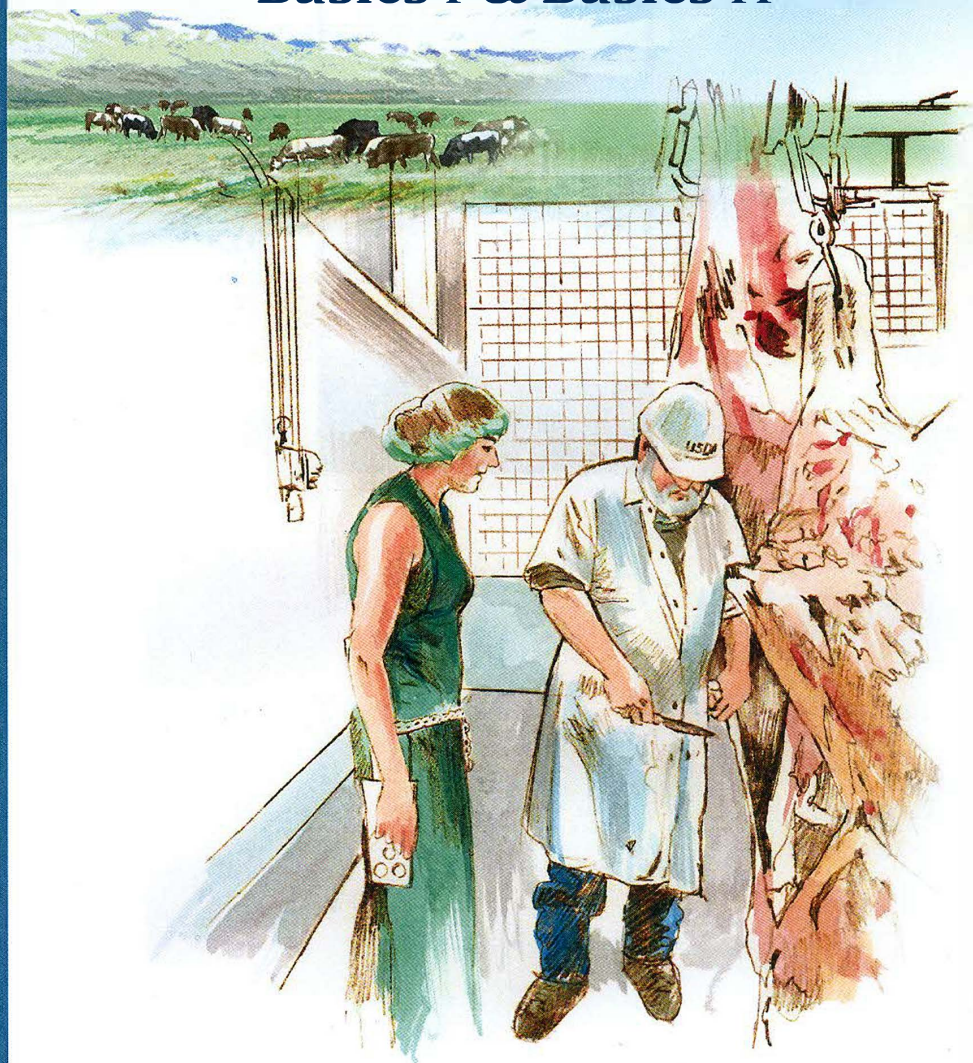


HERDS & HARVEST

WOLF PACK MEATS SLAUGHTER AND PROCESSING CERTIFICATION PROGRAM

Basics I & Basics II



June 11, 2015–Slaughter

June 23, 2015– Processing

July 1, 2015 – Basics II

July 2, 2015– Slaughter

July 14, 2015– Processing

HH-01-15

Table of Content

How to Slaughter Cattle.....	1
Wolf Pack Meats HACCP Plan.....	25
Beef Cuts Cheat Sheet.....	43
Buffalo Cuts Cheat Sheet.....	44
Hog Cuts Cheat Sheet.....	45
Lamb Cuts Cheat Sheet.....	46
Goat Cuts Cheat Sheet.....	47
Beef USDA Food Safety Information.....	48
Veal USDA Food Safety Information.....	55
Bison USDA Food Safety Information.....	61
Pork USDA Food Safety Information.....	64
Bacon USDA Food Safety Information.....	70
Ham USDA Food Safety Information.....	79
Sausage USDA Food Safety Information.....	87
Lamb USDA Food Safety Information	92
Goat USDA Food Safety Information.....	98
Federal Grant of Inspection Guide Web Page.....	101

How to Slaughter Cattle

Do-It-Yourself Home SlaughterCommercial Slaughter

Edited by Karin, David, Jmuddy95, June and 11 others

It's pretty obvious that beef is meat from muscles of cattle, but how does it get to our table? In order for beef to be served at dinner time in the form of, for example, a Porterhouse Steak, sacrifices must be made in order to get that steak. In other words, an animal's life must be taken to put meat on the table. It does sound sad and gruesome, but it's reality. Cattle, like all ungulates, are born to be killed and eaten. However, the way we humans kill and eat animals is much different from what a pack of wolves or a pride of lions have to do so they can eat. Humans are expected to treat animals with the same level of kindness and respect from the time the animal came to be raised to the point of slaughter. This is particularly true for those who care for and raise animals for their own freezer. However, some anti-slaughter people disagree with this statement, due to their agendas that all animals should be protected and none should be killed in any way shape or form.

It should be noted, though, that this article is not created for the purpose of arguing about the morals of **whether slaughtering animals for food is right or wrong**, since that should be left for a different time and place, or can be discussed on the Discuss tab of this article. Before we begin, a definition: Slaughtering is the killing, cleaning, skinning and quartering animals for meat. It is a process that begins when the animal enters onto the kill floor or the area where they can be easily accessed to be slaughtered and ends in the cooling room.

There are three ways that cattle are slaughtered: Commercial, Do-It-Yourself at Home Butchering, and **Religious slaughter**. Religious slaughter is the most controversial subject next to commercial slaughter, but it is beyond the scope of this article to cover such a diversified subject due to the fact that there is more than one religious slaughter method that exists, and thus will not be covered here. The steps below will show only two methods, describing how they are accomplished and the details as to why such methods and steps need to be done.

The details in the sections below are only examples of what is typically done to slaughter cattle. Every slaughter plant or butcher shop, large or small, and every DIY practice is always going to be different from another. Different slaughtering facilities will have different equipment that they see fit to use for humane slaughter, and different farms and counties have various methods and regulations, respectively, that must be followed when performing slaughter. The basic concepts of the two methods, though, are the same and involve similar practices.

- *Note:* Details on how cattle are commercially slaughtered are found in the section following DIY Home Slaughter.

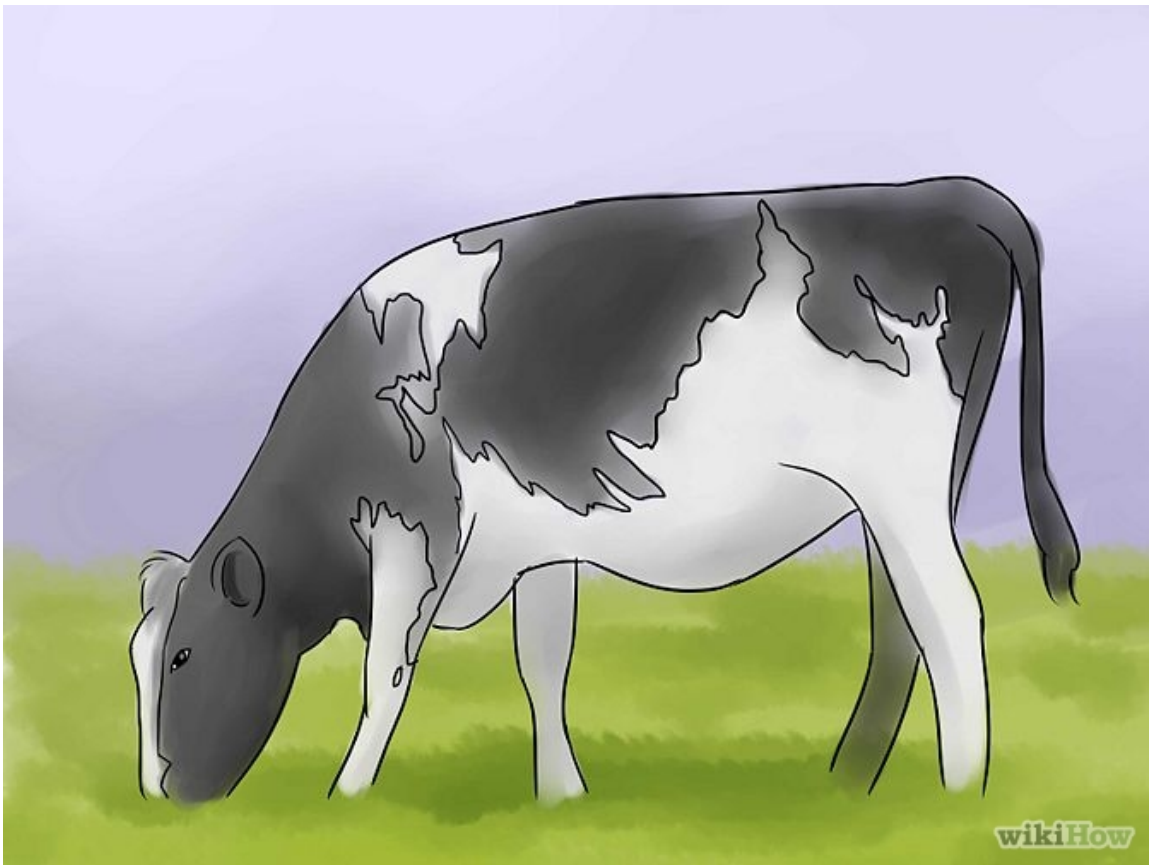
Method 1 of 2: Do-It-Yourself Home Slaughter



1.

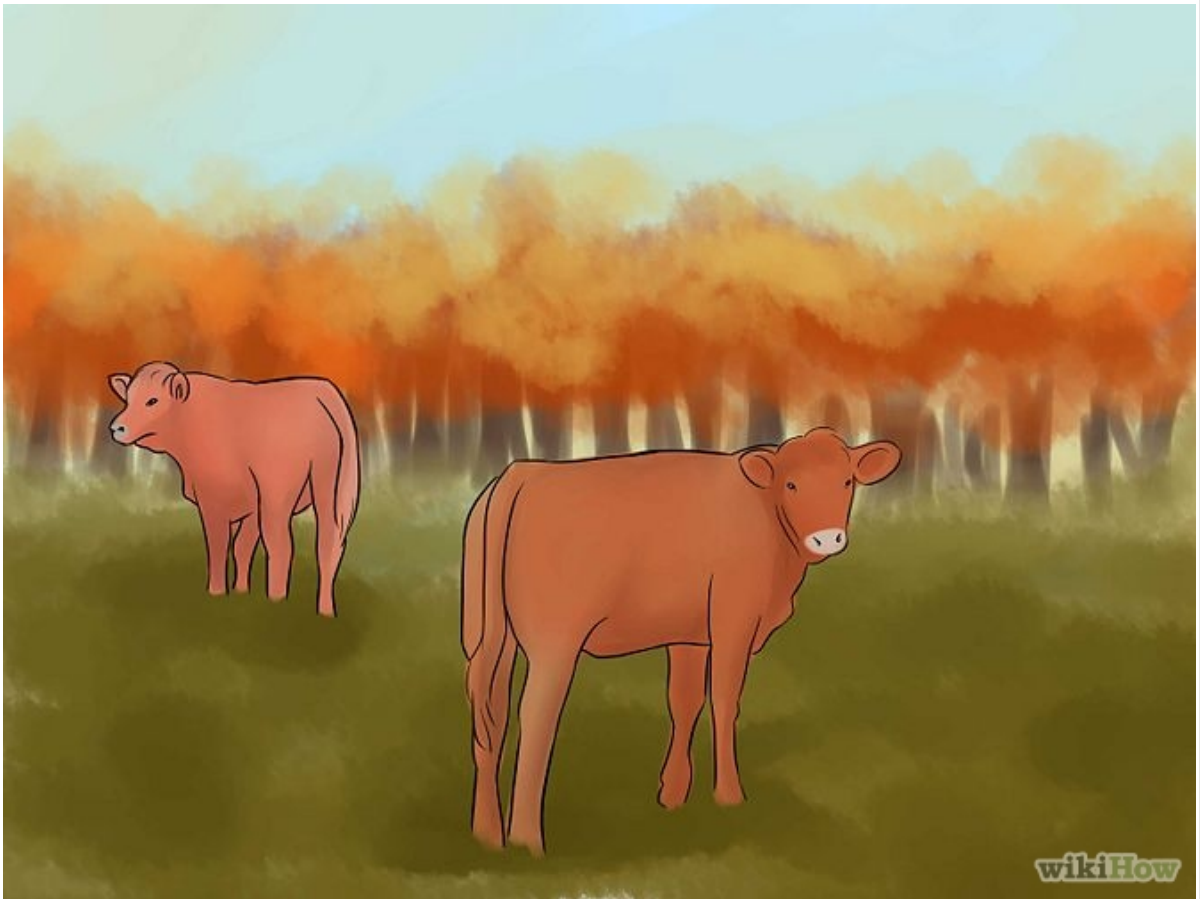
1

Make careful preparations for doing the slaughtering process. This will help you remain calm and make sure you make the euthanization process as quick and painless as possible. You will get a strong surge of adrenaline when the animal is killed, but make sure you learn to direct these feelings into doing the job right instead of letting them get the best of you and botching the job ^[1].



2

Make sure the animal you are going to slaughter is of the right age to butcher. This is especially true with a **steer or heifer** that you have raised for beef. If you are or have **finished a young animal on grain**, aim to butcher when they are around 15 to even 18 months old. Some people prefer to butcher their cattle between 10 and 15 months of age. If they are finished on pasture, the best age to butcher is between 24 and 30 months of age.

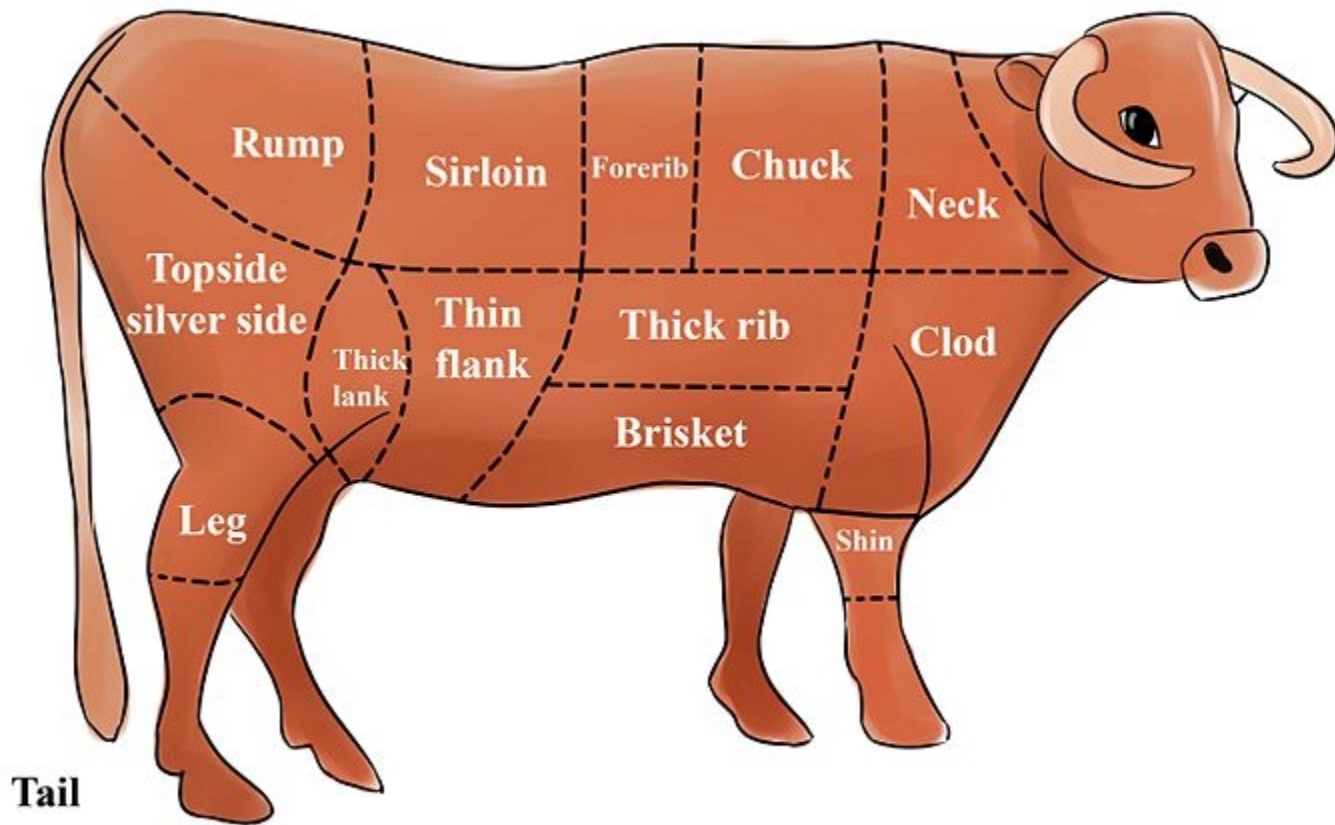


2.

3

Make sure you are slaughtering at the right time of year, or even day. Try to avoid slaughtering and butchering cattle, or any other animals, during fly season, which is typically between May and October in most countries except Australia. For some areas, you can butcher anytime between October and May, especially the areas that don't get much or any snow and temperatures remain 40 degrees Fahrenheit (10 degrees Celsius) during the day.

- However, the window for slaughtering cattle is much narrower for areas that do get snow from November or December through to May. For these areas, slaughtering should be done in the fall, between October to the first snowfall.
- You should also note the time that your animals were born and when the best age and time to slaughter should be. For example, if the steer you are raising on grass was born in April and you want to slaughter him when he's around 18 months of age, then you should slaughter in October of the following year. However, if the steer was born in February and you want to slaughter at the same age (18 months), then you may have to consider waiting a couple of months more (into October or November instead of in August of the following) to slaughter it.
- Consider withholding feed for 24 hours prior to slaughter. It's not totally necessary, but it's easier to clean or gut an animal when there is no food in the gastro-intestinal (GI) tract than if there was. But if you feel bad about leaving your cattle hungry before slaughter, then that's fine too. But remember to be very careful when the skinning and cleaning process has to commence.



wikiHow

3.

4

Consider which parts of the animal you want to keep before slaughtering. Some people like to use all parts of the animal for various uses. If you choose not to use the different parts available to use, the value is only in learning and experimenting, as well as knowing the possibilities of what you can save and use^[2].



4.

5

Locate the area where you are going to euthanize your beef animal. The best place would be in an area where it is most comfortable in, and where you can easily get into with a tractor to haul it out.

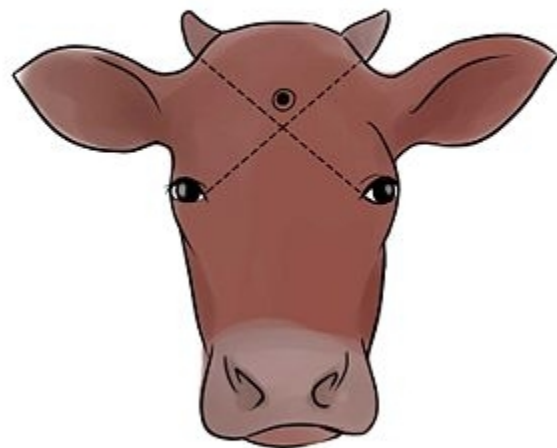


5.

wikiHow

6

Load the gun and make sure the knife you have with you is razor sharp. You can use whatever gun you have available, be it a .22 rifle or a .38 pistol, just so long as you know where to aim for the best kill shot.



wikiHow

6.

7

Aim and fire. Aim carefully for the invisible X above the eyes, and then squeeze the trigger. If your shot is right on the mark, then the animal will die instantly or be rendered insensible.

- In order to know where to place the bullet from your gun to render the animal insensible, an invisible X should be visualized: Start at the top of the base of the

animal's horn or ear, then trace it to the center of the opposite eye. Do the same with the other ear or eye. (Or think of it this way: left ear/horn to right eye, right ear/horn to left eye.) The center where the lines meet is where the bullet should be placed.

- If the gun is placed in between the eyes, the shot will completely miss the brain and quite possibly fail to kill. Thus it is very important to know where to place the gun in order to let the animal meet a swift and painless end. Leg movement should be ignored as indication that the animal is still alive (see next step below).

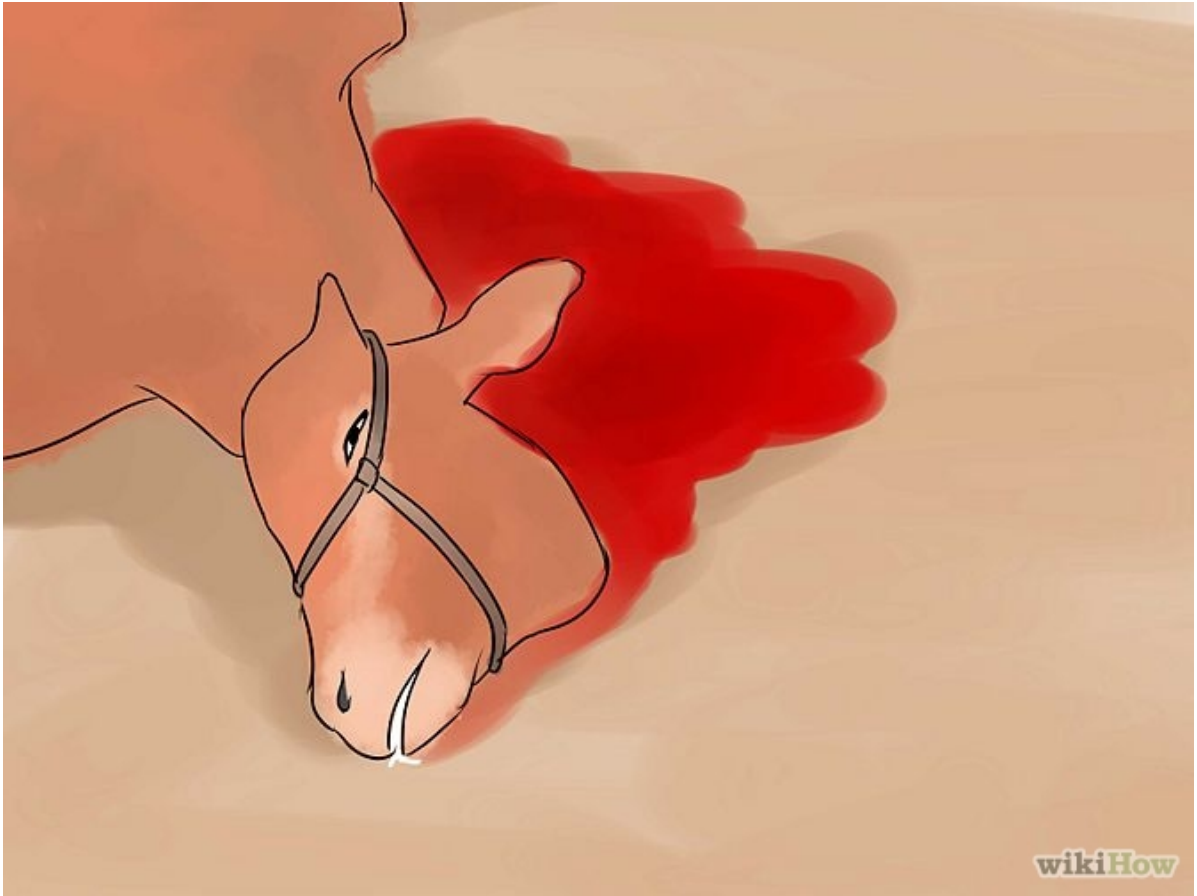


7.

8

Cut the throat right after the animal goes down. With a big, very sharp knife (a hunting knife is best), stick the point of the knife into the throat and cut outward away from you so that the blood can drain out onto the ground. Never cut into the skin through the hair, since the blade will slip and you could cut yourself or a part of the animal you don't want cut. Make sure all the main blood vessels are severed.

- Often pumping the foreleg up and down a few times also helps get the blood out.
- *Note:* Before and during the sticking process many people who have viewed videos of animal slaughter or have personally watched the slaughter process observed that the animals' legs were still moving and kicking as their throats were being slit, and this has lead them to believe that the animal was still alive after being stunned or killed. **This is false.** Leg movements are merely unconscious reflexes that are initiated by synapses that come from not the brain itself because the brain would already be non-functioning after being killed, but the spinal cord. Even decapitated animals will kick.
 - In order to determine if an animal is unconscious and insensible, *leg movement **must** be ignored.* Eye reflexes, eye blinking, vocalization and rhythmic breathing or movement of the animal's sides must be absent in order for an animal to be considered deceased.
- ***It is crucial that the animal be fully insensible and bled out before it is dressed.***

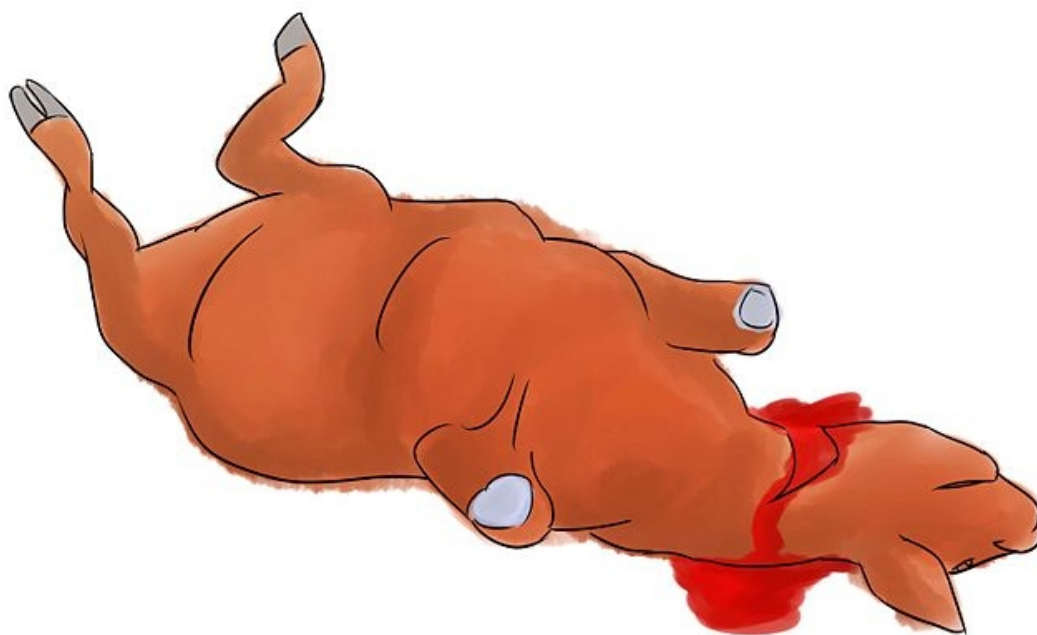


8.

9

Remove the head and, if the animal is intact, the testicles, immediately. This is so that the meat doesn't get tainted. Be careful when removing the testes because the animal may still be involuntarily kicking out. The head should be removed by cutting all the way around with the hunting knife, careful to keep the blade between the skin and flesh, never into the hair, cutting outwards but **never towards you**.

- You will need a meat-saw to cut through the spinal column.



9.

wikiHow

10

Remove the front feet/lower leg. Stick the point of the knife into the knee-joint and cut outwards, keeping the point of the knife in the cartilage and cutting around, until you can completely remove the leg.

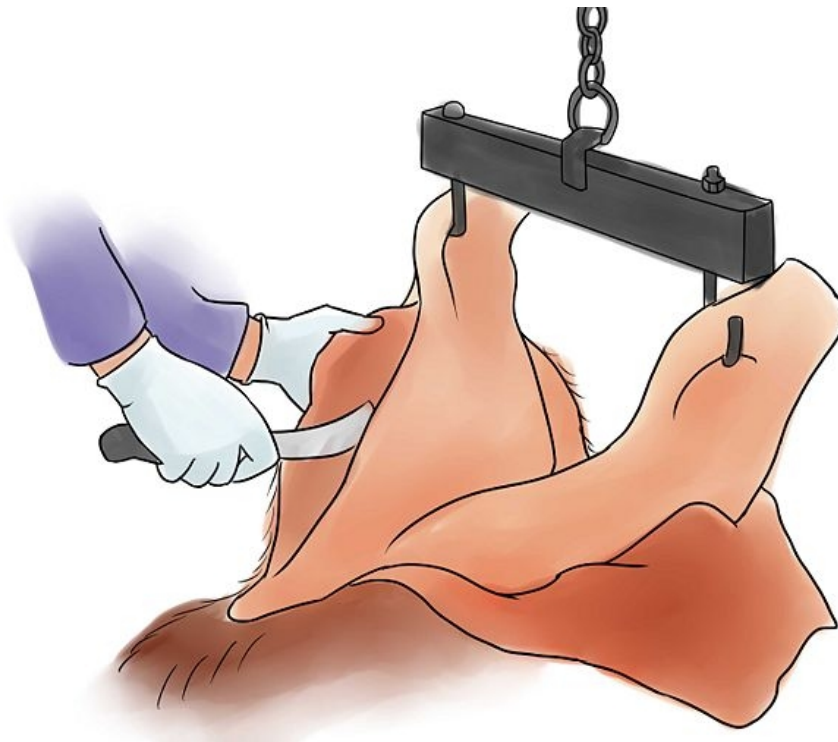
10.



11

Get the tractor. Make sure it has the front-end loader attached first; otherwise you won't be able to do the rest of the slaughter process unless you can do it on the ground like with wild game (deer, moose, bear, etc.). If you choose to use this process, note that you could do this for skinning the front of the animal, but not for removing viscera and splitting the carcass.

11.



12

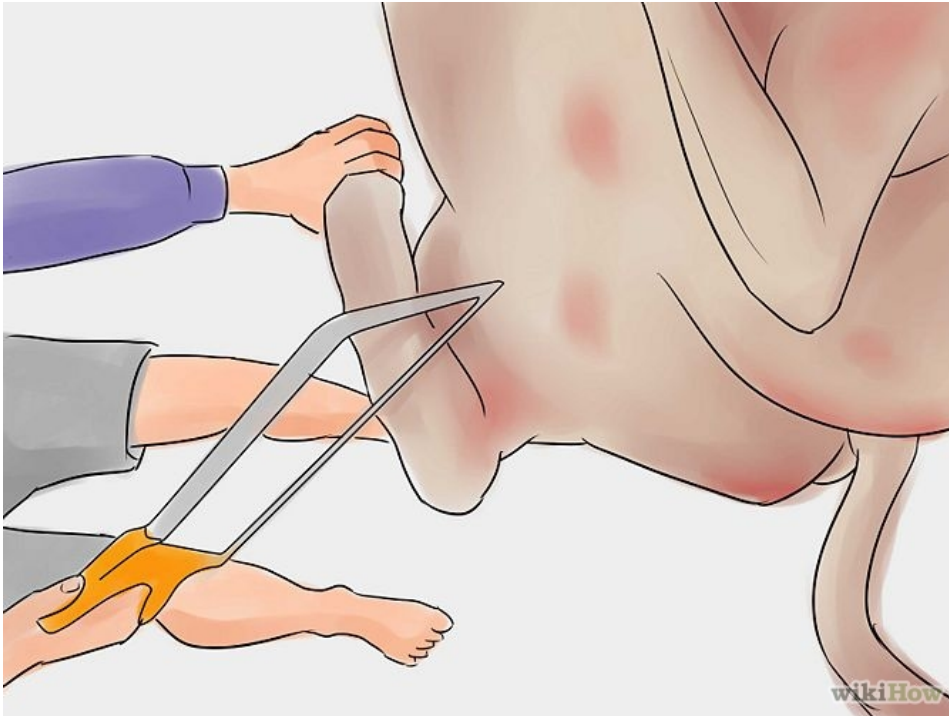
Make slits between the Achilles tendon (or gam cord) and the hock bone (equivalent to our ankle/heel) and insert a hook called the gambrel or beef hook, which would be attached to a beef-spreader or single-tree. Shackle the single-tree to chains and attach the chains to the loader. Raise the loader up as high as you are comfortable of rising so that the animal's head is not dragging on the ground, and so it's at a sufficient height where you can start to work on the rear of the animal.

- If you choose to start slaughtering the animal on the ground, all that's needed to be done is to move the animal onto its back and place a short prop or square post on either side of the rib-cage (below the elbow) to hold it there.



13 **Move the carcass to the designated slaughter area.** This is where you will be able to do the rest of the slaughtering procedure. Make sure the area is located in a[n]:

- Dry, dust-free and well-drained area.
- Area not visible to the public, like from roads, neighbor's houses, etc.
- Well-lit area, such as in a sunny spot or where you can access electricity if you have to do the slaughtering process in the evening or at night.
- Sheltered area to protect yourself and the carcass from the elements like wind and precipitation.
 - You may already have a designated slaughter facility where a tractor is not needed, but simply a cable and a winch. Come-along winches are the best for cattle, and can be used to hoist the animal to the height that is most convenient for you to work on the animal.



13.

14

Remove the hind feet and shanks. Skin the hind legs just like with removing the front legs mentioned above (only up to the hock joints, not past it), then saw through the bone below the hock (above the hock joint when you have the carcass hanging)^[3].

14.



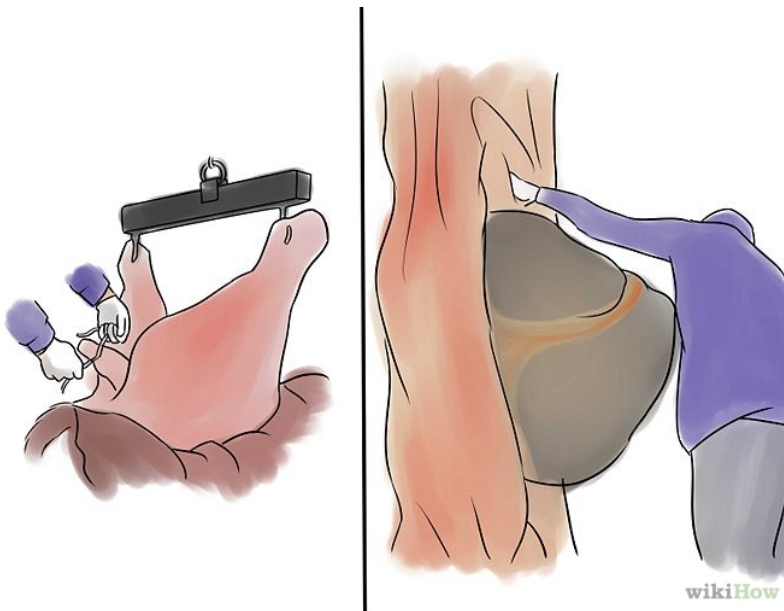
wikiHow

15 **Start skinning the animal.** You need to work from the back legs to the neck front to back. To do this the following steps are followed:

- Slip the short-pointed knife into the slit made at the gam cord and cut around the hock, cutting outwards.
- With the knife between the flesh and the skin, slice a line down each leg to the midline, then all the way down to the neck or dewlap.
- Using your skinning knife, begin at the junction where the leg cuts meet the midline cut. Grasp the hide with one hand and pull hard (out and down for hanging, up and out for carcasses on the ground) to create tension as you use your knife to separate the hide from the flesh. Place your knife firmly against the hide with the cutting edge turned towards the hide at a slight angle ^[4]. Keep pulling the hide away with your hand and keep slicing down and to the side until the belly and rib cage is completely skinned.
 - You may want to wash down this area at this point to remove any dirt or other contaminants before proceeding to the rest of the skinning process.
- Start skinning the back legs by starting at the top of the "Y" and skinning the hide up and over the groin (scrotum or udder). The hide tends to be tautest here, so you

need to be especially careful if you want to save the hide. Just like with skinning the belly, pull the hide out and down to create tension as you work. Fat is good when skinning the animal as it makes it relatively easy to skin, so you should leave as much fat on the carcass as possible.

- Continue skinning over the anus to the tailbone. Give the tail a sharp jerk downward to sever it from the vertebrae. (If you can't do it, simply cutting it off with a knife works just as good.)
- The weight of the hide itself will help skin the rest of the carcass for you. Work all around the animal until you reach the forefront of the carcass
- Skin the forelegs near the shoulders, starting on the outside of the leg and working around to the front. Repeat for the other leg.
- Skin the neck and inner forelegs. By this time the hide should be completely shed.



15.

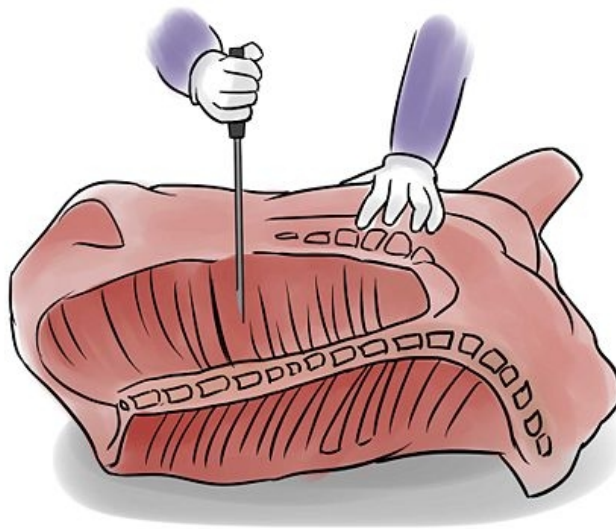
16

Remove the offal/viscera of the animal. You will need to first separate the large intestine from the body and tie it off, then remove the penis if it's a steer or bull you are butchering, then continue with the removal of the rest of the internal organs, as follows.

- Lower the animal so that you can work comfortably on the rear end of it.
- Cut around the anus with a short, pointed knife, being very careful not to make any holes in the intestine, as that could contaminate the meat. This anal area is known as the *bung*.
- Pull the bung out slightly or enough that you can tie it off. Unless you know your knots and can make a slip-knot prior to pulling it out, you may need a helper to hold the rectum as you tie it off.
- If the animal is male, cut out the penis before slicing through the belly.
- Cut down the belly, cutting from the inside out, working your way down from the udder/scrotal area to the sternum. Use your other hand to hold the viscera away from the point of the knife, cutting through the belly fat as you go.
- Place a large container underneath to catch the viscera, as by now they would be bulging out of the body.
- Cut through the fat surrounding the offal and sever any tissue that connects offal to the back of the abdominal cavity. Pull the bung through to the inside of the cavity then out through the slit made to access the internal organs. Take your time separating the intestines from the cavity since you don't want to spill the contents into the carcass. Also be careful to not rupture the bladder.
- Pull the intestines and bladder out of the body, as well as the stomachs since it should also be free by now too. Reach in and down to lift it all out into the container, severing the remaining flesh and connective tissue connecting the stomachs (also called the *paunch*) to the body cavity. This includes severing the esophagus from the stomach at the point where it goes through the diaphragm.
 - If there are some innards that you want to keep, you'll want to get a separate "keeper" bowl to put them in. This would include the kidneys and

liver. The kidneys should be removed after the intestines are taken out, as well as the abdominal fat that can be cut up and fed to the chickens (if you have any). Remove the liver and place it in the bowl along with the kidneys.

- Cut out the diaphragm and remove the heart and lungs. To do this you need to grasp the heart and lungs and pull forward and downward, cutting the large blood vessel attached to the backbone. You should be able to remove the heart and lungs with the esophagus and trachea attached. You will need to sever the connective tissue between them if you want to keep the heart along with the liver and kidneys.
 - You may need to squeeze the heart a bit to get any blood out that may have not been completely pumped out.
- You should inspect the offal to see if there are any abnormalities that may affect the quality of the meat. If you're not sure what to look for, it may be best to get a large-animal veterinarian out to do the postmortem inspection for you.



16.

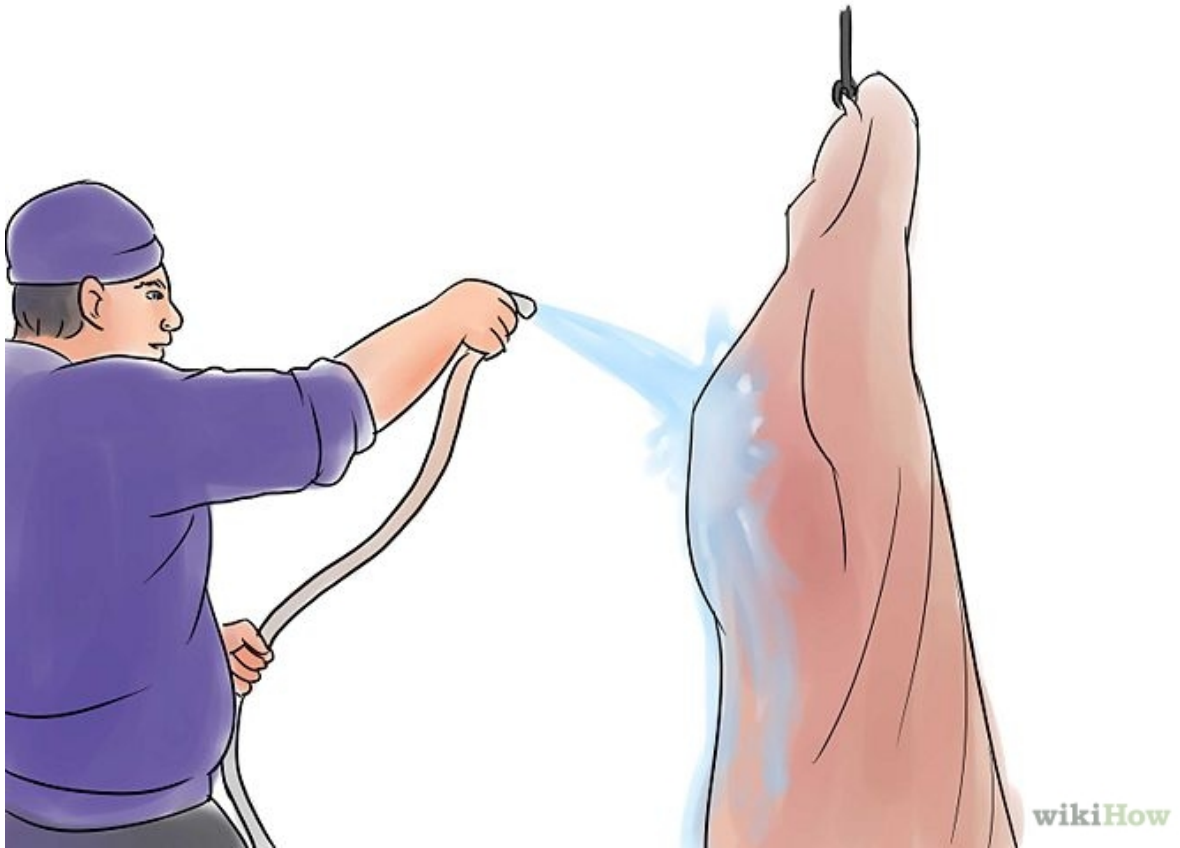
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17

Split the carcass in half. Start by sawing through the sacral vertebrae from the inside and the cartilage that joins the pelvic bone. As soon as the pelvic area is cut through you can saw from the back, but some prefer to keep sawing through the back since the vertebrae is much easier to see in the front than the back, especially if the animal has a lot of back fat. Continue sawing to the neck. Cut down through the center of the brisket to cut the ribcage in half.

- You should consider splitting the carcass into quarters to handle the carcass a bit easier. Cut between the 12th and 13th rib, and leave the 13th rib intact to allow air to circulate over the kidney knob and prevent bacterial growth if additional hanging time is needed.

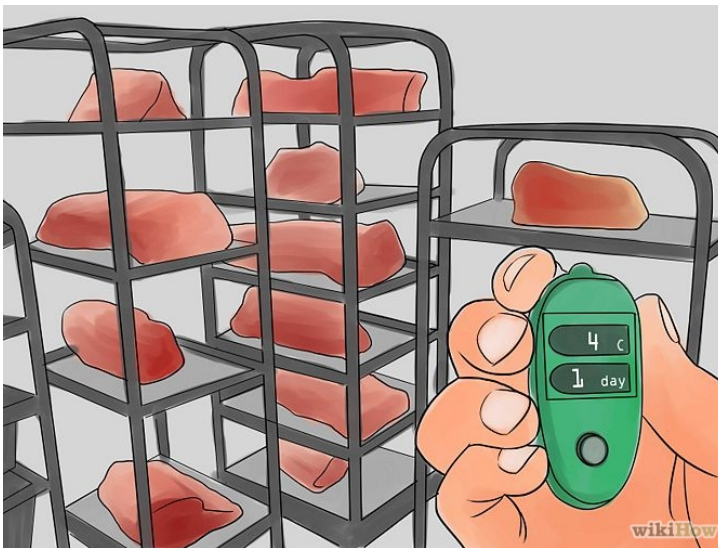
17.



18

Clean the carcass with cold water to wash any excess blood and dirt off. You may have to trim any soiled, bruised or bloodied pieces of flesh as well.

18.



19

Hang the carcass to age it. How long to age depends on the air temperature, fat covering and desired flavor. Most should hang the carcass to age for seven to five days (some say two weeks), longer if aging is done during the colder conditions and if there's more fat on the carcass. If the carcass is entirely covered in fat then it is recommended to hang longer than 10 days.

- A good way to tell if you have the meat aging at the right temperature is if the temperature of the round (the hind-quarter) and other thick parts are lowered to 40 to 45 degrees Fahrenheit (7 to 4 degrees Celsius) within 24 hours after slaughter.
- Hang the carcass in an area where off-odors will not be absorbed and do not exist. Odors like manure, gas, paint or musty odors can be readily absorbed by the carcass.
- The hanging area should, in addition to cool and dry, also be dust-free, odor-free and relatively sterile.

Wolf Pack Meats

HACCP Plan

Hazard Analysis-Beef Slaughter-Carcass halves and quarters, head meat, heart, liver, tongue

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of Reasonably Likely to occur	5. If yes in column 3, what measures could be applied to prevent, eliminate or reduce the hazard to an acceptable level?	6. Critical Control Point
1. Receiving the cattle	Biological- Pathogens (Salmonella, Escherichia coli 0157:H7) carried on hide and in intestinal tract; Prions (if animal has BSE).	Yes (Pathogens) No (Prions)	Cattle are a known source of Salmonella Elder et al data (supplied by FSIS) states that E. coli 0157:H7 is reasonably likely to occur in beef cattle. Non-ambulatory animals are not accepted for slaughter, per 9 CFR 309.3(e).	Trim Zero Tolerance and Organic Acid Spray steps (CCP's later in the process) control pathogens. All animals harvested must have a birth certificate from supplier and or dentition.	
	Chemical -drug residues	No	Low risk according to USDA Residue Monitoring Program	All animals harvested must have a withdrawal certificate from supplier (ap-H)	
	Physical-Buckshot, needles, bullets	No	No reported incidences at this facility visual observation for foreign materials during cleaning make hazard unlikely.	We do not save skulls of ovine or bovine.	

1. Process Step	2. Food Safety Hazard	3. Reasonably Likely to Occur	4. Basis of reasonably likely to occur	5. If Yes in Column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
2. Receiving storage, packaging materials	Biological- None	No	None	None	
	Chemical-None	No	None	None	
	Physical- None	No	None	None	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
3. Holding, ante mortem inspection	Biological-BSE	No		All animals harvested must have a birth certificate from supplier (ap-N).	
	Chemical- Residue			All animals harvested must have a withdrawal certificate from supplier (ap-H)	
	Physical-None	No		None	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
4. Titration, minimum 2% Organic Acid Spray	Biological- Possible contamination, e. coli 057.H7, salmonella	No		Titration for minimum 2% organic acid spray, before harvest or each batch mixed (equal parts tap water and 5% vinegar)	B2
	Chemical-None	No		None	
	Physical-None	No		None	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
5. Water Flushing/clarity	Biological-None	No		None	
	Chemical-None	No		None	
	Physical-Sand	No		Flushing water system daily or as needed (SOP)	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
6. Knocking, Shackle, and Stick	Biological- damage to esophagus could contaminate carcas; e. coli 057.H7, salmonella	No		Contamination controlled at final trim	B1
	Chemical-None	No		None	
	Physical-None	No		None	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of Reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate or reduce the hazard to an acceptable level?	6. Critical Control Point
7. Skin head, remove, rinse, remove tonsils and tongue	Biological-SRM's, e. coli 0157.H7, salmonella	No		Tonsils and tongue removed, dentition for age, hazard of 30 months or older segregated. All animals are required to have a birth date certificate from supplier for age, as covered in SOP. Organic acid spray to retard e. coli 0157.H7, salmonella	B2
	Chemical-None	No		Covered in SOP	
	Physical-None	No		Covered in SOP	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in Column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
8. Cradle, skin and remove legs at break joint	Biological-Pathogens, e. coli 0157.H7, salmonella	No		Contamination controlled at final trim.	B1
	Chemical-None	No		None	
	Physical-None	No		None	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
9. Ream and floor, tie off esophagus, saw brisket	Biological- Pathogens, e. coli 0157.H7, salmonella	No		Contamination controlled at final trim.	B1
	Chemical- None	No		None	
	Physical	No		None	

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control point
			and variety meats are moved rapidly enough to next step to prevent pathogen growth during this step.		
	Chemical-None	No			
	Physical-None	No			
11. Organic Acid Spray			Pathogens are known to be present on beef carcasses and are also reasonably likely to be present on head meat and variety meats. Trimming step reduced likelihood of hazard occurring. Organic acid spray reduces likelihood of pathogens remaining	Organic acid spray treatments are well known to reduce pathogen numbers. Organic acid prepared and applied according to the Organic Acid Spray SOP is likely to reduce pathogen numbers to nondetectable level.	2B

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
			on carcass to an acceptable level and prevents pathogen growth during transfer of carcass to chiller.		
	Chemical-Excessive organic acid	No	SOP for preparing organic acid rinse solution makes hazard unlikely. Organic acid used is food-grade.		
	Physical-None	No			
12. Chilling	Biological-Presence or growth of pathogens (see list above)	No (Presence) No (Growth)	Pathogens adequately controlled at receding CCP's. Storage of carcass under refrigerated (<41°F) conditions, in accordance with SOP for final		

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of reasonably likely to occur	5. If Yes in column 3, what measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	6. Critical Control Point
			product storage, makes growth of pathogens (if present) unlikely.		
	Chemical-None	No			
	Physical-None	No			

Organic Acid Spray SOP Log				
Date	Type of Acid* and Concentration Acetic acid used at 2.5%, lactic acid used at 2.0-2.5, FreshBloom® used per manufacturer's directions.	Actual amount of Acid used in preparation (indicate units, e.g. fluid ounces, gallons, ml, liters, weight ounces)	Actual amount of Water used in preparation (indicate units, e.g. fluid ounces, gallons, ml, liters)	Time/Initials

*Ac=acetic acid (vinegar) L=lactic acid FB=FreshBloom®

Corrective Action Log

Product:	Lot ID:
Date/Time:	Responsible Person:
Deviation:	
Cause of Deviation:	
Cause of Deviation Eliminated By:	
CCP under control after corrective action taken:	
Preventative Measures:	
Product Disposition:	

Verification (Records Review) by Date: _____

Plant Name: _____

Address: _____

City, State, Zip Code: _____

Product Description Form	
Formal Product Name:	
Food Safety Characteristics: i.e. pH, water activity, etc.	
Packaging Used:	
Ingredients:	
Labeling Requirements:	
Storage and Distribution:	
Intended Consumers:	
Intended Use:	
Shelf Life:	

Approved by: _____

Date: _____

HACCP PLAN SUMMARY TABLE

Product Name: _____

(1) Critical Control Point	(2) Hazards	(3) Critical Limits for each Critical Control Point	Monitoring				(8) Corrective Action(s)	(9) Verification	(10) Records
			4 What	5 How	6 Frequency	7 Who			

Product Description: _____

Firm Name: _____ Firm Address: _____

Method of Storage and Distribution: _____

Intended Use & Consumer: _____

Signature: _____ Date: _____

Plant Name: _____

Address: _____

City, State, Zip Code: _____

Product Description Form	
Formal Product Name:	
Food Safety Characteristics: i.e. pH, water activity, etc.	
Packaging Used:	
Ingredients:	
Labeling Requirements:	
Storage and Distribution:	
Intended Consumers:	
Intended Use:	
Shelf Life:	

Approved by: _____

Date: _____

CUTS OF BEEF

A CHEAT SHEET FOR MEAT TREATS

THE BEEF SECTION

of the grocery store or butcher can be confusing even for the most devoted omnivores. How is a tri-tip steak different from a New York steak? What about sirloin tip? To give you a better understanding of where your beef comes from, we have taken the most popular retail cuts and charted them according to... well, where they belong on the cow. We also tell you how much they cost and the best cooking methods for each. **Dig in!**

Cooking Methods



Cost

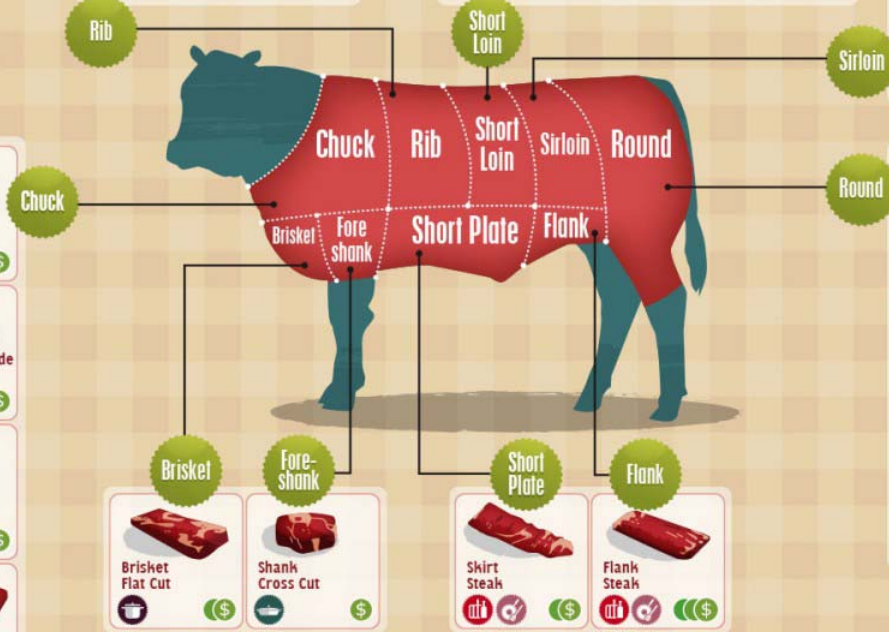
Inexpensive
up to \$4

Moderate
up to \$6.50

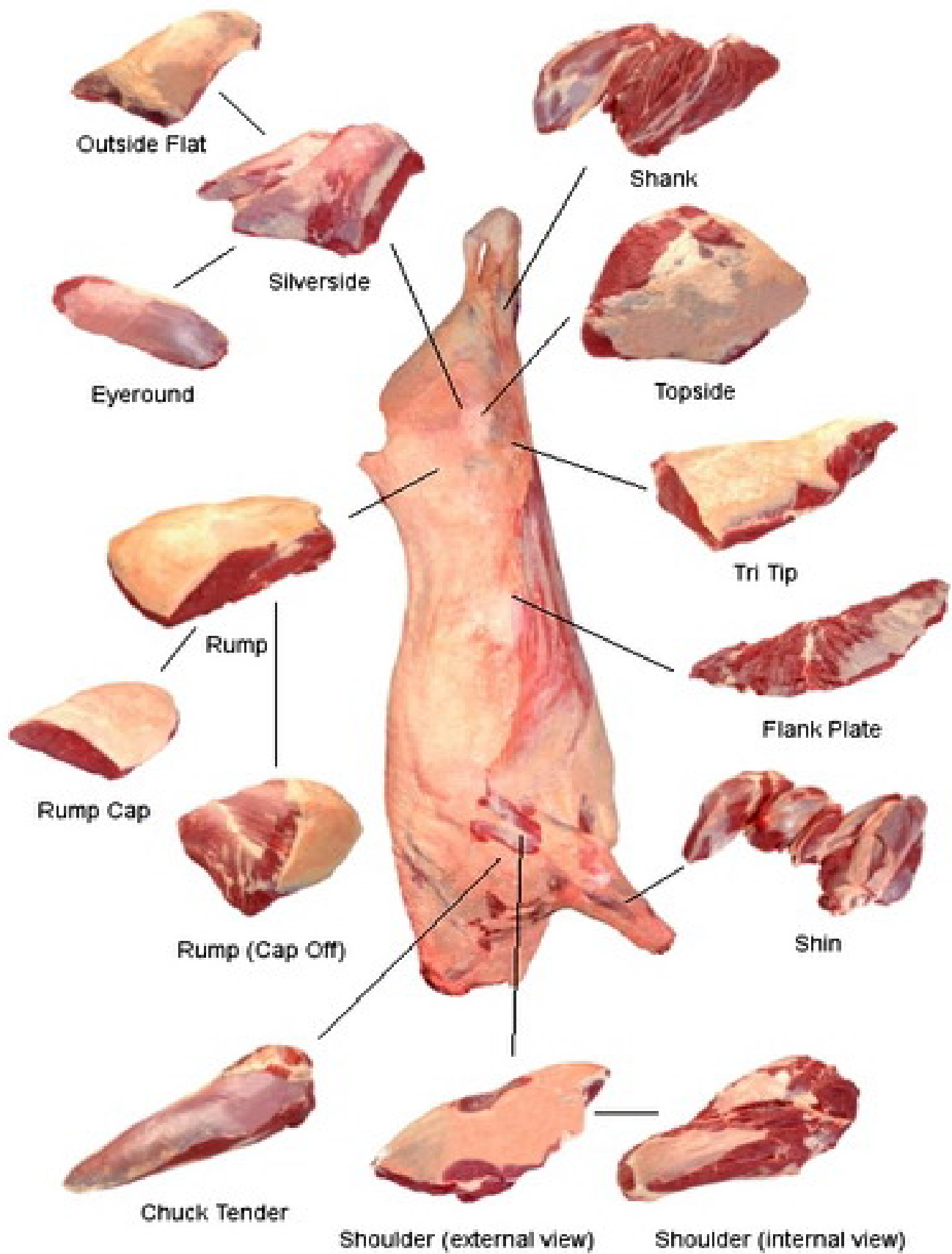
Expensive
over \$6.50

Chuck 7-Bone Pot Roast	Chuck Boneless Pot Roast	Chuck Steak Boneless
Chuck Eye Steak Boneless	Shoulder Top Blade Steak	Shoulder Top Blade Steak Flat Iron
Shoulder Pot Roast Boneless	Shoulder Steak Boneless	Shoulder Center Ranch Steak
Shoulder Petite Tender	Shoulder Petite Tender Medallions	Boneless Short Ribs

Rib Roast	Rib Steak	Ribeye Roast Boneless
Ribeye Steak Boneless	Back Ribs	
Porterhouse Steak	T-Bone Steak	Top Loin Steak Bone-in
Top Loin Steak Boneless	Tenderloin Roast	Tenderloin Steak



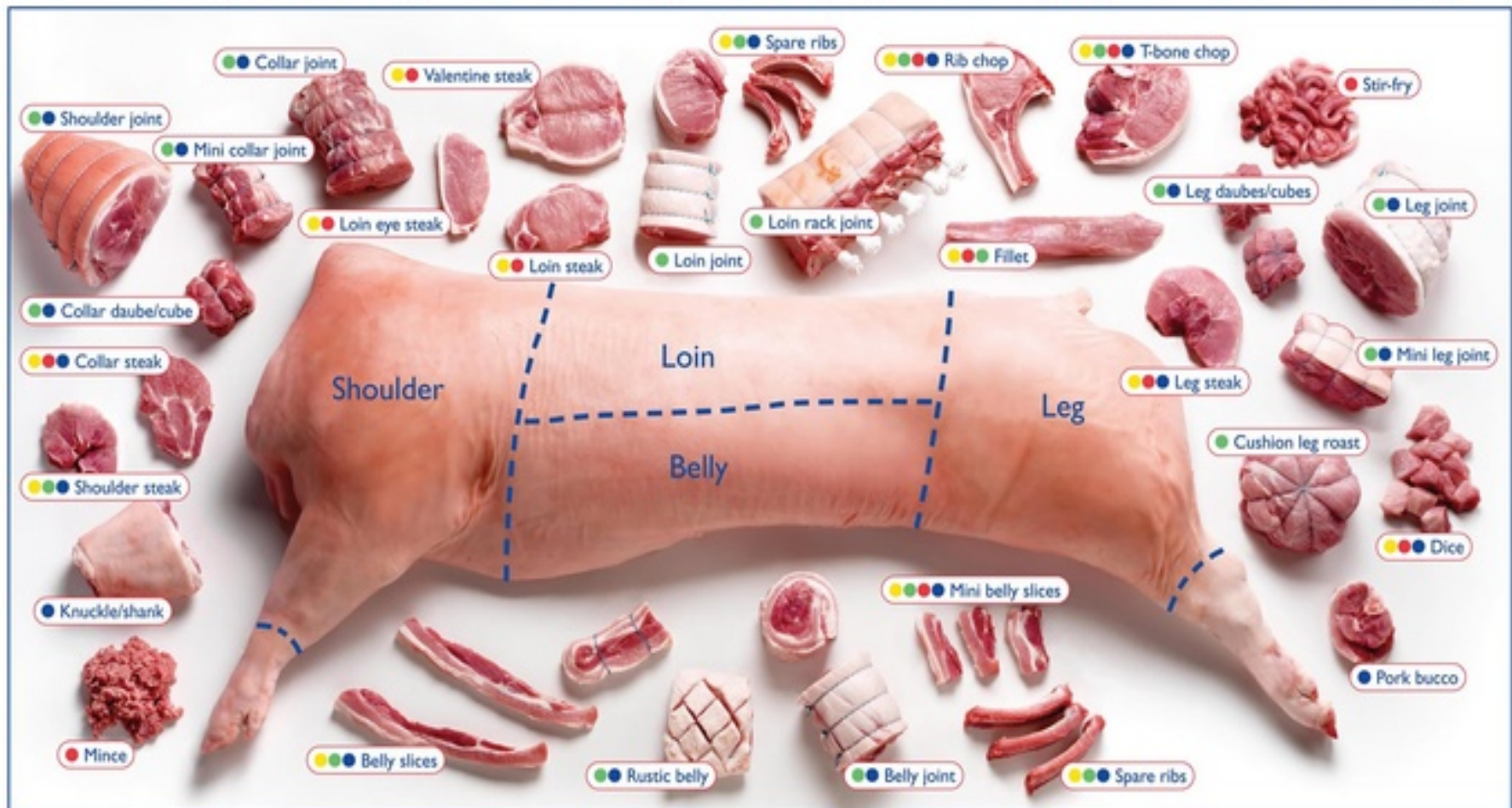
Source: FreshLook Marketing Retail Scanner Data/VM Meat Solutions, Total US, 2012



Buffalo Cuts

the **Pork Cuts** range

● Grilling & BBQ'ing
 ● Roasting
 ● Frying & Stir-frying
 ● Slow Cooking

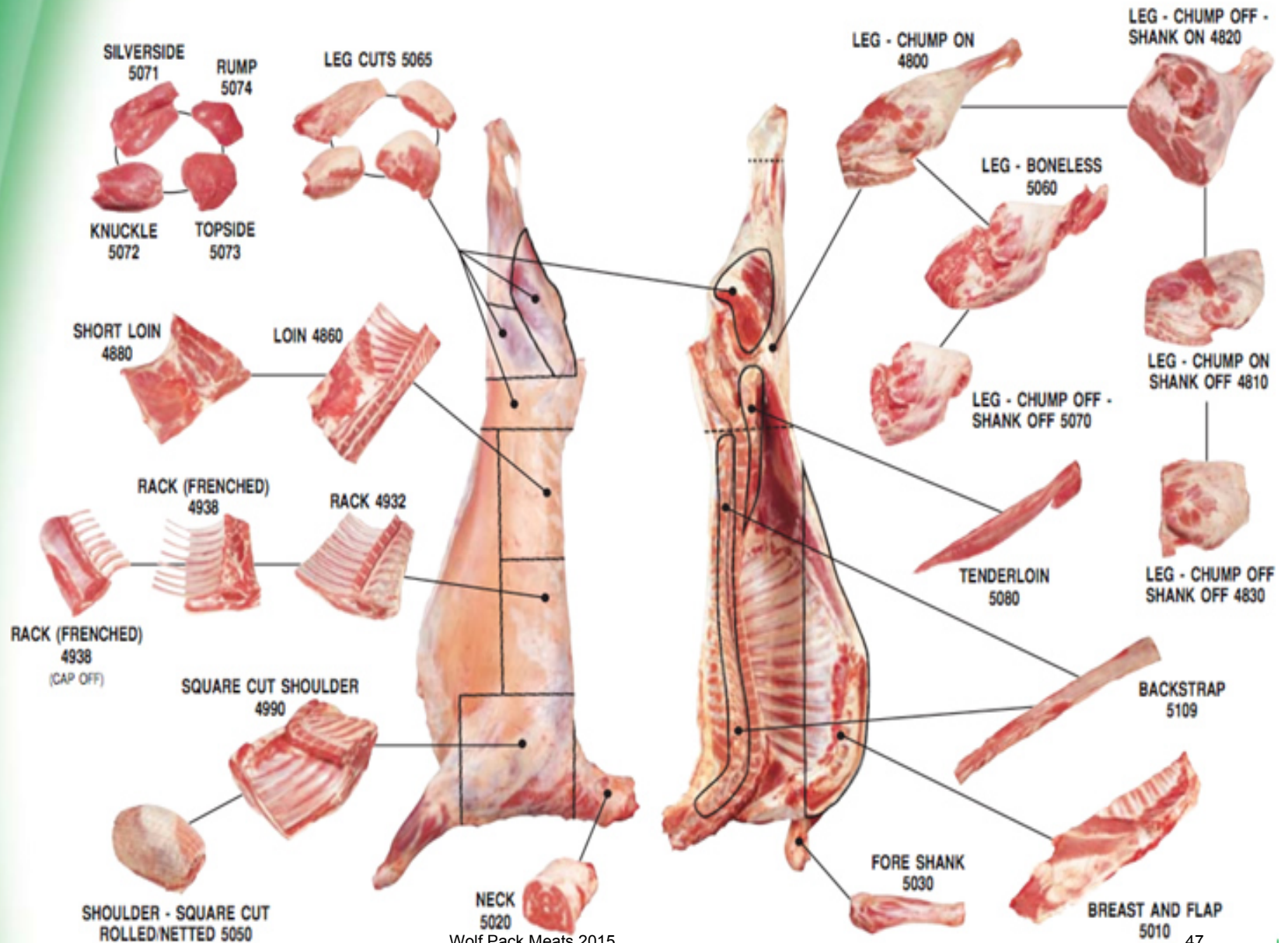


ASK YOUR BUTCHER – THEY'RE THE EXPERTS!



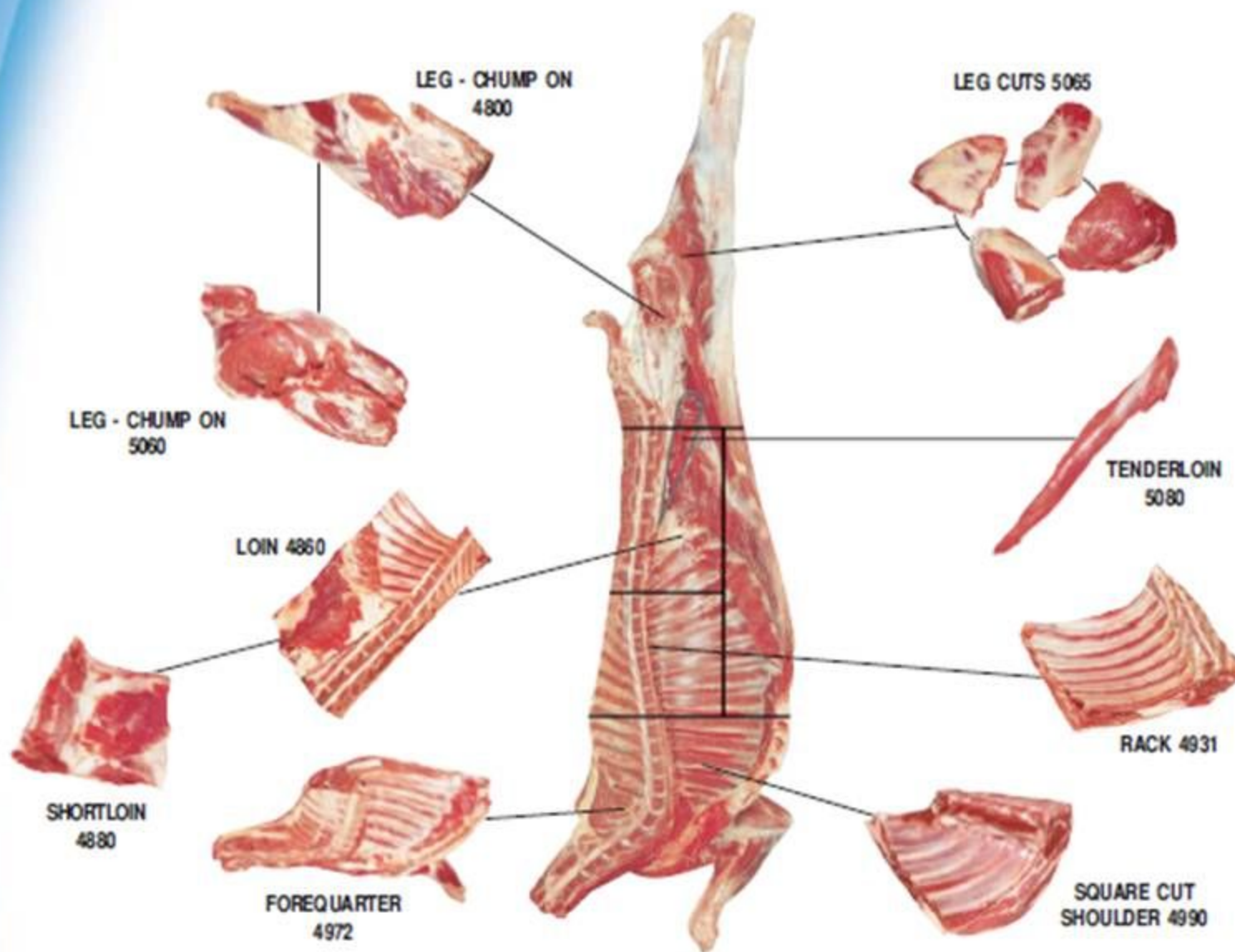
LAMB

Lamb Primal Cuts



GOAT

Goat Primal Cuts



Courtesy: Meat Livestock Australia



Food Safety Information



Beef from Farm to Table

Since 1910, the first year that statistics were compiled, Americans have been eating an average of 56 pounds of beef yearly. About 40 million cattle are inspected yearly by USDA's Food Safety and Inspection Service. In 2009, this translated into more than 61 pounds of beef per person. In calls to the USDA Meat and Poultry Hotline, beef is the second food category (behind turkey) callers most ask about. The following information answers many of their questions about the safe handling, preparation, cooking and storage of beef.

What is beef?

The domestication of cattle for food dates to about 6500 B.C. in the Middle East. Cattle were not native to America, but brought to the New World on ships by European colonists. Americans weren't big eaters of fresh beef until about 1870, due to the enormous growth of the cattle industry in the West. The introduction of cattle cars and refrigerated cars on the railroad facilitated distribution of the beef.

"Beef" is meat from full-grown cattle about 2 years old. A live steer weighs about 1,000 pounds and yields about 450 pounds of edible meat. There are at least 50 breeds of beef cattle, but fewer than 10 make up most cattle produced. Some major breeds are Angus, Hereford, Charolais, and Brahman.

"Baby beef" and "calf" are 2 interchangeable terms used to describe young cattle weighing about 700 pounds that have been raised mainly on milk and grass. The meat cuts from baby beef are smaller; the meat is light red and contains less fat than beef. The fat may have a yellow tint due to the vitamin A in grass.

"Veal" is meat from a calf which weighs about 150 pounds. Those that are mainly milk-fed usually are less than 3 months old. The difference between "veal" and "calf" is based on the color of their meat, which is determined almost entirely by diet. Veal is pale pink and contains more cholesterol than beef.

NOTE: This information is about whole muscle beef and variety beef. See "Focus on Ground Beef" for information about hamburger and ground beef

How are cattle raised?

All cattle start out eating grass; three-fourths of them are "finished" (grown to maturity) in feedlots where they are fed specially formulated feed based on corn or other grains.

Can hormones & antibiotics be used in cattle raising?

Antibiotics may be given to prevent or treat disease in cattle. 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. FSIS randomly samples cattle at slaughter and tests for residues. Data from this Monitoring Plan have shown a very low percentage of residue violations. Not all antibiotics are approved for use in all classes of cattle. However, if there is a demonstrated therapeutic need, a veterinarian may prescribe an antibiotic that is approved in other classes for an animal in a non-approved class. In this case, no detectable residues of this drug may be present in the edible tissues of the animal at slaughter.

Hormones may be used to promote efficient growth. Estradiol, progesterone, and testosterone (three natural hormones), and zeranol and trenbolone acetate (two synthetic hormones) may be used as an implant on the animal's ear. The hormone is time released, and is effective for 90 to 120 days. In addition, melengesterol acetate, which can be used to suppress estrus, or improve weight gain and feed efficiency, is approved for use as a feed additive. Not all combinations of hormones are approved for use in all classes of cattle. Hormones are approved for specific classes of animals only, and cannot be used in non-approved classes.

How is beef inspected?

Inspection is mandatory; grading is voluntary, and a plant pays to have its meat graded. USDA-graded beef sold at the retail level is Prime, Choice, and Select. Lower grades (Standard, Commercial, Utility, Cutter, and Canner) are mainly ground or used in processed meat products. Retail stores may use other terms which must be different from USDA grades.

USDA Prime beef (about two percent of graded beef) has more fat marbling, so it is the most tender and flavorful. However, it is higher in fat content. Most of the graded beef sold in supermarkets is USDA Choice or USDA Select. The protein, vitamin, and mineral content of beef are similar regardless of the grade.

How is ungraded beef different?

All beef is inspected for wholesomeness. The overall quality of ungraded beef may be higher or lower than most government grades found in retail markets.

What is marbling?

Marbling is white flecks of fat within the meat muscle. The greater amount of marbling in beef, the higher the grade because marbling makes beef more tender, flavorful, and juicy.

Retail Cuts of Fresh Beef

There are four basic major (primal) cuts into which beef is separated: chuck, loin, rib, and round. It is recommended that packages of fresh beef purchased in the supermarket be labeled with the primal cut as well as the product, such as "chuck roast" or "round steak." This helps consumers know what type of heat is best for cooking the product. Generally, chuck and round are less tender and require moist heat such as braising; loin and rib can be cooked by dry heat methods such as broiling or grilling.

Unfortunately, names for various cuts can vary regionally in stores, causing confusion over the choice of cooking method. For example, a boneless top loin steak is variously called: strip steak, Kansas City Steak, N.Y. strip steak, hotel cut strip steak, ambassador steak, or club sirloin steak.

How much beef is consumed?

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

Year	Weight	Year	Weight
1910	48 pounds	1960	59 pounds
1920	40 pounds	1970	80 pounds
1930	34 pounds	1980	72 pounds
1940	38 pounds	1990	64 pounds
1950	45 pounds	2009	61 pounds

Nutrition Labeling

Nutrition claims such as “lean” and “extra lean” are sometimes seen on beef products. Here are their definitions:

“Lean” - 100 grams of beef with less than 10 grams of fat, 4.5 grams or less of saturated fat, and less than 95 milligrams of cholesterol.

“Extra Lean” - 100 grams of beef with less than 5 grams of fat, less than 2 grams of saturated fat, and less than 95 milligrams of cholesterol.

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.”

Some companies promote their beef as “natural” because they claim their cattle weren’t exposed to antibiotics or hormones and were totally raised on a range instead of being “finished” in a feedlot.

How & why is some beef aged?

Beef is aged to develop additional tenderness and flavor. It is done commercially under controlled temperatures and humidity. Since aging can take from 10 days to 6 weeks, USDA does not recommend aging beef in a home refrigerator.

Why is beef called 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. Beef is called a “red” meat because it contains more myoglobin than chicken or fish. Other “red” meats are veal, lamb, and pork.

Color of Beef

Beef muscle meat not exposed to oxygen (in vacuum packaging, for example) is a burgundy or purplish color. After exposure to the air for 15 minutes or so, the myoglobin receives oxygen and the meat turns bright, cherry red.

After beef has been refrigerated about 5 days, it may turn brown due to chemical changes in the myoglobin. Beef that has turned brown during extended storage may be spoiled, have an off-odor, and be tacky to the touch.

Iridescent Color of Roast Beef

Sliced cooked beef or lunch meat can have an iridescent color. Meat contains iron, fat, and many other compounds. When light hits a slice of meat, it splits into colors like a rainbow. There are also various pigments in meat compounds which can give it an iridescent or greenish cast when exposed to heat and processing. Iridescent beef isn’t spoiled necessarily. Spoiled cooked beef would probably also be slimy or sticky and have an off-odor.

Additives

Additives are not allowed on fresh beef. If beef is processed, additives such as MSG, salt, or sodium erythorbate must be listed on the label.

Dating of Beef Products

Product dating is not required by Federal regulations. However, many stores and processors may voluntarily date packages of raw beef or processed beef products. If a calendar date is shown, there must be a phrase explaining the meaning of the date.

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. This is a quality assurance date after which peak quality begins to lessen but the product may still be used. It’s always best to buy a product before its date expires. It’s not important if a date expires after freezing beef because all foods stay safe while properly frozen.

What foodborne organisms are associated with beef?

Escherichia coli can colonize in the intestines of animals, which could contaminate muscle meat at slaughter. *E. coli* O157:H7 is a rare strain that produces large quantities of a potent toxin that forms in and causes severe damage to the lining of the intestine. The disease produced by it is called Hemorrhagic Colitis and is characterized by bloody diarrhea. *E. coli* O157:H7 is easily destroyed by thorough cooking.

Salmonella may be found in the intestinal tracts of livestock, poultry, dogs, cats, and other warm-blooded animals. There are about 2,000 *Salmonella* bacterial species. Freezing doesn't kill this microorganism, but it is destroyed by thorough cooking. *Salmonella* must be eaten to cause illness. They cannot enter the body through a skin cut. Cross-contamination can occur if raw meat or its juices contact cooked food or foods that will be eaten raw, such as salad.

Staphylococcus aureus can be carried on human hands, nasal passages, or throats. Most foodborne illness outbreaks are a result of contamination from food handlers and production of a heat-stable toxin in the food. Sanitary food handling and proper cooking and refrigerating should prevent staphylococcal foodborne illness.

Listeria monocytogenes is destroyed by cooking, but a cooked product can be recontaminated by poor handling practices and poor sanitation. FSIS has a zero tolerance for *Listeria monocytogenes* in cooked and ready-to-eat products such as beef franks or lunchmeat. Observe handling information such as "Keep Refrigerated" and "Use-By" dates on labels.

Rinsing Beef

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

How to Handle Beef Safely

- **Raw Beef:** Select beef just before checking out at the register. Put packages of raw beef in disposable plastic bags, if available, to contain any leakage which could cross-contaminate cooked foods or produce. Beef, a perishable product, is kept cold during store distribution to retard the growth of bacteria.

Take beef home immediately and refrigerate it at 40 °F; use within 3 to 5 days (1 or 2 days for ground beef and variety meats such as liver, kidneys, tripe, sweetbreads, or tongue) or freeze (0 °F). If kept frozen continuously, it will be safe indefinitely.

It is safe to freeze beef in its original packaging or repackage it. However, for long-term freezing, overwrap the porous store plastic with aluminum foil, freezer paper, or freezer-weight plastic wrap or bags to prevent "freezer burn," which appears as grayish-brown leathery spots and is caused by air reaching the surface of food. Cut freezer-burned portions away either before or after cooking the beef. Heavily freezer-burned products may have to be discarded for quality reasons. For best quality, use steaks and roasts within 9 to 12 months.

- **Ready-Prepared Beef:** For fully-cooked, take-out beef dishes such as Chinese food, barbecued ribs, or fast food hamburgers, be sure they are hot at pickup. Use cooked beef within 2 hours (1 hour if the air temperature is above 90 °F) or refrigerate it at 40 °F 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 beef dishes. For best quality, use within 4 months.

Safe Defrosting

There are three safe ways to defrost beef: in the refrigerator, in cold water, and in the microwave. Never defrost on the counter or in other locations.

- **Refrigerator:** It's best to plan ahead for slow, safe thawing in the refrigerator. Ground beef, stew meat, and steaks may defrost within a day. Bone-in parts and whole roasts may take 2 days or longer. Once the raw beef defrosts, it will be safe in the refrigerator for 3 to 5 days before cooking. During this time, if you decide not to use the beef, you can safely refreeze it without cooking it first.
- **Cold Water:** To defrost beef in cold water, do not remove packaging. Be sure the package is airtight or put it into a leakproof bag. Submerge the beef in cold water, changing the water every 30 minutes so that it continues to thaw. Small packages of beef may defrost in an hour or less; a 3- to 4-pound roast may take 2 to 3 hours.
- **Microwave:** When microwave defrosting beef, 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 may have been held at temperatures above 40 °F.

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

Marinating

Marinate beef in the refrigerator up to 5 days. Boil used marinade before brushing on cooked beef. Discard any uncooked leftover marinade.

Partial Cooking

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

Liquid in Package

Many people think the red liquid in packaged fresh beef is blood. However, blood is removed from beef during slaughter and only a small amount remains within the muscle tissue. Since beef is about 3/4 water, this natural moisture combined with protein is the source of the liquid in the package.

Safe Cooking

For safety, the USDA recommends cooking hamburgers and ground beef mixtures such as meat loaf to 160 °F as measured with a food thermometer. Cook all organ and variety meats (such as heart, kidney, liver and tongue) to 160 °F. Cook all raw beef steaks 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 following chart compiled from various resources. Times are based on beef at refrigerator temperature (40 °F). Remember that appliances and outdoor grills can vary in heat. Use a food thermometer to check for safe cooking and doneness of beef.

APPROXIMATE BEEF COOKING TIMES

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

Type of Beef	Size	Cooking Method	Cooking Time	Internal
Rib Roast, bone in	4 to 6 lbs.	Roast 325 °F	23-25 min./lb.	145 °F and allow to rest for at least 3 minutes
Rib Roast, boneless rolled	4 to 6 lbs.	Roast 325 °F	Add 5-8 min./lb. to times above	
Chuck Roast, Brisket	3 to 4 lbs.	*Braise 325 °F	*Braise 325°	
Round or Rump Roast	2 1/2 to 4 lbs.	Roast 325 °F	30-35 min./lb.	
Tenderloin, whole	4 to 6 lbs.	Roast 425 °F	45-60 min. total	
Steaks	3/4" thick	Broil/Grill	4-5 min. per side	
Stew or Shank Cross Cuts	1 to 1 1/2" thick	Cover with liquid; simmer	2 to 3 hours	
Short Ribs	4" long and 2" thick	*Braise 325 °F	1 1/2 to 2 1/2 hours	160 °F
Hamburger patties, fresh	4 ounces	Grill, broil or fry	3 to 5 minutes per side	

*Braising is roasting or simmering less-tender meats with a small amount of liquid in a tightly covered pan.

Microwave Directions:

- When microwaving unequal size pieces of beef, arrange in dish or on rack so thick parts are toward the outside of dish and thin parts are in the center; 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 listed above have been reached.

Storage Times

Since product dates aren't a guide for safe use of a product, how long can the consumer store the food and still use it at top quality? Follow these tips:

- Purchase the product before the date expires.
- Follow handling recommendations on product.
- Keep beef in its package until using.
- It is safe to freeze beef in its original packaging. If freezing longer than 2 months, overwrap these packages with airtight heavy-duty foil, plastic wrap, or freezer paper or place the package inside a plastic bag.
- For storage times, consult the following chart.

Home Storage of Beef Products

If product has a "Use-By" Date, follow that date. If product has a "Sell-By" Date or no date, cook or freeze the product by the times on the following chart.

STORAGE TIMES FOR BEEF PRODUCTS

PRODUCT	REFRIGERATOR 40 °F	FREEZER 0 °F
Fresh beef roast, steaks, chops, or ribs	3 to 5 days	6 to 12 months
Fresh beef liver or variety meats	1 or 2 days	3 to 4 months
Home cooked beef, soups, stews or casseroles	3 to 4 days	2 to 3 months
Store-cooked convenience meals	1 to 2 days	2 to 3 months
Cooked beef gravy or beef broth	1 or 2 days	2 to 3 months
Beef hot dogs or lunch meats, sealed in package	2 weeks (or 1 week after a "Use-By" date)	1 to 2 months
Beef hot dogs, opened package	7 days	1 to 2 months
Lunch meats, opened package	3 to 5 days	1 to 2 months
TV dinners, frozen casseroles	Keep Frozen	3 to 4 months
Canned beef products in pantry	2 to 5 years in pantry; 3 to 4 days after opening	After opening, 2 to 3 months
Jerky, commercially vacuum packaged	1 year in pantry Refrigerate 2 to 3 months	Do not freeze

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 year-round



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**

Preguntele a Karen.gov



United States Department of Agriculture
Food Safety and Inspection Service

Food Safety Information



PhotoDisc

Veal from Farm to Table

Veal is often associated with international cuisines such as Italian, French, German, Swiss, Hungarian, and Czech. Home cooks enjoy preparing veal for special occasions or for casual dinners such as barbecues. Veal is USDA or state inspected. Here are some facts about veal.

What is veal?

Veal is the meat from a calf or young beef animal. A veal calf is raised until about 16 to 18 weeks of age, weighing up to 450 pounds. Male dairy calves are used in the veal industry. Dairy cows must give birth to continue producing milk, but male dairy calves are of little or no value to the dairy farmer. A small percentage are raised to maturity and used for breeding.

Calf: A calf is a young bovine of either sex that has not reached puberty (up to about 9 months of age), and has a maximum live weight of 750 pounds.

“Bob” Veal: About fifteen percent of veal calves are marketed up to 3 weeks of age or at a weight of 150 pounds. These are called Bob Calves.

“Special-Fed” Veal: Special, milk-fed and formula fed veal calves usually are fed nutritionally balanced milk or soy based diets. These specially controlled diets contain iron and 40 other essential nutrients, including amino acids, carbohydrates, fats, minerals and vitamins. The majority of veal calves are “special-fed.”

How are veal calves housed?

Today’s modern, environmentally controlled veal barns provide for animal health and safety. The barns are lighted artificially and by natural light, and a constant source of fresh air is circulated.

Individual stalls are used for each calf. These stalls provide a safe environment where the calves can stand, stretch, groom themselves and lay down in a natural position. These pens are invaluable to the health of the animal. They allow the calves to be individually looked after. The stall’s slotted floors allow for efficient removal of waste.

How are veal calves raised?

Veal calves are observed individually and are provided with specialized care. They also receive a milk replacer diet that provides all of the 40 vitamins and minerals they require.

Veal calves are usually separated from the cows within 3 days after birth, allowing for control of diseases and monitoring the dairy cow for udder problems.

Individual stalls allow veal farmers and veterinarians to closely monitor the health of each calf and properly treat a calf with a specific, government approved antibiotic. Veal farmers monitor each calf for health deficiencies such as anemia. The feed is controlled to meet the calves’ iron needs.

Health products for use with veal calves are approved by the Food and Drug Administration within the Department of Health and Human Services before being put on the market. The FDA also regulates information on the labeling of the product, the doses permitted, and withdrawal period.

How is veal inspected?

All veal in retail stores is either USDA inspected for wholesomeness or inspected by State systems which have standards equal to the Federal government. Each calf and its internal organs are inspected for signs of disease. These inspections insure the veal is safe, wholesome, and correctly labeled and packaged.

Is veal graded?

Veal and calf carcasses are graded on a composite evaluation of two general grade factors: conformation (proportion of lean, fat, and bone in carcass); and quality of the lean. In addition, the color of the lean carcasses is key in differentiating between veal, calf and beef carcasses.

There are five grades for veal: prime, choice, good, standard, utility.

Grading is voluntary; a plant pays to have its meat graded.

When veal is graded, a shield-shaped purple mark is stamped on the carcass. With today's close trimming at the retail level, however, you may not see the USDA grade shield on the meat cuts at the store. Instead, retailers put stickers with the USDA grade shield on individual packages of meat. In addition, grade shields and inspection legends may appear on bags containing larger wholesale cuts.

Are hormones and antibiotics used in veal raising?

Antibiotics may be given to prevent or treat disease in the veal calf. Penicillin is not used in calf raising: tetracycline has been approved but is not widely used.

No hormones are used in veal raising. While growth-promoting hormones are approved for use in ruminating cattle, they have never been approved for use in non-ruminating veal calves.

Is Clenbuterol used in the raising of veal calves in the United States?

The use of Clenbuterol to raise veal calves is illegal in the United States. Clenbuterol is not a hormone, but a growth-promoting drug in the beta-agonist class of compounds.

Clenbuterol residues can affect lung and heart function in persons who have eaten liver or meat of animals given the drug. USDA considers any residue of Clenbuterol in meat unacceptable because of this. At the present time there have been no reported cases of illness related to Clenbuterol in the United States.

Retail Cuts of Fresh Veal

There are seven basic major cuts into which veal is separated: leg (round), sirloin, loin, rib, shoulder, foreshank and breast. When examining a package of veal, the label can help the purchaser identify the cut of meat in the package.

For example, a label stating "veal rib chop" identifies the packaged meat as "veal," the primal or large wholesale cut from the "rib," and the name of the retail cut, "chop." This information helps consumers know what type of preparation method to use. The most readily available cuts of veal today include rib chops, loin chops, cutlets, veal for stew, arm steak, blade steak, rib roast, breast, shanks, and round steak.

How much veal is consumed?

In 2008, Americans consumed about .3 lbs of veal per person yearly, according to USDA's Economic Research Service (ERS). Veal consumption reached an all-time high of 8.6 lbs. per person in 1944. The last year consumption was above one pound per person was in 1988.

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”.

Color of Veal

Veal is classified as a “red” meat, but typical lean meat on a veal carcass has a grayish pink color. Typical calf carcasses have a grayish red color of lean meat.

Dating of Veal Products

Dating of veal is **not required** by federal regulations. However, many stores and processors may **voluntarily** date packages of raw veal or processed veal products. If a date is shown, there must be a phrase explaining the meaning of the date.

If a manufacturer has determined a “use by” date, observe it. This is a quality assurance date after which peak quality begins to lessen but the product may still be used. It is always best to buy a product before its date expires.

What foodborne organisms are associated with veal?

Escherichia coli can colonize in the intestines of animals, which could contaminate muscle meat at slaughter. *E. coli* O157:H7 is a rare strain that produces large quantities of a potent toxin that forms in and causes severe damage to the lining of the intestine. The disease produced by it is called Hemorrhagic Colitis and is characterized by bloody diarrhea. *E. coli* O157:H7 is easily destroyed by thorough cooking.

Salmonella is a bacteria that can cause diarrheal illness in humans and may be found in the intestinal tracts of livestock, poultry, dogs, cats and other warm-blooded animals. There are about 2,000 *Salmonella* species. Freezing doesn’t kill this microorganism but it is destroyed by thorough cooking. *Salmonella* must be eaten to cause illness. They cannot enter the body through a skin cut.

How to Handle and Store Veal Safely

Fresh veal is kept cold during distribution to retail stores. When shopping, put packages of veal in disposable plastic bags, to contain leakage which could cross contaminate cooked foods or produce that will be eaten raw such as salad. Take veal home immediately and refrigerate at 40 °F or below.

Use veal chops and roasts within 3 to 5 days, and ground veal or stew meat within 1 to 2 days.

You may freeze veal at 0 °F or below. If kept frozen, veal will be safe indefinitely, although the quality can be affected with extended freezing. For best quality use frozen veal chops and frozen roasts within 4 to 6 months and ground veal or stew meat within 3 to 4 months.

It is not important if a date expires after freezing veal because all foods stay safe while properly frozen.

Rinsing Veal

There is no need to wash raw veal before cooking. Any bacteria that might be present on the surface would be destroyed by cooking. Wet meat won’t brown well.

Safe Thawing

There are three safe methods to thaw veal: in the refrigerator; in cold water; and in the microwave. When thawing in the refrigerator, estimate 4 to 7 hours per pound for a large roast, 3 to 5 hours per pound for a small roast, and about 12 hours for 1-inch thick rib or shoulder chops. Ground veal defrosting time depends on the thickness of the package.

To defrost veal in cold water, do not remove packaging. Be sure the package is airtight or put it into a leakproof bag. Submerge the veal in cold water, changing the water every 30 minutes so it continues to thaw. Small packages of veal may defrost in an hour or less: a 3 to 4 pound roast may take 2 to 3 hours. When thawing in cold water or in the microwave immediately cook the veal. Never thaw on the counter or any other locations at room temperature.

Raw ground veal and stew meat should be used in 1 or 2 days. Other cuts of veal should be safe in the refrigerator for 3 to 5 days before cooking.

Foods defrosted in the microwave or by the cold water method should be cooked before refreezing because they may have been held at temperatures above 40 °F, where bacteria multiply rapidly.

It is safe to cook frozen veal in the oven or on the stove or grill without defrosting. Estimate one-third to one-half more cooking time depending upon the size of the meat. Broil frozen veal farther away from the heat source; preheat the skillet when pan-frying or pan-broiling. Do not cook frozen veal in a slow cooker.

Marinating

Marinate veal in the refrigerator up to 5 days for chops, roasts or steaks. Veal cubes or stew meat can be marinated up to 1 to 2 days. Boil used marinade before brushing on cooked veal. Discard any uncooked leftover marinade.

Irradiation

Irradiation has not been approved for use on veal products.

Partial Cooking

Never brown or partially cook veal to refrigerate and finish cooking later because bacteria may still be present and not have been destroyed. It is safe to partially cook or microwave veal immediately before transferring to the hot grill to finish cooking.

Safe Cooking

For safety, USDA recommends cooking ground veal to a safe minimum internal temperature of 160 °F. Cook all raw veal 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.

There are two basic methods of veal cookery: dry or moist heat. Tender cuts including leg, cutlets, veal patties, and rib or loin chops can be prepared by dry heating methods such as roasting, broiling, pan broiling, grilling or stir frying. Moist heat methods such as braising or simmering in liquid can also be used with these cuts.

Less tender cuts, such as cross cut shanks, stew meat, round steak and breast of veal, generally require moist heat cooking methods. By marinating and pounding less tender cuts to break down connective tissue, dry heating methods can be used.

Refer to the following chart for approximate cooking times.

Approximate Veal Cooking Times

Type of Veal	Size	Cooking Method	Cooking Time	Minimum Internal Temperature & Rest Time
Rib Roast	4 to 5 lbs.	Roast 325 °F	25 to 27 min/lb	145 °F and allow to rest for at least 3 minutes
Loin	3 to 4 lbs.	Roast 325 °F	34 to 36 min/lb	
Loin/Rib Chops	1" thick or 8 oz.	Broil/Grill	7 min per side	145 °F and allow to rest for at least 3 minutes
Cutlets	1/8" thick 1/4" thick	*Pan fry	3 to 4 min 5 to 6 min	
Arm/Blade Steak	3/4" thick 16 oz.	Broil/Grill	7 min per side	
Round Steak	1/4" thick 1/2" thick	**Braise	30 minutes 45 minutes	
Boneless Breast, stuffed	2 to 2.5 lbs 4 to 4.5 lbs	**Braise	1 1/4 to 1 1/2 hrs 2 to 2 1/2 hrs	145 °F and allow to rest for at least 3 minutes
Cross Cut Shanks	1 1/2" thick	Cover with liquid; simmer	1 to 1 1/4 hrs	
Stew Meat	1 to 1 1/2" cubes/pieces	Cover with liquid; simmer	45 to 60 min	
Ground Patties	1/2" thick, 4 oz.	Broil/Grill/Pan fry	6 to 7 min per side	160 °F

* Pan Frying, which is often called "sautéing," is a quick cooking method. Meat is placed in small amount of heated oil and cooked on medium-high heat.

** Braising is roasting or simmering less tender meats with a small amount of liquid in a tightly covered pan.

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(1-888-674-6854)

The hotline is open year-round

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Ask Karen!

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Food Safety Information



Bison from Farm to Table

One of our most enduring American images is that of the great American buffalo, or species *Bison bison*. These huge, shaggy animals once roamed from Canada to Mexico, grazing the Great Plains and mountain areas of our country. Bison were the center of life for the Plains tribes of Native Americans who found in them nearly all the food, clothing, and shelter they needed. Hunted for their furs in the 1600's and later for their tongues, bones, and meat, it was estimated by 1893 that there were only slightly more than 300 bison left, from numbers estimated at one time to be over 60 million. The following information is about this species which is making a comeback and growing rapidly in numbers.

What is bison?

The National Bison Association encourages the name bison to differentiate the American buffalo from the Asian Water buffalo and African Cape buffalo. The American buffalo is not a true buffalo. Its scientific name is bison and it belongs to the bovine family along with domestic cattle. The bison bull is the largest animal indigenous to North America. A bull can stand taller than 6 feet at the hump and weigh more than a ton. They are strong and aggressive, and can jump as well as deer, outmaneuver horses, and break through fences that would imprison other livestock.

"Beefalo" are 3/8 bison and 5/8 domestic cattle. (The natural result of a bison-domestic bovine cross breeding is a sterile offspring. It has taken years of research to develop this breed.) The advantages of this cross are fertility and easy calving. Beefalo gain weight well on inexpensive, high-roughage feed and are very hardy.

How are bison raised?

According to the most recent Census of Agriculture (in 2007), there were approximately 200,000 bison in the U.S., more than 25% of them in North and South Dakota. Unlike the older, tougher animals the Native Americans ate, today's bison are custom-fed and slaughtered at about 18 months, so the meat is as tender as beef. Some 20,000 buffalo are slaughtered each year (compared to approximately 125,000 cattle per day).

Bison are allowed to roam freely most of their lives. They are raised on the open range and eat hay or grass. They are usually given grain during the last 90 to 120 days before slaughter. (The fat of grass-fed animals is yellow, which is good since it contains beta-carotene; however, most consumers prefer the fat to be white.) Surplus buffalo bulls are selected at about 2 1/2 years of age (buffalo can live to be 40 years old) and spend a very short time in the feedlots.

Can hormones and antibiotics be used in bison raising?

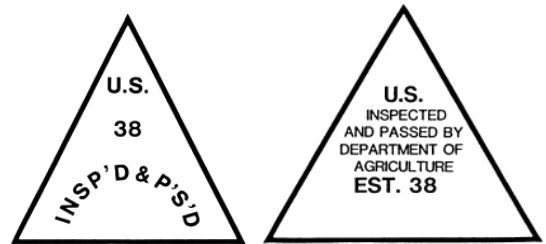
Antibiotics and growth hormones are not given to bison.

How is bison inspected?

Bison may be inspected under voluntary federal inspection or FDA equivalent inspection. FDA equivalent inspection includes state inspection. Under voluntary federal inspection by USDA's Food Safety and Inspection Service (FSIS), businesses pay an hourly rate for inspection services. Voluntary

inspection is handled under the Agriculture Marketing Act, which gives the Secretary of Agriculture the authority to take whatever steps are necessary to make the product marketable.

Federal inspection is done on a carcass-by-carcass basis by FSIS. The FSIS inspector must have knowledge about that particular species and the carcass must fit available equipment in the plant. Each bison and its internal organs are inspected for signs of disease. The triangle shaped "US Inspected and Passed" seal ensures the bison is wholesome and free from disease. Note: Some states require all exotic animals be inspected in order to be sold in commerce.



Is bison graded?

No.

How is bison different from beef?

Bison is a deeper red color before cooking because there is no marbling (white flecks of fat within the meat muscle). Bison is said to have a sweeter, richer flavor than beef and has less fat and fewer calories than beef.

According to USDA's Agricultural Research Service (ARS), 100 grams of raw bison (separable lean only) contains 109 calories and 1.8 grams fat. The same amount of raw beef (separable lean only, Choice grade) contains 291 calories, and 24 grams fat.

Retail Cuts of Bison

Retail cuts are similar to those of beef.

How much bison is consumed?

The National Bison Association estimates annual U.S. per capita consumption at .07 pounds per person.

Safe Handling of Bison

Handle bison meat the same as any other type of meat. Make your selection just before checking out at the register. Put packages of raw bison in disposable plastic bags (if available) to contain any leakage which could cross contaminate cooked foods or produce. Take packaged bison home immediately and refrigerate it at 40 °F or below; use within 3 to 5 days, or freeze at 0 °F or below. If kept frozen continuously, it will be safe indefinitely.

Thawing Frozen Bison Meat

There are three ways to thaw meat: in the refrigerator, in cold water, and in the microwave. Never thaw on the counter or in other locations. It's best to plan ahead for slow, safe thawing in the refrigerator. To thaw in cold water, do not remove packaging. Be sure the package is airtight or put it into a leakproof bag. Submerge the package in cold water, changing the water every 30 minutes so it continues to thaw.

When microwave defrosting meat, 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 may potentially have been held at temperatures above 40 °F allowing harmful bacteria to grow.

Preparing Bison

Bison is very lean and lacks fat marbling, so care should be taken to not overcook it.

- In general, bison should be cooked using low heat (325 °F) and longer cooking times.
- Braising or other moist cooking methods are recommended for bison roasts and steaks.
- For thin-sliced bison, use quick cooking methods such as broiling and pan frying.
- Cook raw ground bison to an internal temperature of 160°F as measured with a food thermometer.
- Cook all raw bison steaks 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.
- Less tender cuts should be braised (roasted or simmered with a small amount of liquid in a tightly covered pan) or stewed.

Storage Times

Purchase bison products before any "Sell-By" dates expire. Because such purchase dates are a guide to the retailer, follow these tips for safe storage and use at home.

- Follow handling recommendations on product.
- Keep bison meat in its package until using.
- It is safe to freeze bison meat in its original packaging. If freezing longer than 2 months, overwrap these packages with airtight heavy-duty foil, plastic wrap or freezer paper, or place the package inside a plastic bag.
- For best quality, cook or freeze ground bison or cut-up meat within 2 days of purchase; larger cuts such as roasts and steaks, within 3 to 5 days.
- Ground or cut-up bison meat will keep its best quality in the freezer for 4 months. Larger cuts, such as chops, steaks, legs, or loins will keep their best quality 6 to 9 months.
- After cooking, eat or freeze bison within 3 to 4 days.

For more information about bison, see the National Bison Association website: www.bisoncentral.com

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United States Department of Agriculture
Food Safety and Inspection Service

Food Safety Information



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 | • 1990: 46 pounds |
| • 1975: 39 pounds | • 1995: 48 pounds |
| • 1980: 52 pounds | • 2000: 47 pounds |
| • 1985: 48 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.			145 °F and allow to rest for at least 3 minutes
Loin or Shoulder Cubes	1 inch	45 to 60 min. or until tender	

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

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Food Safety Information



Bacon and Food Safety

It's the "B" in a BLT sandwich, the star of breakfast buffets, the garnish on a spinach salad, and the "pork" in pork-and-beans. Bacon imparts a smoky flavor to innumerable dishes. This ancient, cured meat now appears in such modern forms as shelf-stable or refrigerated fully cooked strips, bacon made from turkey and/or beef, and meats certified as organic.

History of Bacon

Bacon has an ancient history. The domestication of "pigs" (immature hogs) for food dates back to about 7000 B.C. in the Middle East. Some historians say that bacon made from hogs was a favorite of the early Romans and Greeks. About 500 years ago, bacon or bacoun (a Middle English term) referred to all pork. The term derived from bako (French), *bakkon* (Germanic), and *backe* (Old Teutonic) that refer to the "back" of the hog.

European peasants in the 1500's couldn't afford to buy pork often. It was a sign of affluence if a man could "bring home the bacon." They would cut off some for guests and sit around "chewing the fat," now a colloquial term for "having a discussion." The term "bringing home the bacon" now means "earning a living" or "being successful."

Bacon is made in many countries of the world. In Germany, it is called speck; Netherlands, spek; France, lard or bacon; Italy, pancetta; and Spain, tocino or tocineta. It can be made from several different animal species including pork, turkey, and beef. Bacon can also be made from various parts of an animal; thus, its appearance can vary.

What is bacon?

The term "bacon" is used to describe the cured belly of a swine (hog) carcass. If meat from other portions of the carcass is used, the product name must identify the portions where the bacon comes from, e.g., "Pork Shoulder Bacon." Bacon is generally produced from young animals (6 to 7 months old) that weigh between 175 to 240 pounds.

Pork bacon without any other descriptors is raw (uncooked) and must be cooked before eating. Most bacon sold in the United States is "streaky" bacon, long narrow slices cut crosswise from the hog belly that contain veins of pink meat within white fat. Unless otherwise noted, the information in this publication refers to "streaky" bacon.

In addition to "streaky" bacon, other U.S. favorites are American-style Canadian bacon (round slices of pink meat from the loin), turkey bacon made from light and dark turkey meat, and beef bacon prepared from various beef cuts. See the "Glossary of Bacon Terms" (found at the end of this publication) for definitions.

How is bacon made?

Several steps are involved in producing sliced bacon. First each pork belly is skinned and any ragged edges trimmed. After curing with salt and nitrite, the pork bellies are heat processed. Mass-produced bacon is heat processed in large convection ovens. It is much faster to mass produce bacon using a convection oven (as little as 6 hours) than by traditional smoking (many days).

Bacon receives its smoke flavor from natural smoke obtained by smoldering wood chips or by spraying the bacon with a liquid smoke extract.

After heat processing and smoking, the bacon must be chilled to below 40 °F before it is sliced. The majority of bacon is sliced before packaging. Because of the added salt and nitrite, bacon is far less perishable than other raw meat products. Even so, the chilling is done quickly to prevent bacterial growth and promote its shelf-life.

According to FSIS regulations, the weight of cured pork bellies that are ready for slicing and labeling as “bacon” shall not exceed the weight of the fresh, uncured pork bellies.

What are the methods of curing bacon?

There are two primary methods of curing bacon: pumping and dry curing. Although less frequently used, FSIS still receives label applications for immersion-cured bacon.

“Pumped” bacon has curing ingredients that are injected directly into the meat to speed up the curing process and add bulk. This type of mass-produced bacon is held for curing for 6 to 24 hours before being heated. If not properly drained, pumped bacon can exude white liquid during frying.

“Dry-cured” bacon has a premeasured amount of cure mixture applied or rubbed onto the bacon belly surfaces, completely covering them. Additional cure may be rubbed in over a number of days, but the amount of added sodium nitrite cannot exceed 200 parts per million (ppm). After the curing phase, the bacon may be left to hang for up to 2 weeks in order for the moisture to be drawn out. Less time is needed if it is going to be smoked. Because of the lengthy processing time and labor required, dry-cured bacon is more expensive than the more mass-produced, pumped bacon.

“Immersion-cured” bacon is placed in a brine solution containing salt, nitrite, and flavoring material or in a container with salt, nitrite, and flavoring material for 2 to 3 days. Sugar, honey, or maple syrup may be added to the brine. The meat must then be left to hang until it is cured.

Can bacon be home cured?

Yes, you can make bacon at home. For instructions, contact your local Extension Office or visit:

<http://muextension.missouri.edu/explore/agguides/ansci/g02528.htm>

How is cooked bacon made shelf-stable?

To make bacon safe to store at room temperature (shelf stable), it is pre-cooked in the plant to have a water activity at or below 0.85 to control *Staphylococcus aureus*. The cooked yield is 40% of the raw weight.

Is bacon “red” meat?

“Bacon” can only be made from pork bellies, which are red meat by definition. Pork is classified as “livestock,” and all livestock are considered “red meat.” Bacon can also be made from other species of livestock (e.g., beef) and poultry (e.g., turkey). These types of bacon products require a descriptive name such as, “Beef Bacon-Cured and Smoked Beef Plate” and “Turkey Bacon-Cured Turkey Thigh Meat.”

Is “salt pork” the same as bacon?

Salt pork is not bacon. Although it is salted, it is much fattier, and, unlike bacon, it is not smoked. It is generally cut from the hog’s belly or side. Because salt pork is so salty, cooks often blanch or soak it to extract some of the salt before using.

Does bacon contain additives?

Yes. Bacon is made with salt as a curing agent, and nitrite (but not nitrate) is the other most frequently used additive. Bacon may also contain other additives such as sugars, maple sugar, wood smoke, flavorings, and spices. Pumped bacon (see above) must also contain either ascorbate or sodium erythorbate (isoascorbate), which greatly reduces the formation of nitrosamines by accelerating the reaction of nitrite with the meat.

At certain levels, salt prevents the growth of some types of bacteria that spoil meat. Salt prevents bacterial growth either by directly inhibiting it or by its drying effect. Most bacteria require substantial amounts of moisture to live and grow.

Sodium nitrite produces the pink color (nitrosohemoglobin) in cured bacon. Nitrite also greatly delays the development of the *Clostridium botulinum* toxin (botulism); develops a cured-meat flavor; retards the development of rancidity, off-odors, and off-flavors during storage; and inhibits the development of a warmed-over flavor.

Sugar is added to reduce the harshness of salt. Spices and other flavorings are often added to achieve a characteristic "brand" flavor. Most, but not all, cured meat products are smoked after the curing process to impart a smoked meat flavor.

What are nitrosamines and what cooking methods minimize their formation?

Under certain conditions not yet fully understood, the products from the natural breakdown of proteins known as "amines" can combine with nitrites to form compounds known as "nitrosamines." There are many different types of nitrosamines, most of which are known carcinogens in test animals.

Not all cured meat products contain nitrosamines; however, when present, they usually are in very minute amounts. Many variables influence nitrosamine levels: amount of nitrite added during processing, concentrations of amines in meat, type and amounts of other ingredients used in processing, actual processing conditions, length of storage, storage temperatures, method of cooking, and degree of doneness.

Researchers at the USDA's Agricultural Research Service (ARS) found that the addition of vitamin C (also known as ascorbate) and vitamin E (also known as tocopherol) reduced the levels of nitrosamines in fried bacon and in nitrite-cured products. The findings led to changes in Federal regulations and industry processing to minimize consumer exposure to nitrosamines. USDA now requires adding 550 ppm (parts per million) of either sodium ascorbate or sodium erythorbate to pumped bacon. This addition greatly reduces the amount of free nitrite and, thus, minimizes the formation of nitrosamines. This regulation is found in 9 Code of Federal Regulations (CFR) 424.22 (b)(1).

A bacon cooking study, "Effect of Frying and Other Cooking Conditions on Nitrosopyrrolidine Formation in Bacon" (Journal of Science, Vol. 39, pages 314-316), showed no evidence of nitrosamines in bacon fried at 210 °F for 10 minutes (raw), 210 °F for 15 minutes (medium well), 275 °F for 10 minutes (very light), or 275 °F for 30 minutes (medium well). But when bacon was fried at 350 °F for 6 minutes (medium well), 400 °F for 4 minutes (medium well), or 400 °F for 10 minutes (burned), some nitrosamines were found. Thus, well-done or burned bacon is potentially more hazardous than less well-done bacon. Also, bacon cooked by a microwave has less nitrosamine than fried bacon.

How much nitrite can be used in curing bacon?

The USDA is responsible for monitoring the proper use of nitrite by meat processors. While sodium nitrite cannot exceed 200 ppm going into dry-cured bacon, sodium nitrite cannot exceed 120 ppm for both pumped and immersion-cured bacon.

Can bacon be made without the use of nitrite?

Bacon can be manufactured without the use of nitrite, but must be labeled "Uncured Bacon, No Nitrates or Nitrites added" and bear the statement "Not Preserved, Keep Refrigerated Below 40 °F At All Times" -- unless the final product has been dried according to USDA regulations, or if the product contains an amount of salt sufficient to achieve an internal brine concentration of 10% or more, the label does not have to carry the handle statement of "Not Preserved, Keep Refrigerated below ____ etc. Recent research studies have shown for products labeled as uncured, certain ingredients added during

	formulation can naturally produce small amounts of nitrates in bacon and, therefore, have to be labeled with the explanatory statement “no nitrates or nitrites added except for those naturally occurring in ingredients such as celery juice powder, parsley, cherry powder, beet powder, spinach, sea salt etc.”
Is bacon inspected and graded?	All bacon found in retail stores is either USDA inspected for wholesomeness or inspected by State systems that have standards equal to the Federal government. Each animal, from which the bacon is made, is inspected for signs of disease. The “Inspected and Passed by USDA” seal ensures the bacon is wholesome. Bacon is not graded.
Can hormones and antibiotics be used in pork from which bacon is made?	No hormones are used in the raising of hogs. Hormones are not permitted in pork by Federal regulations; therefore, bacon cannot have added hormones. 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.
What foodborne organisms are associated with pork?	Pork, like other raw animal muscle foods, frequently contains bacterial pathogens. Some other foodborne pathogenic microorganisms that can be found in pork, as well as other meats and poultry, are <i>Salmonella</i>, <i>Staphylococcus aureus</i>, <i>Toxoplasmosis gondii</i>, <i>Campylobacter</i>, <i>Yersinia enterocolitica</i>, and <i>Listeria monocytogenes</i>. They all can be destroyed by cooking. Humans may contract trichinosis (caused by the parasite, <i>Trichinella spiralis</i>) by eating undercooked pork. Much progress has been made in reducing trichinosis in grain-fed hogs, and cases in humans have greatly declined since 1950.
Can the term “natural” be used on bacon?	Yes, bacon can be labeled as “natural” if the bacon is “uncured.” This means the bacon does not contain nitrites or nitrates as direct additive curing agents. Therefore, the bacon would meet the definition for “natural” (minimally processed, no artificial ingredients) and can be labeled as “Natural* Uncured Bacon (No Nitrates or Nitrites Added, Not Preserved, Keep Below 40 °F At All Times), *Minimally Processed, No Artificial Ingredients.”
Can the term “organic” be used on bacon?	Yes, if the bacon is made from certified organic meat or poultry, the bacon can be labeled “organic.”
Is a nutrition facts panel required on bacon?	Generally, a nutrition facts panel is required on both cooked and raw bacon products.
Is a safe handling label required on bacon?	Yes, FSIS requires safe handling instructions on packages of bacon and all other raw or partially cooked meat and poultry products as part of a comprehensive effort to protect consumers from foodborne illness.
Can turkey bacon contain pork?	Yes, it is possible for turkey bacon to contain pork, but it must be included on the label (either in the name or in the ingredients statement). All ingredients used in the manufacture of a meat product must be listed in the ingredient statement on the package.

Are “bacon bits” made from pork?

“Bacon bits” are made from 100% real bacon. These products are inspected by USDA. The label and ingredient statement on the jars and resealable pouches will display the product information. For comparison, 1 tablespoon of real bacon bits is equivalent to 1 1/2 strips of bacon.

Imitation products are made from a soy-based product that have a bacon texture and flavor, but are kosher and vegetarian. Soy-based products are inspected by FDA. Companies should not be using the term “bacon” on products not made from pork bellies.

Dating of Bacon

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 bacon. Use or freeze products with a “sell-by” date within 7 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 bacon because all foods stay safe while frozen.

What should you look for when buying bacon?

When buying bacon, look for slices with long veins of lean pink meat and a relatively small amount of fat. If the package bears an expiration date, purchase the package before the date expires.

Should bacon be rinsed before cooking?

Washing raw bacon before cooking it is not recommended. Any bacteria that might be present on the surface would be destroyed by cooking.

How to Handle Bacon Safely

RAW BACON

- Select the bacon just before checking out at the supermarket register.
- Take the bacon home immediately and refrigerate it at 40 °F or below.
- Use within 7 days or freeze (0 °F).

COOKED BACON PRODUCTS

- Read the product label for handling instructions.
- For refrigerated, cooked bacon, select it just before checking out at the supermarket register.
- Take the bacon home immediately and refrigerate it at 40 °F or below.
- For shelf-stable, cooked bacon, store the product at 85 °F or below. Refrigerate after opening.
- Observe the manufacturer’s recommended “use-by” date.

How to Thaw Bacon Safely

There are three safe ways to thaw bacon: in the refrigerator, in cold water, and in the microwave. Never defrost bacon on the kitchen counter or at room temperature.

In the Refrigerator: It’s best to plan ahead for slow, safe thawing in the refrigerator. After defrosting bacon by this method, it will be safe in the refrigerator for 7 days before cooking. If you decide not to use the bacon during this time, you can safely refreeze it without cooking it first.

In Cold Water: This method is faster than refrigerator thawing. The food must be in a leak-proof package or plastic bag. If the bag leaks, bacteria from the air or surrounding environment could be introduced into the food. Also, the bacon may absorb water, resulting in a watery product. Submerge the bag in cold tap water, changing the water every 30 minutes so it continues to thaw. A one-pound package of bacon may thaw in an hour or less. If thawed completely, the food must be cooked immediately.

In the Microwave: When thawing bacon in the microwave, 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 will not be destroyed.

Foods defrosted in the microwave or by the cold water method should be cooked before refreezing because they may have been held at temperatures above 40 °F, where bacteria can multiply.

It is safe to cook bacon from the frozen state.

To what temperature should bacon be cooked?

It's very difficult to determine the temperature of a thin piece of meat such as bacon, but if cooked crisp, it should have reached a safe temperature. Cooked, cured meat such as bacon can remain pink due to its curing agents, even when the meat has reached a safe temperature.

Partial Cooking

Never brown or partially cook raw bacon and then refrigerate to finish cooking later. This is because any bacteria present will not be destroyed. Cook bacon completely before removing it from the heat source.

Safe Cooking

The three main ways to cook bacon are in a skillet or pan on the stove, in a conventional oven, or in the microwave. The length of time to cook bacon depends upon the type and thickness of the bacon, the heat used, and the desired crispness.

How can precooked bacon be reheated?

While it is safe to eat precooked bacon from the package, you may desire to reheat it. To reheat, follow the package directions or place the strips on a microwave-safe plate or a paper towel and microwave for about 10 seconds per strip.

HOME STORAGE OF BACON PRODUCTS

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

PRODUCT	PANTRY	REFRIGERATOR 40 °F or below	FREEZER 0 °F or below
Salt pork	Not applicable (N/A)	1 month	4 to 6 months
Bacon	N/A	7 days	4 months
Beef bacon	N/A	7 days	4 months
Canadian bacon, sliced	N/A	3 to 4 days	4 to 8 weeks
Poultry bacon	N/A	7 days	4 months
Pancetta	N/A	7 days	4 months
Dry-cured sliced bacon	10 days without refrigeration	4 weeks in the refrigerator	3 months
Dry-cured slab bacon	3 weeks without refrigeration	4 to 6 weeks in the refrigerator	3 months
Bacon cured without nitrites	N/A	3 weeks in the refrigerator	6 months
Leftover cooked bacon, cooked by consumer	N/A	4 to 5 days	1 month
Baby food with fresh bacon	Observe "use-by" date.	2 to 3 days after opening (leftovers not heated)	1 month
Cooked bacon, purchased shelf stable	Unopened in the pantry (stored below 85 °F) until the "use-by" date on the package.	After opening, refrigerate and use within 5 to 14 days. See product package for specific recommendations.	3 months
Cooked bacon, purchased refrigerated	Observe manufacturer's "use-by" date.	Observe manufacturer's "use-by" date.	3 months for best quality
Canned bacon in pantry	2 to 5 years in pantry	3 to 4 days after opening	2 to 3 months after opening
Bacon bits, made with real bacon	Unopened in pantry, good until "sell-by" date	After opening, refrigerate up to 6 weeks.	1 to 2 months
Imitation bits (made with soy)	4 months in pantry	Refer to jar for refrigerator storage.	Not necessary for safety

GLOSSARY OF BACON TERMS

BABY FOOD WITH FRESH BACON: Bacon without nitrites must be shown in the ingredients statement as bacon (water, salt, sugar, etc., without nitrates or nitrites). Nitrites and nitrates are not acceptable in baby and toddler foods. (Nitrate is prohibited in all bacon.)

BACK BACON (United Kingdom): Most bacon consumed in the U.K. is back bacon (also called short back bacon). The cut comes from the loin in the middle of the back of the animal. It is a lean, meaty cut of bacon, with relatively less fat compared to other cuts.

BACK RASHERS (Irish): Pork bacon made from the meat on the back of the pig. This type of bacon is part of a traditional Irish breakfast.

BACON: The cured belly of a swine (hog) carcass. If meat from other portions of the carcass is used, the product name must be qualified to identify the portions, e.g., "Pork Shoulder Bacon."

BACON AND PORK SAUSAGE: Product is formulated with a high percentage of bacon (usually bacon ends and pieces) with at least 20% pork.

BACON ARKANSAS and **ARKANSAS STYLE BACON:** Product which is identified as "Arkansas Bacon" or "Arkansas Style Bacon" is produced from the pork shoulder blade Boston roast. The pork shoulder blade Boston roast includes the porcine muscle, fat, and bone; cut interior of the second or third thoracic vertebra; posterior of the atlas joint (first cervical vertebra); and dorsal of the center of the humerus bone.

For "Arkansas Bacon," the neck bones and rib bones are removed by cutting close to the underside of those bones. The blade bone (scapula) and the dorsal fat covering, including the skin (clear plate), are removed, leaving no more than one-quarter inch of fat covering the roast. The meat is then dry cured with salt, sugar, nitrites, and spices, and smoked with natural smoke.

The meat may not be injected or soaked in curing brine, nor may any artificial or liquid smoke be applied to the meat. Product that is prepared outside the state of Arkansas, but in the manner prescribed, may be identified as "Arkansas Style Bacon." The true product name must be shown as "Boneless Cured Pork Shoulder Butt."

BACON (CANNED - PASTEURIZED): A shelf-stable item, which must have at least 7% brine concentration.

BACON (COOKED): Not to yield more than 40% bacon — 60% shrink required. BHA and BHT may be used as antioxidants in precooked bacon at level of 0.01% individually or 0.02% collectively, based on fat content. TBHQ (tertiary butylhydroquinone) can be used in products as an antioxidant (reduces the damage from oxygen) in combination with the preservatives BHT (butylated hydroxytoluene) and BHA (butylated hydroxyanisole), but it can not be used alone except in cooked bacon.

BACON-LIKE PRODUCTS: Bacon-like products, including poultry bacon, labeled with "bacon" in the name must follow the same requirements as those applied to pork bacon. These requirements include, but are limited to, limits on restricted ingredients and the requirement that the bacon must return to "green weight" (see below).

BACON PRODUCTS: The bacon products intended for further cooking before consumption, i.e., slab bacon for deli slicing, can be labeled "certified," "roasted," or "partially cooked" provided the product is cooked to 148 °F and the labeling clearly indicates the product is intended to be further cooked before consumption.

BEEF BACON: Beef bacon is a cured and smoked beef product sliced to resemble regular bacon. It is prepared from various beef cuts and offered with a variety of coined names, including "Breakfast Beef," "Beef Bacon," etc. A common or usual name is required, e.g., "Cured and Smoked Beef Plate," and should be shown contiguous to the coined name.

CANADIAN BACON: In the United States, "Canadian" bacon is plain lean "back bacon" (see above) made from the loin, and it is trichina treated. It is simply called "back bacon" in Canada, where "Canadian bacon" is traditionally unsmoked back bacon that has been sweet pickle cured and coated in yellow cornmeal. This variation is also known as peameal bacon because, in times past, a mixture of ground yellow peas was used for coating to improve curing and shelf-life.

CERTIFIED: If pork is treated to eliminate *Trichinella spiralis*, and the processing company demonstrates that viable trichinae have been destroyed or rendered ineffective in causing infection, the resulting pork can be labeled as “certified pork.”

DIXIE BACON or **DIXIE SQUARE:** Bacon made from cured and smoked cheeks of pork. The true product name, e.g., “Pork Jowl Dixie Bacon, Cured and Smoked” shall appear on the label.

FINISHED WEIGHT: The final weight of cured pork bellies after processing. The weight of cured pork bellies ready for slicing and labeling as “Bacon” shall not exceed the weight of the fresh, uncured pork bellies (green weight).

GREEN WEIGHT: The weight of fresh pork bellies, normally skinned and trimmed, prior to pumping with curing solution.

ORGANIC BACON: Bacon can be certified organic if made from organically raised meat or poultry.

PANCETTA (pan-CHET-uh): Italian streaky bacon, smoked or green (unsmoked), with a strong flavor. It is usually cured in salt and spices and then air-dried. The name is a diminutive of *pancia*, meaning “belly.”

POULTRY BACON: Poultry bacon products are acceptable and may be designated as (Kind) Bacon. However, a true descriptive name must appear contiguous to (Kind) Bacon without intervening type or design, in letters at least one-half the size of the letters used in the (Kind) Bacon, and in the same style and color and on the same background. An example of an acceptable designation is “Turkey Bacon - Cured Turkey Breast Meat - Chopped and Formed.” The descriptive name can serve alone as the product name. If poultry bacon is cooked and ready to eat from the package, the label will have statements such as “fully cooked” or “ready to eat.” If poultry bacon is not ready to eat, it is required to bear safe handling instructions.

STREAKY BACON: The name for North American bacon in the United Kingdom and Ireland. It comes from the belly of a pig and is very fatty with long veins of fat running parallel to the rind. It is also called “streaky rashers.”

TURKEY BACON: (see “POULTRY BACON”)

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 year-round



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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Ham and Food Safety

Hams: They can be fresh, cook-before-eating, cooked, picnic, and country types. There are so many kinds, and their storage times and cooking times vary. This background information serves to carve up the facts and make them easier to understand.

Definition

Hams may be fresh, cured, or cured-and-smoked. Ham is the cured leg of pork. Fresh ham is an uncured leg of pork. Fresh ham will bear the term "fresh" as part of the product name and is an indication that the product is not cured. "Turkey" ham is a ready-to-eat product made from cured thigh meat of turkey. The term "turkey ham" is always followed by the statement "cured turkey thigh meat."

The usual color for cured ham is deep rose or pink; fresh ham (which is not cured) has the pale pink or beige color of a fresh pork roast; country hams and prosciutto (which are dry cured) range from pink to a mahogany color.

Hams are either ready to eat or not. Ready-to-eat hams include prosciutto and cooked hams; they can be eaten right out of the package. Fresh hams and hams that are only treated to destroy trichinae (which may include heating, freezing, or curing in the plant) must be cooked by the consumer before eating. Hams that must be cooked will bear cooking instructions and safe handling instructions.

Hams that are not ready-to-eat, but have the appearance of ready-to-eat products, will bear a prominent statement on the principal display panel (label) indicating the product needs cooking, e.g., "cook thoroughly." In addition, the label must bear cooking directions.

Curing Solutions

Curing is the addition of salt, sodium or potassium nitrate (or saltpeter), nitrites, and sometimes sugar, seasonings, phosphates, and cure accelerators, e.g., sodium ascorbate, to pork for preservation, color development, and flavor enhancement.

Nitrate and nitrite contribute to the characteristic cured flavor and reddish-pink color of cured pork. Nitrite and salt inhibit the growth of *Clostridium botulinum*, a deadly microorganism which can occur in foods under certain situations.

Curing and flavoring solutions are added to pork by injection and by massaging and tumbling the solution into the muscle, both of which produce a more tender product.

Dry Curing

In dry curing, the process used to make country hams and prosciutto, fresh ham is rubbed with a dry-cure mixture of salt and other ingredients. Dry curing produces a salty product. In 1992, FSIS approved a trichinae treatment method that permits substituting up to half of the sodium chloride with potassium chloride to result in lower sodium levels. Since dry curing draws out

moisture, it reduces ham weight by at least 18% — but typically 20 to 25%. This results in a more concentrated ham flavor.

Dry-cured hams may be aged more than a year. Six months is the traditional process, but it may be shortened according to aging temperature.

These uncooked hams are safe stored at room temperature because they contain so little water, bacteria can't multiply in them. Dry-cured ham is not injected with a curing solution or processed by immersion in a curing solution, but it may be smoked. Today, dry cured hams may be marketed as items that need preparation on the part of the consumer to make them safe to eat. So, as with all meat products, it is important to read the label on hams to determine the proper preparation needed.

Wet Curing or Brine Cure

Brine curing is the most popular way to produce hams. It is a wet cure whereby fresh meat is injected with a curing solution before cooking. Brining ingredients can include salt, sugar, sodium nitrite, sodium nitrate, sodium erythorbate, sodium phosphate, potassium chloride, water, and flavorings. Smoke flavoring (liquid smoke) may also be injected with brine solution. Cooking *may* occur during this process.

Smoking and Smoke Flavoring

After curing, some hams are smoked. Smoking is a process by which ham is hung in a smokehouse and allowed to absorb smoke from smoldering fires, which gives added flavor and color to meat and slows the development of rancidity. Not all smoked meat is smoked from smoldering fires. A popular process is to heat the ham in a smokehouse and generate smoke from atomized smoke flavor.

Foodborne Pathogens

These foodborne pathogens (organisms in food that can cause disease) are associated with ham:

- *Trichinella spiralis* (trichinae) - Parasites that are sometimes present in hogs. All hams must be processed according to USDA guidelines to kill trichinae.
- *Staphylococcus aureus* (staph) - These bacteria are destroyed by cooking and processing, but can be re-introduced via mishandling. They can produce a toxin which is not destroyed by further cooking. Dry curing of hams may or may not destroy *S. aureus*, but the high salt content on the exterior inhibits the growth of these bacteria. When the ham is sliced, the moister interior will permit staphylococcal multiplication. Thus sliced dry-cured hams must be refrigerated.
- *Mold* - Can often be found on country cured ham. Most of these are harmless, but some molds can produce mycotoxins. Molds grow on hams during the long curing and drying process because the high salt and low temperatures do not inhibit these robust organisms. DO NOT DISCARD the ham. Scrub off the mold with a stiff vegetable brush.

Quantity to Buy

When buying a ham, estimate the size needed according to the number of servings the type of ham should yield.

- 1/4 - 1/3 lb. per serving of boneless ham
- 1/3 - 1/2 lb. of meat per serving of bone-in ham

Cooking or Reheating Hams

Both whole or half, cooked, vacuum-packaged hams packaged in federally inspected plants and canned hams can be eaten cold, right out of the package.

However, if you want to reheat these cooked hams, set the oven no lower than 325 °F and heat to an internal temperature of 140 °F as measured with a food thermometer.

For cooked hams that have been repackaged in any other location outside the processing plant or for leftover cooked ham, heat to 165 °F.

Spiral-cut cooked hams are also safe to eat cold. The unique slicing method, invented in 1957, reduces carving problems. These hams are best served cold because heating sliced whole or half hams can dry out the meat and cause the glaze to melt and run off the meat. If reheating is desired, hams that were packaged in processing plants under USDA inspection must be heated to 140 °F as measured with a food thermometer (165 °F for leftover spiral-cut hams or ham that has been repackaged in any other location outside the USDA-inspected plant). To reheat a spiral-sliced ham in a conventional oven, cover the entire ham or portion with heavy aluminum foil and heat at 325 °F for about 10 minutes per pound. Individual slices may also be warmed in a skillet or microwave.

Cook-before-eating hams or fresh hams must reach 145 °F to be safely cooked before serving. Cook in an oven set no lower than 325 °F. Hams can also be safely cooked in a microwave oven, other countertop appliances, and on the stove. Consult a cookbook for specific methods and timing.

Country hams can be soaked 4 to 12 hours or longer in the refrigerator to reduce the salt content before cooking. Then they can be cooked by boiling or baking. Follow the manufacturer's cooking instructions.

TIMETABLE FOR COOKING HAM

NOTE: Set oven temperature to 325 °F. Fresh hams should be cooked 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.

Reheat cooked hams packaged in USDA-inspected plants to 140 °F and all others to 165 °F.

Note: These are approximate times for various cuts of ham:

Cut	Weight / lbs	Minutes / lb	Minimum Internal Temperature & Rest Time
SMOKED HAM, cook-before-eating			
Whole, bone in	10 to 14	18 to 20	145° and allow to rest for at least 3 minutes
Half, bone in	5 to 7	22 to 25	
Shank or Butt Portion, bone in	3 to 4	35 to 40	
Arm Picnic Shoulder, boneless	5 to 8	30 to 35	
Shoulder Roll (Butt), boneless	2 to 4	35 to 40	
SMOKED HAM, cooked			
Whole, bone in	10 to 14	15 to 18	Reheat cooked hams packaged in USDA-inspected plants to 140 °F and all others to 165 °F.
Half, bone in	5 to 7	18 to 24	
Arm Picnic Shoulder, boneless	5 to 8	25 to 30	
Canned ham, boneless	3 to 10	15 to 20	
Vacuum packed, boneless	6 to 12	10 to 15	
Spiral cut, whole or half	7 to 9	10 to 18	
FRESH HAM, uncooked			
Whole leg, bone in	12 to 16	22 to 26	145° and allow to rest for at least 3 minutes
Whole leg, boneless	10 to 14	24 to 28	
Half, bone in	5 to 8	35 to 40	
COUNTRY HAM			
Whole or Half. (Soak 4 to 12 hours in refrigerator. Cover with water and boil 20 to 25 minutes per pound. Drain, glaze, and brown at 400 °F for 15 minutes.			

HAM STORAGE CHART

NOTE: Freezer storage is for quality only. Frozen hams remain safe indefinitely.

Type of Ham	Refrigerate	Freeze
Fresh (uncured) Ham, uncooked	3 to 5 days	6 months
Fresh (uncured) Ham, cooked	3 to 4 days	3 to 4 months
Cured Ham, cook-before-eating; uncooked	5 to 7 days or "use-by" date*	3 to 4 months
Cured Ham, cook-before-eating; after consumer cooks it	3 to 5 days	1 to 2 months
Cooked Ham, vacuum sealed at plant, <i>undated</i> ; unopened	2 weeks	1 to 2 months
Cooked Ham, vacuum sealed at plant, <i>dated</i> ; unopened	"Use-by" date*	1 to 2 months
Cooked Ham, vacuum sealed at plant, <i>undated or dated</i> ; <i>opened</i>	3 to 5 days	1 to 2 months
Cooked Ham, whole, store wrapped	7 days	1 to 2 months
Cooked Ham, half, store wrapped	3 to 5 days	1 to 2 months
Cooked Ham, slices, store wrapped	3 to 5 days	1 to 2 months
Spiral-cut hams and leftovers from consumer-cooked hams	3 to 5 days	1 to 2 months
**Country Ham, uncooked, cut	2 to 3 months	1 month
Country Ham, cooked	7 days	1 month
Canned Ham, labeled "Keep Refrigerated," unopened	6 to 9 months	Do not freeze
Canned Ham, labeled "Keep Refrigerated," <i>opened</i>	7 days	1 to 2 months
***Canned Ham, shelf stable, opened	3 to 4 days	1 to 2 months
Lunch Meat Ham, sealed at plant, unopened	2 weeks or "use-by" date*	1 to 2 months
Lunch Meat Ham, sealed at plant, <i>after opening</i>	3 to 5 days	1 to 2 months
Lunch Meat Ham, sliced in store	3 to 5 days	1 to 2 months
Prosciutto, Parma or Serrano Ham, dry Italian or Spanish type, cut	2 to 3 months	1 month

*Company determines its "use-by" date and stands by it.

** A whole, uncut country ham can be stored safely at room temperature for up to 1 year. The ham is safe after 1 year, but the quality may suffer.

*** An unopened shelf-stable, canned ham may be stored at room temperature for 2 years.

HAM GLOSSARY

CANNED HAM: "Canned Meat with Natural Juices" is acceptable for product that has been pumped or contains up to 10% of a solution before canning and processing. Processed, canned, uncured meat products, (when water or broth is added to the can) may not be called "with natural juices." The acceptable name would be "with juices." Canned hams come in two forms:

- Shelf stable - Can be stored on the shelf up to 2 years at room temperature. Generally not over 3 pounds in size. Processed to kill all spoilage bacteria and pathogenic organisms such as *Clostridium botulinum*, *Salmonella*, and *Trichinella spiralis*. The product is free of microorganisms capable of growing at ordinary room temperature. However, high temperature storage — above 122 °F (50 °C) — may result in harmless thermophilic bacteria multiplying and swelling or souring the product.
- Refrigerated - May be stored in the refrigerator for up to 6 to 9 months. Its weight can be up to 8% more than original uncured weight due to the uptake of water during curing. It need not be labeled "Added water" except for "In Natural Juices." Net weight is the weight of the actual ham excluding the container. Processed at a cook time and temperature sufficient to kill infectious organisms (including Trichinae); however, the ham is not sterilized so spoilage bacteria may grow eventually.

CAPACOLLO, COOKED (Capicola, Capocollo, Capicola, Capicollo, Cappicola, Capacolo — Italian): This product does not meet the definition of ham because it is not from the hind leg of a hog. It is boneless pork shoulder butts which are cured and then cooked. The curing process may be dry curing, immersion curing, or pump curing. The cured product is coated with spices and paprika before cooking. This product shall always be labeled with "Cooked" as part of the product name. Water added is permitted.

CAPACOLLA, HAM, COOKED: Ham that has been cured and then cooked.

COOK BEFORE EATING: Needs cooking or further cooking. Is not cooked in the plant or heat treated in the plant and should be cooked to a safe 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. Cook in an oven set no lower than 325 °F.

COTTAGE "HAM": Smaller pieces of boneless cured ham usually formed into a roundish shape of a softball size or larger form. It is heated or cooked so that it is ready to cook in the home or ready to eat.

COUNTRY HAM, COUNTRY STYLE HAM, or DRY CURED HAM, and COUNTRY PORK SHOULDER, COUNTRY STYLE PORK SHOULDER, or DRY CURED PORK SHOULDER: The uncooked, cured, dried, smoked or unsmoked meat food products made respectively from a single piece of meat conforming to the definition of "ham" or from a single piece of meat from a pork shoulder. They are prepared by the dry application of salt or by salt and one or more optional ingredients; e.g., nutritive sweeteners, spices, seasonings, flavorings, sodium or potassium nitrate, and sodium or potassium nitrite. They may not be injected with curing solutions nor placed in curing solutions. The product must be treated for the destruction of possible live trichinae.

FULLY COOKED or COOKED: Needs no further cooking because it is fully cooked at the establishment where it was produced and packaged. Product can be eaten right out of the package or reheated. Fully cooked is synonymous with cooked.

GELATIN: Gelatin is a binder/extender and is only permitted in a few meat and poultry products like sausage, luncheon meat, and meat loaves. About 1/4 ounce of dry gelatin is often added before a canned ham is sealed to cushion the ham during shipment. During processing, natural juices cook out of the ham and combine with the gelatin. When the ham cools, a jelly forms. Gelatin is included in the net weight statement on the label and its presence is also qualified in the product name; e.g., "Canned Ham, Gelatin Added."

HALF HAM: "Half Ham" is permitted on labels for semi-boneless ham products which have had the shank muscles removed during processing. The two halves of the finished product have approximately an equal amount of bone. The term "No Slices Removed" has also been deemed suitable for use with a ham item referred to as "Half Ham."

HAM: Cured leg of pork. In order to be labeled as "Ham," the product must be at least 20.5% protein in lean portion as described in 9 CFR 319.104. Added water is permitted in a product labeled as "Ham." In fact, water will be declared in order of predominance in the ingredients statement. This is how the cure solution is introduced into a ham.

HAM AND WATER PRODUCTS X% of Weight is Added Ingredients: Product contains more additives than a "Ham Water Added," but the product name must indicate percent of "added ingredients." For example, "Ham and Water Product 25% of Weight is Added Ingredients" for any canned ham with less than 17.0% protein.

HAM, BOILED: A fully cooked, boneless product which must be cooked in water and may be processed in a casing or can. The product may be of various shapes and may be partially cooked in boiling water.

HAM, FRESH (or uncured): The uncured leg of pork. Since the meat is not cured or smoked, it has the flavor of a fresh pork loin roast or pork chops. Its raw color is pinkish red and after cooking, grayish white. Ham that does not contain a cure must be labeled "Fresh." This also applies to cooked product, "Cooked Uncured Ham."

HAM SALAD: Product must contain at least 35% cooked ham. Chopped ham may be used without it appearing in the product name.

HAM, SCOTCH STYLE: A cured, uncooked, boned, and rolled whole ham either tied or in a casing.

HAM SHANK END, HAM SHANK HALF, or HAM SHANK PORTION: The lower, slightly pointed part of the leg. A "portion" has the center slices removed for separate sale as "ham steaks." A half ham does not have slices removed.

HAM, SKINLESS, SHANKLESS: A ham with all of the skin and the shank removed. The leg bone and aitch (hip) bone remain.

HAM, SMITHFIELD: This is an aged, dry-cured ham made exclusively in Smithfield, Virginia. The use of the words "brand" or "style," e.g., "Smithfield Brand Ham," "Smithfield Style Ham," does not eliminate this requirement.

HAM STEAK: Another name for ham slices.

HAM — WATER ADDED: The product is at least 17.0% protein with 10% added solution.

HAM with NATURAL JUICES: The product is at least 18.5% protein.

HICKORY-SMOKED HAM: A cured ham which has been smoked by hanging over burning hickory wood chips in a smokehouse. May not be labeled "hickory smoked" unless hickory wood has been used. Atomized liquid hickory smoke and heat can combine to produce "hickory smoke."

HONEY-CURED: May be shown on the labeling of a cured product if (1) the honey used contains at least 80% solids or is U.S. grade C or above; (2) honey is the only sweetening ingredient or when other sweetening ingredients are used in combination with honey, they do not exceed 1/2 the amount of honey used; and (3) honey is used in an amount sufficient to flavor and/or affect the appearance of the finished product.

"LEAN" HAM: The term "lean" may be used on a ham's label provided the product contains less than 10 grams fat, 4.5 grams or less of saturated fat, and less than 95 milligrams cholesterol per 100 grams and Reference Amount Customarily Consumed (RACC).

"EXTRA LEAN" HAM: A ham labeled "extra lean" must contain less than 5 grams fat, less than 2 grams saturated fat, and the same cholesterol as allowed per the amount of "lean" ham.

PORK SHOULDER PICNIC: A front shoulder cut of pork. The term "picnic" cannot be used unless accompanied with the primal or subprimal cut. Pork shoulder picnic is not always a cured item. A shoulder "picnic" comes from the lower portion of the shoulder.

PROSCIUTTO: Italian for ham, dry cured. The product name "Prosciutto" is acceptable on labeling to identify a dry-cured ham. An Italian-style dry cured raw ham; not smoked; often coated with pepper. Prosciutto can be eaten raw because the low water content prevents bacterial growth.

PARMA HAM is prosciutto from the Parma locale in Italy. These hams tend to be larger than the U.S. produced product, as Italian hogs are larger at slaughter.

PROSCIUTTO, COOKED: The product name "Cooked Prosciutto" is acceptable on labeling to identify a Prosciutto that is cooked.

SECTIONED AND FORMED HAM or CHUNKED AND FORMED HAM: A boneless ham that is made from different cuts, tumbled or massaged and reassembled into a casing or mold and cooked. During this process it is usually thoroughly defatted. The qualifying phrase "sectioned and formed" is no longer required on boneless ham products, e.g., "ham" and "ham-water added." The addition of small amounts of ground ham added as a binder to such products may be used without declaration. The amount of ground ham that may be used can represent no more than 15% of the weight of the ham ingredients at the time of formulation. Products containing more than 15% ground ham trimmings must be labeled to indicate the presence of the ground ham; e.g., "a portion of ground ham added."

SUGAR CURED: May be used on the labeling of a cured product (1) if the sugar used is cane sugar or beet sugar; (2) sugar is the only sweetening ingredient or when other sweetening ingredients are used in combination with sugar, they do not exceed one-half the amount of sugar used; and (3) sugar is used in an amount sufficient to flavor and/or affect the appearance of the finished product.

WESTPHALIAN HAM: A German-style dry cured ham that is similar to Prosciutto; smoked, sometimes made with juniper berries.

NOTE: Most of the definitions in this glossary are from the FSIS "Food Standards and Labeling Policy Book." To access this book, go to: www.fsis.usda.gov/OPPDE/larc/Policies/Labeling_Policy_Book_082005.pdf (PDF only).

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

AskKaren.gov

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

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Sausages and Food Safety

Summer sausage, kielbasa, bologna, bratwurst: The list goes on and on. There are so many varieties of sausage. How long can you store them — and where? Are they fully cooked or not? The following background information will answer these questions and others. Use the chart as a guideline for safe storage.

Types of Sausages

Sausages are either uncooked or ready to eat. They can be made from red meat (for example, beef, pork, lamb, or veal), poultry (turkey or chicken, for example) or a combination. Uncooked sausages include fresh (bulk, patties, or links) and smoked sausages.

To prevent foodborne illness, uncooked sausages that contain ground beef, pork, lamb or veal should be cooked to 160 °F. Uncooked sausages that contain ground turkey and chicken should be cooked to 165 °F.

Ready-to-eat sausages are dry, semi-dry, and/or cooked. Dry sausages may be smoked, unsmoked, or cooked. Semi-dry sausages are usually heated in a smokehouse to fully cook the product and partially dry it. Cooked sausages (for example, bologna, and frankfurters) are cooked and may also be smoked.

Who inspects sausages?

USDA's Food Safety and Inspection Service (FSIS) inspects all sausages in interstate commerce and all sausages that are exported to other countries. If sausages are made in a retail establishment (such as a grocery store, meat market, or restaurant) and are sold within the State where the establishment is located, the sausage may be under the jurisdiction of that State's health or agriculture department.

What is on the label?

The label provides consumers with information about a product at the time of sale. Labels are required to bear certain mandatory features including:

- (1) the product name;
- (2) an ingredients statement;
- (3) the name and place of business of the manufacturer, packer, or distributor;
- (4) an accurate statement of the net quantity of contents;
- (5) the inspection legend and USDA establishment number;
- (6) a safe handling statement if the product is perishable (for example, "Keep Frozen" or "Keep Refrigerated");
- (7) safe handling instructions, if the meat or poultry component of the product is not ready to eat; and
- (8) nutrition facts information. The Nutrition Facts information on the label can help consumers compare products and make more informed, healthy food choices. If sausages are made and packaged in a local store, the nutrient information on the package is voluntary or it may be at the point of purchase. The application of a "use" or "sell by" date is optional.

What must be listed on the label of sausages that are NOT ready to eat?

The labeling for sausages under FSIS inspection that are NOT ready to eat must bear certain features such as safe handling instructions. In cases where the sausage is partially cooked or otherwise appears cooked but requires cooking by the consumer for safety, FSIS requires additional labeling features such as a prominent statement on the principal display panel, for example, "Uncooked, Ready to cook, Cook before eating, Cook and serve," or "Needs to be fully cooked."

In addition, the product should display cooking directions that are sufficient for the intended user. The manufacturer would have to validate that the cooking directions are sufficient to destroy any pathogens that could be present.

If a sausage is perishable, the label must say "Keep Refrigerated." Some federally inspected shelf-stable sausages are not ready to eat. If so, they will be labeled as above but will not have "Keep Refrigerated" on the label.

Definition of Fresh Sausages

Fresh sausages are a coarse or finely "comminuted" (reduced to minute particles) meat food product prepared from one or more kinds of meat, or meat and meat "byproducts" (heart, kidney, or liver, for example). They may contain water not exceeding 3% of the total ingredients in the product. They are usually seasoned, frequently cured, and may contain binders and extenders (for example, wheat flour, and non-fat dry milk). They must be kept refrigerated and thoroughly cooked before eating.

Content of Fresh Sausages

- "Fresh Pork Sausages" may not contain pork byproducts and may contain no more than 50% fat by weight.
- "Fresh Beef Sausages" may not contain beef byproducts and may contain no more than 30% fat by weight.
- "Breakfast Sausages" may contain meat and meat byproducts and no more than 50% fat by weight.
- "Whole Hog Sausage" contains meat from swine in such proportions as are normal to a single animal and no more than 50% fat by weight.
- "Italian Sausage Products" are cured or uncured sausages containing at least 85% meat, or a combination of meat and fat, with the total fat content constituting not more than 35% of the finished product. It contains salt, pepper, fennel and/or anise and no more than 3% water. Optional ingredients permitted in Italian Sausages are spices (including paprika) and flavorings, red or green peppers, onions, garlic and parsley, sugar, dextrose and corn syrup.

Cooked and/or Smoked Sausages

Cooked and/or smoked sausages are made of one or more different kinds of chopped or ground meats which have been seasoned, cooked and/or smoked. Meat byproducts may be used. Included in this category are:

- liverwurst
- hot dogs
- bologna
- knockwurst
- cooked bratwurst
- braunschweiger
- cooked Thuringer
- cooked salami*

*Cooked Salami (not dry) is made from fresh meats which are cured, stuffed into casings and cooked in a smokehouse at high temperature. It may be air dried for a short time. It has a softer texture than dry and semi-dry sausages and must be refrigerated.

Meat Specialties

Some meat specialties are ready-to-eat sausage-like products. These are made from comminuted meats that are seasoned and usually cooked or baked rather than smoked. They are usually sliced and served cold. Included in this category are:

- chopped ham loaf
- peppered loaf
- head cheese
- jellied corned beef
- ham and cheese loaf
- honey loaf
- old fashioned loaf
- olive loaf
- pickle and pimento loaf
- scrapple
- souse
- veal loaf

Dry and Semi-Dry Sausages

Dry and semi-dry sausages are possibly the largest category of dried meats, particularly in the United States. These products can be fermented by bacterial growth for preservation and to produce the typical tangy flavor. Alternatively, they may be cultured with lactic acid — much as cheese, pickle, and yogurt makers do — to eliminate the fermentation phase and shorten the process. They are, with a few exceptions, cooked.

Fermentation is one of the oldest methods of preserving meats. Dry sausages — such as pepperoni, and semidry sausages such as Lebanon bologna and summer sausage, have had a good safety record for hundreds of years.

In this procedure, a mixture of curing ingredients, such as salt and sodium nitrite, and a “starter” culture of lactic acid-bacteria, is mixed with chopped and ground meat, placed in casings, fermented, and then dried by a carefully controlled, long, continuous air-drying process. The amount of acid produced during fermentation and the lack of moisture in the finished product after drying typically have been shown to cause pathogenic bacteria to die.

Dry sausages require more time to make than other types of sausages and are a more concentrated form of meat. Dried sausages range from 60% to 80% of their original weight before drying.

Semi-dry sausages are usually heated in the smokehouse to fully cook the product and partially dry it. Semi-dry sausages are semi-soft sausages with good keeping qualities due to their lactic acid fermentation and sometimes heavy application of smoke. Some are mildly seasoned, and some are quite spicy and strongly flavored.

What are examples of dry and semi-dry sausages?

Dry sausages include:

- Sopressata (a name of a salami)
- pepperoni (not cooked, air dried)
- Genoa Salami (Italian, usually made from pork but may have a small amount of beef; it is moistened with wine or grape juice and seasoned with garlic)

Semi-dry sausages include:

- summer sausage
- Lebanon bologna
- Cervelat
- Thuringer

Are any sausages shelf Stable?

Some dry sausages are shelf stable (in other words, they do not need to be refrigerated or frozen to be stored safely). Dry sausages require more production time than other types of sausage and result in a concentrated form of meat. If the product is shelf stable and ready to eat, the product is not required to have a safe handling statement, cooking directions or a "Keep Refrigerated" statement.

Should people "at risk" eat dry sausages?

Because dry sausages are not cooked, people "at risk" (older adults, very young children, pregnant women, and those with immune systems weakened by disease or organ transplants) might want to avoid eating them. The bacterium *E. coli* O157:H7 can survive the process of dry fermenting, and in 1994, some children became ill after eating dry cured salami containing the bacteria.

After the outbreak, FSIS developed specific processing rules for making dry sausages that must be followed or the product must be heat treated. These products are included in the FSIS microbial sampling program for *E. coli* O157:H7, and in 1997, FSIS began to test fermented sausages for *Salmonella* and *Listeria monocytogenes*.

Dates on Packaged Sausages

Although dating is a voluntary program and not required by the Federal government, if a date is used, it must state what the date means. The product can be used after the date, provided it was stored safely. Follow the guidelines on the following page for maximum quality in sausage products.

- "Sell-By" date - tells the store how long to display the product for sale. You should buy the product before the date expires.
- "Best if Used By (or Before)" date - date by which the product should be used for best flavor and quality. It is not a purchase or safety date.
- "Use-By" date - the last date recommended for use of the product while at peak quality.

Storage

All sausage — except dry sausage — is perishable and therefore must be kept refrigerated. For maximum quality, follow the storage times in the Sausage Storage Chart.

SAUSAGE STORAGE CHART

- If the sausage has a “use-by” date, follow that date. It is the last date recommended for the use of the product while at peak quality. The date has been determined by the manufacturer of the product.
- If the sausage has a “sell-by” date, or no date, store it for the times recommended below.
- Freeze sausage if you can’t use it within times the times recommended for refrigerator storage. Once frozen it doesn’t matter if the date expires because foods kept frozen continuously are safe indefinitely.

TYPE OF SAUSAGE	REFRIGERATOR - UNOPENED	REFRIGERATOR - AFTER OPENING	IN FREEZER (for best quality)
Fresh Sausage, uncooked	1 to 2 days unopened or opened	1 to 2 days unopened or opened	1 to 2 months
Fresh Sausage, after cooking by consumer	(not applicable)	3 to 4 days	2 to 3 months
Hard/Dry Sausage	Whole, 6 weeks in pantry; indefinitely in refrigerator.	3 weeks	Sliced, 1 to 2 months
Hot Dogs and other Cooked Sausage	2 weeks	7 days	1 to 2 months
Luncheon meat	2 weeks	3 to 5 days	1 to 2 months
Summer Sausage (Semi-dry)	3 months	3 weeks	1 to 2 months

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Lamb from Farm to Table

Sheep is the oldest domesticated meat species. Sheep have been raised by humans beginning about 9,000 years ago in the Middle East. In many countries, lamb (a young sheep) is the major source of protein. Many Americans think of lamb as a springtime food, but it can be enjoyed year round. The following information answers many questions callers have asked the USDA Meat and Poultry Hotline about lamb.

What is the difference between lamb and mutton?

Sheep (Ovine) carcasses are classified as lamb, yearling mutton, or mutton depending on their age as evidenced by their muscles and bones. For the purpose of this fact sheet we will be discussing lamb. The flavor of lamb is milder than mutton. Lamb is produced from younger animals, typically less than a year old, and mutton is produced from older animals. Most lambs are brought to market at about 6 to 8 months old. A lamb weighs about 140 pounds and yields approximately 46 to 49 pounds of edible lean retail lamb cuts, semi-boneless.

If the phrase "Spring Lamb" is on a meat label, it means the lamb was slaughtered between March and October. The term comes from olden times when lambs born in harsh winter weather would have little chance to survive until the next year. Today with more protected animal husbandry conditions, enjoying "lamb" is not confined to a particular season of the year.

How are lambs raised?

Lambs are nursed by their mothers and when they are weaned, they gradually begin feeding on pasture or coarsely ground grain. They are fed hay and feed consisting of corn, barley, milo (a type of sorghum), and/or wheat supplemented with vitamins and minerals. Lambs are usually "finished" (grown to maturity) in feedlots where they are fed specially formulated feed. While most lambs are finished on grains, some lambs are raised on pasture and are finished on grass instead of grains. Grass-finished lamb is usually distinguished on the label.

How is Lamb Inspected?

All lamb found in retail stores is either USDA inspected for wholesomeness or inspected by state systems which have standards equal to the Federal government. Each lamb and its internal organs are inspected for signs of disease. The "Passed and Inspected by USDA" seal insures the lamb is wholesome and free from disease.

What Does the Grade Mean?

Grading for quality is voluntary. A processing plant may request to have its lamb graded for quality based on traits such as tenderness, juiciness and flavor. USDA-graded lamb sold at the retail level is Prime, Choice, and Good. Lower grades (Utility and Cull) are mainly ground or used in processed meat products.

Lamb quality grades take into consideration maturity (lamb, yearling mutton, and mutton), conformation, and the palatability-indicating characteristics, such as fat streaking within the flank and firmness of the

lean. Most of the graded lamb sold in supermarkets is USDA Choice; 80% of the American lamb supply is USDA Prime or USDA Choice. The protein, vitamin, and mineral content of lamb are similar in all grades.

How is ungraded lamb different?

All lamb is inspected for wholesomeness; however, since grading is not mandatory, the overall quality of ungraded lamb is unknown—it may be higher or lower than USDA graded lamb found at retail. Since the quality of lamb varies according to the age of the animal, it is advisable to buy lamb that has been USDA-graded since age is taken into consideration.

Can hormones and antibiotics be used in lamb raising?

Yes. Hormones and antibiotics approved by the U.S. Food and Drug Administration (FDA) are permitted to be used in lambs slaughtered for meat. Antibiotics may be given to prevent or treat disease in lambs and hormones may be given to promote efficient growth. A recommended withholding period is required from the time antibiotics are administered until it is legal to slaughter the animal. This is so drug residues can exit the animal's system. FSIS samples lamb carcasses at slaughter and tests for residues. FSIS laboratory results above the tolerance limit set by FDA is considered a residue violation and are investigated by FDA or the State.

What to Look for When Selecting Lamb

When shopping for lamb, look for meat that is fine textured and firm that has red coloring and white marbling (white flecks of fat within the meat muscle). The fat trim should be firm, white, and not too thick. The USDA quality grades are reliable guides.

Retail Cuts of Fresh Lamb

There are five basic major (primal) cuts into which the lamb carcass is separated: shoulder, rack, shank/breast, loin, and leg. It is recommended that packages of fresh lamb purchased in the supermarket be labeled with the primal cut as well as the product, such as "shoulder roast" or "loin chop."

What is a rack of lamb?

The "rack" is the primal cut, more commonly known as the rib. The rack contains 9 full ribs and can be split (along the back bone) into two lamb rib roasts. A "lamb crown roast" is made by sewing two rib roasts together to form a circle or crown.

What is a lamb chop?

Chops can come from various primal cuts. "Loin" chops come from the loin and "rib" chops come from the rack (or rib); these are the most tender and most expensive chops. "Blade" and "arm" chops (from the shoulder) and "sirloin" chops (from the leg) are less expensive but may be just as tender.

How much lamb is consumed?

According to USDA's Economic Research Service, each American eats about .7 pound of lamb yearly.

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."

How and why is some lamb aged?

Lamb is aged to develop additional tenderness and flavor. Usually only the higher quality, more expensive primals, such as racks, ribs, and loins are aged, and these are mainly sold to restaurants. Aging is done commercially under controlled temperatures and humidity. Since aging can take from 10 days to 6 weeks under controlled conditions, the USDA does not recommend aging lamb in a home refrigerator.

Why is lamb called 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. Lamb is called a “red” meat because it contains more myoglobin than chicken or fish. Other “red” meats are beef, veal, and pork.

Additives

Additives are not allowed on fresh lamb. If it is processed, additives such as MSG, salt, or sodium erythorbate must be listed on the label.

Dating of Lamb Products

Product dating is not required by Federal regulations. However, many stores and processors may voluntarily date packages of raw lamb or processed lamb products. If a calendar date is shown, immediately adjacent to the date must be a phrase explaining the meaning of that date such as “sell-by” or “use before.”

Except for “use-by” dates, product dates don’t always refer to home storage and use after purchase. “Use-by” dates usually refer to best quality and are not safety dates. But even if the date expires during home storage, a product should be safe, wholesome and of good quality if handled properly and kept at 40° F or below. If the product has a “use-by date,” follow that date. If the product has a “sell-by” date or no date, cook or freeze the product according to the recommendations in the “Storage Times” section of this publication.

Rinsing Lamb

There is no need to rinse raw lamb before cooking because this creates a cross-contamination hazard and is not necessary. Any bacteria which might be present would be destroyed by cooking.

How to Handle Lamb Safely

Raw Lamb. Select lamb just before checking out at the register. Put packages of raw lamb in disposable plastic bags (if available) to contain any leakage which could cross-contaminate cooked foods or produce that will be eaten raw such as salad.

Take lamb home immediately and refrigerate it at 40 °F or below. Use ground lamb or stew meat within 1 to 2 days; lamb chops, roasts, and steaks within 3 to 5 days or freeze at 0 °F or below. If kept frozen continuously, it will be safe indefinitely.

It is safe to freeze lamb in its original packaging or repackage it. However, for long-term freezing, overwrap the porous store plastic with storage wraps or bags to prevent “freezer burn,” which appears as grayish-brown leathery spots and is caused by air reaching the surface of food. Cut freezer-burned portions away either before or after cooking the lamb. Heavily freezer-burned products may have to be discarded for quality reasons. For best quality, use frozen lamb roasts, steaks, and chops within 6 to 9 months; ground lamb, 3 to 4 months.

Ready-Prepared Lamb. For fully-cooked, take-out lamb dishes such as Kabobs, Gyros, or Chinese food, be sure they are hot at pickup. Use cooked lamb within 2 hours (1 hour if the air temperature is above 90 °F) or refrigerate it at 40 °F or below in shallow, covered containers. Eat it within 3 to 4 days, either cold or reheated to 165 °F. It is safe to freeze ready-prepared lamb dishes. For best quality, use within 2 to 3 months.

Safe Thawing

There are three safe ways to thaw lamb: in the refrigerator, in cold water, and in the microwave. It’s best to plan ahead for slow, safe thawing in the refrigerator. Ground lamb, stew meat, and steaks may defrost within a day. Bone-in parts and whole roasts may take 2 days or longer.

Once the raw product thaws, it will be safe in the refrigerator before cooking 3 to 5 days (for roasts, steaks, and chops) and 1 to 2 days for ground lamb. During this time, if you decide not to use the lamb, you can safely refreeze it without cooking it first.

To thaw lamb in cold water, do not remove the packaging. Be sure the package is airtight or put it into a leakproof bag. Submerge the lamb in cold water, changing the water every 30 minutes so that it continues to thaw. Small packages of lamb may defrost in an hour or less; a 3- to 4-pound roast may take 2 to 3 hours.

When thawing lamb in cold water or in the microwave, plan to cook it immediately after thawing. Never thaw on the counter or any other location at room temperature. Leaving food out too long at room temperature can cause bacteria (such as *Staphylococcus aureus*, *Salmonella* Enteritidis, *Escherichia coli* O157:H7, and *Campylobacter*) to grow to dangerous levels that can cause illness.

Foods defrosted in the microwave or by the cold water method should be cooked before refreezing because they may potentially have been held at temperatures above 40 °F, where bacteria multiply rapidly.

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

Marinating

Marinate lamb roasts, steaks, or chops in the refrigerator up to 5 days. Lamb cubes or stew meat can be marinated up to 2 days. Boil used marinade before brushing on cooked lamb. Discard any uncooked leftover marinade.

Storage Times

Since product dates aren't a guide for safe use of a product, how long can the consumer store the food and still use it at top quality? Follow these tips:

- Purchase the product before the date expires.
- Follow handling recommendations on product.
- Keep lamb in its package until ready to use.
- Refrigerate lamb roasts, steaks, and chops 3 to 5 days (ground lamb or stew meat, 1 to 2 days); and 3 to 4 days after cooking.
- If product has a "use-by" date, follow that date.
- If product has a "sell-by" date or no date, cook or freeze the product by the times recommended above.
- Once a perishable product is frozen, it doesn't matter if the date expires because foods kept frozen continuously are safe indefinitely.
- For best quality, use frozen lamb roasts, steaks, and chops within 6 to 9 months; ground lamb, 3 to 4 months.

APPROXIMATE LAMB COOKING TIMES

Safe Cooking: For safety, the USDA recommends cooking lamb patties and ground lamb mixtures such as meat loaf to a safe minimum internal temperature of 160 °F as measured by a food thermometer. Cook all raw lamb 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 following chart.

Times are based on lamb held at refrigerator temperature (40 °F). Remember that appliances and outdoor grills can vary in heat. Use a food thermometer to check for safe cooking and doneness of lamb.

Cut of Lamb	Size	Cooking Method	Cooking Time	Minimum Internal Temperature & Rest Time
Lamb Leg, bone in	5 to 7 lbs.	Roast 325°	20 to 25 min./lb.	145 °F and allow to rest for at least 3 minutes
	7 to 9 lbs.	Roast 325°	15 to 20 min./lb.	
Lamb Leg, boneless, rolled	4 to 7 lbs.	Roast 325°	25 to 30 min./lb.	
Shoulder Roast or Shank Leg Half	3 to 4 lbs.	Roast 325°	30 to 35 min./lb.	
Cubes, for Kabobs	1 to 1 1/2"	Broil/Grill	8 to 12 minutes	160 °F
Ground Lamb Patties	2" thick	Broil/Grill	5 to 8 minutes	
Chops, Rib, or Loin	1 to 1 1/2" thick	Broil/Grill	7 to 11 minutes	145 °F and allow to rest for at least 3 minutes
Leg Steaks	3/4" thick	Broil/Grill 4" from heat	14 to 18 minutes	
Stew Meat, pieces	1 to 1 1/2"	Cover with liquid; simmer	1 1/2 to 2 hours	145 °F and allow to rest for at least 3 minutes
Shanks	3/4 to 1 lb.			
Breast, Rolled	1 1/2 to 2 lb.	*Braise 325°	1 1/2 to 2 hours	

*Braising is roasting or simmering less-tender meats with a small amount of liquid in a tightly covered pan.

Microwaving

Refer to the microwave's oven manual for microwaving lamb, and check it with a food thermometer.

Partial Cooking

NEVER brown or partially cook lamb to refrigerate and finish cooking later because any bacteria present wouldn't have been destroyed. It is safe to partially cook or microwave lamb immediately before transferring it to a hot grill or conventional oven to finish cooking.

What is the Yield of Cooked Lamb?

After cooking bone-in lamb leg or roast, one pound of raw weight will yield 8 to 9 ounces of edible meat. Ground lamb or boneless cuts will yield about 10.5 ounces of edible meat.

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 year-round



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**.

Ask Karen!

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



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United States Department of Agriculture
Food Safety and Inspection Service

Food Safety Information



Goat from Farm to Table

With the growing popularity of Caribbean and Indian cuisine in America, goat meat is finding its way into many more recipes. Goats are under mandatory USDA inspection. Read on for more information about this red meat.

Background on Goat

Goat is thought to have been one of the earliest domesticated animals. Cave art 10,000 to 20,000 years ago indicates that goats were common and important food animals. At the present time, goats provide the principle source of animal protein in many North African and Middle Eastern nations. Goat is also important in the Caribbean, in Southeast Asia, and developing tropical countries. Three-fourths of all the goats in the world are located in the developing regions of the world.

Kids (goats under a year of age) are often slaughtered when 3 to 5 months of age and weighing from 25 to 50 pounds. Kids do not store much body fat until they are about a year old. Many goats are older than a year and heavier when marketed, but most, except aged cull goats, are slaughtered when less than a year of age. The meat of older goats is darker and less tender, but more juicy and flavorful than kid. The meat from male goats is lighter in color and lower in fat. The meat from female goats is more desirable for steaks and chops because it is more tender.

How are goats raised for food?

In the U.S., there are four distinct types of goats:

1. Dairy goats, raised primarily for milk;
2. Spanish or Mexican goats, produced for meat on a variety of open rangeland;
3. South African Boer goats, a recently introduced breed that can adapt to various climates and can rebreed while still nursing; and
4. Angora goats, raised primarily for their wool used to make cloth.

Excess males and cull goats are also used for meat. The Spanish and Angora goats are increasing in numbers in the Southwestern States, primarily in Texas. On brushy ranges, they improve the pasture for cattle and sheep by eating large amounts of twigs, shrubs, and brush.

Are goats inspected?

Yes. Goats are covered under the U.S. Federal Meat Inspection Act of 1906 and thus must be slaughtered under Federal or State inspection. Any carcasses slaughtered for sale must be inspected. Following are the number of goats federally inspected in various years.

2010	779,000
2004	558,857
1999	463,249
1994	364,905
1989	230,297
1984	107,299

Is goat meat graded?

No. There are no quality or yield grades for goat meat.

Can hormones and antibiotics be used when raising goats?

No. Hormones are not approved for growth promotion in goats.

Antibiotics may be given to prevent or treat diseases in goats.

A “withdrawal” period is required from the time most antibiotics are administered until it is legal to slaughter the animal. This is so residues have enough time to exit the animal’s system.

Goat meat is tested for antibiotics, sulfonamides, and pesticide residues if problems are suspected. Imported goat meat is sampled at ports of entry for residues that may result from the use of animal drugs, pesticides, or environmental contaminants. Data from residue monitoring rarely show residue violations.

Retail Cuts of Goat

Retail cuts of goat are similar to those for lamb or mutton. Goat should have light pink to bright red, firm, fine-grained flesh with well-distributed white fat. In some breeds of goat, there can be color variation between males and females; in other breeds, there is no difference.

Where is goat meat consumed?

The demand for meat from goats has increased in some markets of the Southeastern USA, which has led to new marketing opportunities for the small farmer/rancher. There has been an increase in the influx of ethnic groups from areas of the world where goat meat comprises a significant portion of the diet. In addition, there has been an increase in the consumption of “ethnic” foods as consumers explore and broaden their culinary experiences. Goat meat is often served in specialty dishes centered at festival or holiday events.

Is goat classified as “red” meat?

Yes, goat is considered red meat.

Safe Handling of Goat Meat

Handle goat the same as any other type of meat. At the grocery store, make your selection of goat meat from the refrigerator case just before checking out at the register. Put packages of raw meat in disposable plastic bags (if available) to contain any leakage, which could cross-contaminate cooked foods or raw produce. Take packaged meat home immediately and refrigerate it at 40 °F or below; use within 3 to 5 days (1 or 2 days for ground goat meat), or freeze (0 °F or below) for up to a year. However, if kept frozen continuously, it will be safe indefinitely.

Before and after handling any raw meat or poultry, always wash hands in warm, soapy water for 20 seconds.

Safe Thawing

There are three ways to thaw meat: in the refrigerator, in cold water, and in the microwave. Never thaw on the counter or in other non-refrigerated locations. It’s best to plan ahead for slow, safe thawing in the refrigerator. To thaw in cold water, do not remove packaging. Be sure the package is airtight or put it into a leakproof bag. Submerge the package in cold water, changing the water every 30 minutes to be sure it stays cold. Cook immediately.

When microwave-defrosting meat, plan to cook it immediately after thawing because some areas of the food may become warm and begin to cook during microwaving-defrosting. Partially cooking 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 refrigerating or refreezing because they may have been held at temperatures above 40 °F, where bacteria multiply rapidly.

Cooking of Goat Meat

For safety, cook ground goat meat to 160 °F as measured with a food thermometer. Cook all raw goat beef 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. Less tender cuts should be braised (roasted or simmered with a small amount of liquid in a tightly covered pan) or stewed.

Kid meat lends itself to all recipes for lamb: chops, leg or shoulder, crown roasts, rack or saddle, and kebabs. A goat carcass rarely has much fat to protect it from drying. Goat meat is generally quite lean, although its higher moisture content makes it tender when handled properly.

Storage Times

The meat of adult goats is almost always subjected to stewing because of its relative toughness, but in stews, it is flavorful and tender.

Consumers should follow these tips for home storage of goat meat.

- Follow handling recommendations on the product. Keep meat in its package until it's ready to be used.
- Take goat meat home immediately and refrigerate at 40 °F or below.
- For best quality, use ground or cubed goat meat (such as stew meat) within 2 days of purchase and larger cuts within 3 to 5 days, or freeze the meat at 0 °F or below.
- It is safe to freeze meat in its original packaging. If freezing longer than 2 months, overwrap as you would any food for long-term storage.
- Ground or cubed goat meat will keep its best quality in the freezer for 4 months. Larger cuts, such as chops, steaks, legs, or loins, will keep their best quality 6 to 9 months; ground meat, 3 to 4 months. Frozen goat meat remains safe indefinitely if kept frozen continuously.

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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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Federal Grant of Inspection Guide

These guidelines are intended to aid those who are contemplating applying for a Federal Grant of Inspection. Files are provided in PDF format

- **[Letter Regarding Applying for a Grant of Inspection](#)**
 - **[Sample Letter from the District Office](#)**
 - **[An Introduction from the District Manager](#)**
 - **[Introduction](#)**
 - **[Steps Required for Obtaining Federal Meat and Poultry Inspection](#)**
 - [File an Application for Inspection](#) (Updated Aug 28, 2012)
 - **[Form 5200-2 - Application for Federal Inspection \(Meat, Poultry, Egg Product, and Import Inspection\)](#)**
(Fillable PDF)
 - [Facilities Must Meet Regulatory Performance Standards](#)
-
- [Establishment Sanitation](#) (PDF Only)
 - [Hazard Analysis and Critical Control Points \(HACCP\)](#)
 - **[Additional Resources](#)**
 - [Privacy Act Notice](#)
 - [Additional FSIS Contacts for Assistance](#)
 - [Sample Letters for Approved Water and Sewage](#)
 - [Sample Sanitation Standard Operating Procedure \(SSOP\)](#)
 - **[Application for Label Approval](#)**
 - [FSIS Form 7234.1 Application for Label Approval and instructions](#) (Fillable PDF Only)
 - [Label Application Guidance](#)
 - [Label Submission and Approval System \(LSAS\)](#)
 - [FSIS Directive 5220.1](#) (PDF Only)
 - [Sample FSIS Form 5200.2, Application for Federal Inspection](#)
 - [Food Safety Resources for Small and Very Small Plant Outreach](#)
 - [Acts and Authorizing Statutes](#)
 - [Title 9 of the Code of Federal Regulations \(CFR\) Parts 300-592](#)

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