

Retail Meat Cut Selection and Storage

Richard J. Epley*

SPECIES

Deciding whether to buy beef, pork, or lamb is the first step in retail meat cut selection. Each of these has a distinctive aroma and flavor due to its fat composition. In relative terms, lamb fat is the most saturated (most fat), pork fat is the least saturated, and beef fat has medium saturation.

COOKING METHOD

The next logical step is to decide on the cooking method because this will influence your choice of cut. If you desire to use moist heat (braising or cooking in liquid) to achieve special flavor and a tenderizing effect, you are likely to select a roast from the chuck (shoulder in pork and lamb), round (beef), shank (beef and lamb), or hock (pork). If you wish to use dry heat cookery (roasting, pan broiling, pan frying, or broiling), you are more likely to select a cut from the rib (beef and lamb), loin (beef, pork, and lamb), or leg (pork and lamb). Dry heat cookery produces a “browning reaction” which results in a distinct flavor different from that produced by moist heat. Refer to extension publication BU-0502, *Names of Retail Meat Cuts*, for information on which cuts are suitable for moist or dry heat.

QUALITY

Evaluate quality to assure eating satisfaction. Quality refers to a combination of traits that provide for an edible product that is attractive in appearance, appetizing, nutritious, and palatable after cooking. Quality traits to be evaluated include color and texture of the lean, degree and texture of marbling, and color of fat.

A desirable color for beef lean is bright cherry-red. A desirable color for pork lean is bright pink. Bright brick-red is desirable for lamb lean.

Lean which is pale or light grey should be avoided. This product will lose more moisture than normal during storage (as drip) and thus result in a less juicy product. Lean which is very dark red will retain more moisture than normal during cooking, but may be variable in terms of tenderness. This condition is referred to as “dark-cutting” and is caused by long term, antemortem stress of the animal. Extension publication AG-MI-0688, *Dark-Cutting Beef*, illustrates and discusses this condition. However, it is difficult to determine if dark colored lean is in fact dark-cutting, if it is from an older animal (usually also has a coarse texture), or if it has been held in the retail case too long (usually also has a brownish-green tinge). Extension publication FO-0593, *Storing Meat in Your Refrigerator*, illustrates and discusses this latter condition.

The texture of the lean should be fine, smooth, and velvety in appearance. Lean which appears coarse, open, or stringy in its texture may result in a product that lacks tenderness, especially in cuts which are cooked with dry heat.

*Richard J. Epley, Extension Animal Scientist—Meats,
Department of Animal Science

Marbling is the visible flecks of fat interspersed throughout the lean. The degrees of marbling, from lowest to highest are as follows: practically devoid, traces, slight, small, modest, moderate, slightly abundant, moderately abundant, and abundant. Select cuts which possess slight to moderate degrees of marbling for a combination of acceptable flavor with a minimum of calories.

Cuts that are practically devoid of marbling are likely to result in a product that lacks somewhat in flavor and juiciness after cooking, especially in products which are cooked with dry heat. Also, pork which is devoid of marbling may give off an objectionable odor known as “sex odor” when cooked. When cuts are to be cooked with moist heat, however, marbling degrees of traces or slight should be sufficient.

Cuts with abundant degrees of marbling will result in a cooked product which may exhibit a greasy or tallow-like flavor and only add to the fat content (and thus increase caloric intake). Extension publication AG-FO-0676, *Determining USDA Beef Carcass Grades*, illustrates several degrees of marbling.

Marbling texture may have a slight influence on tenderness. Usually marbling which is fine (small flecks) and uniformly distributed is preferred over marbling which appears as large and coarse flecks.

Cuts of beef and lamb which display white fat are preferred over cuts which display yellow fat. Yellow fat may indicate that the cut was derived from an older animal and therefore may be less tender. Occasionally, yellow fat results when young beef animals are grazed on pasture and fed little or no grain.

COST PER SERVING

After the above criteria have been met, the final step in selection is to select cuts that display the maximum amount of lean in relation to trimmable fat and bone. Because of differences in genetics, weight at which the animal was marketed, and trimming procedures during processing, cuts of the same name can vary considerably in the amount of edible meat per pound purchased.

Visually evaluating the packages for the relative amounts of lean, fat, and bone will give approximate value. However, a more precise and economical procedure is to estimate the cost per 4-ounce serving of raw lean. Cost per serving of lean is calculated by dividing the price per pound by the number of servings of lean per pound you expect from the cut. Use the following guide to visually estimate servings of lean per pound:

Table 1. Servings per pound of meat purchased

Description of Cut	Servings of Lean per Pound
Ground meat and stew meat	4
Boneless steaks, roasts and chops	3
Some bone and trimmable fat	2
Considerable bone and trimmable fat	1

You may want to vary these figures slightly depending upon the amount of lean, fat, and bone in each specific cut as indicated in the following example. Assume you have decided to buy pork loin chops (bone-in) and they are selling for \$2.40 per pound. You have found a package in the retail case which, because of large loin eyes and little trimmable fat, you estimate will yield two and one-half servings of lean per pound. The cost per serving of lean of this package would be $\$2.40 \div 2.5 = \0.96 . In the same retail case, however, there may be a package which, because of small loin eyes and considerable trimmable fat, has an estimated 1.5 servings per pound. The cost per serving of lean for this package would be $\$2.40 \div 1.5 = \1.60 .

Calculating costs per serving of lean also allows you to compare two forms of a cut within the same species (e.g., bone-in pork loin chops versus boneless pork loin butterfly chops) or to compare the same type of beef, pork, or lamb cuts (e.g., beef loin Porterhouse steaks versus pork and lamb loin chops). Finally, it can be used to compare different cuts of beef, pork, or lamb (e.g., beef chuck blade steaks versus pork loin rib chops versus lamb leg chops).

In summary, cuts of meat vary in quality and amount of trimmable fat. Selection emphasis on these two factors, alone or in combination, is dependent upon consumers' desires as follows:

Table 2

Description of Cut	Primary consumer desire
1. Low trimmable fat, high quality	Taste fat, not waste fat
2. Low trimmable fat, low quality	Low calories
3. High trimmable fat, high quality	Flavor and tenderness
4. High trimmable fat, low quality	Low price per pound as purchased

NONFROZEN STORAGE

Store retail meat cuts in the coldest part of the refrigerator. Ideally, this temperature should be 32°F (meat actually freezes at 28.6°F). Maintaining the proper refrigerator temperature during storage is the easiest and simplest way of slowing the bacterial growth that causes meat to spoil. Bacteria on meat grow three times as fast at 40°F than they do at 32°F.

Store meat in the refrigerator in the same clear, flexible packaging as purchased at the store. Unwrapping meat in the refrigerator and allowing the surface to dry out in order to prevent bacterial growth is not recommended. Loose-wrap storage is of questionable value and it allows meat to absorb off-flavors.

FROZEN STORAGE

If retail meat cuts are to be frozen, remove the clear, flexible packaging material and meat tray and tightly wrap the meat in a high-quality freezer wrap or some other oxygen-impermeable material. Clear film allows air to enter the package, and rancidity will result if air comes in contact with the meat surface in the freezer. (Note: some fresh meat is being vacuum packaged and sold in oxygen-impermeable film. A package of this nature does not need to be wrapped prior to freezing). Label and date each package with a lead pencil. Do not use a magic marker, as meat in the freezer can absorb odors from the marking compound. Place the packages in a freezer, and if several packages are involved, spread them out so they will freeze more quickly.

Set the temperature of the freezer at 0°F or below. As illustrated in table 3, low freezer temperatures extend the time meat can be stored in the freezer and still maintain optimum quality (no rancidity). Once these maximum times are exceeded, rancidity may develop in the fat of meat. Rancidity does result in flavors and odors that are considered objectionable by most consumers.

Check packages periodically to make sure the wrapping material has not been torn. If packages are torn, remove them from the freezer and rewrap them. To protect meat from coming in contact with air, especially as the result of tearing, some consumers prefer to wrap more expensive cuts of meat twice. Although double wrapping is more costly, it does result in less rancidity during storage.

Table 3. Maximum recommended length of storage of certain meat items at various temperatures for the preservation of optimum quality¹

Item	-12°C	-18°C	-24°C	-30°C
	+10°F	0°F	-11°F	-22°F
	Months			
Beef	4	6	12	12
Lamb	3	6	12	12
Veal	3	4	8	10
Pork (fresh)	2	4	6	8
(cured, unsliced) ²	0.5	1.5	2	2
Variety meats				
(liver, heart, tongue)	3	2	3	4
Ground beef and lamb	3	6	8	10
Seasoned sausage ⁴				
(pork, bulk)	0.5	2	3	4

¹Forrest, J.C.; Aberle, E.D.; Hedrick, H.B.; Judge, M.D.; and Merkel, R.A.; *Principles of Meat Science*. Kendall Hunt Publishing Company, Dubuque, Iowa. 1989.

²It is not recommended that sliced bacon and sliced luncheon meat products be frozen because the air incorporated during slicing, together with the salt effect, leads to the development of rancid flavors in a matter of weeks.

³It is not recommended that brains and sweetbreads be frozen because texture is adversely affected.

⁴It is not recommended that pork sausage links and patties, and other sausages (such as bologna, franks, and braunschweiger) be frozen because salt enhances the development of rancidity during frozen storage.

THAWING

For appearance, flavor, and safety, thaw frozen meat in the refrigerator. It will take longer to thaw frozen meat in a refrigerator set at 32°F than to thaw it at room temperature, but by thawing at 32°F the product will stay fresh longer should you decide not to cook it within two days. Meat that has been thawed properly (at 32°F), can be refrozen. The only limitation to freezing meat more than once is that some juices will be lost. The result will be slightly less juicy meat when cooked.

SUMMARY

Evaluate meat cuts for quality and cost per serving of lean. Store retail meat cuts in the refrigerator at 32°F. If meat is to be frozen, remove the clear packaging and tray, wrap the cuts in a high quality freezer paper, and store at 0°F or lower. Meat may be refrozen.