



What do I need to know to sell DEHYDRATED FOODS at the farmers market?

What are dehydrated foods?

Dehydrated foods are foods where the available water within a product is removed. It is one of the oldest known methods of food preservation. Many types of foods can be dehydrated including fruits, vegetables, and meats (fig. 1 and 2). Some dehydrated food examples are:

Fruits: apples, apricots, peaches.

Vegetables: carrots, beets, herbs.

Meats: beef jerky, turkey strips.



Figure 1. Photo of dried fruits and vegetables. (Photo available at PxHere.com.)



Figure 2. Photo of dehydrated beef (beef jerky). (Photo available at PxHere.com.)

Why dehydrate foods?

Dehydrating significantly increases a food's shelf stability outside of refrigeration and reduces its weight. Foods are dehydrated by removing the available water (a measurement called water activity [A_w]) from the food. Foods that contain enough available water promote growth of microorganisms that can spoil the food or cause foodborne illness. Reducing a food's available water below a certain level can make it shelf stable (capable of being stored without refrigeration) by (1) preventing the growth of microorganisms and (2) slowing common chemical reactions that decrease food quality.

How much water should be removed from my dehydrated product?

Once a food product's A_w is reduced to below 0.85, it no longer requires temperature control for safety. Reducing the A_w even further decreases the growth of spoilage microorganisms, thus enhancing the product's shelf stability.

Do the foods that I am dehydrating require state inspection?

In Virginia, some dehydrated foods can be produced in a home kitchen under the Virginia Department of Agriculture and Consumer Services (VDACS) inspection exemption (Code of Virginia, 2019). Some examples include: dried fruits, dry herbs, dry seasonings, dry mixtures, coated and uncoated nuts, vinegars and flavored vinegars, popcorn, popcorn balls, cotton candy, dried pasta, dry baking mixes, roasted coffee, dried tea, cereals, trail mixes, and granola.

How do I know my product's water activity?

To know your product's A_w , it must be tested. Testing can be done through a process authority, a food scientist, or a food testing laboratory. You can find process authorities through the Association of Food and Drug Officials (www.afdo.org/foodprocessing).



What steps do I follow to sell my product under the retail sales exemption?

Selling under the VDACS inspection exemption (Code of Virginia, 2019) exemption means you are selling your product out of an uninspected kitchen. The requirements are as follows (VDACS, 2013, Code of Virginia, 2019):

1. The product must have a label that includes all general labeling requirements (see below), as well as the name, physical address, and telephone number of the person preparing the food.
2. The phrase "NOT FOR RESALE – PROCESSED AND PREPARED WITHOUT STATE INSPECTION" must be displayed prominently on the front label.
3. These products can only be sold at farmers markets, from your private home, or to an individual for their own consumption.
4. These products cannot be sold across state lines, on the internet, or in stores (at wholesale).

Even if you sell your product without inspection, you must still produce a safe product and know what makes your product safe. For example, you must know that you have reduced the water activity in your product to a level that makes it safe; this may include testing your product's A_w .

Just because your product meets the criteria to be sold with the exemption, it does not mean that you have to sell it without inspection. Some producers prefer to have their kitchens inspected, so their products do not have to be labeled with "NOT FOR RESALE – PROCESSED AND PREPARED WITHOUT STATE INSPECTION."

What steps do I follow to sell my product under inspection?

1. Decide where you are going to produce your product. Please note that dehydrated meats can not be prepared in a home kitchen.
 - Out of your inspected home kitchen?
 - Out of an inspected community or commercial kitchen?
 - Out of your restaurant/catering business/food truck?
2. Familiarize yourself with the regulatory process associated with your product. If producing from a home or commercial kitchen, refer to the VDACS Home & Commercial Kitchen-Based Businesses webpage for more information. If producing from a retail establishment (restaurant, catering business, food truck, etc.), please refer to the Virginia Department of Health.
3. Have your product's dehydration process reviewed. This will include a review of your specific dehydration process (times, temperatures, and methods) and A_w testing of the product. This may be done through a process authority, a food scientist, or food testing laboratory. You can find process authorities through

the Association of Food and Drug Officials (www.afdo.org/foodprocessing).

4. Complete and submit the correct application that pertains to where you will be producing your fermented vegetables.
 - VDACS – Use either the [Application for Home Food Processing Operation](#) or the [Application for a Commercial Kitchen Food Processing Operation](#).
 - VDH – Use the [application for inspection of a food establishment \(including an application or variance request\)](#).

What is a variance?

If you are considered a retail food establishment (restaurant, food truck, grocery store, caterer, etc.), and want to sell your product at the farmers market, you must apply for a variance as part of your application for inspection. A variance is issued by Virginia Department of Health and allows a business to perform a process that is not addressed in the regulation. Some of these processes include fermentation, acidification, meat curing, etc.

5. After you submit your application, the regulatory agency will contact you with further questions and/or to schedule an inspection when your application is considered complete.
6. Comply with all regulatory and labeling requirements as stated by VDACS.

What food safety steps should I follow when preparing my product?

1. Practice proper personal hygiene.
2. Use proper cleaning and sanitizing practices.
3. Purchase ingredients from approved and reputable suppliers.
4. Begin with high quality, raw ingredients; ensure that the product chosen for dehydration is fresh.
 - For fruits and vegetables: use ripe fresh fruit that has been washed. Remove all bruised and fibrous portions prior to processing.
 - For meats: any lean meats such as pork, venison, turkey, and cuts of beef can be dehydrated. If you are using previously frozen meat, it must be defrosted/thawed in the refrigerator (41° F /5° C or below).
5. Use a method to reduce microorganisms on your product before you begin dehydration. The dehydration process might not kill microorganisms that cause foodborne illness. While microorganisms do not grow in your dehydrated product, they could still be present and cause illness.
 - Most fruits and vegetables require blanching before dehydration. Blanching uses either steam or boiling water to stop enzymatic reactions. Blanching also kills some microorganisms.
 - If your fruits or vegetable will be dehydrated with an intact rind or peel, the surface of the product should be washed prior to slicing.



- Meat must have a process in place to kill microorganisms that could cause illness. Please refer to “FSIS Compliance Guideline for Meat and Poultry Jerky Produced by Small and Very Small Processors” for the different processes you can use (FSIS, 2012).
- 6. Adhere to a consistent process. Once you confirm that your product has reached the desired dryness, use the same process to prepare your product every time. Factors that remain constant in the process include:
 - Size/thickness of cuts.
 - Dehydration process used.
 - Time to dehydration.
 - Temperature used.
 - Rotation of racks throughout the process.

What type of package should I use for my dehydrated food?

The type of package you use may affect shelf life (e.g., prevent premature staling, bacterial contamination, and moisture migration, as well as protect nutrient content). You must select a package that will keep your product dry. Some plastic packages allow for moisture to migrate into the package; therefore, it is important to know the properties of a specific package you wish to use. One good recommendation is a foil-lined plastic pouch or foil-lined paper pouch.

What are the requirements for my label?

Regardless of whether you sell your produce with or without inspection, the product should be clearly labeled and should include:

- ▶ Statement of identity (product identity).
- ▶ Net weight in U.S. standard weight units and metric units.
- ▶ Ingredients (by descending weight).
- ▶ List of allergens.
- ▶ Name and address of manufacturer.
- ▶ Consumer storage and preparation instructions.
- ▶ Best-by dates.

Additional Resources

Boyer, R., and K. Huff. 2018. Using Dehydration to Preserve Fruits, Vegetables, and Meats. VCE publication 348-597 (FST-304NP). [www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/348/348-597/348-597\(FST-304NP\).pdf](http://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/348/348-597/348-597(FST-304NP).pdf).

Code of Virginia. 2019. Title 3.2 subtitle IV chapter 51 article 4. 3.2-5130. Available at: <https://law.lis.virginia.gov/vacode/title3.2/chapter51/section3.2-5130/>

Daigle, S., and J. Eifert. 2005. Safe Processing of Meat and Poultry Jerky. VCE publication 458-501. www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/458/458-501/458-501_PDF.pdf.

References

FSIS (USDA Food Safety and Inspection Service). 2012. FSIS Compliance Guideline for Meat and Poultry Jerky Produced by Small and Very Small Processors. www.aamp.com/documents/Compliance_Guideline_Jerky_2012.pdf.

VDACS (Virginia Department of Agriculture and Consumer Services). 2013. Virginia’s New Home Kitchen Food Processing Exemptions. www.vdacs.virginia.gov/pdf/kitchenbillfaq.pdf.