

Buying Beef: The Chef Debrina Zen (as I know it) of Beef Grades & Labels



The Different Grades of
Boneless Ribeye

Every start to the summer season it seems the same conversations take place about what meats are **BEST, MOST** cost efficient, **MORE** Healthy etc... So, I thought I would address it here, to the best of my ability, for **ALL** to reference: Hope it helps. **ENJOY!**

OK to start, here are four boneless Ribeye steaks with the crescent wraparound (*spinalis*) muscle removed leaving what is called the eye of the Ribeye, each is approximately 12 ounces.

You can see how **Wagyu** has more marbling than **Prime**, which has more marbling than **Choice** and you can also see that the **Dry Aged** steak is smaller because it has dehydrated, and darker.

Typically, **CHOICE** steaks of this size typically sell for \$8-10...**PRIME**: \$20-30...**WAGYU**: \$60-70....**Dry Aged PRIME**: \$30-35.... **KOBE** (not shown): \$125-140.

NOTE: The photo credit of these steaks came from the **Allen Brothers** catalog, a first rate Chicago butcher that supplies many top steak houses (Morton's, Lawry's, and Delmonico's, among many others). They also sell superlative beef to retail consumers via catalog and online...and their catalog is drool inducing.

So...How IMPORTANT is marbling?? Well, I think marbling is more of a flavor factor than a tenderness and juiciness issue, primarily on the surface if you get a good dark sear. Fat also influences "mouth feel".

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Harold McGee, eminent food scientist and author of my "Bible" **On Food and Cooking: The Science and Lore of the Kitchen** has written that much more than marbling influences quality. "Despite the prestige of Prime beef, the current consensus among meat scientists is that fat marbling accounts for no more than a third of the variation in the overall tenderness, juiciness, and flavor of cooked beef. The other important factors include breed, exercise and feed, animal age, conditions during slaughter, extent of post-slaughter aging, and storage conditions before sale." **Note:** Lately due to charter cost concerns, I have been ordering CHOICE meats (from Bush Bros) and all found them to be an excellent product)

Carrie Oliver of the **Artisan Beef Institute** believes there are other criteria including use of drugs and other husbandry conditions, transportation, as well as cutting techniques. I might add freshness, aging, seasoning, and cooking are also highly important quality factors.

Ok, now you should buy ONLY rosy red colored beef, right? Well, Maybe???

If that beef in the grocery is looking so rosy and delicious, that is because it's really fresh, right? Well, maybe not. It seems that Cargill (MORE about them later) and others have perfected a process for sealing meat in an airtight pack with a carbon monoxide atmosphere, and that keeps the meat from oxidizing and turning brown. **For a long time... Even if it is stored improperly!**

Seems that even fresh meat can brown easily, and still taste just fine, but shoppers will buy the pink/red meat first even if it is not fresh. So grocers, who are cutting back on their butchering staff and hate wasting unsold meat, have turned to **"modified atmosphere"** pre-packaged beef, lamb, and tuna. **NOTE:** Consumer groups (at least here in Florida) are fighting to have the stuff labeled, but the industry is resisting.

So, the color of beef in a package is not a good measure of freshness anymore. Be sure then to **Check the sell by date!** Of course, health inspectors can all tell you tales about butchers changing meat labels to extend the sell by date. The solution, get to know your butcher and stay on your toes by shopping around and comparing....again why I go to a local wholesaler like BUSH BROS. in West Palm Beach: www.bush-brothers.com (they fresh cut to order for me and then vacuseal)

Vitamin BEEF...Flesh of bovine... Is there anything more luxurious and decadent (ok to some) than a prime grade dry aged Ribeye grilled over high heat?

Cattle are butchered and can be broken down into **many different cuts**. The most popular use of beef is for steaks, roasts, and ground meat, but everything from the tongue to stomach to testicles are served. Even the bones are used for stews and soups.

Beef comes from both steers (boys) and heifers (girls), and the best comes from mature, but not old animals. Young animals,

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calves, are used for veal. Older, tougher animals are best used for ground beef.

NOTE: There are some very helpful terms used to describe beef and many appear on labels. It pays to know them when you shop.

Marbling (AGAIN ha-ha). Starting in 1926 the United States Department of Agriculture (USDA) began grading beef. Today inspectors grade primarily on the age of the animal and the amount of fat mixed in with the muscle as measured between the 12th and 13th rib. ***This fat is called marbling*** because it resembles the striations in marble: Thin, web like filigrees. The more marbling, the more flavor and juiciness, but marbling has little tenderness impact. Marbling can contribute up to 50% of the quality of a steak because fat is where the flavor is at.

Beef grades

USDA Utility, Cutter, Canner Beef. These are the lowest grades of beef and used primarily by processors for soups, canned chili, sloppy Joe's, etc. You will not likely see them in a grocery.

USDA Standard or Commercial Beef. Practically devoid of intramuscular fat. If it does not have a grade on the label it is probably standard or commercial. These grades are fine for stewed or ground meat, but they are a bad choice for barbecue.

USDA Select Beef. Slight marbling. Most restaurant **brisket** is this grade. If you know

what you are doing you can make this stuff tender. Otherwise, get a higher grade.

USDA Choice Beef. Noticeable marbling, but not a lot. This is a good choice for backyard cooks. About half the beef is marked USDA Choice.

USDA Prime Beef. Significant marbling. Often from younger cattle. Prime is definitely better tasting and more tender than Choice. Only about 3% of the beef is prime and truthfully it is usually reserved for the restaurant trade, but your butcher should be able to order it for you. If not, try a reputable online supplier like **Allen Brothers**.

Special Breeds:

Black Angus. Black Angus cattle are considered by many to be an especially flavorful breed. Alas, I think it is almost impossible to know if what you are buying really is Angus.

NOTE: Certified Angus Beef™. The Certified Angus Beef™ (CAB) brand



we see here a lot in Florida, is a trademarked brand designed to market beef. It has very little to do with quality. **Amazingly, now listen carefully, CAB does not actually certify that the beef labeled Certified Angus Beef is Angus or that it even has any Angus in it. Their major control is that the steer must have a black hide, which is an indicator, but not a guarantee of Angus in its genes. So just what are they certifying? Crazyiness!**

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Well, anyway, the carcass must pass **10 quality control standards**. CAB can be ordered as select, choice, or prime grade. The one thing you can be sure of, CAB will cost more because the American Angus Association charges a fee to "certify" the steers and higher markups take place on down the line.

Kobe Beef. As I understand it, Kobe Beef comes from Wagyu cattle, a special breed that is genetically disposed to have high marbling. It was first popularized in the Kobe Prefecture of Japan where it became known generically as Kobe beef. Kobe cattle are fed sake and beer mash during the final fattening stages and some even get daily massages!

No kidding. Some of it is graded A1-A5 with A5 having the most marbling. Some of it is graded with a marbling score called BMS. USDA prime is 4 to 5 BMS, which is where Wagyu beef usually starts. American Wagyu is usually 4 to 10 BMS. Japanese Wagyu can go up to 12 BMS because of the feed and handling regimen.

Wagyu Beef. Wagyu cattle are now also raised in the US and other countries. American Wagyu does not have to adhere to the same feeding and massaging standards as Kobe. So...At twice the price of prime is it worth it?

Aging:

After cattle are slaughtered chemical changes called *rigor mortis* makes the meat tough within the first 12 hours. The carcass must be

chilled rapidly but not frozen, and it takes several days for the muscles to relax enough to be sold. This usually happens in shipment.

After that it can be further aged, or ripened, to increase tenderness. Enzymes and oxygen begin to work on the meat during the aging process, but too much age can spoil the meat, especially if bacteria, yeasts, or molds attack the meat.

There is a big difference between aged meat and old meat. In addition, aging does not enhance all cuts, and it is not necessary for ground beef.

NOTE: Pork and most poultry do not age well at all because their fats get rancid more rapidly than those of beef.

Fresh. Ok, This seemingly desirable term means the meat has not been aged at all, so it is actually not a sign of highest quality.

Wet Aged Beef. Most meat is shipped from slaughter houses as large wholesale cuts packed in plastic vacuum bags in boxes. If kept this way at 34-38F for about 30 days, enzymes tenderize the meat, but the flavor is not as enhanced as it is in dry aging. If you buy vacuum packed beef that has not been aged, keeping it in the fridge for 2-3 weeks may tenderize it a bit.

Dry Aged Beef. Dry aging beef is an expensive process for tenderizing beef and concentrating its flavor. Dry aged beef is noticeably different tasting than fresh beef because the chemistry of the fat changes drastically. Some describe it as

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earthy, nutty, gamey, leathery, or even mushy. Some people are addicted; some just plain do not like it.

Do try some anyway and you decide...

Me, well I do LIKE but not LOVE it.



Large hunks of meat, usually the best cuts such as the rib primal (section), are held in a sanitary room at 34-38F and 70-80% humidity, with brisk airflow for 30-75 days. Dry aging is sometimes called controlled rotting because the exterior of the muscle gets dark purple and mold sometimes grows on the outside of the meat

In the picture above: you see bone-in rib primals in the aging locker of the **PUBLIX Greenwise** market here in PBG. They range from, left to right, 7 days, 20 days, 30 days, and 60 days.

During aging natural enzymes break down connective tissue and tenderize the meat while moisture evaporates shrinking the meat up to 20% (fresh beef is about 70% water).

The outside crust is then trimmed off before they are sliced into steaks and cooked, so another 15% is lost, although some of the trimmings are used in incredible hamburger meat (good reason

to know your butcher to ask for those bits).

NOTE: Aged steaks at PUBLIX sell for a bit less than \$1 per day.

Usually, it is rare to find dry aged beef in grocery stores because most of them buy their meat in vacuum-packed plastic bags. Some specialty butchers and high-end restaurants do offer dry aged beef. **NOTE:** Because precise temperature and humidity control are crucial, it is ADVISED that you should not try dry aging at home.

Other terms:

Grass Fed Beef. Until the 1950s, most US beef was grass fed by being allowed to graze on open ranges. As the US population grew and demand for cheap beef grew, grain feeding of beef became the norm. Of course now there is a trend back to grass feeding because many believe it is better for the animals, for people who eat them, and the environment.

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Some people think grass-fed beef taste better than grain fed, but it seems that more think corn fed tastes best.

Grain or Corn Fed Beef. For most of their lives, and especially just before slaughtering, most cattle in the US are fed corn. These cattle have slightly more fat and many people prefer the taste. Cattle do not easily digest corn, but the process is popular because they can be kept in tight pens in feed lots and do not have to graze over open land.

Grass or Corn Finished. Before slaughtering, some cattle are brought to feedlots where they are gorged and fattened. Sometimes grass-fed cattle are corn finished, so consumers who are concerned about corn feeding might also inquire if their grasses fed cattle have been corn finished. **I KNOW, It is getting complicated out there...**

Organic Beef. USDA rules passed in 2002 state that certified organic beef must be produced according to strict rules that must be verified with an elaborate paper trail on every animal including its breed, feed, and medical history. To be certified organic it must eat only organic grasses and grains, have unrestricted outdoor access, must never be given antibiotics or hormones, and must be treated humanely. Organic beef is more expensive.

Natural Beef. Natural beef must not be given antibiotics or hormones, but they can be grown, fed and handled in the same way as other common cattle. Some physicians and scientists think giving cattle antibiotics could

be encouraging the appearance of antibiotic resistant microorganisms in humans.

Kosher Beef and Halal Beef. These cattle are grown and slaughtered according to Jewish law (kosher) or Moslem law (Halal). Their requirements are similar. Both require that the animal be slaughtered by slitting the animal's neck veins and drained of practically all blood. Some experts believe this method is painful and inhumane.

So....Where beef is heading.

There is a rapidly growing vital movement to grass fed beef, sustainable beef, varietal beef, and even estate grown artisan beef. I think this movement will really catch on in the next decade as quality conscious and environmentally conscious consumers look for top quality, new flavors, and try to avoid factory farmed beef. The movement reminds me very much of what happened to the wine industry in the 1960s (yes, I'm that old).

Beef farming husbandry has been the subject of a great deal of controversy in recent years. The subject is much too large to cover here, and is discussed thoroughly in such books as **Michael Pollan's** brilliant book, the **Omnivore's Dilemma**, but anyway, here is a summary:

Beginning with the Nixon administration, under Agriculture Secretary Earl Butz, US farm policy shifted billions of dollars to encourage and subsidize cheap corn. Corn is a miracle plant.

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NOTE: Corn derived products can be found in about half the foods in your grocery store.

It is also a great way to make farm animals grow large and fat quickly. With government help, research has significantly increased corn yield per acre. Meanwhile, the number of buyers for corn has decreased, with the vast majority being purchased by Cargill and Monsanto.

This has limited the market and put the squeeze on corn farmers while, at the same time, driving down the cost of corn. This makes many food products cheaper, from soft drinks to beef, not only in the US, but around the world.

It has had the unpleasant side effect of pricing home-grown foods out of the market in many Third World nations, especially Africa, depressing the local economies, and transferring profit to US agribusiness multinational giants.

As corn prices dropped, another farming revolution was taking place. The family farm began disappearing. After WWII, in the late 1940s, about 20% of the population was involved in farming. That number is down to about 2%. That's because new technologies emerged and mass production concepts were adapted from the manufacturing industries. Among them were the use of steroids and hormones to speed animal growth. One of the most notable techniques to emerge was the appearance of concentrated animal feeding operations (CAFOs).

Most cattle are birthed and raised on farmer owned ranches where they are well cared for and get a mixed diet of hay and grains.

But when they are close to slaughter, they are sold to CAFOs where they are switched to a diet of corn mixed with supplements, among them antibiotics to combat diseases that can be problematic in such tight quarters. Corn has the added benefit of making beef taste better because it can encourage better marbling.

On the other hand, it can create digestive problems in cattle, which are ruminants, and genetically better suited to digesting cellulose, like grass. Corn's high carbohydrate concentration can make them susceptible to digestive problems and the jam packed quarters cattle are kept in on CAFOs.

Many physicians are concerned that widespread use of antibiotics in farm animals, not just cattle, is allowing antibiotic resistant bacteria to generate, and they may jump to humans. Others are concerned that, despite research to the contrary, antibiotic, steroid, and hormone residues remain in the meat.

As a result, consumers and farmers have found common ground and are spearheading a movement to a new way of growing beef. As an example, a ranch might select a bull whose bloodlines and offspring have proven to be high quality, much like race horses are bought at auction. They grow their cattle on a mix of grass and grain, allowing them to graze. This means more land is needed, and animal growth is slower, so costs are higher.

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They then slaughter, butcher, and market directly to consumers from the ranch, via the internet, via catalog, at farmers' markets, and in specialty stores. At a higher price.

There are a number of luminaries and visionaries in the movement, among them Carrie Oliver who has created the **Artisan Beef Institute**, where she disseminates info about artisan beef producers and sponsors tastings.

You can even buy a tasting of beef from different artisans for sharing with friends and the carnivore's answer to a wine tasting...well I'm just say'n.

She says that many things influence the flavor of a steak, including the steer's diet, the treatment of the cattle, the time of year, and even the vintage. She predicts that steak lovers will start asking for their favorite breeds, areas of origin, ranchers, and even butchers. You know, I think maybe she is right and predict big things for this movement.

Anyway, I hope this info helps and I would appreciate any additional insights and info you all might have...

Happy Summer 2011
Grilling Season!!