Know Your Beef

Angus juniors learn more about the product they raise through carcass evaluation.

Story & photos by ***Corinne Patterson***

As a Cook-Off team member at the National Junior Angus Show (NJAS), you may have taken the time to memorize the specifications of the *Certified Angus Beef*® (CAB®) brand. You might have gone so far as to learn why a Modest or higher degree of marbling is required to make a juicy, tender CAB steak.

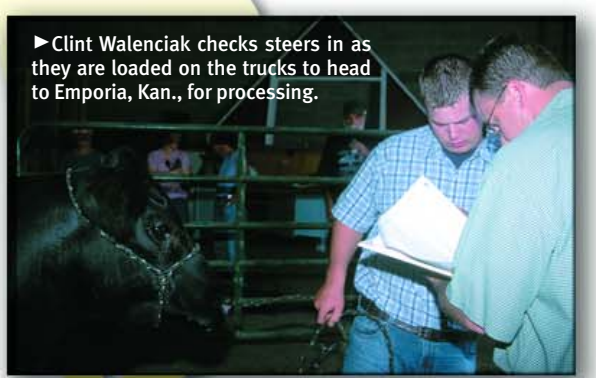
You may even have been exposed to harvest data on a calf you entered in the carcass steer contest at the NJAS. But what does all that carcass and product-related information really mean?

Clint Walenciak, director of packing for Certified Angus Beef LLC (CAB), teamed up with Bill Bowman, vice president of information and data programs for the American Angus Association, to present an educational seminar at the 2004 NJAS in Kansas City, Mo., in an effort to help junior members understand the terminology and data gained from carcass evaluation.

"There are a lot of people who have raised cattle all their lives and have never seen a carcass," Bowman points out. Angus producers may raise a high-quality product, but that's not necessarily the product available to all consumers, which is something he says the beef industry must keep in mind.

The carcass contest helps juniors keep quality top of mind. And, by understanding the information gained, juniors can apply this knowledge to their genetic selections and improve beef products offered to consumers.

"The best thing the contest can provide is some education in terms of what pieces there are to carcass data and what determines value in animals that are harvested today," Bowman says. "When you look at a large percentage of cattle that are sold on a value-based marketing system, this contest gives you a little glimpse into that realm."



►Clint Walenciak checks steers in as they are loaded on the trucks to head to Emporia, Kan., for processing.

Meeting the specs

Steers entered in the 2004 NJAS Carcass Steer Contest clearly meet CAB live specifications because they are registered Angus cattle. To meet the live criteria, cattle must be predominately black (at least 51%). The carcass cannot have a hump exceeding 2 inches (in.), which Walenciak says helps eliminate Brahman influence. Carcasses must be moderately thick or thicker in muscling in relation to carcass length. Superior muscling implies a higher muscle-to-bone ratio and a more desirable cut size and plate presentation, he adds.

Many consumers are aware that CAB tastes good, but they aren't always interested in why. As beef producers, you should be aware that the high marbling requirement set for CAB separates the product from the average, Walenciak says.

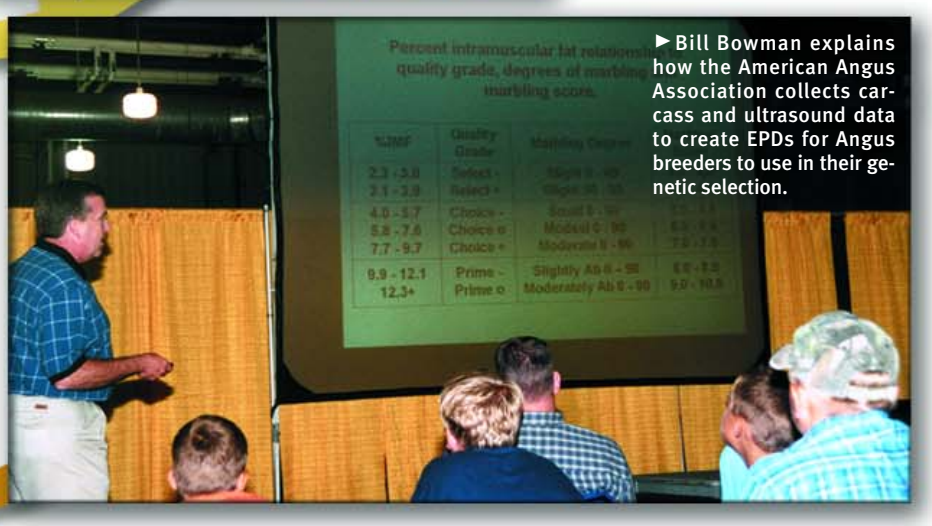
Quality grade is more than just a marbling score. While a Modest degree of marbling is a must for CAB, carcass physiological maturity also affects quality grade. CAB product is only from carcasses with A maturity [generally in the range of 12-30 months (mo.) of age].

The degree of marbling is very important, but so is its texture. Walenciak explains that only medium or fine marbling texture is accepted for CAB because coarser texture can equal poor palatability and a poor eating experience.

Yield grade is also an important component. Yield grade estimates the combined yield of closely trimmed, boneless retail cuts from the round, loin, rib, and chuck, and is measured on a scale from one to five. Walenciak says carcass characteristics measured for yield grade calculation include ribeye area, measured in square inches (sq. in.); fat thickness at the 12th rib; percent kidney, pelvic and heart fat (KPH%); and hot carcass weight (HCW).

CAB carcasses also must show no evidence of internal hemorrhages (or bruises) in the ribeye muscle and must be free of dark cutters. While Walenciak points out that dark-cutting meat isn't of poor quality, consumers demand the bright cherry-red color, causing dark cutters to be seriously discounted.

If all of these carcass specifications are met, only then will the carcass be stamped CAB.



►Bill Bowman explains how the American Angus Association collects carcass and ultrasound data to create EPDs for Angus breeders to use in their genetic selection.

Angus & All That JAZZ

Entering the carcass contest

Steers travel to the show to be graded by U.S. Department of Agriculture (USDA) graders on these characteristics to generate data.

"The data collected is first used to calculate the price that each steer owner gets paid based on the pricing grid," Walenciak says. "Then it's used to select the winner, which we have to use the index rather than the price."

The index formula used for final ranking has parameters for the industry's ideal carcass. The industry has windows of acceptance, Bowman explains, with carcass weights ideal from 650 pounds (lb.) to 850 lb., ribeye areas from 12.0 sq. in. to 14.0 sq. in.; 12th-rib fat thickness from 0.2 in. to 0.4 in.; a minimum marbling score of Small; a minimum USDA Quality Grade of Choice minus; and a maximum USDA Yield Grade (YG) of 3.0.

The final ranking isn't necessarily how industry would pay for these carcasses, but it is necessary to rank them, as a dollar value may not separate the top.

Yield grade is used in the contest, but the formula, or index, rewards falling within the window rather than the lowest numerical yield grade, Bowman points out. "You don't lose points if you are in the window; if you get way above or way below, then you get hurt. [That compares to] yield grade premiums in the industry, [where] 1s are always going to be better than 2s, 2s better than 3s, in terms of premiums and discounts."

The grid for the carcass contest includes premiums (+) and discounts (-) for the following carcass characteristics. Steers in the carcass contest are paid out on the HCW [in dollars per hundredweight (cwt.)]. This year's base price was $138 per cwt., and the following discounts and premiums were given.

► Prime	+ $24 per cwt.
► CAB®	+ $4 per cwt.
► Choice	base
► Select	- $6 per cwt.
► No Roll	- $9 per cwt.
► YG 1	+ $6.50 per cwt.
► YG 2	+ $2.50 per cwt.
► YG 3	base
► YG 4	- $20 per cwt.
► YG 5	- $25 per cwt.
Light carcasses, <550 pounds (lb.)	- $20 per cwt.
Heavy carcasses, (>990 lb.)	- $10 per cwt.

Table 1: Historical National Junior Angus Show Carcass Steer Contest data

	30 head 2001	42 head 2002	37 head 2003	52 head 2004
Prime	17%	14%	8%	26%
CAB®	23%	26%	38%	21%
Choice	43%	52%	35%	38%
Select	17%	10%	19%	15%
No-Roll	0%	0%	0%	0%
YG 1	10%	2%	3%	26%
YG 2	73%	67%	62%	53%
YG 3	17%	31%	32%	19%
YG 4	0%	0%	3%	2%
YG 5	0%	0%	0%	0%

Source: Certified Angus Beef LLC.

►**Left:** The side of beef is cut at the 12th rib to measure fat thickness. This measurement is one component of the yield grade.

Each of these discounts and premiums reflects those received in industry by cattlemen who harvest loads of cattle. The dollar values may change by grid and season, and certain specialty products may have different payouts, like the premium for CAB.

"This is as real world as these kids are going to see aside from feeding their own pens of cattle through the feedlot. A good example of that would be that we did have one Yield Grade 4 carcass, which received a $20 discount per hundredweight," Walenciak reports. "That goes back to the principles of why the contest was set up. Yes, it's supposed to be a learning experience. But it is a 'real' learning experience. If you did produce that Prime Yield Grade 1 carcass, you are going to get good money. At the same time, if you produced that low-Choice Yield Grade 4 carcass, you are going to absorb that $20 discount."

A step further

The animals entered into the carcass contest may very well come from pedigrees stacked for positive carcass traits through selection of both carcass and ultrasound expected progeny differences (EPDs). But the data from an exhibitor's single steer doesn't allow for comparisons to be made on a greater level.

"This individual data will not provide genetic information that's meaningful or that will affect an animal's EPDs or a sire's EPDs because you are dealing with, in many cases, one exhibitor with one animal," Bowman explains, noting that you cannot make comparisons without contemporaries.

Carcass EPDs come from actual harvest data collected on sire progeny in proper contemporary groups. A contemporary group is "a group of cattle of the same breed, of the same sex, born in the same season, at the same location, and managed alike from birth to time of measurement," Bowman says.

Ribeye area, marbling, fat thickness — all these traits are collected for evaluation in the real world. The Association gathered data in its first carcass sire evaluation in 1974. Since then, the database has grown to 76,109 progeny records, with nearly 5,000 records added each year, Bowman reports.

"Angus cattle inherently have positive carcass traits, especially for quality grade. It's allowed us to really propel the breed in terms of identifying those cattle and being able to propagate them in the breed," Bowman says. "It's continued to set Angus apart because we do have a consumer focus — not just focusing on producing seedstock or even producing cattle at the commercial cow level, but one step further in that we are focused on the consumer in providing product that's acceptable to them as well."

Ultrasound EPDs are also used by Angus breeders and include the same measurements as carcass EPDs, but this data is from heifers and bulls and may even include that animal's own ultrasound data. But, as Bowman points out, they are two separate sets of data, and they aren't comparable.

The Association has taken carcass and ultrasound EPDs one step further and created $Value Indexes for breeders to use in selection. Much like the index used to find final rankings for carcass contest placings, the indexes for Feedlot Value ($F), Grid Value ($G) and Beef Value ($B) take into account a combination of traits and combine them into one value that can be used to rank animals.

"The nice thing about the index is that it does the math for you. It basically analyzes an EPD and its value relative to these EPDs and their values," Bowman says. "The index puts them all together and weights them accordingly."

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