

A Good Chew
Although much depends on breed and farming, grass-fed beef can be chewier.

Less Marbling
Marbling is the fat that weaves through the red meat. Grass-fed tends to have less, even in premium cuts.

The Prime Directive
“Lots more fat” defines a cut like this expensive, dry-aged Prime porterhouse.

GRASS

ver sus

GRAIN

Watch the Trim
Lean beef can still have a thick ribbon of fat if not trimmed, making it a fatty cut.

Leaner Feed
Cows take longer to grow on grass. Their fat is often yellower, from beta-carotene.

More Marbling
Concentrated diet at feedlots yields rich veins of fat.

The Fattener
Corn is one grain that's fed to cows to speed growth.

A LARGE HERD'S worth of beef cattle has passed through the *Cooking Light* Test Kitchen over the past 24 years, almost all of it standard-issue, grain-fed supermarket meat. But with beef,

as with everything in the American diet, change is afoot. Shoppers are seeing more and more grass-fed beef in regular grocery stores, along with meat from breeds marketed as special

(like Angus), and meat from organically raised animals. The local/sustainable movement has been singing the praises of the grass-fed cow, while the grain-fed industry has been under attack by food activists. The grass-fed

cow, which eats from a pasture and is not “finished” on a diet of grains and supplements for rapid weight gain, is said by its promoters to be better for the planet (less energy goes into growing

grass than grain); better for the beef eater (less overall fat, and more omega-3s and other “good” fats); and better for the cow (critics decry feedlot practices as inhumane). In this article, though,

we're looking not at meat politics but at three things that most cooks are acutely interested in: price, taste, and nutrition. Price may be the first thing you have noticed about grass-fed beef: In super-

markets, small-production, grass-fed meat can be a lot more expensive than your average grain-fed beef, just as artisanal cheese costs more than industrial cheddar. But the cook will notice

that the meat often looks different, too—sometimes a lot darker, often with less of the coveted fat-marbling you see in the highest-grade grain-fed meat. To dive into the subject, we bought half a cow.



Georgia butcher
Bill Towson cut up our Alabama Brangus cow.

Specifically, we bought half of a 648-pound Brangus cow, pasture-raised by Alabama farmer Melissa Boutwell, who is pretty local: She works about 175 miles from our main editorial offices. Boutwell Farms (boutwellfarms.com) supplies regional restaurants, which have included James Beard Award-winning Chef Frank Stitt's restaurants in Birmingham.

We talked to Boutwell about her husbandry. We saw our meat through the butchering process, took delivery of 243 pounds of meat (plus bones) cut to our specifications, and conducted blind tastings in our Test Kitchen. We learned that we could dodge supermarket prices by buying in bulk: Our cost per pound of Boutwell's beef was \$5.32, including everything from ground beef to liver to filet mignon, which made it only marginally higher than similar quantities of regular grain-fed beef prices in local supermarkets, and a lot less than we would

have paid for premium grass-fed or grain-fed meat.

As for nutrition, we put fat-content claims to the test by sending some of our finest grass-fed steaks for nutritional analysis, along with supermarket and specialty grain-fed cuts.

And on the matter of taste, we confirmed that grass-fed beef can be delicious and versatile but, if it comes from a lean cow like the one we bought, requires careful cooking lest the extra effort of buying it go to waste on the plate. (We're still cooking our way through steaks, ground beef, chuck, roasts, and ribs, plus bones and organs, and we will provide beef recipes from our grass-fed project as the year goes on.)

Buying beef directly from farmers not only is a logical next step in the "buy local" movement but also hearkens back to the way many of our parents or grandparents bought meat. All you need is to do some digging for local suppliers and buy a good-sized freezer for the supply (you'll find our primer on sourcing and buying online

PHOTOGRAPHY: (TOP) JASON WALLIS

at CookingLight.com/features). Some readers are already doing it, as we learned after putting the word out on Facebook, and one benefit of bulk buying is that it obliges the cook to experiment and enjoy less familiar cuts of meat.

"Purchasing a quarter cow was very educational," says *Cooking Light* reader Julie Lineberger. "I had never even cooked a roast, and now I am comfortable with roasts, brisket, and all sorts of cuts."

Of course, most cooks won't want to buy a whole grass-fed cow or even a half-cow. One option is to "cow-pool" with curious friends. Another is to turn to a CSA, or community-supported agriculture group. CSAs have been popping up like mushrooms in many cities, and many deliver quantities of meat on a weekly or monthly basis.

The Skinny on Grass-Fed Beef

As we stood at the checkout at a Publix supermarket with some grass-fed cuts, a young checkout clerk asked, "So, what *is* grass-fed beef?" Hearing the short answer—meat from cows that eat only grass—he looked surprised. "I thought all cows just ate grass."

All cows do graze on pasture for the first six months

to a year of their lives, but most finish at a feedlot on a concentrated mix of corn, soy, grains, and other supplements, plus hormones and antibiotics. This growth-spurt formula is the backbone of a hugely productive U.S. beef industry. A feedlot cow can grow to slaughter weight up to a year faster than a cow fed only forage, grass, and hay. "That's one year that you don't have to feed the cows in the feedlot," notes Eatwild.com founder Jo Robinson, who spent the past decade examining scientific research comparing grass-fed and grain-fed animals. "Conventional factory meat is so cheap because they've done everything to speed growth and lower the cost of feed."

The feedlot process not only speeds the animal to slaughter weight but also enhances fat marbling, which is one factor that determines a cut of beef's USDA rating—the more fat within the red meat, the richer the taste, the higher the grade. Most supermarket beef is Choice, which is one step below Prime, the top grade typically found in steak houses.

Boosting fat levels changes the nutritional composition of the meat, of course, and, from a health point of view, not for the better. A study by researchers at California State University in Chico examined three decades of

buying from a farm: what we got

A big pile of wrapped meat bound for a brand-new freezer. Here and next page are some of the cuts.

Chuck Roast
It's called a roast, but its toughness demands low, moist heat.

Flat Iron Steak
The darling of savvy butchers, this specialty cut is very tender and well marbled.

Brisket
A fibrous cut that takes well to slow braising, roasting, or smoking on a low-heat grill.

Osso Buco
These lower leg shanks become meltingly tender when braised.

COOKING CODE

- Stew
- Sauté
- Braise
- Roast
- Grill
- Broil

turn page for more cuts ➔

Are Tighter Grass-Fed USDA Rules Tight Enough?

The USDA recently tightened standards for labeling beef as grass-fed. The rules specify a diet of 100% grass and forage, with continuous access to pasture in season, but they allow for "incidental

supplementation... due to inadvertent exposure to non-forage feedstuffs." Grass-fed advocates call the rules too loose. The Denver-based American Grassfed Association has developed a certification

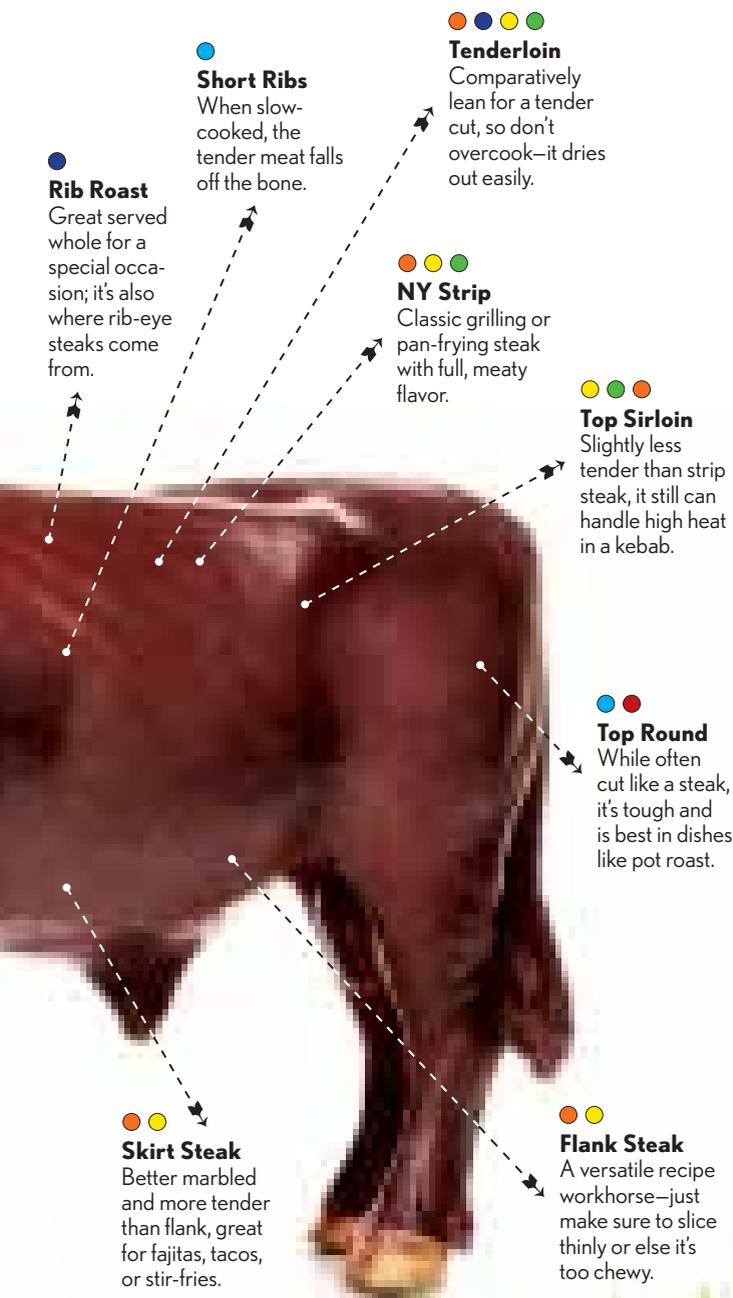
process and label for cows from audited farms that are fed 100% grass and forage; are never confined; are raised humanely; and are not given hormones or antibiotics. Certification

began in March 2009, but by the end of January 2011 only 200 farms had been approved to use the AGA label, with 200 more in process. Note: "organic" or "natural" does not mean grass-fed.

HOW BIG IS HALF A COW? OUR 243 POUNDS OF CUT, WRAPPED MEAT REQUIRED A 10-CUBIC-FOOT FREEZER.

BONES TAKE EXTRA ROOM, LESS IF MADE INTO BEEF STOCK. MORE TIPS AT COOKINGLIGHT.COM/FEATURES.

OUR TRIMMED BEEF HAD ABOUT 1/3 THE FAT OF GRAIN-FED BEEF.



Rib Roast
Great served whole for a special occasion; it's also where rib-eye steaks come from.

Short Ribs
When slow-cooked, the tender meat falls off the bone.

Tenderloin
Comparatively lean for a tender cut, so don't overcook—it dries out easily.

NY Strip
Classic grilling or pan-frying steak with full, meaty flavor.

Top Sirloin
Slightly less tender than strip steak, it still can handle high heat in a kebab.

Top Round
While often cut like a steak, it's tough and is best in dishes like pot roast.

Skirt Steak
Better marbled and more tender than flank, great for fajitas, tacos, or stir-fries.

Flank Steak
A versatile recipe workhorse—just make sure to slice thinly or else it's too chewy.

research and found that beef from pasture-raised cows fits more closely into goals for a diet lower in saturated fat and higher in “good fats” and other beneficial nutrients. Grass-fed beef is lower in calories, contains more healthy omega-3 fats, more vitamins A and E, higher levels of antioxidants, and up to seven times the beta-carotene.

Skeptics such as Chris Raines, a professor of meat science at Penn State, say the benefits of the different fat profiles are overblown: “Some people get very excited about the fatty-acid profile of grass-fed beef. Then, in the same breath, they’ll talk about how wonderfully lean it is. We’re talking up the good fats that aren’t really there.”

The National Cattlemen’s Beef Association, which says it supports all forms of beef production, echoes this much-ado-about-not-much theme. Shalene McNeill, who has a PhD in human nutrition and is Executive Director for Human Nutrition Research at the association, acknowledges that “if

you feed (cows) grass, you can slightly increase the omega-3 content, but if you look at it in terms of a whole diet, it’s not a significant advantage to human health.” Ditto, McNeill says, for some other “good” nutrients.

Yet a 6-ounce grass-fed beef tenderloin may have 92 fewer calories than the same cut from a grain-fed cow. “If you eat a typical amount of beef per year,” Robinson points out in *Pasture Perfect*, a book about the benefits of pasture-raised animals, “which in the United States is about 67 pounds, switching to grass-fed beef will save you 16,642 calories a year.” It would also, if you paid supermarket prices and dined on tenderloin, cost you about \$300 more.

Despite an uptick in consumer demand for grass-fed beef, the market is still relatively small—possibly less than 3% of all U.S. beef sales. And while the number of U.S. grass-fed beef producers is rising—from 50 in 2002 to more than 2,000 today—they face big challenges, including higher operating costs, a shortage of processors, loose standards for the

lean beef needs a bit of butter

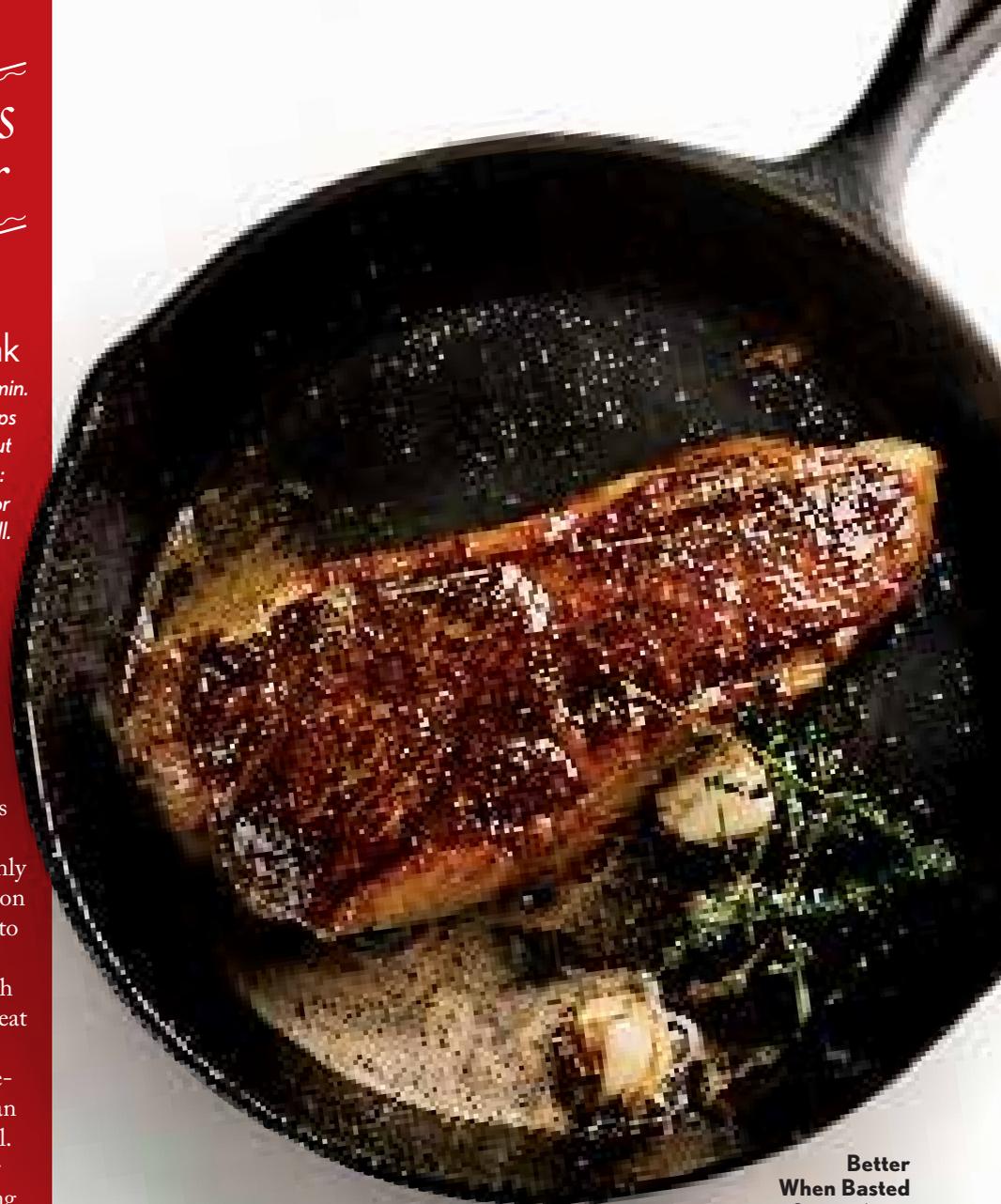
Pan-Seared Strip Steak

Hands-on time: 10 min. Total time: 51 min.
A little butter adds richness and keeps leaner-than-usual beef moist without adding much total fat. **WARNING:** Smoky! Keep exhaust fan on high, or cook in a skillet on a hot outdoor grill.

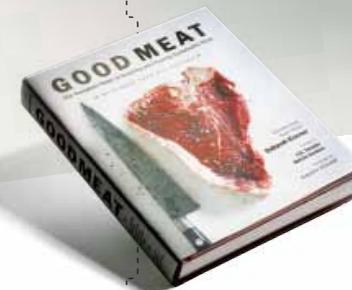
- 2 (12-ounce) lean, grass-fed New York strip steaks
- 1 teaspoon kosher salt
- 3/4 teaspoon black pepper
- 1 tablespoon olive oil
- 2 tablespoons butter
- 2 thyme sprigs
- 2 garlic cloves, crushed

1. Let steaks stand 30 minutes at room temperature.
2. Sprinkle salt and pepper evenly over steaks. Heat a large cast-iron skillet over high heat. Add oil to pan; swirl to coat. Add steaks to pan; cook 3 minutes on each side or until browned. Reduce heat to medium-low; add butter, thyme, and garlic to pan. Carefully grasp pan handle using an oven mitt or folded dish towel. Tilt pan toward you so butter pools; cook 1½ minutes, basting steaks with butter constantly. Remove steaks from pan; cover loosely with foil. Let stand 10 minutes. Reserve butter mixture.
3. Cut steak diagonally across grain into thin slices. Discard thyme and garlic; spoon reserved butter mixture over steak. Yield: 6 servings (3 ounces beef and ¾ teaspoon butter mixture).

CALORIES 197; **FAT** 10.2g (sat 4.4g, mono 2.2g, poly 0.7g); **PROTEIN** 26.3g; **CARB** 0.3g; **FIBER** 0g; **CHOL** 73mg; **IRON** 2.1mg; **SODIUM** 410mg; **CALC** 13mg



Better When Basted
Spoon over the crust, butter gives lean meat a flavor boost.



The Cow-Pooler's Cookbook

Good Meat, by Deborah Krasner (Stewart, Tabori & Chang, 2010; \$40)
Krasner's is the first major cookbook dedicated to grass-fed and pastured meats, including beef, pork,

lamb, chicken, duck, and rabbit. There's practical, comprehensive information on sourcing sustainable meats, along with butchering illustrations and more than 200 recipes.

← cooking code on previous page

WANT TO TRY COW-POOLING? CHECK OUT OUR 10-POINT ONLINE GUIDE TO SOURCING, ORDERING, & PRICING,

WITH TIPS FOR DEFROSTING AND CHOOSING THE BEST CUTS. GO TO COOKINGLIGHT.COM/FEATURES.

definition of “grass-fed,” a lack of consistent quality, and consumer wariness about taste and texture.

Meeting the Meat

Standing in a meat locker among a small crowd of hanging beef sides at a family-run abattoir, we learned some lessons about beef from a guy with an 8-inch knife and a rancher who was wearing eye shadow. Melissa Boutwell, the rancher, practices rotational grazing with the deliberate precision of an industrial process engineer. She had offered to let us choose our half-cow in person. Bill Towson, the butcher and owner of the family-run Towson Fine Meats in Tifton, Georgia, agreed to let us watch his team cut up Boutwell's cow to fit our specifications.

Towson made a clean slice between the 12th and 13th ribs of an Angus cow and a Brangus (an Angus-Brahman hybrid), two grass-fed cows raised in identical conditions. “USDA inspectors use this single cut to determine the grade of the entire cow,” said Boutwell, who raised both of these animals. Delicate veins of fat running through the meat

This is not my idea of grass.

play a critical role in flavor and grade. It was easy to see the difference in the exposed rib eyes: The Angus had more marbling compared to the superlean Brangus. Next to our Brangus carcass was a much scrawnier specimen that had little fat and whose meat had the dried-out look of jerky.

Another lesson, then, about grass-fed beef: It's not

beef is wet-aged in a plastic vacuum-sealed bag that prevents shrinkage but also precludes the concentration of beefy flavor that occurs with water loss. The amount of fat cover also determines how much is available to go into the ground beef—which we ordered in 85/15 and 90/10 meat-to-fat ratios.

The fat on our grass-fed cow looked different from

ier than we were used to, and sometimes drier. There can be such a thing as *too lean* in beef cuts that are conventionally fairly high in fat, like strip steaks and other luxury cuts. Adjustments had to be made for these steaks, which were producing less fat in the pan than we were used to and could turn tough.

“Fat is an insulator,” says Deborah Krasner, author of *Good Meat*, the first major cookbook dedicated to sustainable meats. “So if you cook something that's very fatty, and you cook it badly, it's still going to taste pretty good because fat insulates the meat. When you have leaner meat, you don't have that safety net, so you have to cook it carefully.” Cook with care, or chew like crazy, basically.

“Carefully” means that tougher cuts like short ribs or brisket require the very-low-and-slow approach—long cooking at low temperatures. But it means cooking a tender steak more aggressively than you might be used to for such a pricey cut. We decided to really turn up the heat on a thick, 12-ounce grass-fed New York strip purchased at Whole Foods, preheating a cast-iron pan on high, turning on the fan, and nearly smoking out the kitchen

[CONTINUED ON PAGE 185]

COOK WITH CARE, OR CHEW LIKE CRAZY.

only about the grass, but also the breed, and the cow.

We were looking for a lower-fat cow, so we chose the Brangus. Though lean, it was still blanketed with a jacket of fat that would play a flavor role in the evolution of the meat. The fat would mostly get trimmed away during the butchering, but before then it would protect the meat during the dry-aging period, usually 10 to 14 days, in which the carcass hangs in a cold locker while natural enzymes break down tough muscle fiber and tenderize the meat. It's worth noting that although the best steak-house steaks are dry-aged, most supermarket

the fat we have been accustomed to cooking. Compared to the bright, white fat of conventional beef, grass-fed fat is often yellower, stemming from the higher levels of beta-carotene. And as we would learn, the quantity and the quality of our cow's fat would play a key role in cooking.

The Bottom Line: Taste and Tenderness

Our Test Kitchen experimented with various cuts of grass-fed beef, both from our Brangus cow and from local supermarkets. The meat had good, clean beefy flavor but tended to be a lot chew-



Delivered 243 pounds of Brangus, cut to order

How Our Cow Stacked Up

Nutrition and pricing: our grass-fed beef against basic grain-fed supermarket beef

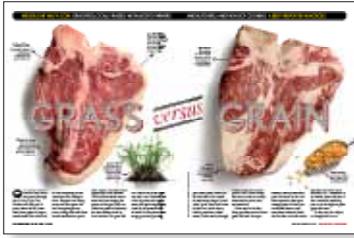
OUR GRASS-FED COW		GRAIN-FED BEEF
The USDA has a less rigorous definition, but among pasture purists, grass-fed means a cow lives its life eating only grass and forage after weaning. Never treated with hormones or antibiotics. Our cow fit those standards.	What Do the Terms Mean?	Pastured on grass and forage at first, then confined to fatten up on a concentrated feed of grains and supplements. Treated with hormones and antibiotics to promote growth and prevent illness.
Our cow was <i>really</i> lean. Lab tests on a 4-ounce serving sample of our sirloin strip steak showed 4.1g total fat, 1.7g sat fat.	Nutrition: How Did the Total Fat Compare?*	Lab tests of supermarket grain-fed sirloin strip steak showed almost three times the fat: 11.5g total fat, 4.7g sat fat. A Prime-grade steak had <i>four times</i> as much total fat and sat fat.
Our grass-fed cow did not have a significantly higher ratio of monounsaturated fats, or of omega-3 fatty acids. It was just a low-fat cow.	What About the “Good” Fats?	Grain-fed steaks were higher in saturated and trans fats, but also monounsaturated and polyunsaturated fats.
We paid, on average, \$5.32 per pound for our half-cow of grass-fed Brangus (243 pounds of meat, including organs).	What Our Cow Cost Versus Supermarket Prices	We would have paid \$5.03 per pound, on average, for the same quantities and cuts of regular grain-fed beef in a local supermarket.

* We tested the fat content of fully trimmed steaks using an accredited lab. Fat content varies significantly depending on the degree of trimming. A lean grass-fed steak with a good ribbon of external fat can have more fat than a well-trimmed, well-marbled Choice grain-fed cut, as another test showed.

PHOTOGRAPHY: JASON WALLIS

HOW OUR HALF-COW BROKE DOWN: WE GOT 42% OF OUR MEAT IN CUTS SUITABLE FOR ROASTING OR FOR

BRAISING, 21% WAS GOOD FOR SAUTÉING OR GRILLING, AND 37% WAS GROUND. WE ALSO GOT BONES & OFFAL.



[CONTINUED FROM PAGE 144] when the meat hit the metal. Testers were coughing and shaking their heads as the vent fans roared. After a billowing three-minute sear on each side, there was very little fat in the pan. Previous tests suggested that the meat, though good, would lack the buttery deliciousness many of us like in this rare treat. Recipe tester Robin Bashinsky turned down the heat and began basting the steak with two pats of butter (see recipe, page 143, for this method). When done, the meat got a short rest under foil and then was sliced; it was perfectly medium-rare within.

Could a grass-fed cut, with its lower-fat content, rival a grain-fed cut? Yes: It was succulent, buttery, and robust, with

a perfectly caramelized crust. The juices formed a simple, rich sauce.

BUT IS THIS A PARADOXICAL way to cook a steak bought in part for its lean fat profile—adding butter to “beef” up the flavor? (After all, grass-fed fans suggest it just takes time to come to love what Deborah Krasner calls “meatier, purer, more mineral” flavors.) Not necessarily. First, most of the butter does not cling to the beef, so we estimate the process adds less than half a gram of saturated fat to the final meat. (If you use the pan juices as a sauce, more is added, but total saturated fat for a serving is still only 4.4 grams.) Second, a cook may have bought grass-fed meat for many reasons—ecological, ethical, or to support local businesses—but still desires a hit of full-on steak-house flavor now and then.

As we tasted more beef, however, we found that there aren’t clear-cut, consistent taste differences between grass-fed and grain-fed meat. This emerged after a blind tasting of eight New York

strips, cooked identically. Samples included regular supermarket beef; steak from our grass-fed cow; and meat from a variety of grass-fed and grain-fed animals of different breeds raised in different states. The latter came from a “Discover Beef” tasting pack from The Artisan Beef Institute in Santa Rosa, California, whose founder, Carrie Oliver, applies the wine-tasting model to meats.

Our testers liked several samples but discovered no universal preference for grass-fed or grain-fed, finding various degrees of beefiness and juiciness across the samples. Beef really *is* like cheese or tomatoes or any other food: The proof is in the pudding, not in claims about the pudding. The cook needs to explore and sample with an open mind. But this is good: However the politics of beef resolve themselves, the move from industrial production toward more emphasis on breeds, feed, care, and provenance will present the American cook with more choice, more variety—and more pleasures in the kitchen and on the plate. 🍴



Your salad would be under 200 calories if it was
JUST LETTUCE.

The average prepared salad from national restaurant chains = 468 calories and 28 grams of fat.
 Healthy Choice's Rosemary Chicken & Sweet Potatoes = 170 calories and 2.5 grams of fat.
 Now that's honestly awesome.



AN HONEST-TO-GOODNESS LUNCH