



Freeze Drying 101

How to Use Your Freeze Dried Products

Margine Bawden, Amy Robertson, and Cindy Pearson

The benefit of a freeze dryer is that it increases the type of food that can be preserved and the length of time that the food can be used. A key question that needs to be answered is how to use your freeze dried products. The information that is being shared is based on personal use and tests of the machines and freeze dried products.

General Recommendations

- Have a plan for what you are going to do with your freeze dried items and for when you will use them.
- Be budget-conscious. Often you can buy prepared items, such as freeze dried butter and powdered milk, for less than the cost of purchasing and processing it yourself, at box stores, or online retailers. Other products such as freeze dried fruit and veggies are cheaper when done at home, especially if you can buy in bulk or have a large garden.
- Preparing individual ingredients can be more cost and time efficient. For example, prepare the individual ingredients for stew rather than making stew and then freeze drying it. The individual ingredients will provide you with more options for use; whereas, preparing the stew will result in only one product. This can lead to unnecessary use of your time in making the stew and then causing your appliance to work harder by removing all of the water during the freeze drying process.

Rehydration Methods^{1,2}

- 1) Pour method: Add hot water to ready-to-eat freeze dried foods. Only add enough water to rehydrate the food but not have extra liquid. This method typically takes 5-15 minutes and works best for fully cooked or blanched foods such as oatmeal.

- 2) Soaking: Place freeze dried food into a bowl and cover with hot or cold water (depending on raw or cooked) and allow to soak. If you are not planning to use it immediately, place it in the refrigerator for 2-24 hours. This method works well for products such as chicken or pork³.
- 3) Water spraying: Use a food-grade spray bottle filled with either hot (for cooked foods) or cold water (for raw foods). This method works best for delicate foods that require little moisture such as shredded cheese or berries⁴.
- 4) Wrapping with a damp paper towel: Wrap your freeze dried food in a damp paper towel and place in a zip-top bag. Check after 20 minutes. This method only works well with thin and delicate items, such as breads and cakes⁵.



¹ Harvest Right (2016). How to Rehydrate Your Home Freeze Dried Food. <https://www.youtube.com/watch?v=3Nsq6wnWyJs&t=3s>

² Prep4Life (2024). Prep4Life The Cube Freeze Dryer Owner's Manual. https://cdn.shopify.com/s/files/1/0726/5632/2858/files/Owners_Manual_V3-1.pdf?v=1724343279

³ Harvest Right (2016). Rehydrating Freeze Dried Meats. <https://harvestright.com/blog/2016/rehydrating-freeze-dried-meats/#:~:text=Rehydrating%20meat%20is%20easy.,dry%20with%20a%20paper%20towel.>

⁴ Harvest Right (2016). Rehydrating Freeze Dried Dairy Products. <https://harvestright.com/blog/2016/rehydrating-freeze-dried-dairy/#:~:text=When%20you're%20ready%20to,them%20as%20a%20crunchy%20snack.>

⁵ Harvest Right (2016). Rehydrating Freeze Dried Full Meals, Breads, and Cakes. <https://harvestright.com/blog/2016/rehydrating-freeze-dried-full-meals-breads-and-cakes/>

Fruits and Vegetables

- Many fruits can be eaten in their freeze dried state, and do not need to be cooked prior to processing. The texture is light and crispy. For added flavor, you can add additional flavorings such as salt or cinnamon before freeze drying the item. Since freeze drying is not cooking the food there are not specific recipes that must be followed, however, general food safety rules should always be followed.
- They can be used as a flavoring and a thickener in your recipes. Pulverize the freeze dried product to then make a powder that can be added to cakes, soups, milkshakes, or salsa.
- To rehydrate your produce, cover the item with liquid. The length of time it needs to sit in the liquid depends on your preference and planned use of the product. Generally, you will need to rehydrate your item for 15 minutes to return to normal texture.

Meat

- Cooked chicken is the easiest meat product to rehydrate for use. Freeze dried chicken can be added directly to prepared soups, stews, and casseroles without additional liquid being added. If you want to rehydrate chicken, we recommend rehydrating it in either chicken broth or chicken bouillon. To rehydrate, cover the product with liquid and allow it to sit for at least 15 minutes or until it reaches your desired texture.
- Cooked beef and pork can be added directly to chilis, soup, and casseroles without needing to be rehydrated as your freeze dried product will rehydrate in the liquid that your recipe calls for. Beef and pork can be eaten in their dried form-it makes a great jerky! If making jerky, soak the product in a brine of your desired flavor before freeze drying.
- Raw meats can be rehydrated but need to be fully cooked before consuming. Whole pieces of meat



such as steaks and chops should be rehydrated in the refrigerator then cooked using your preferred method. Always use a food thermometer to check the internal temperature of cooked meats following USDA guidelines.

Eggs³

- To rehydrate egg powder, mix 2 Tablespoons of powder plus 2 Tablespoons of water to equal 1 egg. Season and cook as desired.
- Scrambled eggs can be rehydrated by adding small amounts of hot water until they reach the desired consistency.

Dairy⁶

- Reconstituting freeze dried milk is fairly easy, mix together 1 part freeze dried milk powder and 4 parts water. Freeze dried milk can be used in many recipes such as homemade soups, dressings, or breads.
- Ice cream can be freeze dried, however, the higher the fat content in your ice cream the longer the freeze drying cycle will be. Freeze dried ice cream can be consumed as is. Attempting to rehydrate will result in a product with the consistency of melted ice cream.
- Cheese can be eaten in its freeze dried form. Shredded cheese can be added to recipes without being rehydrated as it will rehydrate during the cooking process. You can use freeze dried cheese as a garnish-just put it on the bottom of whatever you are making, and it will rehydrate. For example, place the cheese on the bottom of your taco shell, then add your other fillings and it will rehydrate.
- Butter is best used in cookies, cakes, and frosting. If your recipe calls for 8 Tablespoons of butter, add 8 Tablespoons of the freeze dried butter and 8 tablespoons of water.
- Less firm dairy products such as yogurt, sour cream or cottage cheese can be rehydrated and then refrigerated to be used in their original form, consume them per USDA recommendations for food safety. Milk should be consumed within 7 days, cottage cheese is a week, shredded cheese is 3-4 weeks, and sour cream is 1-3 weeks⁷. You can also use the freeze dried powdered form to add flavor and thicken homemade dips or dressings.

Beans:

- Prepared beans can be rehydrated using the liquid of your choice, such as milk, water, or broth. Add the amount of liquid to reach your desired consistency and reheat. Refried beans are extremely quick to rehydrate.

⁶ Harvest Right (2016). Freeze Dry Dairy and Eggs at Home. <https://www.youtube.com/watch?v=ZCvvZIZrVBc&t=83s>

⁷ AskUSDA (2024). How long can you keep dairy products like yogurt, milk, and cheese in the refrigerator? <https://ask.usda.gov/s/article/How-long-can-you-keep-dairy-products-like-yogurt-milk-and-cheese-in-the-refrigerator#:~:text=Milk%20can%20be%20refrigerated%20seven,but%20doesn't%20freeze%20well.>

Complete Meals^{8,9}

- The rehydration process depends on the item being rehydrated, and how much. For example, an individual serving of enchiladas, of any type, needs to be placed in a microwave safe bowl, add a liquid of your choice to the half-way point of the enchiladas and then microwave for 1-2 minutes depending on your microwave. More liquid can be added to all products to reach your preferred consistency.

In general, choose to freeze dry foods that you want to eat and will use. The majority of freeze dried foods can be consumed in their freeze dried form and do not require rehydration. If you want to rehydrate your food, think about what your desired outcome is. For example, chicken tastes better if rehydrated in chicken broth or bouillon, rather than water. Like all food preservation methods have a plan for when and how you are going to use your product to ensure that it is cost effective for your household.



THE UNIVERSITY OF ARIZONA
Cooperative Extension

AUTHORS

MARGINE BAWDEN

Assistant Area Agent - Family, Consumer and Health Sciences

AMY ROBERTSON

FCS Extension Educator, University of Idaho Extension



CINDY PEARSON

ASSISTANT IN EXTENSION - FAMILY AND CONSUMER HEALTH SCIENCES

CONTACT

MARGINE BAWDEN

mbawden@cals.arizona.edu

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⁸ Harvest Right (2016). Freeze Drying & Rehydrating a Ham Dinner. <https://www.youtube.com/watch?v=oPGb0FMLCnI&t=1s>

⁹ Harvest Right (2016). Tomato Soup & Pasta Rehydration Meal. <https://www.youtube.com/watch?v=0hA3QOJYMik>