

Temperature Control for Safety Food, Cooking, & Cooling

TEMPERATURE CONTROL FOR SAFETY FOOD (TCS)

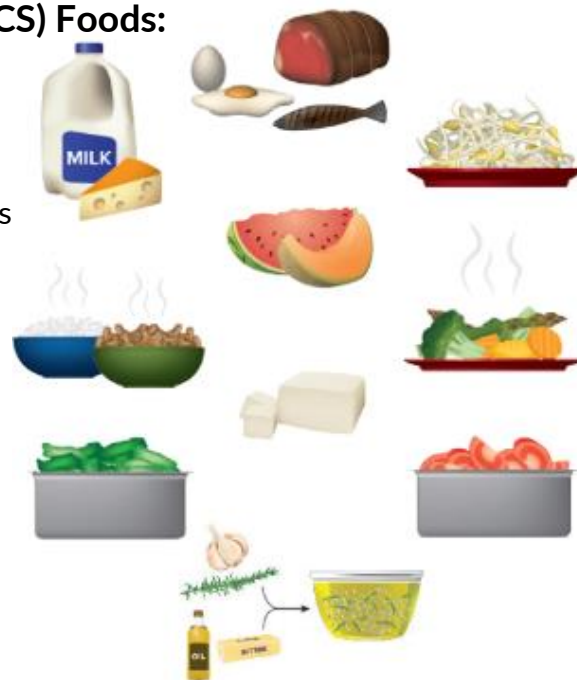
Time and temperature work together to keep food safe.

Learn how to use time to keep food safe. Work with your Certified Food Protection Manager for

Any food can cause foodborne illness, but bacteria are more likely to grow in some food. These foods are called Temperature Control for Safety (TCS)

Examples of Temperature Control for Safety (TCS) Foods:

- Meat, Poultry, Fish Seafood, and eggs
- Dairy Products
- Tofu
- Cooked Beans, Potatoes, Rice, Pasta, and Noodles
- Cooked Fruits and Vegetables
- Cut Melons
- Cut Leafy Greens
- Cut Tomatoes
- Sprouts, such as Alfalfa or Bean Sprouts
- Fresh Garlic or Herbs in Oil
- Whipped Butter



Danger Zone

Bacteria grow best between 41F and 135F. This is called the Danger Zone. Temperature Control for Safety (TCS) food left in the Danger Zone allow bacteria to grow fast. Some bacteria make toxins that make people sick. Toxins stay in food, even when cooked.

- Tips for keeping food safe:
- Keep cold food at 41°F or cooler
- Keep hot food at 135°F or hotter
- Prepare food quickly
- Work with small amounts of food at a time.
- Quickly cool food in a refrigerator.
 - > Never cool on the counter
- Reheat food quickly
- Check temperature of food with a thermometer

*Food left in the Danger Zone
may not be safe to eat.
When in doubt throw it out!*



COOKING

Harmful germs live in raw meat, seafood, and eggs. Proper cooking kills germs and makes these foods safe to eat.

Cooking Temperatures

135°F

- Vegetables, fruits, herbs, and grains that will be kept hot.
- Packaged ready to eat food, such as hot dogs and canned chili, that is reheated and kept hot.



145°F

(for 15 seconds)

- Eggs
- Seafood
- Beef
- Pork



158°F

(instantaneous)

- Hamburgers
- Sausage



165°F

(instantaneous)

- Poultry (chicken, turkey, and duck)
- Stuffed foods or stuffing
- Casseroles
- Raw seafood, meat, or eggs cooked in a microwave
- Reheated Temperature Control for Safety (TCS) food



Microwave Cooking

When cooking raw seafood, meat, or eggs in a microwave, cook to at least 165°F. Cover food to maintain moisture. Rotate or stir the food at least once while cooking. Allow the food to sit for 2 minutes before serving. Use your food thermometer. Check several places to make sure all the food is at least 165°F.

Every food establishment must have and use an accurate food thermometer. It must have a thin metal probe and be able to read temperatures between 0°F and 220°F.

Use a thermometer correctly to get an accurate temperature.



Lift the food with a utensil or remove it from the cooking surface. Don't measure the food when it's on the cooking surface.



Poke the thermometer into the thickest part of the food. Wait until the temperature on the thermometer stops changing. This can take up to a minute.



Check your thermometer to make sure it is accurate. Put the probe of the thermometer in a cup of crushed ice and water. The temperature should read 32°F. Adjust or replace the thermometer if it doesn't read 32°F.



Always clean and sanitize your thermometer before and after use. After cleaning, wipe with a sanitized cloth or use an alcohol wipe.

COOLING

You can cook food and cool it to serve later. It is important to cool food quickly. As food cools, it goes through the Danger Zone. If it doesn't cool fast enough, bacteria can grow and cause foodborne illness. Some bacteria produce a toxin or poison that cannot be cooked out.

Cool food from 135°F to 41°F within a total of 6 hours.

Food must cool to 70°F within the first 2 hours.



Check the temperature of food and make sure it cools quickly.

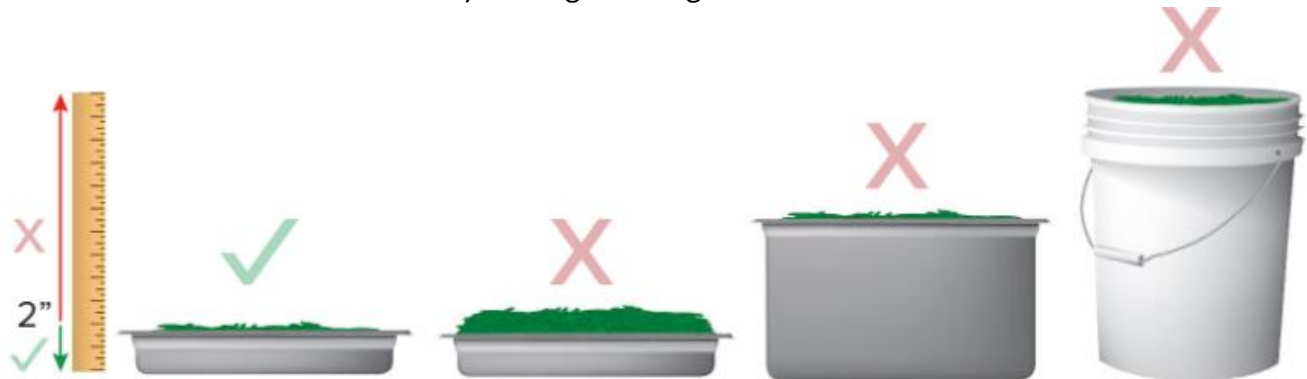
There are several ways to cool food quickly.

Shallow pan

Shallow pan cooling works well for foods like refried beans, rice, potatoes, ground meat, casserole, soup, and broth.

Tips for shallow pan cooling:

- Put hot food into shallow pans.
- Food cannot be more than 2 inches deep.
- Leave the food uncovered so the heat can escape quickly.
- Refrigerate the food right away.
- Cool on the top shelf so nothing can fall into the uncovered food.
- Do not stack or cover cooling food.
- Cool in a walk-in cooler or your largest refrigerator.



Check the food with a thermometer.

You can cover or combine pans once food reaches 41°F or below.

Tips to cool large portions of meat:

Reduce the size of whole cuts of meat.

Cut whole meats, like roasts or ham, into 4-inch-thick pieces. Do not use this method for ground meats like meatloaf or gyro meat.

- Place cut meat in a single layer on a tray.
- Allow plenty of air flow.
- Leave food uncovered so heat can escape quickly.
- Refrigerate food right away.
- Cool on the top shelf so nothing can drip into the food.



Tips to cool food quickly:

- Place food in an ice bath. Completely surround food with ice. Stir often.
- Use ice paddles or ice wands to stir food.
- Use thin containers that allow heat to escape.
- Cool food in metal pans. Plastic or glass do not cool food as quickly.
- Add clean ice to food.
- Use special equipment like a blast chiller.

Cool from:

- ✓ 135°F to 70°F within 2 hours.
- ✓ 135°F to 41°F within 6 hours.

Cool after preparation.

Foods like lettuce, tomatoes, or canned food may start at room temperature. Cool food to 41°F within 4 hours

Use pre-chilled ingredients when possible.



Reminder!

Always wear gloves or use utensils when handling cook and ready-to-eat foods.



For more food safety information and regulations please use the following resources:

[FOOD & BEVERAGE WORKERS' MANUAL](#)
[Washington State Retail Food Code](#)