

Food and Water Safety When the Power Goes Out

In the past few years Alabama has felt the impact of floods, tornados, hurricanes, and even ice storms. In these times of confusion it is not always easy to know exactly what to do. After the trauma and shock have worn off, there remains the overwhelming job of cleaning up. One of the biggest areas of concern is the safety of food and water. In this publication we will look at different situations and how to handle them. We will also examine how to cope with cooking and purifying water while the power remains out.



Water After a Storm or Flood

After a major storm or flood, you should assume that all water sources are contaminated until proved safe. Purify all water used for drinking, for cooking, and for washing eating and cooking utensils (see below). Also purify the water used for washing hands, body, and kitchen and bathroom surfaces. Do not use water for purifying that has a dark color, an odor, or contains floating material.

How to Disinfect Water

To disinfect water use ONE of the following methods:

- Boil at a rolling boil for 5 minutes.
- Add 1 teaspoon of unscented liquid chlorine bleach per 5 gallons of water. Make sure the bleach contains 4 to 6 percent sodium hypochlorite as its only active ingredient. (16 drops per gallon or 4 drops per quart)
- Add 12 drops of tincture of iodine per gallon of water.

Keeping Refrigerated and Frozen Food Safe

One main factor in keeping food safe is keeping it at the proper temperature. The only way you can know if your food is at the correct temperature is to use a thermometer. There are several types that you need to have in your kitchen. One is a refrigerator/freezer thermometer. One of these thermometers should be placed in your refrigerator to assure you that the food is kept at below 40 degrees F. Another one of these kind of



thermometers should go in your freezer to insure that your food is kept at below 0 degrees F.

Keeping Refrigerated Food Cold When the Power Goes Out

In a refrigerator without power food will remain chilled for up to 4 to 6 hours. This temperature will keep the longest if you do not open the door of the re-

frigerator while the power is out. If you think that the power will be out longer than this, add bags of regular ice in your refrigerator to keep the temperatures cool longer. Place the ice on the upper shelves and pans to catch the melting ice on the lower shelves. The more ice you use, the longer the temperature will stay cool. Open the door only to add ice. Place a thermometer in the area farthest from the ice. Check the refrigerator temperature when add-



ing ice. As soon as the power returns check to be certain that food has been kept below 40 degrees F.

Keeping Frozen Food Frozen

When the power goes off, food will remain frozen in your freezer for several hours—maybe as long as several days. If your freezer is full and not opened during the power outage, the food will remain frozen for up to 2 days—even if it is in the heat of the summer. If the freezer is only half full, food may stay frozen only 1 day. This time will also depend on the seals in your freezer. If there is leaking around the seals allowing cold air to escape, your food will thaw much faster. Replace loose gaskets now to help preserve your food when the power does go out in the future. Other factors that affect how long your food will remain frozen when the power goes out are:



1. The size of the freezer (the bigger the freezer the longer the food will stay frozen). Example: Large blocks of ice take longer to thaw than small ones.

2. The type of food in the freezer. Example: Food with more water (fruits, vegetables, and meats) will stay frozen longer than food with little water (bread and nuts).

3. The insulation in the freezer. Example: If your freezer has only a thin layer of insulation, food will thaw more rapidly.

4. The cavity depth of the freezer. Example: The deeper chest-type freezers allow the food to remain frozen longer than upright freezers.



REMEMBER: KEEP THAT DOOR SHUT!

How To Cook When the Power Goes Off

After a disaster has knocked out electricity or gas lines, cooking meals can be hazardous if a few basic rules are not followed.

Tips

- Charcoal or gas grills are the most obvious alternative sources of heat for cooking. Never use them indoors. If you do, you risk both asphyxiation from carbon monoxide and the chance of starting a fire that could destroy your home.
- Likewise, camp stoves that use gasoline or solid fuel should always be used outdoors.
- Use small electrical appliances to prepare meals if you have access to an electrical generator with sufficient capacity.
- You can use wood for cooking in many situations. You can cook in a fireplace if the chimney is sound. Don't start a fire in a fireplace that has a broken chimney. Be sure the damper is open.
- If you're cooking on a wood stove, make sure the stovepipe has not been damaged.
- If you have to build a fire outside, build it away from buildings, never in a carport. Sparks can easily get into the ceiling and start a house fire.
- Never use gasoline to start a wood or charcoal fire.
- Make sure any fire is well-contained. A metal drum or stones around the firebed are good precautions. A charcoal grill is a good place to build a wood fire. Be sure to put out any fire when you are through with it.
- Never leave an open fire, canned heat, or candle unattended. Keep children away at all times.

Table 1. Evaluating Freezer Food

	Partially frozen <i>some ice crystals</i>	Completely thawed <i>still cold</i> (below 40 degrees F)	Completely thawed <i>warm</i> (above 40 degrees F)
meats beef veal lamb pork	refreeze	cook and serve or cook and refreeze	discard
poultry	refreeze	cook and serve or cook and refreeze	discard
organ meats liver kidney heart	use within 48 hours; do not refreeze	cook and serve	discard
fish and shellfish	refreeze	cook and serve or cook and refreeze	discard
combination dishes stews or casseroles meat pies	cook and serve or cook and refreeze*	cook and serve	discard discard
dairy items cream or cheese butter	refreeze	refreeze or refrigerate	discard
produce vegetables or fruit	refreeze	cook and serve or cook and refreeze	discard
juices	refreeze	refreeze	discard
baked goods bread	refreeze	refreeze	serve
fruit pies	refreeze	refreeze	discard
plain cakes	refreeze	refreeze	serve

*Refreeze only dishes containing raw ingredients. Do not refreeze previously cooked dishes.

Table 2. Evaluating Refrigerated Foods

Discard <i>(If held above 40 degrees more than 2 hours)</i>	Generally Safe Unrefrigerated
Eggs, fresh or hard-boiled Milk Fresh meats and poultry Lunch meats and hot dogs Mayonnaise (opened)	Fruit juices <i>(Until power returns, but discard if cloudy, moldy, or fermented)</i> Hard cheeses, butter, margarine <i>(If well-wrapped, but discard if mold or rancid odor develops)</i> Fresh fruits and vegetables <i>(Until power returns, but discard if mold, yeasty odor, or slimy texture develops)</i> Opened containers of jelly, jam, mustard, ketchup, pickles, olives <i>(Safe unrefrigerated until power returns)</i>

Is My Food Still Safe?

When your freezer and refrigerator are working again, evaluate the safety of the affected food. With frozen food consider the type of food and the extent of thawing. For refrigerated food consider the temperature inside the refrigerator before the return of power, the type of food, and the time these foods have been stored above 40 degrees F. Use tables 1 and 2 when deciding which foods may safely be kept and which ones should be thrown out.

**Remember: When in Doubt,
Throw It Out!**

Cleaning Solutions

$\frac{3}{4}$ cup liquid bleach
1 gallon warm water
1 tablespoon powdered laundry detergent
Apply this solution to surfaces. Keep them wet 5 minutes. Rinse with clean water. Wipe dry. This can be used to help reduce mildew growth in large areas when you have cleaned out mud and trash. Apply with a garden sprayer. Check with your local contractor, a janitorial supply business, or farm supply store for a mildewcide.

Hints:

1. Remove loose dirt first so the bleach solution is reacting against the surface and not the dirt.
2. Change the bleach solution when the water appears cloudy or dirty.
3. Porous items such as plastic mixing bowls, wooden spoons, or cutting boards should be discarded if they have been submerged in floodwater.
4. Wear gloves when cleaning after floods.
5. Wear gloves to protect sensitive skin when cleaning with chlorine bleach. Avoid splashing or spilling on clothing, furniture, hardwood floors, and rugs.

Getting Rid of Odors

Strong food odors may develop as a result of food spoilage during a power failure. Because the refrigerator or freezer must be empty and unplugged when cleaning, the best time to combat these odors is before restocking foods. Below are some ideas for removing unwanted odors:

1. Use one of the following solutions to wash the interior walls of the refrigerator or freezer. Rinse with water and dry. **DO NOT** combine any two of these household chemicals; toxic fumes, which may be fatal, may result.

- Vinegar: 1 cup per gallon of water
 - Household ammonia: 1 cup per gallon of water
 - Chlorine bleach: ½ cup per gallon of water
2. Take out all removable parts and wash with mild soap and water.
 3. Fill a large shallow container with vinegar. Set in refrigerator or freezer several hours. If odor persists, let set 2 to 3 days, changing vinegar every 8 hours.
 4. Try activated charcoal, available at a drugstore or pet supply store, to absorb lingering odors. Place the charcoal in large shallow pans or paper in the bottom of the refrigerator or freezer. Leave for several days, changing the charcoal every few days. After the odor disappears, rinse and dry the interior before replacing food.

Food Exposed to Floodwater

Floodwaters may carry silt, raw sewage, oil, or chemical waste. Being prepared is the key to keeping food safe during a flood. Here are ways to prevent floodwater from coming into contact with food.

1. Raise refrigerators and freezers by placing cement blocks under their corners.
2. Move food from low cabinets.
3. Move canned goods and other food stored in the basement to the upstairs or to a level above flood waters, if possible.

Table 3. Food That Has Come in Contact with Floodwaters

<i>Discard</i>	<i>Keep</i>
Meat, poultry, fish, and eggs	Undamaged canned goods
Fresh produce	Commercial glass jars of food
Unopened jars with waxed cardboard seals (Mayonnaise and salad dressing)	Food that was kept on a level in the house not touched by floodwaters
All food in cardboard boxes, paper, foil, cellophane, or cloth	
Spices, seasonings, and extracts	
Home-canned food	
Opened containers and packages	
Flour, sugar, and other staples in canisters	
Cans that are dented, leaking, bulging, or rusted	



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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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