

Gathering Summary: Canning & Dehydrating Foods, a Panel Discussion, August 25, 2010

Summary by Catherine Haug; Photos as noted.

Our Panel

Don B. and Julie V. on dehydrating; Kathie L. on Canning.



Dehydration or Drying Foods

(Photo of Excalibur Dehydrator, right, from excaliburdehydrator.com)

This technique involves the removal of water from the food, and it works great for fruits, vegetables and nuts. Buying locally grown foods in season (or using your homegrown produce) can be very economical, and provides the most healthful preserved foods, with less than 4% loss of the nutritional value.

Reasons to dehydrate:

- Nutritional, lightweight snacks
- Emergency supplies
- Less storage space than canning
- Requires less energy: solar dryers use the least. Don says his electric dehydrator uses \$1 - 2 of electricity for a 20 pound box of fruit. The smaller and more uniform the size of the slices/pieces, and the less dense the food, the less energy required. For example, sliced apples take less than whole cherries or apricots.

Question from audience: What is the difference between dehydrating and vacuum pack? The vacuum pack is one way to store the food, but it does not remove the moisture and so does not really preserve the food. Best to dehydrate the food before storing in a vacuum pack. Or freeze the pack.

Tips & optimum conditions for drying:

- The optimum drying temperature depends on what you are drying, but you don't want to go above 115° F to preserve as a living food. Warm dry air is best, with lots of air movement.
- Pick "just ripe" fruit for dehydrating, not overripe.
- Don't use bruised or moldy fruit.
- 25 pounds fresh fruit makes 4 - 8 pounds dried; varies whether peeled or seeded.
- 25 pounds vegetables makes 3 - 6 pounds dried.
- Leave the skin on stone fruit; dry with cut side down so moisture won't collect.
- Slice anything, 1/4" slices for less time and better dehydration.

- Pears: best to slice a little thicker for better flavor.
- Plums: cut into quarters; cherries: cut in half.
- Raspberries: fruit leather is probably the best: put through a press to remove seeds. But can also dry whole.
- Apples can be dried with or without the skin.
- Green beans: best if Frenched (sliced in half lengthwise). Great for stews and soup.
- Zucchini for bread: grate fresh fruit in batches of just the right amount needed for your recipe, then dehydrate that way and store that in a container for future recipe.
- Homegrown herbs dry quickly.
- You can mix layers of different foods in the dehydrator at the same time, but best not to mix with odorous fruit. Put only one type on the same shelf, so when one piece is dry, all are dry on that shelf.
- Try rotating shelves.
- Don't over-dry. It's a delicate balance with fruit, but vegetables should be crispy.
- When just about dry, turn off and allow to cool in place a bit - this makes it easier to test for dryness.

Comments from audience:

"I read somewhere it helps to freeze the food first." Consensus from the panel is that the food will get too mushy from being frozen.

"I heard you turn apricots inside-out." No one on the panel was familiar with this.

Fruit Leathers

Spread fruit on plastic fruit leather trays, which are available for most commercial dehydrators. If you don't want to use plastic, don't use waxed paper because it melts. parchment paper (such as bakers' parchment) is a better alternative.

Preserving Color

Sulfur can be added to preserve the color (most commercially dried fruits are treated this way), but it is not necessary. Some dehydrators don't darken the fruit.

Lemon juice or vitamin C can be used to preserve color.

If you warm up the dehydrator before adding the fruit, it will keep a better color.

Storage of dehydrated foods

Store in cool, dark, not humid pantry. Glass jars are perhaps the best storage, especially if you have critter problems. Ziploc bags are not recommended, as critters can get through them.

Dehydrators

(photo of solar dryer from www.wheatgrasskits.com/foodpantrie.htm)

See Mother Earth News: [Choosing a Food Dehydrator](#), or [Dehydrator Book](#) for more information.

The following were on display at the gathering:

- American Harvest is round, with hole in center. See www.nesco.com.
- Excalibur is square. See www.excaliburdehydrator.com.
- Homemade: Don made his dehydrator following instructions in *Dry It - You'll Like It* (see sources).



A car makes a great solar dryer.

See also Mother Earth News: [Build a Solar Food Dehydrator](#)



Canning

(photo of Aubuchon Water Bath Canner from housewares.hardwarestore.com)

There are two types of canning methods/canners:

- Water bath, for high-acid fruits or vegetables that have been pickled (this type of canner pictured, right)
- Pressure, for veggies that have not been pickled and for all meats.

Canners

For either canner type, note that its diameter must not hang over the edge of an electric coil burner more than 4", nor more than 1" over the edge of a ceramic burner, to avoid cracking the ceramic top. Gas and camp stoves do not have these restrictions.

Comment from audience: "My stove with electric coils has a heavy duty burner that is recommended for canning."

Water Bath:

You can use a pot made especially with this purpose, fitted with a wire basket to hold the jars, or any pot big enough to hold water at least 2 inches above the top of your jars, with something on the bottom if you don't have a rack (a towel, etc.).

Pressure:

Pressure canners come in two different types for measuring the pressure inside the canner: Those with a pressure gauge, and those with a weight. Newer canners may have both. The weight is probably more accurate and doesn't need to be calibrated every year; pressure gauges should be re-calibrated (the Flathead County Extension service will do this for free).

Jars and lids

Use jars made especially for canning, such as Mason or Kerr jars.

Sterilize your jars before filling them, using one of these methods:

- Immerse jars in boiling water for 10 minutes;
- Use electric dishwasher's hot rinse cycle); or
- Hand-wash, put jars on baking sheet in cold oven. Set to 250° F for 30 minutes. Then fill jars while on baking sheet to minimize mess. This is Kathie's favorite method.

Used jars are as good as new jars, provided they are not cracked or chipped.

Never store with ring on the jar - it may rust or hide food particles with can loosen the lid and expose the food to spoilage.

Two types of lids are available:

- Original metal lids with gasket. These lids are coated with BPA, a toxic plastic that can leach into your food. You should never reuse these lids.
- [Tattler lids](#), which are made from BPA-free plastic and are reusable.

Comment from audience, by Catherine: "From a sustainability perspective, ESP must note that the use of plastics of any kind is not sustainable, as they are made from petroleum and/or require large amounts of fossil-fuel energy to produce. Also all plastics are toxic, and can leach their toxins into your food, especially when heated, and even more so when reused." Kathie responded that this is a topic she did not want to pursue during her presentation.

Canning Process

1. Prepare canner:

- ▶ Water bath canner: Fill canner with water and start it to boiling while you prepare the food. NOTE: if you have hard water, add cream of tartar or vinegar to the water.
- ▶ Pressure canner: add water per instructions for your canner. And select the 15 pound pressure weight for our area.

2. Heat lids in pot of simmering water (at least 10 minutes).

3. Filling the jar: Use wide-mouth funnel to assist in filling jars. Leave 1/2" - 1" head space (according to your recipe). The bottom ring on the neck of the jar is a good guide. Do not under-fill the jar, as it may not heat to the right temperature.

4. Use a knife blade to work around the inside of the jar, to remove air bubbles.

5. Wipe off top edge of jar with damp cloth, then put lid on top. A magnetic lid-lifter is a handy tool to remove the lid from the simmering water.

6. Screw on ring to finger-tight.

7. Place jar on rack in canner.

- ▶ Water bath canner: but do not start timing until water returns to boil.
- ▶ Pressure canner: follow instructions for your canner; do not start timing until canner has reached desired pressure (15 pounds for our area).

8. If mixing ingredients, such as soups and stews, can per the ingredient with the longest processing time.

9. When time is up, remove jars with jar lifter and set on counter (good idea to fold a towel for the jars to sit on). As the jars seal, you will hear a 'ping' sound. You can also tell if they have sealed by looking for the indented lid.

10. If it doesn't seal, it's better to use it right away or put it in the freezer, rather than re-processing again, as re-processing is hard on the food's texture and flavor.

Canning notes

Paraffin can be used in place of a lid if you are canning jellies that have lots of sugar; but be aware that the paraffin can melt.

Tomatoes, especially heirloom varieties, may not be acidic enough for water bath canning. Always best to use a pressure canner for tomatoes.

Dried beans: You must use a pressure canner. Soak then boil beans before adding to jars. This does not apply to lentils.

Botulism: Kathie says you have to try really hard to get botulism. If you follow the instructions correctly, you should not have to worry about botulism.

Sources & References

Books

- *Dry It - You'll Like It*, by Gen Mac Maniman (see www.amazon.com/Dry-Youll-Like-Gen-MacManiman/dp/0961199806)
- *Encyclopedia of Country Living*, by Carla Emery (see www.amazon.com/Encyclopedia-Country-Living-Carla-Emery/dp/1570615535/)

Web

- Kathie L's website: twofroghome.com (see links column of ESP website under 'Local')
- Excalibur dehydrators: www.excaliburdehydrator.com
- American Harvest dehydrators: www.nesco.com/category_449f7fo1f1ea/
- Mother Earth News:
www.motherearthnews.com/Real-Food/2003-06-01/Choosing-a-Food-Dehydrator.aspx
www.motherearthnews.com/Do-It-Yourself/2006-08-01/Build-a-Solar-Food-Dehydrator.aspx
- Dehydrator Book: www.dehydratorbook.com/
- Tattler canning lids: www.reusablecanninglids.com/
- Home Canning Guide (MSU Extension)
msuextension.org/publications/HomeHealthandFamily/MT198329HR.pdf
- ESP handouts:
Putting Food By Without Refrigeration
essentialstuff.org/index.php/2009/07/08/Cat/gathering-notice-putting-food-by-with-fran-wade-072209/
Hot Bath Canning at Home
essentialstuff.org/wp-content/uploads/2009/02/canngshotbath_esl.pdf
Pressure Canning at Home
essentialstuff.org/wp-content/uploads/2009/02/canngpresinfo_esl.pdf
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