Fran provided a copy of her script, which is copied here, with some formatting changes and inserting notes from the discussion where appropriate.

Putting Food By, by Fran Wade

Putting Food By is a term for preserving food without refrigeration. Nothing new, our grandparents, or great-grand parents, for some of you younger people, lived this way, very well. We wouldn't be here if they hadn't.

Tonight we will cover:

- preserving fruits and vegetables through drying,
- meats through cures, brining drying and smoking, and
- a bit on more conventional canning with hot water bath and pressure canner, pickles & relishes, and jam making.

There are tons of books with specific recipes so I won't be going into any real recipe sharing tonight. After I have finished my bit, we will open the floor for discussion. I know most of you have plenty of experience in many of these subjects and the idea behind ESP s to share our knowledge, learn new things, and help each other prepare for the simpler life that is just around the corner.

Solar Food Drying

Hot, dry days are best for successful solar drying, though if the humidity is not too high, it does not require direct sunlight on the foods to accomplish. A breeze is always helpful to keep the moisture moving off the food. There are many books available to give you charts for the exact food you want to preserve, and I have included some titles in the reference section of the hand-out.

As with any preservation process, you want to use your best fruits or vegetables. Save the slightly bruised and older one for jams, preserves, and immediate consumption. As I was researching for this presentation, I see many books talk about pre-treatments such as treating with ascorbic acid, eg. Fruit Fresh, to preserve color, and blanching to further preserve color and nutrients, on up through sulfuring -- a process I avoid. What I have done:

- For my fruits and berries, all I ever did was peel and core as needed and cut the larger pieces into smaller ones.
- For vegetables, steam blanching is necessary to retard spoilage, since due to lower acid levels, vegetables spoil more quickly than fruits. Blanching is not necessary for garlic, leeks, onions, peppers or tomatoes.
- Food should be put on racks/shelves one layer deep, and stirred 2 or 3 times a day. At the end of the second day, start testing for dryness.

- To test for dryness, be sure you cannot squeeze out any moisture; the texture will be tough and pliable, “leathery” and “suede-like”. Vegetables are generally brittle or tough to brittle. When checking food in the dryer realize that foods still warm from the sun will seem softer, more pliable, more moist than they actually are.
- Cool a test handful a few minutes before deciding it is done To speed the drying process, with vegetables, it is best to cut into smaller pieces than you do fruits. In the books, charts give times necessary for each individual fruit and vegetable.

Schnitzing

I dried more fruits than vegetables, just through personal preferences and availability, so I’ll start with them. I dried apples and mushrooms long before I moved into the woods, and used a solar dryer, by the simple method of Schnitzing -- a German term.

- I cored and peeled the apples, and strung them on a strong thread, then hung them up in strings in the attic. I had the perfect area, protected from direct sunlight, with a window opening onto an alcove, so a breeze passed through to wick the moisture away.
- Mainly, I dried Puff Balls and Fairy Ring Mushrooms, though on occasion, I would get a good buy on commercial mushrooms. I cleaned them with a damp rag, then cut them into thin slices, strung them on thread and hung them up like the apples. Often the Fairy Ring Mushrooms would dry themselves out on the lawn, and only needed to be wiped off and hung for a short time in the attic.
- If not fortunate enough to have that handy attic with the window, strings of drying foods do well hung above a wood stove.
- I used to put them up in quart, glass jars with screw lids-a good use for jars no longer fit for canning. You could use food grade freezer bags, then store them in a critter-proof metal container with a close fitting lid. As plastic or galvanized trash barrels can leech out toxins, be sure if you are using them to have a food grade material to keep acid in the food from coming in contact with the container. Glass always worked best for me. Since light will fade your dried food, if you are storing it in glass containers, put them into a closed box to protect them.
- When drying herbs, you can tie them in a bundle and hang then in a paper grocery sack from the overhead beams. If drying leaves already separated from the stems, they can just be laid out on newspapers in a dry place, out of the sun, for a day or so until they are crumbly, then stored in glass or tins.

Solar Food Dryer

There are many electric dehydrators on the market, all of which come with complete instructions on how to prepare the different foods. What I am covering tonight is using a Solar Food Dryer. (Photo is from Wheatgrass Kits.com)

I lived without electricity for 18 years and tend to do things by hand before I resort to machines. Years back I had a dryer like this, which worked very well. Several years ago, I decided it would be a good thing to make, so I started looking around for materials. The screening is easy to find -- Sliters carries it, as do most hardware stores. They also have the doweling, I used to stabilize the shelves. The black material could probably found at a good fabric store. I found this in a dumpster-foraging is also one of my skills. Someone had made up a Dracula cape, perhaps for Halloween, then threw it away, as we so often do. It wasn't even dirty, but I washed it up, and re-cycled the material into something useful. I have included the pattern I used along with list of materials needed, which of course, is flexible depending on the size you want to make. (see Fran's Solar Dryer sketch).

There are also plans for a different style dryer, that I got off the Food Guys website. If do-it-yourself is not your skill, there are commercial ones to be found out there, just not in the Flathead Valley-I already called all the sporting goods stores-nobody carries one-but there is the Web. I found one at Wheatgrass Kits.com, there are probably others. (Refer to handout or references section of this document for urls).

Discussion:

Someone from the audience indicated you can get a **solar dryer through Azure Standard.** I (Catherine) tried to find it on their website without luck. Refer to www.azurestandard.com.

Why dry foods? Aside from the advantages of less storage space required, than for canned foods, dried foods are more nutritious than canned. Canning can destroy up to 65% of the vitamins and minerals, according to the USDA. Drying retains most of the vitamin A & C, thiamine and riboflavin.

Preserving Meats

Drying Meats

Jerky is the easiest way to preserve meat without refrigeration or canning. The best meats for drying are the leanest varieties, such as beef, venison, bison or lean muscle of elk. Cut the meat in strips, lengthwise of the grain, 1" wide and ½' thick, as long as possible.

Unsalted Jerky, isn't really without salt, just less. A basic recipe is: Per pound of fresh meat, mix together 1 teaspoon of salt with pepper, garlic powder and your favorite herbs to taste. Lay strips of meat on cutting board, and pound the seasonings into meat on both sides, with a meat mallet.

To dry in the oven:

- Preheat to 150° F. Spread foil in the bottom of the oven to catch drips.
- Put seasoned strips ½" apart on wire racks that have been treated with non-stick spray (or brushed with oil).
- Immediately turn oven to 120° F. Vent door of oven to allow moisture to escape.
- Turn the strips over after 5 - 6 hours.
- Continue drying 4 more hours, then check for dryness. Strips should be shriveled and black, and brittle when cooled.
- Wrap in moisture proof material, put in a solid container with a closer fitting lid. Store below 40° F, or freeze.
- Without refrigeration or freezer, meat can be kept in a metal box, with tight fitting lid in a pit in the ground, or in a box set into the creek. naturally in winter, the world is a freezer.
- Meat can be eaten as is, or can be re-constituted, and used in stew, soup, etc..

Salted Jerky:

Prepare brine of 2 ½ cups of pickling salt/3 quarts of water. Soak strips of meat, 2-3 days, then remove and wipe dry. Dry in the sun, or hang 4 feet above a very slow, non-smoking fire-not much more than a bed of coals. Alder is best, if hard wood is not available. Feed the fire with small pieces of wood, carefully so juice does not ooze from excess heat. Depending on conditions, should take 24 hours. Test for dryness, package and store in freezer.

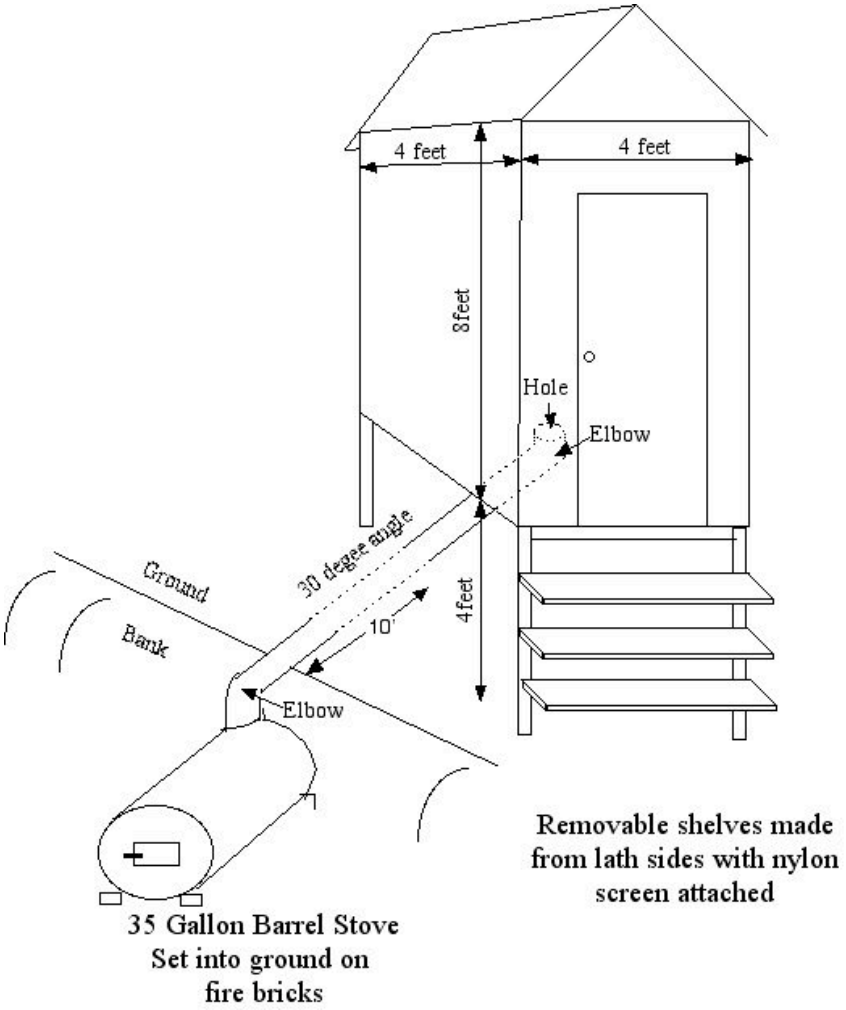
Open Air Drying

Choose time with good, not roasting sun, dry air day and night, gentle breeze. Hang salted strips from drying frame, and leave until brittle dry. This method does require careful watching to keep insects and animals away from meat. The first jerky we made we laid the meat out on some black canvas tarps in hot sun, and tuned it often the first half a day. It dried in about 15 hours.

Smokehouse

We used alder for smoking meat. Sketch included. Shelves were made from nylon screening attached to lathe strips and rested on wooded strips nailed into the walls, so they were removable. All seams must be insect and animal proof to protect the food, and concentrate the smoke.

Here's a sketch of our smokehouse:



Curing

I'm unable to find my old book, so I don't have the exact recipe I used to keep bear meat. Maybe someone here has a good book or method.

Most of the "cures" I found in the other sources I have researched are heavy duty salting, as if for hams. Mine included brown sugar, allspice, and salt, which I rubbed into the raw meat, then layered it with butcher paper, and stored it all in a large plastic garbage can, in the creek. The water came up far enough on the can to keep all the meat surrounded. There were often just two of us there, eating it, and we never had any of the meat to spoil. It kept like fresh meat, for at least a month at a time, perhaps longer, I wasn't keeping records, just surviving.

Salt Brining

This method involves soaking the meat in a salt or salt & sugar brine, such as for corning beef. I've not done this method, so will not be covering it tonight. Catherine has another handout with instructions, that were printed in Edible Missoula magazine. See Corned Beef, by Catherine Haug (for Edible Missoula).

Discussion:

> Catherine mentioned that **raw milk** can also be used to preserve meats. Pasteurized milk and soy milk will not work. It's the good bacteria in raw milk that work to preserve the meat by fermentation.

Canning

We have hand-outs on canning from previous presentations:

- The EssentiaList: Hot-Bath Canning at Home: Info & Sources,
- The EssentiaList: Pressure Canning at Home: Info & Sources,
- The EssentiaList: Home Canning Tables (Pressure & Hot Bath).

For someone buying a canner, there will be a book enclosed that gives times and pressures for the particular method you are using. There are many books available with more recipes than you will ever use for putting up every fruit and vegetable and combination thereof. Also meats, and for jams, jellies, preserves, pickles and relishes, so I won't be going into any recipe sharing tonight.

There are a few things to keep in mind:

Salt, for one, should be canning or pickling salt, not regular table salt, and not sea salt. Table salt has ingredients in it to keep it from clumping in damp weather and that makes your liquid cloudy. Sea salt has natural minerals in it which do not always combine well with food during fermenting and curing.

Discussion:

> Catherine added: Most table salt also includes **iodine**, which will cause trouble in canning.
>
> If you can't find canning or pickling salt, use **Kosher salt**. It is also known as koshering salt; koshering refers to the salting of meat in Jewish tradition.

Also from discussion:

> When foods can no longer be trucked into the area, where will we get salt for all these preservation processes? There's the **saltlick** near Essex; how would we collect and transport it? No one in the audience had answers.
>
> Stephanie mention the movie: “Saltmen of Tibet;” it shows how the men collected and transported salt. Refer to Zeitgeist Films: Saltmen of Tibet for more about this film.

As with any preserving process, always use the freshest fruits and vegetables.

Sugar is always white, granulated, unless a recipe specifically calls for brown sugar. As sweeteners are not used as preservatives in pickles, you can substitute honey for sugar. Use a light honey, such as clover, orange blossom or alfalfa, as they are mild in flavor. Amounts are equal whether sugar or honey called for in a recipe, but it is good to taste your syrup as you add the sweetener. Amount guidelines are not hard and fast, and you can use less if you like the taste.

Discussion:

Diluting **white grape juice** concentrate (3 cans water to 1 can concentrate) can be used instead of a sugar syrup.

Spices should be fresh, and organic is possible (non-organic spices can contain undesirable chemicals). Time, heat and humidity deteriorate spices and they lose their potency, so keep them in air tight containers, away from light and heat.

Vinegar should be cider or white of 4-6% acidity. When in doubt, use white vinegar as it produces lighter pickles. Homemade vinegar is not recommended unless you can test for acidity first.

Pots: Never use copper, brass, galvanized iron or aluminum pots for pickling, as these metals react with acids and salts in the liquids and may cause undesirable color changes in your finished pickles.

As with all food preparation, **Cleanliness** is imperative. Always keep some hot water on hand to rinse off knives, spoons, and ladles, and be scrupulous about cross-contamination. All jars used must be washed in hot, soapy water, rinsed and sterilized before use. Lids must be sterilized and kept in hot water or they will not seal properly. A few years back, I was making jam with some friends, and I discovered a really neat tool. Since I started canning at age 10, I have always used tongs to get the lids out of the hot water. If you have played that game you know how often you also get fingers in hot water. Well, my friend has this handy little magnet on a handle that reaches right into the pot and picks up a lid. No more blanched fingers. Ah, Progress!

Discussion:

Q: Can you use a **pressure cooker without electricity**?

A: Absolutely. You can use it on a wood stove.

Q: What about a grill?

A: Perhaps, but it would be harder to keep the heat even, which is important when canning, to keep the pressure level.

Pickling

This topic will not be discussed tonight; several pickling methods will be covered at a future gathering.

From discussion, Catherine mentioned:

We have a handout for **Lacto-fermentation** (pickling with lactic acid) from our Sauer-kraut presentation that describes this method of pickling, including a couple recipes. See:

- The EssentiaList: Pickling & Lacto-Fermentation Introduction, Sources, & Recipes
- Gathering Summary: Homemade Sauerkraut, & introduction to Lacto-Fermentation

Refer to our handout, The EssentiaList: Putting Food By; or for a printable version of this summary, Gathering Summary: Putting Food By, July 22, 2009

References

Books:

- "Stocking Up," by the Editors of Organic Gardening & Farming
- "Putting Food By," by Janet Greene, Rught Hertzberg, Beatrice Vaughan
- "Pickles & Preserves," by Marion Brown
- Preserving Summers' Bounty," Edited by Susan McCllure & Staff of Rodale Food Center; a preview copy is available online (http://books.google.com)

Websites:

- The Food Guys (http://www.thefoodguys.com/solarfooddryers.htm)
- Wheatgrass Kits (http://www.wheatgrasskits.com/foodpantrie.htm)
- Corned Beef, by Catherine Haug (for Edible Missoula) (or see "Recipes" on www.ediblemissoula.com)
- Culinary Café Canning Guide (www.culinarycafe.com/Canning.html)
- USDA Complete Guide to Home Canning (www.uga.edu/nchfp/publications/publications_usda.html)