

Perception vs. Reality: The Case for Crossbreeding

The dictionary defines perception as “the opinion of a group of people.” It defines reality as “the state of things as they actually exist.” As you can see, perception and reality have totally different meanings.

Let’s look at how perception and reality become confused within the cattle industry. Is it perception or reality that cattle feeders and packers want Angus—and the higher the Angus influence, the better? Likewise, is it perception or reality that commercial cowmen are ahead financially to go strictly with Angus females and Angus bulls?

If you were to survey the preferences of the largest cattle feeders, you might be surprised to learn that the majority want continental influence in their cattle. And many a beef extension specialist and large commercial cow-calf operator will point out that one of the easiest ways to increase cow-calf profitability is through crossbreeding and its hybrid vigor.

Case for the Crossbred Female

“The economic climate of today’s beef business is challenging,” states Dr. Scott Greiner, extension animal scientist, Virginia Tech. “To remain competitive, commercial cow-calf producers are faced with optimizing a number of economically important traits while reducing costs of production. Traits such as reproduction, growth, maternal ability and end-product merit all influence productivity and profitability of the beef enterprise. Implementation of technologies and systems that both reduce costs and enhance productivity are key.

“One of the oldest and most fundamental principles that has a positive influence on accomplishing these goals is crossbreeding.”

Dr. Greiner stresses that crossbreeding offer two primary advantages: 1) Crossbred animals exhibit heterosis known as hybrid vigor; and 2) Crossbred animals combine the strengths of the breeds used to form the cross—bred complementarity.

“Heterosis or hybrid vigor refers to the superiority in performance of the crossbred animal compared to the average of the straightbred parents,” Dr. Greiner states. “The advantage to the crossbred calf is two-fold: an increase in calf livability coupled with an increase in growth rate.

“Perhaps the most important advantage for crossbreeding is realized in the crossbred cow. Maternal heterosis results in improvements in cow fertility, calf livability, calf weaning weight and cow longevity. Collectively, these improvements result in a significant advantage in pounds of calf weaned per cow exposed and superior lifetime production for crossbred females.”

A team of three beef scientists with the Ontario Ministry of Agriculture Food and Rural Affairs stress that heterosis in a sound crossbreeding program can increase productivity in the beef cow herd by 20 percent to 25 percent over a comparable straight breeding program.

The heterosis boost with crossbred cows:

- 10% increase in conception rate
- 10% improvement in calving ease
- 7.5% increase in number of calves raised to weaning
- 5% – 10% increase in milk yield
- Cumulative Effect = 15% increase in pounds weaned/cow exposed

Table 1 shows additional advantages that other researchers have documented regarding the benefits of hybrid vigor on cow productivity. Yes, those crossbred cows have a definite advantage over straight-bred cows.

Table 1. Benefits of Hybrid Vigor in a Crossbred Animal

On Cow Productivity	Advantage (Crossbred vs. Purebred)
Cow Efficiency	8%
Cow Longevity	38%
Cow Lifetime Productivity	25%
Total Dollar Impact (Annual)	\$116.88

The real beauty of hybrid vigor is that it heavily influences the lowly heritable traits—traits such as fertility, age of puberty and longevity.

But it's not only the crossbred females that provide producers with a healthier bottom line. The Ontario beef team identified these heterosis advantages of crossbred calves:

- 5% increase in number calves surviving to weaning.
- 5% heavier weaning weights
- 3% increase in post weaning gain
- Combined Advantage = 10% more pounds weaned/calf born

That said, many commercial producers who have used Gelbvieh or Balancer bulls on their Angus, black baldie, Santa Gertrudis and other breeds of females have reported weaning weight increases of 30 to 75 pounds.

Breed Complementarity, Feedlot Economics

“From a feeder’s perspective, there is no single better reason to crossbreed and simultaneously demonstrate breed complementarity than in the balance of quality grade and yield grade,” states Dr. Wayne Vanderwert of the American Gelbvieh Association. “It is textbook classic—and the reason why the majority of cattle feeders prefer Continental X British (Angus) in their pens.”

A case in point is Tom Brink, senior vice president of Five Rivers Ranch Cattle Feeding LLC who outlined his company’s preference for breed composition at a 2006 Beef Improvement Federation meeting. Five Rivers is the largest cattle feeder in the world with a one-time capacity of 811,000 head.

During his BIF presentation, Brink made it clear that Five Rivers’ preference is a Continental X Angus that is 50 to 75 percent Angus and 25 to 50 percent Continental.

That preference for 25 to 50 percent Continental is reality! And Five Rivers Ranch Cattle Feeding is not alone with this preference for crossbred cattle that are 25 to 50 percent Continental.

“What feeders like Tom Brink desire is to capitalize on the breed complementarity that a well-designed crossbreeding program provides,” Dr. Vanderwert states.

Brink agrees, noting that the right combination, such as Gelbvieh X Angus, makes “the right-sized, good-feeding, good-grading, good-yielding animal that covers a lot of important bases.”

Dr. Vanderwert adds that no doubt the most important bases Brink refers to is “simply economic.”

“These cattle will feed more cheaply and go to the rail with more value than cattle that bend the percentage curve too far out of bounds,” he explains.

Editor’s Note: Reprints of Tom Brink’s BIF paper, “Satisfying the 21st Century Beef Consumer: A Cattle Feeder’s Perspective” are available from the American Gelbvieh Association office.