

## Safe Handling of Pork

### SELECTING THE BEST

**Fresh is Best:** When buying pork, look for cuts with a relatively small amount of fat over the outside and with meat that is firm and a grayish-pink color. For best flavor and tenderness, meat should have a small amount of marbling.

Look for packages that are cool to the touch and have no wear or punctures. Always remember to select meat just before checking out at the supermarket register. Make sure all meats, whether raw, pre-packaged or from the deli are refrigerated when purchased. Fresh meats may contaminate other grocery items. The best way to prevent this “cross-contamination” is to always keep fresh meats separate from other items. Put raw meat packages in a plastic bag so juices won’t drip onto other foods. Pack raw meats in an ice chest if it will take more than an hour to get home. Keep ice chest in the passenger area of the car during warm weather. Take meats straight home to the refrigerator or freezer.

**Product Dating:** Product dating, applying “sell-by” or “use-by” dates, is not required by federal regulations. However, many stores and processors may voluntarily choose to date packages of raw pork. Use or freeze products with a “sell-by” date within three to five days of purchase. If the manufacturer has determined a “use-by” date, observe it. It’s always best to buy a product before its date expires. It’s not important if a date expires after freezing pork because all foods stay safe while properly frozen.

**Product Inspection and Grading:** All pork found in retail stores is either USDA-inspected for wholesomeness or inspected by state systems which have standards equal to the federal government. Each

animal and its internal organs are inspected for signs of disease. The “Passed and Inspected by USDA” seal ensures that the pork is wholesome and free from disease.

Although inspection is mandatory, its grading for quality is voluntary, and a plant pays to have its pork graded. USDA grades for pork reflect only two levels: “Acceptable” grade and “Utility” grade. Pork sold as “Acceptable” quality is the only fresh pork sold in supermarkets. It should have a high proportion of lean meat to fat and bone. Pork graded as “Utility” is mainly used in processed products and is not available in supermarkets for consumers to purchase.

### STORING

**Refrigeration:** Keep pork below 40 °F during storage. Store uncooked pork items together, separate from cooked foods. Refrigerate or freeze fresh pork IMMEDIATELY after bringing it home. Never leave meat in a hot car or sitting out at room temperature. Packaged whole cuts of fresh pork may be refrigerated in their original wrapping in the coldest part of the refrigerator up to four or five days after purchase, while ground pork can be stored in the refrigerator for up to two days. Keep pork refrigerated until you are ready to cook it. When transporting uncooked or cooked pork to another dining site, place it in an insulated container or ice chest until ready to cook or eat. Cooked pork is at its best when refrigerated no longer than four days. A more detailed listing of proper cold storage times for pork can be seen in Table 1.

**Freezing:** Freeze whole cuts of fresh pork if you do not plan to cook it within four days after purchase. Wrap whole cuts of pork separately in foil or freezer bags before freezing, and label for ease in selecting just the right number of cuts to thaw for a

single meal. Be sure to press the air out of the package before freezing. If you plan to freeze pork in its original wrapping, overwrap with freezer bag or paper. Cooked pork cuts may be frozen in the same way as fresh, unless made with a sauce or gravy. In that case, pack the meat in a rigid container with a tight-fitting lid.

## PREPARATION

**Cleanliness:** Always wash hands thoroughly with hot, soapy water before preparing foods and after handling raw meat. Don't let raw meat or juices touch ready-to-go foods either in the refrigerator or during preparation. Don't put cooked foods on the same plate that held raw pork. Always wash utensils that have touched raw meat with hot, soapy water before using them for cooked meats. Wash counters, cutting boards and other surfaces raw meats have touched.

**Thawing:** Thaw uncooked pork in the refrigerator or in cold water. NEVER thaw meat at room temperature. Thawing by refrigeration requires planning ahead, most likely allowing a 24-hour thawing period. After defrosting raw pork by this method, it will be safe in the refrigerator up to five days before cooking. During this time, if you decide not to use the pork, you can safely refreeze it without cooking it first. To thaw pork in cold water, leave the meat in its original wrapping or place it in a watertight plastic bag. Change the water every 30 minutes.

For quick thawing of uncooked or cooked pork, use the microwave, but plan on cooking the meat immediately after thawing because some areas of the food may become warm and begin to cook during microwaving. Thawing time will vary according to whether you're thawing a whole roast or cuts and the number of parts frozen together. Use the DEFROST or MEDIUM-LOW setting, according to the manufacturer's directions. Turn the roast and separate parts as they thaw taking care the meat does not begin to cook. Repeat as needed. Foods defrosted by the cold water method or in the microwave should be cooked before refreezing because they potentially may have been held at temperatures above 40 °F.

**Marinating:** Marinate food in the refrigerator, not on the counter. Discard the marinade after use because it contains raw juices, which may harbor bacteria. If you want to use the marinade as a dip or sauce, reserve a portion before adding raw food.

**Partial Cooking or Browning:** Never brown or partially cook pork, then refrigerate and finish cooking later, because any bacteria present would not have been destroyed. It is safe to partially pre-cook or microwave pork and lamb immediately before transferring it to the hot grill or oven to finish cooking.

## COOKING

**Importance of Kitchen Thermometers:** One of the critical factors in controlling bacteria in food is controlling temperature. Pathogenic microorganisms grow very slowly at low temperatures, multiply rapidly in mid-range temperatures, and are killed at high temperatures. For safety, foods must be cooked thoroughly. It is essential to use a thermometer when cooking meat and poultry to prevent undercooking and, consequently, prevent foodborne illness.

Using a thermometer is the only reliable way to ensure safety and to determine the "doneness" of most foods. To be safe, a product must be cooked to an internal temperature high enough to destroy any harmful bacteria that may have been in the food. Recent research has shown that color and texture indicators are not reliable.

**Cooking the Meat:** For safety, the USDA recommends cooking ground pork patties and other ground mixtures to 160 °F. Whole muscle meats such as chops and roasts and fresh cured ham should be cooked to 160 °F (medium), or 170 °F (well done). Remember that appliances and outdoor grills can vary in heat. Use a meat thermometer to check for safe cooking and doneness of pork.

Cooked muscle meats can be pink even when the meat has reached a safe internal temperature. If fresh pork has reached 160 °F throughout, even though it may still be pink in the center, it should be safe. The pink color can be due to the cooking method or added ingredients. For approximate cooking times of pork, refer to Table 2.

**Microwaving:** When microwaving unequal sizes of pork, arrange in a dish or on a rack so thick parts are toward the outside of dish and thin parts are in the center, and cook on medium-high or medium power. Place a roast in an oven-cooking bag or in a covered pot. Refer to the manufacturer's directions that accompany the microwave oven for suggested cooking times. Use a meat thermometer to test for doneness in several places to be sure temperatures as listed above have been reached.

**SERVING**

**Basic Tips:** Wash hands with soap and water before serving or eating food. Serve cooked products on clean plates with clean utensils and clean hands. Never put cooked foods on a dish that has held raw pork unless the dish is washed with soap and hot water. Hold hot foods above 140 °F and cold foods below 40 °F. Never leave foods, raw or cooked, at room temperature longer than two hours. On a hot day with temperatures at 90 °F or warmer, this decreases to one hour.

**LEFTOVERS**

**Basic Tips:** Always use clean utensils and storage containers for safe storage. Divide large amounts of leftovers into small, shallow containers for quick cooling in the refrigerator; avoid placing large pots of stew or gravy in the refrigerator to cool since it will likely take until the next day for this amount of food to cool. For foods like ham, carve the remaining meat off the bone and store in small shallow containers in the refrigerator and use within three to four days. For frozen storage, wrap meat in heavy foil, freezer wrap or place in freezer container. For optimum taste, use meat within two to three months. When reheating leftovers, make sure that they have been cooked to 165 °F. If you may have kept the food refrigerated for too long, throw it out. Never taste food that looks or smells strange to see if you can still use it.

**TABLE 1. SAFE HANDLING OF PORK IN COLD STORAGE**

<b>Food</b>	<b>Refrigerator (40 °F)</b>	<b>Freezer (0 °F)</b>
<b>Fresh Pork:</b>		
Pork Roast	3-5 Days	4-6 Months
Pork Chops	3-5 Days	4-6 Months
Ham (Uncured)	3-5 Days	6 Months
Ham (Cured)	5-7 Days	3-4 Months
Ground Pork	1-2 Days	3-4 Months
<b>Cooked Pork:</b>		
Pork Roast	3-4 Days	2-3 Months
Pork Chops	3-4 Days	2-3 Months
Ham (Uncured)	3-4 Days	3-4 Months
Ham (Cured)	3-5 Days	1-2 Months
Ground Pork	1-2 Days	2-3 Months

**TABLE 2: FRESH PORK: SAFE COOKING CHART**

**Internal temperature of safely cooked pork should reach 160 °F when measured with thermometer**

**ROASTING:** Set oven at 350 °F. Roast in a shallow pan, uncovered. Internal temperature: 160 °F-medium; 170 °F-well-done

<b>Cut</b>	<b>Thickness or Weight</b>	<b>Cooking Time</b>
Loin Roast, bone-in or boneless	2 to 5 pounds	20 to 30 min. per pound
Crown Roast	4 to 6 pounds	20 to 30 min. per pound
Leg, (Fresh Ham) whole, bone-in	12 to 16 pounds	22 to 26 min. per pound
Leg, (Fresh Ham) Half, bone in	5 to 8 pounds	35 to 40 min. per pound
Boston Butt	3 to 6 pounds	45 min. per pound
Tenderloin (Roast at 425-450 °F)	½ to 1½ pounds	20 to 30 minutes total
Ribs (Back Country-style or Spareribs)	2 to 4 pounds	1½ to 2 hours (or until fork tender)
<b>BROILING (4 inches from heat) or GRILLING</b>		
Loin Chop, bone-in or boneless	¾ inch or 1½ inch	6 to 8 min. or 12 to 16 min.
Tenderloin	½ to 1½ pounds	15 to 25 min.
Ribs (indirect heat), all types	2 to 4 pounds	1½ to 2 hours
Ground Pork Patties (direct heat)	½ inch	8 to 10 minutes
<b>IN SKILLET ON STOVE</b>		
Loin Chops or Cutlets	¼ inch or ¾ inch	3 to 4 min. or 7 to 8 min.
Tenderloin Medallions	¼ to ½ inch	4 to 8 minutes
Ground Pork Patties	½ inch	8 to 10 minutes
<b>BRAISING:</b> Cover and simmer with a liquid.		
Chops, Cutlets, Cubes, Medallions	¼ to 1-inch	10 to 25 minutes
Boston Butt, Boneless	3 to 6 pounds	2 to 2½ hours
Ribs, all types	2 to 4 pounds	1½ to 2 hours
<b>STEWING:</b> Cover pan; simmer, covered with liquid.		
Rib, all types	2 to 4 pounds	2 to 2½ hours, or until tender
<b>Cubes</b>	1 inch	45 to 60 minutes

Source:

USDA/FSIS (1995). *Safety of Fresh Pork...from Farm to Table* [WWW document]. URL <http://www.usda.gov/fsis/pork.htm>

This information has been reviewed and adapted for use in South Carolina by E.H. Hoyle, Extension Food Safety Specialist, Clemson University.

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