

The Ultimate Beef Eating Experience

Taste, marbling sells beef.

by Micky Wilson



Taste, palatability and high-quality products are often cited as factors creating a quality beef eating experience. But how do these characteristics influence consumers? And what creates these characteristics in a beef carcass?

By looking at the role of marbling in consumer preferences, how intramuscular fat (IMF) is deposited in feedlot cattle, and *Certified Angus Beef*[®] (CAB[®]) brand specifications, we just may get to the real reason why so many consumers have had the ultimate beef eating experience while dining on a CAB steak. Three such presentations given at producer meetings this fall provide insight.

Colorado State University's Daryl Tatum, professor of animal science, presented "Defining a Quality Beef Eating Experience" at a Feeding Quality Forum, Nov. 6, 2006, in North Platte, Neb.

Certified Angus Beef LLC (CAB) President John Stika presented "Science Behind the Sizzle" at an October 2006 CAB Building Blocks for Success seminar, hosted at the CAB headquarters in Wooster, Ohio. Mark McCully, CAB director of supply development, also gave seminar attendees an informational presentation at Building Blocks for Success.

Consumer preferences

"The number one reason consumers choose beef is taste," Stika says.

"People will pay more for greater satisfaction, and taste is their measure of satisfaction in food. Meat producers who are customer-driven must seek to influence the factors that affect taste all the way from the field to the table," Tatum adds, quoting Feargal Quinn, who called taste the end product.

"It's important to deliver that eating experience because consumers equate taste and product performance with value," Tatum says.

Because consumers associate taste with value, they are willing to pay a premium for high-quality products. Not only are consumers signaling they will pay a high price for beef, but when they buy that beef they are signaling many other purchasing trends and decisions.

"If you look at the list of things that consumers tell you about your product, that list is growing," Tatum says. Factors affecting beef purchasing decisions are:

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- ▶ quality, taste and freshness;
- ▶ safety;
- ▶ convenience and ease of preparation;
- ▶ diet, health and nutrition;
- ▶ individual values concerning animal welfare, environment, family farms, local growers, etc.; and
- ▶ price and value.

But along with paying a premium, consumers expect a guaranteed-tender product. The more tender the product, the more likely consumers will purchase beef. Palatability, or the flavor, juiciness and tenderness of a product, Stika says, plays a huge role in consumer satisfaction.

“The flavor components that give fed beef its unique taste characteristics reside in the fat,” Tatum says. “IMF enhances juiciness of cooked product, particularly in grilled steaks cooked to high temperature end points.”

And those temperatures and end points are increasingly important. Tatum explains that in an in-home consumer cooking survey, researchers found that 60% of consumers cook meat to beyond a medium degree of doneness.

Marbling and feedlot cattle

The industry started using marbling to grade beef in the early 1900s, Tatum said. Beef grading was based on conformation, maturity and degree of marbling.

“The presence of marbling tells you something about the production history of an animal,” Tatum says. “It tells you a little bit about the biological type and feeding history.” Further, he says, “There are some direct relationships between marbling and eating experience.”

Marbling is clusters of fat cells embedded in connective tissues that divide the muscles into bundles of fibers. The amount of marbling is related to: 1) how many cells there are, and 2) how big the cells are.

The number of muscle cells in a given animal is established at birth, but the number of fat cells increases as the animal ages. The animal starts to accumulate lipids and store fat in cells, and once the cells get to be a certain size they won’t accumulate any more fat. So, they recruit more cells.

“Fattening is a lifetime process,” Tatum says, “and the development of marbling takes place early in the fattening period.”

If something happens to delay fattening early in an animal’s life, Tatum says, external fat thickness rebounds and takes off faster than marbling.

After a delay, marbling in an animal very seldom reaches its full potential.

What are the chances?

Since the *Certified Angus Beef*® (CAB®) brand specifications require product to be in the upper 2/3 of Choice and higher quality grades, the chances of having an unpleasant eating experience with CAB product are greatly reduced (see Table 1).

But with the odds of an unpleasant eating experience still varying as much as it does, the producer’s role in providing a quality beef eating experience has increased.

“Beef producers play just as much of a role in making my customers happy as my butcher or chef,” said Daryl Tatum, professor of animal science at Colorado State University, during a Feeding Quality Forum, quoting John Kilroy, owner of the Cha Cha Char Wine Bar and Grill in Brisbane, Australia. “Cattle producers have a role to play in meeting customer needs; they should look at themselves as part of the food chain and not just (as) producers of livestock.”

Table 1: Odds of an unpleasant eating experience

Quality Grade	Prime	Upper 2/3 Choice	Low-Choice	Select	Standard
Chances	1 in 33 3%	1 in 10 10%	1 in 6 16%	1 in 4 27%	1 in 2 50%

Source: G.C. Smith

“IMF deposition begins at an early age, and at a relatively slow, but steady rate,” Tatum says. “The rate of IMF deposition increases during the finishing phase of production.

“As cattle fatten, marbling scores (or the visible amount of IMF) increases at an almost constant rate relative to total fat deposition,” he continues. “Therefore, management practices or environmental effects that reduce an animal’s overall rate of fattening tend to reduce marbling score.

“Marbling is an intrinsic component of growth,” Tatum says, quoting South Dakota State University’s Robbi Pritchard from 2001. “You can’t increase it beyond genetic potential.

“When ample energy is available, relative rate of IMF deposition appears to be most rapid during early stages of fattening,” Tatum notes, “and gradually decreases as the animal becomes heavier and fatter.”

The CAB eating experience

Because the CAB brand implements such stringent guidelines for acceptance, the chances for an unpleasant eating experience are greatly reduced (See “What are the chances?”). Specifications for the CAB brand are:

- ▶ “Angus-type” cattle, 51% black; or AngusSource®-enrolled cattle;
- ▶ Modest or higher degree of marbling;
- ▶ medium or fine marbling texture;
- ▶ “A” maturity;
- ▶ ribeye area within 10-16 square inches (sq. in.);

- ▶ hot carcass weight (HCW) 999 pounds (lb.) or less;
- ▶ backfat 0.99 in. or less;
- ▶ moderately thick or thicker muscling characteristics;
- ▶ no hump on the neck exceeding 2 in. in height;
- ▶ practically void of internal hemorrhages; and
- ▶ no dark-cutting characteristics.

The specification for Modest or higher degree of marbling, combined with medium to fine texture, increase the opportunity for a quality eating experience. “Think of marbling as an insurance policy for satisfaction,” one CAB advertisement reads. “The more white flecks you see in the meat, the more flavorful and juicy it will be.”

According to the advertisement, 26% of Choice beef contains a USDA Modest degree of marbling, and 9% of Choice contains a USDA Moderate degree of marbling. CAB accounts for 82% of the beef sold through USDA-certified programs requiring Modest and higher levels of marbling.

And consumers, who are telling beef producers that marbling does play a role in their preferences, are buying the brand. Since 1985, demand for CAB has grown from 25 million lb. to 545 million lb. in 2006. As part of that growth, McCully says, the CAB brand logo has reached a consumer awareness level of 86%. Of that segment of consumers, 87% buy the brand.

