

A consumer's guide to grass-fed beef



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What is grass-fed beef?

The American Grass-fed Association defines grass-fed as “food products from animals that have eaten nothing but their mother’s milk and fresh grass or grass-type hay from birth to harvest—all their lives.”

Farmers use a variety of systems to raise healthy animals. One new trend in meats is really a return to the way farm animals like cows, sheep, goats, and bison were historically raised. Described as ruminants, these animals have a four-chambered stomach. Ruminant animals eat and digest grasses and other plants, like alfalfa—something that humans can’t do with their one-chambered stomachs. Humans domesticated these valuable animals because their unique design allows them to convert grass into flavorful meat and milk!



Today, most meat in the grocery store or at the local restaurant is from animals that were raised in a feedlot and fed significant amounts of grain in addition to hay and pasture. Grass-fed meat is from animals that are put “out on grass” or fed a forage diet. This allows animals to harvest their own food and dispose of their manure in the pasture. Some farmers combine the use of grains with pasture; others choose to use pastures only. In 2007, the U.S. Department of Agriculture (USDA) developed standards regarding the definition of grass-fed animals. These standards state that grass-fed ruminants should consume grass and/or forage during their entire lifetime, with the exception of milk consumed prior to weaning. The diet should be derived solely from forage, and animals cannot be fed grain or grain by-products and must have continuous access to pasture during the growing season.

Environmental and health benefits of grass-fed beef

From an environmental perspective, raising animals on pasture has many benefits. High quality, healthy pastures reduce soil erosion, improve water quality (a University of Wisconsin study showed that pastures are the “best” crop for reducing runoff and erosion), increase

plant diversity, and provide high quality wildlife habitat. While perhaps not an environmental benefit, many people enjoy the view of green, flowing pastures with animals contentedly grazing.

A variety of health benefits are associated with grass-fed meats. Grass-fed meat is leaner and lower in fat and calories than grain-fed beef. (See table with nutritional information.)

Additionally, studies have shown that grass-fed meat contains more of vitamins A and E, conjugated linoleic acids (CLA), and omega-3 fatty acids, all of which have been shown to lower cholesterol and high blood pressure, and decrease the risk of diabetes and cancer.

Nutrition information for grass-fed beef

Cattleana Galloway beef nutrient content comparison to other cooked meats, per three ounces, trimmed

	*Cattleana pasture-finished Galloway beef loin	USDA Prime Grade beef loin	USDA Choice Grade beef loin	Pork loin	Lamb loin	Chicken breast without skin	Chicken thigh without skin
Protein (grams)	27	24	24	26	26	26	22
Fat (grams)	3.5	11.6	8.7	6.6	8.2	1.3	7.0
Calories	129	201	175	165	176	119	151

*Cattleana Galloway beef was analyzed by UW–Madison Meat Science Department, 1998. (Loin was from multiple samples.)

Grass-fed flavor is a matter of individual taste

A pasture-based diet impacts meat flavor. It changes the fatty acid content of meat, and grass-fed meats are often described as more intensely flavored. The following factors may also contribute to flavor differences: breed, age, and animal gender; aging of the carcass; diet; and stress factors. A grass-fed animal may require more time to achieve marbling than a conventionally raised animal, and they are more likely to grade choice or select than prime. Locally produced and processed animals do not suffer the stresses of a long journey before slaughter. If an animal is stressed at slaughter, it releases hormones that alter the meat. Also

the animal tenses when it is stressed, so the meat will be less tender. Postmortem aging of 7–21 days allows natural enzymes to break down muscle fibers and adds to the meat’s flavor and tenderness.

Cooking with grass-fed beef



Because grass-fed beef can be leaner than grain-fed beef, modified cooking methods may produce better results. Because of its typically higher fat content, grain-fed beef is more forgiving when cooked in that it is less likely to dry out or toughen if overcooked. Grass-fed beef depends more on juiciness than fat for its moisture.

Searing the outside of the meat to trap moisture, then cooking it slowly is recommended for grass-fed beef. For best results:

1. Bring your grass-fed meat to room temperature before cooking, about 30 minutes for steaks and not more than 90 minutes for a roast.
2. Don’t overcook! Because of the leanness of grass-fed beef, cooking to well-done can dry it out. Cooking to rare or medium-rare preserves the meat’s natural juiciness.
3. Reduce the cooking temperatures by 25–50°F. The USDA recommends an internal temperature of 125–145°F for roasts.
4. Fat and juices make beef tender and flavorful. When grilling or roasting, sear the meat quickly over high heat to seal in the juices.
5. Ground beef can also be very lean. You may find that you need to add a little olive oil when browning or pan-frying hamburgers.

General guidelines for cooking different cuts

Loin cuts: The highest quality, most tender cuts of meat come from the rib and loin areas of the animal. These include such cuts as rib, T-bone and porterhouse steaks, and prime rib roast. Next comes the sirloin area which includes sirloin steaks and sirloin tip roasts. All of these cuts are good for grilling, broiling, and roasting. They can also be pan-broiled over low heat on the stove. The roasts are good for dry-roasting in the oven.

Round cuts: Rump roasts, round steaks, and round roasts tend to be somewhat less tender. Round steaks can be marinated and grilled, but they’re more often cut into chunks or sliced thin and used for kabobs, stir fry, or stew. Rump and round roasts work well either as pot roasts or in stews cooked in liquid on the stove or in the oven.

Shoulder cuts: Shoulder, or chuck, cuts include chuck and arm roasts as well as short ribs. These cuts all work well braised or roasted slowly in liquid. Braising involves browning the meat, then cooking slowly in a small amount of liquid in a covered pan on the stove top. If prepared in the oven, these roasts are best cooked as pot roasts in a deep pan with liquid.

Working with frozen meat

Buying meat directly from a farmer often involves working with frozen meat. Butchers use either white freezer paper or plastic vacuum packing for packaging meat. The plastic maintains freshness for longer periods in the freezer and reduces the risk of freezer burn. If your supplier’s butcher uses freezer paper, ask if it is wrapped in plastic inside the paper. This will help maintain quality during storage.



Thawing frozen meat

While it is possible to cook a roast starting with a frozen cut of meat, most people thaw meat before cooking. There are several ways to thaw frozen meat.

- Refrigerator thawing: This can take 24 hours or more, so you need to plan ahead.
- Microwave thawing: Most microwave ovens have defrost settings that work fairly well for thin cuts of meat, but thicker cuts often end up being cooked around the edges before the center is thawed. The meat should be cooked immediately after it is thawed.

- **Thaw in cold water:** If your meat is wrapped in freezer paper, remove and place in a water-tight plastic bag. If it is vacuum-packed in plastic, you may place it directly in the water. Change the water every 30 minutes. Thawing will take 1–4 hours, depending on the size of the cut.

Buying grass-fed beef

Many farmers do not sell meat by individual cuts, but offer it in sides, quarters, or smaller packs containing a variety of cuts. It may be more economical for you to purchase a whole, half (side), or quarter of grass-fed beef if you have the freezer space to do so. It is important to understand how you are buying the beef if you choose to buy a large quantity.



A variety of factors affect the amount of meat a whole, half, or quarter will yield. First, the *dressing percentage* (the weight of the carcass after the hide, blood, and organs are removed) will alter the amount of meat a 1,100-pound live steer will yield. Typically, dressing percentages range from 56 to 65%, so a 1,100-pound steer would result in a carcass weighing between 616 and 715 pounds.

Cutting yield is the amount of meat remaining once a carcass is further processed. Typically, with grass-fed beef, there will be a loss of 25–30%, which is attributed to the removal of bone and fat. Losses can be greater when the consumer prefers more boneless cuts. With a 650-pound carcass, a consumer can expect to take home 455–487 pounds of beef. A side of beef will yield about 200–240 pounds of beef, and a quarter will yield 100–120 pounds.



When buying meat as a whole, half, or quarter, be sure to ask who will

pay the processing costs. In most situations, the consumer works directly with the processing plant and pays the processing costs; however, some farmers will pay the costs for processing and then include that charge in the overall price of the meat.



If you are unfamiliar with negotiating regarding cuts of meats and costs, ask the farmer from whom you are buying the meat to assist you with this process. Most farmers consistently work with the same processing facilities and should be able to address any questions you may have. You will need to follow up with the processing plant soon after the animal has been delivered to the facility to provide cutting instructions as well as any special requests you may have (e.g., sausages or special cuts). Depending on how long the carcasses hang before they are cut up, the meat will not be ready for 2–3 weeks. The processing facility should call you when your meat is ready. Payment is expected when the meat is picked up.

Questions to ask the producer

Farmers use a variety of production practices to produce high quality meat products, and it is worthwhile to talk to the producers about how their animals are raised. Typically, beef cattle are slaughtered at 18–24 months of age. Grass-fed beef is usually produced without growth-promoting hormones or other additives, but be sure to ask the producers about their production practices if it is important to you. Grass-fed beef may or may not be produced with corn. Some pasture-based farms feed a little grain to “finish” the animal.

If certified organic beef is a preference, be sure to ask the farmer if he or she is certified for organic production through the USDA National Organic Program. One benefit of buying directly from farmers is you can talk with them about their production practices, develop an understanding of their actions, and learn the reasons for their production decisions.

Recipes

Beef short ribs in red wine sauce

(recipe from Executive Chef Jack Kaestner,
Oconomowoc Lake Club)

5 lbs. meaty, grass-fed beef short ribs
½ bottle hearty red wine
1 sliced onion
2 sliced carrots
2 ribs celery, sliced
1½ medium tomato or 3 tbsp. tomato paste
1 bay leaf
5 crushed garlic cloves
½ tbsp. cracked black peppercorns
3 sprigs rosemary
3 sprigs thyme
3 sprigs parsley
½ tsp. freshly ground pepper
1½ tsp. salt
3 cups beef or veal stock

Place ribs in bowl or heavy plastic bag. In separate bowl, mix wine, onions, carrots, celery, bay leaf, peppercorns, rosemary, and thyme. Pour over ribs and marinate overnight. Remove ribs and pat dry, strain vegetables out, and save wine. Sear meat in hot pan with oil, sauté vegetables until golden, and season with salt and pepper. Place meat in pan, and top and surround with vegetables. Add wine and enough stock to cover ¾ of the meat. Cover and bake at 325°F until tender. Strain broth into another narrow container, skim fat (should have about 4 cups), and reduce until thickened. (It should coat the back of a spoon.) Divide ribs onto plate and top with sauce.

Optional: You may add vegetables back into broth, purée in blender, and strain. You may thicken broth with a little cornstarch and water.

Pot roast

(recipe from Executive Chef Jack Kaestner,
Oconomowoc Lake Club)

1 tsp. dried thyme
1 tbsp. fresh rosemary
1 tbsp. paprika (smoked optional)
1 tbsp. kosher salt
1 tsp. ground black pepper
4 lbs. boneless chuck roast (or 4.5 lbs. with the bone)
1 oz. oil
½ cup red wine
½ cup diced tomatoes or 3 tbsp. paste
2½ cups stock
5 cups sliced onions
6 roughly chopped garlic cloves
2 cups carrots, halved and in ¼" half moon
2 cups celery in ⅓" dice

Combine the first five spices, rub on meat, and place in a ziplock bag. Allow the meat to sit for several hours or refrigerate overnight. Preheat the oven to 325°F. In a large Dutch oven, heat oil on medium high heat. Brown the meat on all sides and remove from the pot. Deglaze the pan with wine and then add tomatoes. Allow the tomatoes to caramelize a bit. Add onions and cook until softened (about 15 minutes). Add carrots, celery, and garlic and cook until fragrant. Add meat and stock to Dutch oven. Liquid should cover ½–¾ of the meat. Cover the Dutch oven and place in stove. Cook for one hour, remove, and turn meat. Add liquid if needed.

Cook another 1–2 hours depending on the roast and oven. It should be fork-tender. Remove meat from the Dutch oven and allow to rest on a platter. For the sauce, place the Dutch oven on the stove and bring remaining ingredients to a boil. Remove any excess fat. Purée mixture with a hand blender or food processor. Adjust the seasoning and allow it to reduce if the sauce is too thin. There should be enough onions and other ingredients to naturally thicken the sauce. Slice meat and top with the sauce.

Blackstrap steaks with caramelized onions

(adapted from www.beefcookoff.org, 2005 National Winner)

Caramelized Onion Relish

2 tbsp. olive oil
1½ cups chopped sweet onion
¾ cup chopped red bell pepper
1 tbsp. balsamic vinegar
2 tbsp. chopped fresh basil
2 tbsp. toasted pine nuts or walnuts
salt to taste

Steaks

4 rib, T-bone, or other steaks for grilling
¼ cup molasses
2 tbsp. Worcestershire sauce
1 tbsp. balsamic vinegar
½ tsp. black pepper
salt to taste

Cook onions in olive oil for 5–7 minutes. Add bell peppers and continue cooking until peppers are crisp-tender. Stir in chopped basil, pine nuts, and 1 tbsp. vinegar. Season with salt. Keep warm. For steaks, combine molasses, Worcestershire, and 1 tbsp. vinegar in a small bowl. Season steaks with black pepper. Grill for a total of 12–15 minutes to desired doneness, turning and basting with molasses mixture as they cook. Serve steaks with caramelized onions. Garnish with fresh basil, if desired.

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Old-fashioned beef brisket

(recipe from Executive Chef Jack Kaestner,
Oconomowoc Lake Club)

4 lbs. beef brisket
salt and pepper
1 tbsp. paprika
3 tbsp. oil
2 medium diced onions
½ cup red wine
3 medium peeled and sliced carrots
2 ribs diced celery
1 peeled, seeded, and diced tomato or 3 tbsp. tomato paste
1 peeled, ribbed, chopped, and grilled bell pepper
1 clove garlic
2 cups stock
1 bay leaf
1 tsp. thyme
1½ tsp. cayenne or chipotle pepper
2 cups red or yellow (such as German butterball) wedged potatoes
1 cup small mushroom caps

Season meat with salt, pepper, and paprika and sear in a Dutch oven until brown. Drain the fat and remove meat. Reduce the heat, add onions, and cook until softened. Deglaze with the red wine and add carrots, tomato, pepper, and garlic. Cook until fragrant over medium heat. Add meat back to pan, then add stock and the rest of the seasonings; liquid should be halfway up the side of the meat. Cover and bake for two hours at 325°F, then add potatoes. Bake another hour and add mushrooms to finish cooking. Drain juice into measuring cup and skim fat. (You should have about 3 cups of liquid.) Place in small pan and reduce if necessary. Or see short rib recipe for two other ways to finish sauce. Serve over meat or on the side.

All of the recipes listed in this booklet can also be cooked in a crockpot with great results.

For more grass-fed beef recipes go to Chef Kaestner's website: www.wisconsinlocalfood.com.

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