



How to Build a Simple Rain Collection System

Using parts easily obtained at a local hardware store and a 55 gallon (208.2 L) plastic drum or barrel, learn how to build a simple, small scale, rain collection system. During dry seasons, the same drum can be used to meter out precise amounts of tap water to individual trees and shrubs.

Steps

- 1 Obtain a suitable plastic barrel, large plastic trash can with a lid, or a wooden barrel (e.g., a wine barrel)** that has not been stored dry for too many seasons since they can start to leak. Good sources for plastic barrels include suppliers of dairy products like milk and ice cream, metal plating companies, and bulk food suppliers. Just be sure that nothing toxic or bad for plants and animals (including you!) was stored in the barrel. A wine barrel can be obtained through a winery. Barrels that allow less light through will eliminate the risk of algae growth and the establishment of other microorganisms.
- 2 Find a location for the barrel under or near one of your home's downspouts.** You'll probably have to shorten the downspout by two or three feet to let the barrel slide under it, either by removing screws or rivets at a joint, or more likely by cutting off the last two or three feet of downspout with tin snips or a hacksaw. Flexible downspouts can be purchased from most home improvement box stores. They will direct the water from the downspout into the barrel. An alternative approach that has eye appeal is to use a rain chain - a large metal chain that water can run down. If you don't own the property, be sure to get permission before altering the downspouts!
- 3 Create a level, stable platform for your rain barrel by raking the dirt, adding gravel, or using some bricks or concrete blocks to make a low platform for it to sit on.** Keep in mind that a barrel full of water is very heavy, so be sure you allow for this in designing your platform.
- 4 If your barrel has a solid top, you'll need to make a hole of a suitable size for the downspout to pour into.** You can often do this using a hole-cutting attachment on a power drill, or by drilling a series of smaller holes close together and then cutting out the remaining material with a hacksaw blade or a scroll saw.
- 5 To reduce the risk of breeding mosquitoes and to keep debris from the roof from entering the rain barrel, fasten a piece of window screen to the underside of the barrels top surface around the water inlet.**
- 6 Drill a hole of the correct size based on the hose bib you're installing on the side of the barrel, as close to the bottom as possible unless you plan to run PVC piping inside the barrel to a location near the top.** Attach the hose bib using screws driven into the plastic barrel. You'll probably need to apply some caulking, plumbers putty, or silicon sealant around the joint between the barrel and the hose bib to prevent leaks, depending on the type of hardware you're using and how snug it fits in the hole you drilled.
- 7 Attach a second hose bib to the side of the barrel near the top, to act as an "overflow".** Attach a short piece of garden hose to this overflow, and route it to a flowerbed, lawn, hole drilled in the side of a second rain barrel, or another nearby area that won't be damaged by some running water if your barrel gets too full. If you are chaining multiple barrels together, one of them should have a hose attached that can drain off the overflow.
- 8 Attach a garden hose to the lower hose bib and open the valve to allow collected rainwater to flow to your plants!** The lower bib can also be used to connect multiple rain barrels together for a larger water reservoir.

- 9 Consider using a drip irrigation system in conjunction with the rain barrels.** Rain barrels don't achieve anything near the pressure of city water supplies so you will need to avoid the micro-sprinkler attachments and you will need to use button attachments that are intended to deliver four times the amount of city supplied water as you need.

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Tips

- You might want to try putting some water in the barrel from a garden hose once everything is in place and any sealants have had time to dry thoroughly. The first good downpour is **not** the time to find out there's a leak in your barrel!

Warnings

- If your barrel doesn't already have a solid top, be sure to cover it securely with a circle of painted plywood or an old trashcan lid screwed to the walls of the barrel or a heavy tarp secured over the top of the barrel with bungee cords to protect children and small animals from falling into the barrel and drowning.
- Stagnant water is an excellent breeding ground for mosquitoes, so it would be a good idea to take additional steps to keep them out by sealing all the openings into the barrel with caulk or putty. You might also consider adding enough non-toxic oil (such as vegetable cooking oil) to the barrel to form a film on top of the water which will prevent mosquito larvae from hatching.
- Again, make sure the barrel you're using did not contain pesticides, industrial chemicals, weed killers, or other toxins or biological materials which could be harmful to you, your plants, or the environment!

Things You'll Need

- A clean plastic barrel, tall trash can with lid, or a wooden barrel that does not leak
- Two hose bibs (valves with fittings for a garden hose on one end and a flange with a short pipe sticking out of it at the other end)
- Garden hose
- Plywood and paint (if your barrel doesn't already have a top)

- Window screen
- Wood screws
- Vegetable oil
- A drill
- A hacksaw
- A screwdriver

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