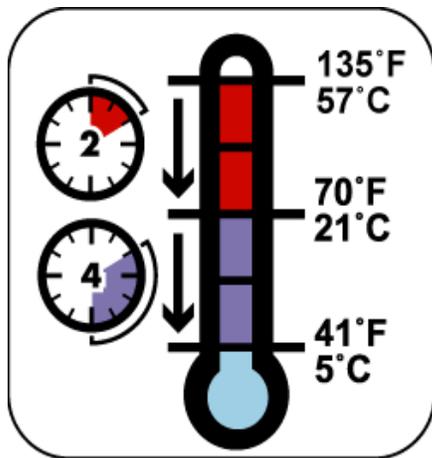


Improper cooling is a major cause of foodborne illness!



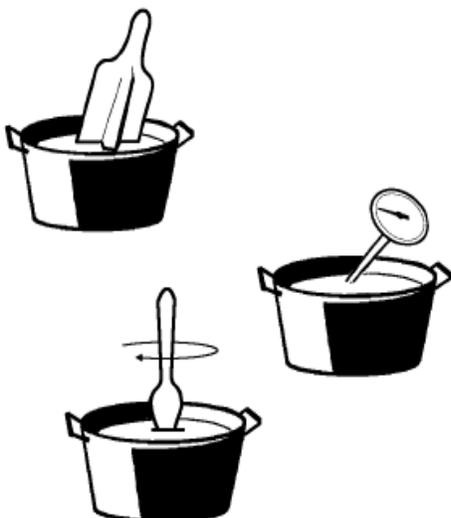
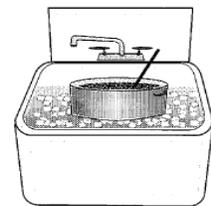
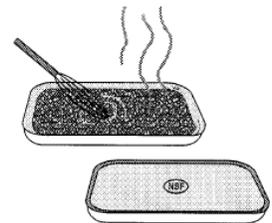
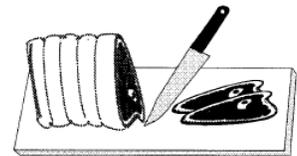
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Hot foods must be cooled from 135°F to 70°F within 2 hours and from 70°F to 41°F within 4 hours.

- ⊘ **Never** cool foods at room temperature
- ⊘ Do not tightly cover foods when cooling because heat cannot escape quickly if tightly covered
- ⊘ Avoid cooling large masses of food. Cut meats into smaller pieces, pour large pots of foods in shallow pans or use ice to cool quickly.

Shallow and smaller is better!

1. Separate foods into smaller quantities or portions and place in shallow pans. Liquid foods should be placed in pans no deeper than 4 inches (2 inches for thick foods). Solid foods should be in small pieces and spaced in a single layer to allow for good heat transfer.
2. Place shallow pans in a refrigerator or freezer that has sufficient air flow to cool foods. Avoid small units because they cannot tolerate the temperature fluctuations like a walk-in cooler.
3. Periodically stir or rotate food while in cooling. Also, monitor temperatures during this process. Cover food once 41°F or less has been achieved.



Use an ice paddle or ice bath for soups, stews or chowders!

1. For hot liquids in a large pot, place an ice paddle in the liquid food or place pot in a sink of ice water and stir every 15 minutes while monitoring temperature.
2. Once it has reached 70°F, place the pot in a walk-in refrigerator; leave the ice paddle in the food, if using.
3. Check the temperature periodically and stir until it reaches 41°F within 4 hours. Then, cover the food while in storage.

Cooling Methods Fact Sheet

The Food Code requires that all cooked foods not prepared for immediate service shall be cooled as quickly as possible to eliminate the possibility of bacteria development. There are two methods to cool potentially hazardous foods: the two-stage method (preferred) and the one-stage method.

- The **two-stage method** reduces the cooked food's internal temperature in two steps. The first step is to reduce the temperature from 135°F to 70°F within two hours of preparation **and** from 70°F to 41°F or colder within an additional four-hour period. Total cooling time should never exceed six hours.
- The **one-stage method** is designed to reduce the cooked food's internal temperature from 135°F to 41°F or colder within four hours of preparation. This method **should only be used** if the food is prepared from ingredients at ambient temperature, such as reconstituted foods and canned tuna.

When deciding how best to cool potentially hazardous foods, keep in mind the following factors:

- The size or amount of food being cooled;
- The density of the food – a broth is less dense than a casserole; and
- The container in which the food is being stored – shallow pans cool foods faster than deep pans.

In order to facilitate the rapid cooling of cooked foods, the following methods are recommended by the Food Code:

- Placing the food to be cooled in shallow pans;
- Separating the food to be cooled in smaller or thinner portions;
- Using rapid cooling equipment, such as 'blast chillers';
- Stirring the food to be cooled in a container placed in an ice bath;
- Using containers that facilitate the transfer of heat;
- Adding ice as an ingredient to the cooked food; or
- A combination of the above methods.

The most important thing to remember about cooling foods is that the temperature of all cooked foods should be reduced to 41°F or colder as quickly as possible. The cooling time, however, should never exceed the maximum time allowed for the selected method (either four hours for the one-stage method or six hours for the two-stage method). Simply placing a cooked food item in a refrigerator to cool may not be sufficient to reduce the threat of bacterial growth. In addition, a warm or hot food item placed into a refrigerator may actually raise the temperature inside the unit and jeopardize the safety of other stored foods. Once the food item has been properly cooled, it should be stored properly, covered and labeled with the date the product was prepared. When preparing foods using cooked ingredients, always use the older products first.

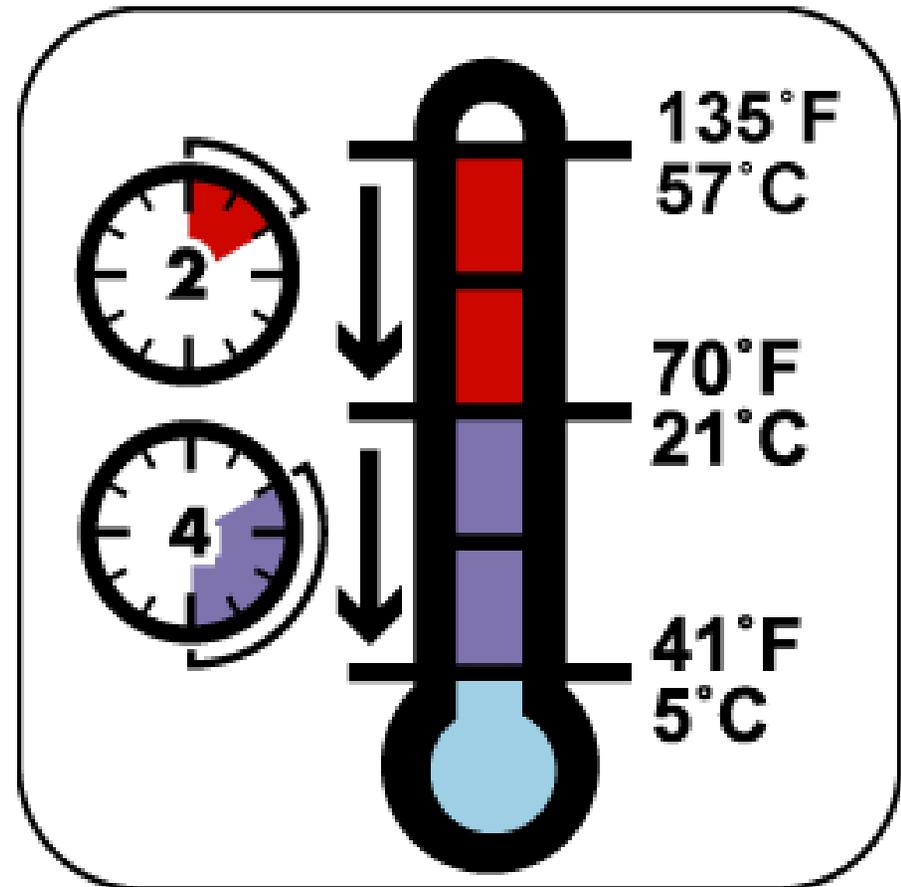
For more information about operating a food establishment, contact the Virginia Department of Agriculture and Consumer Services at (804) 786-3520 for guidance.

Cooling

Food must be cooled from **135°F to 70°F** within the first **two hours** after cooking

AND

From **70°F to 41°F** in the next **four hours** for a total cooling time of 6 hours to prevent bacterial survival and growth.



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USE YOUR FOOD THERMOMETER TO TAKE TEMPERATURES!