

Cooling Methods

FOOD SAFETY

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 and 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 into 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,
- Removing the lid or plastic wrap cover from the container while in the refrigerator or freezer until the food has reached an adequate temperature,
- 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 produce was prepared, or the date to be discarded. When preparing foods using cooked ingredients, always use the older products first.

For more information about operating a food establishment, contact the Springfield-Greene County Health Department at 417-864-1424.