



What do I need to know to sell REFRIGERATED DIPS, SPREADS, DRESSINGS, and SALADS at the farmers market?

What are refrigerated dips, spreads, dressings, and salads?

Many prepared foods such as dips, spreads, dressings, and salads are popular items to sell at a farmers market. Most of these items require refrigeration to ensure safety. These foods contain a lot of moisture and do not have enough acidity to control microbial growth. They require time and temperature control for their safety, and they are often referred to as TCS foods. Some examples include:

- ▶ Hummus
- ▶ Refrigerated salsa
- ▶ Pesto (see fig. 1)
- ▶ Mayonnaise-based salads (e.g., potato salad; see fig. 2)
- ▶ Guacamole (see fig. 3)
- ▶ Salad dressings.



Figure 1 Example of a tomato-based pesto refrigerated product. (Photo: "Pesto, Tomatoes, Eat, Food, Healthy" by Einladung_ zum_Essen, licensed under CC0 1.0) (Photo courtesy of Pixabay, Creative Commons License.)



Figure 2. Refrigerated potato salad. (Photo: "Potato Salad Food Meal Healthy Dinner" by kartynas, licensed under CC0 1.0)(Photo credit: Pixabay, Creative Commons License.)



Figure 3. Preparation of guacamole. (Photo courtesy of Susan Chen, Virginia Tech)

Note: All packaged, refrigerated foods require facility inspection by the Virginia Department of Agriculture and Consumer Services (VDACS 2017).

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How do I know if my product needs to be refrigerated?

Foods that contain enough available water (a measurement called water activity A_w) and low acidity (as measured by pH) can promote growth of microorganisms that can spoil the food or cause foodborne illness. To prevent spoilage or foodborne illness, these foods are refrigerated to extend shelf life and increase their safety. In order to know if your product needs to be refrigerated, you need to know its A_w and pH.

How do I know my product's water activity and pH?

To know your product's A_w and pH, you must have it 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).

If your product has a high enough acidity ($\text{pH} < 4.6$) or a low enough A_w ($A_w < 0.85$), it may be able to be produced as a shelf-stable product that does not require refrigeration. If your food falls into either of these categories, it is either considered a shelf-stable acidified food or a dehydrated food.

What steps do I need to take if I want to produce refrigerated dips, spreads, dressings, and salads for sale?

1. Confirm that your product requires refrigeration (see above).
2. Complete a food safety course (e.g., ServSafe for Managers, which is provided by many Extension offices). This is not a regulatory requirement, a food safety course will provide a thorough background in safe food-handling practices.
3. Decide where you are going to produce your product.
 - Out of your inspected home kitchen?
 - Out of an inspected community or commercial kitchen?
4. Become familiar with the regulatory process of starting a food business.

Refer to VDACS' "Home and Commercial Kitchen-Based Businesses" website for more information.
5. Complete and submit the correct application that pertains to where you will produce your product. (Application for Home Food Processing Operation or Application for a Commercial Kitchen Food Processing Operation.)
6. After you submit your application, VDACS will review your application for completeness and then contact you with further questions and/or to schedule an inspection.

Note: Most refrigerated dips, spreads, dressings, and salads are ready-to-eat foods. As such, the food handler's bare hands should *never* come in direct contact with the food product. Food-safe gloves should always be used during product preparation and at any other time the handler could come into contact with the food product. Hands must always be washed properly before putting on gloves. Do not reuse gloves.

How do I prevent contamination of my product during production?

Refrigeration slows microbial growth, but does not stop it. Therefore, it is important to prevent microorganisms from contaminating the product during preparation. Ways to prevent contamination include:

1. Practicing proper personal hygiene, including hand-washing.
2. Wearing food-safe gloves during food handling and food preparation.
3. Using proper cleaning and sanitation practices.
4. Using proper temperature control. High-moisture refrigerated foods need to be kept at a temperature of **41°F; 5°C or lower**.
5. Purchasing ingredients from approved, reputable sources.

Listeria monocytogenes is the primary pathogen of concern in refrigerated foods because it grows at refrigeration temperatures. Pregnant women, infants and children, individuals over the age of 65, and individuals with compromised immune systems are most susceptible. Infection by *Listeria monocytogenes* can result in listeriosis, a serious and potentially fatal illness.

How do I know my product's shelf life?

Note: Due to the risk of Listeria monocytogenes, regulation dictates that your refrigerated food product has a seven-day shelf life (FDA, 2017).

If you want to label your product with a shelf life greater than 7 days, you will need to provide documentation to your state regulatory (VDACS or VDH) agency. To do this, you must prove that you have control over the *Listeria monocytogenes* microorganism within your commercial kitchen (food processing facility). This can be done by working with a food scientist or process authority using any of the methods below.

- ▶ Determine if there is anything inherent in your food product that may prevent the growth of *Listeria* spp.
- ▶ Determine methods to limit the growth of *Listeria* spp. in your food product.
- ▶ Develop an environmental monitoring program to show that your sanitation procedures are effective against *Listeria monocytogenes* growth in your facility.

For more information, please refer to the Grocery Manufacturers Association's "*Listeria monocytogenes*: Guidance on Environmental Monitoring and Corrective Actions in At-Risk Foods" (GMA 2018).

What are the requirements for my label?

As with all other food items, products should be clearly labeled and should include:

- ▶ 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.
- ▶ “Use by” dates (Seven days for most refrigerated high-moisture foods.
- ▶ The statement “Keep Refrigerated.” should be prominently displayed on the label. You might consider placing this statement on more than one side of your package so that consumers will be more likely to see it.

How should I store my refrigerated foods at the market?

1. Refrigerated foods must be stored at 41° F; 5° C or lower. This can be accomplished with either a refrigerator or a cooler with ice.
2. If using ice, the following requirements should be met:
 - The product must be packed in such a way that the water from melting ice drains away from the product and into a designated area or container.
 - Avoid direct contact with water or ice because this could destroy the package; to do this, a secondary container (such as a plastic bag) can be used.
3. Regardless of storage method, a thermometer should be used to verify that food is being maintained at or below 41° F; 5° C. Check the temperature every hour and keep a record of temperatures to prove the product has stayed below 41° F or 5° C.

References

- GMA (Grocery Manufacturers Association). 2018. *Listeria Monocytogenes: Guidance on Environmental Monitoring and Corrective Actions in At-Risk Foods*. Washington, DC: GMA.
- FDA (Food and Drug Administration). 2017. *Food Code, 9th edition, chapter 3, section 3-501.17*. Available at: <https://www.fda.gov/food/fda-food-code/food-code-2017>