



October 14, 2016

Conway City Hall
1001 3rd Avenue
Conway, SC 29526

To Whom It May Concern:

Please see attached information that may be requested by members of your community. Please have them contact the Horry County Extension office at 843-365-6715 with specific questions.

Sincerely,

A handwritten signature in blue ink that reads "Gary Forrester".

Gary Forrester
County Coordinator for Horry County

/nfd

HORRY COUNTY

1949 Industrial Park Rd. Conway, SC 29526 P 843-365-6715 F 843-365-6719 www.clemson.edu/horry
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Public Service Activities

Food Safety in Hurricanes & Floods

Advance preparation is a key to food safety during a hurricane and the floods that can accompany it. Those living in hurricane areas should keep adequate supplies on hand because power will likely be disrupted, putting food in danger.

Emergency Supplies

Food and water for four to five days
Hand can opener
Battery-powered radio
Extra batteries
Camp stove or other emergency cooking equipment
Flashlights, candles, matches, kerosene lamp
Fire extinguisher and first aid kit

Flooding & Food

Flooding often accompanies hurricanes. Persons living in areas subject to floods should be ready to raise refrigerators or freezers by putting cement blocks under their corners. Canned goods and other foods kept in a basement or low cabinets should be moved higher. Flood waters may carry silt, raw sewage, oil or chemical waste. If foods have been in contact with flood waters, follow the "Safe Handling" recommendations.

Hurricane "Watch"

If the National Weather Service (<http://www.nhc.noaa.gov/aboutnhc.shtml>) announces a hurricane watch, expect hurricane conditions within 24 hours.

- Purchase commercially bottled water if possible and store in a cool, dry, dark place. Each person will need a gallon of drinking water daily for three to four days. Children, nursing mothers, people who are ill and those living in hot environments may require extra water. Remember to include drinking and clean-up water for your pets.

- Store an additional ½ gallon per person per day for food preparation and hygiene needs.
- Keep an appliance thermometer in the refrigerator and freezer at all times to see if food is being stored at safe temperatures (40 °F or lower for the refrigerator; 0 °F for the freezer). Turn your refrigerator and freezer to the coldest setting.
- Keep your freezer as full as possible by freezing water in plastic containers and using them to fill any empty spaces not occupied by frozen food. Group meat and poultry on the bottom shelf of the freezer or on separate trays so their juices will not contaminate each other or other foods if the meat and poultry thaw.
- Keep a clean cooler on hand. Keep freeze-pak inserts frozen for use in the cooler.

How to Store Water: To prepare the safest and most reliable emergency supply of water, it is recommended that you purchase commercially bottled water. Keep bottled water sealed in its original container until you need to use it. Observe the expiration or "use-by" date.

To prepare your own containers of water, use only food-grade, water-storage containers from surplus or camping supplies stores, or two-liter plastic soda bottles. Do not use containers that have had milk or fruit juice in them because the protein and sugars cannot be all removed, and provide an environment for bacterial growth.

- Thoroughly clean plastic soda bottles with dishwashing soap and water, then rinse completely to remove soap residue.
- Sanitize bottles and caps with a solution of 1 teaspoon of non-scented liquid household chlorine bleach to a quart of water. Rinse.

- Fill containers to the top with regular chlorinated tap water. If using water that is not chlorinated, add two drops of non-scented liquid household chlorine bleach.
- Tightly close the containers using the sanitized original caps. Date and store in a cool, dark place. Replace after six months.

Using Dry Ice: Know in advance where you can buy dry and block ice. Purchase three pounds of dry ice per cubic foot of freezer space. A 50-pound block of dry ice placed in a full 18-cubic foot freezer should keep food safe without electricity for two days. Dry ice registers -216 °F, so rubber gloves or tongs must be used when handling it. DO NOT CONSUME DRY ICE. Wrap the ice in brown paper and separate it with a piece of cardboard from direct food contact. Fill a partially empty freezer with crumpled newspaper to cut down on air currents, which cause the dry ice to dissipate. Provide adequate ventilation for carbon dioxide in areas where dry ice is used. Do not cover air vent openings of freezer.

Make Sure Your Water Is Safe

After a major storm, listen to a local radio or television station for announcements from appropriate authorities about the safety of drinking water. You can drink water from the community water system unless you have been told or have reason to suspect it has become contaminated. Consider all water from wells, cisterns and other delivery systems in the disaster area to be unsafe until tested. Do not use water that has a dark color, an odor or that contains floating material.

If the water is contaminated:

- Use your emergency supply of water or purchase bottled water until water is safe.
- Water from melted ice cubes made before the disaster occurred is generally safe.
- Water from undamaged hot water tanks and water pipes is generally safe to drink. Turn off the main water valve before draining water from these sources. Do not use water from toilet flush tanks or bowls, radiators, waterbeds, or swimming pools/spas.
- Bottled juices and the liquid from canned fruits and vegetables are a source of water.

If you need to find drinking water outside your home, you can use rainwater, streams, rivers and other moving bodies of water, ponds and lakes, and natural springs. If you question its purity, be sure to treat the water first. Use saltwater only if you distill it first. Do NOT drink floodwater.

Treating Water: Treat water for drinking, cooking, washing utensils, and cleaning kitchen and bathroom surfaces only if it is of questionable quality. Also treat the water used for washing hands and bathing. Always use clean or treated water to wash any parts of the body that have come in contact with surfaces contaminated by floodwaters. There are several ways to treat water, but none is perfect. The best solution is often a combination of methods.

- Boiling is the safest method of treating water and ensures destruction of bacteria and some organisms that are resistant to chemical sanitizers. Strain water through a clean cloth to remove bulk impurities. Bring water to a rolling boil for about one full minute. Let the water cool before drinking. Boiled water will taste better if you put oxygen back into it by pouring the water back and forth between two clean containers. This will also improve the taste of stored water.
- Household liquid bleach can kill microorganisms in water. Use chlorine bleach from a freshly opened bottle. Use only regular household liquid bleach that contains approximately 5.25 to 6.0 percent sodium hypochlorite as its only active ingredient. Do not use scented bleaches, color-safe bleaches, or bleaches with added cleaners. The potency of bleach diminishes with time, so use bleach from a newly opened or unopened bottle. Add 16 drops or 1/8 teaspoon of fresh liquid chlorine bleach per gallon of water, stir and let stand for 30 minutes. If the water has a slight scent of chlorine, you can use it. If it does not, add another 16 drops of bleach, stir, and let stand again for 30 minutes. If the water still does not have a slight scent of chlorine, discard it and find another source of water.
- Other chemicals, such as iodine or water treatment products sold in camping or surplus stores that do not contain 5.25 to 6.0

percent sodium hypochlorite as the only active ingredient, are not recommended and should not be used.

- Distilling removes salt and other solid impurities from water. Distillation involves boiling water and then collecting the vapor that condenses back to water. The condensed vapor will not include salt or other solid impurities. A relatively simple, although inefficient, way to distill water in an emergency is to suspend a cup over boiling water by making a cradle for the cup with string, and attaching it to the handle of the lid which is then put upside down on the pot, suspending the cup above the water line. Make sure that the ends of the string do not hang out where they could catch fire and that the pot does not boil dry.

Handling "Flooded" Foods & Equipment

- After a flood, wear gloves, boots and a long-sleeved shirt and long pants to clean up.
- Discard all food or drinking water that came in contact with floodwater, including canned goods. It is impossible to know if containers were damaged and the seal compromised.
- Discard porous non-food items used with food or put into the mouth if they have been contaminated by floodwater: paper, styrofoam and other picnic type goods; cosmetics and medicines; baby pacifiers and baby bottle nipples; plastic or wooden containers and utensils. They cannot be safely cleaned.
- Garden produce: do not attempt to disinfect, save or preserve crops, even root vegetables exposed to flood waters. If plants survive, the new produce that forms on them after the flood waters have receded is safe to consume. It will take about a month for a garden to become clean.
- To sanitize dishes and glassware wash them with dishwasher detergent using a scrub brush. Then immerse for 15 minutes in a solution of 1 teaspoon chlorine bleach per quart of room temperature water. Disinfect metal pans and utensils by boiling them in clean or treated water for 10 minutes.
- Use a solution of 1 teaspoon bleach per quart of water to clean kitchen counters and

other food preparation surfaces, and inside refrigerators and freezers.

If the Power's Out

As during other types of disasters, electricity to the refrigerator and freezer may be off. The key to determine the safety of foods in the refrigerator and freezer is how cold they are, since most foodborne illness is caused by bacteria that multiply rapidly at temperatures above 40 °F.

Leave the Freezer Door Closed: A full freezer should keep food safe about two days; a half-full freezer, about a day. Add bags of ice or dry ice to the freezer if it appears the power will be off for an extended time.

Refrigerated Items: These foods should be safe as long as the power is out no more than about four hours. Discard any perishable food that has been above 40 °F for two hours or more and any food that has an unusual odor, color or texture. Leave the door closed; every time you open it, needed cold air escapes causing the foods inside to reach unsafe temperatures.

If it appears the power will be off more than four hours, transfer refrigerated perishable foods to an insulated cooler filled with ice or frozen gel packs. Keep a thermometer in the cooler to be sure the food stays at 40 °F or below.

Never Taste Food to Determine Its Safety: Some foods may look and smell fine, but if they've been at room temperature longer than two hours, bacteria able to cause foodborne illness can begin to multiply very rapidly. Some types will produce toxins, which are not destroyed by cooking and can possibly cause illness. Use the following "Power Out" chart to decide which foods are safe to use or refreeze when power is restored.

Power Out Chart

Discard: The following foods should be discarded if kept over two hours at above 40 °F.

- Meat, poultry, fish, eggs and egg substitutes - raw or cooked
- Milk, cream, yogurt and soft cheese (blue, Roquefort, Brie Camembert, cottage, cream Edam, Monterey Jack, ricotta, mozzarella, Muenster, Neufchatel), shredded cheese

- Casseroles, stews or soups
- Lunch meats and hot dogs
- Creamy-based salad dressings
- Custard, chiffon or cheese pies, cream-filled pastries, Refrigerator and cookie dough
- Discard open mayonnaise, tartar sauce and horseradish if above 50 °F for over eight hours.

Save: The following foods should keep at room temperature a few days. Still, discard anything that turns moldy or has an unusual odor.

- Butter or margarine
- Processed and hard cheese (Cheddar, Colby, Swiss, Parmesan, provolone, Romano)
- Fresh fruits and vegetables, fruit juices
- Dried fruits and coconut
- Vinegar-based salad dressings, jelly, relish, taco sauce, barbecue sauce, mustard, ketchup, olives and peanut butter
- Fresh herbs and spices
- Fruit pies, bread, rolls and muffins
- Cakes, except cream cheese-frosted or cream-filled
- Flour and nuts

Refreeze: Thawed foods that still contain ice crystals may be refrozen. Thawed foods that do not contain ice crystals but you are certain have been kept at 40 °F or below for no more than 1 to 2 days, may be cooked, then refrozen or canned.

Removing Odors

If food has spoiled in a freezer because of a power failure or some other reason, undesirable odors can develop. To eliminate odors, remove the food and wash the inside of the freezer with one tablespoon of baking soda in a quart of tap water, or with one cup of vinegar in a gallon of tap water. Let the surface dry.

If the odor still persists, use activated charcoal. This type of charcoal is extra dry and absorbs odors more quickly than cooking-type charcoal. It can be purchased at a drug store or pet supply store. To use it, unplug the freezer. Put the charcoal in pans or on paper in the bottom of the freezer for several days. If the odor remains, put in new charcoal. When the

odor is gone, rinse and dry the inside of the freezer. Turn on the freezer and it is ready for food. When odor gets into the freezer's insulation, write the company for any suggestions it may have for solving the problem. However, sometimes, there is nothing that can be done.

How to Cook When the Power Goes Off

After a storm has knocked out electricity or gas lines, cooking meals can be a problem and even hazardous if a few basic rules are not followed. Charcoal or gas grills, or camp stoves that use gasoline or solid fuel are the most obvious alternative sources of heat for cooking. NEVER USE THEM INDOORS. In doing so you risk both asphyxiation from carbon monoxide and starting a fire that could destroy your home. If you have access to an electrical generator, small electrical appliances can be used to prepare meals.

Wood can be used 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. Make sure any fire is well contained. A metal drum or stones around the fire bed are good precautions. A charcoal grill is a good place in which to build a wood fire. Never use gasoline to get a wood or charcoal fire started. Put out any fire when you are through with it.

For more information see Clemson University's Hurricane Preparedness Information at <http://www.clemson.edu/extension/ep/hurricane.html>

Sources:

1. FEMA (2004). *Food and Water in an Emergency*. <http://www.fema.gov/pdf/library/f&web.pdf>
2. The National Disaster Education Coalition (2004). *Talking About Disaster: Guide for Standard Messages*. <http://www.disastercenter.com/guide/kit.html>
3. Page maintained by: Home & Garden Information Center USDA/FSIS (2004). *Keeping Food Safe during and Emergency*. http://www.fsis.usda.gov/factsheets/keeping_food_safe_during_an_emergency/index.asp

This information has been reviewed and adapted for use in South Carolina by P.H. Schmutz, HGIC Food Safety Specialist, and E.H. Hoyle, Extension Food Safety Specialist, Clemson University. (New 05/99. Revised 06/07.)

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