The Oil Drum: Campfire

Discussions about Energy and Our Future

Household Dry Food Cooking

Posted by Glenn on April 8, 2009 - 7:00pm in The Oil Drum: Campfire
Topic: Environment/Sustainability
Tags: dry food storage, original [list all tags]

This is a guest essay by Craig Bergland. (A companion supplement to Household Dry Food *Storage* by J. Bradford)

As a frequent reader and infrequent poster to this wonderful site, I find that the Campfire series is one that I'm comfortable posting to. The recent Household Dry Food Storage article by Jason Bradford has prompted me to participate, as I do have some hands-on experience in building and using cute little solar toys, and other semi-practical devices.

PHOTO OF SOLAR OVEN BUILT INTO THE BUMPER OF HANDMADE MOTORHOME. USED AT ANNUAL BURNING MAN CELEBRATIONS

A nice prime rib with horseradish is a wonderful thing as long as we can get it, but we know that it

is more efficient to eat grains than beef. The EROEI on non-meat foods is far higher than farther up the foodchain. We also know they are healthier and clog our arteries less. Seeds can be stored long term with minimal preps. They can be ground and baked into flours (some say longer shelf-life when whole and living -- tho' old time bakers suggest aged flour is better). They can be soaked or cracked or flaked and cooked. They can be sprouted for greater bulk and superior nutritional content -- as sprouting changes the chemical composition and increases vitamins and mass. Some can be malted to make simple sugars for consumption, and for brewing beer and alcohol. A seed diet frees up resources for more food for more (hungry) people. 30 pounds of seeds carried into the boonies is going to last me a lot longer than 30 pounds of meat. And, importantly, they can be planted in your garden to replicate themselves. Indefinitely. Because of minimal prep requirements, and long storage, they are my preferred stash. Especially since they eliminate the need for freezers and other hi-energy appliances which may lack long-term sustainability. If you don't have the resources now for a solar powered freezer and batteries, etc., you can perhaps spend less current cash instead, and buy more food (seeds) for the buck. It all depends on how much money you have and how long you think we have before...it...happens. I'm unfortunately an Early Topper and think Mad Max is going to meet the Donner Party near-term, and for more reasons than just Peak Oil.

Cooking some kinds of seeds can take a long time. Soybeans especially, and overnight soaking is almost a necessity. BTW soybeans are not done until you can squish them between tongue and palate. A pressure cooker is a big 'must have' for your survival kit, and to even lower your current energy use. They use less water/fuel and some claim lose less nutrients. Simple cardboard tube/blankets can be built to further extend the cookers capabilities and mine will keep the pressure up for 20 minutes after removing from heat, and hold to 150 degrees for an hour. Pressure cookers can be used for distilling. My dad made 'Grappa' one time in our kitchen and the cooker exploded. While too young to remember that, I was told we moved out shortly afterwards.

PRESSURE COOKER IN HOME-MADE THERMAL BLANKET. (SANS COVERING TOP FOR CLARITY'S SAKE)

Many of us will be using wood and biomass to cook on. Open fires work well and are quick but fuel wasteful. Three stone fires are better but not much. Do a search for Rocket stoves, hobo stoves, and wood-gas stoves. I like the rocket stove, fairly easy to build with minimal tools, and hobo stoves are quick, too, but the best it seems is the tin can wood-gas stove which merely 'sips' fuel

instead of a hungry roaring fire. (I posted a little about them on Jason's article's comments, and the flame is most impressive)

(PICTURE OF MODIFIED PELLET/TWIG WOOD-GAS BURNER. SEE LINK FOR BUILDING SAME AT http://www.washoegreens.ning.com/forum/topics/radical-recycling)

Solar cooking is the champion when available. Solar box ovens can be bought or made from scrap materials. They work well, however sometimes they have a hard time getting to 350 to bake bread. When that's the case, simply bake a little bit longer. A chunk of iron placed in the oven will help even out cloudy times and moderate the temperature.

OFF THE GRID SOLAR BREAD BAKING NICELY IN TYPICAL BOX OVEN

I have a one meter parabolic mirror which is great for frying and hot hot hot cooking. It is so hot, however, that it discolors cast iron pans, and takes that nice dark seasoning away and gets very grey. It even discolored the pressure cooker. I want to see if it will allow small batch smelting of soft metals. Wonder if it'll melt a zinc penny for casting...? Probably illegal. When these were introduced into 3rd world countries, they were quickly shunned, because if improperly put away out of sunlight, they would often start folks houses and sheds on fire. Pretty dangerous devices, all told. There are several kinds of focussing cookers, and are not beyond the capability of many to make.

The solar winebox rice cooker I've built will do 20 oz of grains in an hour and a half. There is no need for tracking, just point it at the sun and soon it's done. The only cost was for black paint, and the rest of it is from recycled materials. This type of double jar glass solar cooking is great, and as discovered will reach over boiling -- enough to sterilize water.

A NEARLY COST-FREE SOLAR COOKER MADE FROM RECYCLED MATERIALS.

At one time I saw a parabolic trough used as the heat source for an oven. It was built in the early 1900's I think, and was attached to a top oven which was surrounded with oil. The focus of the parabolic cylinder heated the oil-pipe to such a degree (bad pun) that 24-hour cooking was available -- according to the article. Very impressive, and a possible neighborhood project for folks. Another project would be to design and build a self tracking solar oven for a convenient any-time-of-the-DAY quick cooking. And it could also be used to recharge batteries with a small PV attached and tracking. Now, how to make it return to sunrise position when the sun is gone for the day...?

And yet another project can be grain grinders as discussed well in a previous campfire article. While hand cranking is a grind (so sorry), electric or other mechanically powered grinders make life easier. In a pinch, of course we could probably make flour between 2 bricks or rocks, but not that desperate yet. This might be a good neighborhood project, the collective purchase and use of grinders and bulk grains and solar ovens. Kind of like, why does every house have a lawn mower, when one could be shared and thus less costly. We're going to have to do many things collectively when it hits the F. Why not start now, to help cushion the blow?

caption: MODIFIED GRAIN GRINDER WORKING OFF A SMALL PV PANEL. GOOD FOR A LOAF AN HOUR ON SLOW SPEED.