Introduction\(^1,2\)

Freezing and dehydrating produce commodities, including fruits, vegetables, and nuts, are ways to increase the shelf life of the produce.

Freezing can preserve freshness and quality. Freezing does not kill bacteria on the product but it does prevent microbes from growing. Once a food is thawed, bacteria begin to grow and can spoil the produce, or if pathogenic (harmful), can cause foodborne illness. Be sure to store the fruit or vegetable at 0°F or below for the duration of its frozen life.

Drying is one of the oldest methods of food preservation. Water allows growth of bacteria on food. When a food is dried, it removes water that was available for microorganisms to use and prevents their growth. Water activity below 0.85 prevents bacterial growth. If the water activity is too high, pathogenic (harmful) bacteria can grow and cause illness. Water activity is a ratio that represents the water available for microorganisms to use for growth. It is different from moisture content which is the total water contained in a food. It is important to check dried foods for moisture as the introduction of water to a dehydrated food can reduce quality and increase the chance of microbial growth.

The information below pertains to specific types of manufacturers (those who identify as a facility). Manufacturers that sell their product directly to consumers through farmers’ markets, roadside stands, or other similar venues should direct their attention to the “For Manufacturers Selling Directly to Consumers” portion of this document. Manufacturers that do not sell directly to consumers (those that sell to restaurants, grocery stores, or other manufacturers) should view the “For Manufacturers Not Selling Directly to Consumers” portion of this document, directly below.
For Manufacturers Not Selling Directly to Consumers

Federal

The Current Good Manufacturing Practice, Hazard Analysis, and Risk-based Preventive Controls for Human Food rule applies to facilities that freeze and dehydrate produce for human consumption in the United States and are required to register under section 415 of the Federal Food, Drug, and Cosmetic Act, unless otherwise exempt. Current Good Manufacturing Practices (CGMP) must be followed [21 CFR Part 117, Subpart B] by facilities that manufacture, process, pack, or hold frozen and dehydrated food. Subpart B does not apply to establishments solely engaged in hulling, shelling, drying, packing, and/or holding nuts (without additional manufacturing/processing, such as roasting nuts). For example, farms that dry/dehydrate raw agricultural commodities to create a distinct commodity (such as drying/dehydrating grapes to produce raisins) without additional manufacturing/processing are not subject to the preventive control requirements of part 117, but subpart B (CGMPs) applies to the packaging, packing, and holding of the dried commodities. CGMPs include personnel, plant and grounds, sanitary operation, sanitary facilities and controls, equipment and utensils, processes and controls, warehousing and distribution, and holding and distribution of human food by-products for use as animal food. Employees must be trained on how to maintain a sanitary environment and how to produce safe frozen and dehydrated fruits and vegetables.

When freezing and dehydrating, it is imperative to monitor the operating temperatures and humidity of the equipment and produce. Be sure to keep instruments calibrated and record temperatures, humidity, and times throughout processing. Facilities that freeze and dehydrate produce may be required to develop a food safety plan based on their Hazard Analysis and identification of Risk-based Preventive Controls [21 CFR 117, Subpart C]. A food safety plan must include written documentation of a hazard analysis, preventive controls, (or reasons as to why a hazard does not need a preventive control), supply-chain program, if applicable, a recall plan, monitoring procedures verification procedures, and corrective actions, and validation documents for process preventive controls [21 CFR 117.126(b)(1) through (7)]. Conducting a complete and accurate hazard analysis is one of the most important steps in developing an effective, risk-based, and prevention-oriented food safety system.

For Manufacturers Selling Directly to Consumers

Illinois

Dried herbs—Sales of dried herbs are permitted by an Illinois Cottage Food Operation.

Frozen and dehydrated vegetables—Dehydrated and frozen fruits and melons are allowed to be sold without a license. However, dehydrated tomato and melon as well as frozen cut melon require a license.

General Guidance—The name and residence of the person preparing and selling products as a cottage food operation must be registered with the county health department of a unit of local government where the cottage food operation resides. A fee may be charged for registration. The person preparing and selling products as a cottage food operation needs a current Department of Public Health approved Food Service Sanitation Management Certificate.
Indiana

Frozen and dehydrated produce, except for dehydrated tomato and frozen cut or dehydrated melon, are allowed to be sold by a home-based vendor. Check local government bodies (i.e. county and state level) for labeling and other requirements.

Iowa

Foods prepared using a specialized process are not allowed to be sold at a farmers’ market unless they are produced in a licensed kitchen.

Kansas

Fresh (or dried) uncut fruits, vegetables, or herbs (tomatoes, melons, okra, apples, basil)- may be home-grown. Any pesticide use must comply with label directions. May be sold without a license.

Certain cut produce and cut herbs (other than cut tomatoes, melons, or leafy greens), cut berries, cut herbs, cut carrots, etc.- can be frozen, fresh, or dried. If produce is blanched before freezing, licensing is required. If not blanched first, no licensing required.

Fruit leathers (apricot leather, other fruits)- No license is required.

Cut leafy greens (fresh or dried), cut or torn lettuce- requires KDA food establishment license at production facility and point of sale. Must be sold at or below 41 degrees F.

Certain cut produce (fresh or dried) (melons, tomatoes)- requires KDA food establishment license at production facility and point of sale

General Guidelines- While not all food producers and processors are legally required to follow specific regulatory requirements due to the type of products they produce, all can and should utilize some basic Good Manufacturing Practices (GMPs), which are the basic sanitary and processing requirements necessary to ensure the production of safe food. GMPs are also essential to meeting current and future FDA and USDA food safety requirements, and are a key pre-requisite for Hazard Analysis and Critical Control Point (HACCP) programs, which are required for certain food products, including meat and poultry, juice, seafood, and some vacuum packed products, and by some food buyers. Standard hygiene and sanitation requirements must be followed.

Michigan

Dried Products- Dry herbs, dry herb mixtures, and dehydrated vegetables or fruits may all be made in a home kitchen.

Frozen products -- Ice and ice products are not allowed to be sold by a home kitchen.

General Guidelines– Must follow labeling requirements and include the following statement: "Made in a home kitchen that has not been inspected by the Michigan Department of Agriculture & Rural Development" in at least the equivalent of 11-point font (about 1/8" tall) and in a color that provides a clear contrast to the background (All capital letters or upper/lower case are both acceptable).

Drying Recipes

http://food.unl.edu/drying

http://nchfp.uga.edu/how/dry/csu_dry_vegetables.pdf

http://nchfp.uga.edu/how/dry/herbs.html

http://nchfp.uga.edu/how/dry/csu_dry_fruits.pdf

https://extension.psu.edu/drying-fruits-and-vegetables

https://www.extension.umn.edu/food/food-safety/preserving/drying/drying-food/
**Minnesota**

**Dried, Dehydrated, Roasted Products**—fruits, fruit leather, herbs, vegetables, vegetable leathers, and chips are exempt from licensing.

**Frozen**—no mention of frozen produce

**General Guidelines**

1. Register with the Minnesota Department of Agriculture (MDA) before selling exempt food regardless of the amount of food sold.
2. Take an approved food safety course once every three years while actively selling cottage food.
3. Register with the MDA each year food is sold under the Cottage Food Exemption.
4. Prepare and sell only NON-potentially hazardous food (such as baked goods, certain jams and jellies) and/or home canned pickles, vegetables, or fruits with a pH of 4.6 or lower.
5. Label food with your name and address, the date produced, and the ingredients, including potential allergens.
6. Display a sign that says “These products are homemade and not subject to state inspection.” If you are selling on the Internet, post this statement on your webpage.
7. Deliver food directly to the ultimate consumer. The person who makes the food must be the same person who sells and delivers the food.
8. Sell from a private home, at farmer’s markets, community events, or on the Internet.
9. Check with your local city, county, or township regarding business licensing or sales prohibitions due to zoning requirements.
10. Sell less than $18,000 in a calendar year. If you sell between $5,000 and $18,000 per year, a $50 fee applies to your registration.

**Missouri**

**Dry pasta, coffee, and dried fruits**—examples of foods that vendors are allowed to sell because they are Non Potentially Hazardous Food.

**Frozen**—no mention of frozen foods.

**General Guidelines**—Products are exempt if the seller is the producer of the food or an immediate family member residing in the producer’s household and familiar with the food, • foods are sold only to the end consumer, • packaged foods must be labeled according to the code including a statement that the food was made in a kitchen not subject to inspection, or • a sign is posted at the stand for unpackaged foods, that they were prepared in an uninspected kitchen.

**Nebraska**

**Fresh or dried herbs**—can be sold without a permit.

No mention of other dried or frozen fruits and vegetables.

**General Guidelines**—A clearly visible placard is required at the sale location stating the food was prepared in a kitchen that is not inspected or licensed by the regulatory authority. You may need a current Food Handlers Permit or a special farmers’ market permit.
North Dakota 15, 16
The North Dakota Department of Health (NDDOH) is currently revising administrative rules after the 2017 legislature passed new laws around the cottage food industry. The new guidelines are expected to go into effect in 2018.
Dehydrated fruits and vegetables may be sold without a permit as well as dry herbs, seasonings, and herb mixes.
No mention of frozen fruits and vegetables but ice and ice products are not allowed.
General Guidance- Each food container and/or food item sold must include the following statement in a front size that is prominent, conspicuous, and easy to read, “These food products were produced in an uninspected home kitchen where major food allergens may also have been handled and prepared, such as tree nuts, peanuts, eggs, soy, wheat, milk, fish, and crustacean shellfish.”
The seller must display a sign or placard at the point of sale which states “These canned goods/baked goods are homemade and not subject to state inspection.”

Ohio 17
Dried herbs, dry herb blends, dry seasoning blends, and dry tea blends—may be sold as a cottage food and do not require a license.
General Guidance— Products must be properly labeled. The label must contain the statement: “This Product is Home Produced.”

South Dakota 18
Vegetables packed and frozen for preservation— cannot be sold under the home-processed food law. (Some exceptions apply.)
Dried herbs, fruits, and some vegetables— Are allowed for sale under the home-processed food law. They do not require approval from a third party processor. Contact an SDSU Extension Food Safety Specialist for recommendation on safely dehydrating foods.
General Guidance- All products must have official verification from a third-party processing authority in writing. Products must be clearly labeled and include the disclaimer that states the following: “This product was not produced in a commercial kitchen. It has been home-processed in a kitchen that may also process common food allergens such as tree nuts, peanuts, eggs, soy, wheat, milk, fish, and crustacean shellfish.”

Wisconsin 19
A retail food license or food processing plant license is required to make and sell food items to the public. A person is not required to obtain a license to sell retail food products that the person prepares and cans at home in Wisconsin if all of the following apply:
· The food products are pickles or other processed vegetables or fruits with an equilibrium pH of 4.6 or lower
· The person sells the food products at a community or social event or a farmers’ market in Wisconsin
· The person receives less than $5,000 per year from the sale of the food products
· The person displays a sign at the place of sale stating: “These canned goods are homemade and not subject to state inspection”
· Each container of food product that is sold is labeled with the name and address of the person who prepared and canned the food product, the date on which the food product was canned, the statement “This product was made in a private home not subject to state licensing or inspection.”, and a list of ingredients in descending order of prominence. If any ingredient originates from milk, eggs, fish, crustacean shellfish, tree nuts, wheat, peanuts, or soybeans, the list of ingredients shall include the common name of the ingredient.
Resources

4. https://www.ecfr.gov/cgi-bin/text-idx?
   SID=c7ab64fd267b222cdeb875f6ab2ccd98&mc=true&node=pt21.2.117&rgn=div5
5. http://web.extension.illinois.edu/cottage/foods.cfm
11. http://www.michigan.gov/mdard/0,4610,7-125-50772_45851-240577--,00.html
19. https://datcp.wi.gov/Pages/Licenses_Permits/FoodLicenses.aspx

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