

# What is Good Beef?

by William Lipsey

How does one determine what is quality beef? The leanness of the burger, the juiciness of a steak, the manner in which it was raised? Taste is a subjective matter, particularly in food. A local diner, whose food I think is inedible, tends to be packed to the gills every day. How many times have you heard someone claim that the 10-year-old cow they recently butchered was “the best beef they ever had”? While it is probably a subject that everyone will never agree upon, there are some objective guidelines that are used to determine quality.

## USDA Grades

The USDA grades carcasses based on quality and yield. There are 8 quality grades ranging from Prime to Canner. Quality grades are based on age and marbling. The age is determined by the grader based on the cartilage in the vertebrae and is given a maturity score:

- A 9-30 months
- B 30-42 months
- C 42-72 months
- D 72-96 months
- E more than 96 months

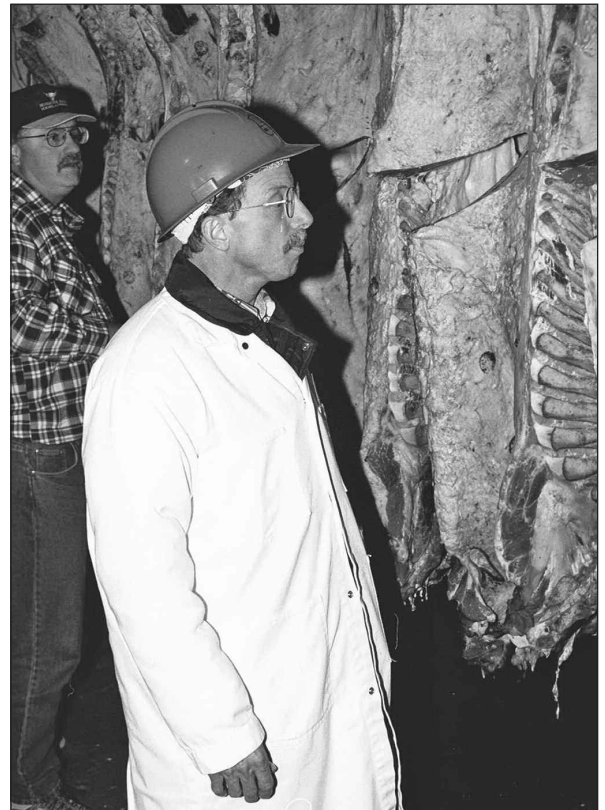
After the carcasses maturity has been determined, it is cut between the 12th and 13th rib to

determine the amount of marbling. Marbling is scored based on comparison to photos, with scores ranging from “devoid” to “abundant”. You can purchase the marbling photos from the National Cattlemen’s Beef Association (NCBA) by going to [www.beef.org](http://www.beef.org) then clicking on the Beef Merchandising Resource link and then looking under Beef Retail. The chart below uses the maturity and marbling scores which are combined to determine a grade.

As you can see animals under the age of 3½ years will fall in the Standard, Select, Choice or Prime grades.

Keep in mind the majority of small processors, where most Highland beef is harvested, do not grade their beef. Just because a plant is USDA inspected does not mean that the meat will be graded.

Maturity (age) is a factor as it is generally accepted that the older an animal is the less tender (and vice versa). At an AHCA Convention several years ago a



A USDA Grader looks at the rib-eye to determine a quality grade.

FIGURE 1

Relationship Between Marbling, Maturity and Carcass Quality Grade*						
Degrees of Marbling	Maturity**					Degrees of Marbling
	A***	B	C	D	E	
Slightly Abundant	Prime					Slightly Abundant
Moderate			Commercial			Moderate
Modest	Choice					Modest
Small						Small
Slight	Select			Utility		Slight
Traces					Cutter	Traces
Practically Devoid	Standard					Practically Devoid

\* Assumes that firmness of lean is comparably developed with the degree of marbling and that the carcass is not a “dark cutter”.  
 \*\* Maturity increases from left to right (A through E).  
 \*\*\* The A maturity portion of the Figure is the only portion applicable to bullock carcasses.

AHCA Convention several years ago a professor from Missouri presented his thesis that the industry should not worry so much about finishing the animals but instead to harvest them younger as age is the main factor in tenderness. The counter to that is that age also affects flavor – the older the more flavor. Think of veal, which is basically very young beef and has very little “beef” flavor. Many feel that because most animals today are put directly into feedlots after weaning and finished at 11-14 months of age, beef in the stores is less flavorful. Generally it is considered that 36-40 months of age is the maximum age for acceptable tenderness.

Marbling is a measure of the intramuscular fat in the rib area. Marbling is the main factor used to determine quality – with Prime having the most amount of marbling and is considered the best quality beef. Marbling will increase the juiciness of the meat and generally increases the tenderness and eating quality. Many studies have been done that show as the amount of marbling (higher grade) increases, consumer dissatisfaction decreases. This does not mean that a lower quality grade (less marbling) will not produce a satisfactory piece of meat.

### **Tenderness**

Another obvious major factor in the enjoyment of beef is tenderness. Tenderness varies by cut, a general rule of thumb is the muscles that are

used the most (in the rear - round and the front – chuck) are less tender and those used the least (the rib and the loin area) are more tender. Cooking methods can improve the tenderness of a particular cut – properly cooked a chuck roast will melt in your mouth – but some cuts are expected to “perform” under any method. People want to be able to throw a 1½ inch thick rib-eye steak onto the grill and no matter how well done, it should be tender and tasty. The only objective test available for tenderness is the Warner-Bratzler test, which is not often practical for a small producer. There are DNA tests for tenderness but the accuracy of those are questionable. There are a few things you can do as a producer to help ensure your product is as tender as possible:

- Proper and quiet handling. A nervous stressed out animal will produce less tender beef.
- Eliminate poor disposition animals. Study after study has shown that animals with poor temperaments grow slower and produce tougher meat. If you have an animal with a particularly poor disposition you would be better off selling it early or using it for ground beef only.
- Consider 36 months as the maximum age for harvesting. Older animals will be tougher.
- Dry age your beef.

### **Dry Aging**

Most commercial beef in the US is slaughtered one day and cut up (either into primals or con-

sumer cuts) the next. It is then bagged with gasses that extend the shelf life – most packers guarantee freshness for 60 days – and shipped to the stores. Any aging of the beef is done in the bags and is called “wet aging”. Aging increases tenderness and most industry experts will insist that wet aging is every bit as effective in increasing tenderness as dry aging. Most beef produced by Highland breeders and harvested by small plants is dry aged. Typically the carcasses are hung in a cooler for a week to 4 weeks before they are cut up. Dry aging increases tenderness and most importantly flavor. Probably one of the most common comments that small producers hear about their beef is how much more flavor it has, how it tastes like beef used to. The hanging or the aging of the carcass is probably the biggest factor. There is a reason top steakhouses around the country invest in aging rooms to dry age their steaks before serving them. Flavor! Note the original Quality Highland Beef guidelines required an aging period of 14-21 days. This is the small producers “ace in the hole” that can really help distinguish their beef from the average sold in the store.

So ultimately, what is good beef? Or better yet, what kind of animal will produce good beef? In general, a steer or heifer that is harvested between 12-36 months of age, that has at least a slight amount or more of marbling and has been hung for at least two weeks.