



# Oregon State University Extension Service

## 2021 Food Preservation Update Dehydrating and Freeze-Drying Foods Viewer's Guide

Specials thanks to our presenters:

Dehydrating Foods: Don Wiley, Clackamas County Master Food Preserver

Freeze Drying Foods: Roger Smith, Lane County Master Food Preserver  
Denise Fennell, Douglas County Master Food Preserver Coordinator

### Suggested resources and references:

*Recipes for Adventure*, Chef Glenn McAllister. Monthly newsletter: [www.backpackingchef.com](http://www.backpackingchef.com)

*Rehydration Calculations Made Easy*, Wanda Bailey Clark

Recipes using dehydrated food: *The Dehydrator Bible*, Jennifer MacKenzie, Jay Nutt, & Don Mercer

*The Ultimate Dehydrator Cookbook*, Tammy & Steven Gangloff & September Ferguson

*LC 40- Treats from your food dryer*, fact sheet. OSU Extension Service, Master Food Preservers

*Meals in a Jar*. Stephanie Peterson. - <https://amzn.to/2MY1Vrn>

*Buying a home freeze-dryer, what to know*. [https://digitalcommons.usu.edu/extension\\_curall/1985](https://digitalcommons.usu.edu/extension_curall/1985)

HarvestRight, manufacturer of freeze dryers. <https://harvestright.com/>

*Harvest Right Freeze Dryers, Freeze Drying Adventures* Facebook - <https://bit.ly/2Owu9Kq>

*The Epicenter.com* How-to videos <https://www.youtube.com/user/EpicenterBryan?app=desktop>

Preserve the Harvest. *How to freeze-dry*. Utah State University Extension  
<https://extension.usu.edu/preserve-the-harvest/freeze-drying>

*Betty's Freeze Dryers Facebook group*  
<https://www.facebook.com/groups/BettysHarvestRightFreezeDryersGroup>

*Home Freeze-Drying: Read this before you buy a freeze dryer*.  
<https://commonsensehome.com/home-freeze-drying/>

Timely tips for success with your freeze-dryer from Denise.

1 - Don't think higher temps (summer) mean quicker drying. Just like your air conditioning, your freeze dryer has to work harder the hotter it gets. Higher temps add hours to the drying time – sometimes many hours. When the heat and humidity go up (80°F), take a break from freeze drying. If you live in an area where it's almost always hot and/or humid, I'd put the freeze dryer in an air conditioned space. My freeze dryer is in my garage which is a finished garage and maintains an even temp. Roger suggests aiming a small portable fan at the pump motor to assist with cooling.

Note: The pump is loud this is not something you want in your spare room or kitchen while you're trying to sleep or watch TV.

2 - Line pans with parchment paper. I don't recommend Silt pads as the trays will not reach sufficient temps to heat food properly for water evaporation and you'll have to dry them even long. To help reduce the cost go buy a big box at Smart Food Service, Winco or on line

3 - Make sure you take the time to cut pieces evenly. Keeping all pieces under ½" thickness will allow for efficient freeze drying and convenient sized pieces.

4 - Always check for dryness on the heat cycle never the cold. When you see the temp is 90+, follow manufacturer instructions for stopping process, and check for doneness. Best way is to find a few of the thicker pieces, break them in half, I touch one to my lower lip. If it's cold start the unit back up and test again in 4 hours.

5 - Pre-Freeze liquids in baggies then fit them into the tray to freeze. The FD is lower by 1/4" in the back to allow the defrosted water to drain. If you pour liquid into the trays MAKE SURE it's not spilling out the back. This is where pre freezing helps a lot. When ready to process start the freeze cycle and when it hits about 30 degrees pop the pre-frozen trays in.

6 - If wanting to make something like Beef Stew I recommend the following. Do not freeze dry beef stew. You'll waste a lot of time to get all the moisture out. Instead (for a 4 tray unit) do a tray of potatoes/mushrooms, another of onions/celery, carrots/beans and one of cooked beef cubes. Package in mylar bag with 1 TBS of dried herbs. Then rehydrate with beef stock and you have stew. So look at all heavy moisture dishes and see if there is a way to deconstruct and freeze dry, then later rehydrate with flavored liquid like broth.

7- Don't waste time with doing milk, the commercial pkg is just as good and cheaper in the long run.

8- Don't mix dissimilar foods like bananas and green beans. You'll get a cross over flavor in both foods. I don't care what the manual says.

9-Deli ham can be rolled and held with toothpicks.

#### Fruits / Veggies-

Do bananas rings on skewers. You'll get twice as many per tray - no pretreatment needed. Start FD freeze cycle as you finish each tray pop them in.

Blue Berries - cut in half or puncture a lot to allow moisture out. (personally will not do again)  
Apples - no pretreatment - see bananas above. Sprinkle with cinnamon sugar for an added treat.  
Strawberries - Amazing! But you must really make sure that you tightly reseal.  
Citrus - They freeze dry wonderfully! I use them in pitchers of water and the flavor is slowly released. Gorgeous if frozen in large cubes.  
Peaches, Pineapple – due to high sugar content will take several hours longer than other fruits.  
Grapes - slice in half, process cut side up.

Herbs - Wonderful! Much fresher flavor than dried.

Tomatoes - peel they get very tough when hydrated. Unless you are making tomato powder out of them, then you can leave them on.

Cherry tomatoes - cut in half, process cut side up.

Zucchini - peels can be tough I usually take 2-3 slices off with a peeler then slice and process.

Onions - Whatever room your freeze dryer is in WILL smell like onions for while (same for garlic)

Garlic - MUST slice in half, minced is better.

Green beans - Blanch before freeze drying. They'll keep their color and flavor.

Broccoli - Same as above

Cucumbers - Don't waste time...get slimy on rehydrate

Do NOT freeze dry raw potatoes, upon rehydrating they will turn black.

Source: OSU Master Food Preserver Program



---

*© 2020 Oregon State University strives to ensure that all educational programs, services, activities and materials we offer to the public are identified, developed, delivered, and evaluated in an inclusive, equitable, and socially just manner. OSU Extension Service educational programs, services, activities, and materials are available to all people.*

---