



Fresh Pork from Farm to Table

Although pork is the number one meat consumed in the world, U.S. consumption dropped during the 1970s, largely because pork's high fat content caused health-conscious Americans to choose leaner meats. Today's hogs have much less fat due to improved genetics, breeding and feeding. Read on for more information about this red meat.

What is pork?

Pork is the meat from hogs, or domestic swine. The domestication of "pigs" (immature hogs) for food dates back to about 7000 B.C. in the Middle East. However, evidence shows that Stone Age man ate wild boar, the hog's ancestor, and the earliest surviving pork recipe is Chinese, at least 2000 years old.

Hogs were brought to Florida by Hernando de Soto in 1525, and soon was America's most popular meat. In the 19th century — as America urbanized and people began living away from the farm, "salt pork" — pork that is prepared with a high level of salt to preserve it — became the staple food. Pork has continued to be an important part of our diet since that time.

Pork is generally produced from young animals (6 to 7 months old) that weigh from 175 to 240 pounds. Much of a hog is cured and made into ham, bacon and sausage. Uncured meat is called "fresh pork."

Can antibiotics and hormones be used in pork raising?

Antibiotics may be given to prevent or treat disease in hogs. A "withdrawal" period is required from the time antibiotics are administered until it is legal to slaughter the animal. This is so residues can exit the animal's system and won't be in the meat.

FSIS randomly samples pork at slaughter and tests for residues. Data from this monitoring program have shown a very low percentage of residue violations.

No hormones are used in the raising of hogs.

How is pork inspected?

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 insures the pork is wholesome and free from disease.

Is pork graded?

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 pork 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.

What to Look For When Buying Pork

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.

Retail Cuts of Fresh Pork

There are four basic (primal) cuts into which pork is separated: shoulder, loin, side and leg.

Shoulder

- Shoulder Butt, Roast or Steak
- Blade Steak
- Boneless Blade Boston Roast
- Arm Picnic
- Smoked Hock
- Ground Pork for Sausage

Side

- Spare Ribs/Back Ribs
- Bacon

Loin

- Boneless Whole Loin (Butterfly Chop)
- Loin Roast
- Tenderloin
- Sirloin Roast
- Country Style Ribs
- Chops

Leg

- Ham/Fresh or Smoked and Cured

How much pork is consumed in America?

Figures from the USDA's Economic Research Service show average annual per capita pork consumption for the following selected periods:

- 1970: 48 pounds
- 1975: 39 pounds
- 1980: 52 pounds
- 1985: 48 pounds
- 1990: 46 pounds
- 1995: 48 pounds
- 2000: 47 pounds
- 2005: 46.6 pounds
- 2009: 49.6 pounds

What does "natural" mean?

All fresh meat qualifies as "natural." Products labeled "natural" cannot contain any artificial flavor or flavoring, coloring ingredient, chemical preservative or any other artificial or synthetic ingredient; and the product and its ingredients are not more than minimally processed (ground, for example). All products claiming to be natural should be accompanied by a brief statement which explains what is meant by the term "natural."

Why is pork a "red" meat?

Oxygen is delivered to muscles by the red cells in the blood. One of the proteins in meat, myoglobin, holds the oxygen in the muscle. The amount of myoglobin in animal muscles determines the color of meat. Pork is classified a "red" meat because it contains more myoglobin than chicken or fish. When fresh pork is cooked, it becomes lighter in color, but it is still a red meat. Pork is classed as "livestock" along with veal, lamb and beef. All livestock are considered "red meat."

Dating of Pork

Product dating (i.e. 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 3 to 5 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 frozen at 0 °F or below.*

What foodborne organisms are associated with pork?

Pork must be adequately cooked to eliminate disease-causing parasites and bacteria that may be present. Humans may contract trichinosis (caused by the parasite, *Trichinella spiralis*) by eating undercooked pork. Much progress has been made in reducing trichinosis in grain-fed hogs and human cases have greatly declined since 1950. Today's pork can be safely enjoyed when cooked to an internal temperature of 145 °F as measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.

Some other foodborne micro-organisms that can be found in pork, as well as other meats and poultry, are *Escherichia coli*, *Salmonella*, *Staphylococcus aureus*, *Yersinia enterocolitica* and *Listeria monocytogenes*. People can become infected with these bacteria by consuming raw or undercooked pork, or from the cross-contamination of food contact surfaces, such as countertops, cutting boards, utensils. These bacteria are all destroyed by proper handling and thorough cooking.

Chitterlings (made of large intestine of swine) can be contaminated with the bacteria *Yersinia enterocolitica*, which can cause a diarrheal illness called "yersiniosis." For more information, see our fact sheet: Yersiniosis and Chitterlings: Tips to Protect You and Those You Care for from Foodborne Illness.

Rinsing Pork

It isn't necessary to wash raw pork before cooking it. Any bacteria which might be present on the surface would be destroyed by cooking.

How to Handle Pork Safely

Raw Pork. Select pork just before checking out at the supermarket register. Put packages of raw pork in disposable plastic bags (if available) to contain any leakage which could cross contaminate cooked and ready-to-eat foods or produce. Take pork home immediately and refrigerate it at 40 °F; use within 3 to 5 days or freeze (0 °F).

Ready-Prepared Pork. For fully cooked take-out pork dishes such as Chinese food or barbecued ribs, be sure they are hot at pick-up. Use cooked pork within two hours (one hour if air temperature is above 90 °F) or refrigerate it at 40 °F or less in shallow, covered containers. Eat within 3 to 4 days, either cold or reheated to 165 °F (hot and steaming). It is safe to freeze ready prepared pork dishes. For best quality, use within 3 months.

Safe Thawing

There are three safe ways to thaw pork: in the refrigerator, in cold water (in an airtight or leak-proof bag) and in the microwave. Never thaw on the counter at room temperature or in other locations.

It's best to plan ahead for slow, safe thawing in the refrigerator. After thawing raw pork by this method, it will remain safe in the refrigerator 3 to 5 days before cooking. During this time, if you decide not to use the pork, *you can safely refreeze it without cooking it first.*

When microwave-defrosting pork, plan to cook it immediately after thawing because some areas of the food may become warm and begin to cook during microwaving. Holding partially cooked food is not recommended because any bacteria present wouldn't have been destroyed. *Foods defrosted in the microwave or by the cold water method should be cooked before refreezing because they potentially may have been held at temperatures above 40 °F.*

It is safe to cook frozen pork in the oven, on the stove or grill without defrosting it first; the cooking time may be about 50% longer. Use a meat thermometer to check for doneness. Do not cook frozen pork in a slow cooker.

Marinating

Marinate pork in the refrigerator in a covered container up to 5 days. Boil used marinade before brushing on cooked pork. Discard any uncooked left-over marinade.

Irradiation

Irradiation has been approved for use on pork by FDA and USDA/FSIS in low-doses (to control trichina). Treated pork would not be sterile and would still need to be handled safely. *Trichinella* could be alive but would be unable to reproduce. Packages of irradiated pork must be labeled with the irradiation logo as well as the words "Treated with Irradiation" or "Treated by Irradiation" so they would be easily recognizable at the store.

Partial Cooking

Never brown or partially cook pork, then refrigerate and finish cooking later, because any bacteria present wouldn't have been destroyed. It is safe to partially pre-cook or microwave pork *immediately* before transferring it to the hot grill to finish cooking.

Safe Cooking

For safety, the USDA recommends cooking ground pork patties and ground pork mixtures such as meat loaf to 160 °F. Cook all organ and variety meats (such as heart, kidney, liver, tongue, and chitterlings) to 160 °F. Cook all raw pork steaks, chops, and roasts to a minimum internal temperature of 145°F as measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.

For approximate cooking times for use in meal planning, see the attached chart compiled from various resources. Times are based on pork at refrigerator temperature (40 °F). Remember that appliances and outdoor grills can vary in heat. Use a meat thermometer to check for safe cooking and doneness of pork.

Can safely cooked pork be pink?

Cooked uncured muscle meats including pork can be pink even when the meat has reached a safe internal temperature. If fresh pork has reached 145 °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.

Microwave Directions

- When microwaving unequal size pieces of pork, arrange in dish or on 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.
- Test with a food thermometer in several places to be sure temperatures listed above have been reached.

FRESH PORK: Safe Cooking Chart

Cook all raw pork steaks, chops, and roasts to a minimum internal temperature of 145°F as measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.

Cut	Thickness or Weight	Cooking Time	Minimum Internal Temperature & Rest Time
ROASTING: Set oven at 350 °F. Roast in a shallow pan, uncovered.			
Loin Roast, Bone-in or Boneless	2 to 5 pounds	20 min. per pound	145 °F and allow to rest for at least 3 minutes
Crown Roast	10 pounds	12 min. per pound	
Leg, (Fresh Ham) Whole, Bone-in	8 to 20 pounds	15 min. per pound	
Leg, (Fresh Ham) Half, Bone-in	5 to 8 pounds	22-25 min. per pound	
Boston Butt	3 to 6 pounds	45 min. per pound	
Tenderloin (Roast at 425-450 °F)	1/2 to 1 1/2 pounds	Total time: 20 to 27 min.	
Ribs (Back, Country-style or Spareribs)	2 to 4 pounds	1 1/2 to 2 hours (or until fork tender)	
BROILING (4 inches from heat; turn once) or GRILLING (over direct, medium heat; turn once halfway through grilling)			
Loin Chops, Bone-in or Boneless	3/4-inch or 1 1/2 inches	Total time: 8-9 or 12-16 min.	145 °F and allow to rest for at least 3 minutes
Loin Kabobs	1-inch cubes	Total time: 10-15 min.	
Tenderloin	1/2 to 1 1/2 pounds	Total time: 20 min.	
Ribs (indirect heat), all types	2 to 4 pounds	1 1/2 to 2 hours	
Ground Pork Patties (direct heat)	1/2 inch	Total time: 8 to 10 min.	160°
IN SKILLET ON STOVE			
Loin Chops or Cutlets	1/4-inch or 3/4-inch	Total time: 3-4 or 7-8 min.	145 °F and allow to rest for at least 3 minutes
Tenderloin Medallions	1/4 to 1/2-inch	Total time: 4 to 8 minutes	
Ground Pork Patties	1/2 inch	Total time: 8 to 10 minutes	160 °F
BRAISING: Cover and simmer with a liquid.			
Loin Chops, Bone-in or Boneless	1/4 to 3/4-inch	Total time: 6-8 minutes	145 °F and allow to rest for at least 3 minutes
Loin Cubes and Tenderloin Medallions	½ to 1 inch	Total time: 8-10 minutes	
Shoulder Butt, Boneless	3 to 6 pounds	2 to 2 1/2 hours	
Ribs, all types	2 to 4 pounds	1 1/2 to 2 hours	
STEWING: Cover pan; simmer, covered with liquid.			
Loin or Shoulder Cubes	1 inch	45 to 60 min. or until tender	145 °F and allow to rest for at least 3 minutes

NOTE: Approximate cooking times were compiled from various resources.

HOME STORAGE OF FRESH PORK

These short, but safe, storage time limits will help keep refrigerated food from spoiling or becoming dangerous to eat. Because freezing keeps food safe indefinitely, recommended storage times are for quality only.

PRODUCT	REFRIGERATOR 40 °F	FREEZER 0 °F
Fresh pork roast, steaks, chops or ribs	3 to 5 days	4 to 6 months
Fresh pork liver or variety meats	1 to 2 days	3 to 4 months
Home cooked pork; soups, stews or casseroles	3 to 4 days	2 to 3 months
Store-cooked convenience meals	1 to 2 days;	2 to 3 months
Frozen Dinners & Entrees	Keep frozen before cooking	3 to 4 months
Canned pork products in pantry	2 to 5 years in pantry; 3 to 4 days after opening	After opening, 2 to 3 months

Food Safety Questions?

Call the USDA Meat & Poultry Hotline

If you have a question about meat, poultry, or egg products, call the USDA Meat and Poultry Hotline toll free at

**1-888-MPHotline
(1-888-674-6854).**



The hotline is open Monday through Friday from 10 a.m. to 4 p.m. ET (English or Spanish).

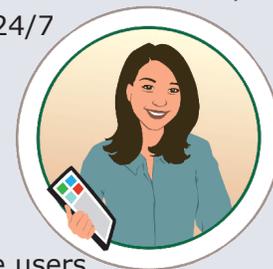
Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at

www.fsis.usda.gov

Send E-mail questions to **MPHotline.fsis@usda.gov**.

AskKaren.gov

FSIS' automated response system can provide food safety information 24/7 and a live chat during Hotline hours.



Mobile phone users can access **m.askkaren.gov**

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