

How To Beef-Up Your Food Dollar

N. G. Marriott*

Introduction

Americans continue to spend more of their dollars to buy beef than any other alternative for the main dish. Consumers like the "sizzle as well as the steak." This observation suggests why beef cuts, especially steaks, are served at upscale restaurants and why consumption of a tender steak is frequently thought of as an "Eating Experience."

One can "beef-up" the food dollar by purchasing the larger beef boneless or bone-in cuts. Quantity purchase alternatives include the whole carcass, side, hindquarter, forequarter, and boneless or bone-in primal cuts such as the chuck, rib, loin, and round. In addition, retail cuts can be purchased in quantity. A home freezer permits additional shopping flexibility so that the consumer can take advantage of advertised specials on retail cuts or lower prices through purchase of primal cuts.

If one elects to purchase a large quantity of meat for the home freezer, an inventory of available freezer space will determine the amount that can be purchased. Freezer space required for frozen meat can vary from 35-50 pounds per cubic foot, depending on how it is wrapped, amount of bone, and shape of the cut. When evaluating the benefits of large quantity purchases and freezer storage of beef, one should recognize that the energy costs for storage of beef in a typical home freezer, with 50% of the freezer space designated for beef, is currently about \$.09 per pound per year. This cost, plus any maintenance and finance costs, should be compared to potential per-pound savings through quantity purchases. This potential savings is normally at least \$.10 per pound and will exceed \$1.00 per pound for some of the expensive beef steaks. It is important that the individual investigate the potential increased storage costs and decreased purchase costs and decide if large quantity purchases are appropriate.

A Steer Is Not All Steak

When figuring the costs of larger cuts of beef, one should recognize that the price normally quoted is on a carcass weight basis. This price may appear low when compared to retail prices since it includes bone and fat which must be removed. The fact that a steer is not all steak is verified by the following illustrations:

Typical live weight = 1100 lbs.
 Carcass weight = 682 lbs. (62% of live weight)
 Saleable retail cuts = 512 lbs. (75% of carcass weight)
 Fat and bones = 170 lbs. (25% of carcass weight)

Saleable retail cuts from a typical beef animal would be approximately:

From the round (approximately 82 pounds per round)
 Round steaks = 48 lbs.
 Round tip steaks = 15 lbs.
 Rump roasts = 6 lbs.
 Ground beef = 18 lbs.
 Stew meat = 19 lbs.
 Fat and bones = 58 lbs.

From the flank (approximately 20 pounds per flank)
 Flank steak = 4 lbs.
 Ground beef = 16 lbs.
 Fat and bone = 20 lbs.

From the loin (approximately 63 pounds per loin)
 Sirloin steaks = 44 lbs.
 T-Bone and porterhouse steaks = 34 lbs.
 Top loin steaks = 8 lbs.
 Ground beef = 4 lbs.
 Stew meat = 3 lbs.
 Fat and bone = 33 lbs.

From the rib (approximately 36 pounds per rib)
 Rib roasts = 25 lbs.
 Rib steaks = 15 lbs.
 Short ribs = 8 lbs.

*Extension Food Scientist, Meat Processing, Virginia Polytechnic Institute and State University

Ground beef = 6 lbs.
 Fat and bone = 18 lbs.

From the plate (approximately 32 pounds per plate)
 Short ribs and ground beef = 48 lbs.
 Fat and bone = 16 lbs.

From the brisket (approximately 16 pounds per brisket)
 Boneless brisket roast = 12 lbs.
 Fat and bone = 20 lbs.

From the chuck (approximately 92 pounds per chuck)
 Blade roasts = 60 lbs.
 Arm roasts = 45 lbs.
 Steaks = 5 lbs.
 Ground beef = 38 lbs.
 Fat and bone = 36 lbs.

There are only about 173 pounds of beef steaks from a live animal that weighs 1100 pounds; therefore, about 308 pounds of beef from a typical market animal are cuts other than steaks. It is necessary to include these costs in the retail price of beef.

Beef Is Wholesome

Beef is a nutrient-dense food. It has built-in nutrients that maintain human health and well-being. On the basis of recommended daily allowances, a serving of 3 ounces of beef supplies almost all of the protein, approximately 2/3 of the iron, 41% of the phosphorous, 117% of the vitamin B12, 31% of the vitamin B6, 38% of the niacin, 37% of the riboflavin, and 11% of the thiamin that an average person needs daily, while supplying only 15% of the recommended number of calories.

The protein of a serving of cooked beef (lean and marbled) contains all of the essential amino acids necessary to build, maintain, and repair body tissues and to increase their resistance to infection and disease. The iron, together with high-quality protein, is vital in the formation and maintenance of red blood and in the prevention of anemia. Since protein is not stored in the body, protein foods should be included in every meal each day. Beef is a readily digestible and highly utilized food.

Beef Is A Bargain

As food budgets tighten, saving money at the supermarket becomes especially important. It is important to know how to purchase wholesale beef cuts and fabricate them at home or how to request the meat cutter in the store to cut and package these cuts. Purchase of wholesale cuts can save the consumer more than \$1.00 per pound over buying the customary individually wrapped retail cuts. By purchasing wholesale cuts such as the rib, loin, chuck, round, or brisket, one can lower the food bill. The remaining cuts are used primarily for mixing with leaner meat to make ground beef or processed meats. Less costly

cuts such as those from the chuck provide the same nutrients as the more expensive cuts.

Meat Cutting

Equipment Needed

A meat saw, boning knife, and butcher knife are needed if one elects to reduce larger cuts to steaks and roasts. It is also desirable to have one or more large polyethylene cutting boards available to provide a suitable cutting and boning surface. If boneless cuts are tied, twine is essential. A white, moisture-vapor-proof freezer paper is needed to wrap the fabricated cuts. This equipment may be purchased at many hardware stores.

The Various Cuts

Figure 1 illustrates how beef wholesale cuts are separated from the carcass. After learning how various wholesale cuts are converted to retail cuts, one can tell the retail meat cutter how to have these retail cuts fabricated and can do some of the cutting oneself. Even with an additional cost per pound added for the retailer's cutting, one can still obtain a real bargain. Figure 2 reflects various retail cuts that may be obtained from wholesale cuts of the beef carcass. Descriptions of the cutting techniques follow. Also, knowing the terminology used by the meat retailer will help one purchase wholesale and retail cuts.

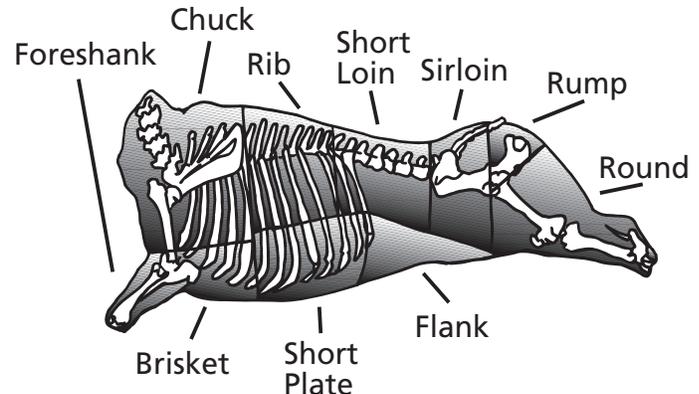


Figure 1. Location for separation of the beef carcass into various cuts.

Round Cuts --The beef round is one of the true value cuts, since the steaks cut from the round have a high ratio of lean to fat and are tender enough to be broiled. The round can be purchased with the *tip* included or removed (see Figure 2). The tip can be trimmed and become a roast, or it can be sliced the desired thickness into *tip steaks* by making the cut perpendicular to the direction of the fibers, starting at the large cut surface of the lean. *Round steaks* may be removed from the round by cutting perpendicular to the round bone at the cut surface. When round steaks have been removed to the large knuckle of the round bone, remove the remaining bone and roll and tie the boneless portion which is the *heel of round roast*.

This portion can also be cut into cubes for *beef stew meat* or ground into *ground beef*. The rump can be boned, rolled, and tied as a *boneless rump roast*. Shank meat from the round should be converted to *ground beef*.

Flank Cuts --The *flank steak* should be removed from the flank (see Figure 2) and scored on both sides. The fat, connective tissue, and 13th rib should be separated from the lean which can be converted to *ground beef*.

Loin Cuts --The easiest and most effective way to convert the loin into steaks is to cut to the desired thickness by starting at the large sirloin end. The sequence of cuts that

will be created is *sirloin*, *pin bone*, *porterhouse*, *T-Bone*, and *top loin steaks*. If any of the tail portion is trimmed, the lean can be converted to *stew meat* or *ground beef*. Boneless loins can be converted to boneless top loin and tenderloin steaks.

Rib Cuts -- *Short ribs* can be removed from the end of the rib that has the exposed cut surface of the rib bones. One or two *rib roasts* may be cut from the large end of the rib. The remaining portion should be cut into *rib steaks*. Lean trim that is generated from this cut can be converted into *ground beef*.

Figure 2.

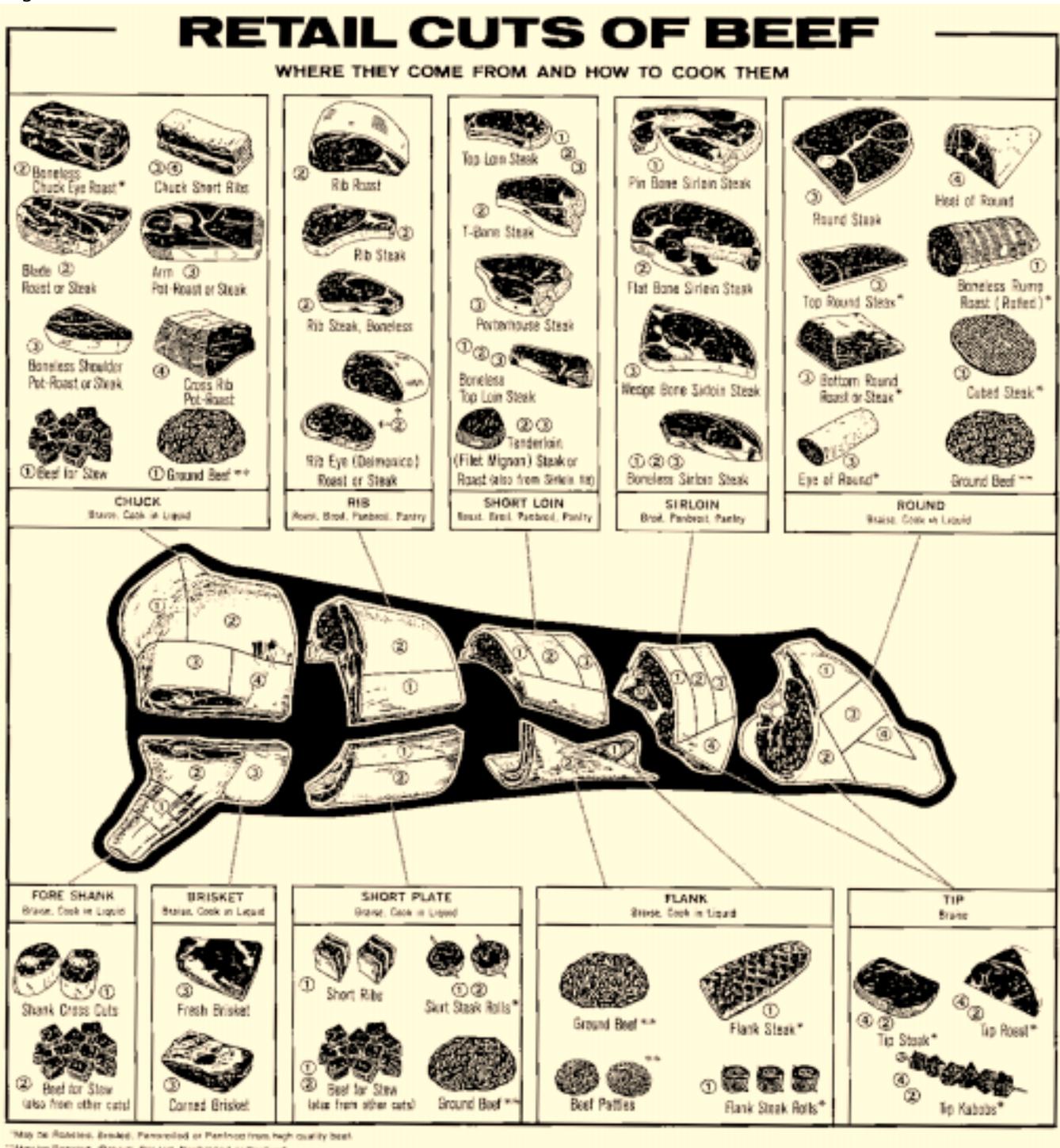


Plate Cuts --If this wholesale cut is purchased, *short ribs* may be removed from the edge with the exposed cut surface of the rib bones. The remainder of the plate should be boned and converted to *ground beef*.

Brisket Cuts --The brisket should be boned to create a *boneless brisket roast*. Other uses of this boneless cut include *corned beef* and *barbecued beef*.

Chuck Cuts --If the foreshank is left on the chuck, it should be boned and converted to *ground beef*. The arm portion of the chuck where the shank is removed may be cut into boneless or bone-in *arm roasts* and/or *steaks*, depending on personal preference, after the *short ribs* have been removed. This cut is made perpendicular to the arm bone. *Blade roasts* are removed by cutting the desired thickness at the cut surface where the rib was removed. After cutting all of the way past the blade bone, the neck portion can be converted to *neck roasts* or boned for the manufacture of *ground beef* or stew meat.

Packaging

To properly wrap retail cuts, choose a moisture-vapor-proof freezer wrap to seal-out air and lock-in moisture. Pliable wraps like aluminum foil, freezer paper, and plastic wrap are good choices for bulky, irregular-shaped beef cuts since they can be molded to the shape of a cut. The following wrapping technique is recommended:

1. Place the cut in the center of the wrapping material. When several cuts are packaged together, place a double thickness of freezer wrap between them for easier separation.
2. Bring the edges of the wrap together over the cut. Fold over at least twice, pressing the wrap closely to the beef cut to force out air.
3. Smooth the ends of the wrap, creasing edges to form triangles. Double-fold the ends toward the package to seal out air.
4. Fold the ends under the package and seal with a continuous strip of freezer tape. Label with the name of cut, number of servings and date of freezing.

Freezing Guidelines

Bulk beef purchases should be frozen quickly. For those who must do their own freezing, no more than 10% of the capacity of a home freezer, wrapped in no more than one-cubic-foot quantities, should be frozen at one time. Freezing does not improve the taste or overall acceptability of beef. It merely preserves the condition of the beef at the time of freezing. Frozen beef should be stored in the freezer at a constant 0°F (-18°C) or colder. To preserve the fresh beef flavor, it should not be stored in the freezer for more than one year; ground beef should not be kept more than six months.

Cooking Frozen Beef

Beef may be cooked frozen or defrosted. Defrosted beef should be cooked as a fresh cut; but allow additional cooking time. Frozen roasts require 1/3 to 1/2 more time for cooking. Cooking time for frozen steaks and patties varies according to surface area, thickness, and broiling temperature. Frozen cuts should be broiled farther from the heat so they do not brown too quickly. To braise frozen pot roasts, allow approximately the same cooking time as for defrosted cuts.

Defrosting Beef

Frozen beef may be defrosted before or during cooking. It should be defrosted in the original wrapping in the refrigerator. Defrosting meat at room temperature is not a recommended procedure. The following is a timetable for defrosting frozen beef in a refrigerator:

Large roast	4-7 hours (per pound)
Small roast	3-5 hours (per pound)
Steak, one-inch thick	12-14 hours

Summary

Beef is a value. Through purchase of wholesale cuts, savings may be realized and you can "beef up" your dollar. Comparable information related to savings from quantity pork purchases is found in Virginia Cooperative Extension Publication 458-921, "How To S-T-R-E-T-C-H Your Pork Dollar." VCE Publication 458-005 is related to savings from lamb purchases.