Survival Foods

CATALOG | DVD SAMPLER | Survival Foods | Classic Cookery | CRAFTS & How Tos
Web Radio Show | Nifty Places To Go | Site Mailing List | CD-ROM Super Sale | Whole Enchilada!
The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

Section Contents To The Date of Friday, November 21, 2003 ;
Newest Uploads At The Bottom of List:

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Phone: 870-437-2999 Fax: 870-437-2999 Email: cary@survivalplus.com

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Welcome To Our Online Catalog

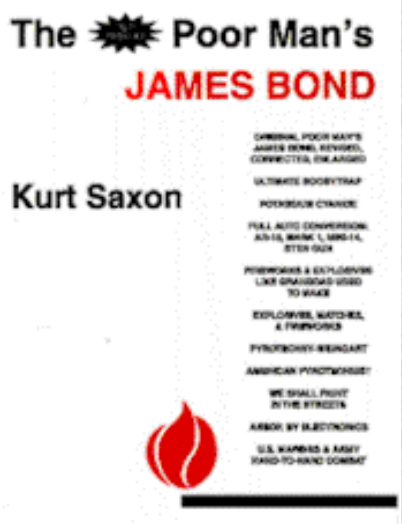
Your Best Investment For Survival Is In Your Own Means of Production

We have the best survival and self sufficiency web-site on the Internet. Our web-site also features the most informative and entertaining articles on preparing for a most certainly uncertain future. This is the best web-site which shows you how to provide for yourself, your loved ones and, hopefully, become an asset to your community.

Be sure to include your E-mail address with your order so you can be notified of new entries on our web site.

There are three easy ways to order the books and other products that we are offering at this site. They are as follows;

Option #1: This probably the easiest of the three. As you are scrolling through our online catalog and you see an item or group of items that you would like to buy, simply click the "Add To Cart" button and that item will be added to your virtual shopping cart. Please use your browser's back button after each purchase to return to same place in our catalog. (Note: your web browser's cookie generator has to be enabled in order to use our online catalog.)



Option #2: You may phone your order in. You can call 870-437-2999 any day of the week between the hours of 9:00 AM and 9:00 PM Central Standard Time and Kurt will process your order personally. Of these three options, Kurt like this one the best because he enjoys talking to his customers.

Option #3: You can mail us your order. If you do not have a printer you can simply write down what you want on a separate piece of paper and mail it and whatever form of payment (check, money order or credit card info) you're using to the address found just below this text. If you send us your Visa or Master Card number for payment, please do not forget to include your card's expiration date and your phone number. And please, please don't forget to write down your address on both the sheet of paper on which you wrote your order down on and on the outside of the envelope you mail it in with. It would surprise you to know how many orders we receive that have absolutely no return address. Below our address and business hours below you will find the individual page links to this catalog.

Atlan Formularies
Post Office Box 95
Alpena, Arkansas 72611-0095

The Complete Poor Man's James Bond
CD-ROM Super Sale
Grandpa's Chemistry & The P.M.J.B.

THE SURVIVOR, Volumes 1 & 2
THE SURVIVOR, Volumes 3 & 4
The Complat Housewife - The Book
The Instant Who's Who In The Bible
BOUND BOOK PACKAGED DEALS
The Compleat Housewife - The CD
Kurt Saxon's CD-ROM Library Vol., 1
Kurt Saxon's CD-ROM Library Volume 2
Bomb Component Recognition CD-ROM
The Poor Man's James Bond CD-ROM
Video Tape Special CD-ROM
CD-ROM Project; Volume 1: Issues 1-3
CD-ROM Project; Volume 1: Issues 4-6
CD-ROM Project; Volume 1: Issue 7
CD-ROM Project; Volume 1: Issue 8
The Whole Enchilada!

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DVD SAMPLER

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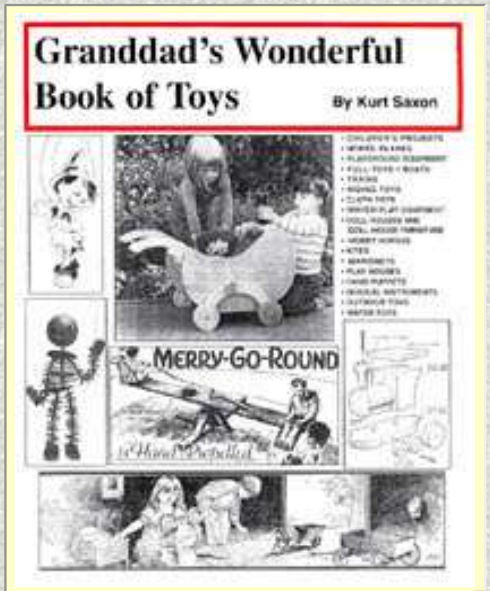
The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

The covers within the table below ("above" if you're using an old copy of Navigator) represent the twenty-two (22!) complete books written and/or compiled by Kurt Saxon found in our new two volume DVD library. These books along with eighteen others, dozens of Kurt Saxon's short-wave radio shows, hundreds of Old Time Radio programs and six hours of video files makes this set of DVDs one of the handiest survival primers to be found anywhere. Click on any cover image to bring up a larger image of that cover within in a separate window. You can either close this new window and pick another cover to enlarge, or you can use the "Last Page" and "Next Page" buttons at it's bottom to advance through all the enlarged cover images in sequence.

If you've ordered our CD-ROM Super Sale you have "almost" all this material already, only it's scattered through 13 to 15 CD-ROMs as opposed to two DVDs. This DVD set will retail for two thirds that of the CD-ROM set and will contain two brand new additional works created by Kurt Saxon not found anywhere else. These works are "Granddad's Wonderful Book of Toys" and "Granddad's Wonderful Book of Magic"! Since these two works would've have resided on one of our $25 CD-ROMs, it will bring the retail value of everything in this set from $445 to $470. To order a set of our new DVDs, just scroll to the bottom most far right cell in the table on this page and click the "Add To Cart" button therein.

This graphics chunky web page will take a little more than two and half minutes to load completely with a 56K modem. Half that time if you're using ISDN, longer if your Internet connection is slower. So while it's loading, now might be a good time for that second cup of coffee or that ham and cheese on whole wheat that you've been ruminating (that's "thinking about" for all

you folks in Rio Linda) on for the last half hour or so.



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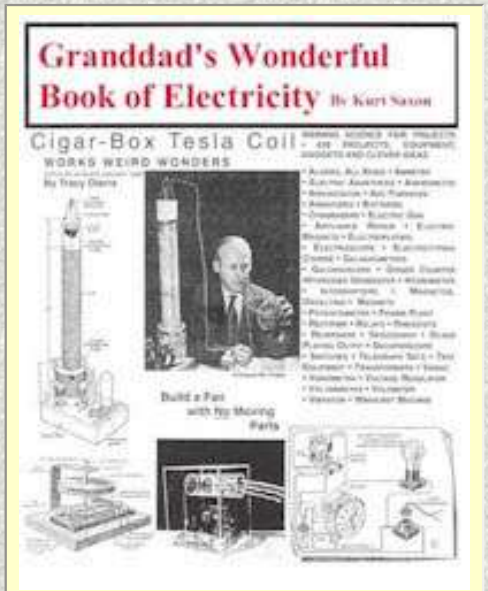
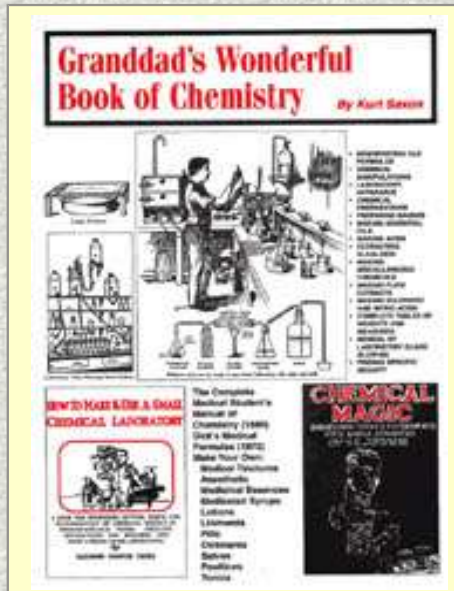
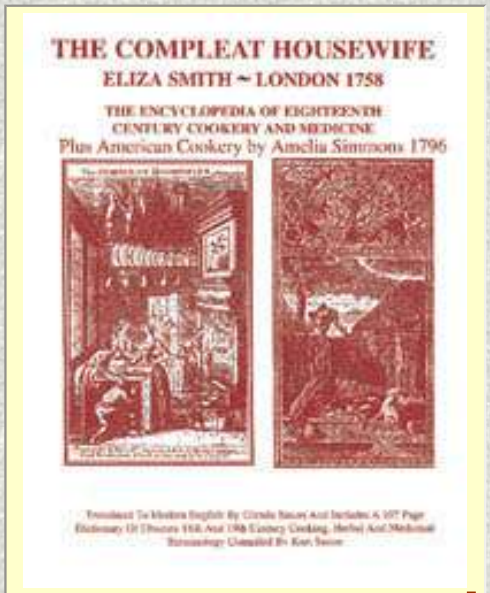


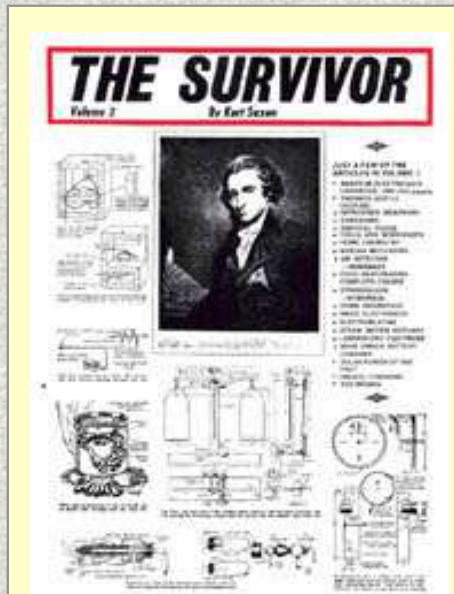
464 8½" by 11" Pages

464 8½" by 11" Pages



477 8½" by 11" Pages





464 8½" by 11" Pages

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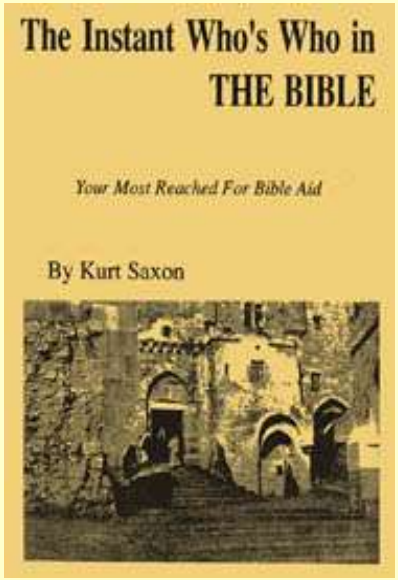
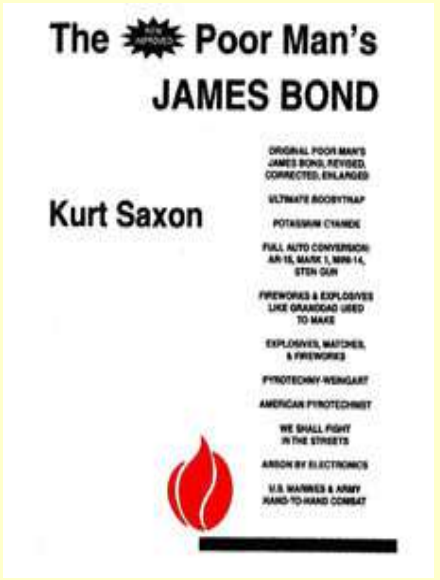
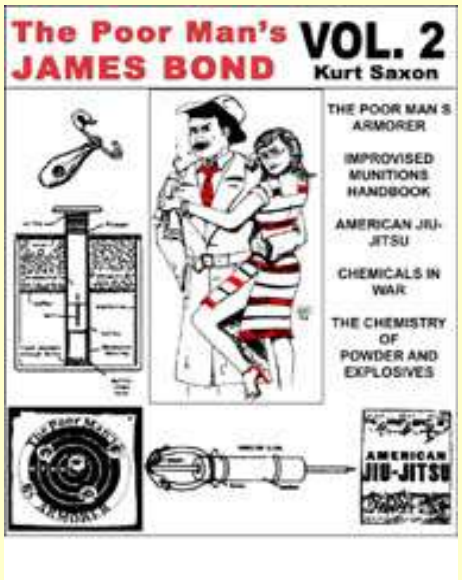


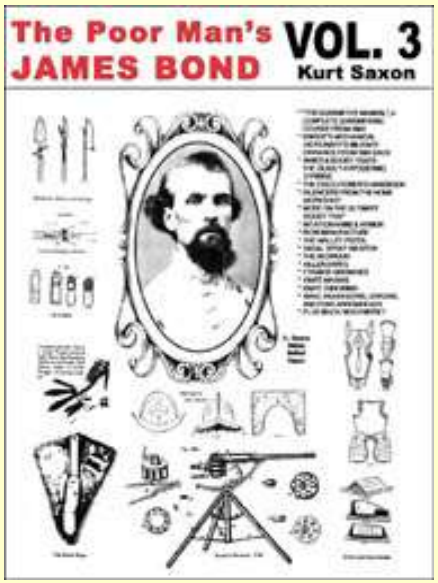
302 8½" by 11" Pages



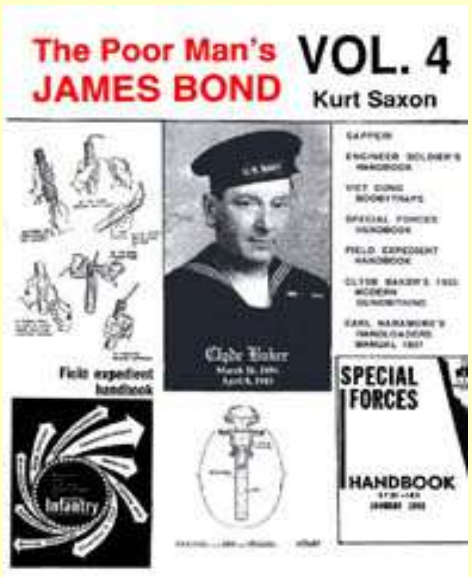
477 8½" by 11" Pages



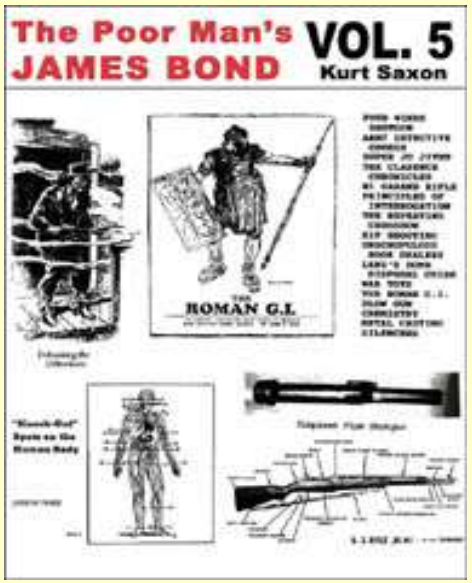
484 8½" by 11" Pages



411 8½" by 11" Pages



464 8½" by 11" Pages



464 8½" by 11" Pages

For a more thorough list of what is to be found in this two volume (disk) DVD set, please **click here.**

DVD Super Set Sale
Price Inside The U.S.
$100.00 Postpaid
First Class Mail

QTY: 1 ADD TO CART

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Kurt Saxon's Classic Cookery Entrance

This weekly course will give you nostalgia, novel dishes to impress your friends, a knowledge of how our ancestors prepared their foods and perhaps treasures you can present in a 19th Century restaurant.

You won't be able to understand a lot of these recipes, since they weren't written like modern recipes. Your grandmother, five times removed, would have understood them. She would have shrugged off your ignorance with "it goes without saying". And it would, for her, since in her day women were taught to cook from the time they were little girls. They didn't need most of the details included in modern recipes.

Of course, some of the recipes simply can't be followed today since they require so much labor and many of the ingredients are no longer available. You might imagine some young housewife, as suggested in "THE QUEEN", crying because her oafish husband didn't appreciate the meal she had prepared, slaving all day over a hot servant.

So to start out, we give you the measurements used in 19th Century cooking, taken from "Grandmother In The Kitchen", 1965, with 2500 19th Century recipes and processes. The complete book is in our CD-ROM "The Compleat Housewife".

Nineteenth Century Weights & Measures
GODEY'S Ladys Book & Magazine - 1861
THE QUEEN: The Lady's Magazine
PIZZA!: The "All American" Italian Goody
Home Candy Making Cookbook

Phone: 870-437-2999 Fax: 870-437-2999 Email: cary@survivalplus.com

CRAFTS & How Tos

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Kurt Saxon's Survival Chat Room

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Dear Friends,

What we have here is not really a web radio show but a shared piece of free real time live audio chat room software called Pal-Talk. You will need this "free" software installed onto your computer in order to be part of our audience. Below this block of text you'll find a list of the prerequisites needed for any windows based pc user to run this Pal-talk software package. Below these prerequisites you will find a link to Pal-Talks hp and program download site. Below this link you'll find a table containing the airdates and times of some of our upcoming programs. And at the very bottom of this web page you will eventually find an archival table containing previous programs set for streaming playback &/or download.

All The Best,

Mr. Cary Jeffries
cary@survivalplus.com

PalTalk System Requirements:

- Windows 98/ME/NT4/2000/XP/2003
- Intel Pentium™ 166MHz Processor with 16MB of RAM or better
- Internet connection (28.8kbps Modem or better)
- Full-Duplex sound card required (for Audio)
- USB Digital Web Camera (for video, not required for only viewing)

www.paltalk.com

Once you've acquired, installed and played with your PalTalk software for awhile, please come back to this web page to check and see when Kurt will be manning the mike (you'll find his broadcasts in yellow in the second table below).

This is very important: Please spend as much time as necessary in one of the three of PalTalk's 24/7 Help Chat Rooms. It is in these help forums where you check on how well PalTalk's software is functioning and do any of the necessary "tweaking" and adjusting to make this chat room program behave properly. Please don't join Kurt's chat room with any technical problems concerning your PalTalk software. Or we'll just have to send you back to one of PT's help rooms to get your glitches ironed out.

A Note To All You Mac Users: PalTalk says that their software will run on an Apple machine providing it's CPU is a G2 or better and that it is equipped with a Windows OS emulator. But even if you can't retro-fit your Mac to run this chat room software, you can come to back to the bottom of this page just about two hours after the close of each of our programs to listen to &/or download a RealMedia recording of that night's discussion. These posted "rm" files may not be "live" and you may not have been able to contribute to them, but being able to access them at all sure beats a poke in the eye with a sharp stick!

Kurt Saxon's Survival Chat Room Air Times

Pacific:	Mountain:	Central:	Eastern:
5:00 to 7:00 PM	6:00 to 7:00 PM	7:00 to 8:00 PM	8:00 to 9:00 PM

Kurt Saxon's Survival Chat Room Airdates

Sunday	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
	no show		05/19/04		05/21/04	
	05/23/04		05/25/04		05/28/04	
	05/31/04		06/01/04		06/03/04	

Kurt Saxon's Survival Chat Room Archive; Please Note: We have room on

our server for just about six of these programs. So as this space begins to disappear, the oldest programs will have to be deleted to make room for the newest.

Discussion	File Type	File Size	File Length	Play Back Discussion	Download Discussion
Mon, 05/03/04	"RM"	5,381K	0:42:55		

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Nifty Places To Go

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The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

Frugal Living And Lifestyle Sites That Should Be Of Interest To All You Penny Pinchers

Web Site Title	Web Site URL and/or Link
FRUGAL LIVING	http://frugalliving.about.com/mbody.htm
THE FRUGAL SHOPPER	http://www.thefrugalshopper.com/
Little Country Village Dot Com	http://www.littlecountryvillage.com/
Frugal Family Network	http://www.frugalfamilynetwork.com/
A Frugal Simple Life	http://hometown.aol.com/dsimple/
Frugal Living Today	http://www2.latech.edu/~sld/frugalstuff.html
Free Stuff Page	http://www.freestuffpage.com/frugal/
Frugal Living And Tightwaddery	http://www.folksonline.com/folks/hh/tours/frugal.htm
The Frugal Corner	http://www.frugalcorner.com/

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Web Radio Show | Nifty Places To Go | Site Mailing List | CD-ROM Super Sale | Whole Enchilada!
The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

If you like to be put on our mailing list to be notified when new
goodies have been uploaded to this site, just click on the email
link below, type "subscribe" in the subject field and click send.

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Our CD-ROM SUPER SALE!

All Thirteen (13 or $445 Retail) Of Our CD-ROM's For Just $150 postpaid inside the U.S. To buy a set, just scroll towards the bottom of this page and click the appropriate "ADD TO CART" button!

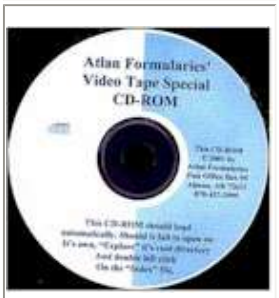
CD-ROM Description Title	*Unit Price*
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 1	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 2	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 3	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 4	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 5	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 6	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 7	**$25.00**
Atlan's Ongoing CD-ROM Project; Volume 1: Issue 8	**$25.00**
The Complete Poor Man's James Bond CD-ROM	**$75.00**
Kurt Saxon's Bomb Component Recognition CD-ROM	**$60.00**
Kurt Saxon's CD-ROM Library Volume 2	**$50.00**
Atlan's Video Tape Special CD-ROM	**$35.00**
The Compleat Housewife (1758) By Eliza Smith CD-ROM	**$25.00**
Total Separate Item Price:	**$445.00**

The Complete CD-ROM Super Sale Contents

The CD-ROM Library 2 And The Complete PMJB CD-ROM Contain:
Granddad's Wonderful Book of Chemistry, Granddad's Wonderful Book of Electricity, The Survivor; Volumes: 1 through 4, The Poor Man's James Bond; Volumes: 1 through 5 and two one hour Poor Man's James Bond videos (The PMJB Greets The Russians & The PMJB Strikes Again!) That's ten books containing over 4,000 8½" by 11" pages of Kurt Saxon's most classic works to date.
Atlan's Ongoing CD-ROM Project; Volume 1: Issues 1 - 8 Contain:
Explosives & Bomb Disposal Guide, How To Build A Wood Gas Generator, The Crusades, The Art of Unarmed Combat, A Complete Course In Electroplating, More of Godiy's Book Lady's Book & Magazine, Make The Very Best Homemade Pizza, Several Very Nifty Solar Projects, Grandmother In The Kitchen, Classic Ghosts & Vampires, A Complete Jewelry Making Course, Some Nifty Kite Making Plans, A Complete Metal Casting Course, LOOK TO GERMANY: The Heart of Europe, Chemical Gardening For The Amateur, WEAPONS: A Pictorial History, Native American Arts & Crafts, Handy Farm Devices & How To Make Them, A Japanese Cookbook, An Assortment of Wind Power Plants, Those About To Die, Wheels Of Rage, The French Wine & Liquor Manufacturer, POISONS: Antidotes & Anecdotes, The Book of Indian Crafts & Lore, The Survivor; Volumes: 5 through 10, Plus Three Hundred and Forty (340!) Old Time Radio files containing Amos & Andy, Gunsmoke, Fibber McGee & Molly, Escape, Orson Well's Mercury Theater, Have Gun - Will Travel, etc, and 50 of Kurt Saxon's Short-wave Radio Talk Shows

The Compleat Housewife by Eliza Smith ~ 1758 CD-ROM Contains:
The Compleat Housewife, The Compleat Housewife's Dictionary Compiled By Kurt Saxon Plus Five More Cookbooks & A Book On The Household Arts
Atlan Formularies Video Tape Special CD-ROM Contains:
Four Hours of The Very Best Video form All of Our VHS Video Tapes

The table below contains the reduced images of these CD-ROM's faces. To get a full scale view of these CD faces, just click on any one of them. Clicking on any CD face below will bring you to a set of four to six full scale CD faces. Clicking on the "Next Page" page button will take you to the next grouping of full scale CD faces to be viewed.

 **Retail Price: $25**	 **Retail Price: $25**	 **Retail Price: $25**	 **Retail Price: $25**	 **Retail Price: $25**
 **Retail Price: $25**	 **Retail Price: $25**		 **Retail Price: $25**	 **Retail Price: $25**
The Compete Poor Man's James Bond CD-ROM **Retail Price: $75** **This CD Face Is Being Argued Over Right Now!**	 **Retail Price: $50**		**Atlan Formularies Ongoing CD-ROM Project; Vol. 1: Issue 9** **This CD Is Currently Under Construction Right Now**	 **Retail Price: $35**

CD-ROM Super Sale
Price Inside The U.S.
$150.00 Postpaid
Ground

QTY: 1 ADD TO CART

CD-ROM Super Sale
Price Inside The U.S.
$159.95 Postpaid
Airmail

QTY: 1
ADD TO CART

CD-ROM Super Sale
Price Outside The U.S.
$119.95 Postpaid
Surface

QTY: 1 ADD TO CART

CD-ROM Super Sale
Price Outside The U.S.
$129.95 Postpaid
Airmail

QTY: 1 ADD TO CART

Prefer to snail mail your order in? Just write down whatever you'd like to have from our catalog on a separate piece of paper. Then tally up your total and send a personal check, money order or your Visa or MasterCard information with your homemade order slip to the address at the bottom of this web page. And PLEASE, Please, please remember that if you intend mail your order in, don't forget to put your return shipping address on "BOTH" your order slip and your envelope. You'd be surprised how many orders we get with no intelligible return address to be found anywhere on and/or in them!

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The Whole Enchilada!

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Web Radio Show | Nifty Places To Go | Site Mailing List | CD-ROM Super Sale | Whole Enchilada!
The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

Below you will find a table containing every individual item in our online catalog. In the far right column you will see the postpaid price of each item. For the handful of you out there that may already own a grain mill, we give you the option of ordering "The Whole Enchilada!" with or without the Corona grain mill. The price of **The "Whole Enchilada Less The Corona Grain Mill Inside The United States"** does include shipping to Alaska and Hawaii. It's only when we're stuck having ship the grain mill outside the continental U.S. that we have to stick a customer for the addition shipping charges. (You'd think that bloody mill was made of lead instead of cast iron for what they want to ship it overseas!) A note concerning these Corona grain mills. These mills are drop shipped from Utah and may arrive in as many as ten days to three weeks (if you're living in the lower 48) after the initial portion of your order makes it to your address. Oh yes before I forget, the price on each of The Whole Enchilada variations below includes shipping.

Quantity	*Description*	*Unit Price + Postage*
1 (one)	Granddad's Wonderful Book of Chemistry	$29.00
1 (one)	THE SURVIVOR, Volume 1	$29.00
1 (one)	THE SURVIVOR, Volume 2	$29.00
1 (one)	THE SURVIVOR, Volume 3	$29.00
1 (one)	THE SURVIVOR, Volume 4	$29.00
1 (one)	The Compleat Housewife (the book) By Eliza Smith	$29.00
1 (one)	The Instant Who's Who In The Bible	$24.00
1 (one)	The Corona Hand Grain Mill	$60.00
1 (one)	Kurt Saxon's CD-ROM Library, Volume 1	$50.00
1 (one)	Kurt Saxon's CD-ROM Library, Volume 2	$50.00
1 (one)	Kurt Saxon's Bomb Component Recognition CR-ROM	$50.00
1 (one)	The Poor Man's James Bond, Volume 5 CD-ROM	$35.00
1 (one)	The Compleat Housewife (the CD-ROM) By Eliza Smith	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 1	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 2	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 3	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 4	$25.00

1 (one)	Atlan Formularies CD-ROM Project; Volume1: 5	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 6	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 7	$25.00
1 (one)	Atlan Formularies CD-ROM Project; Volume1: 8	$25.00
1 (one)	Atlan Formularies Video Tape Special	$50.00
1 (one)	Atlan Formularies Video Tape Special CD-ROM	$35.00
	TOTAL "SEPARATE" ITEM PRICE:	$753.00
	THE "WHOLE ENCHILADA" DISCOUNT PRICE:	$332.00
	THE AMOUNT SAVED OVER BUYING EVERYTHING SEPARATELY:	$421.00
	The Whole Enchilada Inside The United States; Price $332.00:	QTY: 1 ADD TO CART
	The Whole Enchilada Outside The United States; Price $397.00:	QTY: 1 ADD TO CART
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The Philosophy & Rewards of Survival

CATALOG | DVD SAMPLER | Survival Foods | Classic Cookery | CRAFTS & How Tos
Web Radio Show | Nifty Places To Go | Site Mailing List | CD-ROM Super Sale | Whole Enchilada!
The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

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The Outrider Series

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All of the links below will open up into their own window. To get back to this site, simply close The Outrider window that you happen to be reading in.

[An Introduction To The Outrider Series] (22KB)
[The Outrider; Volume 1: Series' Premier] (14KB)
[The Outrider; Volume 2: Fire And Ice] (14KB)
[The Outrider; Volume 3: Blood Highway] (14KB)
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Clarence The Mighty Martian Slayer!

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Index To The Koran (English Translation)

THE KORAN

Translated from the Arabic by
J. M. RODWELL

Originally Published & Copyrighted 1909 by

EVERYMAN
J. M. DENT ~ LONDON
CHARLES E. TUTTLE
VERMONT

I have had the index to this work posted to the web to prove that one does not have to read the entire Koran to understand that it was inspired, written and followed by no one other than the mentally unbalanced. --- *Kurt Saxon*

ISLAM IS JEWISH

by Kurt Saxon

Nearly a billion and a half Muslims revere the Jewish Bible, Old and New Testaments. They claim the Old Testament's Jewish heroes as their own. They accept the New Testament's Jewish Savior as their prophet. They even call the Jewish God "Allah", as if the obscure Arabian tribal god and the God of the Jews and Christians were one and the same. They believe the Jews' angel, Gabriel, dictated the Koran to Mohammed.
They believe Ishmael, a son of Abraham, uncle of Jacob, renamed "Israel"

and great-uncle of Judah, from whom we get the term "Jew", founded the Arab race.

Muslims are a people whose main object of hatred, the Jews, were the source of nearly their entire belief system.

Islam is indeed Jewish, and every Muslim is only a secondhand Jew.

When Mohammed decided to mold the Arabs into a force, he chose religion as the way to bring them together. The Arabs were scattered bands of nomads with no organized religion. Their religious ideas were various ancient myths. Their gods, one of which was Allah, were tribal gods, much as described in the Old Testament. Mohammed elevated Allah, the minor tribal god to the supreme position. But he lacked the authority to relate a new Bible. He chose Gabriel, an angel from the Jewish Bible to dictate the Koran.

But Gabriel was an angel of the Biblical Lord, not a promoter of a faith contrary to the Lord's Bible. (Dan. 8: 16 and Luke 1:19-37)

The Arabs were pagans with no written history or many-faceted stories as the Biblical account of Abraham and his descendants. So the writers of the Koran had to borrow great sections of the Jewish Bible, perverting it and falsely claiming it as their own, even including as their own the biblical God.

The last book of the Bible, Revelations, was written long before the Koran.

As the Jews claim Abraham as the founder of their families, Muslims claim Ishmael as the founder of the Arab nations.

Whether one wants to call the people of the Bible Hebrews, Israelites or Jews, it's works were collected, written, maintained and believed in by Jews. The Bible is a Jewish work.

Ishmael may not have been a Jew in the strictest sense, but he was of the same family. Nuts falling from the same tree are of the same family.

Muslims claim a split between Ishmael and his family. The Bible describes Ishmael as the black sheep of the family. (Gen. 16:12). Verse 12 also says, "and he shall dwell in the presence of all his brethren", no split at all.

In Gen. 17:20 it says that Ishmael would have twelve sons and they would become a great nation. Yet, of the twelve sons named in Gen. 25:13-15 and 1 Chron: 1:29-31, not one was named elsewhere. hardly an indication that his sons became any great nation. Also, Gen. 25:17 says that Ishmael died at the age of 137 and was gathered unto his people; not Arabs, not the families of his sons. but his Biblical brethren. He never went far.

So there is no historical, Biblical or logical reason to believe that Ishmael split from his family or established any nation.

A reading of the index to the Koran, (the links to which can be found at the bottom of this web page), should prove to anyone that the Biblical excerpts were clumsily interfaced among the chapters of the Koran.

Where would Islam be without the Jewish Bible?

Wanted: someone to translate this article into Arabic.

To obtain a listing or every mosque in the United States, by the state, log onto www.yellowpages.com and type in "Muslim" in the first search field. In this way you can find the location of nearest mosque to your community.

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Century's Political Dictionary from 1889

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Hunger In America

By Kurt Saxon

Last week PBS aired a weird program entitled "Hunger In America". It was weird because not one of the families shown as examples of hungry Americans were destitute. They all had living quarters, some had jobs and even land and each had the money or food stamps which should have provided them with a more than adequate diet.

The commentator was in full sympathy with those hungry people and lamented the fact that nothing more was done. I watched this bizarre exhibition of the helplessness of the otherwise able and heard the pity of the "there but for the grace of God go I crowd". I harked back to tales of other starvelings.

In 1845 the Irish potato blight raged and hundreds of thousands starved in the resulting famine. Yet, it was found that on farms where whole families had starved, the barns held corn, oats, rye and barley in the cattle feed bins.

In France and Belgium, millions were starving after WW I. America sent boatload after boatload of corn and the people were insulted at being sent food for horses and cattle.

Stalin deliberately starved millions of kulaks in the '30's. When his henchmen moved in to cart off the bodies of the rebellious farmers, there too, was found plenty of grain in the feed bins. Of course, the livestock had been eaten but the livestock's food was not considered fit for humans to eat.

That people would starve to death before eating corn is a misleading concept. Had the corn been ground and made into cornmeal mush those people would have survived. But they simply didn't relate to corn as food.

Of course, you've heard of the African Bushmen and the Australian Aborigines. They can thrive where Europeans wouldn't see any food at all. But that is an extreme. The point is that people tend to see as food, only that which they are accustomed to eating.

The people on the program were accustomed only to prepared foods bought at the supermarket. One couple with four kids got $390.00 a month in food stamps. The man was an auto mechanic who had quit work since he couldn't afford his wife's medical expenses and his loafing would entitle her to Medicare.

They had four children and lamented the fact that the $390.00 in food stamps were all used up before the next month's dole. Oh, you know food prices today and how $390.00 for a family of six doesn't go far. I don't suppose they spent every bit of it on TV dinners and in the deli section. Nonetheless, to a Survivalist family, $390.00 would buy about four months' food for six; maybe more.

That reminds me of 1967 when I was a bum in San Francisco. I was living in a $10.00 a week sleeping room and worked off and on as a fry cook and a freelance house-painter. For a no-sweat $5.00 a week I was selling my blood and so contracted infectious hepatitis.

That's a very debilitating illness and its effects last about a month when not fatal. Anyway, I was barely able to get around and I couldn't work. I wasn't hospitalized since the illness wasn't communicable except through dirty needles, as in my case. But the hospital gave me some pills and arranged for me to get welfare.

To a single person with what I had, short term, the welfare people paid my rent and gave me a $6.00 food voucher each week. With that food voucher I bought sugar, yeast, cheap fruit, margarine, pinto beans, bacon ends, corn meal, raisins, rice, canned milk and odds and ends. Quite a box of food for only $6.00, even then.

I had a hot-plate I'd bought earlier in a Salvation Army store for a dollar and odd pots and pans. One of my favorite dishes was rice and raisins and canned milk. Delicious, nutritious and cheap. Of course, $6.00 wouldn't go that far now, but I'd do just as well on its equivalent today.

Notice, I didn't buy any prepared food, nothing in cans or ready to eat. The sugar, yeast and fruit was for booze I started in several one gallon wine bottles. Five days later and from then on I had all the booze I wanted and just as good as store-bought.

Another group interviewed on the program was a farm worker who had fathered fifteen children. He had a wife and eight children living with him. His wife was preparing boiled baloney and rice. They were hungry.

Yet, he was shown plowing around onions and some kind of greens. The children, strapping, albeit ill-favored, were shown in the yard. Behind them was a great stand of weeds. Now, why didn't the man use from the field he was cultivating, as was his right? Why weren't his children cultivating a garden?

These people didn't want to be hungry. Obviously, he spent his food budget on food which was cheap enough but too expensive to supply ten people. But again, why didn't the man have a garden for all those children to work?

Naturally, the narrator never mentioned the fact that too many children born to incompetents was a major contributing factor to hunger; and most other social and economic ills.

The farm worker and his brood were in Alabama but I've seen the same thing in Appalachian coal country on other programs. Run-down shacks with whole families of unemployed adults and their many children loafing on the porch. No gardens! They were hungry too, as the narrator of that program gloated in an attempt to make the viewers feel guilty.

Another family in "Hunger In America" was Mexican migrant farm labor. The father was heavy and the others were sturdy-looking. Of course, they wouldn't have much choice in food from the fields, since stuffing oneself with cucumbers for a week would hardly make a balanced diet.

I suppose they also had inadequate living quarters and kitchen facilities. Maybe they didn't even have a super- market close by. Even so, they could have bought masa in bulk for making tortillas, and pinto beans by the 25 pound sack, and with gleanings could have eaten as well as if they were earning the equivalent in Mexico. But as it was, they didn't speak English, migrant labor was their lifestyle and they had chosen, directly or indirectly, to live on a day-to-day basis. They simply lacked the adaptability to make that lifestyle as efficient as it could have been.

Another family on the program owned a dairy farm. They weren't doing very

well at it so they were hungry. But with even a small dairy they had milk, and from it, butter, buttermilk, cheese and yogurt. There were no chickens in evidence, although several dozen could have lived off spilled feed and undigested grain in the cow lot. Why weren't they supplied with chickens and eggs? Where was their garden?

In all these cases there was no reason for hunger. But each family was too ignorant of food, as such, to prepare nourishing meals from cheaper, more basic ingredients. Instead, they unrealistically paid others to process their foods. Consequently, they could afford only about a third of the food they would have had, had they processed it themselves.

A while back I read a Reader's Digest article on hunger in America. Their argument was that there was no reason for hunger here, as I've pointed out. But their idea was that those who weren't eating as much as they needed was because they didn't know where to apply for more aid!

What amazed me was that neither the narrator of the program nor the writer of the article considered educating such people in simple home economics. Knowing how to cook and knowing what foods give energy would have enabled them to shop for foods which would have been cheaper but more filling and more nutritious.

Several years ago this idea was brought home to me while watching a local San Francisco news story on malnutrition among the aged there. Featured was an old man on a fixed income who ran out of food about a week before his next Social Security check was due.

He was shown cooking his supper. His main course was Canadian bacon. In case you aren't familiar with it, it was in a roll rather than slices. It cost three times as much as regular bacon. He was buying gourmet food on his income from Social Security!

That's the problem with the families on the program. They were buying, in effect, gourmet food on welfare budgets. No wonder they were underfed and malnourished.

Most of us have seen people paying with food stamps for TV dinners, steaks and other highly processed foods. They just don't know how to buy food. All they know about food is what they see on TV. If they can't afford it; if they

spend all they have on what intelligent wage-earners can't afford, no wonder they're hungry!

But the bleeding hearts would only have us give them more money. For them to eat like they must if they can't economize like the rest of us, we might as well give them all food vouchers to take all their meals at fancy French restaurants. It won't work. As things get worse, they'll starve.

More rational sympathizers might suggest TV programs (hosted by rock-n-roll stars, Jim and Tammy Bakker and sports heroes, to keep their attention) demonstrating the buying and preparation of inexpensive and nutritious foods. Of course this would have to be on PBS, which they never watch. Otherwise, the makers of Captain Stupid's Sugared Breakfast Crunchies would protest, along with all the other advertisers of the equally debilitating carcinogens and brain-rotting delectables morons have been sold as staples for years.

The point is, millions of Americans are so ignorant about food that without the media they wouldn't know what to eat at all. And with the inevitable rise in food prices and cuts in welfare, those millions are going to starve.

But that's not the half of it. Next time you go to the supermarket look at the foolish people with their carts piled to overflowing with expensively packaged foods hardly fit for human consumption. One doesn't have to be a health nut to shudder at what most of that does to the body and brain. Most people who make good livings don't know any more about staple foods and their preparation than do the welfare morons.

This is because, in our prosperous culture, food is usually taken for granted. Urbanites really had no time, and seldom the facilities for preparing foods from basic staples. Also not too long ago, food's cheapness, even processed and packaged, make it impractical for the homemaker to process staples.

But now, with the rising costs of food, energy, packaging, etc., food has become a major budget outlay. Therefore, it is becoming more practical to buy in bulk and process one's own food. But since Granny baked bread weekly, made sausages in the fall, had a kitchen garden even in the city, and distrusted canned foods, people have suffered a kind of cultural amnesia concerning food.

So people are hungry in the midst of plenty. And fewer people are left to pass on the basic techniques to fewer people who care to learn them.

I was fortunate in having nothing but peasant ancestors who were too poor to hire commercial food processors to prepare their food. In my misspent youth I never hungered because I knew food and how to prepare it.

This ability really came in handy when I had the accident which damaged my hand and left me nearly blind for months. In 1970 I was getting $87.00 per month County Welfare. My little apartment cost $50.00, leaving me only $37.00 a month for food and incidentals. I spent less than $5.00 a week on food and ate better and tastier foods than I had when I could afford anything I wanted.

Most of the processes I knew and developed then are in SURVIVOR Volume I. They will guarantee anyone an abundance of nutritious food for about a quarter of today's food prices. This book is the most important in my whole line and could save you enough to afford all my books and tapes with a couple of month's savings.

Many of the processes are shown in my tape, "The Poor Man's James Bond Strikes Again". The information was given there to illustrate the fact that the embattled Survivalist can hold out almost forever with the right kind of food supplies. Without such foods, any survival program may fail.

Unfortunately, less than half my subscribers have bought Survivor Vol I. Some take pride in having stocked up on "survival foods", a snare and a delusion which will doom many. This is because such foods are simply stored. They don't increase in food value as do grains used for sprouting. They need no processing except for adding water.

They also cost up to ten times what I recommend and are not nearly so good tasting or nutritious. The worst thing about them is that the Survivalist doesn't learn the skills insuring survival on a long-term basis. Without such knowledge and skills the "Survivalist" will be useless to his neighbors and so may be driven from the community when his supplies run out or are looted.

On the other hand, unprocessed foods are the last items a looter would want or would even recognize as food. Not nearly so portable and lootable as the

neatly packaged and labeled meals like Mountain House Freeze-Dried Foods, for instance.

Another class of Survivalists are those fixated on weaponry and personal defense; and maybe offense. That type saddens me as they are incomplete and also contributes to the negative side of Survivalism.

The media image of the Survivalist is a camouflage-clothed dingbat living in a hole in the ground and waving guns at everybody. I made up the term and that's not my definition. But all too many of my readers seem to try to live up to it.

But the arms-crazy type won't make it. Banditry is self-defeating. Say you take food by force from one, two, maybe three families. Logic and the law of averages should show you that you're only working your way to a real Survivalist who will destroy you.

Bandits are just as dependent as any other losers. You must be self-sufficient in many areas in order to survive the coming collapse. And self-sufficiency in food is the most basic and most important survival skill.

Surprisingly, self-sufficiency in food is the simplest and also the most profitable survival skill. As shown, it will take care of you now and save over half your food bill. When it becomes an absolute necessity, you will be among the most valued members of your community.

So sure, there's hunger in America. There will be more and only those who have become independent of the food conglomerates will be prepared for a future which will doom millions.

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THE PERFECT 3.3 CENT BREAKFAST

By Kurt Saxon

A while back some Mormons visited me and told me of a friend who had been suckered into paying $12,000 for a year's supply of "Survival Food" for his family of five. The seller had given him a break by not charging anything for the baby.

The only good thing one can say about most commercial survival foods is that they won't taste any worse in ten years than they do now. The worst that can be said for them, aside from their lack of nutrition from over processing, is that they cost an average of three times that of food from your local supermarket.

A year's supply of food would be nice and you should go for it. But be practical. Buy what you normally eat and like. Learn basic food processing so you can buy foods cheaply and in bulk.

Of course, we all use canned and processed food on a regular basis and they should always be bought by the case. You should figure how much of a certain product you will buy over the next year and buy it all at once by the case from your supermarket.

The economy is obvious. First, the supermarket manager will deduct at least 5%, since his people won't have to unpack it and put it on the shelves. Second, since food prices do nothing but rise, you will probably pay at least 25% more for the same products in a few months.

You can do even better by trading at the discount food stores like Sam's. Their prices average 10% above dealer's prices on most items.

Although food in cans, jars and dried packaged foods easily keep from three to five years if they are stored in a dry place, you can insure freshness by rotating. Say you bought ten cases of canned peas. Just mark the cases from 1 to 10. Use from case 1 and when that is emptied, buy another and label it 11. Then start on case 2, buy another and label it 12 and so on. That way none of the food will ever be less than fresh.

When you incorporate grains into your diet you will see your food costs plummet. Buy a hand grain grinder and bake your own bread. You will save several dollars a month. It will also taste better and be more nourishing. You can even sell it to neighbors and even to local health food stores.

Grain grinders should be steel-burred, not stone. Stone grinders are a fraud. They are touted as causing less heat than steel. But hand grinding does not create the amount of heat objected to in the commercial milling of grains. So buy the much cheaper and more durable steel-burred grinder. Atlan sells the Corona Grain Mill for $48.00 delivered in the continental United States (foreign please request additional shipping charges). It is the best for the price of any on the market and should last a lifetime.

The Survivor Vol 1 and Poor Man's James Bond Strikes Again video tape will give you an excellent grounding on the processing of inexpensive and nutritious foods. Through them you will learn that high food costs, and especially the need for commercial survival foods, are the results of ignorance. You may soon have to abandon the luxury of such ignorance.

But now to get to the main subject; the perfect 3.3 cent breakfast. This is just one example of a food which is easy to process, nourishing, energy and health giving and costs practically nothing.

It is simply four ounces of wheat, sprouted for 48 hours, cooked overnight in your thermos and put in your blender. This makes a large bowl of breakfast cereal which tastes wonderful and will give you more energy than you can imagine.

There are several steps to processing this food but it takes only a few minutes in all as you bustle about in your daily routine.

You probably already have most of what you need but you should equip yourself with what you lack.

First, look up your local feed and seed store, even in a city, and call them. Ask if they have, or can order, 50 to 60 pounds of hard red winter wheat, untreated (treated seed is strictly for planting). There is no reason they should not be able to provide it.

It will cost between $7.00 and $8.00, depending on your location. Say it costs $8.00 for 60 pounds or 13 cents per pound. You will use 4 ounce portions. That is 4 times 60 or 240 breakfasts or 3.3 cents for each breakfast.

One thing you will need is a Stanley Aladdin narrow-mouthed thermos bottle. These cost $19.00 at Wal-Mart, are almost unbreakable and will last a lifetime. Don't be tempted to get a wide-mouthed thermos, if you mean to cook in it. It holds 3/4 cup less than you need. Also, the cap has a wider surface, which keeps it from holding the heat of the near boiling water needed for actual cooking.

Next you need two quart jars. Mayonnaise jars or similar will do. To cover them get some nylon window screen from the hardware store and cut two six inch by six inch squares. Put four ounces of wheat in each jar. Put the screens over the jars and hold them in place with large rubber bands. Fill one jar one-third with water and set it near the sink overnight.

Next morning pour out the soak water and drink it. It is vitamin-rich and a good morning tonic. Upend the jar in the sink to drain. After the first draining, flood the wheat about every four hours before bedtime and drain it. The idea is to keep the wheat moist.

At the last flooding the first day, just before bedtime, flood the second jar and let it set overnight like the first. Next day, drink the water and treat the second as the first, flooding both every four hours or so.

On the second evening the first jar of wheat will show sprouts protruding from the ends of the grains. Now it is ready. It is part grain and part fresh vegetable. Its protein and vitamin content is higher and it is altogether a more complete food, rich and amazingly nutritious and, again, a complete meal for less than 4 cents.

Empty the sprouted grains into a two cup measure and put four more ounces of wheat in the jar, flood and set aside overnight as before. Now you have a perpetual routine taking up no real time and producing a fantastic amount of food for little cost.

With the sprouted grain in the two cup measure fill it with water to the two cup mark. Then pour it into a saucepan on the stove and add two more

cups of water and a few shakes of salt to keep it from tasting flat. Heat it to a boil, which takes about five minutes.

You will need a funnel to pour the water and the grain into the thermos. Take a gallon plastic bottle; milk, bleach, vegetable oil, etc. and cut it in half. Use the top half for the funnel.

Fill your thermos with hot water to preheat it and then pour out just before filling with the grain. While the grain is still boiling, empty the pan into the funnel and so into the thermos. You will have to use a spoon to push part of the grain from the funnel into the thermos, as well as some of the grain from the pan. At any rate, do it quickly so you can cap the thermos to contain the heat.

Cap then shake the thermos and lay it on its side so its contents don't bunch up, and leave it overnight. Next morning, pour the contents into a blender and pour out part of the liquid into a cup. Drink the liquid as it is rich in vitamins.

With just enough liquid to cover the grain, turn on the blender at low. Then increase the speed until the grain is all ground to the consistency of oatmeal. You can add cinnamon or any other flavoring if you like but you will find it has a delicious taste of its own.

You do not need much sweetener as the sprouting has created quite a bit of wheat sugar. You can add cream if you like, but I like mine plain. In fact, I just blend the wheat with all the liquid and drink it.

You will be surprised at the energy you feel even a few minutes after eating. Not only will it enable you to be more energetic and alert until lunch time but it will also be an excellent weight adjuster.

For instance, if you are overweight, that energy will make you more active and you will lose weight. If you are underweight, its carbohydrates will be burned up as energy and that same energy will activate and increase your musculature.

There is one possible drawback to this 3.3 cent breakfast. If you are active, no problem. But if you live a sedentary lifestyle and are sluggish, you may get the runs. Not chronic, just loose. However, this would only last a few

days. After all, this is whole wheat, with all the bran. People have been eating roughly ground whole wheat for thousands of years. Up until about eighty years ago only the very rich ever ate white bread. Sluggish intestines were a rarity except among the wealthy.

Consequently, only the rich got colon cancer. Colon cancer is caused by the buildup of carcinogens on intestinal linings. The rough bran from whole wheat and coarsely ground corn kept the intestines of common folk free from any such buildup.

The same goes for oatmeal, which has recently been touted as the perfect bran food. It is a staple of the Scots and is high in protein. But what with the bran craze its price has risen much higher than its nutritive value.

So back to the wheat bran and its unsettling effects on the innards of sluggards. This is only temporary. Any radical, even beneficial, change in the diet will cause a reaction. The intestines are not harmed, any more than unused muscles are harmed after a first day of horseback riding. The nether quarters doth protest but they soon get used to it. No need to overdo it to bowleggedness though.

So I am not suggesting this to be your whole breakfast permanently or that you make whole wheat your staple food. What I would suggest, however, is that you challenge yourself to make it your whole breakfast for two weeks.

You will save money. You will experience fantastic energy. You will lose/gain weight. You will even get cleaned out and regular and will realize that you will never really need a laxative, even Metamucel, from then on if you eat only one serving each day. You will lower you risk of colon cancer. And you will never fear starvation as long as you have sense enough to buy whole grains in bulk.

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MAKING & SELLING TIRE GARDENS

By Kurt Saxon

Raised beds are the best way to garden, for several reasons. First, the plants are closer together so there is little weeding and greater productivity. Since they are several inches off the ground there is less stooping. The drainage is better. You supply the soil so there are no rocks, and you don't have to dig or plow the garden. Raised beds are usually a series of small garden plots which can be put here and there wherever there is a few square feet of space.

The drawback is that they are expensive. Like with railroad ties, which are costly and waste a lot of space in wood. Even 1x10 wooden boards cost a lot and unless specially treated, they rot. Then there is all that sawing and carpentry getting them together.

Tires are the answer. A standard P235/75R15 tire has 4 square feet of growing space when you cut out the sides right up to the tread. It gives a bed 8 1/2 inches above the ground. A P215/75R15 is 6 3/4 inches above the ground and has less planting area so the P235/75R15 is your best choice.

If you are husky you can use a strong sharp hunting knife to saw around the treads in about five minutes. But first you must use a quarter-inch drill to make the starting hole.

Your saber-saw will need a wood cutting blade with 10 teeth to the inch. For faster cutting, grind both sides of the blade, leaving the teeth, but very thin. This will cut through tire rubber like butter. It's fun.

Many places selling tires will charge a customer a dollar a piece to dispose of them. They don't want them. They're free. Go to your Tire World or such in most towns, and take your pick from great piles. They'll bless you for taking them away.

Any business selling and mounting tires will have a stack in back you can have. Here you can take your pick of truck tires a foot and a half thick with ten square feet of space with the side cut out, to standards and compact tires, on down to little bitty tires from three-wheelers.

Compact tires make neat little beds which could be put on decks, porches, along walks, etc. They are perfect for herb gardens. A novel way would be to paint them in pastel colors and letter them "Catnip," "Thyme," "Marjoram," "Parsley," "Chives," etc. Most homeowners seeing them would want a set. A profitable use for tires from three-wheelers would be hanging baskets. These are often expensive but those made from three-wheeler tires would cost almost nothing. To make one, cut out the side at the tread and drill four holes with an eighth inch drill a half inch down the tread. Then cut two strong wires; their length depending on your need. Push the end of one wire from the outside to the inside and back out the next hole. Do the same with the second wire and pull both wires taut. Then bring them together above the tire and twist them into a three-inch strand and bend it into a hook.

Cut a circle from one inch chicken wire to fit the bottom inside of the tire. Then layer the bottom with grass, straw or moss and fill the planter with soil. Now put in the plant and hang it up. These would be especially good for growing cherry tomatoes on your patio.

But we're mainly interested in real gardens. Say you have a regular garden space. You'd put P235/75R15 tires all around the fence. The spaces between the tires' curves and the fence would be filled with earth to plant more back there. Weeds in front could be dealt with by using any weedeater as the tires would not be harmed and the plants inside would not be in range. Actually, the walks between tires should be spread with wood chips or gravel to eliminate weeds altogether.

A good thing about the tires is that they will never disintegrate. So what makes them an environmental nuisance makes them perfect for a multi-lifetime garden. Once these are set up, they are permanent. They will never wear out in your grandchildren's lifetimes and are easy to maintain.

Of course, naked tires aren't very pretty. They should be painted, especially if you mean to sell them. I suggest grass-green in water-base

exterior house paint. You can buy it cheaply in five-gallon containers. A standard tire will take under a cup if turned inside out. Turning the tires inside-out has five advantages. First is that the deep rooted plants can go deeper without being stopped by the rim. Second is that the tires gain an inch or more in height. third is that they are straight instead of rounded, making for slightly more space. Fourth, they save paint, as the treads take up much more paint than the smooth insides. Fifth, if you are selling tire gardens, you can pile them like rubber bands in you pickup, using up less space.

Turning the tires inside-out is easy if you know how. The first step is to step on one side of the tire, pushing it to the ground. Next, reach over and pull the other side of the tire up toward you. Then keeping your right foot in place, step around with your left foot and put it alongside your right foot from the other side. Now, keeping your left foot on the flattened edge of the tire, push the tire over and grasp the underside of the opposite side and pull. The tire will now be turned inside-out.

If the tires are laid out against a fence or wall, there will be spaces between the curvatures of the tires and the backdrop. Instead of filling these spaces with something to prevent weeds, it is best to fill them with soil, as each space amounts to about a square foot of growing area. These can be planted with a few onions, carrots, beets, etc.

If the backdrop is a wire fence, cardboard or plastic can be put alongside the fence to keep the soil from going through. A ten-tire layout will have four one-foot square spaces between the curvatures. These spaces can also be planted with a pepper plant, an okra plant, an eggplant, etc.

Start with a basic ten-tire garden plot. Line them up in two rows with each tire separated a half inch from its neighbor. Fill the spaces between the tires with soil for more plants.

You could fill your own garden with these 40 square foot plots and use them as standards for your commercial enterprise. These would produce ever so much more than regular gardens.

For instance, one tomato plant, properly supported, fed and watered, would produce over 100 pounds of tomatoes. If you should have 10 such plants,

that would be over 1,000 pounds. Sell them for 50 cents a pound and get $500 for some pretty easy part-time work.

Tomatoes aren't seasonal, as most people believe. They die from frost. Keep them warm, feed them well and they'll live for years, producing and producing. A single tomato plant grown in a Japanese greenhouse produced 10,000 pounds.

For tomatoes, cucumbers and Golden or any other small squash, you should use cages. The reason for the cages is that the most productive tomato plants grow up
and if not supported will sprawl and the tomatoes will rot on the ground. The cages allow them to grow upward and you just pick the tomatoes through the wire. The same goes for cucumbers and small squash.

For the cages, get a 150 foot, five foot high roll of six-inch concrete reinforcing wire from any building supply store. Cut it into three and one half foot lengths with lineman's pliers. If you don't have strong hands, use a saber-saw with a No. 24 metal cutting blade. Hold the wire so it doesn't shimmy and cut flush with the vertical wire. It should zip through the strands one after another. If you don't have electricity you can use a hacksaw and a metal-cutting blade.

Your 150 foot roll with give you 42 cages. I paid $43.00 tax included, which made each cage cost only $l.02 each.

A double use for the concrete reinforcing wire is for a portable cold frame over the tires in early spring and late fall. First bend the wire so it covers both sides of the tops of the tires. Then lay plastic over it and weight it on both sides and the ends. Of course, this is for your shorter plants.

The other use for the wire is for trellises. The concrete reinforcing wire is as sturdy as any trellis material you will need. Just cut the wire as for a cage. Then bend it slightly so it fits along the inside of the tire and fill the tire with soil. Now plant your beans or any climbing vegetable close to the wire and you have got the best trellis ever.

When you get your roll of wire, lay it down so the loose end is on the bottom. Jerk it so you have a few feet to work with. Count across seven

squares and cut flush on the far side of the horizontal strand. Now you have three and a half feet and about two inches of vertical wire facing you.

Take a 6 inch length of 3/8 inch galvanized pipe and bend one inch of the wire back toward the roll, forming a neat hook. Then bend the whole thing toward the last horizontal strand and connect the hooks all along it. The cage won't be perfectly round and doesn't have to be. But bend it by pressing until it's at least neat.

It might take a few minutes to learn to pull a wire here, push a section there, press the cage somewhere else to get it pretty even and to get the hooks to stay in place up and down the horizontal wire.

While learning to do this you can practice swearing. Anyway, after about the third cage, you can cut the wire, bend the hooks and make the whole cage in ten minutes or less.

This concrete reinforcing wire is rusty. Concrete doesn't stick well to galvanized wire so I don't think you can get it galvanized and fencing wire isn't as strong. In your own garden you may not care, since there's never enough rust to really soil your hands as you pick. However, it looks better painted. Just cleaning your brush on the outside only take a little while and covers most of the rust.

You might spray-paint the cages before bending them. After making the hooks, spray-paint the upwardly curved side with the nozzle on the most misty setting. Then put another on top and spray-paint it and so on. When the stack dries there won't be enough rusty spots to notice and certainly not enough to get a customer dirty.

With this raised bed system you can also have a greenhouse for each tire. The tire greenhouse is made of 6 ML greenhouse plastic ordered through any hardware store. An 8 x 100 foot roll costs about $20 and makes 16 greenhouses for the caged tires or 32 for those without cages.

This mini-greenhouse lets you begin your garden two months before the regular growing season. It also lets you keep growing two months after the first frost. That way you'll get three garden crops a year instead of two.

From "TIRE RECYCLING IS FUN"
by permission

To make these mini-greenhouses, first roll out and cut four 6 foot lengths of plastic. Fold each over sideways and close the top and side with 2 inch wide masking tape, neatly so there is one inch on each side. Then run a hot iron slowly down the tape on the top and side, on both sides of the tape, being careful not to get the iron on the bare plastic. This will melt the plastic so there will be a permanent bond. To be sure, put staples every four inches along the tape.

Take your pipe and bend the wires protruding over the tops of the cages inward so they don't poke holes in the plastic.

The greenhouse will fit loosely over the cage and then over the tire. It can be raised as high as needed to get at the bed and for picking and performs all the functions of any greenhouse. It is very stable around the cages since they are put in the tires before the soil is added.

The plastic is guaranteed for two years on a greenhouse. This is for year-round, all weather. These mini-greenhouses would be used only two months each in early spring and late fall. They wouldn't be subjected to the hot summer sun or the winter snow. Just using them when necessary and storing them in winter and summer, they could last twice as long.

Since 100 feet will make 16 six foot greenhouses or 32 four footers, they are indeed inexpensive. That's only $1.25 for the caged tires and $.63 each for the smaller ones. The smaller ones would be supported by two 2 1/2 foot sticks stuck in the sides of the tires.

So much for the basic tire garden.

Another use for the tires is in making compost. This is simply rotted organic matter such as weeds, garbage, manure and anything else that will break down. Compost is your basic soil conditioner. Gardening magazines show many designs for making composters. They usually involve a lot of wood frames, chicken wire and such and can run into money.

With tires, you can make excellent composters at no cost at all. Simply cut six standard tires at the treads, both sides. Put one down on the bare ground, unless you have a cement or board surface. Fill the first tire, then put on another. Keep filling and stacking until you've used up all your organic matter, and if you have more, ready another set of tires.

After a couple of weeks, lift off the top tire and lay it down beside the stack. Then shovel what was in the top tire into the one on the ground. Repeat with the next and so on. That's all there is to turning compost. In a few weeks, when it all has an earthy smell, it's ready to mix with soil.

Now for the economics of the tire garden.

If it's just for yourself and your family, you can just raise all the veggies you can eat and sell the surplus. Just charge 30% less than the stores and you'll sell all you can raise.

You could supply every restaurant for miles around. Organically grown fresh garden vegetable taste ever so much better than those trucked in from out-of-state. Tomatoes, alone, grown in real soil, locally, have a taste no industrial tomato factory can match. Organic Gardening has had several articles about people who make a good living growing nothing but tomatoes.

Say you have a fairly large garden space of 100x100 feet. For an initial investment of a few hundred dollars, you could lay out a couple of hundred

tires which could compete with any wholesale seller of vegetables.

I'm not going to teach you how to garden. Your library has dozens of good books covering every step of the art. I might suggest, however, that you specialize in just three or four vegetables, get a reputation for quality and freshness and make an excellent living growing and selling them. But you might rather sell tire gardens themselves. Start with 10 tires, four cages (two for tomatoes, one for cucumbers and one for squash). Add the planting medium.

The tires cost nothing. The cages cost $4.08. The planting medium (two parts soil to one part compost) may cost up to $5.00 per tire, or considerably less. Paint, may be a dollar, and your materials cost is under $60.00. Of course, there's labor. But if you have a couple of buddies, or make it a family business and sell the 10 tire complete gardens for $250.00, you'd get about $190.00 profit or more. Aside from processing, delivery and setup shouldn't take more than a couple of hours.

Marketing tire gardens is easy.

They would sell mainly to older people who couldn't go get the tires, cut them and fill them but would be delighted to plant, care for and harvest them. Most older people would shell out $250.00 in a minute to insure a large portion of their food for the rest of their lives.

So even if you don't appreciate this idea, older people will. And there will be a market for all the tire gardens you can produce. But there are a lot of mature young people, too. Not all of them are physical enough to gather the materials for the gardens but would welcome them ready-made.

It's no trouble to get soil and compost. Look up "landscaping" in your Yellow Pages. They'll deliver soil at well under 50 cents a cubic foot, compost and whatever you need, by the truckload. If you just want to set up a tire garden for yourself, your local nursery and garden supply can sell you everything you need at a reasonable cost.

To run such a business, all you need is the simple, cheap and easily available equipment described in this article. You will also need a standard pickup truck, which you may already have. If you don't have one, get one. If

you drive a car, trade it in for a pickup. If you're going into any kind of business involving hauling, you need a pickup, anyway.

Now to selling the service.

First you set up sample tire gardens, featuring all the ideas in this article and ideas you will come up with. You might even stock a supply of bedding plants, seeds, garden tools, etc., when you've become established. But with your sample gardens, it would be best to have them already started, plants and all. Then contact your local newspaper and they'll be glad to do a feature story.

Put an ad in the same issue saying, "**Come and see our tire gardens and let us set up one for you!** " People will start coming around and you'll have all the business you can handle from then on.

Don't be afraid others will compete with you. You'll have the jump on any competition if you do a good job, and people will choose you over the competition.

Be sure to order the tire recycling book. It will give you many more ideas for using tires both around your place and to make a good, low-overhead living.

TIRE GARDEN UPDATE
This short update will appear in THE SURVIVOR (formerly Shoestring Entrepreneur) Volume 9, Issue 3
By Kurt Saxon

I made a tire garden, as described in my article, "Making And Selling Tire Gardens", issue 2 of Shoestring Entrepreneur. It was very productive and easy to work.

However, my advice to leave the bottom side of the tire uncut was unwise. It didn't act as a reservoir. I had some of the tires taken up at the end of the season to replace some of the soil I had mixed improperly. I found the bottom rims root-bound.

Also, I had decided to have the tires turned inside-out and this can't be done unless both sides are cut out. Turning the tires inside-out has five advantages. First is that the deep-rooted plants can go deeper without being stopped by the rim. Second is that the tires gain an inch or more in height. Third is that they are straight instead of rounded, making for slightly more space. Fourth, they save paint, as the treads take up much more paint that the smooth insides. Fifth, if you are selling tire gardens, you can pile them like rubber bands in your pickup, using up less space.

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If the tires are laid out against a fence or wall, there will be spaces between the curvatures of the tires and the backdrop. Instead of filling these spaces with something to prevent weeds, it is best to fill them with soil, as each space amounts to about a square foot of growing area. These can be planted with a few onions, carrots, beets, etc.

If the backdrop is a wire fence, cardboard or plastic can be put alongside the fence to keep the soil from going through. A ten-tire layout will have four one-foot square spaces between the curvatures. These spaces can also be planted with a pepper plant, an okra plant, an eggplant, etc.

Rather than use pliers to bend the projections from the tops of the reinforced concrete wire cages and the hooks to connect the sides of the cages, I discovered a better tool. It is simply a six inch length of 3/8 inch outside diameter galvanized pipe from the hardware store. This is perfect. You simply put the pipe over the projection, the length you want, and bend. This is ever so much easier and quicker.

In regards to the plastic mini-greenhouses for caged plants, they are practical. However, ironing their edges is too uncertain in bonding the plastic. A better way is to put the masking tape on as instructed, then with a regular stapler, staple the masking tape and plastic about one inch in and

three inches apart. This should hold it together in anything less than a tornado.

Also, you don't need to space the tires two inches apart to accommodate the bottom of the plastic. Just place any sort of weights, such as rocks, around the bottom, resting on the tire rim.

A double use for the concrete reinforcing wire is for a portable cold frame over the tires in early spring and late fall. First bend the wire so it covers both sides of the tops of the tires. Then lay plastic over it and weight it on both sides and the ends. Of course, this is for your shorter plants.

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ON THE HORIZON: FAMINE

By Douglas S. Winnail, Ph. D., M.P.H.

From The World Ahead, Sept-Oct, 1996

Perhaps you have been too busy to notice, but the concern about our global food supply is real! Major news magazines are reporting that after a quiet few decades, talk of a world food crisis is again in the air. Government leaders, economists and scientists are seriously pondering such sobering questions as: Does the world face a global shortage? and Will the world starve? There *is* a growing sense of urgency.

In November 1996 the United Nations Food and Agricultural Organization will convene a World Food Security Summit in Rome. The conference was called due to growing concerns that shrinking world food reserves, rising prices and the declining production of food grains could be the precursors of an imminent food security crisis. Dr. Jacques Diouf, the FAO Director-General, has stated, "**The very survival of humanity depends on world food security** ".

Just what does the future hold for humanity? Will there be enough food to go around? What does a look at *all* the evidence indicate? And how will this issue affect *your* life in the months and years ahead?

HOW LONG BEFORE THE CUPBOARD IS BARE?

Numerous sources document that global supplies of rice, wheat, corn and other key commodities have dwindled to their *lowest levels in years* . The U.N. recently warned that food stocks stand *far below* the minimum needed to provide for world food security. The world's grain harvest has not increased in any of the last five years, and since 1992 world grain consumption has exceeded production... this year--for the first time since World War II--**there are basically no surplus stocks in government-owned reserves.** The tight supplies have led to steep price increases for wheat, rice, and corn. Grain stockpiles have fallen particularly fast in the U.S. and the European Union as a result of agricultural reforms that have

focused on reducing overproduction and selling off surpluses--primarily to China--to gain revenue from exports. Bad weather and a string of poor harvests in grain producing areas of the world have also contributed to the dwindling reserves.

A CRISIS AHEAD?

Opinions are sharply divided over what the future may hold. The world's food economy may be shifting from a long-accustomed period of overall abundance to one of scarcity and that **food scarcity will be the defining issue in the future.** The lack of growth of the world grain harvest since 1990 coupled with the continuing growth in world population and the increased likelihood of crop-damaging heat waves in the years ahead at least carries the potential of *severe food shortages* . U.N. sources suggest that with grain stocks dangerously low serious food shortages could result if there are major crop failures in 1996.

These pessimistic predictions for the future are countered by voices claiming to be more rational and optimistic. They argue that present shortages in food reserves are merely a temporary blip on the food charts and that relief will probably come with this year's harvest. The optimists believe returning idled land to production will assure enough food for growing populations. They also have faith that biotechnology will develop new varieties of plants, boosting production. Julian Simon, a business professor at the University of Maryland, downplays doomsayers and the fears of famine. In Simon's opinion, "For some 25 years they have been wrong, and they have not changed their minds. Why should they be believed?" From Simon's perspective the record of history is progress, and life has never been better.

Who should you believe? Is there really an impending global food crisis? Has anything changed in 25 years since the doomsayers began sounding the alarm? Are there reasons for concern?

POPULATION PRESSURES INCREASE

A prime concern is that, in spite of falling grain reserves and the leveling off of production, worldwide grain consumption continues to grow. This increase is driven by two factors: growing populations and improving

lifestyles. Both are placing increasing strains on world food supplies.

Since 1950 world population has more than doubled--surging from about 2.5 billion to more than 5.8 billion people. Globally, it continues to grow (by any historical benchmark) with *extraordinary speed* . As populations grow, demand is certainly rising fast. Every year there are 90 million more mouths to feed in developing countries. As consumers become richer, they develop a taste for meat, and it takes a lot of grain to fatten livestock. The basic question is: Will we be able to feed 90 million more people each year **when grain production seems to be leveling off** ? Keep in mind this is in addition to the *biblical scale of hunger* that exists already. About 800 million people in poorer countries are chronically undernourished *right now* !

SHIFTS TO DEPENDENCY

Another worrisome trend is described by Stanford University biologists Paul and Anne Ehrlich. Fifty years ago "most regions of the world were *self-sufficient* in food production, and many exported grain. Since then, for various reasons, the pattern has dramatically changed; more than 100 nations now import grain from the United States, Canada, Western Europe, Australia and a few other surplus producers.... Nearly all developing nations have become *dependent* on grain imports to keep their populations adequately fed.... **This growing worldwide dependency on a mere handful of suppliers for basic foodstuffs could itself spell trouble for global food security** ".
This shift to dependency has ominous implications for the future. As nations industrialize, people move from rural farms and villages to the cities, leaving fewer laborers to produce food. Agricultural skills are lost and more people become dependent on distant food supplies. Prime agricultural land is permanently lost to urban development, reducing the acreage available to grow food. In just two years, China turned from exporting grain to Japan (8 million tons) into the world's second largest grain importer (16 million tons). Some are concerned that, if this ominous trend is not reversed, China would need to import virtually **all the grain available for export** in the world.

TECHNOLOGY--A PLAYED-OUT SAVIOR?

Optimists are quick to point out that a major reason why pessimists were

wrong in their predictions for widespread famine in the 1960s was their failure to anticipate the arrival of the "green revolution" with its new strains of high-yield seeds, chemical pesticides, increased use of fertilizers and improved irrigation. These four factors kept grain production ahead of the doubling population. The predicted worldwide famine did not materialize. But were the doomsayers wrong--or only premature?

Paul and Anne Ehrlich, among others, suggest that yield increases from green-revolution technology *may now be playing out.* Worldwide fertilizer use, which increased over 1,000 percent during the green revolution years, has been declining for several years in a row. Insects are developing resistance to pesticides. Underground aquifers used for irrigation are being depleted.

While plant scientists talk of continuing to boost grain production through biotechnology, the Ehrlichs--both biologists--suggest, no promising new technology appears on the horizon that could carry the process (green-revolution technology) further on a global scale. From their perspective, a big jump in agricultural productivity resulting from advances in biotechnology is *not foreseen* .

With the green revolution apparently running out of gas, numerous observers are warning that the globe is on the brink of a new era of food scarcity. In fact, the growing dependency on bioengineered crop varieties may contain the seeds of our own destruction.

FRAGILE FOOD CHAIN

Today our food supply depends upon a few hybridized varieties of a very limited selection of plant species--primarily wheat, corn, rice and potatoes. These plants are genetically bred for uniform qualities of color, size and texture while other traits are eliminated. What many do not realize is that reducing the genetic base in this way may boost efficiency, **but it also increases the risk that one type of pest will infest a whole harvest.** When entire fields or regions are planted with just one hybrid variety of a single crop--such as Russet Burbank potatoes that McDonald's prefers to make French fries with--you have a potential disaster waiting to happen. It has happened before!

The Great Irish Potato Famine in the late 1840s developed during a series of wet growing seasons when a fungus from Europe spread through many fields planted with a *single variety* of potato. The collapse of this crop was catastrophic. Over a million Irish died and millions more emigrated to escape the horrible conditions spawned by a "sinister trend toward monoculture," oppressive political decisions and unusual weather. Now a new strain of this same fungus has *reappeared* in the 1990s and is sweeping through potato fields in much of Europe and North America and parts of South America, Africa, Asia and the Middle East. The aggressive new strain is resistant to commonly used pesticides and has been called one of the worst crises to ever strike the U.S. potato industry. It has the potential of causing serious problems to our food supply if wet weather develops.

However, the potato blight is only one part of a very disturbing picture. Karnal bunt fungus has turned the 1996 durum wheat harvest in the southwestern U.S. into a nightmare. A soybean fungus, for which there is no known treatment, has appeared in Hawaii. Reports are also surfacing that genetically engineered plants designed to withstand herbicides can pass those new genes to nearby weeds. The European Union recently refused to approve the sale of a genetically engineered variety of corn, fearing the genes for antibiotic resistance might be passed on to cattle and humans.

The impressive methods of modern grain production rest on a **very narrow and fragile genetic base.** Our future harvest could be likened to delicately balanced houses of cards--highly susceptible to sudden changes. However, there is one more unpredictable factor that is capable of dramatically affecting the size and quality of global food supplies.

WEATHER--A WILD CARD!

What is seldom stated is that optimistic forecasts for increasing grain production are based on critical long-term assumptions that include normal (average) weather. Yet in recent years this has *definitely not* been the case. Severe and unusual weather conditions have suddenly appeared around the globe. Some of the worst droughts, heat waves, heavy rains and flooding on record have reduced harvests in China, Spain, Australia, South Africa, the United States and Canada--major grain growing regions

of the world--by 40 to 50 percent. As a result grain prices are the highest on record. Worldwatch Institute's president, Lester Brown, writes, "No other economic indicator is more politically sensitive that rising food prices.... Food prices spiraling out of control could trigger not only economic instability but widespread political upheavals"-- even wars.

The chaotic weather conditions we have been experiencing appear to be related to global warming caused by the release of pollutants into the earth's atmosphere. A recent article entitled "Heading for Apocalypse?" suggests the effects of global warming--and its side effects of increasingly severe droughts, floods and storms--could be catastrophic, especially for agriculture. The unpredictable shifts in temperature and rainfall will pose an **increased risk of hunger and famine** for many of the world's poor.

With world food stores dwindling, grain production leveling off and a string of bad harvests around the world, the next couple of years will be critical. Agricultural experts suggest it will take ***two bumper crops in a row*** to bring supplies back up to normal. However, poor harvests in 1996 and 1997 could create severe food shortages and push millions over the edge.

Is it possible we are only one or two harvests away from a global disaster? Is there any *significance* to what is happening today? Where is it all leading? What does the future hold?

The clear implication is that things will get worse before they get better. Wars, famine and disease will affect the lives of billions of people! Although famines have occurred at various times in the past, the new famines will happen during a time of unprecedented global stress--**times that have no parallel in recorded history--at a time when the total destruction of humanity would be possible!**

Is it merely a coincidence that we are seeing a growing menace of famine on a global scale at a time when the world is facing the threat of a resurgence of new and old epidemic diseases, and the demands of an exploding population? These are pushing the world's resources to its limits! The world has *never before* faced such an ominous series of potential global crises at the same time!

However, droughts and shrinking grain stores are not the only threats to

world food supplies. According to the U.N.'s studies, all 17 major fishing areas in the world have either reached or exceeded their natural limits. In fact, nine of these areas are in serious decline.

The realization that we may be facing a shortage of food from both oceanic and land-based sources is *a troubling one* . It's troubling because seafood--the world's leading source of animal protein--could be depleted quite rapidly. In the early 1970s, the Peruvian anchovy catch--the largest in the world--collapsed from 12 million tons to 2 million *in just three years* from overfishing. If this happens on a global scale, we will be in deep trouble. This precarious situation is also without historical precedent!

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Saving Money With A Thermos Bottle

By Kurt Saxon

Many subscribers write that they will eventually buy all my books but they can't afford them at this time. Many are students on limited allowances. Some are on Social Security or pensions. Others are on Welfare, as I was after an injury, when I got $86.00 per month in l969. I paid $50.00 for rent and had only $36.00 left for food and incidentals. Even so, I ate better than before. Prices were indeed lower then but, surprisingly, the costs of the more basic foods have hardly changed.

For instance, 60 pounds of hard red winter wheat, the highest in protein, minerals and vitamins, averages $8.00 (240 breakfasts at 4 cents each). Brown rice, also higher in nutrition than white, costs $14.00 for 25 pounds. Also 200 servings since rice swells twice as large as wheat. These are bought in bulk at any feed and seed store.

Wheat and rice are the staple foods of billions and, if prepared my way, will fill you up, give you boundless energy; and cost nothing, if you consider that the saving in gas or electricity will offset their purchase prices.

I do not mean that wheat and rice, plain, is what I am asking you to live on. When is the last time you have eaten a potato plain? I am simply suggesting you process all your food in inexpensive, energy-saving ways and eat better than you ever have for less than $10.00 per week. Then you can not only afford all my books but many other things you have wanted but had to do without because most of your food budget goes to pay others to do what you should learn to do for yourself.

The thermos and the dehydrator are first steps in eating better for so much less. As a Survivalist, you will have to understand food preparation or you might as well eat, drink and be merry in the short time you have left.

A great factor which makes this practical and easy to understand is that since it is by a man, it is basic, gut-level and moron-simple. You won't even need to open a cookbook.

First the thermos. There are three kinds but only one is practical. Forget the cheap, plastic ones lined with Styrofoam. These might cook oatmeal and white rice but do not have the heat holding power you need. Silvered glass thermoses are fine, but a bump will break them. Also, since you are going to do actual cooking and will use a fork to remove the contents, they will not hold up.

The only practical cooking thermos is the Aladdin Stanley. It is lined with stainless steel, is well insulated and will keep steaming hot for up to 24 hours and holds a quart. It is also unbreakable, with a lifetime warranty. It costs $22.00 at Wal-Mart or can be ordered through any sporting goods store. It would save you its price in a few days. If you have a family, get two or three.

Most foods cook at 180 degrees or more. We are used to boiling, which is 212 degrees, and foods do cook faster, the higher the temperature. But if time is not important, cooking at a lower temperature is even better as most vitamins are not broken down. Thus, if you cook at a minimum heat, you save nutrition.

A great factor in thermos cooking is the saving in the cost of energy. Whereas it would take about two hours to cook whole-grain wheat or nearly an hour to cook brown rice. Thermos cookery takes only five minutes to cook anything. So it is indeed possible to save as much in energy as you spend on the food. You can imagine the convenience of thermos cookery in camping, which would save on wood, weight of food carried, and no food odors to alert bears or enemies.

Thermos cookery is also an advantage to anyone living where he is not allowed to cook. There are no cooking odors to tip off the landlord.

First, you need the thermos. Then you need a heat source. If you are in a non-cooking room, buy a cheap, one burner hot plate from your local Wal-Mart, Target, Sears etc. You will need a one quart saucepan. You will also need a special funnel to quickly pour the pan's contents into the thermos, plus a spoon or fork to help the last of the food into the funnel.

To make the funnel, cut off the bottom four inches from a gallon plastic milk container. If you do not buy milk or cannot find an empty container, go to

your nearest laundromat. You will find in the trash receptacle, an empty gallon bleach bottle. Use that the same as the milk container but wash it until there is no more bleach odor.

The first step in thermos cookery is to fill the thermos with water up to the point reached by the stopper. Empty the water into the saucepan and make a scratch or other indelible mark at the water's surface inside the saucepan. This will allow you to put just enough water in the saucepan, as too much will leave food out and too little will give you less cooking water.

Just to test how the cooker works, start with four ounces of wheat. You do not need to buy 60 pounds. You can buy two pounds from your health food store for about $.80 This would give you eight meals at 10 cents each.

In the evening, put four ounces in your saucepan, plus a half-teaspoon of salt to prevent flatness, even if you intend to sweeten it. Fill to the mark with water. (If you have hot water, let the tap run until it is hottest. Tests have shown that less energy is used in using hot tap water than in boiling from cold.) Bring the contents to a rolling boil, stirring all the while. This will take from three to five minutes.

Then quickly, but carefully, swirl and pour the contents into the funnel and help any lagging matter from the pan to the funnel and into the thermos. Cap firmly but not tightly, shake and lay the thermos on its side, to keep the contents even.

Next morning open the thermos and pour its contents into the saucepan. With four ounces of dry wheat, you will now have at least 3/4 pound of cooked wheat and about a pint of vitamin and mineral enriched water. It has a pleasant taste. Drink it.

You can now put milk and sweetener on it or margarine, salt and pepper, etc. If you can eat the whole 3/4 of a pound, you will be surprised at how energetic you feel for the next several hours. An added bonus is its high fiber content.

Having tried the four ounce portion, you might next use eight ounces. This will absorb most of the water. It is unlikely that you could eat a pound and a half of cooked whole grain wheat. You can either divide it and eat the other half for supper or if you are a family man, make it the family breakfast food

to replace the expensive brand.

If you have children, get them into the act by fantasizing they are Rangers on a jungle patrol.

For lunch, prepare a few ounces of hamburger or other meat chopped finely, plus chopped potatoes and other vegetables the night before. After breakfast, put these and the right amount of water in the saucepan and prepare as usual. At lunchtime you will have a quart of really delicious stew. Since nothing leaves the thermos in cooking, as contrasted to the flavor leaving stew cooking on the stove, you can understand the better tasting, higher vitamin content of thermos stew.

Lunch and possibly supper should not cost you more than 25 cents if you study the article on the dehydrator. Jerky and dried vegetable stew is good and costs little.

The brown rice dishes could also be either a main course or desert. Brown rice has a much greater swelling factor than wheat so four ounces of rice will pretty much fill the thermos. You can put vegetables and meat in it to cook or try a favorite of mine. It is four ounces of brown rice, 9 cents; one ounce of powdered milk, 10 cents in a large box; two ounces of raisins, 22 cents; one teaspoon of salt; some cinnamon and four saccharine tablets. Cook overnight. This is 46 cents for 1 1/2 pounds of desert.

With some experimenting, you can become an expert in thermos cookery. If you are single and live alone, you could, conceivably, eat nothing except what you cooked in a thermos. But if you are married, and especially if you have children, don't push it. Even with the economy of this system, it's not worth alienating your family. If your wife doesn't like it, challenge her to make the food tastier and think up some thermos recipes. You might also tell her the advantages of thermos cookery.

For one thing, she would spend much less time in the kitchen. What with the expected brownouts, she could do all the cooking in five, ten, fifteen minutes, depending on how many thermos bottles she used. Another important factor is that, especially during the heat waves, the home would not suffer the added heat from the kitchen. This would also cut down on the air conditioning costs.

A tip you may not have known is that the pilot light in a gas stove not only raises the temperature in the kitchen but also accounts for a fourth of all the gas burned in the stove. Matches are much cheaper. Turn the pilot light off.

Be sure to get SURVIVOR Vol. 1 for a full course on inexpensive but tasty and nourishing food, plus sprouting for green vegetables, soy milk, tofu, etc.

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THE BACK YARD FISH FARM

The text and illustrations of this article are from Organic Gardening and Farming January, 1972

The new series *of reader* research projects starts with an exciting plan to turn grass clippings into organic *fish.*

Dr. John H. Todd *with* Dr. William 0. McLarney, *Director of Aquaculture*
Studies for the New Alchemy Institute

OVER THE PAST FOUR MONTHS in the series "Shaping an Organic America" I have dealt with the urgent need to create a science and biotechnology which will permit revitalization of the countryside along organic and ecological principles. It is my belief that if such a science is developed and its findings put into practice, an ecological crisis of saddening dimensions can be averted. I have also pointed out that there is no guarantee for the development of a truly ecological science by the scientific community alone. Most scientists simply are not trying to set examples for the future by living and working with the earth. Because of this, the recommendation was made that the science for the organic method should marshal the participation of many, many people from all walks of life arid particularly you who are already working with the land. If this were to happen, then a true restoration of the countryside might be possible. I know that this is a tall order and no doubt the concept will be scoffed at by many scientists. Yet, my confidence in the whole idea of the Readers' Research Program has been bolstered by the letters I have received following my article in the November issue of OGF. Several really ingenious and even brilliant ideas have been presented by a number of people. (In a future issue I would like to describe some of these exciting plans and discoveries which are not directly associated with the experiments outlined in this column.)

EDITOR'S NOTE: An extensive bibliography of articles and books for more detailed information on fish farming has been prepared by Drs. McLarney and Todd. For a copy of the brochure of references and source materials, please send 50 cents to "Aquaculture Bibliography," Rodale Press, Inc., Emmaus, Pa. 18049. (*I left this paragraph in place just so it could be said that I posted this article in it's entirety. But since this work is 25+ years old, I doubt very seriously if you'll find any of it's references still viable.---Cary*)

In the entire history of man, there has probably never been a period quite like now when so many people feel a sense of despair and helplessness towards the future. I think this can be changed if enough people are able to see even the slightest possibility of embarking upon a personal course of action which will truly benefit the planet as well as themselves.Organic gardening, farming and homesteading are among the most positive steps that can be taken in this direction. Involving ourselves in creating a science for tomorrow is a commitment upon which so much will depend. This month inaugurates the ***Readers' Research Program*** and for many of you working with us, it will be a way of beginning, in the words
of Bob Rodale, "1972 as the Year for Organic Action."

Introducing the Readers' Research Program

New Alchemy Institute scientists, with the support and collaboration of the editors of ORGANIC GARDENING

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And Farming magazine, will be working with you to organize a widespread, continuing research program to investigate many of the important organic concepts. As gardeners and homesteaders you will have the opportunity this year to become involved in any one of at least three scientific projects.

Besides the Back Yard Fish Farm research which is described in this article, the second project will involve a country-wide search for the most pest-resistant varieties of vegetables. At the present, this essential information is not widely available to the organic gardener.

The third Readers' Research project planed for 1972 will investigate ecological design in agriculture. Specifically, we will compare complex interplantings of vegetables in home gardens with single or monocrop plantings. Soil fertility, resistance to pests and a number of other variableswill be measured and the differences between the two approaches will be analyzed.

I would like to begin by describing the way in which the Readers' Research Program will be organized. Each of the research projects will be outlined in these pages. After you have read the articles outlining the projects, if you are seriously interested in working with us on a specific experiment, please inform us of your intent to become involved. The address is: The New Alchemy Institute, Box 432, Woods Hole, Mass. 02543. After you contact us we will send

further instructions on how to set up the experiments, what equipment you will need, where to get it, and how much it will cost.

There is one point I would like to emphasize at this time. If the research program is going to succeed and be an important source of information, please do not ask us for project instruction booklets unless you honestly intend to carry out experiments with us, and have the space and facilities to do so. The booklets cost money, and replying to casual inquiries takes up valuable time. Since we are operating this program on a relatively low budget, the time and money you save us will give us a greater opportunity to work toward the success of the program. All the information you need to make a decision about your participation can be made on the basis of what you read in this column. The booklets will only add the "how-to" details and outline some of the potential pitfalls that the investigator needs to know about.

The organization of the first project, the Back Yard Fish Farm, will be slightly different. It is possible that the number of people who would like to become involved will exceed the supply of brood stock which we have available. Thus, we will have to limit the study to match the supply of fish. The procedure for the Back Yard Fish Farm will be as follows: First, if you are seriously planning to get involved, contact us. Then, just prior to constructing the dome and installing the pool, you must contact us again to see if the fish are available. If we say yes, fish will be reserved for you. When the fish farm is built and a picture of it sent to us, we will ship the fish for the experiment.

Becoming involved in a research program may also provide a bonus that you may not have counted on; you will get to know the nearest organic gardener-scientist working on the same project. If at all possible, we will try and send you the address of the nearest participant, so that you can work together if you wish.

As the growing season proceeds you will continue to collect scientific data. At the end of the season your results will be sent to us for tabulation and be included with the findings of other investigators. Finally, we will describe the results in these pages and in research publications. Within a few years we will be able to make recommendations to you that have a large

and meaningful body of knowledge to back them up. It is just possible that the Readers' Research Program will help create the wisdom that will guide those of

us who are working with the land.

The Back Yard Fish Farm, A Revolutionary New Way To Raise Foods at Home

Dr. William 0. McLarney and I are working together to organize the Back Yard Fish Farm research. The project involves a totally revolutionary concept in agriculture. If it should prove successful, fish farming, on a small scale at least, could become a common practice throughout the country. We are proposing that you raise fish in a small pool inside a geodesic dome using intensive culture methods. You will create tiny fish farms which are organic and capable of producing foods of excellent quality. If you have ever enjoyed keeping an aquarium of tropical fishes, then I think you will receive the same pleasure as well as a food crop from the Back Yard Fish Farm.

In the November issue of OGF, I described some of the thinking and theoretical concepts which went into our Back Yard Fish Farm prototype. I also outlined the reasons for choosing herbivorous fishes from the tropics and using the dome to create a suitable climate. I think it would be wise to reread that article, as space limitations prevent my repeating it. This research project will use the same methods and fish (tilapia) as we did in our prototype.

What I didn't point out in the November article is the necessity for developing organic methods in aquaculfure. It has become clear to us that organic fish products are desperately needed in this country. The area of Cape Cod in which Bill McLamey and I live is dotted by tiny lakes, many of which provide good fishing. Bill, an ardent fisherman, can be seen often casting for pickerel, perch or bluegills. His harvest is an important source of food for a number of us. Since fish are one of the most complete, health-giving foods, we usually jump at the chance to eat them — or at least did, until a pesticide-chemist friend examined our fish. The little pond in the woods, far away from industry and agriculture, is contaminated. The perch we were eating had up to 40 parts per million of DDT in their fatty tissues. This is far above the allowable limit for foods. We already knew that many marine fishes are contaminated with a variety of harmful substances, but the pond was the last straw. We had to start figuring out ways to grow fish organically and cheaply and we had to do it soon. Philosophically, we were committed to small-scale intensive systems, based upon ecological and organic principles. If the fish were to be relatively poison-free, their diet would have to consist of aquatic plants and algae; this would shorten the food chain and make the system more productive while less prone to accumulating harmful

substances in the fish. The prototype we developed will act as a model for the initial OGF research project.

How To Do It

The first task of the experimenters in the Back Yard Fish Farm research will be to build an inexpensive geodesic dome which will house the pool for raising the tilapia. Tilapia are excellent and much revered tropical fish which will primarily eat the algae you grow right inside the pool. In order for the tilapia to grow to an edible size, which is about one-half pound, a growing season that's at least six-months long in water that is normally well above 70 degrees F. will be required. The dome provides these high temperatures by trapping the heat from the sun, which is stored in the pool and transformed into algae growth. The fish will die if the temperature drops much below 60 degrees F. Their vulnerability to cold is one of the reasons we chose this

fish. If some careless person ever takes them out of the dome and puts them in a local stream or lake they will not survive the winter to upset the natural ecosystems. This is not true for the Imperial Valley in California, parts of southern Florida and southern Texas. Although tilapia are now found wild in these areas, we do not plan to aggravate the problem of exotics by conducting experiments in these regions where they can survive outside the dome.

The dome is a very effective heat trap and the pool is quite an efficient heat retainer. At the time of this writing, which is late October, the water temperature in our prototype Tilapia-Dome is still in the 60s even though the outside temperatures have been dropping near freezing at night. With the addition of a little bit of heat, we have been able to push the temperatures up into the 70s during the cool days of fall. With design improve ments in the dome, we think that even in our climate, the addition of heat will not be necessary in the future.

Building the Dome

Building a geodesic dome is relatively easy and inexpensive. You should plan on two or three days to complete the task. Some of you living in the more southerly regions of the country will be able to build them for less than $50. More sophisticated structures, incorporating a double skin of clear greenhouse vinyl with an air layer in between to prevent heat loss, will last for a number of years but could run as high as $200 for materials.

Feeding time in the tilapia dome. Their main diet will be the algae which grow in the pool, but it should be enhanced with small amounts of insect larvae.

complete the task. Some of you living in the more southerly regions of the country will be able to build them for less than $50. More sophisticated structures, incorporating a double skin of clear greenhouse vinyl with an air layer in between to prevent heat loss, will last for a number of years but could run as high as $200 for materials.

Our prototype was a dome 18 feet in diameter, although we wished that it had been larger. One problem was that we couldn't move around the 15-by-10-foot pool inside. This was annoying as I had wanted to start some plants growing inside, and to do more insect-culturing research to provide new kinds of supplemental foods for the fish. The optimal size for domes to be used in the Back Yard Fish Farm would be 25 feet in diameter. This size should provide freedom to work inside while allowing a greenhouse area. All of our future research domes will be of the larger size. Costs begin to shoot up drastically when the diameter exceeds 25 feet. Our dome was built by Multi Fassett and Marsha Zilles of Earth House in Cambridge. The plans they used and strongly recommend for the Back Yard Fish Farm research can be obtained from Popular Science magazine, 355 Lexington

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Avenue, New York, N.Y. 10017. (Ask for the Sun-Dome Plans.) The plans and instructions cost $5 and include a license to build it from the inventor, Buckminster Fuller. You should also read Knight Starr's OGF article in the September 1971 issue on the geodesic greenhouse. Although this dome is too small for the fish experiments, he does provide a lot of valuable information. If any of you have access to a cheap supply of window glass, you may be able to build an experimental dome which will last for many years.

The Pool

The pool can be any type of children's swimming pool, which varies in price from about $40 to $100. We used a 15-by-10-by-4-foot-deep, almost rectangular pool with a 3,400-gallon capacity. We assumed that this shape would be more conducive to breeding fish, but this original supposition was not correct. A 12-to-14-foot-diameter pool, 3 feet deep would do just as well and cost much less. The volume of this pool would be close to that of the prototype since we only filled ours to a depth of three feet.

There is an alternative way of constructing a pool which would be less expensive: digging a pond in the ground, about three or four feet deep and 12 to 15 feet in diameter. Since we haven't tried this method, we don't know how well it will work. If your soil is heavy and contains clay, lining the pool to prevent water seepage will not be needed. One problem that we can foresee with the pond-pool is the loss of heat from the water into the surrounding soils. This might be minimized by the use of an inexpensive liner combined with a good insulating material.

Fish for the Back Yard Fish Farm

Tilapia, a tropical fish native to Africa and the Near East, will be used in the experiment. They eat algae, the microscopic plants that color lakes green. This coloration is especially prevalent in the summer months. Because it is possible to grow algae in huge amounts and at almost no cost, algae-eating fish can be raised quite cheaply.

Each of the experimenters participating in the project will receive one pair of tilapia parents from us. The only cost to you will be shipping and handling fees, which might run as high as $25, depending on where you live. However, if they survive and breed, this will be the only investment in tilapia you will ever have to make. Once established, the parents will be capable of producing thousands of

young per year. This will supply you with plenty of offspring and you will be able to pass them on to any friends who may be interested in starting their own Back Yard Fish Farm.

Place the adults you receive in the dome pond. As soon as the temperature climbs to the low 80s they will start to breed and lay eggs which they care for in their mouths. Don't panic at this stage; they are not eating their young. Tilapia are members of a group of fishes known as mouth-breeders. After the brood is hatched and swimming freely about the pool, the parents will breed again if conditions are right. This process should continue until an optimal population density for your experimental pool is reached. If, after sampling the population, you find that there are more than 500 fish in the pool, you should pull the parents out to prevent overpopulation and stunting of the residents.

After the first year's growing season is over, if the conditions have been favorable, you will have an excellent crop of edible fish. These can be frozen or stored live in aerated tanks for eating fresh as needed. The Malayan peoples in the Orient often store their live fish in rain barrels just outside the back door. Fish that are not of edible size can be held over the winter in warm tanks exposed to sunlight, or they can be fed to the chickens or

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pigs as an excellent high-protein organic feed. The idea of feeding livestock herbivorous fishes is not as crazy as it sounds. At present, we are experimenting with growing tiny herbivorous fish, to be cropped at a small size, as a future source of organic food for poultry — but more about that in a later issue. A small number of fish should be held over the winter. That way you will have brood stock the following spring.

Food for the Fish

The main diet of the tilapia will be the algae which will grow within the pool. After the pool is filled in the spring, one-gallon samples of water from a number of local ponds should be added. This makes it possible to seed your pool with a variety of algae species.

You will also have to provide fertilization. In our prototype we suspended a small burlap bag filled with horse manure. We estimated the algae growth by scooping the water into a tall glass and examining the color. If the water looked green enough, we shook the bag every few days. When the "bloom" began to wane,

we replaced the used manure with fresh. Many of you will have cow, chicken or rabbit manure which can be used instead of horse manure. The weight and source of all fertilizer used must be recorded. It is very important not to overfertilize, as too many nutrients could deprive the water of its oxygen. Be careful!

Supplemental Feeds

Thousands of years ago the Chinese found that the growth and health of plant-eating fishes is enhanced by feeding them small amounts of animal matter in the form of insect larvae. This past season we raised our fish on a variety of insect larvae including mosquitos, midges, rat-tailed maggots and house fly larvae. Each experimenter should culture one or two types of insects or earthworms. The goal should be to produce one-half pound per day of these animals. Two productive and easy insects to culture are the ordinary house fly and the midge. If you have ever opened a garbage can that has rotten meat in it and seen the thousands of larvae or maggots crawling around, you have discovered how easy it is to raise fly larvae! Small garbage cans and a little waste meat might produce the supplemental food your fish need. Midges are cultured on trays in water fertilized with manure. The production of one pound of midges per day on a three-foot-square rearing tray has been achieved by fisheries scientists in Israel and Florida.

Apart from the algae and the insect larvae, your system should require few other food inputs. We have tied bunches of carrot tops and grasses to rafts as additional feed in the prototype Tilapia-Dome.

Collecting of Scientific Information

Intuition and common sense have played a large role in fish farming in the past. Science has hardly penetrated the domain of aquaculture. But scientific data is needed if we are to discover the best possible methods of fish farming. It is essential that the participants in the Readers' Research Program collect basic scientific information. At least half an hour per day should be spent caring for the Tilapia-Dome and collecting information. The first year's data will not be very difficult to collect. We
need:

1) Temperature profiles taken twice daily, including air temperature, temperature within the dome and in the water; also, a log of weather conditions.

2) Estimates of the population in the pool made at least twice; once at the end of the month following the first appearance of young fish and once at the end of the season.

3) Measurements of fish growth taken each month from a selected sample of individuals.

4) Production calculations made at the end of the growing season by counting and weighing the total crop.

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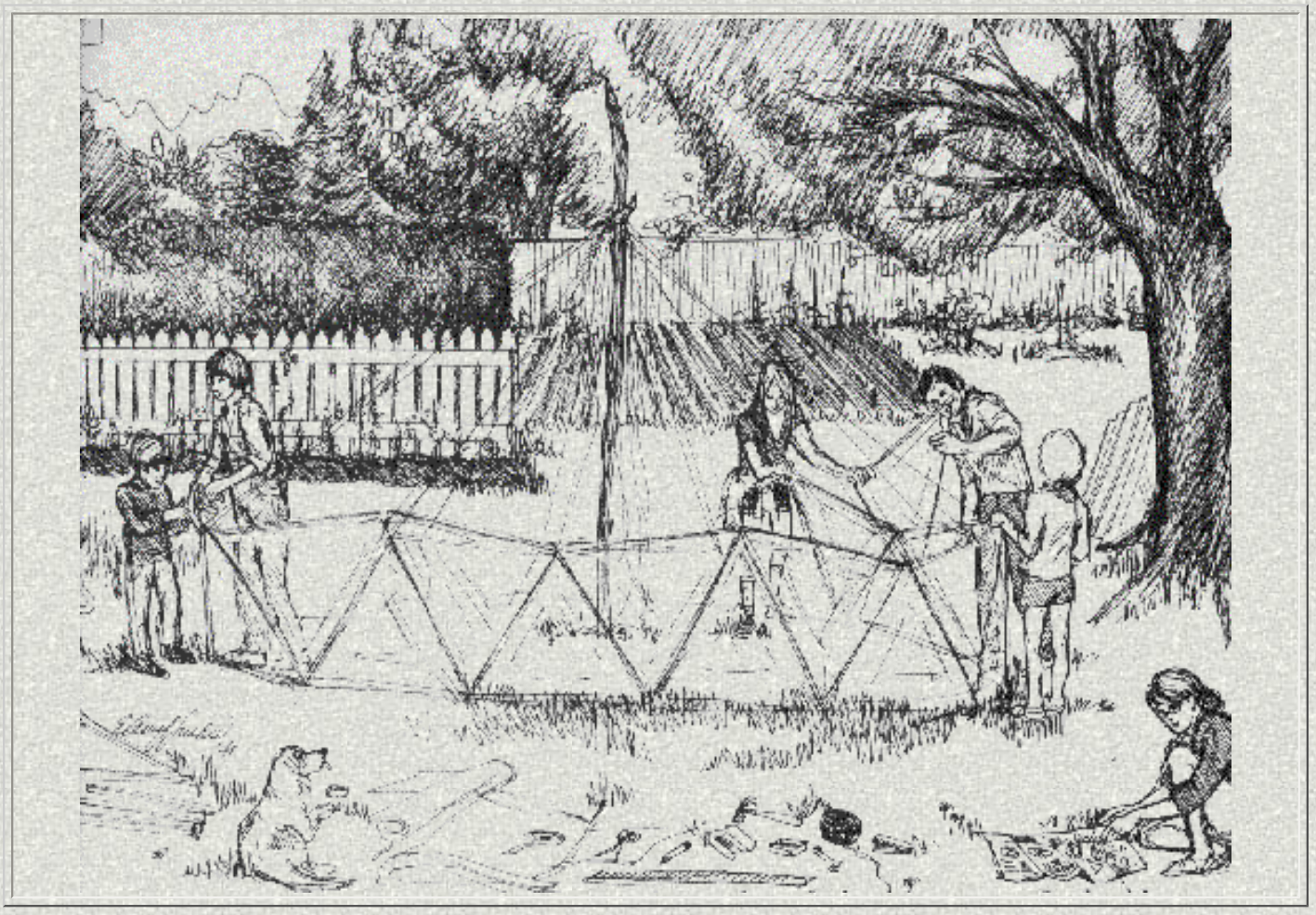
Building the geodexic dome is comparatively simple and inexpensive. It should take two or three days to complete the job. Costs can run from $50 to about $200.



5) A description of the food used (worms, insect larvae, etc.) must be given with the amount listed in pounds.

6) A description of the amount of fertilizer and the source must be given,

including the length of time between changes.

Hopefully we will be able to design a simple colorimetric test for you to estimate algae production on a weekly basis.

We do not know how successful the Back Yard Fish Farm idea will be. We have indications from the prototype that it will work. In fact, some of you may produce edible organic fish at less than 20 cents per pound (exclusive of your labor), some may even set still-water fish culture records for this country. All of you will have fun and learn a lot.

The experiment is risky . . . you could also end up with fish only large enough to feed to the chickens.

This may not make you happy, but your scientific data will tell us what went wrong. Your Tilapia-Dome can be used as a greenhouse the following winter, or if you aie excited by aquaculture, you may decide to trap native fishes and fatten them in the dome in the winter. Thus, the experiment cannot really fail.

Bill McLarney wants to start a research project to find out if the dome can be used for two fish crops a year. During the winter he would like to try fattening bluegills, perch, crayfish and clams to be harvested before the tilapia experiments begin again in the spring. The majority of us here want to use the prototype dome for growing kale, spinach, Chinese cabbage and lettuce this winter. I suspect the cooks rather than the fisherman will win the first round.

I hope many of you will become involved in the OGF Reader's Research Program. It could become a potent force for a saner agriculture in this country.

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For you trivia fiends out there who feel the need to know about such things, each OGF page number in this article represents the block of text just above it. In this eleven page OGF article there were two two page advertising spreads which will explain the two rifts in the page numbers.

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RAISING CATFISH IN A BARREL

CATALOG | DVD SAMPLER | Survival Foods | Classic Cookery | CRAFTS & How Tos
Web Radio Show | Nifty Places To Go | Site Mailing List | CD-ROM Super Sale | Whole Enchilada!
The Philosophy... | The Outrider Series | CLARENCE | KORAN INDEX | Political Dictionary

The text and photographs for this web page are all from the magazine Organic Gardening and Farming; November, 1973

For details on the availability and price of catfish fry or fingerlings in your area, please contact your county &/or state agricultural agent. Another good source for such information is any local state or community college that happens to have an aquiculture course within it's curriculum.

Philip Mahan demonstrates how a fish is transferred from the fry tank to the barrel.

RAISING CATFISH IN A BARREL

A biological food chain in the back yard produces fresh fish for the table and compost for the garden.

By Philip and Joyce Mahan

After some study and experimentation, we have set up a productive food chain--table scraps to earthworms to catfish--in our back yard. The project is satisfactory in many respects, utilizing waste materials to produce fresh fish for food and at the same time yielding ample compost for a small garden. The material cost is minimal. The whole operation can be set up for less that $15.00. The equipment occupies only about 12 square feet of space, and the entire assembly can be easily moved if necessary.

The materials can be very simple: Two 55-gallon steel drums, three panes of glass 24 inches square, and a medium-sized aquarium air pump. One of the drums will serve as a tank for the fish, oxygen being supplied by the air pump; and the second drum should be cut in half to provide two bins for the worms. The panes of glass are used as covers for the worm bins and fish tank, and for ease and safety in handling can be framed with scrap lumber.

We chose catfish because they are readily available in our part of Alabama, and reach eating size in a summer. Various small members of the sunfish family, such as bluegill or bream, would also be suitable.

While we readily admit that our plan has no commercial possibilities, we know that we can produce, for our own table, tasty fresh fish that is uncontaminated and costs practically nothing, both considerations being highly relevant at this time.

Fish are usually efficient food producers; a one-pound fish yields approximately 10 ounces of food. Further efficiency is indicated by the fact that fish fed on commercial fish ration convert about 85 percent of their food to meat. While we are not prepared to compute the technical data about food conversion in fish on an earthworm diet, we can readily state that the fish relish earthworms, and do grow well on this food.

Spraying the water back into the tank aerates the water and at the same tie releases the ammonia produced by excretory matter in the water. Because the oxygen requirements of fish are quite high, the faster the circulation of the water, the faster the growth of the fish.

We decided to keep our equipment as simple and inexpensive as possible at the beginning, but to use the maximum stocking density advised, keeping 40 fish in a 55-gallon drum. Although inexpensive circulation pumps are available, we chose to use a METAFRAME HUSH II aquarium bubbler for oxygenation and a garden hose to siphon off water from the bottom of the barrel.

We take off 15 gallons of water per day, but as we run the waste water onto the worm beds and adjacent garden, the cost is negligible. Although we have creek

water close at hand, we were advised to use city water to avoid the introduction of undesirable algae and fungi that might be harmful to the fish. Because city water is usually quite highly chlorinated, it is necessary to draw the water in 5-gallon buckets and let it stand for a day in the sun before emptying it into the drum to replace the water siphoned off. We have seen no evidence of oxygen starvation in the fish with this method of water circulation.

The most important variable we have found is water temperature. Catfish will feed at temperatures as low as 40 or 45 degrees, but their greatest growth is achieved at 84 degrees. We noticed a decided increase in feeding activity when we painted the barrel black and moved it into full sun. Leaving the buckets of water in the sun not only speeds chlorine dissipation, but warms the water as well. In areas where city water temperatures are close to the growth optimum, the chlorine can be removed by setting the hose nozzle at fine spray, and the barrel can then be filled directly from the water supply. Although summer growth is greatest, the project continues throughout the year. By judicious use of sun when possible, plus auxiliary heat when necessary, winter growth can be kept at a fairly high level.

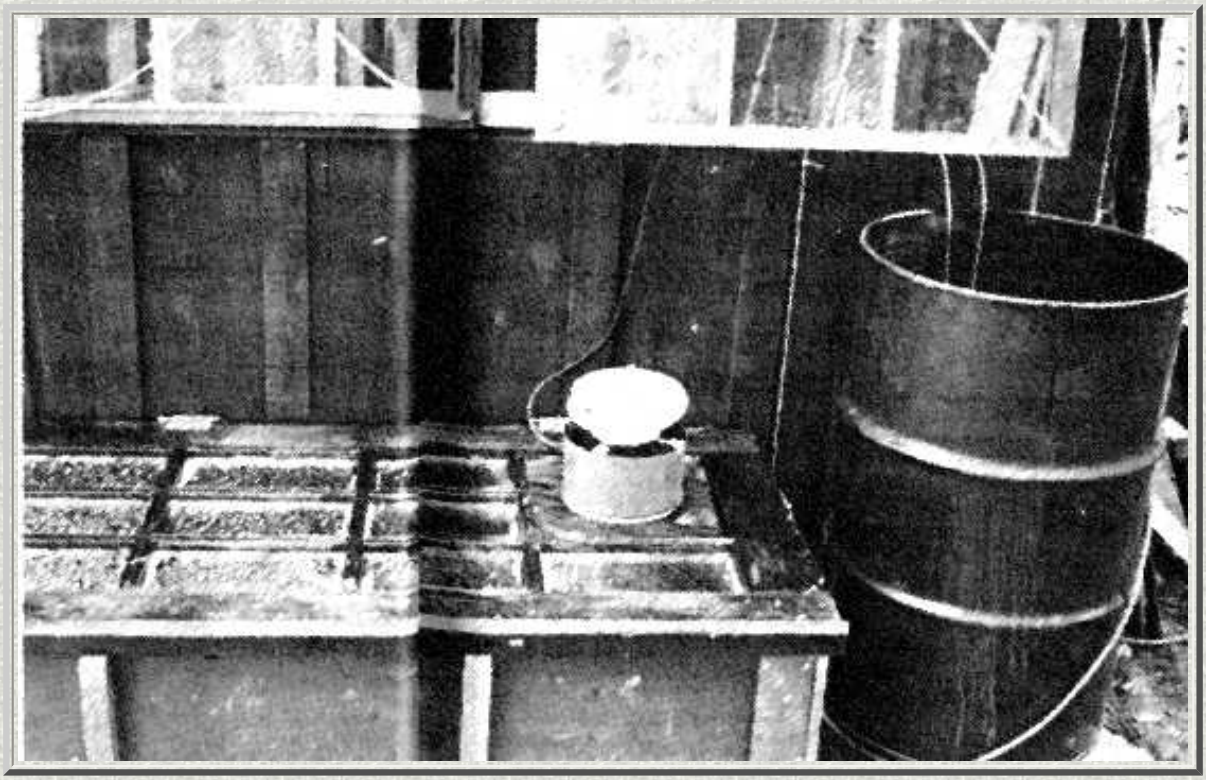
When water temperatures are right, the fish will feed so enthusiastically that they may leap completely out of the barrel. For this reason the top of the barrel should be covered completely with a pane of glass which will also help in keeping the water warm. Because fish feed most eagerly in late evening and early morning, we feed them at these times of the day. As with earthworms, care must be taken not to overfeed. In warm water and bright sunlight, any uneaten worms will die and decompose rapidly, giving off gases which are poisonous to the fish.

Transferring any grown animal to a confining environment produces the equivalent of cultural shock, and is followed by a period when feeding is light and growth is slow. At this time special care must be taken not to overfeed. Unless fish can be found that have been hatched and grown in a tank, small fish should be selected to stock the barrel, as their adaptation time is proportionally shorter that that of larger fish. To eliminate as much transplanting shock as possible, we use a large wooden box, lined with two layers of polyethylene sheeting and covered with an old door, to stock with fry. By the time the fry reach fingerling size, they can be transferred to the barrel as replacements are needed, and very little shock is evident. An insect lamp over an opening in the cover of the fry tank permits the small fish to eat at night while ridding the garden of night-flying pests.

Earthworms, as any angler knows, are food for fish in their natural habitat; and most fish in captivity prefer live food to the dehydrated type. Kitchen scraps make excellent food for earthworms, and even the most careful organizer will have enough refuse to feed, quite handsomely, 5,000 to 10,000 worms.

We found that growing earthworms at home is not difficult. The basic materials are easily arranged, and the earthworms' demands are simple. All they require are a protective container, reasonable temperature control, adequate moisture, not too much food, and a light loose bedding which is never allowed to become acid.

The 55-gallon drum to the right is for raising fingerlings to eating size. The lid of the fry tank (left) houses an insect lamp which provides food for the young fish.



The steel half drums are ideal worm bins as they are effective protection against the earthworms' predators in addition to being quite inexpensive. They have the added advantage of being movable so that as cold weather approaches, the worms can be carried to an enclosed porch or basement to continue composting activity and fish food production throughout the winter.

Each half-drum will house between 4,000 and 6,000 worms. The two half-drums are utilized most effectively if they are alternated so that the worm population is allowed to build up in one, while the second supplies the fish food. The eggs that remain after the worms are removed will serve to start a new supply when the first drum is converted to feeding.

Worms will start breeding when they are about 90 days old. Each worm, possessing reproductive organs of both sexes, will produce an egg capsule per week, containing from three to 25 eggs apiece. The most economical way to establish worm bins for a home food-chain and composting operation is to begin with capsules. Although a little more time is required initially, there will ultimately be more worms available to work with. Under the protected conditions of a worm bin, the survival rate of young worms is very high.

The type of worm selected is not important. There are two compost-bait types raised commercially -- usually known as "brown-nosed worms" and "red wrigglers." Either type may be purchased from most dealers.

The bedding for the worm bins may be any organic material that is water-absorbent and does not pack so as to exclude oxygen and impede the worms' movement. Leaves and old straw are good, as is aged sawdust soaked in several waters for a week or so. Ground peat moss, being odorless, is ideal if the worms are to be kept inside. Soil should never be used as it contains no nutriment and is likely to pack.

It is safe to assume that earthworms can eat any kitchen scraps except citrus rings, vinegar dressings, and bones. Though they eat almost anything given them, their intake of food, and likewise the production of compost, can be increased by frequently feeding foods that are especially tasty to them. The prime consideration is to avoid overfeeding. Although worms thrive on decaying food, they should never be given more than they can consume in 24 hours.

The dangers of acidity cannot be overemphasized. It is the only real hazard in worm raising. Acid bedding frequently destroys an entire worm farm in a few weeks. To maintain accurate control over the acidity, one should use a soil test kit or a pH test strip of the type used by industrial and medical laboratories. Tests should be made at least once a week, and the pH factor (degree of acidity) should remain between 5.5 and 6.5 on the scale. A reading of 5.0 or below means danger, and immediate steps must be taken to neutralize the bedding with an application of pure ground agricultural limestone. ***It is important to read the label carefully to verify that the limestone does not contain any added phosphates which also bring disaster to a worm bed.***

The drums should be located in an area protected from temperature extremes. Optimum temperatures for feeding and growth are between 60 and 70 degrees, but worms will thrive in most summer climates if the beds are well shaded and the bedding is kept loose. During the summer months, the bedding must be sprinkled daily, but it should never grow soggy. The glass tops on the half drums serve to conserve moisture, but they will not prevent crawling. Worms have a tendency to roam at night during damp or rainy weather unless preventive measures are taken. A small light over the bed is an effective deterrent to their wanderings, while an equally effective measure is to cut a remnant of carpet to fit the drum exactly and lay this on top of the bedding.

The table scrap-earthworm-catfish food chain, even from its inception, was never intended to evolve into a money-making project. It was simply an effort toward a better way of life through cooperation with the forces of nature; and in this respect,

our project has been a complete success in more than one way.

First of all, we have a regular supply of fresh fish at minimal cost. A seven-ounce catfish fingerling grows to 25 ounces in a summer, thus producing a pound of food in four months. In the second place, we have netted ample compost for our vegetable garden, thereby further insuring a low-cost and nutritive food supply. In addition, and perhaps this is the greatest benefit of all, we have the satisfaction of working with growing things and the gratification of knowing that we have not wasted the earth's resources. We have made an elementary biologic principle work in our own back yard.

IF YOU'RE THINKING OF RAISING CATFISH

EDITORIAL NOTE: Because we believe many of our readers will want to raise catfish on their homesteads, we referred this article to Dr. William O. McLarney, of the New Alchemy Institute, Woods Hole, Massachusetts, for review. The questions he raised were then referred to authors Philip and Joyce Mahan, whose replies appear below.

The fist were channel catfish.

Our fish were not fed exclusively on earthworms in that we started them on commercial catfish food. Because it is very difficult to teach pond-grown fish to eat in confinement, we offered them exactly the same food they had been eating in the pond. We continued these rations for about four weeks before their response was sufficiently enthusiastic to risk changing food. Then the earthworms were introduced gradually -- a few at a time -- until the fish accepted them. Some of the fish recognized the worms as food immediately, and within a week the water literally boiled when the worms were thrown in. We wondered, then, if they might not have started eating more readily if we had used the worms initially.

Weight of fish: We don't have any figures at all on the weight of the fish we started with, and we didn't weigh any before we ate them. As we stated in the article, we began with 40 fish -- fingerling size. Although we arrived at this number on the basis of Auburn's ratio of water as estimated by the fish farmer from whom we got the fingerlings. He didn't weigh the fish and we don't remember what that estimated weight was. We didn't know this thing was going to work.

Earthworms: Again we have no figures on pounds of worms used. For reasons of ethics (we advertise in OGF), we didn't mention in the article that we are in the worm business. Since we have so many worms around, it just didn't occur to us to keep records of how many we used. We simply tossed the worms into the barrel until the fish stopped eating. We fed once a day, but we don't think that all of the fish ate at every feeding. I would estimate an average of 75-100 worms per day. The

worms were small, not weighing more than an ounce per hundred. We were careful not to feed breeders to the fish.

Table scraps: We have been feeding table scraps to earthworms for a number of years; and to date, we have not weighed a single scrap. We can, however, offer fairly precise figures on this step. Earthworms are reputed to produce their own weight in compost daily; but our experience has not indicated that they really do. A thousand worms weigh 13 or 14 ounces, but daily feeding per thousand does not approach that weight. We usually keep a container of around 2,000 composting worms in the kitchen, and I give them a couple of table spoons of selected (that is to say, soft and mushy) scraps each day. In liquid measure this amount would be only two ounces.

It never occurred to us that a nutritional deficiency might develop in fish fed only on earthworms. I doubt that either of us would have recognized malnutrition if it had occurred. As we don't have backgrounds in biochemistry, we are not in a position to make any statements concerning the nutritive value, qualitative or quantitative, of earthworms. We did definitely notice a considerable increase in feeding activity when we started giving worms. In fact, we ate our first fish -- seven of them -- when they were only ten inches long because they jumped out of the barrel, and we didn't want to put them back for fear they had been injured. We feed our tropical fish (Red Oscars) earthworms also, but we can't continue the diet for more than two months at a time because the fish get so lively and eager for food that they leap out of the aquarium whenever we lift the cover for feeding. I would say we are inclined to agree that earthworms are a near-perfect fish food.

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A GARDEN IN A BASKET!

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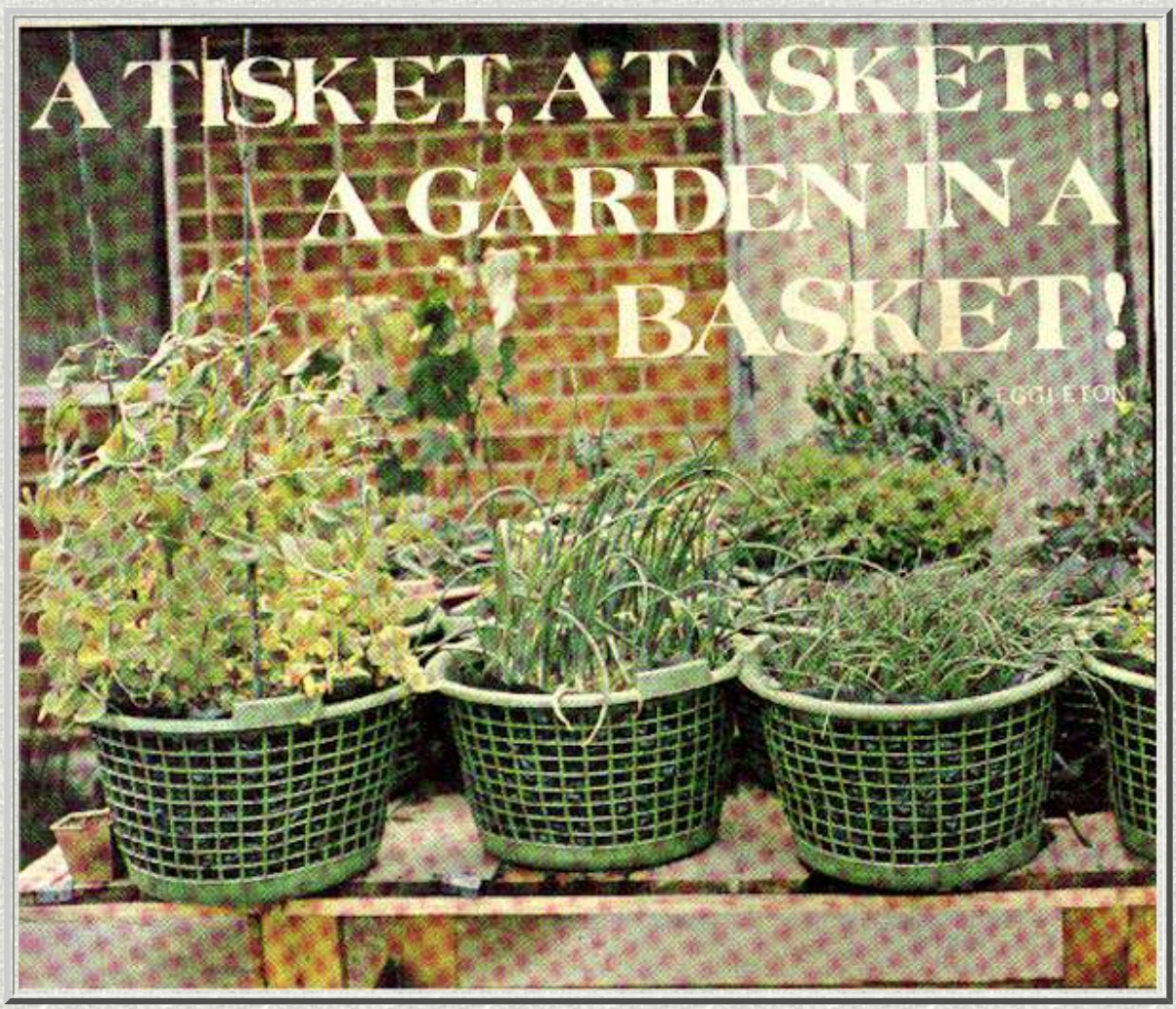
**This article came from the 39th (May/June 1976) issue of The Mother Earth News.
One look at the prices quoted in this article, and everyone will know
that it would have to be "at least" 26 years old! ---- *Cary***



Last spring, my wife and I were faced with a problem that I suppose most folks run into sooner or later: We wanted a garden—in fact, we desperately needed a garden—but we didn't have any place to put one.

At the time, I had just left the Army and was out of work, so the idea of spending my hard-to-come-by cash on overpriced supermarket produce wasn't all that attractive. Unfortunately, our landlord didn't like the notion of us digging a vegetable patch in

the backyard any better . . . and even if he had, we would've hesitated.

You see, we hoped to move to a small farm sometime before the end of the growing season, and we didn't want to have to leave a still-thriving garden behind. Besides, we'd already learned from experience that "we'd have to get up early in the morning" to protect a vegetable patch from our two mixed terriers. The "devilish duo" would get under or over any kind of fence we put in their way, and proceed to mangle whatever plants they could find.

So. We used a little ingenuity and came up with a different kind of garden that was portable and pet-proof and productive all at once. In short, we grew piles of tall-topped carrots, juicy tomatoes, and a bevy of other fresh fruits and vegetables ... in baskets!

Now, I know that some dyed-in-the-wool traditionalists will turn their noses up at any garden not rooted deep in MotherEarth herself. But if your problems are similar to what ours were, or if you live in a small city apartment, or if you can't do all the stooping and bending that ground-level planting and weeding requires . . . well, then a basket garden can be a pretty good way to go!

To start one, all you'll need is several containers large enough to hold a sufficient amount of soil to support living vegetation. In our case, we couldn't spend a fortune on over-sized ceramic pots, and we didn't have any good "recyclables" (such as paint buckets or gallon-size plastic milk jugs). So we scouted a local discount store, where we discovered that ordinary clothesbaskets were just fine for our purposes (and inexpensive to boot). The bushel size cost only 57 cents apiece, and the half-bushel just 37 cents ... so we brought home three large and seventeen small baskets for a total price of just $8.00!

Next, we lined the containers with plain old "Hefty type" trash bags, and then filled the bottom of each with two inches of coarse gravel for drainage. On top of that we placed a layer of newspaper to keep the soil from washing down into the stones.

Then we added the growing medium itself. Gardening books call for a 1:1:1 ratio of peat moss, loam, and sand . . . and advise that rotted manure, leaves, grass clippings, and

other well-shredded vegetation can also be mixed in. We, however, simply used three parts slightly sandy (and rocky) soil from an empty field, combined with one part grass clippings. Judging from the way our plants thrived, I'd say just about any reasonably rich blend of natural materials that's light and loose enough to provide good aeration will work OK.

Finally, we poked a few small holes in the base of the lined containers to allow extra drainage, and placed stakes in the baskets in which we intended to grow tomatoes and peas.

A friend of ours had access to a number of wooden pallets that some local factories wanted to dispose of ... so he gave us two of the skids, from which we constructed a platform that kept our "garden" well above the reach of canine claws, but at just the right height for easy weeding. One of the discards made an "instant tabletop", and a few minutes' work with a crowbar and hammer gave us enough usable lumber from the other to build supporting legs and braces. (Incidentally, homesteaders might take note of the fact that throw-away pallets are a good source of free wood for rough construction. They can be used either disassembled or as whole "prefab" sections in any number of projects.)

The final step in establishing our vegetable patch, of course, was the actual planting . . . but before jumping in "seeds first", we referred to three books which were especially helpful:

[1] Raise Vegetables Without a Garden by Doc and Katy Abraham (Countryside Books, 1974, $2.95); [2] All About Vegetables edited by Walter Doty (regionally oriented editions, published by Chevron Chemical Company, 1973, $2.95); and [3] The Mother Earth News® Almanac (THE MOTHER EARTH NEWS®, Inc., 1973, $1.95).

This information-particularly the guides to natural pest control and companion planting in MOTHER'S Almanac helped us choose the kinds of vegetables and fruits we felt would be most productive and best suited to our own needs and tastes.

We put two large-variety tomato plants (such as "Heinz" and "Country Fair") in each bushel basket, and found that a half-bushel container could accommodate either a pair of small tomato vines (such as Burpee's "Early Girl") or four good-size pepper plants. Our remaining baskets were seeded with radishes, onions, carrots, peas, miniature corn, strawberries, and cucumbers. We planted relatively early in the season, kept the containers out in the sun on warm days, and simply carried them back into the house whenever a chill threatened. (My poor ole Dad lost two successive sets of tomatoes to late frosts in his regular garden . . . but our portable vegetables stayed cozy and warm-one/ healthy—the whole time.)

Obviously, there's much less moisture-retaining soil in a "container garden" than in a conventional plot, so we did have to give our "babies" frequent waterings. (One possible solution might be to fold the tops of the trash bag liners over the soil, punch holes in the sacks, and then let the plants grow through. We haven't tried it yet, but suspect the plastic would act as a good water-holding, weed-stifling mulch.) We

also had to add extra dirt occasionally as the original material settled . . . but aside from those two minor measures and a little careful bug-watching and -squashing, and cultivating (none of which ever required bending our backs) our food practically grew by itself!

All that summer and fall, we enjoyed a vast and abundant variety of fresh produce straight from one table (the plants') to another (ours). And we never so much as picked up a rake the whole year!

So ... you say supermarket prices are killing your budget, but (moan, groan) you don't have space to grow your own vegetables? Buy a bunch of baskets!

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Building The Solar Greenhouse

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The Solar Greenhouse That's Right for You

(Text & illustrations for this web page came from the August, 1978 issue of Organic Farming & Gardening)

Here is a new gardening tool that produces fresh food when the snow flies.

JACK RUTTLE

ALMOST ANY STRUCTURE that is built to look like a solar greenhouse will work. That is to say, the solar greenhouse concept is so right that you can ignore (or not know) the fine points of solar design and still build a house with much less need for supplemental heat than a traditional greenhouse. But once you understand a few basic solar-greenhouse design ideas, you can easily put together a greenhouse that truly lives up to the label *solar,* and provides remarkable efficiency.

Dave MacKinnon, Ph.D., ORGANIC GARDENING greenhouse designer, has put it all together after three years of experimenting and has created a design formula that gardeners in any climate can follow. His newest solar greenhouse, which he has built and tested in Flagstaff, Arizona, epitomizes a good solar shape. It has produced food through two winters without requiring any outside heat source. Almost all the floor space is usable for growing beds because the energy storage is on the walls. And it uses a minimum of materials because the design, insulation and heat storage are in balance and arranged to complement each other.

The best measure **of a** solar green house is the plant-growing environment it creates. When the building is skillfully made, you will get midspring soil and air temperatures in the depths of winter on sun power alone.

Our experiences suggest that solar greenhouses can maintain that kind of environment in most parts of the country. ORGANIC GARDENING researchers have built two different greenhouses that have worked well despite unusual winter weather. The Flagstaff greenhouse performed well with much less sun than is considered normal,

and the one at our Maxa-tawny, Pennsylvania, research center worked through the coldest winters in recorded meteorological history.

In December and January we harvested enough salad greens every day for three or four people. Cold-hardy plants, all very rich in vitamins A and C, produce best. Escarole, lettuce, parsley, corn salad, chervil, chives and other salad herbs are dependable. So are kale, chard and chicory, which grow so thin and tender in the weak winter sun that they are best in salads too. In spring and fall the harvests are bigger. Succession plantings make heat-loving plants like tomatoes and cucumbers possible far beyond their normal seasons.

Dave MacKinnon's solar greenhouse greatly expands his crops of homegrown food. He picks salads every day through winter. Frost nips his outside garden early, so greenhouse protection has meant the first heavy-producing tomato plants he's ever grown.

SOLAR GREENHOUSE BASICS

At the least, a solar greenhouse should have three features. One of the long walls should face due south rather than east or west. The south wall should have two layers of glazing. All the surfaces that don't face south are insulated. But there's a little more to it than that if the greenhouse is to live up to its solar potential. The new Flagstaff greenhouse is a perfect model.

Dave MacKinnon says the greenhouse should be about twice as long (east to west) as it is wide. Accordingly, his Flagstaff greenhouse is 20 feet by 12 feet. The two-to-one relationship offsets the effect of the shade that the opaque east and west end walls create. The building thus captures more solar energy for each square foot of growing space. If the building is made much deeper than two to one — that is, closer to a square floor plan — the heat-storage material in back is shaded too much. These proportions are recommended for greenhouses everywhere.

MacKinnon has learned another rule of thumb for sizing the energy-collecting south face properly, and has built it into the Flagstaff greenhouse. The peak should be made about as high as the building is wide (north to south). Heat-storing materials in the back of the greenhouse will then get the direct exposure to the sun they must have if the storage is to work efficiently.

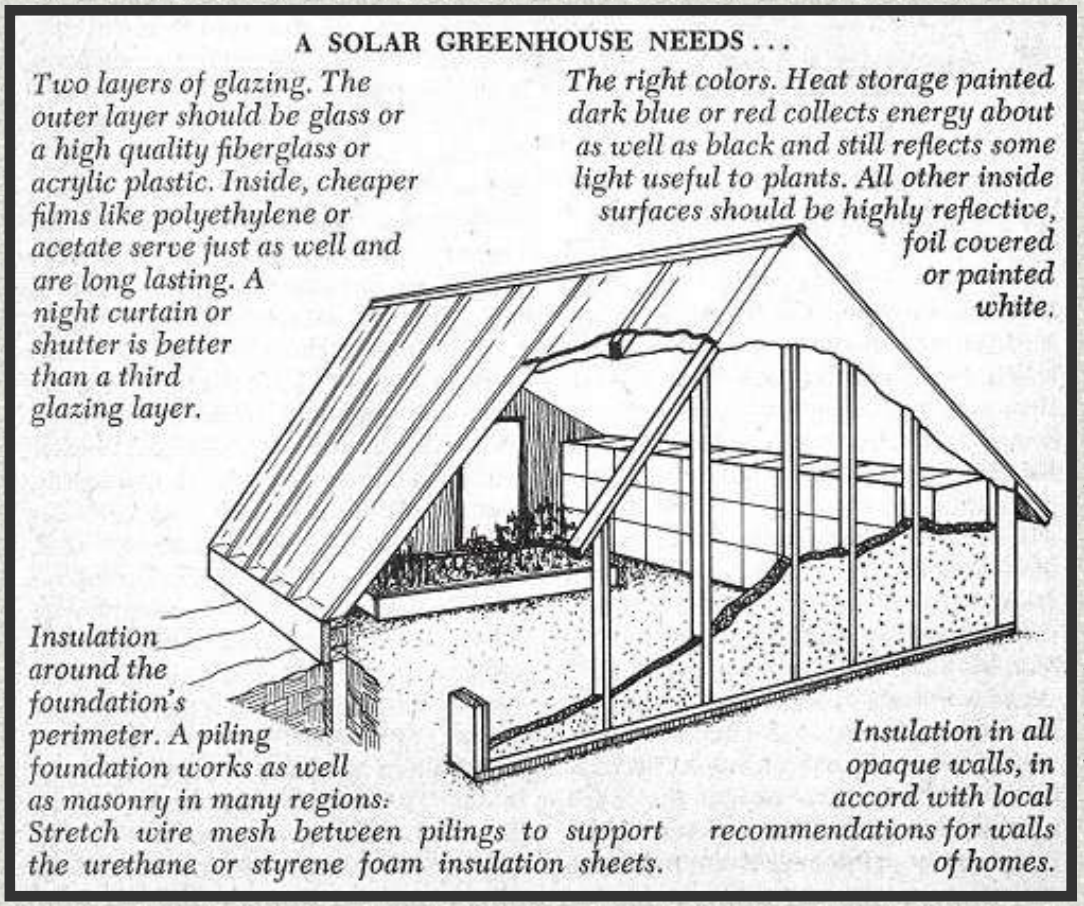
The slope of the north roof is an important feature of MacKinnon's greenhouse, though

the precise angle of slope is not critical. Sunlight which enters the greenhouse and strikes the aluminum-foil-covered roof (white paint works well too) is aimed back down to the growing beds. From the outside, the interior of the greenhouse looks almost black because very little light is bouncing back out to the viewer. If designed well, solar greenhouses with reflective walls can actually deliver up to a third more light to the plants in winter. In the traditional all-glass design, much of the light passes right on out the clear north roof and wall. Angles between 60 and 75 degrees for the north roof will work well in the United States and southern Canada.

The slope of the sun-collecting south face might appear to be trickier to decide upon. The angle does affect how well the translucent face collects sunlight, but for greenhouses it's not as critical as when setting up a compact solar-heating unit. Actually, a wide range of angles will work equally well at any given latitude. The simplest thing to do is to add 20 degrees to your latitude. A south face with that angle will give optimum performance in January. But if that particular angle proves hard to work with, go to a slightly shallower one, and you will be favoring solar collection in spring and fall. If you use 50 degrees rather than 60, which, for example, you may figure is your ideal, you still have sacrificed very little midwinter light.

Given this leeway, other factors like convenient construction can help determine the south slope. The south face of the Flagstaff greenhouse was made steep all the way to the ground to shed snow quickly. That feature lets sunlight in sooner after storms. The Maxatawny greenhouse has a vertical glazed knee wall from which a shallow, clear roof slopes up to the peak. There is much less snow to worry about there, and this shape makes working in the front of the growing beds easier.

When it comes to putting in insulation and heat storage, however, solar greenhouses can get needlessly expensive. The key is to have sensible amounts of both. Great thicknesses of insulation can't do away with the need for heat storage, and are wasteful. And obviously, adequate heat-storage material without a certain amount of insulation in the walls **is** equally wasteful. Even if you build a greenhouse that is not completely solar-reliant, using a balance of these component parts guarantees an economical building that will work well. (The information on the map indicates the proper proportion of materials, as well as recommending minimum amounts for a fully solar structure.)



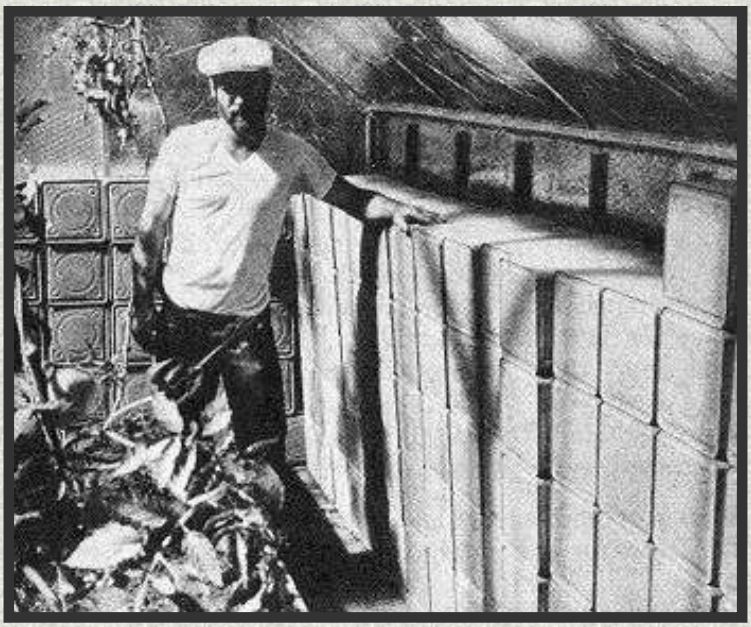
HOW HEAT STORAGE AND INSULATION TEAM UP

The connection between heat-storing materials and insulation works like this. Without heat storage, solar greenhouses are something like a thermos bottle — all the energy is in the sun-warmed air. Drafts will quickly drain off the heat, because even the most tightly made building will have a fair amount of tiny cracks. Energy held within storing materials is not lost along with escaping air. The energy is released slowly as the greenhouse cools, and the building stays warm much longer.

A no-less-important effect is that heat-storage materials keep the greenhouse from overheating during the day. We quickly learned that without storage the inside temperature can soar into the 80's or 90's on cold, bright days. That is quite hard on a winter greenhouse crop.

With storage absorbing some of the incoming energy, the result is a milder daytime environment.

The amount of heat storage for full solar heating seems enormous at first, but is manageable in practice. Both of MacKinnon's greenhouses use about 1,000 gallons of water stacked vertically on the rear walls. That amounts to four gallons of water for each square foot of floor space. The best method we've found is to use rectangular five-gallon honey cans with a rust inhibitor added to the water.



"Five-gallon honey cans make efficient heat-storage containers" says MacKinnon. They pack the maximum amount of water into a given space.

Why do we rely so heavily on water? It is admittedly hard to work with because it tends to corrode containers and to leak. But water is about the best heat-storing material known and is cheap. The best alternative is rock (in any form from sand through concrete), but water holds about five times more heat. So water reservoirs on walls make compact heat storage that gets a good share of direct incoming sunlight.

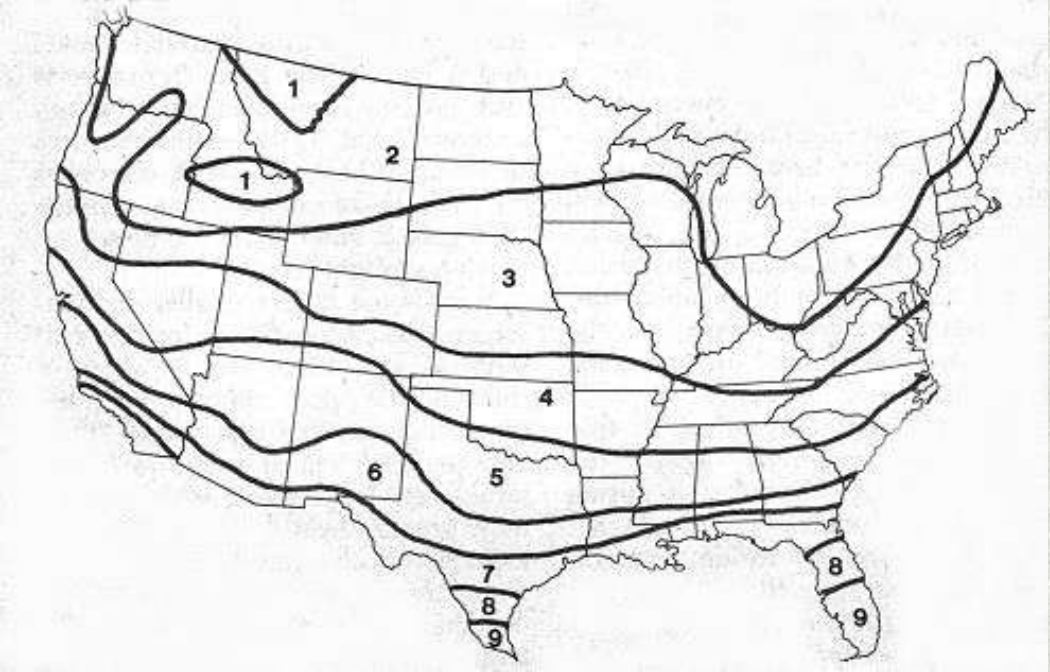
MacKinnon favors smaller containers over 55-gallon drums for two reasons. Drums leave empty about a third of the space they occupy, because they are big and round. They also permit warmed water to gather into a few large areas, which causes both greater heat losses and poorer collection in those areas. Smaller containers keep the energy more evenly distributed. On the other hand, the large barrels are certainly worth using if they can be had cheaply. We've also used translucent plastic cider jugs filled with water dyed black, and have heard reports of success with beverage cans sealed with tape and stacked right-side-up.

The amount of insulation that MacKinnon judges to be practical in various regions is roughly the same as local, energy-efficient recommendations for homes. If that seems lavish for a greenhouse, remember that homes get a lot of extra heat; the greenhouse is designed to get along with none. To me, the need for plenty of insulation is a reminder that people aren't much different from plants in their requirement for warmth, among other things. To use less insulation, however, is to need more heat storage, which demands more space and money.

Two other simple things are crucial to the success of our greenhouses. The earth below them is insulated to a little below frostline with plastic foam. And at night an insulating curtain is drawn over the clear south wall to reduce the high heat losses there.

Regional recommendations for* minimum *amounts of insulation in walls and roof, below ground and of water for heat storage.	
Zone 1	***wall and roof, R-40 below ground, R-15 to 3 feet deep heat storage, 4 gallons per square foot of floor***

Zone 2	wall and roof, R-22 below ground, R-15 to 3 feet deep heat storage, 3 gallons per square foot
Zone 3	walls and roof, R-12 below ground, R-10 to 2 feet deep heat storage, 3 gallons per square foot
Zone 4	walls and roof. R-8.5 below ground, R-10 to 2 feet deep heat storage, 2 gallons per square foot
Zone 5	walls and roof, R-6.5 below ground, R-5 to 1 foot deep heat storage, 2 gallons per square foot
Zone 6	walls and roof, R-6 below ground, R-5 to 1 foot deep heat storage, 1 gallon per square foot



Zone 7, 8, 9 These regions need insulation and night curtains, but to much lower insulating values. Greenhouses in these regions do not require double glazing, but it will help. No heat storage or below-ground insulation is needed for minimum performance. About half the north slope of the roof should be glazed.

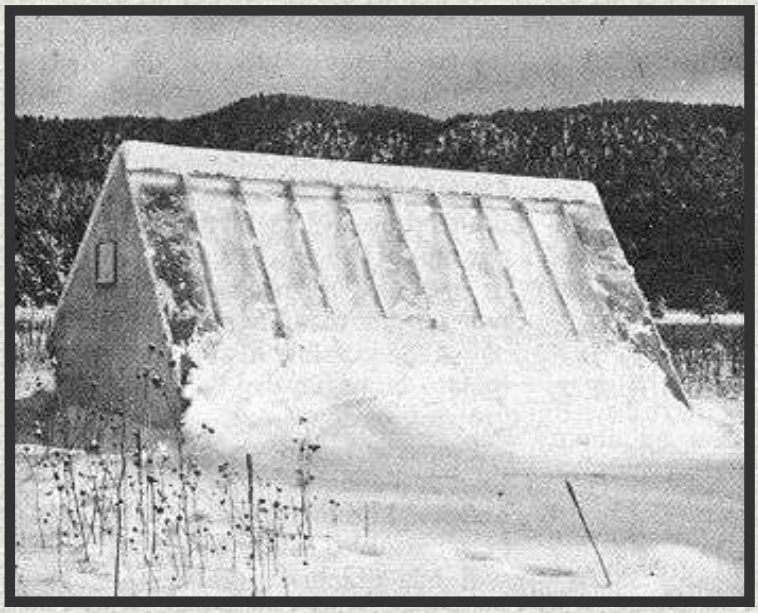
It pays to insulate the earth below the greenhouse because earth is a relatively poor insulator, contrary to a lot of lore.

A few inches of most common insulators match the R-value of ten to 15 feet of earth. But earth is a good heat-storing material, lying somewhere between rock and water. So insulating around the perimeter builds heat storage into the structure while stopping steady heat losses to the ground outside. We checked the advantage of doing this at the Maxa-tawny site. Six inches below the surface, the insulated soil was in the 40's in January and in the 50's in February, while the ground outside was frozen solid several feet deep.

The day comes when shuttering the glass or plastic face becomes practical despite the inconvenience of twice daily attention. Past a certain point, there's no easier way to gain

a few degrees inside. The south-facing glass loses a tremendous amount of heat compared to the other three-fourths of the building's surface that is insulated. To add enough storage material to make up for what shutters can save would take too much room away from the plants.

We've found that a good nighttime heat barrier for the window doesn't have to be a great insulator, but it must be durable and easy to maneuver, since it will get heavy use. More important, the material should be reflective on the inside and fitted tightly at the edges to stop air flow. A reflective material (aluminum paint or foil) will block all escaping radiant energy. Combined with an airtight seal, that seems to do plenty for me greenhouse. Beyond that, any insulating value you can build into the curtain is so much the better.



The muscle power it takes to raise and lower the heat-trapping curtain is the only non-solar energy a well-designed greenhouse needs.

Without a doubt, a thin, aluminized fabric which is operated by ropes or a pulley is the cheapest system to make and work with. The best one Dave MacKinnon tried was made of aluminum foil glued to one side of parachute fabric. That curtain lasted two years before needing repairs.

The third winter at Maxatawny we used a shutter system that could hardly be bettered for stopping heat. Panels of one-inch urethane foam, aluminized on one side, were held in place with wooden battens. We kept them in an air-lock entrance room that doubled for storing tools and gardening supplies. The only drawback to the foam is that it is expensive. Any exposed foam surfaces should be painted to waterproof the material against condensation that accumulates on the glazing.

Those are the basics of a solar greenhouse: the sun-catching design, strategically placed insulation, and heat storage. Together they make a cool-weather garden possible even in Northern states. In ours the air inside has averaged 42 degrees higher than outside and between 45 and 55 degrees F. in the soil throughout the winter. Many vegetables will thrive in that temperature range.

VEGETABLE GROWING IN THE SOLAR GREENHOUSE

There's a lot to be learned about cool greenhouse vegetable culture. The most important trick we've discovered is using the right growing container. Traditional

greenhouse wisdom recommends pots on waist-high benches — easy to reach and easy to isolate diseases and pests. But continuous temperature recordings in the soil pots showed that the temperature in the root zone changed right along with the air temperature, because the exposed surface of a pot is so large. There were large swings every day, extremes that plant roots aren't used to. So we switched to two large beds 18 inches deep that cover the greenhouse floor. They held the root zone to a 10-degree daily change which is natural, and also made a greater heat-storing mass.

Beds have many other advantages. Roots have more room to forage for water and nutrients. The environment becomes a better one for natural predators like spiders. Because the soil in beds holds a large amount of organic matter, they also become an important source of carbon dioxide. Plants in a sunny, airtight greenhouse can use up all the available carbon dioxide in a few hours.

Nothing like these greenhouses is available for sale yet, but several years from now you will start to see them. The big greenhouse manufacturers are redesigning their products exactly along these lines. They will probably be expensive. But a home-built, sun-heated greenhouse like ours

can be constructed now for less than the finest energy-wasting glass house, and will be tailored to match your local climate.

In the far North, where solar greenhouses will be the most expensive to build, they will yield the greatest expansion of the gardening season. Even in southerly Flagstaff, Dave MacKin-non reports that his solar greenhouse has made possible his first really good tomato crops, so dry and short is the growing season there.

Properly made and maintained, a solar greenhouse should outlast its builder. The materials are all durable or renewable.

House-attached greenhouses are even cheaper to build. As you plan your solar greenhouse, you should think first of this kind for many reasons. Attached greenhouses have about a third less surface area for the same floor space as a freestanding one. Thus construction costs are lower, and less heat is lost at night. Attached solar greenhouses are the most efficient hot-air solar collectors known. High and low vents that open into the home through the common wall exchange solar-heated greenhouse air for cool air at floor level from the house. At night, the house can return some of the heat to the greenhouse. All the design principles for solar greenhouses apply to the attached greenhouse, except they may need less heat storage. The only requirement is a suitable spot facing south that is unshaded in winter.

Looking only at the money, it's obvious that a durable solar greenhouse, attached or freestanding, will repay its cost. Compared to conventional all-glass models the fuel

savings alone will pay for its construction in three to four years in the North. And they make you independent of an unhealthy agriculture and the transportation system it depends upon for fresh vegetables to tide you through winter. That's why we recommend so strongly that you build one if you can.

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MY PLAN FOR YOU

From Kurt Saxon

Dear Friend,

For a long time it has been my ambition to revive a lot of the 19th and early 20th century technology, which has been all but forgotten over the years. In a short time I will be collecting the $464,000 judgment I was awarded last year. (see **Judgment**).

If you have taken advantage of my offer of **all 14 of my CD-ROMS**

for only $100.00, you might examine the 10 Survivors and choose one or more projects, toys, gadgets, etc. and reproduce it or them. I will then finance its manufacture and market it if it has potential and you will get half the profits. In time, you will be part of a fairly large corporation. If interested, contact me at "hoss at survivalplus dot com". In the meantime, I want you to check out "**Home Candy Making**"

This course will give you a home business which will begin with supplying you with great gifts for everyone on your Christmas list and at a fraction of the cost.

Sincerely,
Kurt Saxon

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