### **BASICS ABOUT**

NUTRITION ♦ BUYING BEEF ♦ BEEF CUTS FOOD SAFETY ♦ COOKING METHODS ♦ TIMETABLES TENDERIZING ♦ CONVENIENCE PRODUCTS ♦ CARVING









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This booklet is all about beef. The information is designed to help you get the most value when you buy beef and to show you how to prepare beef to enhance the tenderness and flavor. But why should you choose beef in the first place? The most important reasons are to obtain many of the key nutrients needed by your body and to enjoy its taste.



## NUTRITION

## About 50 separate nutrients are essential to health and no single food contains them all.

For this reason, registered dietitians and other health professionals recommend we consume a wide variety of foods from the different food groups every day. One type of food can't do the job alone, and extra amounts Fruits of one nutrient can't make up for too little of another. To help you choose the right variety and amounts, the Vegetables United States Department of Agriculture (USDA) provides dietary guidance through a food icon, MyPlate, which illustrates the five food groups that are the building blocks for a healthy diet using a familiar image—a place setting for a meal. These food groups include grains, fruits, vegetables, protein and dairy. Each of these food groups provides some, but not all, of the essential nutrients. Foods in one group cannot totally replace those in another. No one food group is more important than another — all are necessary for good health.

First choose naturally nutrient-rich foods that provide more and greater amounts of nutrients in fewer calories. Then you can choose other less nutrient-rich foods as long as you stay within your caloric allowance.

The Protein Foods Group is an important

component of dietary guidance because it contributes to the Daily Value (DV) of many key nutrients, like protein, iron, zinc and many B-vitamins. The DV for a nutrient refers to the amount most teens and adults should eat each day. The value (recommended amount) is based on a person who eats about 2,000

Dairy

Grains

Protein

calories each day. The DV is approximate because the exact amount each person needs varies with age, gender and activity level. The chart below lists the DV of many essential nutrients found in beef.

Few foods offer so many nutrients in so few calories. An important source of 10 essential nutrients, including iron, zinc, B-vitamins and protein, a 3-oz serving of lean beef provides about 150 calories. Animal proteins—such as lean beef—are complete, high-quality proteins that contain all of the essential amino acids your body needs. Lean beef is a calorie saver, especially compared to other protein choices. In fact, to get the same amount of protein found in lean beef, you'd have to consume two to three times more calories from plant proteins.

#### DAILY VALUES (DVs) FOR SOME KEY NUTRIENTS

Protein	50 grams
Niacin (B <sub>3</sub> )	20 milligrams
Vitamin B <sub>6</sub>	2.0 milligrams
Vitamin B <sub>12</sub>	6.0 micrograms
Iron	18 milligrams
Zinc	15 milligrams



When it comes to choosing proteins, lean beef is a delicious choice for beefing up your high-quality protein needs. It's also a perfect partner for fruits, vegetables and whole grains, making it even easier to enjoy a balanced diet to meet the Dietary Guidelines and MyPlate recommendations.<sup>1,2</sup>

Naturally nutrient-rich foods such as lean beef also help people get more essential nutrients in fewer calories. A 3-oz serving of lean beef contributes less than 10 percent of calories to a 2,000-calorie diet, yet it supplies more than 10 percent of the Daily Value for 10 essential nutrients. You'd have to consume 18 oz of cooked chicken breast to get the same amount of zinc and at least 7<sup>1</sup>/<sub>2</sub> oz of cooked chicken breast to get the same amount of iron as in 3 oz of cooked beef. In addition, lean beef supplies significantly fewer calories and more nutrients than many plant proteins. A 3-oz serving of lean beef (about 150 calories, on average) provides about the same amount of protein as 1<sup>1</sup>/<sub>2</sub> cups of cooked black beans (341 calories) but in less than half the calories.<sup>3</sup>

#### A DIETARY SOLUTION FOR OPTIMAL HEALTH

Research suggests that many of the 10 essential nutrients in lean beef, including high-quality protein, could be a dietary solution to many issues facing Americans today.

- J
   A growing body of evidence indicates high-quality protein plays an increasingly important role in muscle maintenance, weight management, and the prevention of chronic diseases such as sarcopenia, type 2 diabetes and cardiovascular disease.<sup>4-6</sup>
- Research shows the iron, zinc and B-vitamins found in beef play an essential role in developing and maintaining cognitive ability in children and across the lifecycle.<sup>7-13</sup>

#### **PROTEIN**

A 3-oz serving of lean beef is an excellent source of protein, supplying nearly half the protein most people need each day. In addition, the protein in lean beef is a complete, high-quality protein which means it supplies all of the essential amino acids the body needs to build, maintain and repair body tissue. In addition, coupled with physical activity, the high-quality protein in lean beef can help you maintain a healthy weight, sustain weight loss and keep a favorable body composition over time, and also promote satiety to help you feel full longer.14,15

#### **IRON**

A 3-oz serving of beef is a good source of iron. Unlike plant proteins, beef is the food supply's most readily available and easily absorbed source of iron. Iron not only helps red blood cells carry oxygen to body tissue, it also plays an important role in cognitive health, including memory, ability to learn and reasoning.<sup>16</sup>

#### ZINC

A 3-oz serving of beef is an excellent source of zinc, which is an essential nutrient that fuels thousands of bodily processes, including building muscles and healing wounds, maintaining the immune system, and contributing to cognitive health. In addition to containing a high level of absorbable zinc, beef also increases the absorption of zinc from other foods when eaten at the same meal.<sup>17</sup>

#### VITAMIN B<sub>12</sub>

A 3-oz serving of beef is an excellent source of vitamin B<sub>12</sub>, which is needed for normal functioning of body cells and of the nervous system, as well as lowering blood homocysteine levels, an amino acid that increases risk for heart disease and dementia. Vitamin B12 works closely with folate to form red blood cells.

#### VITAMIN B<sub>6</sub>

A 3-oz serving of beef is an excellent source of vitamin  $B_{6}$ , which is important for a healthy nervous system and helps with the production of antibodies which help the body fight infection. Vitamin B<sub>6</sub> helps turn tryptophan into niacin and serotonin. In addition, along with vitamin B<sub>12</sub>, B<sub>6</sub> also lowers blood homocysteine levels.

#### NIACIN

A 3-oz serving of beef is an excellent source of niacin, which promotes healthy skin and nerves, aids digestion, releases energy from food and fosters normal appetite.

#### **RIBOFLAVIN**

A 3-oz serving of beef is a good source of riboflavin, which helps the body use energy from carbohydrates, produce oxygen-carrying red blood cells and promotes healthy skin and good vision.

#### **SELENIUM**

A 3-oz serving of beef is an excellent source of selenium, a trace mineral occurring naturally in many food sources. Selenium works with vitamin E to protect the body from the damaging effects of free radicals and may reduce the risk of heart disease.

#### **PHOSPHORUS**

A 3-oz serving of beef is a good source of phosphorus, which helps build and maintain healthy bones, normal blood pH levels and muscle regulation.

#### CHOLINE

A 3-oz serving of beef is a good source of choline, an essential nutrient for humans that plays a vital role in cognition and long and short-term memory functions. Choline works with folate to help promote brain and memory development in growing fetuses and newborn infants.18







A 3-oz (85g) cooked ground beef burger (usually 4 oz, uncooked) is about 3 inches in diameter and 5/8-inch thick.

> In general, a 3 oz serving of lean cooked beef is about the size of a smartphone.

#### **LEAN CUTS OF BEEF**

Today, more than two-thirds (69%) of beef sold at retail, including popular cuts like Top Sirloin, Tenderloin, Top Loin (Strip) steak and 93% lean or leaner Ground Beef, meet government guidelines for "lean" (less than 10 grams of total fat, 4.5 grams or less of saturated fat and 95 milligrams of cholesterol per serving and per 100 grams). In addition, 18 of the top 25 most popular muscle cuts meet these same guidelines.

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Beef contributes less than 10 percent of saturated fat and total fat in the diet. Further, beef contributes less than five percent of total calories in the American diet.

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## **BUYING BEEF**

There are several factors to consider as you

6

- purchase beef:
- Wholesomeness
- Quality
  Appearance
  - Appearan
     Storage
  - Cost per serving and number to serve

Cookery method and time needed for preparation

#### WHOLESOMENESS

Wholesomeness has to do with the safety of food. Federal law requires that all beef sold must pass inspection for wholesomeness.

#### **BEEF INSPECTION**

The purpose of inspection is to assure the consumer that all beef sold is from healthy animals which were processed under sanitary conditions, and that the beef is safe to eat.

Some states have their own inspection programs which regulate beef that is processed and sold only within that state. If a state does not have an inspection program or if the beef is to cross state or national borders, it must be federally inspected. Federal inspection is supervised by the USDA.

Experienced veterinarians or specially trained, supervised inspectors inspect beef both before and after processing. Beef which passes federal inspection is stamped with a round, purple mark made with a safe-to-eat vegetable dye. The number inside the mark is the official number assigned to the plant where the beef animal was processed.

State inspected beef will usually have a different inspection mark which varies state to state. The inspection mark is generally placed only once on larger (wholesale) cuts, so it is unlikely you will see it on the cuts you buy.

Whether done by the federal government or the state government, beef inspection is extensive and thorough, resulting in U.S. beef products with a safety record envied throughout the world. In addition to inspection of animals and of processed beef at the plant, beef is subject to further inspection as processing continues, in product manufacturing facilities, supermarkets and restaurant kitchens. For information on food safety in the home see page 11.

#### QUALITY

Quality is a factor to consider in buying beef. Quality refers to characteristics associated with the palatability of the beef (tenderness, juiciness and flavor). The names you see on beef labels often indicate the level of meat quality. These names may be either the USDA grade names or the beef packer and retailer brand names.

#### USDA BEEF GRADING

Unlike mandatory inspection, beef quality grading is voluntary and paid for by beef packers and, ultimately consumers. Grading sets standards of quality and yield used in the buying and selling of beef. The beef grading program is administered by the USDA, using highly trained specialists. Recently, the USDA has approved grading instruments to assist in determining the official quality grade. This enhancement to the grading program will result in improved consistency and uniformity across all beef plants throughout the country.

#### **GRADES OF BEEF**

**Prime:** The grade of beef which contains the greatest degree of marbling.\* It is generally sold to finer restaurants and to some selected stores. It is usually higher priced because it is produced in very limited quantities.

**Choice:** The grade preferred by many consumers because it contains sufficient marbling for taste and juiciness. It is usually less costly than U.S. Prime.

**Select:** Generally lower-priced grade of beef with less marbling than U.S. Choice. Select beef cuts are leaner but also less juicy and flavorful.

#### OTHER NAMES INDICATING BEEF QUALITY

Because beef grading is a voluntary program, not all beef is graded by the USDA. Some beef processors use "brand names" their customers can readily identify with a desired level of quality. Therefore, you may find varying names on beef labels.

\*Marbling is the term for the small flecks of fat that are interspersed with the lean (muscle). It contributes to juiciness and flavor. (See next page)







Beef **grading**, on the other hand, is voluntary. The grade mark indicates a level of quality (tenderness, juiciness and flavor).

#### **APPEARANCE**

When buying beef, consider how it looks at the meat counter. Look at the color of the cut, the amount of marbling and seam fat, and the trim fat.

#### LEAN

The color of the lean part of the beef should be bright cherry-red unless it has been cured and/ or cooked. (Cured beef is further processed using salt or a salt solution and sodium nitrite.)

When first cut, beef is a dark, purplish-red color. Vacuum-packaged beef will have this same dark color. After cutting and exposure to the air, the surface becomes bright red due to a reaction with oxygen in the air. This is why the outside layer of ground beef is often red while the middle is darker. The middle will also brighten after it is exposed to the air. With extended exposure to air, beef will eventually take on a brown color.

#### MARBLING

The small flecks of fat throughout the lean are called marbling. Marbling improves the beef's flavor, tenderness and juiciness. It also supplies a few additional calories — although marbling is not as big a factor as trim fat in supplying fat and calories.

#### **TRIM FAT**

The thin layer of fat surrounding many beef cuts is called trim fat. Most cuts currently available in the supermarket have little or no trim fat. Look for one eighth of an inch or less on steaks and roasts. Cooking before removing the fat has little effect on total fat and calories. However, be sure to trim all visible fat before eating.



STORAGE

Before buying beef, consider how you plan to store it.

#### REFRIGERATING

Most beef is prepackaged and should be stored wrapped as purchased. When purchasing beef, look for packages that are cold and tightly wrapped without tears or punctures. It can be stored at a temperature of 35° to 40°F for one to four days after purchase. Meat compartments in many refrigerators maintain ideal temperatures.



#### FREEZING

#### Freezing Fresh Beef

- 1. Freeze beef as soon as possible after purchase while fresh and in top condition.
- 2. Select proper freezer wrapping materials, such as:



specially coated freezer paper aluminum foil

heavy-duty, food-safe, plastic freezer bags

The wrap must seal out air and lock in moisture. If air penetrates the package, moisture is drawn from the surface of the beef causing a whitish surface layer known as "freezer burn." This affects the palatability of the beef when cooked, but not the wholesomeness.

You can freeze beef in its original packaging up to two weeks. For longer storage, wrap in heavy-duty aluminum foil or place in plastic freezer bags, removing as much air as possible.



- 3. Prepare beef for freezing before wrapping. Think ahead to your weeknight meals and re-package into right-size portions for you and your family.
- 4. Wrap tightly, pressing out as much air as possible.
- Label properly. Indicate name of cut, approximate number of servings and/or weight, and date of freezing.
- 6. Freeze immediately at 0°F or lower. Do not stack unfrozen packages or freeze too many packages at one time. This slows down the freezing, which may lower quality. Maintain freezer temperature at 0°F or lower. Use a thermometer to check freezer temperature.
- 7. Use chart below for storage recommendations.



#### **FREEZING COOKED BEEF:**

Cooked beef can be frozen by following steps 4-7 at left. Be sure to chill the beef in the refrigerator for approximately two hours before freezing.

#### FREEZING CURED, SMOKED OR READY-TO-SERVE BEEF PRODUCTS:

These products do not keep their high quality in the freezer as long as fresh beef. This is because salt in the products speeds the development of rancidity which results in objectionable flavors and odors. For best quality, limit freezer storage time of products such as corned beef and deli meats.

#### **DEFROSTING:**

For best quality, defrost beef in the refrigerator, never at room temperature. Place frozen package on a plate or tray to catch any juices and place in the refrigerator according to chart.

Beef can be refrozen as long as it was defrosted properly and is used within the freezer storage guidelines below.

#### **DEFROSTING GUIDELINES**

Package Thickness	Approximate Refrigerator Time (at 35-40°F)
½ to ¾ inch	12 hours
1 to 1½ inches	24 hours
Varies	3 to 5 hours per pound
Varies	3 to 5 hours per pound
Varies	4 to 7 hours per pound
Varies	4 to 7 hours per pound
	Package Thickness½ to ¾ inch1 to 1½ inchesVariesVariesVariesVariesVariesVaries

\* According to USDA, Ground Beef can be defrosted in the microwave, but it must be cooked within the same day.



#### **STORAGE TIMETABLE**

Type of Beef		(at 35-40°F)	(at 0°F)
Fresh Beef	Roasts, Steaks	3 to 4 days	6 to 12 months
	Beef for Stew, Kabibs, or Stir-Fry	2 to 3 days	6 to 12 months
	Ground beef	1 to 2 days	3 to 4 months
Fresh Veal	Roasts, chops, cutlets	1 to 2 days	6 to 9 months
	Ground veal	1 to 2 days	3 to 4 months
Cured and/or Smoked	Corned beef (ready-to-cook)	1 week	2 weeks
and Ready-To-Serve	Frankfurters, Deil Meats	3 to 5 days	1 to 2 months
Beef Products	Luncheon meat	3 to 5 days	1 to 2 months
	Sausage, smoked	1 week	Not recommened
	Sausage, dry and semi-dry, (unsliced)	2 to 3 weeks	Not recommened
Leftover Cooked Beef	All	3 to 4 days	2 to 3 months

Refrigerator

Freezer

#### **COOKERY METHOD AND TIME**

When deciding on a cut of beef to buy, consider the cooking method you plan to use. Moist heat methods, like braising and stewing, are best used with less expensive, less tender cuts, such as the chuck and the round. Dry heat methods, like broiling, are best with tender cuts from the loin and rib. For information on different cooking methods, see pages 14-16.

You can make any beef cut tender and taste great if you use the right cooking method. Not all beef cuts should be cooked the same way. Many supermarkets are helping their customers by including cooking information right on the package. To find out how to cook beef to get the most tender and best-tasting results, go to *BeefltsWhatsForDinner.com*. Knowing a little about how muscles in the beef animal affect the tenderness of different beef cuts will help get you started.



The beef animal is made up of two types of muscles: suspension and locomotion. Suspension muscles are not used greatly in movement and have less connective tissue than locomotion muscles. (Connective tissue supports and reinforces the fibers in the muscles.) Locomotion muscles are used in movement and have more connective tissue.

Generally, the most tender beef is from muscles which are not used greatly in movement and which have smaller amounts of connective tissue. Therefore, beef from suspension muscles is frequently more tender than beef from locomotion muscles. Early in the marketing chain, the beef carcass is divided into eight primals (wholesale cuts). The rib and loin primals are made up of suspension muscles (tender) and are found along the middle of the animal's back. The locomotion muscles are found in the remaining primals which are usually less tender (e.g. chuck, flank, round, brisket).

Recent innovations in the beef industry have resulted in new cuts, from the chuck and the round which offer the same tenderness as many of those from the rib and loin. These two primals, traditionally considered to be less tender,

contain muscles which can provide lean, tender steaks and roasts. Consumers are now seeing more variety and quality choices in supermarkets and restaurants.

As a general rule, look for the primal name, rib or loin, on the package label to ensure tenderness.

#### **HOW TO READ BEEF LABELS**

Labels include the weight, price per pound, total price, safe handling instructions and country-of-origin. The label may include a quality grade (see page 6), and a "sell-by" or "use-by" date. The "sell-by" date is the last day by which it is safe to buy the product. Beef should be used or frozen within two days of that date. The "use-by" date states the last day it is safe to use the product. Use or freeze ground beef before that date.

**Tip:** Factor the cost per serving when selecting beef, not just the price per pound. A cooked 3-oz serving of beef, which provides nearly half of the Daily Value of protein, on average costs just about \$1 per serving.

The nutrition facts label provides nutrient content data on a particular product. The information includes serving size, number of servings in the package, calories per serving and the amount of various nutrients contained in the product. The nutrition facts label can help you follow a healthful diet because you can easily see the nutrient content of foods.

At the time of the Nutrition Labeling and Education Act of 1990 (NLEA), which required nutrition labels on many food packages, the government determined that many Americans did not consume enough fiber, iron, calcium, and vitamins A and C. Along with required information on serving size, calories, total fat, calories from fat, saturated fat, cholesterol, carbohydrates, sugar, sodium and protein, these five nutrients were required to be included on the label. NLEA required the nutrient data to be provided based on the product as packaged. Fat, sodium, carbohydrates and protein must always be listed on the label. If their content is zero, other nutrients do not have to be included on the product's label.

The requirement for nutrient facts labels on fresh meats became mandatory in 2012. This rule requires that the same nutrition information required in the 1990 Act be readily available for the 40 most popular cuts of raw meat and poultry products, and all fresh ground products sold in retail. To comply with this regulation, supermarket retailers must display complete nutrition labels on the specified 40 cuts either directly on the package or on a poster at the point-ofpurchase near the meat case. Retailers may choose to label other cuts in addition to the 40 required cuts. Fresh ground

products must be labeled on the package.

Protein foods are not a natural source of fiber, calcium, and vitamins A and C. They most often are a nutrient-rich source of protein, iron, zinc, and many B-vitamins (see page 4). In order to display the nutrient benefits of beef, grocery stores are encouraged to expand the nutrient facts label to







ROUND

FLANK

PLATE

SIRLOIN

RIB





show the complete nutrient profile of fresh beef products. This would allow consumers to ensure they choose foods providing essential nutrients like niacin, zinc and vitamins  $B_6$  and  $B_{12}$ .

In addition, retailers are encouraged to provide a dual declaration label, showing the nutrient content of the beef product as packaged as well as the nutrient content of the cooked product. Since consumers do not eat raw fresh beef, it is important they understand the significant, and most often beneficial, nutrient differences between raw and cooked beef.

Most beef cuts packaged in the fresh meat case have fat trim of 1/8th inch or less (see page 7). Trimming visible fat before cooking or eating often results in a significant reduction in the total fat consumed as compared to the total fat listed on the raw beef package. Consumers prefer that a nutrient facts

#### **GROUND BEEF LABELING**

The lean/fat ratio must be displayed on the label for all ground product, e.g., 90% lean/10% fat. The label may also indicate from which primal the beef was sourced, such as Chuck, Round or Sirloin. The percentage of leanness guides consumers in choosing the ground beef product that meets their needs for health, taste and proper use in recipes. Different ground beef dishes require different degrees of lean to fat ratio. Three traditional categories of ground beef and some dishes best suited for each category are listed below.

The package label will indicate whether the product is ground beef, hamburger or another type of ground product. What's the dfference? Beef fat may be added to "hamburger" but not Strip Filet Beef, Top Loin, Boneless, Split Grill for best results

Nutrit	tion Fa	acts										
Serving Size	4oz (112g)			raw pack	r, as aged	broi	ed**		raw pack	r, as aged	broil	ed**
Servings per	package var	ied	Amount/Se	rving	%DV*		%DV*	Amount/Ser	ving	%DV*		%DV*
	raw as	broiled**	Total Fat	18g	27%	7g	11%	Sodium	55mg	2%	50mg	2%
Calories	packaged	bioned	Sat. Fat	7g	36%	2.5g	14%	Total Carb	0g	0%	0g	0%
Fat Cal.	260 160	170 60	Cholest.	90mg	31%	70mg	24%	Protein	23g	46%	24g	
	100	00	Iron		10%		10%	Riboflavin		6%		8%
			Niacin		35%		35%	Vitamin B6		30%		25%
			Vitamin B1	2	20%		20%	Phosphorus	5	20%		20%
			Zinc		25%		25%	Selenium		35%		40%
*Percent Daily on a 2,000 ca	*Percent Daily Values (DV) are based Not a significant source of dietary fiber, sugars. Vitamin A, Vitamin C, or Calcium. ** Cooked data based on lean only, visible fat trimmed.											

label on a fresh beef cut provide the most accurate and useful information. This is possible when the label includes not only the raw nutrient data, as the product is packaged, as well as the cooked nutrient data with the visible fat trimmed.

The percent Daily Values listed on the label shows the consumer which foods are high or low in essential nutrients.

to ground beef. A maximum of 30% fat is allowed in either hamburger or ground beef. Both hamburger and ground beef can have seasonings or mixed ingredients, but no added water, phosphates, extenders or binders. The labeling of meat food products must comply with the Federal Meat Inspection Act (FMIA) and the meat inspection regulations and labeling policies set by USDA.

Most states and cities set standards for store-packaged ground beef which by law, cannot be less than federal standards. If products in grocery retailers were found to contain more than 30% fat, they would be considered "misbranded" under federal law.

#### Ground Beef 75% Lean

Good for dishes in which you drain the fat from the cooked beef, such as Sloppy Joes, chili and spaghetti sauce. **Ground Beef 80%-85% Lean** Suitable for meatloaf, meatballs, casseroles and Salisbury Steak. Ground Beef 90%-95% Lean Good for combination dishes and low calorie recipes.



## **KEEPING BEEF SAFE**

Most cases of foodborne illness that are reported in the U.S. every year can be traced to poor handling, storage or preparation at home or in foodservice establishments.

The key is to control conditions that give bacteria opportunities to get into food, grow and/or survive during the food preparation process.

#### **STEAKS AND ROASTS**

Bacteria are part of the environment and may exist wherever food is present. Not all of these bacteria are harmful. If a cut of beef contains any harmful bacteria, they will exist on the surface. Cooking steaks and roasts to medium rare (145°F) doneness will destroy surface bacteria.

#### **GROUND BEEF**

When raw beef or poultry is ground, harmful bacteria that might exist on the surface are mixed throughout the meat. Therefore, it is important to thoroughly cook both the inside and outside of ground beef.

The food industry, from farm to fork, follows strict rules to help ensure safe and wholesome food. Procedures and safeguards are implemented as needed. The safe handling label on raw beef and poultry provides basic guidelines for keeping food safe.



This product was prepared from inspected and passed meat and/ or poultry. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly. For your protection, follow these safe handling instructions.

Keep refrigerated or frozen. Thaw in refrigerator or microwave.

Keep raw meat and poultry separate from other foods. Wash working surfaces (including cutting boards), utensils, and hands after touching raw meat or poultry

Cook thoroughly. Keep hot foods hot. Refrigerate leftovers immediately or discard.









#### **SAFE FOOD HANDLING TIPS**

#### Follow this checklist to help keep food safe.

- JF Plan to make beef the last purchase before returning home.
- Wash hands with hot soapy water before preparing food and after handling raw beef, poultry or fish.
  - Use hot soapy water to wash surfaces and utensils immediately after preparing beef, fish, poultry, or unwashed fruits and vegetables.
  - Use separate cutting boards, platters, trays and utensils for cooked and raw foods. Do not put cooked food on a platter which held raw food without washing the platter first.
  - Thaw beef, fish and poultry in the refrigerator or microwave oven, not at room temperature.
  - Marinate beef, fish and poultry in the refrigerator. Throw out leftover marinade that came into contact with raw beef.
  - Ground Beef (patties, meatloaves, meatballs) should be cooked to an internal temperature of 160°F (medium doneness). Color is not a reliable indicator of Ground Beef doneness.
  - Due to the natural nitrate content of certain ingredients often used in meatloaf, such as onions, celery and bell peppers, meatloaf may remain pink even when a 160°F internal temperature has been reached.

Reheat leftovers to 16.5°E.



Marinating less tender cuts may allow them to be cooked with dry heat methods. For an explanation of marinades and how they work, see page 17.

(Temperature will continue to rise 5°F to 10°F to reach desired doneness and roast will be easier to carve).

Roast according to guidelines.

fter cooking, n beef with salt, if d<u>esired</u>.

Broil according to cha turning once.





## TENDERIZING

You may choose to tenderize less tender cuts of beef before cooking them. They can then be cooked by a dry heat method. Tenderization can happen through marinades, or by pounding or cubing the beef.

#### MARINADES

Marinades are seasoned liquid mixtures that add flavor and in some cases tenderize. A tenderizing marinade must contain an acidic ingredient or a natural tenderizing enzyme. Acidic ingredients



include vinegar, wine, and citrus or tomato juice. Naturally tenderizing enzymes are found in fresh papaya, ginger, pineapple and figs. The food acid or enzyme helps soften or break down the beef fibers and connective tissue and adds flavor. Some marinades also contain a small amount of oil. Marinades penetrate only about 1/4 inch into the surface of the beef, so they work best on thinner cuts.

If the marinade has been in contact with uncooked beef, it must be brought to a rolling boil for one minute before adding it to cooked beef. However, it is better to set aside a portion of the marinade mixture to use later as a sauce for basting. Be sure that it hasn't come in contact with raw beef.

#### POUNDING

Pounding with a heavy object such as a meat mallet tenderizes by breaking down the connective tissue.

#### **CUBING**

Cubing is a more thorough process than pounding because it breaks down the fiber structure even more. Beef is "cubed" by a machine. Do not confuse this with grinding or cutting the beef into cubes, as for stew.

#### COMMERCIAL TENDERIZERS

Tenderizers come in various forms and contain active ingredients called enzymes. The enzymes break down the connective tissue. Naturally occurring enzymes, such as papain from the papaya fruit and bromelin from pineapple, are used in commercial tenderizers. Generally, enzyme tenderizers only tenderize the outer 1/4 inch of beef cuts. Be sure to follow package directions when using commercial tenderizers or the beef may become overtenderized.

## CONVENIENCE

In the past, many popular beef dishes took a lot of time to prepare. Microwave ovens were faster but not recommended for cooking beef cuts. Now manufacturers have developed new beef products specially made for quick reheating in a microwave. You can prepare your favorite beef dishes in minutes.



Look for fully-cooked pot roasts, meatloaves, stews, burgers and even steaks in the meat case of your favorite supermarket. If you can't find them, ask the meat department manager.

## TIMETABLE For cooking in a conventional oven

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**DRY HEAT** 

The degree of doneness can be easily determined by measuring the internal temperature of a cut of beef. To do so, use an ovenproof meat thermometer.



Insert the thermometer into the roast at a slight angle so that the tip of the thermometer is in the thickest portion of the beef, but not resting in fat or against bone. Since the potentially harmful bacteria that might be present are typically on the surface of the beef cut, do not remove and reinsert the thermometer without first washing it in hot soapy water. In general, beef should be cooked to an internal temperature of 145°F (medium rare), 160°F (medium) or 170°F (well done). To avoid overcooking, remember to remove a roast from the oven when the thermometer reads 5° to 10°F below the desired degree of doneness. As the roast sits before carving, its temperature will rise an additional 5° to 10° F. If you use an instant read thermometer, do not leave it in the roast during cooking. Follow manufacturer instructions.

DOACTINIC			Total Cooking Time1				Approximate								
RUASTING		Approximate Weight	Approximate Veight Oven		Medium Rare Medium					edium	Remove roast from oven wher				
Primal	Retail Cut	(pounds)	Temperature		(1.	45°F	)	11	(1	60°F)	A	tempera	ture	reaches	
CHUCK	Petite Tender Roast	8 to 12 -oz	425°F	20	to	25	minutes	25	to	30 minutes	ð.	135°F	to	150°F	
RIB	Ribeye Roast, Boneless (small end)	3 to 4	350°F	11/2	to	13/4	hours	13/4	to	2 hours		135°F	to	145°F	
	and the second second	4 to 6	350°F	13/4	to	2	hours	2	to	2½ hours	31	135°F	to	145°F	
		6 to 8	350°F	2	to	21/4	hours	21/2	to	2 <sup>3</sup> / <sub>4</sub> hours		135°F	to	145°F	
	Ribeye Roast, Boneless (large end)	3 to 4	350°F	11/2	to	2	hours	2	to	2¼ hours	3	135°F	to	145°F	
		4 to 6	350°F	2	to	21/4	hours	21/4	to	2½ hours		135°F	to	145°F	
		6 to 8	350°F	21/4	to	21/2	hours	23/4	to	3 hours	31	135°F	to	145°F	
	Rib Roast, Bone-In (chine bone remo	ved) 4 to 6 (2 ribs)	350°F	13/4	to	21/4	hours	21/4	to	2¾ hours		135°F	to	145°F	
	and the second	6 to 8 (2 to 4 ribs)	350°F	21/4	to	21/2	hours	21/2	to	3 hours	3	135°F	to	145°F	
		8 to 10 (4 to 5 ribs)	350°F	21/2	to	3	hours	3	to	3½ hours		135°F	to	145°F	
LOIN	Tenderloin Roast (well trimmed)	2 to 3 (center-cut)	425°F	35	to	40	minutes	45	to	50 minutes	à.	135°F	to	145°F	
	Strand and the Real Property of	4 to 5 (whole)	425°F	45	to	55	minutes	55	to	65 minutes		135°F	to	145°F	
SIRLOIN	Tri-Tip Roast	11/2 to 2	425°F	30	to	40	minutes	40	to	50 minutes	8.	135°F	to	150°F	
ROUND	Sirloin Tip Roast	3 to 4	325°F	13/4	to	2	hours	2	to	2¼ hours	-	140°F	to	150°F	
		4 to 6	325°F	2	to	2¼	hours	21⁄4	to	2¾ hours	à.	135°F	to	150°F	
	and the second second	6 to 8	325°F	21/4	to	23/4	hours	23/4	to	3¼ hours		135°F	to	150°F	
	Sirloin Tip Center Roast	2 to 2½	325°F	11⁄4	to	11/2	hours				ð.		135	°F	
	Rump Roast	3 to 4	325°F	11/4	to	13/4	hours				-	-	135	°F	
	Bottom Round Roast	3 to 4	325°F	11/4	to	13/4	hours				à.		135	°F	
	Eye of Round Roast	2 to 3	325°F	11/4	to	11/2	hours			The state		-	135	°F	
OTHER	Meatloaf (10" x 4")	2	350°F		-				17/	4 hours	X	160°F	-		

T HEAT	<b>BRA</b> PRIMAL	<b>ISING</b> Retail Cut	Approximate Thickness (inches)	Approximate Weight (pounds)	Approximate Total Cooking Time (hours)
S	CHUCK	Blade, Arm, Shoulder Roasts	4 - C	2¼ to 4	2 to 3
N		Short Ribs	2 x 2 x 4	-	1¾ to 2½
	ROUND	Bottom Round Steak, Boneles	s ¾ to 1	1990 - Harris	1½ to 1¾

RDOILING		Approximate	Approximate Total Cooking Time <sup>1</sup>				
Primal	Retail Cut	Thickness (inches)	Distance From Heat (inches)	Medium Rare 145°F	Medium 160°F		
CHUCK	Shoulder Steak, Boneless <sup>3</sup>	3⁄4	2 to 3	10 minutes	13 minutes		
		<ul> <li>1</li> </ul>	3 to 4	16 minutes	21 minutes		
RIB	Ribeye Steak	3⁄4	2 to 3	8 minutes	10 minutes		
	Martin Participant	1	3 to 4	14 minutes	18 minutes		
ROUND	Top Round Steak <sup>3</sup> (marinate)	1	2 to 3	17 minutes	18 minutes		
	Alexander and the second	11/2	3 to 4	27 minutes	29 minutes		
LOIN	Top Sirloin Steak, Boneless	3⁄4	2 to 3	9 minutes	12 minutes		
	a start and a start of the	. 1	3 to 4	16 minutes	21 minutes		
	Porterhouse/T-Bone Steak	3⁄4	2 to 3	10 minutes	13 minutes		
		2 <b>1</b>	3 to 4	15 minutes	20 minutes		
	Tenderloin Steak	1	2 to 3	13 minutes	16 minutes		
	Strip Steak, Boneless	.1	3 to 4	13 minutes	17 minutes		
	A CONTRACT OF A	11/2	3 to 4	19 minutes	23 minutes		
FLANK	Flank Steak <sup>3</sup>	1½ to 2 pounds	2 to 3	13 minutes	18 minutes		
OTHER	Ground Reef Patties	1/2	2 to 3		12 to 13 minute		

PAN	-BROILING/S	Approxin Total Cookin	nate ng Time <sup>1</sup>		
Primal	Retail Cut	Approximate Thickness (inches)	Range Temperature	Medium Rare 145°F	Medium 160°F
RIB	Ribeye Steak, Boneless	3/4	Medium	8 minutes	11 minutes
	Top Round Steak <sup>3</sup>	3/4	Medium	12 minutes	15 minutes
LOIN	Strip Steak, Boneless	3/4	Medium	8 minutes	11 minutes
	Tenderloin Steak	3/4	Medium	7 minutes	10 minutes
SIRLOIN	Top Sirloin Steak, Boneless	3⁄4	Medium	12 minutes	15 minutes
OTHER	Ground Beef Patties	1/2	Medium	10 minutes	12 minutes

GRILLING		Approximate	Approximate Total Cooking Time <sup>1</sup> Charocal Grill	Approximate Total Cooking Time <sup>1</sup> Gas Grill
PRIMAL	Retail Cut	Thickness (inches)	Medium Rare to Medium	Medium Rare to Medium
CHUCK	Shoulder Steak, Boneless <sup>3</sup>	3⁄4	8 to 12 minutes	9 to 12 minutes
		1	12 to 17 minutes	15 to 19 minutes
	Flat Iron Steak	8 -oz	10 to 14 minutes	12 to 16 minutes
RIB	Ribeye Steak, Boneless	.3⁄4	7 to 10 minutes	7 to 9 minutes
		1	10 to 14 minutes	9 to 14 minutes
LOIN	Porterhouse/T-Bone Steak	.3⁄4	8 to 11 minutes	9 to 13 minutes
		1	11 to 16 minutes	15 to 19 minutes
	Strip Steak, Boneless	.3⁄4	7 to 10 minutes	7 to 10 minutes
		1	11 to 14 minutes	11 to 15 minutes
	Tenderloin Steak	.1	10 to 14 minutes	11 to 15 minutes
SIRLOIN	Top Sirloin Steak, Boneless	3⁄4	7 to 11 minutes	8 to 13 minutes
	Weiner Program		11 to 15 minutes	13 to 16 minutes
ROUND	Top Round Steak <sup>3</sup>	3⁄4	10 to 11 minutes	10 to 11 minutes
		.1	12 to 14 minutes	16 to 19 minutes
FLANK	Flank Steak <sup>3</sup>	1½ to 2 pounds	11 to 16 minutes	16 to 21 minutes
OTHER	Ground Beef Patties	1/2	8 to 10 minutes	7 to 9 minutes

# STEWING Approximate Approximate Total Cooking Retail Cut Weight (pounds) Time (Covered Over Low Heat) Stew Meat 1½ to 2 Identifies Round or Chuck) 1½ to 2

<sup>1</sup> Based on beef removed directly from refrigerator.

 $^2$  Tent loosely with aluminum foil halfway through roasting time.  $^3$  Marinate.

**DRY HEAT** 

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## CARVING

Proper carving makes beef more tender. You need a good sharp knife, a good cutting board and some knowledge of the structure of the beef to be carved.

Beef is made up of bundles of long muscle fibers held together with connective tissue. Fibers would be difficult or impossible to chew if they weren't made softer and shorter. Proper cooking softens the fibers and connective tissues. Proper carving shortens the fibers.

The direction in which the muscle fibers run is called the grain. The principle of beef carving is to cut at right angles to the grain. This is a simple principle, but actual carving is not as simple. Some roasts are made up of several muscles, and the fibers in each of the different muscles may run in slightly different directions. This makes finding the grain more difficult. The illustration to the right shows the grain running the length of the beef and the correct method of slicing.

#### **CUT ACROSS THE GRAIN**

#### Steps

Follow these four easy steps for carving:

- 1. Remove a roast from the oven and let it sit in a warm place before carving so that it will be easier to carve and more juicy. Roasts should stand about 15 to 20 minutes before carving.
- 2. Determine which way the muscle fibers run in the beef. This is the grain.
- 3. Anchor the beef firmly with a two-pronged carving fork.
- 4. Carve roasts across the grain. Carve diagonally across the grain for flank steaks and other thin thin cuts.

Contrary to most carving rules, some tender steaks are carved with the grain. *Steaks* from the short loin and sirloin do not need to be cut across the grain because the beef fibers are tender and already short. (*Roasts* from these primals, however, should be cut across the grain.)

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#### **CARVING A RIB ROAST**

Turn roast on its side and place on carving board. (If necessary, remove a thin slice to stabilize roast.) Insert fork from the side, below the top rib. Carve across the "face" of the roast toward the rib bone.

Cut along the rib bone with tip of knife to release slice of beef. To serve, slide knife under beef slice; steadying from above with the fork and lifting slice onto plate.







IT'S WHAT'S FOR DINNER.

Funded by the Beef Checkoff.

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