agriculture class and for a FFA project. i am wondering what i need to do to sprout the seeds before i plant them and i also need to know what are some good quick growing plants to grow, and if i could get any tips on quick growth i would really appreciate it. Josh Buoni If you can e-mail me with info i would be very grateful Dragonhcky@aol.com (or) spyderjmb@aol.com thank you

Is hydroponics more environmentally friendly than organic gardening? What are the benefits?

You can't get any more environmentally friendly than hydroponic growing because the nutrient water in hydro systems are retrievable and don't run off into the ground, season after season. Even organic gardening in dirt creates a problem over time.

Not even 20 miles from me here in Central Florida the state had to buy out the vegetable muck farms north of Lake Apopka. Because of decades of fertilizer runoff into the lake it virtually killed one of the largest lakes in Florida.

Birds are dieing and the alligators are even born deformed.

Their is a restoration project going on to try and save it.

Hydroponics is the future and will be the only way to grow as more dirt farms disappear.

I am a first time user of hydroponics, and I was wondering if it would be easier to start with using a drip system or a flood system. I have heard drip systems produce better results because the root ball stays small and the plant spends more energy on vegetative growth. Then I have heard drip systems take experience, but I have set up drip systems for our vineyard and really wasn't tough. Any answers would be great.

Thank you Grant W Missoula MT

email GW8662000@yahoo.com

Yes the drip system is easier. I am growing 100 tomato plants with the drip system now. I am even using a 10 dollar timer to drip 15 minutes on 15 minutes off.

i am new at hydroponics and im wondering if you just use regular plant lights and if so can you get them at a hardware store or do you need to go to a special place to get them?????

Ron, I just finished a system that monitors pH, temperature, humidity, and light quality/quantity. I will be using this to monitor you 11 plant garden that I constructed. The unit hooks up to your computers parallel port and can be set up to log the results over time. The results can then be viewed on an easy to read graph. The system can be used to sample every hour and show the results over a long duration. As well you can set minimum and maximum levels for each variable and have the data logger set off an alarm when they hit the preset limits. So for example you can set your pH level and wait until the alarm goes off to adjust your solution. I think this would work very well for hydroponics growers. The whole thing is very cheap, if you or anyone else is interested just email me at thesteeds@telus.net .

Send me a sample to evaluate.

Greetings

I need to interview someone with practical experience in the field of hydroponics. I am doing this for a chemistry project. I need answers soon. If you can answer these questions please do. Thank you

Why did you get into hydroponics?

What is the biggest problem in hydroponics?

What seems to be the general characteristics of the plants that grow the best?

What type of work do you do?

What do you think the future holds for hydroponics?

What part of hydroponics do you feel could be improved upon the most?

Do you mix your own nutrients?

What advice would you give someone interested in the field of hydroponics?

Is there anything else you would like to add?

Thank you SO much. Pennifer Jayne

dear ron, i hate to bother you with something as simple as this but i looked on your site and you only said to get grow rocks at a grow center. i have looked up grow rocks on the net and cant find anything and have been to several nurseries and walmart and lowels and home depo and nobody knows what they are. could you please post the manufactory name of the grow rock co. so that i can start tracking them down. also could you tell me where you got your 1 hour timer that you use and if i have any favors left after all of this could you please tell me where to buy a swamp cooler pad. i love your site very much and rushed out and bought the pipe fittings so that i can start. i have been looking at hydroponics for years but it was either to expensive or complicated or something always turned me off of completing a project. your setup is one of the simplest and cheapest iv ever seen. i was wondering about the 15 min timer that you sell seams to me that this could lead to over watering. also maybe my lack of knowledge on the subject could be to blame. thank you so very much and i love your site. sincerely A.Stanley@yahoo.com

I am selling bags of growrocks now. You will have to try a greenhouse supply store to find swamp cooler pads. Grow rocks holds so much oxygen that over watering the plants is hard to do.

I just got started in hydroponics and am having a few problems. I am using Bcuzz products and an agritest-1 meter (which does not seem to work with Bcuzz). How often do I add more nutrients? I added the correct amount to water to start off with but I have no idea how fast the system uses the nutrients? Can I just add a lot of nutrients or can over feeding cause problems?

You add nutrients every time you add water to your tank. You only add plain water if you want to dilute your solution. You change the entire tank every two weeks or sooner if you detect a problem with your plants.

What is the viability of hydroponics in western australia?

I am looking for information and would like any pointers anyone can give me on where to find it. What I'm looking for is:

1. Measure of edible food produced per given area of common grains and vegetables. 2. Measure of Oxygen produced and CO2 recycled per given area. I am interested in making a small air-tight environmental hydroponics system. I need to know which plants produce and consume X for a given quantity of edible foodstuffs. Thanks!

Warren.

Yea Right.

I am only a very amateur grower and not using hydroponics but I'm in the desperate situation of losing several months work - perhaps stupidly I pruned and transplanted in one sitting and also slightly changed the lighting conditions - the crop has been ill for a few days now and looks set to die - leaves have drooped to vertical - is there any recommended recovery suggestions....please help!

What are the advantages of hydroponics?

Clean fingernails.

Dear Ron, I really appreciate your cause and your impact on the hydroponics community. Keep up the good work. How much electricity a average household would be able to use before it start razing uncle sam's eyebrows?? I have 2 1000 watt hps lights running at the flowering state and 500 watt dual light mh/hps for the vegetative state and four 4'flourescent tube for the mothers? Thats alot of electricity. Please advise.

John from Ohio.

I would petition my state legislators to decriminalize what ever you wanted to grow and stop acting like you are doing something wrong. Stand up for you rights and use all the f*cking electricity you want to John.

ATTENTION POTHEADS !!!!!!!!

I have been coming to this site almost since Ron started it.

If your brains weren't so stupified by the crap you ingest, you might have read in the past where Ron has clearly stated that he does not support illegal drug growing on this website.

If any of you have an ounce of common sense, you may understand why. You all possibly do know that this site is electronically monitored by the DEA because of the potential of hydroponics in growing more potent plants than marijuana. If you are engaged in an illegal activity, I hope each and everyone of you are traced and prosecuted.

Now, why don't you forget about visiting this place and go to places where your questions may be answered, like the pot sites on the internet and leave this place for the educational benefit of kids and others who have serious interest in soilless gardening.

What are you talking about. I am totally in favor of not only decriminalizing pot but all drugs.

We have a real war to deal with now and no longer have the time and or resources to spend on the bogus 30 year old drug war.

As a matter of fact I have decided to become the first member of the:

Partnership For A Drug War Free America. Please send your donations to me HydroRon.

P.S. Don't start asking any stupid pot questions because I won't answer them.

I have just assembled an basic gravity system utilizing a 5 gal. bucket and a 6"-deep, 1' by 2' tub. Everything is in place and ready to go, but I am not certain which veges/plants to put in this tub. My concern is with the depth of the tub: will it be deep enough to supply tomatoes all the room they need to grow? What about peppers? Can anyone suggest a vege that will thrive in that environment??

Thanks, Brian

Hydro plants don't need a lot of roots because you are force feeding them ever half hour or so. Plants in dirt have to grow roots to supply the plant with nutrients and water. That produces a lot of energy. But with hydroponics all the energy goes to producing fruit and not roots.

I am looking at starting a large-scale hydroponics setup using the Ebb and Flow system. My problem is my property only has Artesian Bore water that is fairly high in calciom carbonate. This stuff builds up at an alarming rate anywhere that water evaporates like sprinklers and drippers. My question is would this pose serious problems in an Ebb and Flow system? If so, do you know of any way to filter or counteract it?

Reverse osmosis filter system is the best to use.

I'm looking for a company to assist our family farms in a complete hydroponics conversion. Not just an equipment supplier, but a company that can plan, build, install, train, etc. The whole nine yards.

Any suggestions?

There is a hydroponic company in Hawaii that will be partners with you and give you all the money and help you need. But they won't even talk to you if you don't have at least a 5 acre greenhouse. But I can't remember their name. They use to be here in Florida but moved to Hawaii because of the perfect greenhouse growing conditions.

Re: Family farm conversion

If you want someone who's not commercially involved, I would suggest the nearest state university that has an agriculture department. There is generally a graduate student looking for thesis material. Contact a professor, schedule an appointment and talk about your plans. That's a pretty big jump to convert a whole farm into a hydroponics operation.

Tailwheel

Hey Ron, New to this stuff, so please be gentle..... I am looking for information on "just water" medium hydroponics. I would like to see pictures and diagrams on what actually supports the seedlings. I can't find any info on these simple questions. I want to set up a flow system to recycle the water. Any information you can provide will be greatly appreciated. Thanks, Brian iamdigitalone2002@yahoo.com

Ron, We miss you. Hope things are going well for you. Of course we want to see pictures of your latest garden. It's through this website that I got started this summer in hydroponics. See www.alternatethoughts.com/hydro/index.php Your 11-plant unit has really given me a learning challenge. I'll have pictures to my drip modifications up in a day or so. Just wanted to say thanks for an excellent website! HarryHydro North Georgia

what is hydroponics

I like your 11 plant garden, can you tell me what I would need to expand you 11 plant garden to 33 plants?

is there a worlds biggest hydroponics system? tegan perkinson and nadia mantell whakatane intermediate school technology block

I am researching Hydroponics for a mission in Haiti. If we had worm beds and fed the plants worm tea will that be enough food for the plants? What would we need to add for a complete diet? Our brothers and sisters don't have a

source of other chemicals available.

does the plant grow more fast while using the hydroponic method

what is the green matter growing on the perlite in our ebb and flow system?

Could I have a hydroponics garden in a corner bedroom which has 3 windows on 2 sides? I am only interested in growing vegetables.

Hey folks, Does anyone have an answer for the question I asked about Hydroponics in Haiti, submitted on 07/07/05?

Amigo Ron:

I just started with my 25, two-liter-bottle garden and I had a hell of a time trying to come up with the right amount of fertilizer and so on. My system works with a sumergable pump (2100 lt/hr) and the reservoir has an 80 lt capacity and I'm using triple 14 as fertilizer and 80 cc of folial fertilizer, too. The Ph level was too high and I used hydrogen peroxide (9% v) to make it go down to about 6.8.

What I would like to know, besides the righth proportions of fertilizer, is what products can I use to rise or lower the Ph without ruinnig the plants and ,of course, the fertilizer mixture? Can I use the same products people use to adjust the Ph in swimming pools? If so, I will appreciate a list of what i can and cannot used and the amounts in grams, please.

Thank you and best regards

Saludos

Julian Pena D Venezuela

Ron

What kind of fertilizer do you use for growing tomato's? Is there any brand that is better than the others?

Can someone explain how the Rainforest system made by General Hydroponics operate?? As I understand from reading the description, it does not require a misting nozzle. How is that possible?? Hope to hear from you soon. Thanks!!

Hi, everyone. I am a 10th grade high school student and am going to do a project on hydroponics for the science fair. I was wondering what plants grow the quickest and show the most drastic changes compared to growing in normal soil. I am experimenting with adding calcium to the nutrient solution. Any thoughts or suggestions are greatly appreciated. I live in Virginia. Brian

Hello,

Any suggestions on which ppm meter (within the \$50-100 range) I should go with?

I am gathering the rest of the necessary materials for a green house. Should be able to put it together by the end of the month (probably in the snow, oh well:). It's a quansa-hut style unit so can I use 4-6 mil plastic sheeting or should I use the stuff sold for greenhouses?

Any suggestions for herbs? Something that is forgiving, I'll be trying some new things so I need a margin for error. I was thinking maybe basil but I want to try a few others also...just don't know which ones.

I can't wait, It's got me almost giddy, I'll have a place under the sun year round. Will be setting up several different systems...aero (already built a small prototype, exciting!), flood and drain/flow types (in the works), gravel water culture (currently in use) and of course soilless in buckets with drip (currently in use) because I still want to mess with the organics some....I'll also be vermicomposting to make my own worm castings, and put my garbage to good use:) First bin will be built by the end of next week...just gotta get those redworms ordered (too many things on one list, but it keeps me out of trouble).

Ok maybe I'm just dense but how does one reply directly to a comment? Thanks for letting me ramble, I get tired of talking to the dog....he never has anything to say

All That Jazz

I am doing a term paper on hydroponics. If anyone has any info that would be helpful please email me.

ryan4200@hotmail.com

Conducting a science fair project on hydroponics. Any information concerning this topic will be greatly appreciated.
CinnamynSwrl98@netscape.net

Hello.. I have been gardening in organo-hydroponics solutions for about one year now, with varied success. Once I learned the correct quantities of organic substances to put in, I was getting comparable results to the general purpose solution. I believe that the one problem with the organo-hydroponics systems is that the nutrients are not in plant soluble form. Anyhow, I was reading in a book somewhere that carbonic acid (basically CO₂ dissolved in water) takes undissolved nutrients from the humus (or other organic matter), and makes them plant soluble. I'm doing some experiments at the moment, but I believe it is important to let the carbonic acid sit for about 12 hours to let the CO₂ dissipate after putting your nutrients in, as carbonic acid is slightly alkaline. Has anybody had any experience with this??

Michael, mstrates@croftj.net

Hi Ron, We are growing tomatoes, zucchinis, cucumbers and leafy salad veggies in hydroponics here in the Philippines. Because of the extreme tropical weather here, we experience very easily and often, root rot. What is the

prevention and cure for this problem. It's driving us nuts !!!

Aussie Bob

Dear Ron I am a hydroponics enthusiast growing leafy and fruit vegetables. Lately I have been concerned about reports that hydroponically grown vegetables may have a high nitrate content. High nitrates in food have been implicated in gastric carcinoma (cancer). I use a universal nutrient formula containing approx. 190ppm nitrogen (supplied by Calcium nitrate and KNO₃; no ammonium compounds). I wonder if you or anyone has any information confirming or refuting the theory/any other solutions to the problem. Thank you. Dr. Nagappan Penang, Malaysia

Question: I would like to get started on a beginner's scale with hydroponics in our hobby greenhouse that is 10 by 48. Do you have any suggestions where I could get a setup that would get me started? Mike S

Is it possible to make your own nutrients blend from household compostable material? I have no experience with hydroponics, in fact I checked out this site just today. I don't want to start and immediately become dependent on manufactured nutrients. Is this possible or am I an idiot?

Hello, I have never tried hydroponics only outdoor dirt growing. Would I have enough room for a small scale hydroponics system in a room 3 feet*4 feet*8 to 12 feet high?

Hi Ron,

I am just starting to play with hydroponics for the first time. I have four tomato plants in a Hydrofarm MegaGarden which are about 18" tall and have been doing very well. The system is set up to flood the roots once a day with Hydrofarm 7-7-7 nutrient once a day for 30 minutes starting at about 7 AM. I started using the system at the beginning of Dec. and have changed the nutrient once in the beginning of January. I am using a two bulb grow light fluorescent fixture for 18 hours each day. In the last few days I have noticed that the top foliage wants to curl toward the end of the day. When I first noticed it the top stem of the tallest plant was actually curled like a curly cue with the leaves also curling. I assumed that it needed more nutrient and turned on the pump. By the next morning it looked better. I must admit that the plant had grown to within an inch or two of the plant top. I have since raised the light and started to have two 30 minutes of nutrient flooding, but I still have similar symptoms, just not as bad (no curly cues just curled leaves). I also checked the pH this morning and found it to be right at 7.0. Have you got any suggestions as to what it might be or how to eliminate the problem?

I am also interested in trying to do an analysis of the possibility of growing tomatoes for a profit. Where can I get info on the basics for the analysis, such as: - Optimal spacing of plants - Average yield of a typical plant - Wholesale market prices of tomatoes and other potential crops - Typical crop producing life span of a tomato plant

Hi Ron 1st English isn't my first language so please don't criticize me, if I don't spell something anything right. I have no clue how to grow flowers vegetables of any kind, but I found this hydroponics a nice thing to do and I didn't have a clue how it is done till I saw your slide show how to build it (IT KICK ASS) and now I have couple of questions 1. Im

thinking about using up half of a bottle and do I need to put a jug in it or I can just put let's say grow rocks and something to prevent from falling through in the irrigation system? 2. Could I water container on same or higher level than plants, but not too high so that overflow will go back in the water container. I think this is possible, but I need to know how high I can go? Up to the level of grow rocks? 3. If I have lights on 24 hours a day will this work fine if I have a water pump working all the time? 4. And how often I need nutrient and how much. Just give me an example. 5. And finally do I just put the seeds in grow rock or do I need to start in water of dirt to start up the plant? Thanks in advance Boto

I am a newbie to hydroponics, and having terrible luck, I am using hydro-gardens plant food at reqd. mix with water, my plants look healthy but every tomato has blossom end rot. Does anyone know why and is there a cure? I am in South Texas where we can grow year round, but no demand for blossom end rot. Someone please help

I was messing around on this wild and crazy internet looking for hydroponics information, and stumbled upon your site. Congratulations! You have the best site I've found so far.

Ron, you have a mighty fine hydroponics site. Could you add a "Return to Top" at the bottom of each page"?

I'll put it on my list of things to do this year.

Ron, hello from Spain. Which techniques can I use to recycle water in hydroponics or aeroponics? Christian.

ebb and flow, NFT, drip systems all reuse the water.

What are the disadvantages of hydroponics growing?

Ain't none.

Dear Hydroponics Onliners: I am a student of Horticulture and Landscape Design at Algonquin College in Ottawa, Ontario, Canada and I have been assigned a 2,000-4,000 word essay. I had two choices...Hydroponics and Soilless Culture for tomatoes & cucumbers or interior landscaping. I chose interior landscaping. It seems that I have chosen the more obscure topic. If you have any information...no matter how small or insignificant it may seem to you, please email me. Time is not critical, but I am spending this week researching, so all information is very much appreciated. Another classmate has chosen tomatoes and cucumbers, and we are collaborating on the accumulation of data. So please, again, send any pertinent information. Thank You for your time and assistance. I am going to place this site on our billboard at school. The website has already answered many questions. Kindest Regards, Randy. night65@hotmail.com or norloon@moose-mail.com (a.k.a. care2.com)

Would fish be able to grow in hydroponics solution? i have an idea for a very cool garden if you can lmk i am very curious.

No but some hydroponic plants will grow in fish water.

Why Howdy!! I just stumbled onto your site, so please forgive a dumb question. I saw some pic.s and there seems to be dirt in the gallon jugs, I was under the inpression that "hydroponics" was just water? What else can you use instead of dirt? How do you keep the dirt from mixing with the water and cloging the pump? Thats all for now,
clang93239@aol.com

No They are grow rocks. No dirt on this web site.

What kind of vegetables are compatible for growing in 2 liter bottles? Can you name about five or six? I am not sure what vegetables will do well in such restricted space. I am new to hydro and am not familiar with different types of veggies that can grow in about 2 liters of space. I am using your 11 plant system.

You can grow a lot of different vegetables as you can see in the pictures. With hydroponics you don't need as much root space as you do with dirt because you feed the roots with nutrient solution every 30 minutes or so. What is more important is the distance between the bottle themselves. The 11 plant is so compact that it is not practical for large plants. 12 inches apart is better and will give each plant 1 sq. ft. of growing space.

I have a timer that has only 4 on and 4 off settings. As a result, I can only water four times a day. I would like to transplant a tomato plant from soil to growrocks with bits of rockwool. Will placing chunks of rockwool around the central portion of the root system provide enough moisture to the plant until the next watering?

Rockwool does hold moisture longer than rocks but I don't know if just 4 waterings will be enough. The principle behind hydroponics is that you want to force feed your plants so they won't waste energy having to produce roots looking for food. You want all the energy going to produce fruit so you need to make sure you supply your plant roots with plenty of nutrient rich solution as often as possible.

I am new to hydroponics and have a general question.

When do you transplant the seedlings to the hydroponics system. In general I am talking about the 11 plant system that you have plans for. Also what is used to support the plant?

Thanks.

When they are well rooted wash off the dirt or vermiculite . Place in a half cup of rocks. Fill the rest of the cup with rocks.

Hey guys,

I was wondering about lighting. I'm growing in a small space, 1' deep by 21" inches wide and 85" tall. I will have four 18"/15 watt cool white fluorescents surrounding my little plants and two 18"/15 watters right on top of them. Will this be enough light to allow healthy growth up to a height of 8-10"? I'm growing in which hydroponics in 3" Rockwool cubes with a 12-7-7 nutrient. I really hope this will work :-)

If you grow with fluorescents that is the way to do it. Line the hole chamber with lights and put them as close to the plants as possible.

Ron, Do I need an air pump as well as a sub. water pump for a small hydroponics unit? Marg

Yes For about 10 bucks it's one of the cheapest things you can do to assure that your plant roots get enough oxygen. It's especially helpful if you have to let your garden circulate because of a cheep timer.

What type of growing medium goes into the cups of these growing systems pictured here?

Grow rocks

Do the roots just dangle in the solution? How do you secure your plants and stop them from falling over?

I tie them up with string if they need it.

What's the biggest plants you can have in these systems? Do the roots ever get restricted in these systems.

About 4 or 5 ft. With hydroponics you don't need a lot of roots for plants to grow because you bring the nutrient rich solution to the roots every few minutes. Dirt plants have to grow more and more roots to search for the food they need.

Thanks for any help.

Hi, I am looking at building the 11 plant hydroponics garden. I would to know what is being used for the bottle on the top of the system to place your plant in, also what kind of vegetables grow well in this kind of system?

Thank You newbie

I'm want to build a aero-hydroponics system like the one made from round PVC piping is there anyone who can tell me where to get directions or has them to give me I'm figuring about 5 pipes wide and 6 feet long give or take. Please email me if you can help. drastik69@hotmail.com. I just think you can make something as good or better than the aeroflo unit by yourself with a little advice.

Greetings from Venezuela.(South America)

I'm very interested in learning a lot about Hydroponics. In Venezuela is difficult to find books about it and the Perlita.

What I need to know to start a successfully home garden project? For the future I'm interested too in comercial Hydroponics.

Thanks in advance for your help.

Christian Castillo castilloch@cantv.net

I _tried_ the Dogstar site. Initially, the hydroton price looked OK. I tried the "hydroponics" code the owner provided... it did not result in any discount. I then tried another code he provides in his "news" -- I got a 5% discount. OK, better than NOTHING. Then, the fun part. Shipping: \$25.24. Let me see... \$30 for the hydroton, \$25 for the shipping. The shipping ups the price by 85%. I know it's UPS's fault, but "No thanks!" Geeze... you'd think that UPS would figure it out. It just ain't gonna happen, that's for sure. Perlite, here I come.

Buying growrocks have been a problem for me for years because of the weight. I had to drive 120 miles ever time to get it to save the UPS shipping charges. Now I found a source 20 miles away.

I got an e-mail from a guy from China that wanted to know if I wanted to buy a cargo container of growrocks from them. I said sure send it over. I have yet to receive it. Can't speak Chinese and I ain't got enough yen.

Does anyone know the difference between an Ebb and Flow system, and Hydroponics, ? and which one would be better for indoor growing of African Violets and Poppies, with a 1500 watt metal halide light source

Ebb and Flow (aka) Flood and Drain is a kind of hydroponics. Just as NFT (nutrient film technique), Aeroponics, Drip emitter systems are all forms of hydroponics. Any system where plants are grown without soil could be considered hydroponics.

Check out the latest in Hydroponics supplies and equipment!

Online store features over 600 items complete with images and descriptions. Secure online ordering!

Free technical support from our knowlegeable staff.

Free Catalog!

[Http://www.hydroasis.com](http://www.hydroasis.com)

We are a nonprofit horticultural education organization working with disadvantaged youth in a hydroponics project. An older system was donated to us (Aquaponics - 1970's) but is missing parts. In particular I'm looking for parts for an Intermatic timer unit.

Any way you could steer us in the right direction?

Thanks for your help.

Anita Beckwith Director, Herb & Botanical Alliance herbbotall@earthlink.net

Grainger has parts for the Intermatic

Hello! I live on a sailing boat and am interested in starting to grow a few vegetable plants using hydroponics... can anybody please suggest the best method (and easiest) for me to use, without getting into systems that require pumps, ph

testing etc... I need to do this in the most simple, most inexpensive way possible! Thank you so much! Emily
emily29199@yahoo.com

don't we all wish?

where can we buy seeds for veg and flowers that grow in hydroponics?thanks.

www.hydro-gardens.com has some veg seeds.

I'm in high school and I'm doing a project over hydroponics. What supplies are needed to make this happen?

what is hydroponics???

is there a specific type of hydroponics that is better than others? i am tryig to grow salvia divinorum hydroponically.

Ron,

I'm setting up an indoor hydroponics system and wanted to know how to manually cross pollinate tomato or other plants since the bees can't do their job indoors? Also, do you need to grow male/female plants for this?

Thanks Tim

Hello Ron, This is the most excellent site i seen. I need your advice of what you use for soil? i happen to see people mention about gorocks and lavarocks? i am new at this hydroponics and need to know what soil you guys use for hydroponics. i am guess it is not regular soil? Thanks a bunch. peter_ha@excite.com

Soil! What is soil? That must be the crap I wash off when I buy bedding plants from the store.

Hello Ron!!

Why are my plants yellowing towards the end of the flowering cycle? I'm using an all-round nutrient pre-mixed solution, is this the best thing to do? Also, while you're there, which hydroponics system of growing do you think is the most energy efficient? Thank you, from Peaches.

I would increase the strength of your solution. The big lower fan leaves do turn yellow in the flowering stage because they aren't needed anymore and should be removed.

Hey Ron!!

I found a website for hydroponics that's pushing coco fiber. They say that mixing it 50/50 with gro-rocks gives an ideal growing media, and reduces the cost. Oddly enough, the coco fiber is sold in bricks. The bricks cost about 30 bucks for 25 of them, but after you uncompress them they expand about 20 times the volume.

Have you heard this or if so, have you ever tried it? I'll try to find the website again and give everyone the URL.

I am looking for information on the cultivation of Tomatoes or Roses in Hydroponics. Can you please help me with that? I am a second year Agricultural Management student, studying at the P.E. Technikon, George Campus in South Africa. My e-mail address is as follow: s9927116@student.petech.ac.za
I am looking forward to hear from you.

Thanks

McGrandle Makier

Dear Ron, I would like to plant a fig tree inside my house using hydroponics. A tree that will bear fruit. Is this possible? If I can, can I limit it's growth to 5 feet tall and 2 feet in circumference by pruning or some other method..

I haven't had good results with hard wood plants like most trees, roses, and shrub type plants yet. But water loving plants like banana trees do better in hydroponics because of the water aspect of hydroponics. If any members out there have had any luck in this area we could use some help.

I'm looking for information on plant plane hydroponics if you can help please contact me at jsp40@gte.net thank you

Gudday there. Firstly, this site is fabulous. Wonderful what you have done here. A true center for knowledge. Well anyway...I am starting a hydroponics system. Finally got sick of dreaming, started building. However, I want to grow something different, something pretty. Does anyone know of a good flower, small, that loves water and would be good to grow from a seed? Would love some info. Thank you very much. I appreciate immensely how you approach this web page. Fabulous, fabulous!!! Russó

I have discovered that almost any ornamental plants like flowers grow very well in hydroponics and they transplant well to dirt pots for resale with minimal shock.

what are you talking about?

hydroponics

I wonder....if you took a 55 gal drum, cut it in half, and inserted a sort of multi-layered latticework of concrete screening tack welded to the inside. Using, say, pea gravel for a medium, and an ebb and flow system (or maybe drip),

you think it would be able to support a smallish tree or woody plant? The root system for trees is basically for water search and stability right? Maybe if the drum was anchored. Hmmmmmmmmm. What do you think?

Sounds like Robo-hydroponics to me.

My eleven year old daughter would like to a hydroponics project for her science fair and we don't know how to get started. Can you give me some inexpensive ideas and areas to find information?

Their is quite a lot of that information here on this web site but finding it is another question. If you find any let us all know where it's at.

Robo-hydroponics? Is that a real thing or are you just messing with me? :-) I think I'll give it a try, the wife's been saying i need to do something with those drums anyhow.

My name is dave hiltz and I live in maine and I am new at hydroponics and would like to build the 11 plant garden and I wanted to know what the total parts list was less the seeds. Also how I go about starting the seeds, And the continued maintenance of the system? thank you dave. E-Mail; schraderhiltz@hotmail.com

I am growing weed plants this summer in maine outdoors and i heard to make more room for buds to grow on the plants that you have to clip the branches and leaves off in certain places and at certain growth stages. Is this true? If it is and you know: how often, when, and where on the plant do you trim. Also if you have any other grow tips i would really appreciate it if you could write them in the reply. Also, this is most definitely the best, most informative web site about hydroponics i have seen. That is why i am now one of your members.

Pruning tips plagiarized from High Yield Indoor Gardening by Simon Wright

Very simply-

can I save money, grow better tasting veggies and not be tied to the weather with hydroponics?

Yes if you have a climate controlled greenhouse.

Do you have any rough statistics comparing this method with conventional dirt farming?

From years of experience I would say most plants mature in as much as half the time as with soil.

Say for a family of 3, is it economical on this small a scale?

I built a 100 plant 10' x 10' greenhouse for a high school that would be perfect for a family of three. Got a picture somewhere.

I know NOTHING about the details, but the idea is fascinating. I saw it demonstrated in Florida at EPCOT one year.

Me too.

Thanks for responding!

Ches Smith

Hi Ron I just built your 11 plant system I have 3 question 1. How do you set up the seeds in the 2 liter bottles which 2 books that I have bought on hydroponics have not answered the seeds I want to grow is pot

Start your seeds in vermiculite or dirt first and when they get a good root system then carefully wash off the roots and place them in your garden.

2. And for the pump do you need a timer or do you leave it on all the time

Yes you need a timer to water every hour or so.

3. What is a good ready made nutrient to use I don't want to mix it for pot

As long as it is formulated for hydroponics any of the popular brands are ok if you fallow the mixing instructions.

Sorry for all the stupid questions but I am having a hard time finding the answers from the 2 books that I own on the subject

Thanks DC

is hydroponics suitable for the tropics? i'm an indonesian

The largest hydroponic tomato grower moved from Florida to Hawaii because of the weather so I don't see why not. And Carol from Hawaii does OK. <http://www.hydroponicsonline.com/carol.htm>

Thanks, Ron!!! I read your BB everyday. I think this is the best site with the most information that I have came across, and it has encouraged me to try hydroponics... I also GREATLY enjoy your answers! I am never certain if you are answering with good humor or with a little irritations! I choose the humor, and it usually gets my day off to a wonderful start! Thanks for all of the wonderful information!

Martha

I have to admit my humor leans toward the sarcastic side but I think that is good because sarcasms without humor is like aaahhh. like aaahhh well it's like something..

What is a good stable acid to use for PH control. Ive heard that muric acid works. How about sulfuric acid like used in hot tubs.Id like to know your opinion Ron. Thanks23

I use General Hydroponics Up which is phosphoric acid, citric acid, and ammonium bisulfate. And pH Down that is potassium carbonate and potassium hydroxide but I don't know at what proportion or I would mix my own.

Any chemist out there want to try?

Re: Viticulture and Hydroponics Ron, Thanks for your comment "Me too". Nudge,nudge wink wink. I understand work has been done in Israel on the growing of table grapes interspersed with cash crops such as tomatoes and cucumbers. There are a number of upsides I have been told. Do you or any of your site Members have any experience or comments with respect to the growing of wine grapes hydroponically. Is it commercially viable?

John Storey

excellence@hot.co.za

The only problem I see is that I just have not seen any woody plants like grape, roses, shrubs and just about every other kind of tree except banana trees grown hydroponically and I suspect they are really just big plants.

are you the right person to ask about weeding problems

No. I don't have weed problems with hydroponics.

Ron, I want to measure the ppm of my solution, The dip type nutrient meter has 3 different scales on it (1) is ppm 442 value (2) uS value + display x 100 (3) is ppm 'k ci' value

The type is Quick .Dip by hydroponics international. Q. which scale should I be using and what would an average be for general vegies cukes, Tom's, lettuce.

Try here. [Conductivity](#)

Also ron I was the guy that wanted to build my own set up using styrofoam as a container, just wanted to let you know that I tried the MK2 version with a much denser foam but still the water bleeds through the pores in the foam, Not giving up though because it looks great, I am trying to find something that I can coat the inside of the trough to keep it sealed, if anybody out there has a suggestion please feel free to jump in at any time.

Also if there is anybody out there from the calgary area interested in doing some joint projects please e-mail me chrhogg@home.com

Will aquarium ph up and ph down work for hydroponics?

Yes

Ron, Trialbozz here from Victoria BC. I've been reading your discussion board and must say it has answered many questions I have had. I noticed you have shied away from questions regarding aquariums. I have a 50 gal tank and have a filtering problem and have been looking to hydroponics to solve it. As a test I am going to set up a one or two plant system using the gurgle garden setup just as a test. I have read peoples problems with the air pump working so i just did a little experiment and solved the problem of the

flow not working.

When I first installed the tee in the airline the air just shot right past it.

So as a solution I took an old film canister and one of the aquarium fittings (the clear kind used to mount air stones to the end of the hose) I took and cut the air stone part flush with the shoulder on the fitting.

Then I drilled a hole one size too small for the other end of the fitting to fit through and forced it through the hole from the inside of the film canister.

Then I used a small piece of tubing just long enough to slip over the end sticking out of the canister bottom and attach it to one of the ends at the top of the tee.

Then as in your diagram attached one end to my air pump and the other end goes to the plant.

Then using a suction cup mount for air hose mounted the whole thing open end down at the lowest point I could. This delivered about two ounces of water per min depending on how much air I feed to the canister.

The reason this works is the canister fills with air to the point that the pressure is enough to push the water through the air line.

Once the air has cleared the chamber water fills the line until the air pressure builds again.

Hope this helps some of you out there. Cheap it is but hey it worked. If you are interested I'll keep you posted as to how the aquarium/hydroponic thing works.

tfn Trailbozz

Hi!

It's to my understanding that the term hydroponics means using an inert growing medium and feeding a nutrient solution, correct?

yes

I germinated seeds each in it's own rockwool and it sprouted out of the cube in 3 days. I then placed each cube in a 6" pot w/ holes in the bottom containing vermiculite. I have a nutrient solution that includes the correct amount of hydrogen peroxide. I place 3 pots per 2 foot holding tray thats about 3" deep. If I pour the nutrient solution in the tray, the vermiculite should act like a wick and suck the solution up correct? Will this system work for me?

maybe. if you want insurance call Lords of London.

Hi, Hydroponics has often been blamed for producing bland tasting vegetables. I've solved this problem by using organic nutrients rather than chemical nutrients. Everything I grow now tastes better than any home soil garden vegetable. I've tried everything and it seems the product that works best is Metanaturals by Bella Via. I found them at www.Metanaturals.com

my hydro tomatoes ain't been blamed for nothing. what you talking about Willis? you talk like a damn commercial.

Happy Monday,

Just added some pictures of my little basement garden. Feel free to comment!

<http://www.erikhoover.net/hydroponics/index.shtml>

Happy Growing!

Erik me@erikhoover.net

hey ron

what would be a good nutrient solution for growing with hydroponics

p.s. i built your 11 plant hydro system if it makes a difference. thanx for your assistance

Liquid hydroponic mixes cost more but are easier to use than powdered water soluble mixes. But as long as they are formulated for hydroponics and not dirt and you follow the direction on the label then all it comes down to is ease of use.

I am writing a paper on hydroponics as a career and I need the following questions answered for my research. What level of education is needed for this particular career? Do you have to be licensed or certified? Are there any laws that need to be considered before entering this career? Is there a demand for trained employees? What are the salary ranges? What are the advantages or disadvantages of this kind of work? What is a typical day like? Is it more physical labor or administrative? Your help will be very much appreciated! Thank You! UT Student

Hi Ron, I know you have said that you buy what ever tomato plants the store's are selling, but has anyone really determined which variety does the best in hydroponics. I have read that names like Trust, Apollo, Caruso, Perfecto and Trend along with a few others are the best for this type of growing but who knows. They all sound like cigars to me. I thought I might ask for your opinion. Thanks Mike from Mo

www.hydro-gardens.com sells all the varieties you mention plus Jumbo, Kastalia, Cappello, Laura, Buffalo, Blitz, Bounty, Match, Panther, Evita, and Cheresita. All having different growing characteristics. Ask for their catalog.

Hello Ron, All of the info I've found on the net so far is about hydroponics in seasonal climates. Do you know where I can find out about growing in a tropical climate? Thanks, Ross

Sorry no. Hot climates have just as much of trouble growing as cold climates without a climate controlled greenhouse which can be expensive.

I would like to know how to grow hydroponics roses? I would like to know the growing system, growing mediums, pH, EC, TDS rage, cF, light, temperature, humidity, CO2 and nutrient use for growing hydroponics roses. You can e-mail me at: dallairer@hotmail.com

Me too.

I am a member of your hydroponics site. I have posted these questions many times but i got no answer on them.

Maybe it's the way you ask them.

I am growing a lot of weed this summer and there was a few questions that i would like to ask you about it. One of them is: Is miracle gro a good thing to use when growing weed?

You can use just about any kind when growing weeds.

I have heard from friends that it is not good to use because it makes the weed to harsh. If it is alright to use then how often and how much should i use.

Never heard that.

Another question i have is I heard that you are supposed to clip off branches and leaves off of the plants to make more room for the buds to grow. If this is true, could you please tell how, where on the plant i should trimm and how often.

Here it is again. [Pruning Techniques](#).

I was also wondering: What happened to your Hemp Discussion forum?

Not enough hours in a day to run it. Believe it or not I don't make money with this web site so I can't spend 10 hours a day keeping it going.

I have been on your site a couple of times in the past few days and i have not seen it. I also would like to say that this is definitely the best Hydro site i have ever been on. Well that is all i hope you can find the time to answer my questions because summer is coming soon. I want to grow some shit that is going to make people say "damn that is some really good shit".

Ron, Do you think growing cactus hydroponicly is feasible? If it can be done would it be hard to transplant them to sand/soil so that I might sell them? Your ideas would be welcome. Thanx D

I tried to grow cactus in my gallon drip system and it didn't work. Hydroponics is more for water loving plants.

How do i make a simple hydroponics unit, using things i can get around the house or local hardware stores?

Just starting out. Does a wetting agent help in hydroponics, like the one from AMWAY?

I have used a wetting agent only with dirt.

Hello! I come from the islands of Azores in Portugal and since 1994 I've developed a pilot project using a geothermal effluent in order to heat a complex of 6 greenhouses in which I grow vegetables in hydroponics. I use local volcanic substrates such as pumice and "bagacina" a black basaltic gravel and drip irrigation system. In the first year of my research study I compared yields of melon crop using the local volcanic substrates and rockwool slabs. There was no significant differences between yields. So, now I only use my local volcanic substrates inside black/white olastic sleeves. Besides melon crop, I grow tomatoes, beans, pineapple, cape gooseberry, and papaya. If someone is interested in learning more about this project I will be glad to exchange mails. My e-mail address is arodrigues@inovacores.pt I work for an Institute of New Technologies here at the island of S.Miguel, Best regards, Ana Catarina Rodrigues

what does hydroponics mean

how do i know how much chemicals to put in my hydroponics garden

what is hydroponics?

no comments .discus the history of hydroponics?

Ok I've read all the letters to date [anybody else with a question should do the same, the repetition is mind numbing] so a few questions?

When you gave your miracle gro formula you gave a mixture for seedling, and for mature; but then you gave ppm for 3 stages of veg + flowering. Is the first just a shorthand for those mixing there own without an expensive meter for PPM or shouldn't the mixture change with the 3 stages of veg + flowering?

So I know it's not Calcium Chloride it's Calcium Nitrate. I have a book Beginning Hydroponics by Richard E. Nicholls 1977, that suggests Calcium Sulphate which is what gypsum and Plaster of Paris are made of. Household item [plaster of paris] anyone know why I can't/shouldn't use it. It's very soluble does it precipitate out easily?

Just curious why is there never any discussions about NPK. Is it just understood that whatever formula you use these three are in over abundance?

Thanks

P.S. The site is much better than a lame book from 1977!

The formula for seedling and mature plants is from a commercial mix of Fertilizer (Miracle-gro), Calcium Nitrate, and Magnesium Sulfate.

The ppm discussions were in reference to liquid hydroponic solution formulated for hydro like General Hydroponics or Formula One.

I am using the commercial mix with the tomato plants [I am growing now.](#)

Never heard the plaster of paris thing.

Can I grow Ginger by hydroponics method on commercial basis

I loved her on Gilligan's Island.

can ginger grown by Hydroponics on commercial basis if yes may I have the relevant information

no

Hi I am doing an independent research project on hydroponics and i need a lot of background information. Do you know of any good online resources? Norah

I have a basement that gets no sunlight. Can I efficiently grow tomatoes using a light source and hydroponics? Great site and I'm looking forward to learning from all yall.

if you use HID lights you can. but don't try to grow with florescent lights.

How can I grow potatoes in hydroponics?

Roy in UK

I'm going to try. I will let you know how it goes.

Is there a meter or prob that can measure the moisture content in the medium used for hydroponics? I am looking into growing tomatos using the bag technique.

Thanks Joe

Hi Ron, When you build a stand for your system, do you use thin wall PVC or standard PVC?

I use the standard size for added strength.

In the future it is possible that the soil of the Earth will not be able to support plant life. Hydroponics is the way of the future for food production. I thank you Ron for giving this information, it may just save our lives some day.

hi i'm a student doing a science project on hydroponics can anyone give me some tips about growing the stuff?

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for

the food and water that's mixed into the soil.

Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements.

In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots.

Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.

Ron

Can a modest living be made with hydroponic farming? Doesn't seem to be many farms around. Is it impractical? Tired of the rat race. My pipe dream would be a small home with greenhouses in my back yard, room for a horse and a dog and be able to make a living with hydroponics. What do you think?

If your can lean to grow good hydroponic vegetables, you will have people lined up to buy them at any price if the quality is there.

Hi ron, My name is Curt and i am doing a project for my science class. It is hydroponics. And i was wondering if it would be all right to use miracle grow as the hydroponic solution and if it is how much should i use?

Miracle Gro is ok for a short period of time before you have problems. Use at a low mix like 1/4 teaspoon per gallon of water and throw in a dash of Epson salt if you have it.

Can you give some examples of vegetables & fruits that can be grown using hydroponics.

tomatoes, cucumbers, peppers

Is growing plants in sand, considered "Hydroponics system"?!

RE:Is growing plants in sand, Considered "Hydroponics system"?!

Yep - _any_ inert medium can be used in hydroponics. beach and river sand contain no nutrients, and is therefore inert.

What exactly is hydroponics? Who can give me a good definition?

Growing plants without dirt.

may i know the advantages and disadvantages of hydroponics

from suling

How do you use a TDS Meter in regards to fertilizer solutions for non-hydroponics? I bought a \$20 Hanna TDS & the directions are more specs than instructions; what should I look for, readings, etc. I want to water/fertilize seedlings in soil-less mix which obviously lacks nutrients with 3-2-2 liquid fish solution & maxicrop 1-0-4 seaweed mix. Seedlings aren't big enough for transplanting [outdoors] yet, most 2-3" tall. Mostly veggies like tomato & peppers & cauli.

Thanks. korney19@adelphia.net

TDS (total dissolved solids) means just that. Even though your TDS reads OK for the maturity of the plant you are growing it does not tell you if the combination of ingredients are correct. That is why you change your solution every two weeks because there is no way of telling how off you are with only a TDS meter.

Hi everybody I'm new to this (I mean Hydroponics) and I have a few questions I was hoping some one could answer for me. I'm only 15 years old and I live In Palm Bay, Florida.

I don't know what some of the terms like pH, ppm, TDS, NPK, milliseisms, EC, Urea, CF, ebb, NFT, and CFH stand for. Some just aren't clear to me and some I just don't know what they mean and may just be the same, I just don't know. Next is, I am thinking of starting off with a (n) 11 plant garden, I was wondering if you would be able to point me to a site that would show me pretty much Exactly what I need (including a sub. pump's GPH, ect...), or close enough too? Also, what do I, if anything, need covering my garden (A greenhouse or can I just put it in my garage [or even my shed]? Third is, is there any specific times of the year to grow crops or not. Fourth, if I grow something and it gets too big can/should I transplant it into the ground. And what should I do to it. Finally, you say that you need an air pump and air rock but how do you set it up so that each plant gets air, do you have to put a rock in/under the plant (or it's gravel)? Diagrams would be helpful if you have any. I have learned so much from this site and I hope someone can answer my questions.

Kyle Paisley kyro_1234@yahoo.com

hi, i just want to know the benefits and disadvantages of hydroponics

disadvantages - cost of equipment

benefits -

year round controlled growing environment

labor saving cost by automation

fruit produced in relation to square footage or meters

Can you recommend any sources of seeds that are especially compatible with hydroponics. I am looking for vegetable seeds like tomatoes, cucumbers, etc. Thanks

what is the best way in hydroponics to grow beans for harvest grain?

What are the best tomatoes to grow with hydroponics? ED

In Aeroflow Hydroponics, are the roots sprayed with nutrients constantly, or In intervals (once every 30 min). Does the water drain out as soon as it is applied and recirculated? Do you know the advantages of aeroponics as opposed to hydroponics like rate of growth and yield? thanx

how does hydroponics work?

I am a college student learning about the agriculture business. A project of mine is to set up a working business plan for a commercial hydroponic tomato greenhouse. Because of the extreme amount of information on the web I am having trouble locating reliable information on expected typical yields, and about average timing from propagation of seed to harvest. If anyone can help locate this information it would be very helpful. Thank you. Danny

Hi, Found your page doing a search on Hydroponics. You have done an excellent job describing systems and techniques. I am new to this but I love a challenge. I intend to build your 2 liter system for my 8x12 greenhouse. Two things I have not seen an answer to on your pages. (They are likely there, I just haven't found them!) 1) I want to grow Tomatoes and English cucumbers. Can I do that in the 2 liter bottles? or should I put together a gallon system? 2) Can I use a common mixture for both crops? Do I water on a 24hr clock, that is every 30 minutes or so around the clock?

do you have a graph of economics of hydroponics

Ron! I am new comer to hydroponics and don't want to spend a lot of money until I feel I have the fortitude to stick with it. I had two 48" florescent fixture that I installed grow lights into. I have a tomato and cucumber plant about 6" to 8" high. Even though I have the lamps on at least 6 hours a day, both plant lean toward the window for sun light. Is that an indicator that I don't have sufficient light source? John J.

I have a few Q. I'm in the 6th grade and I'm doing a science fair project... I'm doing my project o hydroponics. My teacher told me to compare plants grown in soil and seeds grown in a hydroponics solution. I want to know if I could make a hydroponic solution at home and not spend any money. If I'm off track please email me at Kljhad@yahoo.com thaks jessica

The Hydroponics Warehouse, based in Australia, sells the Autopot Hydro-Pak System. It doesn't need electricity. It uses what they call a Smart Valve (Mark 2) to refill the tray when it senses it's empty. Does anyone know if this

system (or a similar one) or at least the Smart Valve (or a similar one) is sold in the U.S. and if so where? Smiley

Are there any books that I read on the internet on hydroponics? If so at what site can I find them?

whats good about using hydroponics

what is forage production by hydroponics?

Good Afternoon I am new to Hydroponics. I am building a hybrid Aeroponics/NFS. Can I use compost tea made from worm castings/stinging nettle (as I have been told the nettles are a rich source of nitron, and it is a common weed where I live) as direct feeding solution? If this won't work, please let me know of another solution. Thank you. Robert Barfield Minot ND uthke@ndak.net

Is it possible to grow drugs in hydroponics. It would be easier for dealers to hide their products

Yes, it is obviously a potential risk for our world. People could be smuggling drugs in the underground. Where there could be hydroponics in the sewers. Of course we need police to patrol the sewers in order to reduce the drug distribution throughout big cities. --X I am the best! 1331

What are the economical impacts of using the hydroponics system?

What are the economical impacts of using the hydroponics system?

Do plants grow faster in soil or when using hydroponics?

Would anyone know if tap water at about 130ppm could be used with general hydroponics (micro, grow, bloom) without harming my plants? Just wondering if 130ppm is considered high for tap water too? Thanx. Mark

130 is about right for tap water. My well water is 250 PPM. If your water has a lot of chlorine you can let it sit in a open bucket for 24 hours to let it evaporate before use.

Hi, I live in the savanna bordering the Sahara Desert and exploring commercial hydroponics to keep a steady supply of fresh produce for my community. Climate allows proper growth only four months of the year. I contacted suppliers for quotes to estimate costs and feasibility but they don't know what I need under my conditions. I don't neither. Anybody familiar with desert conditions? Is there a volunteer consultant?. I'm peniless now but will keep the person as a paid one upon financing. The banks relies on projected cash flows for repayment of loans. I' planning 5 to ten acres.
Thanks;

my name is Rosy: I want to try out hydroponics right away. I need step by step instructions, I am new in agriculture and need detailed help.

what water is best for hydroponics? distilled,tap,or creek?

I'd like to know if anyone has tried to grow PALM seedlings using the hydroponic method? Palm seedlings are notoriously slow growers, so I'm looking for a way to speed up that stage of growth. Also, the seedlings would require transplanting into a soil medium at some point - would the "shock factor" be too much?

I've always had a problem growing woody type plants like trees and shrubs with hydroponics. As for the shock value. From hydro to dirt is easier than the other way.

Meters

pH and conductivity meters seem to run from \$80 to over \$1,000. Is the DipStick still the most popular and best value? What other meters are folks running? Did you all buy them from hydroponics stores or from scientific supply companies such as Fisher?

Peace, Glen

The DipStick has lasted me the longest but at \$110.00 it's pricey. I will be selling a Hanna pH meter for \$30.00 if their is a market for it.

Is the DipStick pen a trade name or a generic term for that type of meter? What is the name of the company that manufactures it? I am getting ready to put my unit together. The only thing left is to buy meters. Any help is welcome.

Cliff

Brand name. Made in New Zealand by N. Z. Hydroponics Ltd. Distributed by: AMERICAN AGRICULTURE Portland Oregon.

Our class is having a radish growing contest, how do i grow the biggest radish?

what number of cf would i put in a mini hydroponics set if i was growing 1 radish we are having a competition at school who can grow the biggest radish

Books?

Would anyone recommend one or both of these books?

Hydroponics Tomato Production by Jack Ross

or

Hydroponics Tomatoes for the Home Gardener by Howard M. Resh

I have designed a programable control around your 11 plant system, it uses an inexpensive logic controller to control the lighting cycle, pump operation, temp, CO2, and ventilation. Instead of using simple timers the system monitors the CO2, and Temp, and maintains the setpoint for these variables. This way you are not wasting CO2 and can control the growing atmosphere very accurately. The control system is relatively inexpensive and very safe. My background is in electronics. I was wondering if there is interest in the hydroponics circles for such a control system. If you are interested email me at thesteeds@telus.net

Hi On May 7th. Someone asked about the book: Hydroponics Tomatoes for the Home Gardener by Howard M. Resh

Well I have it and it is a good book for the price and for your first book on tomatoes. The book is done well and easy to read. It touches on a little on everything on Hydroponice Tomatoes.

<http://Mikenewsome.com>

can i put fish in my hydroponics system to provide nutrients to the plant

yes but don't put hydro fertilizer in their with them.

I am only a begginer, and i was just wondering if in order to grow hydroponicly your plants will have to grow water roots. does it depend on what system you go with also can you just submerge any plant's roots that can grow hydroponicly into the water or does it depend on the plant? thanx

Hi I am a sixth grade student in Palm Beach, Florida. I am doing a science project with hydroponics. Do you have any advise?

what is the best hydroponics system for watermelons?

whats up ron? Im going to build a aquafarm hydroponics system to grow my super dwarf banana plant and need to know a good brand of nutrients. I cannot mix my own because i am not that intelligent haha... So do u know any good brands that will work for my plant? thank you very much, Nattycongohermit

Hello fellow hydroponics friends. I have two questions if this board would be so kind as to answer them.

Q: Another one of those "how long should I run my pump questions"! I understand that with out light you can't have photosynthesis. Thus, making it useless to run your pump during no light; right? However, this is where my question fits in. Can your plan roots dry out over night if you don't run the pump at least one time? I ask this because I do run my pump at night three times (ever 2.5 hours or so) and I have not had the balls to experiment with this nagging question.

I water 24 hours because of frequent power outages so I won't have to keep resetting my timers.

Q: This question is for any person on the board who might know about herbs growing. I have research herb growing on line and can't find any good web sight dealing with herbs and hydroponics (it's a conspiracy, he he ha ha). I am wondering if the rule of thumb in growing herbs is much like other leafy plants. I ask this question because on one web sight this guy was growing all his herbs with "an EC (Electrical Conductivity) level of 2000 and a pH of 6.8." Is this PH correct? Seems to me to be high. However, this guy grows for a living in California. If any one is interested in the article you can find it at <http://www.aquaponics.com/articleherbs.htm>. Thanks for any help y'all can provide.

Blue Skies, Free Flyer

What is one future use of hydroponics

First, I would like to comment you on such an excellent site. Hydroponics is gaining popularity here in Australia but there is still little information for the commercial grower.

My question might be "too scientific" for you to answer, and at the end of the day we might need to consult a hydroponic consultant but here goes: we are growing parsley on a commercial basis and I have a major problem being that after harvesting, the parsley droops or wilts. This is a major problem for a commercial setup as it brings in much less money per bunch. Our system is nft with 1250 plants, with the hope of doubling this, when I can solve this problem.

I have an E.C meter which I use daily to check the e.c on the water and also do a ph test daily with both - drops and litmus paper.

I have a "gut feeling" that I should change the nutrient. I currently use a local "brand name" for hydroponics. I try and keep the EC at 1.2 to 1.3 and PH at 7.

Have you any idea why the stalks would droop after harvesting? Thank you in advance and again, I commend you on

such a useful and informative site. After all the websites I have pursued, yours is definitely no.1 for useful information.

TO THOSE HAVING TROUBLE STRIKING SEEDS.

Ron, I hope you don't mind me giving tips here, I don't want to interfere with your professional and experience knowledge, which, I might add, is much more than I have myself. However, after reading the messages, so many have asked how to strike seeds and when to transfer them to the hydroponics so I thought, with the little, but successful knowledge I have striking seeds, here is a tip or 2.

I have 1250 commercial parsley plants. Parsley, is one of the most challenging seeds to strike due to its slowness and less vigorous characteristics compared to other plants.

I have successfully sown about 2000 parsley seeds using the following technique (these plants then go into a NFT commercial set up)

I use vermiculite only I fill the tubes with vermiculite (the tubes I use, are the ones that then go straight into the system later, so there is no transplanting shock to the plant and much less labor for me).

I then water the tubes to add as much moisture as I can to each tube

I then plant about 6 parsley seeds to each tube. I add about 6 as parsley seed is very small and difficult to handle individually and it gives me more success with striking as if 5 do not strike, I still have 1 which will strike.

I cover the seeds with about a cm of vermiculite and water in with a very fine spray

For the first 2 days, wait till late afternoon to water as then, the sun here in Australia has warmed up the water in the hose and water the seeds with the warm water.

After day 2, water once a day, at any time but prefer afternoon, when the water is not as cold.

After 10 days, my seeds sprout and I continue watering daily, and also foliar spray with a very weak nutrient, after 3 leaves are evident.

Prick out all but the 2 strongest seedlings.

When the roots appear from the bottom of the tube, transfer it to the hydroponic system and watch them grow before your eyes, so to speak.

Prick out the weakest of the 2 seedlings but note here with parsley as a particular plant:

we have found that parsley is happier with competition from other plants. With competition from other plants it produces longer stems which is what we want to achieve to harvest it commercially. So, sometimes, I will leave 2 or 3 seedlings in the one pot, however this is speaking from a commercially viable unit only.

Note that I use a commercial seedling table - the table is simply a table with a drainage point to allow all excess water to flow through.

Parsley has a reputation of taking about 30 days to germinate but I germinate mine in about 10 days, 15 days in the middle of winter which is still an excellent result.

Is anyone out there practicing aquaponics (i.e. aquaculture and hydroponics)? Would appreciate some discussion as we just completed the fish tank (2000 gal) and started building up the hydroponic beds, outside in West Central Florida.

Not yet. Everything I know about it I read in Aquatic Eco-systems catalog. I'm sure you have it if you are into fish stuff. They are in Apopka FL

I'm a small-time, first season hydroponics hobbyist and thanks to all this free information on the web, I've been doing very well up to now. With increasing frequency, my tomatoes are turning up with rot - always on the bottom, and usually, when they are fairly young and green. There is no internal or external visible insect infestation; although, some problems with aphids (I think). I'm low on money and do not have PH or PPM test equipment - maybe a problem?. Any ideas - thank you, Tim.

Attn: Tim

Re: End Rot

Most of the info. I've found says that this condition is the result of low calcium in your solution. I would suggest that you try to find a stock solution from a hydroponics supplier. What are you feeding your plants now?

Tailwheel

I hope to legally grow pot for medicinal purposes. I plan to use the 2-liter system. My questions: How far apart should the 2-liter bottles be spaced, center to center, to grow pot to full term.

Indoor pot plants need one square foot per plant so that's 12 inches from center to center. Try to keep your plants small, under 30 inches at term.

Second, which hydroponic fertilizing solutions would you recommend for the growth stage and the budding stage?

Any of the liquid concentrated hydroponic solutions work well but my favorite is Formula One A & B because it's cheaper than the others and you use the same mix for veg and bud stage, you just increase the PPM for budding.

Ron, I've studied hydroponics in books and on the Net for many months. No other person has more solid knowledge on hydroponics than you do. Thank you so very, very much for the incredible work you're doing to help people like me throughout the world. You're truly one helluva human being!

Ah shucks

Ron, I am getting very disappointed with my attempts at hydroponics! I made a ebb and flow in a long narrow trough using 6, 6" clay pot. I cleaned every thing with a 10 percent bleach solution (three separate times) and I still be a white fuzz around the top grow rocks. No matter what I plant, I get white fuzz!! Help!!! JJ

You didn't say if the fuzz is hurting your plants. You may have to try a fungicide.

i need help on getting started growing hydro. i need to know the simplest way to grow it. thanks

[Click here](#) and [here](#) and [here](#) and [here](#) and [here](#).

I'm doing a science fair project on hydroponics, so what should I do?

[Click here](#).

hello Ron, i am a high school student from s. west Washington, and i am starting my own small hydroponics growing system. i have all of my equip. and i am ready to plant. i have two questions for you; 1.can you recommend any fertilizers to promote fast & healthy growth of tomatoes?

Any of the liquid concentrated hydroponic solutions work well but my favorite is [Formula One A & B](#) because it's cheaper than the others and you use the same mix for veg and bud stage, you just increase the PPM for fruiting.

2.what are some of the differences between tomato cultivars used in hydroponics? Thank you for your time, chris

Can I get a paragraph on hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics,

you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants.

Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plants' roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.

Ron

It would be better to stop the algae from growing at all. Where is the algae growing ?

Please! Algae is you friend. Without algae you have a problem with hydroponics. Have you ever seen a healthy stream in the wilderness without algae. Algae means that there is nutrients in the water that your plants need. It only becomes a problem when it gets so bad that it covers the top of your medium and prevents oxygen from being suck into the medium when the water drains from the cups.

Hi Ron, Hi all, I've been lurking recently and now have a light question. I am growing tomatoes in a 6 plant 2 litre bottle system, I transplanted 4 weeks ago, they have tomatoes about the size of a 1/2 dollar. It is now time to change the solution, I have had the solution set up for growing phase, should I now change the nutrient to blooming phase or

keep the grow phase mix? I am using general hydroponics solutions. Thanks to Ron and this site, this is my 2nd growing season and it only gets better! Tony in Va.

Because greenhouse tomatoes are indeterminate, which means they grow and produce fruits continually, all you can do is compromise and change your solution to bloom about half way thru to completion which is about two months for tomatoes that take about four months total to finish.

Hey Blake can i have the how to hydroponics too ok thank you RICKY165@prodigy.net

What are the advantages of hydroponics over the usual method of growing plants in soil?

faster growing and less root borne diseases.

Ron, I am working on a new system; it is a sub-level hydroponic grow hole for production of tomatoes, basically. My plans are for a 14x70 ft. 6 ft. below ground level to use geo therm temps. after looking at all the systems, your pipe dream is really impressive. Is it possible to get more info from , and about your system ?

what kind of info? everything I know about hydroponics is on this web site. what else do you need to know?

Hi. I am very new to hydroponics. I have some basil growing and they don't look as healthy as they should, so I checked the pH and it was around a very low 4. The bottle that contains the pH checking solution recommended that potassium hydroxide be used to raise and phosphoric acid to lower the pH. Do those two particular chemicals have to be used to adjust the pH? Or can other alkaline and acid chemicals be used? I asked a local garden store if they had anything for hydroponics (they didn't). They did have something for fish tanks and outdoor ornamental ponds. Would something like that work?

Hi I would like to grow some hydro. I am planning to use the 11 plant garden. Anyone with tips for a successful batch would greatly be appreciated. I plan to germinate them by leaving them in a wet towel for a day or two and then putting them in.

What kind of nutrients should I use to get a potent crop?

Any concentrated hydroponic nutrient solution will work.

I am growing them indoors so can you tell me what type of lighting I should use as well? I know the lights can get pricey, what is the price range usually at, and how much does it cost to operate them, because I heard that in the early stages the lights should be on 24hrs a day.

About 60 dollars per 1000 W room per month. That includes vents, fans, pump and light.

How long does it take before, I can enjoy the fruits of my labor?

About 6 months from germinating the seeds, sexing the plants (male & female), Cloning mother plants, 6 weeks veg.

stage, and 8 weeks bud stage. Enjoy.

Thank you in advance for any help that can be offered. I would like to also say this is a wonderful site. Hydroponics is very cool!

novice KB (kiler bud)

NEED HELP FAST! I AM DOING A SCIENCE PROJECT GROWING PEPPERS WITH HYDROPONICS. I HAVE HAD GREAT RESULTS UNTIL NOW. THE PLANT IS FLOWERING AND HAS FORMED ONE PEPPER. THE PROBLEM IS THAT THE LEAVES ARE STARTING TO WILT. I HAVE CHANGED THE NUTRIENT SOLUTION. WHAT COULD THE PROBLEM BE?

You aren't shouting at your pepper plants are you? They hate that.
You may have a problem that is called damping off. Just change the focus of your science project from [Growing with Hydroponics](#) to [Common Problems when Growing with Hydroponics](#).

When you plant in the bottles using the cups, what medium are you putting into the plastic cups that you have your seeds in?

When you place the cups in the bottles, are the cups "planted" into a medium such as gravel?

PS: I am new to hydroponics and I found your site very helpful. Thanks for your efforts!

is the water from a pond inhabited by fishes and decayed leaves be beneficial for use in a hydroponics system? and why?

not enough fish and that other stuff would too.

Hi, members of my family in S. Africa are wanting to start a commercial hydroponics operation. They plan to do a variety of veggies, but especially marrows, which is a type of squash. I have been asked to see what I can find out about hydroponics for them. This operation will be located in Noodtgedacht in the Cape Province S. Africa. Any assistance will be greatly appreciated. Thanks a bunch, Stan Putter

Hi Ron,

People are always looking for the right kind of lights to use at a good price and I have (20) Complete 400 Watt Metal Halides with the hoods and enclosed multi tap ballasts and a removable top plate for adding a cooling fan for just under \$80. + shipping. I can e-mail pictures if anyone is interested. Thanks for having the best site about hydroponics!

Mike from Mo mpsweeney@hotmail.com

Are these lights new or used?

Check out some of my recent Hydroponic projects:

<http://www.geocities.com/WallStreet/District/9046/hydro/cloner.htm>

Very cool. Hydroponics don't get any simpler than that.

New to hydroponics! In fact my cukes are sprouting under some cool fluorescents as I type this.

My question is has anyone experimented with using a warm-mist humidifier, like the kind you'll find in the baby health section of Wal-Mart, to add the necessary humidity and warmth to tomato plants grown in an indoor greenhouse??

Great site and helpful BB! Erik Hoover Warren, Ohio ehoover@netdotcom.com

Hi Erik

I liked your site also, especially the portable greenhouses. Members might want to check out this [10' X 10' backyard greenhouse for \\$359.99](#)

The warmth part is OK but the mist humidifier invites mold born deceases.

What is the ratio of space required for hydroponic or even aeroponics cultivation as compared to traditional outdoor gardening??

It has been proven that 2000 square feet of outdoor garden space is able to produce 700 lbs of fruits and vegetables in one year (if done just right). If this is so, how much space does it require to produce the same amount of produce using hydroponics and aeroponics. This can be a general number or ratio because we are not talking about any specific crop. This might be easier to answer than the last posting. Thanks!!

Please e-mail answers back to me at daa1@ra.msstate.edu ASAP Thanks!!

Daniel Ashworth, Jr.

About the same space. The benefit comes by the fruit finishing sooner and more weight.

Hey Ron! I was looking for what the solution was you use for hydroponics and I clicked on your link but it did not work. So I was wondering if you could tell it or maybe fix that link. Thanks

I use [Formula One](#) when I can afford it and I am using a commercial mix this year in my greenhouse.

how much soil does each plant need?

Soil? No dirt under our fingernails. With hydroponics we don't use soil.

in hydroponics, do you also feed the plant even at night ? isn't it photosynthesis needs water and sun light to make plant food ? what if you dont use HID lamps in your growing room, only sun light, wont the water kill the plant if you water them at night ? thanks RON
CARTMAN

Hi Ron, How do you figure out how big is a nutrient tank to use? My hydroponics garden has 40 plant heads connect by 1 inch pvc (modified from your 9 plant garden).

Dear Ron: My wife and I live in Queensland, Australia, & are small commercial growers of culinary herbs in 2" propagation tubes. We only produce 100doz per week in a gravel system and a few in pipes. The gravel is in a material called "clip lock", which is an industrial galvanised steel roofing; the flat tray being about 200mm wide(8"). The beds are 1.8m (6') wide and 40m (? 130' long). We get this product 2nd hand from large industrial buildings when demolished, for about 80c to \$1 a linear meter. Now we also do similar numbers of potted colour (which are annuals like petunias, marigolds and doz of others) in 4" pots. We always grew these on weed-mat on the ground and overhead watered, until one day I decided to clean out a spare hydroponic gravel bed of the gravel, and put the potted colour in, and irrigate them by pouring the water in one end and returning it to the dam from the other. (identical to the hydroponics). Our total losses have diminished by around 8-12%, our overhead irrigation had used 15,000 litres/day. Now we use 1,200 litres day (recycled of course), and it now seems it is costing me more in electricity and annual repairs to run my pump off the dam than it would cost me to purchase water from my local Council (throw the pump in the bottom of the Dam and fill it in). Now for the CRUNCH: We are moving in to seedlings (veg and flower) in small 6 & 8 cell punnets. The traditional method of delivering water is by overhead propagation misters, with an array of balance arms, heads, pipes etc, etc. My question to your readers: (1) has anyone successfully raised seedling in punnets by "flood & drain" (2) Has any one any ideas on what I could use as a container to flood and drain, keeping in mind it must be around 2.4m (8') x 1.2m (4') (32sq feet). I could (and probably will) try my clip-lock roofing material, but I am looking for other ideas, so if anyone can comment, I would be pleased to hear from them. Cheers, Phillip.

I am looking for someone from the massachusetts/connecticut area with knowledge of hydroponics. Please email me. gustave_brad@bentley.edu

hi ron,
is algae growing in the rockwool of my growing cup a cause for alarm ?
pathetic grower

I am new to hydroponics and am working for foundation in Georgia (United States) that is considering establishing a program to teach farmers how to use hydroponics in commercial applications. Does anyone know if hydroponics would be commercially viable on a larger scale in Georgia? Does anyone have any suggestions on contacts/resources to investigate this? I plan on talking with the USDA and agricultural scientists at the universities. Please e-mail any suggested contacts/resources to cvadnais@fuquacapital.com Thanks for your help.

Dear Ron, I just found this web site. My daughter would like to perform an experiment for her science fair comparing soil planting to hydroponics. I have taken out several books for her and have searched several web sites, and yours so far has had the best information. Any ideas as to the best and least complicated way for a 9 year old to set up a hydroponic test garden? I bought gravel, some seeds and a plastic container. I'm unsure of the nutrient mixture, if I can buy it and dilute it or if I have to find all the ingredients separately. Any advice would be a tremendous help as I am a novice hydroponicist. Thanks! Cheryl Long Island

Hi Ron, I'm thinking of using Miracle Gro 15-30-15 for my hydroponics system. Do I need to add anything else to this solution? Thanks Jack Minn

What all are you planning for the hydroponics Christmas Tree?

I think some colorful blooming annuals around Christmas time would be nice.

Hey Ron, I saw that you were working on a hydroponics Christmas tree and was wondering what plant are you using (pine?) I can't wait to see how it turns out! Mandy

I will finish it way before Christmas and post pictures to show how to build your own.

I am new to hydroponics. Do you have to use special types of seeds in order for the plant to grow? Or can I just open a pack of tomato seeds that I bought in Kmart? If so, how do I start from seeds?

j

Yes you can use store bought seeds. Start them in vermiculite and then transplant them to hydro when they get about 4" tall.

dear ron,
some years back, i remember some scientist who live inside a glass dome for one year. part of the experiment, if i remember it right, was on hydroponics.

the main objective was to see if man can live inside a controlled environment, grow their own food and be self sufficient.

can you remember the project name and where i can get more details on this project ?

thanks

Dante Bugnutin W. Samoa

It was known as the Bio Sphere Project in Arizona I think. Just punch in bio sphere project in your search engine and I'm sure you will find something.

What kind of hydroponics system Should I buy to grow some kick ass green bud? (Marijuana)

Kind of hydroponics systems has nothing to do with growing KAB. What ever kind you buy or build you should try keeping tomatoes plants alive before you waste a lot of money on KAB.

What kind of hydroponics would i get to grow cannabis . I need to know where to start. I didn't realize there were so many different systems.

Kind of hydroponics systems has nothing to do with growing cannabis. What ever kind you buy or build you should try keeping tomatoes plants alive before you waste a lot of money on cannabis.

I believe the green blocks used by florist to hold water for cut flowers in a vase are called a water oasis. Could this be used in place of grorox/perl./ vermic. ?

You can grow in just about anything as long as it's inert and can hold oxygen. The water oasis sounds like it's a perfect material for hydroponics if it doesn't brake down to quick.

What is hydroponics?

Do you mean hydroponics:

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil.

In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution.

There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants.

Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil.

Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements.

In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plants' roots.

Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it.

Ron

I ordered hidu kush what's the cheapest way to grow it

In dirt pots because their is nothing cheap about hydroponics.

To Ron I know you are a hydro man but i was wondering if you could answer a soil question for me. Is sodium biphosphate ok to lower the ph in water before I water my plants in soil. This is the same stuff used to lower ph in aquariums. I called my local brew and grow and the guy said if I was using this in dirt it would be ok. But the sodium part Makes me worry about what's in it. THANK YOU FOR YOUR TIME

You can use just about anything with soil because unlike hydroponics soil has a buffer from the chemical reaction to the roots. You have more time to correct your problem because of this buffer. With hydroponics you have to fix

imbalance right away because the nutrients go straight to the plant roots.

Dear Ron,
I have been doing hydroponic veggie growing for 2 months only but I noticed that my hydroponic veggie (pok choy) wilts faster than soil grown.
One friend of mine attributes it to the growing condition of hydroponics which is water abundant. Once it's harvested, the water loss is too fast for it to cope up that is why it wilts faster.
Can you please confirm this and what remedy can be done with this problem?
Stanley Ho

I don't know what pok choy is but maybe you can stick them in a water vase like flowers until use.

Hey I am new to the hydroponics scene and need to know what is necessary for a balanced hydroponic setup. Also I planted some lima beans and they bloated and are now some kind of smelly fungi, why? My grass seeds grew beautifully! Thanks -Debbie

Make sure your garden is on a level surface then maybe it will stay balanced. DON'T go near the bloated lima bean smelly fungi. It has been known to digest people.

Dear Hydroron, I am doing a school science project on hydroponics and geponics. The plants I am using is aztec grass. What are some good sites that I can look up for references. Thank you for your time. John Prieto

Try aztecgrass.com

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i love hydroponics, i wish that it actually worked

ATT: Bill S and Tailwheel

Solo cups can be found Cheap at costco wholesale 100 for 6 buks

Pingman

Is there any common household item I can add to my nutrient solution that will lower the ph levels?

[Yes Click Here](#)

Hey Ron, I asked you the other day about indoor lighting and lumens per sq. ft. I guess I meant, what is the absolute point of diminished returns with regards to the lumens used by a (light-loving!) plant. Given that all other growth factors are optimum like co2, food, etc. It's just hypothetical anyways, I dont have the \$\$\$\$\$\$ for a dozen 1500 watters! Realistically though, I think like 100-125watts per ft. would have fairly good results. Sorry to babble, thanx for your time and a kick-ass website!

[Maybe this will help. Picture 1 or the hole page. \(193 KB\)](#)

I'm looking for a nutrient solution for dummies approach. Where can I learn all I need to know to grow healthy plants? I have a conductivity meter and I haven't got a clue what it all means. I'm completely confused by all the terminology eg.) TDS, EC, CF, ppm, ppt, microSiemens, milliSiemens etc.etc. My meter reads in milliSiemens. Can I use this? and What would an ideal reading in milliSiemens be for my blooming nutrient, and vegetative nutrient. Please advise. Thanks much.

EC - Electrical Conductivity measures the rate a small electrical current flows through a solution. Usually measured in microohms per centimeter (u.Mho/cm) or microsiemens per centimeter (u.S/cm) $1.0\text{u.Mho/cm} = 1.0\text{u.S/cm}$
How many millis are in a micro? Now you got me confused. Get back to you later.

the 11 plant system??/ how big of a plant can that hold???? can that handle tomatoes and peppers???

student

Patio type tomatoes that only grow 3 or 4 feet are ok.

help with carbon filter can someone please tell me if the carbon filter should go before or after the fan? also should the filter be in the or out of the area being treated by the filter? have a great day azz

Is there a way to tell male and female plants from the seeds?

No

where is the best place in London to get a tropical fish tank.

From Big Ben go 3 blocks to Barniby Street and then left to the London Bridge in Arizona.

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Is indoor growing safe?

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am looking for a very small indoor growing system (lack of space). I need some advice concerning these products or anything else that might get the job done...thanks,

which is better for indoor growing hid or hps?

I think you mean Metal Halide. Both MH and HPS are hid's (high intensity discharge).

HPS last longer and cost less per lumen to operate but cost more than a MH. I know MH is best for veg stage and HPS for flowering but if you can only afford one light I would go with HPS.

Ok, I was recently looking at some advertisements in a mag and noticed two in particular. One of them was of Pyraponic Industries Phototron's and the other was of P.I.G.S. indoor growing systems. I

Hey Ron, Thanks for the quick response about the size pipe to use for bleach jug system. I am using a natural color industrial bleach jug style container with plain cap and found that it fits nice and tight in 1.5 inch std. pvc which I will use a small piece glued into the t fitting. Inside the gallon jug I am using a .5 gallon plastic jar to hold my medium which is going to be perlite with a little vermiculite. I figured using a container that is .5 gallon size would work good for growing 3-4 foot flowering plants. Please give your opinion on this setup. ? # 2. I have a limited area for the system so it's going in a closet and will get only artificial light from 2 175 wat merc.vap lights and I will probably add a 200 watt hps. Here is the problem I am expecting though, I feel it is going to get quite hot in the room, so here is my plan and I would like your opinion: I am adding 2 bath type exhaust fans, one bringing outside air in and one going out. I think this will help but I might need to add a cooling chamber for the water in the system and here is what I

have in mind: 1st I am using a different style of pump than most people, it's a 12 volt diaphragm pump used on lawn/farm sprayers that has a high gpm output and it is not submersed it is connected to a hose that pulls water from the systems pipes then dumps it back in the .5 gallon containers thru controlled flow and puts excess flow right back in the pipes. Now with that said here's the idea, run a long amount of the suction hose thru a cooler full of ice or possibly a small fridge to create a cooling coil so when the system cycles it cools the water going to the plants thus helping to keep the overall temp down. What do you think or do you know of another way to do this?

Last ? for now, When **cloning** cuttings by using root tone on similar product and putting the cuttings into dirt, I have had success. How do you clone plants in a hydro environment? Is there a small system I should build just for this? or what can you tell me to get started successfully do this? Thanks, DC420 dc4200@hotmail.com

You want the bad news first. Mercury vapor lamps produce a color spectrum that is not as efficient as the halide or hps for indoor growing. It's not the kind of light to use if you expect any kind of yield. I use vermiculite for cloning not dirt.

Haight Solid State

LED Grow lights NEW 300W model High yield without high power bills

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how dangerous is it to run a 400w HPS light and pump

If the light was made for indoor growing then they are pretty safe. It's when you start using street lights and wiring your own then you might burn down your house.

Does anyone know the difference between an Ebb and Flow system, and Hydroponics, ? and which one would be better for indoor growing of African Violets and Poppies, with a 1500 watt metal halide light source

Ebb and Flow (aka) Flood and Drain is a kind of hydroponics. Just as NFT (nutrient film technique), Aeroponics, Drip emitter systems are all forms of hydroponics. Any system where plants are grown without soil could be considered hydroponics.

hey ron,george in crescent city fl.this will be my first year with a winter greenhouse.will be growing various hot peppers,tomatoes,& some herbs using the drip system in a 12 x 24 greenhouse.i am trying to estimate how much heat i will need to get thru the winter.books say 75 degrees is the optimum temp.should i try to maintain this temp 24 a day or just during the nite & exceptionally cold daytime temps.don't want to under or over estimate the system.tia,george

75 degrees is strictly for indoor growing. Green house growing is a whole new ball game. The ideal system for hydroponic growing would be a covered greenhouse with plastic sides that could be rolled up as soon as the sun started to heat things up. Shade cloth also helps when it gets too hot and also helps to keep the bugs out.

I hope to have my greenhouse roof on before the first frost or all the pictures of plants that you see in HydroRon Live will be dead.

Hey Ron Ive exchanged words w/you B4. Advice helped, Thank You. Your 2ltr system rocks! These are cannabis

plants... Ive been flowering for about 2.5 months now under HPS lighting. Everytime I think theyre done, I see more new white stigmas, over and over! Ive been air drying and smoking some, but they have that "green" taste to them. The high is alright I guess, but short. But they smell so skunky? When I touch them, and then smell my hands, they smell terrific! My lease is up in July, Im getting nervous! What is going on? Do I just need to be patient??? Any help would be great! thanx again,

HOOBNESS

What you have their is a sativa variety which will take longer to finish and some varieties never will if they aren't suited for indoor growing. Stick with the wide leaf indica varieties for indoor growing.

Hello! Great Site, I have learned a lot here. I am new to HP but have done a lot of indoor growing in dirt. I am intrigued by the aeroflo idea and would like to build one. It seems similar to a NFT technique are there any differences between the one general sells and a home built NFT like the one at http://www.maximumyield.com/vol1num2/nft_systems.html ?? Thanks-AJ

just found this site- there is a god- where or what is best information on small (very small)indoor growing for #1 cash crop ie. step by step info start to finish? any suggestions

Read ever page on this web site from start to finish.

Hey man. I followed your advice on the 11 plt garden. But I got a little creative, and I dont think it was a mistake. I built a 4 bottle garden, planted 4/bottle to ensure I got plants, ended up getting 16 plants and they are all doing fine in a 2'/2' space, 5' tall. I also have them so close, the bottles are touching. I have not seen any stretching, just some thick-ass stems, and bushy-ass pot 'bushes'! To get them bushy I have been training the stems to grow in a spiral upwards- really cool looking. My problem is I need to start flowering, and I cant afford the [HPS](#) right now, so I need to slow down growth w/out affecting potency???Do I just take them off 24/hr lights and give them a break, (18 on 6 off) and ease up on the nutrients? Im not sure and Im not going to do anything w/out advice. They are about 15" tall and growing faster every day.

Change your light cycle to 12-12 and start budding with the light you got. Increase the nutrient strength. They will continue to grow another 5 or 6 inches while flowering. Sounds like you got a good strain for indoor growing.

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Ron,

I'm setting up an indoor hydroponics system and wanted to know how to manually cross pollinate tomato or other plants since the bees can't do their job indoors? Also, do you need to grow male/female plants for this?

Thanks Tim

Is the DipStick pen a trade name or a generic term for that type of meter? What is the name of the company that manufactures it? I am getting ready to put my unit together. The only thing left is to buy meters. Any help is welcome.

Cliff

Brand name. Made in New Zealand by N. Z. Hydroponics Ltd. Distributed by: AMERICAN AGRICULTURE Portland Oregon.

Ron- clones. I am having trouble rooting my clippings. Rather than me rattle on about how I think I've done everything correctly, could you give me (and others) some tips. How do you root your clones and how long does it take? thanx- R

I want to grow blackberries with hydroponics and controlled lighting to increase the harvest season. Is this being done anywhere else? How can I get reliable advise on the system I should build and the nutrient solution?

gasmike2@aol.com

In the 9 plant garden, how long of pvc pipes do you use for both sides of the overflow pipe? Is it the same measurement as the 11 plant?

That depends on how your cup sits in the 2-liter bottle. Take a guess but don't glue it and if the water rises to high then cut a little off till you get the desired water height. Every garden I build might be a little different so I eyeball the each one and cut it the right height.

Ron, Have you heard of a product the will move the light rays from one area to another? What I want to do is have the light in one room and the plants in another. I have a problem with heat. When have 30 - 1500 watt bulbs running and the room gets rather warm. I am trying to find a way maybe with fiber optics or a light pump to transfer adequate light into the plant room. Place, power and money are not the problem. Heat is. We have a 2500 sqft underground bunker we are using beside a stream that we have used to generate powerwith. Have you heard of any body pumping light from one room to another. CJ

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Ron,

I'm setting up an indoor hydroponics system and wanted to know how to manually cross pollinate tomato or other plants since the bees can't do their job indoors? Also, do you need to grow male/female plants for this?

Thanks Tim

What is the ratio of space required for hydroponic or even aeroponics cultivation as compared to traditional outdoor gardening??

It has been proven that 2000 square feet of outdoor garden space is able to produce 700 lbs of fruits and vegetables in one year (if done just right). If this is so, how much space does it require to produce the same amount of produce using hydroponics and aeroponics. This can be a general number or ratio because we are not talking about any specific crop. This might be easier to answer than the last posting. Thanks!!

Please e-mail answers back to me at daa1@ra.msstate.edu ASAP Thanks!!

Daniel Ashworth, Jr.

About the same space. The benefit comes by the fruit finishing sooner and more weight.

do you know any sites that sell pot seeds?

no

to j white plants will grow faster done as hydro because the root system can grow faster and absorb the nutrient more efficiently you can monitor nutrient levels better to

I'm assuming calcium chloride is used in the nutrient solution mix you give to add calcium to the plants. Am I correct in assuming this, if so do you think a calcium powder supplement for reptiles work instead? Thankyou

Have no idea. You must have me mistaken for someone who actually knows what he is doing.

What is one future use of hydroponics?

Ron,

Some of my plants are having a problem. The fan leaves on the bottom have started to show yellow spots at the tips and progressively get worse. The spots end up turning brown and gray. Is this over fertilization, nutrient lock up? Or is it a magnesium deficiency? I have leach the system with fresh water for a full 24 hours, have been foliar feeding and and put in new solution. It looks like I have stopped the problem for now. Any advice? Thanks, Bob

Changing the nutrient solution is the best thing you can do. Keep an eye on the new growth to make sure it is healthy and trim all the bad leaves. Ron

Is the 11 planter run like an ebb & Flow? If so, How long should the "level" be High? Thanks Jay

Just long enough to wet the roots every 20 minutes or so.

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Hello, does anyone out there know much about growing strawberries hydroponically. I live in Taiwan and its hot and humid most of the time. I know the plant likes cool temperatures and have read that you can cool the nutrient solution, and use shadecloth with fans to reduce air temps. Is there any problem with nutrients at 60 or 65 and air temps at 80. If you have any information, I would appreciate it. Its especially hard to find much information on hydroponics in tropical places. Thank you. Jack

I am a FFA member going on to a regional competition and need information on Hydroponics. What is it> Is it more expensive way to grow? Is it the future for space? Let me have PRO's and CON's of this amazing way to grow food. Thanks Kasey_CA@hotmail.com

I asked to question about root rot. What do you think is the lowest water temperature that exposed roots could take without dying?? Thanks.

duno

Hey Ron,

In the 9 plant garden can you make the bottles 10" apart from each other? If you can can I gro tomatoes or anything to maturity? Is this a suitable setup for most plants? If I space the cut 2 liter bottles 10" apart using the 16 oz solo cups?

Yes

Hi Ron i was wondering if there is a way to modify the 11 plant garden instead of using the 2 liter bottles with the 1/2 in holes can i use something bigger cause i noticed that the roots will grow right into the tubes

Water more often and your roots won't have to go looking for water down the pipes.

Hi Ron, Hi all, Iv'e been lurking recently and now have a ligit question. I am growing tomatoes in a 6 plant 2 litre bottle system, I transplanted 4 weeks ago, they have tomatoes about the size of a 1/2 dollar. It is now time to change the solution, I have had the solution set up for growing phase, should I now change the nutrient to blooming phase or keep the grow phase mix? I am using general hydroponics solutions. Thanks to Ron and this site, this is my 2nd growing season and it only gets better! Tony in Va.

Because greenhouse tomatoes are indeterminate, which means they grow and produce fruits continually, all you can do is compromise and change your solution to bloom about half way threw to completion which is about two months for tomatoes that take about four months total to finish.

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p>Can you tell me how my daughter and I can make a hydroponics system for science. She is in 6th grade so I would like to make something easy for her to understand. Is this possible?

Ron, I wondered if any of your readers would be interested in a different type of cheap system that they can build using a 45 gallon plastic drum.

- (1).Find plastic drum, the best type have three segments on them which are divided by two bands in the molding.
- (2).Drill a 3/8 hole just above the second band.
- (4).Take a jig saw and cut around the perimeter of the barrel, following the line just above the second band, using the 3/8 hole as a start point, totally remove the top 1/3 of the barrel.
- (5).Remove the two plastic bungs,
- (6).Scrub and clean the barrel completely including the threaded holes where the Bungs go, and the Bungs themselves make sure you remove any particles of plastic from the cutting process.
- (7).steralize the barrel with 10% bleach solution to 90% water, rinse out afterwards.
- (8).Take the top portion of the barrel and use a hole saw or a butterfly cutter to make a 1 1/2 round Hole in the center of the flat surface between the two bungs.
- (9).Use the same hole saw to cut a hole in the side of the bottom 2/3 of the barrel 8" from the top ridge, remove any

plastic shavings, this hole is where the pump wire and air tube will pass through.

(10).Purchase from your local hydro shop a plastic 1 1/4 " drain fitting that consists of a drain tube that is threaded and has two gaskets and a plastic nut, also you will need the plastic overflow stem tube and rubber "o" ring that goes with the fitting, this fitting control's the level that the water will sit at before it overflows back to the tank storage compartment.

(11).Place one of the rubber gaskets on the fitting push the fitting through the hole in the top part of the barrel, the fitting is inserted from the inside, place the second washer on to the fitting followed by the nut and tighten by hand until you cannot tighten any more.

(12).Take the top part of the barrel and turn it upside down inside the bottom part of the barrel, do not force it in, as it should sit there itself, next roughly level the top part with the bottom part and place a couple of clamps to hold the two pieces together.

(13). Drill four 1/4 " holes 1" down from the rim of the top edge of the barrel spread them equally around the perimeter, note"" if the rim of the top part of the barrel sit above the rim of the bottom part of the barrel, then use the rim of the bottom part of the barrel as your drilling guide for the 1/4" holes.

(14).Place 4 x 1/4" x 1" bolts through the holes and screw on the nuts, hand tight is sufficient.

(15).If the inside rim does sit above the outside rim then simply take a pencil and mark the excess and trim it of with the jig saw later.

(16).Take a hacksaw or knife and cut a mark in both rims, this will ensure you know where the top goes in relationship to the bottom every time you separate them. (17).make sure you clean away with fresh water any dust or debris.

(18).Take your submersible pump and place inside, and feed the outlet line and electrical cable and also the air stone line through the hole in the side wall of the bottom part of the barrel.

(19). Assemble the top part to the bottom part as discussed earlier with the four 1/4" nuts and bolts.

(20).Set the height of the flow stem using the "o" ring and place the flow stem in the overflow fitting in the center of the upside down top portion of the barrel.

(21).You are now ready to fill the holding tank area with water to 1" below the level of the hole drilled in the side wall of the bottom portion of the barrel, do not add solution until you are sure that you are happy with the pump and discharge rate, I have found that a 70 GPH water pump and small air pump work fine.

summery" Hopefully I did not confuse you too much, the design is very simple and self contained, the fluid being pumped out of the bottom portion of the barrel into the top maintaining a level and draining the excess, the drain fitting has a notch cut in it which allows the fluid to drain slowly when the timer turns the pump off, but is not enough to exceed the pump rate. I hope this is useful to somebody, if you need more info e-mail me, sorry I don't have any photos at this time, CHRIS HOGGARD, CALGARY, CHRHOOGG@HOME.COM

Thanks

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Has anyone used the new organic hydroponics solution called Metanaturals

Hey Ron, Love your site...my husband and I have learned so much and greatly appreciate your work! Do you have schematics with the individual lengths of the PVC on the 16 plant system?? If not, can you at least tell me if you use gallon jugs and if so how far apart are they in the 16 plant system center to center?? Thanks so much, Angel

I use the 2 liter for the 16 plant and standard distance is 12 inches from center to center. The gallon systems I put 18 inches apart.

If my information is right - the blooming room should be lit for 12 hours and dark for 12 hrs. Does this room have to be pitch black - or just no direct light on the plants. In my greenhouse, there is light reflecting off the ceiling above my blooming area - no direct light getting to the plants - but it is not totally dark in the area either - what do you think ---- In The Dark?

You can get away with some light but not very much. About as much as a new moon reflects at night. If you can see your out stretched hand then I would say that's to much light. Some growers use black plastic on a pulley system to darken their greenhouse.

cAN YOU GUYS GIVE ME SOME BASIC INFO ON HOW PLANTS GROW?????

HOW DOES THE HYDROPONIC SYSTEM WORK?

The timer turns the pump on. The pump sitting in the nutrient solution reservoir pumps the solution up the hose to the garden to supply the plant roots with food. The plant roots will use as much nutrient as it needs and the rest is returned back to the reservoir for the next feeding. Determined by your timer setting. About every 15 minutes. The overflow pipe keeps the water from rising to high in the cups. This is the ebb and flow or flood and drain hydroponic system.

Dear Ron, How big of a growing room would you need to build for the 11 plant system and how big of a light would you need for optimum growth. Also I am planning on building this room in a pole barn in a northern state what would be the best way to keep it heated and ventilated with fresh air in winter time. Thanks Bud Green

The 11 plant is for people with very small growing areas. If I had a barn I would use the 16 plant size because you would use the same size light for both. A 250 W. or better yet a 400 W.

As for your room. I would build it out of 2' x 4's at the corners and use that Celotex 4' x 8' shiny insulation board to build the walls. I would build it about 6' x 6' x 7' high.

The light will supply heat when it is on and any small heater will be enough when the light is out. If you use a propane or kerosene heater you will also be adding co2 to your room as well but don't burn your barn down.

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Simple passive hydroponics. I am thinking about going passive. Will this work: Some grow rocks in 2 liter bottles, sitting on a tray in a tub of nutrient about 2 inches deep. Whenever it dries out I add more nutrient solution. Is that how simple it can be? How high should the rocks be and where should the seedling be? And I plan on using fluorescent bulbs. What wattages would work? All I want to do is grow two plants for fun. Sorry for the rambling. I just am pretty excited about trying something new. But I need to really keep it simple, I have roommates. Thanks..

I want to start a passive hydroponics project, and would like to know what kind of materials am i going to need to start?

passive hydroponics is the easiest. you fill a bucket with nute juice and set a plant in a smaller container with a growing medium (pebbles or sand...) then set the plant into the juice. the simplest active hydroponics uses bubblers- same design but add a bubbler to the bottom of the nute juice. thats my 2 cents... ~Ryan

email me at mycarbumps@caraudio.com

Thanks man for all the input.....I will try the soapy water in the morning, It supposed to rain here tomorrow evening, maybe I can get rid of some of those lil bast**ds before then. One good thing, there are no signs that the fruit is being damaged....just those bugs all over the stems and leaves.....I'm sure they have a purpose in life, but it's not on my

deck eating my tomato plants! I will dominate them one way or another! Tony in Va.

What's the biggest garden ever made?

This one is pretty big. Can't tell what they are growing and what system they are using.

Hi Adriana Chives as you can see by this picture <http://www.hydroponicsonline.com/images/t1.jpg> is one of plants that I always could grow. Ron

what pressure pump should I use?

They are rated Gallon Per Hour (GPH) so depending on how high the garden is from the reservoir an 80 GPH on up to 350 GPH will work. You can use a flow control valve to cut down on the flow from a stronger pump.

Salt peter is the common name for Potassium Nitrate and is used to add Nitrogen to Ferts. Phosphoric acid is used to lower ph of solution. The two are not the same. Good Growing Nurse Duckett

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hi ron,

can you please tell me the difference of ammonium nitrogen and nitrate nitrogen as far as its relationship to plant growth ?

Nothing in my hydro books about ether.

secondly, my lettuce ... i place them under 75% shade cloth, temperature is also hot ... around 110F at mid-day result is gap between nodes are really abnormal.

i am using heat resistant and bolt resistant cultivar for my lettuce, do you suppose the shade cloth is the main problem ?

I can't imagine growing anything at 110 degrees especially lettuce with or without shade cloth.

regards,

sixto

This is the best web page on hydroponics, the format and the picture illustration are great!!! I am a beginner in hydroponic in Thailand. I am growing lettuce with NFT ,after a few weeks of perfect growth, the roots become brown color and the plant growth is stunt. What is the problem and how to cure them?


Something isn't right with your nutrient solution if your roots aren't white. PPM or pH or both.

Hi. I am doing a science project on how different light sources affect the rate of plant growth, and I need to know if black lights help plants grow.

HI Ron: I'm a novice to hydroponics. I built already my 11 plants pvc system. I have a fertilizer called: DYNA-GRO and the formula on the label reads: 7-9-5. and also says that it contains 11 trace elements (don't know what that means) but it has no indication about the correct amount of fertilizer per gallon for, say, tomatoes or peppers. I'm assuming that 1/2 tsp of fertilizer for a gallon would be enough to start. Do you know the brand? do you know the correct amount per gallon? PLEASE !!!HELP!!!. CARLOS ESPINOZA PLANTATION FL.

That's what my guess would be. 1/2 teaspoon is about standard for young plants then I would increase that to a full teaspoon as they mature. Trace elements are needed along with N-P-K for healthy plant growth.

I am a student doing research on hydroponics. I am going to test how the different plant nutrients affect plant growth. I'd like to know which nutrients are the most essential (I'm assuming phosphorus, nitrogen and potassium) and how I might go about setting up different nutrient solutions to be able to do the experiment

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Go to: http://www.stonernet.org/spongebud/growroom_mechanics.htm

I'm not into pot, but this site has a lot of information on growing using a bubbler system. Explore the whole site, the guys setup really looks very sanitary to me.

FYI, I sent for and received a booklet outlining the proceedings of the first Non-Circulating hydroponic workshop held in Hawaii in 1997 from the Asian Vegetable Research and Development in Taiwan. Their primary goal is to develop systems for growing in HOT countries, SE Asia, India, etc.

They mention in the text that there are actually two sets of roots that a plant develops, one set for oxygen and one set for nutrient. I've just started studying the whole booklet (55 pages) and feel that maybe the bubbler system setup would exploit these two sets of roots and maximize plant growth. What you've mentioned seems to confirm that.

If you want, you can email me at tailwheel@asia.com and I will scan the booklet and send it to you in jpg format.

Maybe I'll just set up a system myself and see what happens. I've got a bunch of plants ready to go now and no place to put them. I could probably knock something out in a few hours if I can find the time.

Tailwheel

Is this new product the Masquito Magnet worth checking out - it releases co2 to attract masquitos - kinda interesting,

would it work for plant growth?

is there anything to worry about when using construction-grade pvc tubes, pvc glue, and painting a bottle?

commercial-grade plastic/pvc normally contains lead, which is poisonous, and paint and glue all contain very harsh chemical substances. would that affect plant growth in any way?


thanks for any insight that you may provide.

my email is:

agrimbal@hotmail.com

**You paint the outside of the bottles not the inside where the solution is.
And modern PVC pipe is safe and used in all commercial growing systems.**

using an Aeroponic system looks to be simple, however if the plant grows at a tremendous rate, how do you adjust the light cycle to promote correct growth, such as flowering and how do you readjust light cycles for the faster plant growth. GB, Austin TX

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HPS MH Grow Lights 

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To the person who wanted to know more about lighting. I just proofread what I wrote and noticed typo and spelling errors sorry about that. I don't what the hell that last little bit is or how it got there but I really didn't have anything else to say. I just wanted to clue you in on this because I couldn't afford store bought good lighting. Everybody I talked to said I was crazy to use these indoors unattended. But I have a good electrical background so I wasn't worried about that. I new how these lights were made and all that needed to be overcome was the heat factor. But with a fan blowing directly on the unit at all times you can run it 24hours a day if you like. I have had my unit this way for three years and never had one problem. My main worry was the ballast holding up to the extreme heat but the fan method works great. just so you know if you ever go around a public school at night just about everyone of the lights attached to the side of the buildings are HID lights. normally the ones that have an orange glow are high pressure sodium. This bulb gives you the most light for the amount of energy you use compared to the older HID lights like metal halide or mercury vapor. high pressure sodium also give you a light spectrum more in the orange yellow which plants can absorb better. As far as using fluorescent lighting I think it sucks for a nice healthy garden. I messed around with them in the past and the amount I had to use to get good plant growth at adult stages cost me more in electricity than my sodium bulb cost and the results still weren't as good as a HID lamp. fluorescent is fine to germinate a seed under I still use them for that but for rapid growth use HID lamps. I am new to hydro but have been growing in soil mediums under HID lights for a long time so if you have any other questions about light feel free to ask. If you want to tell me how much the electric company charges you for a kilowatt of electricity every hour look on your electric bill to find this out the type and size of lamp you plan on running and for how long I will tell you how much it will cost you per day and month to operate the lamp.

FROM YOUR FELLOW GROWER

I bought a 400w MH ballast/bulb/reflector for the 11 plant system. Seems pretty nice, the heavy ballast is separate from the fixture (I don't have to hang it.) However, I'm a little uncertain about their applications. Will I need a HPS later in order for the plants to bloom? I thought I'd be ok with just the MH for vegetables, herbs etc. Will my flowers be able to bloom under MH (carnations). Lighting is big \$\$ and I didn't want to invest in both. I live in the northeast and am planning on starting indoors in the winter and than moving to the plants outside on the deck in Late Spring and

Summer.

New 2 Hydro Holly

Yes MH is mostly for Veg. growth stage but since you are putting your plants on the deck in the spring that should supply your plants with any missing orange light spectrum you might be missing. Plants will grow and bud under either MH and HPS, for those on a budget. It's just logical that they would grow better (faster) under the full spectrum of light needed for healthy plant growth.

Ron

Can I use well water to feed my hydroponic garden?? Or do i need a water softner. I also notice that I have slow plant growth could this be from me using well water???

What are the best hid's for plant growth. Most suppliers over here recommend Sodium which I have been using without much success. I keep getting told that my plants need more light: I'm no expert, but the plants which I am growing do not need 30,000 lux. I feel that they would grow much better under metal halide lamps, but I am reluctant to spend any more money until I am sure. I have already bought 250, 400, 600 watt systems on the advice of 'experts' in the UK.

Steve

Which has better results: Ebb and Flow or a Nutrient Flow System??

ATTN: SO. TEXAS

Blossom End Rot (BER)

Although referred to as a rot, this problem is not caused by an organism. It appears as a light tan, brown, or black sunken area at or near the base (blossom end) of the fruit. It is not soft, but is firm and somewhat leathery and may be accompanied by a dry rot. Sometimes it appears only inside the fruit as a blackened area, with no symptoms on the outside. Occasionally, a secondary organism invades the tissue causing a soft rot. Remove and discard any immature fruit that show symptoms; once a fruit has blossom-end rot, it will not go away.

BER is caused by insufficient calcium in the fruit. Even though adequate calcium may be applied in the nutrient solution, it may not be reaching the fruit because of insufficient water. If plants wilt, it is difficult for nutrients to reach the fruit. Although BER is a calcium problem, it can result from water stress. Rapidly growing plants suddenly exposed to drought are especially susceptible. Any condition that interferes with the uptake of calcium may cause BER. Other causes are excessive salinity of the growing medium, high nitrogen, rapid plant growth, high temperature, high humidity, and root damage.

To prevent BER, maintain steady plant growth, and avoid wide fluctuations in water and temperature. The calcium level in the nutrient solution should be at least 125 ppm. Once BER occurs, it can be prevented in nonaffected fruit with a foliar spray of calcium chloride (36 percent calcium) at the rate of 14 to 64 ounces per 100 gallons (or 4 tablespoons/gallon) of water. Or, use calcium nitrate (20 percent calcium) at the rate of 17.5 pounds per 100 gallons (or 9 tablespoons/gallon) of water. For a small scale operation, a commercial product called Stop Rot is available. Use 1 pint per 7 1/2 gallons, and spray twice per week until the problem is corrected.

Avoid excess nitrogen fertilizer, especially the ammonium forms. Ammonium increases the demand for calcium, limiting the amount available. Some varieties may be more resistant to BER than others.

Hi Ron Just started and alls going well. About shoulder height. When do I turn and add bloom formula? and will I still get plant growth (as in height) when I start this.

Mardy

Ok I hear a lot about using HPS and MH lamps for indoor gardening, but what about Mercury Vapor?

The mercury vapor lamps produce only 60 lumens-per-watt and does not fulfill the requirement light spectrum thus making it a poor light source for horticulture. Not only it is an expensive to operate, but it produces most color in areas that are not helpful to plant growth.

I found a 125W MV lamp at Wal-Mart for 35 dollars. I think it puts out about 6000 lumens (I may be off on that)

Also ron do you think that 125w MV lamp, a 100W MH lamp, 2 60W grow lamps, and 135W fluorescent tube is enough for 10 plants?

no

400W HPS lights are so expensive so I tried to go a cheaper route buy using alot more lights.

I bought 2 - 400 W Metal Halide for 30 bucks apiece at a flea market that came out of a factory. All I had to buy is new bulbs. They are out their. You can go into almost any large building or factory and look up and you will see MH lights. When those factories go out of business somebody buys and resells those lights for almost nothing. Resell shops may be a good place to look for cheap lighting.

thanks

STUPID QUESTION #1001

I have been wondering about the lighting issue for sometime now, and what I have been wondering is : If I go to Home Depot and purchase a 400W HID fixture, and one 400W HID bulbs (for around \$25). Will this be the "correct" HID bulb for plant growth? Or is this bulb only suitable for illuminating parking lots? The same question posed except for HPS lights.

Thanks a few hundred (Inflation, you know!)

--jeff

During the final stages of plant growth when you eliminate the nutrients to flush the plants of its taste, should you be concerned with the PH of the water? Rblack

If the flushing only takes place a few times no but for any length of time then yes, pH is always important. I also never heard of flushing for taste.

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Dear Ron. I am a student at Warwickshire college in England and i am trying to research a project on growing trees using hydroponics. So far i have only found information regarding herbaceous plants and tropical plants like banana trees. Have you any links/information that may be of use at all. -Thanks- Richard Johnson . e-mail.

PIGLET1969@hotmail.com

Hello my name is John W. .I'm in the 6th grade. I'm using hydroponics for my Science Fair at school. My teacher wants us to have an expert comment us on our hypothesis. My hypothesis is: I believe the plants in potting soil will grow bigger, stronger and faster because of minerals in it. Could you please comment on my hypothesis? Thank you John White at jpwj2002@yahoo.com.

How can you recycle Nutrients using hydroponics?

I have to do a chemistry project for school using hydroponics. The thing is I don't have any experience in hydroponics. I already did some research and i have purchased the following equipment: 400 watt MH lamp, 5 and 10 gallon Rubbermaid containers, air pump, water pump. I don't know what kind of nutrients to use or growing medium. I also need ideas on something easy to grow that would react well to different types of nutrients. Ideas on home-made nutrients are the main point that iam aiming for. And you have to keep in mind that this is for a school chemistry project.

You can Email at sub4chaser@yahoo.com

I'm a small-scale veggie grower, using hydroponics for some of my crops. I'm thinking about starting up a hydroponics ezine (online magazine), to share information I've found about cost-effective building methods, growing strategies, online resources, etc. I'm trying to determine how much demand there would be for such an online magazine, before I go through all the work of creating it. Would any of you be interested in subscribing to such an ezine, for about \$10 a year?

I would like to know if anyone has tried growing Okra using hydroponics and what the average yield might be. You can email me at wilkinson@intellex.com

I got four okra plants just starting. I will let you know how they do.

Hey Ron! I am wondering what plant will grow good in this weather using hydroponics.

I am growing tomatoes, peppers, and herbs of all kinds. It is getting kind of cool at night (45 degrees) now. My tomatoes are just showing and if we have an early frost they will be history. I will try to cover them if that happens.

what are the disadvantages of using hydroponics?

Cost

hi ron,

just wondering ... can one grow orchids using hydroponics ?

thanks

kiwi

Yes but what nutrient mix to use I don't know.

How easy is it to grow mint using hydroponics?

easy

What plants are easiest to grow using hydroponics?

most

i have two questions, but first i have been raising plants using hydroponics (built all my own beds) for ten years or longer. everything was perfect. then i moved. now i have built two new gardens. and lot of alga formed (a new problem for me but i did build these beds a lot different then my first ones) so i tore them apart and cleaned everything with clorax, painted the outside of the beds black to eliminate the light to the water storage. now one bed works beautifully, one kills everything i plant. i am presently tearing the bad bed apart again and flushing everything with clean water. is this the thing to do?

Yes

can there be clorax residue remaining causing the damage?

No

second while dismantling the bed i noticed that the pea gravel is staying damp between feeding, therefore the roots are also remains damp (not wet, just damp) is this a problem? if so why only one bed?

Damp should be OK but check your draining for that bed. Flow control valves on every bed can equalize the levels to each bed. Then make sure all the beds drain completely before watering again.

i pump water twice a day (have done this schedule for years) for about 1 hour at a time. there are overflow drains in the top beds so excess water drains back into holding tank. there are also drains in the upper bed that drain all the water off the roots, after pump shuts down, in about 1/2 hour. anybody have any ideas? now back to work cleaning the bad bed until i hear from, hopefully, all or some of you. thanks how does one join this hydroponic club? wally i believe you will get my address but if not try RuthK@Quintex.com. (life isn't east for a boy named ruth so i go by wally)

this is wally again, forgot a couple of important facts that should have been included in my question. each of my gardens have their own pump and their own water/nutrient holding tanks (50 gallons) the only thing common is the timer that turns them both on and an hour later turns them both off. thanks again---wally at ruthk@quintex.com

Well then forget what I said up their and switch one garden nutrient tank that is doing good and use that one for your problem bed. If the same problem continues then that bed is possessed so call an exorcist.

Hi Ron, I am looking to grow alfalfa using hydroponics and would like advise and feedback from members with experience of this.

Can you grow any kind of illegal drugs using hydroponics?

Illegal is relative. It depends on where you live and what special interest groups control your politicians to past laws that benefit them.

Do plants grow faster in soil or when using hydroponics

I was a mailman for 10 years and ran across several people using hydroponics and became interested and now im retired from there and have moved to puerto rico and need a hobby -small income or more . Thinking of a commercial hydroponics garden with the goverment backing and would like to know if you would aprove and the do's and the dont's. After all that, I would like to say thanks for what you are offering for free,seems as though you are caught up in the moment of mother nature at its best and that is why I'm asking you as to someone that has a vested interest. I to love mother nature and the money is only something that will offer me more of the outdoors. Thanking you in advance and do hope that you still have the love of it all Terry king

Has anyone ever heard of anyone growing sweet corn using hydroponics?

disadvantages of using hydroponics to generate food in Singapore

I am only a very amateur grower and not using hydroponics but I'm in the desperate situation of losing several months work - perhaps stupidly I pruned and transplanted in one sitting and also slightly changed the lighting conditions - the crop has been ill for a few days now and looks set to die - leaves have drooped to vertical - is there any recommended recovery suggestions....please help!

Hello! I live on a sailing boat and am interested in starting to grow a few vegetable plants using hydroponics... can anybody please suggest the best method (and easiest) for me to use, without getting into systems that require pumps, ph testing etc... I need to do this in the most simple, most inexpensive way possible! Thank you so much! Emily emily29199@yahoo.com

don't we all wish?

Dear Ron, I would like to plant a fig tree inside my house using hydroponics. A tree that will bear fruit. Is this possible? If I can, can I limit it's growth to 5 feet tall and 2 feet in circumference by pruning or some other method..

I haven't had good results with hard wood plants like most trees, roses, and shrub type plants yet. But water loving plants like banana trees do better in hydroponics because of the water aspect of hydroponics. If any members out their have had any luck in this area we could use some help.

Can you give some examples of vegetables & fruits that can be grown using hydroponics.

tomatoes, cucumbers, peppers

whats good about using hydroponics

Do plants grow faster in soil or when using hydroponics?

What is the ratio of space required for hydroponic or even aeroponics cultivation as compared to traditional outdoor gardening??

It has been proven that 2000 square feet of outdoor garden space is able to produce 700 lbs of fruits and vegetables in one year (if done just right). If this is so, how much space does it require to produce the same amount of produce using hydroponics and aeroponics. This can be a general number or ratio because we are not talking about any specific crop. This might be easier to answer than the last posting. Thanks!!

Please e-mail answers back to me at daa1@ra.msstate.edu ASAP Thanks!!

Daniel Ashworth, Jr.

About the same space. The benefit comes by the fruit finishing sooner and more weight.

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what is hydroponics and how is it similar and different from soil growing

RE: what is hydroponics and how is it similar and different from soil growing

Hydroponics is the growing of plants in a nutrient solution. There is no soil involved, only an inert medium in most cases.

I'm doing a project for school. 2 questions - what is hydroponics? Also, what are the benefits of hydroponics?

Hydroponics, from the Greek words (water-working). Hydroponics is a system of gardening without soil. In hydroponics, you provide all the nutrients to your plants through a water/nutrient solution. There are lots of ways to apply hydroponics but, basically, all of them supply nutrient solution directly to the plant's root system. In most cases you mix nutrients into water and feed this solution directly to your plants. Soil doesn't make plants grow. It's just something for the plants to hold on to while they search with their roots for the food and water that's mixed into the soil. Since the food and water are randomly scattered about, plants have to use up energy growing ever-larger root systems to reach out in a constant search for these elements. In a hydroponic garden, a soil-less, inert growing medium is used and food and water are delivered directly to your plant's roots. Your plants grow quicker and harvest sooner because they can direct all their energy into the vegetation growing above the surface instead of the root system below it. Ron

Please copy and distribute!

Thanks for doing my report Ron, I got a B+ it would have been an A but I got some bbq sauce and koolaid on it.

what is hydroponics

growing plants without dirt

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Ron

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WHY USE THE WOODSHAVINGS METHOD?

First of all the flavor of tomatoes grown in the shavings-method is far superior to the average run grown in soil. Second, the size and quantity is superior to most plantings in soil. Third, it makes it possible to grow things where space is a problem. However, where you have plenty of space, this method is very profitable for commercial production. Fourth, there is no cultivation problem, such as weeding, hoeing, etc. Fifth, you can grow by this method plants that will not produce in soil. For instance, some have grown honey-dew melons and many types of bulbs that have never been successful in Florida soils and climate. Sixth, very little equipment is needed, and the cost in comparison to results is very small. Seventh, older people, or those who are handicapped, may enjoy growing flowers, vegetable, etc.

WHAT PLANTS CAN I GROW?

Because the tomato is a universal favorite and used by almost every family in this country, the first experiments were confident this vegetable alone. Even today, you will see thousands of Been- Hampers, bushel baskets, or cans lined up in rows or in singles or groups growing luscious tomatoes on vines that reach as high as 10 or even 12 feet I have seen as many 900 hampers in less than an acre of plot growing in Tampa, FL Reports indicate that even two or three times that many have been grown and proven the worth of this method. With the exception of a few low-growing varieties, all tomatoes grown by the [hydroponic gardening](#) method reach from two to five times the height as when grown in soil. You may grow any variety from the small pear-shaped tomatoes to the large Ponderosa or Beefsteak type. In Florida the varieties that have been grown successfully include the Homestead, Manalucie, Rutgers, Marglobe, Ponderosa? (Beefsteak) and the Jefferson which is a low growing type. Many others such as the Peron (from Chile), Kokomo, Grothen's Globe, Oxheart Pan America have produced excellent results. For commercial crops the Manalucie and the Homestead are recommended.

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Many other edibles besides tomatoes may be grown in wood-shavings. For instance you may grow strawberries such as the Florida No. 90 (best locally) or the Missionary, Klondyke or others Bushel baskets filled with shavings are

[Organic](#)

vegetables & herb

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best suited for growing of strawberries, however you may use other types of containers. Carrots, beets, turnips, and foot crops do well by this method. Sweet potatoes grown in large containers like barrels or half-barrels, large kegs, etc., are "out of the world" when it comes to flavor, size and production. Pineapples, papayas, honey-dew melons and a host of other edibles with that superior flavor are among the long list of plants grown in the Nutri-Sol Wood Shavings [Hydroponic Gardening](#) Method.

You may grow all kinds of flowers from seeds, bulbs, tuberous roots, or cuttings end with better color and quantity. Many have grown the Unwin types of Dahlia (from seed), Gerberas, Gloriosa or Climbing Lilies, Passion Flower vines, Zinnias, Marigolds, PetuniaB, Easter Lilies, Day Hi leg, Roses. In fact the list includes Just about every- thing that will grow in soil, and some that don't thrive under ordinary conditions.

WOOD SHAVINGS OR SAWDUST

For the largest majority of plants, wood shavings are recommended over sawdust. Sawdust has a tendency to pack and prevent good aeration to the roots, however it may be used for larger type plants such as Papayas, Roses, or any plant that may become top-heavy. Most any kind of wood shavings or sawdust may be used, such as pine, cypress, maple, redwood or oak. Old or new shavings or sawdust may be used. It is best however to use a new batch the second year. In other words do not use the same shavings or sawdust or ever the same hamper or wooden container after the first year. On specially built form a forms out of cypress or redwood use an asphalt paint or sterilize after first year's use. It is also best to use new cans the second year.

GROWING TOMATOES IN BEAN HAMPERS with [Hydroponic Gardening](#)

You can purchase any number of bean hampers for 25 cents each or less from your grocery store, market, or supermarket Fill each to the top with wood shavings. Wet down shavings with a nutrient solution of "Nutri-Sol," (one -teaspoon fill of Nutri-Sol to each gallon of water in Nutri-Sol solution) and let them pack for two days. Be sure and keep container well filled. Next step is to secure tomato plants that have been grown in sterilize soil or spagnum moss. You may prefer to grow your own plants, if so let them reach a height of six inches before transplanting to bean hampers.

After the shavings have been thoroughly soaked, punch a hole deep enough to insert the tomato plants so that first leaves will rest on top. Pack shavings around plant. Use only one plant per hamper. Keep all hampers or containers in full sunshine all of the time. Do not cut off suckers as they will make your third and fourth crop six to eight months after planting.

[Hydroponic Gardening](#) NUTRIENT SOLUTION

The nutrient solution must be applied once a day, and every day. It is made as stated by using one teaspoonful of "Nutri-Sol" soluble plant food to each gallon of water used. One-half cupful per day is used on each plant for the first three weeks. By this time your plants should be about two feet high. After the three weeks it will take a quart of solution per plant. For each foot of increase in height add another half pint of solution. Add an additional gallon of water per plant each day, if no rain has occurred, a plant six feet high will evaporate six quarts of water a day, in hot and dry weather. Should the plants wilt, just add water and they will come back strong and healthy in 15 minutes. Add some nutrient solution.

Tomatoes require such large doses of minor elements, that it is not practical to feed them with the regular nutrient solution feedings, therefore it is best to spray or drench the plants once a week with "Minorel" solution (this requires only one teaspoonful to 10 gallons of water.) Minorel spraying means sturdier vines and almost doubles the fruit production.

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Tomatoes growing in woodshavings.



When was the last time you saw bean hampers.

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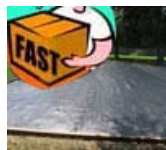
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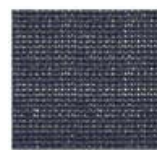
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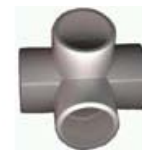
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Urban Food Farms



Hydroponics Grow Bags



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Coco Soil Amendment

garden supplies

Welcome to UrbanFoodFarms.com, high yield farming for the city.

High yield food farm designed for city space. Efficient urban food farms sold as complete kits that includes everything needed to grow organic vegetables, fruit and herbs year round. Our smallest 8x8 outdoor hydroponic growing system houses up to 180 plants. The Urban Food Farm installs in a back yard garden or roof top with sizes up to 8x20. No growing experience needed, very low maintenance (1 hour per week), not many bugs to deal with, maintenance program available in Los Angeles area. Eat sweet, delicious, healthy, fresh organic vegetables straight from the plant.

• 100% SAFE SHOPPING

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How organic is the Urban Food Farm?



8x12 Urban Farm

\$2,999.00 >More Info



NEW

8x12 Urban Farm - Sustainable food for a large family - Complete home growing solution

Install this Urban Farm in a full sun space in a backyard, garden or roof and up to 8 people can enjoy daily fresh and delicious vegetables year round. The U...[Details](#)

OMRI Certified Organic Grow Medium - 2.5kg Mr. Coco compressed coco coir brick by Pelemix

\$16.99 >More Info



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The urban food farm was designed using the latest growing technology from industry leaders in Israel. Large food farm were studied, scaled down and re-designed to create a highly efficient mini eco-system adapted to the city. The greenhouse conserves heat while the coco coir maintains optimum water, oxygen and nutrient balance. Vegetable plants thrive in that environment and the resulting crops are impressive. Depending on the plant combination, an urban food farm yields 6 to 9 times more vegetables, herbs and fruit than the same space planted directly in the ground. This allows to grow large amounts in small spaces.

Urban Food Farms applications:

- A family of 4 or more wanting to eat daily fresh organic vegetables.
- A person wanting to grow food and donate the excess to the needy.
- Donation of a food farm to a synagogue, church or other establishment.
- Donation of a food farm to a homeless shelter or any hunger fighting organization.
- Donation of a food farm to a school or community garden.
- Opening a U-Pick urban food farm.
- Specialized urban growing to generate profits.



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Welcome To Access Hydroponic. We offer excellent quality grow light products for any indoor garden application and provide exceptional everyday customer service. There are different variations of equipments for your hydroponic systems ranging from grow tents, HID lights to complete lighting packages. The combination of the proper use of grow rooms and lighting is one of the most significant elements to support hydroponics gardening. Our selections of products undergo scrupulous testing, to ensure the support of maximum growth and advanced plant health to achieve excellent results.

Featured products

LED Grow Light Panel 225 LEDs Red/Blue



Our price: \$39.95
Market price: ~~\$79.99~~ **50% save**

Quantity 1

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48 Watt LED Grow Light Panel Blue White



Our price: \$109.95
Market price: ~~\$249.99~~ **56% save**

Quantity 1

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PAR38 LED Grow Light 168 LED Bulb



Our price: \$34.95
Market price: ~~\$79.99~~ **56% save**

Quantity 1

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1000 Watt HPS MH Grow Light Kit 8 inch Air Vent



Our price: \$369.95
Market price: ~~\$739.99~~ **50% save**

Quantity 1

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400 Watt Metal Halide Hydroponic Light System



Our price: \$149.95
Market price: ~~\$299.99~~ **50% save**

Quantity 1

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250 Watt HPS Grow Light Electronic Ballast Cool Tube Kit



Our price: \$169.95
Market price: ~~\$349.99~~ **51% save**

Quantity 1

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4 x 20 Gallons Bubble Ice Bags Extractor Filtration Kit




Our price: \$79.95
Market price: ~~\$159.99~~ **50% save**

Quantity 1

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2 Door Grow Tent 76x76x76 inch Grow Box



Our price: \$179.95
Market price: ~~\$399.99~~ **55% save**

Quantity 1

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12 in 740 CFM Exhaust Fan 20" Carbon Air Filter System



Our price: \$429.95
Market price: ~~\$859.99~~ **50% save**

Quantity 1

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- Bestsellers**
1. 12 Volts 225 LED Grow Light Panel Red Blue
 2. Pressing Screens 25 micron 5 pack Replacing Bubble Ice Bags
 3. 400 Watt Metal Halide Hydroponic Light System
 4. LED Grow Light Panel 225 LEDs Red/Blue
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Testimonials

★★★★★

Great experience with this company. I had a question about the lights I purchased and fired off an email. There was no email response, but instead a phone call from customer service...talk about service!!! It was quite nice for them to go out of their way to work with me, especially as a first time customer. This is in addition to their quick shipping. I am confident in referring EVERYONE to shop here.
Greg

★★★★★

i just purchased the 1000w hps mh hydroponic light system and 2 door grow tent...i must say i was kind of doubtful about buying it cause of the quality. the price was really really low and normally you get what you pay for. when i

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**Insulated Flexible 6in Vent 16.5ft
Black Aluminum Duct**

6" x 16-1/2 ft



FREE CLAMPS

Our price: \$24.95

Market price: ~~\$54.99~~ 55% save

Quantity 1

[Buy Now](#)

**T5 Grow Light 4 Ft 8 x t5 grow
light YW Hydroponic Light
System**



**T5 HIGH OUTPUT
Fluorescent Light**

4 Ft 8 Free Tubes
2,700K 38,000Lum

Our price: \$249.95

Market price: ~~\$529.99~~ 53% save

Quantity 1

[Buy Now](#)

**14pc Bonsai Tool Set
14pc w Case**



Our price: \$89.95

Market price: ~~\$199.99~~ 55% save

Quantity 1

[Buy Now](#)

received the my order i was surprised cause the quality was better than i thought. thanks!!! i definitely will be a repeat customer.
Anthony Coleman



Thanks Dennis for the great customer service i will refer all my friends.
Jerry

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