

Time/Temperature Control for Safe Food

Food Safety Education Program

<http://web.uri.edu/foodsafety>

Some foods require time and temperature control to maintain safety (TCS foods), also known as potentially hazardous foods (PHF). These foods require time/temperature control to limit the growth of pathogenic microorganisms or the production of toxins.

These foods have a well-documented history of causing foodborne illness when certain time and temperature requirements are not met for holding, cooking, reheating and cooling. **Inadequate time/temperature controls can allow for microbial growth. Examples include:**

- Improper hot or cold holding
- Improper cooling
- Improper cooking
- Improper reheating
- Leaving food in the temperature danger zone (40-140°F) for more than 2 hours

These foods readily support the growth of microorganisms because they are high in nutrients and available water, and the acidity (pH) of the food is neutral or slightly acidic.

To maintain the safety of TCS foods, follow the 4 simple steps: clean, separate, cook, and chill to prevent of foodborne illness. [For more information, visit: <http://web.uri.edu/foodsafety/cause-and-prevention-of-foodborne-illness>].

Resources for More Information:

- www.cdc.gov/foodsafety
- www.foodsafety.gov
- www.Fightbac.org
- www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets
- www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers
- www.fda.gov/Food/ResourcesForYou/Consumers/ucm077286.htm

TCS Foods:

- An animal food that is raw or heat-treated, e.g., meat, poultry, milk, fish, shellfish, crabs, and lobster
- A plant food that is heat-treated
- Raw seed sprouts (all types)
- Cut melons
- Cut leafy greens
- Cut tomatoes or mixtures of cut tomatoes
- Garlic-in-oil mixtures (Note: this does not include commercially prepared acidified products that you may find on the shelves at the grocery store).

Examples of often overlooked TCS foods:

- Bacon - if not fully cooked.
- Beans - all types of cooked beans.
- Cheese - soft unripened cheese such as cottage, ricotta, Brie, and cream cheese are more hazardous than hard cheese. All cheeses should be refrigerated.
- Coffee creaming agents - all non-dairy coffee creaming agents in liquid form, except those labeled UHT only.
- Deli meat.
- Eggs - fresh, fresh eggs out of shell, and hard-boiled.
- Garlic - garlic-in-oil products.
- Mayonnaise or other acidified salad dressings when combined with other food products.
- Onions - cooked or reconstituted dehydrated onions
- Pasta - cooked.
- Pastries - filled with meat, cheese, and cream.
- Pies - meat, fish, poultry, natural cream, synthetic cream, custard, pumpkin, and pies covered with toppings that support microbial growth.
- Potatoes - cooked (baked, boiled, or fried).
- Refried beans - all varieties.
- Rice - boiled, steamed, fried, and cooked rice used in sushi.
- Sauces - i.e., Hollandaise.
- Sour cream - especially when combined with other food ingredients.
- Soy protein - tofu and other moist soy protein products.
- Whipped butter .