Genetics Make the Difference

It takes more than just a black hide.

*Commentary by **Gary Fike***

The more known Angus genetics, the greater the *Certified Angus Beef ®* (CAB®) brand-acceptance rate, according to analyses from Iowa State University. The data were taken from studies of nationwide Angus sire test data in 2000 and the state's Tri-County Steer Carcass Futurity (TCSCF) data in 2004.

CAB-acceptance rates were 34% for TCSCF cattle that were 76% to 100% Angus, compared to 10% for cattle that were 25% or less Angus. The high-percentage Angus cattle gained 41 pounds (lb.) more live weight, or 25 lb. more carcass weight, than those least influenced by the breed. Net dollars per head were a whopping $68.07 more for the high-percentage Angus. Apparently, one does not have to give up performance in the search for higher-quality carcasses.

Searching for quality

Let's look at this from a new angle with new data from Certified Angus Beef LLC (CAB) Feedlot-Licensing Program (FLP) records. If we sort out 2004 harvest groups with greater than 30% CAB acceptance and those with less than 10% CAB acceptance, we find nearly 4,000 cattle in 34 groups. The low-quality group registered only 7% CAB acceptance, on average, while the best averaged 38% CAB acceptance (see Table 1).

The only statistically significant difference between low- and high-acceptance-rate cattle is the average marbling score. That's no surprise, because CAB-acceptance rate was the criteria for selecting groups. It may surprise some people, however, that there were no differences in hot carcass weight (HCW), fat thickness at the 13th rib or ribeye area (REA).

Carcass merit elsewhere was not sacrificed to marbling, nor should it have to be. For too long there have been misconceptions in the industry that cattle earning the CAB brand have more fat and less muscle than average. It isn't necessarily so, and there are genetic lines in the breed that demonstrate this.

Performance plus

They can grade, but how did the cattle perform in the feedlot? Don't those "good grading" cattle cost more to feed, gain weight more slowly and spend too many days in the pen? Another misconception is that you can't have both gain and grade, but the data in Table 2 begs to differ.

The high-acceptance-rate cattle performed similarly to the lower-quality groups. The ones that averaged 38% CAB had greater average daily gains (ADGs) and numerically lower cost of gain. All the cattle were fed a like number of days and converted feed at the same rate. Again, this may fly in the face of the conventional wisdom that says to hit the CAB target, one has to give up performance, leanness and muscle — not in these cattle.

Would FLP data back the Iowa data showing the role of Angus genetics in postweaning value? The same groups of cattle records were divided into heaviest- or least-Angus-influenced (see Table 3). The heavy-influence cattle were solely Angus-sired, and out of either straight-Angus or Angus-based cows. Even if they were "predominantly Angus-sired," they were counted with those of unknown sire on straight or Angus-based cows.

Despite differences in the marbling scores, the CAB-acceptance rates were not statistically different because of sample size. Numerically, cattle with the heaviest Angus influence achieved 31% CAB, compared to 22% CAB for the least-influenced cattle. Performance differences were similarly slight (see Table 4).

Finding the premium

For quite some time, high-percentage Angus cattle have received premiums at auction markets. The CAB "Here's the

Table 1: Carcass characteristics by high vs. low CAB-acceptance rate

Group	HCW, lb.	Fat thickness, in.	REA, sq. in.	Marbling score*
High (38%)	734	0.57	12.56	1,099[a]
Low (7%)	713	0.52	12.65	999[b]

*900 = Select[0]; 1,000 = Sm[0]; 1,100 = Mt[0], etc.

[a,b]Means with unlike superscripts differ P<0.0001.

Table 2: Performance measurements by high vs. low CAB-acceptance rate

Group	ADG, lb.	F:G	Cost per lb. gain	Days on feed
High (38%)	3.06[a]	6.12	$0.5223	171
Low (7%)	2.70[b]	6.18	$0.5710	167

[a,b]Means with unlike superscripts differ P<0.005.

Table 3: Carcass merit by level of Angus influence

Group	HCW, lb.	Fat thickness, in.	REA, sq. in.	Marbling score*
Heaviest Angus influence	729	0.60	12.38	1,098[a]
Least Angus influence	723	0.54	12.74	1,029[b]

*900 = Select[0]; 1,000 = Sm[0]; 1,100 = Mt[0], etc.

[a,b]Means with unlike superscripts differ P<0.002.

Table 4: Feedlot performance by level of Angus influence

Group	ADG, lb.	F:G	Cost per lb. gain	Days on feed
Heaviest Angus influence	3.03	6.39	$0.5394	179
Least Angus influence	2.99	5.99	$0.5436	163

None of the performance parameters were significantly different (P>0.19).

Premium" six-year study shows a $15- to $20-per-head — and increasing — advantage over non-Angus cattle. There are several factors involved, but one reason has certainly been the greater likelihood of those cattle earning the CAB brand label. Packer grid premiums have increased tenfold during the six years, to about $50 million per year.

As more breeds in the industry have crossed with Angus and been selected to retain black hides, an unpredictable commodity class of black cattle emerged that earned few premiums from packers. They lacked marbling as much as Angus influence. Some more heavily Angus-influenced cattle fell short, too, because their producers thought the Angus black hide was enough.

For years, it was enough to fool buyers, but the industry has moved on. When Angus producers combined their focus on both production and carcass traits, the breed grew to No. 1 in the U.S. in registrations.

There is no question that the beef industry has moved toward value-based marketing. As that continues — and it will — the cattle that earn the greatest premiums will be those that carry the most valuable information. Genetics; expected progeny differences (EPDs); value indexes; and birth, source and health information will be increasingly important. That's why programs such as AngusSource℠ will add more value to calves in the future.

When times are good and prices are high for cow-calf producers, they all make money. When the cycle turns and calves get cheaper, those who have the information behind their cattle will dominate. The market will demand information, and the price spread will be greater than ever in favor of true Angus-influenced calves that can deliver more predictable outcomes.

The most heavily Angus-influenced cattle will continue to have a greater chance to earn the CAB brand and put more money in producers' pockets from carcass premiums and from performance in the feedlot.

AJ