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Food Storage Exposed to Floodwater, Fire and Chemicals

Christine E. Jensen,
Extension Associate Professor, Family and Consumer Sciences
Utah State University Extension, Emery County

Floodwater

A flood or the loss of power due to storms could jeopardize the safety of your stored food. Knowing how to determine if food is safe to keep and eat will help minimize the potential loss of food and reduce the risk of foodborne disease. Flood waters may be from inside the home such as broken water pipes, water heater, and sewer, or outside floodwaters from heavy rain, broken dams or rivers. Each is a potential risk to stored food.

Consider what you can do ahead of time to keep your food safe in an emergency. For example, if you live in a location that could be affected by a flood, plan how to store food so that appliances and food shelves will be safely out of the way of contaminated water. Remember to store pet food where it will also be safe from possible contamination by floodwater.

However, if flood waters cover food stored on shelves and in cabinets assume that contamination has occurred and do not eat any of the food.

A guide of foods to keep and foods to discard:

- Discard any foods that may have come in contact with flood waters such as raw fruits and vegetables, cartons of milk or eggs.
- Discard any food that is not in a waterproof container if there is any chance it has come in contact with flood water. Food containers that are not waterproof include plastic, cellophane wrap, cardboard, or those with screw-caps, snap lids, pull tops, and crimped caps. Some examples include glass jars and bottles of commercially canned food such as applesauce, mayonnaise, or salad dressing because contaminated silt may be impossible to clean from under the edges of lids.
- Discard cardboard juice/milk/baby formula boxes and home canned food after coming in contact with flood water, because the containers cannot be effectively cleaned and sanitized.
- Inspect and discard food in damaged cans. Look for swelling, leakage, punctures, holes, fractures, extensive deep rusting, and cans crushed or dented severely enough to prevent stacking or opening with a manual, wheel-type can opener.
- Discard any food in opened containers and packages which have come in contact with floodwaters.
- Discard containers of spices, seasonings, flavorings and flour, grains, sugar, etc. which are stored in canisters or bags.
- Discard cans which have been tossed about and are found far from their normal storage spot. The seams on these cans may have been weakened or theirs seals broken, causing contamination or spoilage.

- Discard commercially bottled carbonated beverages, if the cap is crusted with silt; don't attempt to wash, since pressure in bottles may cause an explosion.
- Home-canned foods may be salvaged if you are sure that the food was NOT completely immersed in flood water and the jar tops did not get wet. The jars may be washed, rinsed, and then sanitized with a household bleach solution (1 tablespoon/quart room temperature water). This solution is stronger than used to sanitize commercially canned foods since jars of home-canned foods cannot be washed as vigorously as commercial cans because the seals might be loosened.

Salvaging Commercially Canned Foods

It is possible to salvage undamaged, commercially prepared foods in all-metal cans and retort pouches (example: flexible, shelf-stable juice or seafood pouches) by doing the following:

- Remove paper labels since they can harbor dirt and bacteria. If possible, mark contents on lid with permanent marker before removing labels.
- Brush or wipe away any dirt or silt that may be on cans.
- Rinse off cans or pouches to remove major dirt and debris with water that is safe for drinking.
- Thoroughly wash cans or pouches with soap and clean water. Use hot water if available. Dirt or residual soap will reduce the effectiveness of chlorine sanitation.

Sanitizing and Cleaning Cans, Pouches, Cooking Utensils and Countertops

To sanitize cleaned cans and pouches, immerse in either of the solutions below:

- Place in water and allow the water to come to a boil and continue boiling for 2 minutes.

OR

- Place in a freshly made solution consisting of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available) for 15 minutes.

After cleaning:

- Air dry cans or pouches for a minimum of 1 hour before opening or storing.
- Re-label cans or pouches, including expiration dates (if available), with permanent marker if labels were removed.
- Plan to use food in reconditioned cans or pouches as soon as possible, thereafter.
- Dilute any concentrated baby formula in reconditioned, all-metal containers with clean, drinking water.
- Wash metal pans, ceramic dishes and utensils (including can openers) with soap and water, using hot water if available. Rinse and then sanitize by boiling in clean water or immersing for 15 minutes in a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available).
- Discard wooden spoons, plastic utensils, and baby bottle nipples and pacifiers if they have been covered by floodwater. There is no way to safely clean them.
- Thoroughly wash countertops with soap and water, using hot water if available.
- Rinse and sanitize by applying a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available). Allow to air dry.

Drinking Water

Use bottled water that has not been exposed to flood waters, if available. If bottled water is not available, boil water to make sure it is safe. Boiling water will kill most types of disease-causing microorganisms that may be present. Filter cloudy water through clean clothes or allow the water to settle. Draw off clear water for boiling. Boil for 1 minute, let cool, and store it in clean containers with clean covers. If boiling isn't possible, disinfect it using household bleach. Bleach will kill some, but not all, types of disease-causing organisms that may be in the water. Add 1/8 teaspoon (or 8 drops) of regular, unscented, liquid household bleach for each gallon of water, stir it well and let it stand for 30 minutes before using. Store disinfected water in clean containers with clean covers.

A flooded well should be tested and disinfected after flood waters recede. Contact the local or state health department or the county Extension office for specific advice.

Produce, including tomatoes, peppers, potatoes and carrots, from a garden flooded with water from a stream or river should not be used. Flood waters can bring harmful microorganisms, chemicals and other contaminants that can make food unsafe for consumption. Some contaminants will not be removed or destroyed with peeling or cooking. It is best to discard produce from a flooded garden.

Fire Contamination

Four factors affect food that has been exposed to fire – heat, smoke, fumes, and chemicals used to put out the fire.

Heat produced by fire can activate high-temperature food-spoilage bacteria in commercial or home-canned food. Under normal circumstances spoilage bacteria present in canned food are inactivated or held in check by the canning process. However, the heat generated by fire may activate spoilage bacteria inside a can or jar making the food inedible. In addition, high temperatures produced by a fire may cause jar lids of home-canned food to come unsealed allowing bacteria to get into the food the jar may "seal" again when the air temperature drops.

Toxic fumes released from burning materials are very dangerous. The fumes can contaminate food, tableware, and cookware as can toxic components from the chemicals used to fight the fire. These gases can kill. Food and water stored in refrigerators or freezers can also become contaminated by gases. The refrigerator seal is not airtight and gases can get inside.

If food or water has been exposed to toxic chemicals, throw it away. The chemicals cannot be washed off food. This recommendation includes food stored at room temperature, such as fruits and vegetables, as well as food in permeable or Semi-permeable containers like cardboard and screw-topped jars and bottles, even containers stored in the refrigerator. Canned goods are the only foods that can be safely kept after exposure to chemicals and then only if the unopened cans are washed with a dishwashing detergent and then immersed in a bleach solution (1 teaspoon of unscented bleach per quart of water).

Sources

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