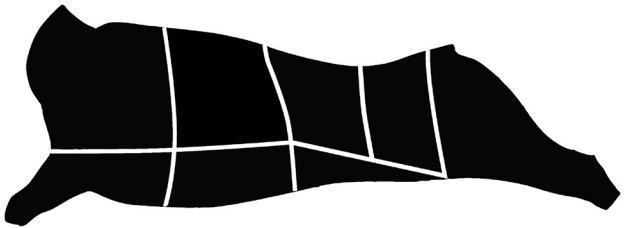

BEEF and PORK

Whole Animal Buying Guide

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Beef and Pork Whole Animal Meat Buying Guide

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Introduction

The values and costs of buying meat directly from producers

Just a few decades ago, many Americans put up whole animals every year. Professional butchers traveled door-to-door, helping families cut and preserve the meat. Those folks who did not have their own animals to butcher contracted with a butcher shop, usually purchasing meat in quantity and storing it in a freezer locker to which the buyers had a key and access throughout the week.

Meat counters in grocery stores replaced this system, making it possible to purchase fresh meats week by week. But today, as more and more beef and pork producers return to the marketplace to sell directly to consumers, it is again common for individuals to buy meats locally and in quantity—typically by quarter, half, or whole animals.

Buying beef or pork in quantity allows you to choose not only what quality of animal you would like—how the animal is raised and fed, what breed—but also exactly how you want the meat cut and packaged. How thick do you want your steaks, for example? Do you want ground meat in one-pound packages, two-pound packages or made into patties? Do you want beef jerky, bratwurst, or ring bologna?

What Does It Cost?

Most of the time, buying a whole animal or part of an animal will be cheaper than if you were to buy the same meat as individual retail cuts—there is an economy to buying in bulk. To estimate the cost of buying directly from a farmer, consider the following:

1. How much does the animal itself cost? Many producers estimate costs on the weight of the animal's carcass before it is cut into packaged meats—called the "carcass weight" or "hanging weight." Some producers charge based on the live weight of the animal. Be sure to ask the producer how you will be charged. Prices may vary widely depending on the animal.

2. How much is the processing? This cost depends on the types of cuts you request, the amount of further processing requested (such as bacon or jerky), and type of packaging. For example, it is less expensive to leave roasts whole than it is to process them into tenderized steaks, ground beef patties, or stir-fry beef. Also, it is generally less expensive to wrap your meat in freezer paper than it is to have it vacuum-packaged.

3. If needed, what does storage or delivery cost? If you are unable to pick up all of your meat at once, you may be charged for freezer storage. Or, if your meat is to be delivered or shipped, be sure to ask how much extra the service will cost.

4. Do you need to invest in a freezer? As a general guide, 50 pounds of meat will fit in about 2.25 cu.ft. of cooler/freezer space. Meat from one-eighth of a typical beef will weigh roughly 50-60 pounds and meat from one-half of a typical hog will weigh roughly 60-70 pounds. The empty freezer compartment of a new, average-size, home refrigerator is about 4.8 cu.ft. Therefore, if you only get one-eighth of a beef or a half hog, you should be able to fit it in a mostly-empty home freezer. You may want to shop for a small stand-alone freezer to allow for more storage space and keep the meat colder for long-term storage. Stand-alone freezers can maintain temperatures between -5 and -10°F, whereas the temperature of a refrigerator freezer is usually kept near 0°F. Some meat processors will store meat for you in their walk-in freezers for a monthly fee of $5 to $10.

The farmer or rancher and butcher who you contract with can help answer these questions and guide your purchase.

How Much Do I Get?

This depends a lot on the animal you buy and the types of cuts you get, as discussed in detail on pages 17-32 of this guide. Below are general figures based on typical cuts from a half beef and a half hog.

Meat from a typical half beef (from a 1,000 - 1,200 lb. live animal) consists of approximately:

- 14 T-bone steaks (3/4" thick)
- 8 sirloin steaks (3/4")
- 2 sirloin tip roasts (3 lbs.)
- 4 arm roasts (3 lbs.)
- 8 packages of stew beef (1 lb.)
- 4 packages of soup bones (1.5 lbs.)
- 14 rib steaks (3/4")
- 8 round steaks (3/4")
- 6 chuck roasts (4 lbs.)
- 2 rump roasts (3 lbs.)
- 4 packages of short ribs (1.5 lbs.)
- 80-100 lbs. gound beef

(Variety meats, if desired, such as heart, liver, tongue, and oxtail)

Meat from a typical half hog (from a 250 - 270 lb. live animal) consists of approximately:

- 12-14 lbs. pork chops
- 2 packages of spare ribs (1.5 lbs.)
- 3 shoulder roasts (4 lbs.)
- 2 smoked hocks (0.75 lbs.)
- 6-10 lbs. ground pork and/or ground sausage
- 1 ham (15-18 lbs.; can be cut smaller)
- 8-10 lbs. bacon

(Variety meats, if desired, such as heart, liver, tongue, and fat/lard)

Livestock and Meat Marketing Terms

Now that you have decided to buy an animal directly, what kind of animal are you going to buy? There are many ways animals can be raised and each can affect the characteristics of the meat. Conventional production methods and those described below are all safe, wholesome, and nutritious. Which one you choose is a matter of personal preference. Buying directly from farmers gives you a great opportunity to know exactly how they raise their animals. You might even go visit their farms.

Animal breed also plays a large role in meat characteristics. There are many breeds of hogs and cattle, and many animals are crosses of several breeds. Therefore we cannot attempt to explain any breeds in detail here. If you are curious, just ask the farmer or rancher about the breed(s) of his/her livestock and how it affects their meat. Farmers often spend years breeding for the particular genetics that allow animals to grow well and produce good meat on their farms and under their particular management practices.

Here are some common marketing terms you'll hear about the way livestock are raised:

- **Certified Organic**—Livestock must be raised on a "certified organic" farm or ranch according to United States Department of Agriculture (USDA) standards. Farmers certify their land by working with an accredited certifying agency, such as the Iowa Department of Agriculture and Land Stewardship. Organic livestock must be organic from gestation, fed only certified organic feeds and processed organically by the butcher (a separate certification process undertaken by the processor).
- **Naturally Raised**—According to the USDA, this means livestock are raised without growth promotants or antibiotics, and never fed animal by-products. *NOTE: This claim is different from the USDA Food Safety and Inspection Service (USDA FSIS) term "natural," which means that a meat product does not contain artificial flavors, colorings, chemical preservatives or other synthetic ingredients, and is minimally processed.*
- **No Antibiotics**—This means the livestock never received antibiotics.
- **No Hormones**—This means the livestock never received growth hormones. *NOTE: Federal law prohibits giving hogs growth hormones.*

The following terms apply to cattle, not hogs:

- **Grass-Fed**—According to the United States Department of Agriculture, this means that the cattle ate only grass and forages (leafy plants), never grain or grain by-products, and had continuous access to pasture during the growing season. Grass-fed cattle may or may not be organic.
- **Corn-Fed**—Most cattle are fed grain—usually corn—towards the end of production to increase their size and marble their meat. Corn-fed cattle may or may not be organic.

The following term applies to hogs, not cattle:

- **Pastured or "Pasture Raised"**—While not an official term, this typically means that the hogs were raised spending most of their time outdoors on pasture. There are many variations of this claim. Ask the farmer specifically what he/she does.

The following terms apply to meat, not livestock:

- **Halal**—These meats come from animals that have been slaughtered and processed according to Islamic law and certified by an Islamic authority.
- **Kosher**—These meats come from animals that have been slaughtered and processed according to Jewish law and certified by a Jewish authority.
- **Natural**—A product containing no artificial ingredient or added color and which is only minimally processed (a process which does not fundamentally alter the raw product). *Different from "naturally raised" (see previous page).*

Storage and Shelf Life Recommendations

Space Requirements

As a general guide, 50 pounds of meat will fit in about 2.25 cu.ft. of cooler/freezer space. The empty freezer compartment of an average-sized home refrigerator will usually hold one-eighth of a beef (roughly 50-60 lbs.) or half a hog (roughly 60-70 lbs.). Quantities larger than this will require a stand-alone freezer or another refrigerator-freezer. A stand-alone freezer will usually store meat better because it has the capability to store meat at a colder temperature. Some meat processors will store product for you in their walk-in freezers for a monthly fee of $5 to $10. This is a good option if you would like to try purchasing half a beef or a whole hog but do not have the freezer space.

How to Store

It is recommended that custom-processed beef and pork be frozen before pickup. If you ask, your butcher may keep a portion of it fresh. If kept frozen continuously, meat technically will be safe indefinitely; however, for best quality use it within 9 to 12 months for beef, and within 6 months for pork. It's a good idea to make sure there is a date on each package so you can keep track of when it was purchased.

Fresh Meats

If you request fresh meat, take it home immediately and refrigerate it below 40°F. Use it within three to five days (one or two days for ground meat and variety meats such as liver, kidneys, tripe, sweetbreads, or tongue) or freeze (0°F). It is safe to freeze fresh meat in the freezer paper or vacuum packaging it comes in from the processor. It is not recommended that you try to freeze a large quantity of fresh meat in your home freezer. It will freeze slowly, which is bad for the quality.

Packaging

With the exception of fully-cooked sausages, which are often vacuum packaged, most meat will come wrapped in white butcher freezer paper. If you plan to store something frozen for a long time (longer than six months), you might consider asking the butcher to double wrap it in freezer paper, or vacuum package it. There will be an extra fee per pound for this, but it will minimize the chance of freezer burn. Check packages for leaks before placing them in the freezer, then check periodically thereafter to see that packaging is intact. Consider the portions you want in your packages, so you can thaw the proper portion when you need it. How many steaks do you want per package? How much ground meat per package? What size roasts do you want?

Safe Meat Handling and Cooking

Defrosting Frozen Meats

There are three safe ways to defrost meat: in the refrigerator, in cold water, and in the microwave. The United States Department of Agriculture (USDA) does not recommend defrosting meat on the counter or in other locations.

- **Refrigerator**—It is best to plan ahead for slow, safe thawing in the refrigerator. Small packages (1 lb.) of ground beef or pork, stew meat, and steaks/chops may defrost within a day. Bone-in cuts and whole roasts may take two days or longer. Once the meat defrosts, it will be safe in the refrigerator for three to five days before cooking; one to two days for ground meat.

- **Cold Water**—To defrost meat in cold water, do not remove packaging. Be sure the package is waterproof or put it into a leak-proof bag. Submerge meat in cold water, changing the water every 30 minutes so that it continues to thaw. Small packages may defrost in an hour or less; a three- to four-pound roast may take two to three hours.

- **Microwave**—When using a microwave to defrost meat, plan to cook it immediately after thawing because some areas of the food may become warm and begin to cook during microwaving.

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 meat in the oven or on the stove or grill without defrosting it first; the cooking time may be about 50 percent longer. It is not recommended to cook frozen meat in a slow cooker because the center may not fully cook.

Raw Meat Handling

The cutting boards, plates, knives, and other utensils used to prepare raw meat should be washed with soap and hot water, both before and immediately after using them. Be sure to wash your own hands before and after handling raw meat as well. Raw meat may contain harmful microorganisms.

Liquid in Package
The red liquid in packaged meat is not blood (that is removed from the meat during slaughter and only a small amount remains in the muscle tissue). The meat's natural moisture, combined with muscle pigment, is the source of the liquid.

Freezer Burn
Freezer burn appears as grayish-brown leathery spots on meat and is caused by air reaching the surface. Freezer burn does not make food unsafe, merely dry in spots. Cut away freezer-burned portions before cooking the food.

Marinating

Marinate meat in the refrigerator up to 24 hours. Boil used marinade before brushing on cooked meats. Discard any uncooked leftover marinade.

Safe Cooking of Beef

For safety, the USDA recommends cooking hamburgers and ground beef mixtures such as meat loaf to an internal temperature of 160°F. Use a meat thermometer to confirm the internal temperature. Whole muscle meats such as steaks and roasts may be cooked to 145°F (medium rare), 160°F (medium), or 170°F (well done). It is recommended that whole muscle cuts that have been injected (moisture-enhanced) or mechanically tenderized be cooked to medium or well done.

Safe Cooking of Pork

For safety, the USDA recommends cooking ground pork patties and ground pork mixtures such as meat loaf to 160°F. Whole muscle meats such as chops and roasts should also be cooked to 160°F. Cooked muscle meats can be slightly pink even when the meat has reached a safe internal temperature.

Remember that appliances and outdoor grills can vary in heat. Use a meat thermometer to monitor doneness.

Refrigerate leftovers as soon as possible.

Questions?

The United States Department of Agriculture operates a Meat and Poultry Hotline staffed by live food safety experts who can answer questions about safely preparing meat and poultry. The Hotline operates weekdays only, 10 a.m. to 4 p.m., eastern time. Operators speak English and Spanish.

Phone 1-888-MPHotline (888-674-6854) or send an e-mail to mphotline.fsis@usda.gov.

Beef Aging

NOTE: Pork does not benefit from aging longer than one to two days.

Aging, measured in days, refers to the time from when the animal is slaughtered to when the beef carcass is broken down into retail cuts. Beef purchased directly from farmers or ranchers and processed by a local butcher will typically be "dry aged," meaning the carcass will hang in a walk-in cooler while aging. "Wet aging" is a process used to age wholesale beef cuts in vacuum packaging and not often used by smaller-scale meat processors.

Dry aging beef does three things:

1. Improves meat tenderness
2. Increases "beefy" flavor
3. Causes meat to lose weight through evaporation

For most people, aging beef 7 to 10 days will result in adequate tenderness, desirable flavor and modest meat weight loss. Typically local butchers will age a beef carcass 7 to 10 days, unless asked to do otherwise. Carcasses with little or no fat cover—such as some grass-fed animals—should not be aged beyond seven days. Aging beef beyond 11 days primarily results in stronger flavor and increased product weight loss, with just a minimal increase in tenderness. Additionally, beef that is "hanging" takes up the butcher's limited cooler space, so you can expect to pay a fee for additional aging. The desirability of the increased beefy flavor that develops through extended aging is purely personal preference. Aging beyond 28 days may result in off flavors. Confirm with your butcher how long your beef carcass will be aged.

As a general rule, younger animals will be more tender than older animals and fatter animals will be more tender than leaner animals.

Understanding Meat Inspection

All meat sold at a store, farmers' market, or restaurant in the United States must have been inspected and passed by the United States Department of Agriculture Food Safety Inspection Service (USDA FSIS), or one of 27 state meat inspection programs. The label on the package will have either a federal or state mark of inspection:

USDA inspection mark

State of Iowa inspection mark

Each mark of inspection has a number that identifies the facility where the meat was processed. This is used for traceability. If you buy part or all of a live animal from a local farmer or rancher, depending on availability and where you live, you can choose to have the animal slaughtered and processed at a USDA-inspected facility, a state-inspected facility, or a "custom-exempt" facility. In a custom-exempt facility, the operations are inspected regularly by food safety authorities, but as opposed to a USDA or official state-inspected facility, each individual animal is not inspected for wholesomeness. Livestock slaughtered and processed under custom-exemption will be labeled "NOT FOR SALE" and is exclusively for use by the owner, members of the owner's household, and the owner's employees or non-paying guests.

NOTE: State-inspected meat cannot be sold across state lines. For example, meat inspected and passed by the Iowa Department of Agriculture and Land Stewardship cannot be sold in Minnesota or any state other than Iowa. Once sold, meat can be transported across state lines if it will not be resold.

Making Sense of Weighty Issues

Live Weight vs. Carcass Weight vs. Finished Cut Weight

Adapted from "Did the Locker Plant Steal Some of My Meat?" by Duane M. Wulf, Ph.D. Department of Animal and Range Sciences, South Dakota State University. Used with permission.

Turning a live animal into meat means removing a lot of the parts that aren't edible, like the hide, feet, head, bones, and most of the innards. This happens in two steps:

1. When the animal is slaughtered, weight is lost from the animal's **live weight**. What remains is called the **"carcass weight"** (sometimes also called **"hanging weight"**). The percentage of live weight that remains as carcass weight is called **"dressing percentage."**

2. When the carcass is made into finished cuts, weight is lost from the **carcass weight**. What remains is called the **"finished cut weight."** The percentage of **carcass weight** that remains as usable meat is called **"carcass cutting yield."**

To determine how much meat you should expect to take home from an animal, use the following calculation:

Live Weight x Dressing Percentage X Carcass Cutting Yield = Pounds of Meat

Average Dressing Percentages:

61% Beef cattle
59% Dairy steers
72% Hogs

Dressing percentage is affected by:

1. **Gut fill:** The more stomach fill at the time the live weight is determined, the lower the dressing percentage will be.

2. **Muscling:** A heavier muscled animal will have a higher dressing percentage than a light muscled animal.

3. **Fatness:** A fatter animal will have a higher dressing percentage than a lean animal.

4. **Mud:** Cattle with a lot of mud on their hides will have a lower dressing percentage than clean cattle.

Carcass cutting yield is affected by:

1. **Fatness:** Leaner animals will have higher carcass cutting yields than fatter animals.

2. **Muscling:** More muscular animals will have higher carcass cutting yields than less muscular animals.

3. **Bone-in vs. boneless:** This will dramatically affect carcass cutting yield. If more boneless cuts are made, the carcass cutting yield will be lower. If bone-in chuck roasts, rib steaks, T-bones, and bone-in sirloin steaks are made, the carcass cutting yield will be much higher than if boneless chuck roasts, ribeye steaks, strip steaks, and boneless sirloin steaks are made. It is important to note that the amount of edible meat will not change. (Boneless cuts will take up less room in your freezer.) If you get soup bones and short ribs, the carcass cutting yield will be higher than if you have these items boned and put into ground beef.

4. **The amount of fat remaining on the meat cuts:** If the meat cutter leaves more surface fat on the meat cuts, then the carcass cutting yield will be higher than if the meat cuts are closely-trimmed.

5. **The leanness of the ground product:** If the ground product (ground beef, ground pork, pork sausage) is made very lean, then the carcass cutting yield will be lower than if the ground product is made with more fat. For example, a typical beef carcass could have 20 more pounds of ground beef if it is made into 70% lean ground beef than if it is made into 93% lean ground beef.

BEEF EXAMPLES:

Live Weight X (Dressing Percentage X Carcass Cutting Yield) = Pounds of Meat

Average live beef animal, weighing 1,200 pounds, cut into boneless steaks and roasts, closely trimmed, lean ground beef:

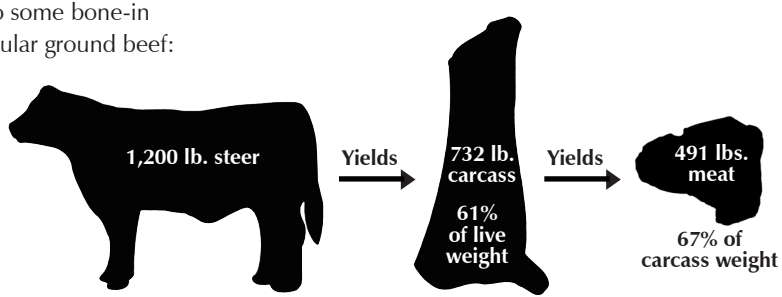
1200 X (.61 X .62) = 1200 X 38% = 456 lbs. of meat

Average live beef animal, weighing 1,200 pounds, cut into bone-in steaks and roasts, regular trimmed, regular ground beef:

1200 X (.61 X .71) = 1200 X 43% = 516 lbs. of meat

Average live beef animal, weighing 1,200 pounds, cut into some bone-in and some boneless steaks and roasts, closely trimmed, regular ground beef:

1200 X (.61 X .67) = 1200 X 41% = 491 lbs. of meat



PORK EXAMPLES:

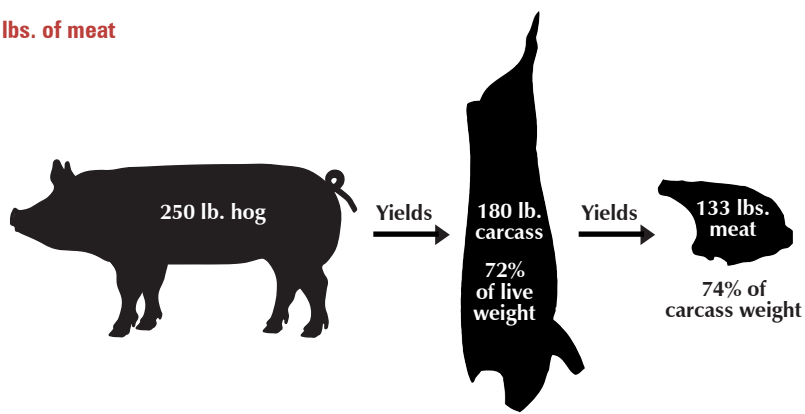
Note: The dressing percentages and carcass cutting yields in these examples are for skin-on pork carcasses. Many small-scale meat plants skin pork carcasses. Skinned carcasses will have lower dressing percentages and higher carcass cutting yields. However, you will still come up with the same answer when calculating the amount of meat so these examples still apply. In other words, you will get the same amount of meat from a hog whether the carcass is skinned or not.

Average live hog, weighing 250 pounds, cut into bone-in chops and roasts, closely trimmed, regular ground pork/sausage:

250 X (.72 X .74) = 250 X 53% = 133 lbs. of meat

Average live hog, weighing 250 pounds, cut into boneless chops and roasts, closely trimmed, lean ground pork/sausage:

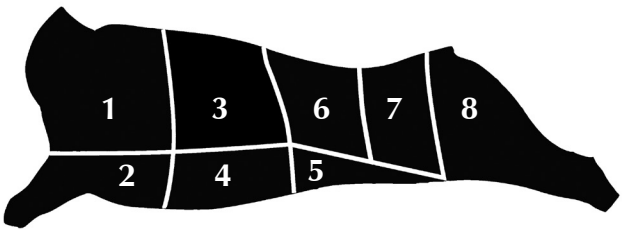
250 X (.72 X .65) = 250 X 47% = 117 lbs. of meat



Beef Cuts by Primal

A beef carcass is first divided into eight large sections, known as primals. These are then cut into individual roasts or steaks, depending on customer preference. The following pages explain which cuts are available from each of the following eight primals:

1. Chuck
2. Brisket and Shank
3. Rib
4. Short Plate
5. Flank
6. Short Loin
7. Sirloin
8. Round



NOTE: Other less common beef cuts may be available in addition to those listed on the following pages. Talk with the farmer/rancher or butcher about processing and packaging options, such as the number of steaks you want per package.

7-bone pot roast

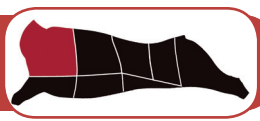
Arm roast

Blade steak

Stew meat

Short ribs

Chuck

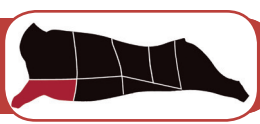


The beef chuck primal is the animal's shoulder and accounts for approximately 26 percent of the carcass weight. This section contains a portion of the backbone, five rib bones and portions of the blade and arm bones. Because an animal constantly uses these shoulder muscles, the chuck contains a high percentage of connective tissue, resulting in less tender but very flavorful meat. Chuck and other working-muscle cuts cook well with moist-heat cooking such as stewing and braising.

Brisket

Cross-cut foreshank

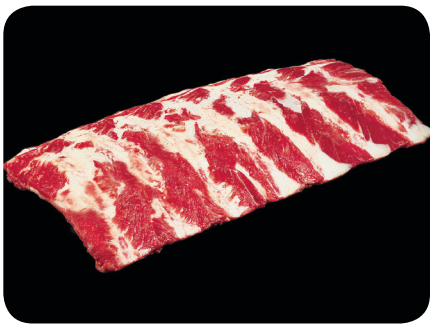
Brisket and Shank



The brisket (breast) and foreshank (front leg) form a single primal that accounts for approximately 10 percent of the carcass weight. The boneless brisket is well suited for moist-heat methods of cooking, such as simmering or braising. It may be pickled or corned to produce corned beef brisket, or cured and peppered to make pastrami. Cross-cut foreshank is very flavorful and high in collagen, which converts to gelatin when cooked using moist heat. It makes excellent soup stock.

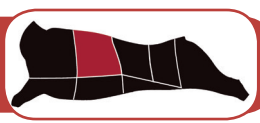
Ribeye roast (prime rib)

Ribeye steak

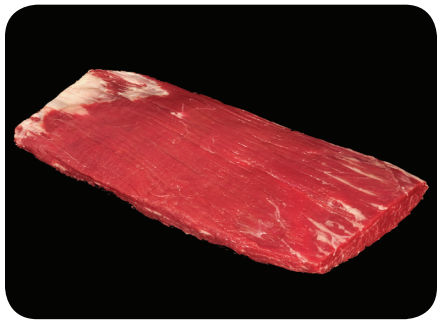


Ribs

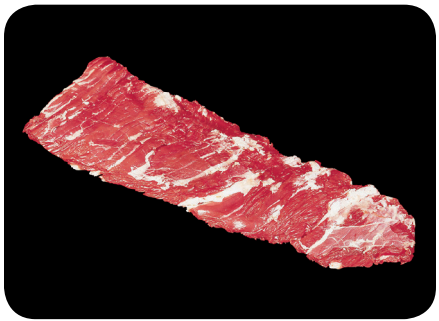
Rib



The beef rib primal accounts for approximately 10 percent of the carcass weight and is best known for yielding prime rib roast, also called rib roast. *(NOTE: Prime rib is not named for the quality grade "USDA Prime.")* The ribeye muscle (the center muscle) provides structural support, rather than mobility, and is therefore quite tender. It also contains large amounts of marbling compared to the rest of the carcass and produces rich, full-flavored roasts and steaks. Although roasting the ribeye muscle on the rib bones produces a moister roast, the bones can be removed to produce a boneless ribeye roast. Ribs are meaty, flavorful bones separated from the ribeye meat and are often served as barbecued beef ribs. Rib meat may also be ground.



Flank steak



Skirt steak

Ground

Short Plate and Flank

The short plate and flank, located directly beneath the rib and sirloin, account for approximately 10 percent of the overall weight of the carcass. The flank steak is meaty yet high in connective tissue and is best marinated, and grilled or broiled, cooked to medium-rare. Skirt steak is often marinated and grilled for slicing, as for fajitas. Other less meaty portions of the short plate are typically trimmed and ground.

T-bone steak

Tenderloin roast

Tenderloin steaks

Porterhouse steak

New York strip steak

Short Loin

The short loin is the front portion of the beef loin, located just behind the rib. It accounts for approximately 8 percent of the carcass weight and yields many of the most tender and expensive cuts of beef. The short loin also provides a great example of the give and take inherent in cut selection. Steaks from this primal are interrelated: The tenderloin is the most tender cut and is sometimes removed whole or cut separately into tenderloin steaks (filet mignon). However, Porterhouse and T-bone steaks include both a New York strip (on one side of the "T") and a portion of tenderloin (on the other side). Removing the tenderloin rules out the cutting of T-bone and Porterhouse steaks.

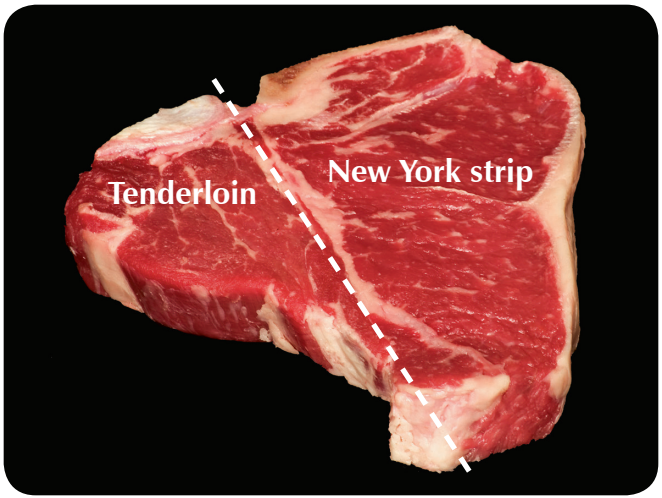
Likewise, if you choose to process as many T-bone steaks as possible, there won't be meat left for New York strip steaks. Understanding this interrelation is an important step in knowing and using the whole animal. Cut choices from this primal include:

- The tenderloin is the most tender cut of all. It lies beneath the loin eye muscle, under the backbone, and is exceptionally tender because it is exercised very little.

- T-bone steaks are produced when the short loin cut is cut in cross-sections with the bone in. It contains a New York strip on one side of the "T" and a small portion of tenderloin on the other.

- New York strip steaks (a.k.a. boneless top loin steaks) are from the loin eye muscle—a continuation of the rib eye muscle, running along the top of the T-shaped bones that form the backbone.

- Porterhouse steaks are cut like a T-bone from farther back on the short loin, which ensures that it contains a larger portion of tenderloin on one side of the "T" backbone.

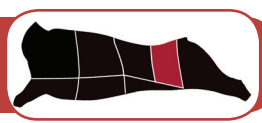


Top sirloin steak

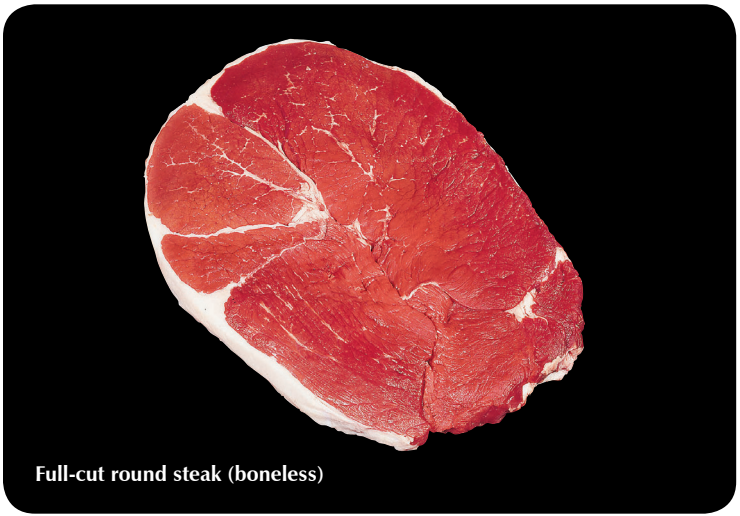
Sirloin tip roast / Round tip roast

Tri-tip roast

Sirloin



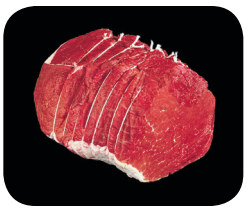
The sirloin, located between the short loin and the round, accounts for approximately 9 percent of the carcass weight and contains part of the backbone as well as part of the hipbone. This primal produces flavorful and tender bone-in or boneless roasts and steaks. With the exception of the tenderloin portion, these cuts are not as tender as those from the short loin. Sirloin tip steaks and roasts have several names such as “round tip steak” and roast or just “tip steak” and roast. These are flavorful but less tender cuts. Top sirloin steaks or roasts are traditional, meaty cuts. Sirloin cuts do best with dry-heat cooking methods such as broiling, grilling, or roasting.



Full-cut round steak (boneless)

Top round steak

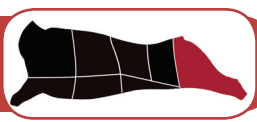
Bottom round steaks



Round rump roast (boneless)

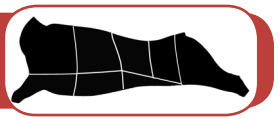
Eye round roast

Round



The round is very large, accounting for approximately 27 percent of the carcass weight. Meat from the round—the hind leg of the animal—is flavorful and lean. Steaks from the round can be marinated and grilled or braised (like Swiss steak). Round roasts should be cooked with moist heat. Round steak is cut on average 3/4 inch thick. Other cuts from this primal include minute steak (a round steak cut into smaller portions and tenderized) that can be used for chicken-fried steak; dried beef, usually thin-sliced and fully cured; and hindshank, a very flavorful cut that makes excellent soup stock. In the round, you cannot get full cut round steaks **and** top, eye, and bottom round steaks. They are from the same muscles.

Ground and Variety Meats



Ground

The “trim,” or meat and fat trimmed from the individual cuts listed on the previous pages, is blended into ground beef. The resulting composite usually ranges from 70 percent lean to more than 90 percent lean. Leaner beef will taste drier and overcook more easily. Less lean beef will contain more fat. Most people prefer 80 or 85 percent lean for burgers and meatloaf. The leaner you order your ground beef the less you will get, because there is less fat in it. Some processors can make various processed products out of beef trim, such as frankfurters, bologna, and snack sticks. Be sure to ask.

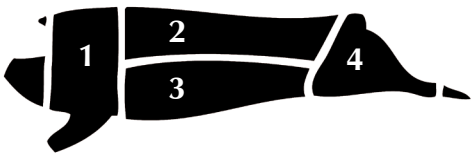
Variety Meats

Variety meats include the heart, kidney, tongue, tripe (stomach lining) and oxtail. Many of these are considered delicacies when properly prepared. No idea what to do with them? Non-organ variety meat is generally best prepared with moist-heat and is often used in soup, stew, or braised dishes. Organs, such as heart and liver, are good sliced and fried. Celebrated British chef Fergus Henderson has written an entire cookbook dedicated to these tasty bits, *The Whole Beast: Nose to Tail Eating*.

Pork Cuts by Primal

A pork carcass is first divided into four large sections, known as primals. These are then cut into individual cuts and roasts, depending on customer preference. The following pages explain which cuts are available from the following four primals.

1. Shoulder
2. Loin
3. Side (a.k.a. Belly)
4. Leg (a.k.a. Ham)



NOTE: Other less common pork cuts may be available in addition to those listed on the following pages. Talk with the farmer/rancher or butcher about processing and packaging options, such as the number of chops you want per package.

Arm picnic roast

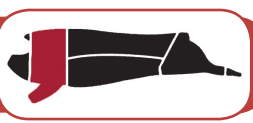
Shoulder/blade steak

Shoulder roast

Smoked picnic roast

Hock

Shoulder

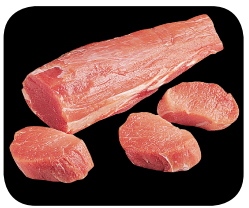


Pork shoulder accounts for about 25 percent of the carcass weight and is typically subdivided into two sections: the top portion known as the Boston butt, and the bottom portion known as the picnic. These sections contain significant connective tissue (because the animal uses its shoulders extensively) but are flavorful. The shoulder/blade steak is a flavorful bone-in, marbled steak that is good for marinating, grilling, or braising. The Boston butt roast or shoulder roast is a well-marbled roast from the top of the shoulder, and is available boneless or bone-in. Picnic arm roast or shoulder roast is a rich roast that cooks well with moist cooking methods and is available boneless or bone-in. Cottage bacon is shorter, rounder, meatier pieces that are cured or smoked like bacon from the belly. The foreshank/hock is often simmered in soups, stews, and braised dishes to add flavor and richness.

Whole loin

Ribs

Pork chops



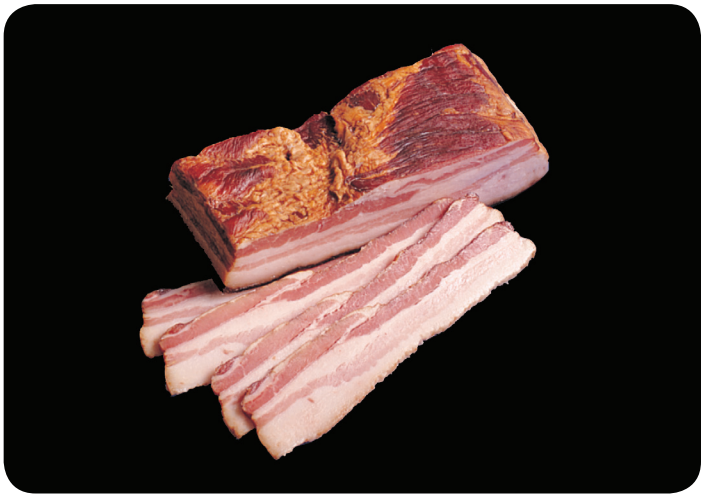
Tenderloin

Frenched pork loin roast

Loin

The loin primal, accounting for about 22 percent of the carcass weight, contains the rib, the loin, and the sirloin section. The whole loin can be cut boneless or bone-in. Pork chops that are cut 1 1/2″ thick are often called *Iowa chops;* regular pork chops can be cut bone-in or boneless. The tenderloin is the most tender cut and can be whole or sliced as medallions. Baby back ribs are trimmed from the blade and center sections of the loin when making boneless chops or deboning the whole loin. These are good cooked dry and rubbed with herbs/spices or cooked wet in sauce. Country-style ribs, meatier than baby back or spare ribs, are cut from the rib end of the loin and are best slow-cooked or barbecued. The crown roast is a showy entrée created when the pork rib roast/rack of pork is tied into a circle with the ribs exposed and pointing up. Paper caps often adorn the rib tips when the roast is presented.

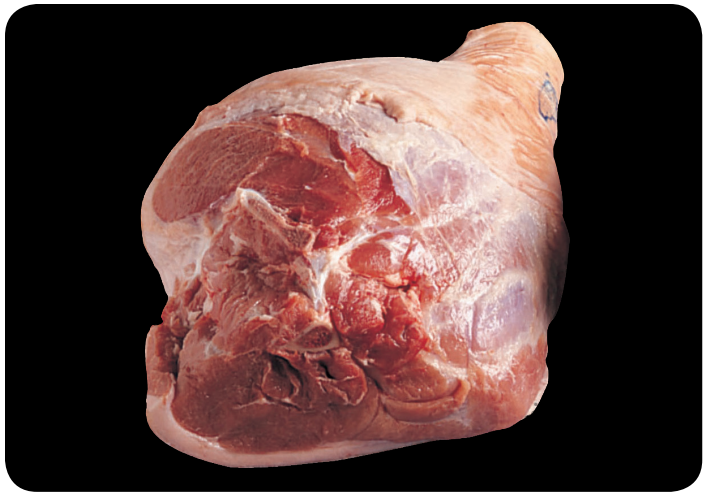
Spare ribs



Bacon

Side or Belly

Containing both the spare rib and the belly, the side makes up about 23 percent of the carcass. The meat is streaked with fat and is typically cured and smoked to produce bacon. Fresh, uncured pork belly can be braised or roasted. A whole pork belly is usually 12 to 14 lbs. Spare ribs are trimmed from the inside of the belly and are best baked or barbecued. “Pancetta” is belly meat that has been cured in brine and rubbed with herbs but not smoked.



Bone-in ham, fresh

Boneless ham, fresh

Leg or Ham

The hind leg accounts for approximately 30 percent of the carcass weight and contains large muscles with relatively little connective tissue. Hams are often cured and smoked, but fresh hams also produce tasty, meaty roasts. Half or whole fresh ham roasts are uncured and can be either boneless or bone-in. Sometimes the skin may be left on. Half or whole cured ham is the traditional cured, smoked "ham," either boneless or bone-in, and typically fully cooked. Ham hocks are often simmered in soups, stews, and braised dishes to add flavor and richness.

Other

Ground

Trimmed meat and fat, originating mainly in the shoulder and leg, may be ground for "fresh ground pork" or seasoned for sausage. Many processors require a minimum quantity of ground/trim for each batch of sausage—often at least 10 pounds. Ask to try samples of your butcher's signature sausages, often including breakfast sausage, Italian sausage, and bratwurst.

Lard

Prized for baking, lard is a key ingredient in prize-winning pie crusts every year at the Iowa State Fair. Some butchers will be able to prepare lard from your hog. To render your own at home, place ground or diced fat into a baking pan in the oven at 200°F for about six to eight hours. Periodically pour off the lard into a storage container as it renders out, cooling it in the refrigerator. Homemade lard should be stored under refrigeration. Lard freezes well for long-term storage.

Variety Meats

Pork liver, tongue, heart, spleen, feet / knuckles, neck bones, jowls, and tail are typically available upon request. Many of these are considered delicacies when properly prepared. No idea what to do with them? Non-organ variety meat is generally best prepared with moist-heat and is often used in soup, stew, or braised dishes. Organs, such as heart and liver, are good sliced and fried. Celebrated British chef Fergus Henderson has written an entire cookbook dedicated to these tasty bits, *The Whole Beast: Nose to Tail Eating*.

References

Epley, Richard J. 1992. "Aging Beef." University of Minnesota. FS-05968. Retrieved on October 3, 2008.
http://www.csuchico.edu/agr/grassfedbeef/niche-mkt/2003-proceedings/other-handouts/Aging%20of%20Beef.doc

Food and Drug Administration
http://www.fda.gov

Henderson, Fergus. 2004. *The Whole Beast: Nose to Tail Eating.* New York: Ecco.

Parrish, F.C. n.d. "Facts: Meat Science—Aging of Beef." Chicago, Ill: Center for Quality of the National Cattlemen's Beef Association. Series No. FS/MS011. Retrieved on October 3, 2008.
http://www.goodcooking.com/steak/aging/aging.htm

United States Department of Agriculture, Agricultural Marketing Service.
http://www.ams.usda.gov

United States Department of Agriculture, Food Safety and Inspection Service.
http://www.fsis.usda.gov

Wulf, Duane M. "Did the Locker Plant Steal Some of My Meat?" South Dakota State University. Retrieved on October 3, 2008.
http://ars.sdstate.edu/MeatSci/May99-1.htm