

The Great Debate

Crossbreeding vs. straight-breeding: Symposium speakers debate which breeding system offers more benefits.

by Kasey Brown, Lynsey Meharg & Troy Smith

Charged with highlighting the effects of the deemphasized decision-making process behind breeding decisions at the commercial level, Western Kentucky University faculty member Nevil Speer opened the 45th Annual Beef Improvement Federation (BIF) Research Symposium and Convention in Oklahoma City June 12-15.

Speer began by introducing a white paper he wrote on executing the selection process regarding genetic inputs within the commercial cow-calf sector. Upon receiving an email from a producer concerned that cattlemen were beginning to confuse consumers, he began analyzing how producers market their product. What he found is something many producers already understand: Straight-breeding can provide a simplified way to genetically reach consumer targets, and premiums available in the industry can make that a profitable option.

“There’s a lot of diverse types of priorities in this business,” Speer said. “What concerns me is that we’re trying to make this industry one-size-fits-all.”

Speer continued by urging producers to be strategic about their decisions and to consider their options before deciding one way or the other, advising producers to take an indirect route and view the broader picture.

“We’ve gotten better at making them bigger,” Speer said, citing larger weaning and yearling weights. He added that as cow herds have consolidated, they have grown in size. “However, if you look at the year-by-year decline, the Number 1 reason for the decline is the culling of cows by producers. If you look at the producers who are staying in the business, there is an 18% heifer retention rate.”

Speer stated that fertility is no more important than other traits that influence longevity when it comes to influencing net present value, and that a well-designed crossbreeding system can be valuable to producers.

However, producers should also take an interest in value-based marketing, such as branded beef programs.



PHOTO BY KASEY BROWN

► A crossbreeding program gives higher productivity, potentially lower cost of production and more-average value creation, Tom Brink summarized. A straight-breeding program gives lower production, potentially higher production costs, well-above-average value creation and higher revenue per cow.

“The reality is that branded beef programs have had an impact,” said Speer. “We’ve increased and improved marbling prevalence in U.S. cattle. We have improved the quality grade dramatically.”

Speer urged producers to consider not just direct cost within their operations but to also consider indirect costs and how they factor into an operation’s economic efficiency.

“The dynamics of this business are changing rapidly,” said Speer.

Feeder perspective

“I’m a friend to any producer who has a reasonable breeding plan and sticks to it, whether it is a crossbreeding plan or a straight-breeding plan,” said Tom Brink, president of JBS Five Rivers Cattle Feeding, as he explained breeding programs from the cattle feeder’s perspective.

Cattle bred without a plan for quality are a cattle feeder’s biggest problem, Brink said, adding that 70%-80% of all packer profits come from value-added beef premiums.

Commodity beef is essentially a breakeven exercise.

“It is working just to work,” Brink said.

Profits come from cattle that grade USDA Choice or better, Brink explained, adding that Five Rivers makes zero profits from cattle that grade Select. Unfortunately, he said, there are too many average or below-average cattle in the industry.

“We don’t need crossbreeding just for the sake of crossbreeding,” he said. Breeding plans that work well in the feedlot, he said, include:

- planned crossbreeding using complementary breeds;
- disciplined use of purebred or hybrid bulls on a planned crossbred program; or
- well-planned and well-executed straight-breeding using Angus (or even Red Angus) that targets very high-value calves that grow and grid well.

Citing feedlot data from JBS, the total economic advantage for top-performing

cattle is an additional \$219 dollars per head above average, Brink shared. “That, folks, is a game changer. We will pay producers more for those cattle.”

When the numbers are crunched, he noted, “The economics are a lot closer for crossbreeding and straight-breeding programs than we think.”

Simply put, he said, a crossbreeding program gives higher productivity (with hybrid vigor), potentially lower cost of production and more-average value creation. A straight-breeding program gives lower production, potentially higher production costs, well-above-average value creation and higher revenue per cow.

Which is better for your operation? There is no simple answer, said Brink. It just depends on your situation.

Seeking complementarity

No single breed is best-suited to every production system, every environment or every cattle breeder’s production goals. Crossbreeding can exploit the significant differences in the relative performance of various breeds for economically important traits, a pair of beef genetics specialists reminded attendees.

Delivering a tag-team presentation, Matt Spangler of the University of Nebraska and Bob Weaber of Kansas State University emphasized that crossbreeding systems must be structured. To achieve desired goals, producers must have a plan.

Spangler said crossbreeding has long been applied to take advantage of breed complementarity and to blend the strengths of different breeds used. However, no longer do traditional paradigms apply for characterizing British vs. Continental breeds with regard to age at maturity, mature size and carcass characteristics.

“In some cases, complementarity has eroded. That doesn’t mean heterosis has eroded,” stated Spangler, explaining that heterosis generates the greatest improvement in lowly heritable traits, such as reproduction and longevity, which respond slowly to genetic selection.

“A very real advantage exists in the crossbred cow. Her increased longevity and lifetime production can drive an awful lot of value,” Spangler added, noting how the value of increased productivity of the crossbred cow, to a weaning end point, is estimated to be \$150 per cow-calf pair per year.

Weaber agreed that the positive effects of dam heterosis on economic measures of production can be significant. He said profit should be the metric for evaluating

any breeding system, rather than relying on revenue or premiums as indicators of success.

“Mating systems using individual and maternal heterosis often prove to be the economically efficient,” said Weaber. “Economic efficiency is what sustains businesses.”

The specialist said cow biological type can be matched to a given production environment and calves to the marketplace through planned sire selection. Phenotypic variation among calves can be minimized through careful consideration of traits like color, use of breed complementarity and use of an appropriate mating system.

Others weigh in

Speer, Brink, Weaber and Spangler joined other beef industry professionals, producers and researchers on a panel sharing their respective views on how the choice of breeding program impacts consumer satisfaction.

Norlyn Tipton, spokesman for Sysco (a distributor of food products to restaurants, healthcare facilities and educational facilities), said patrons of high-end steak houses demand high-quality beef, but they prefer smaller portion sizes than in the past. Increasingly, they want to know where the beef was produced, and they question the use of certain feed additives.

According to Tipton, Sysco provides steak houses with dry-aged beef sourced from cattle representing three breeds: Angus (primarily *Certified Angus Beef*[®] (CAB[®]), Wagyu-Angus cross, and Hereford.

Operating in northwestern Oklahoma and southwestern Kansas, Chain Ranch seeks production efficiency through a crossbreeding program based on four breeds. Cattle manager Newly Hutchinson said recovery of harvest data shows the calves grade well for quality, achieving 90% USDA Choice or better over the last two years. He said buyers discriminate against red calves, even though they represent the same genetics as their black herdmates.

Speaking from a cattle feeder’s point of view, Oklahoman Chris Hitch acknowledged that the market favors Angus influence, or the perception thereof, as a standard of high quality. He questioned whether it is truly justified.

“Prime is Prime is Prime,” emphasized

Hitch, saying breed or combination of breeds really shouldn’t matter. He said he is sure consumers think “Angus” is a brand, and they don’t realize it’s a breed of cattle.

“I don’t think they know the difference,” added Hitch. “[To consumers], it doesn’t matter if cattle are black, brown or white.”

Missouri commercial Angus producer Mike Kasten explained how 25 years of carcass evaluation and its application to genetic selection has helped him pursue market premiums based on beef quality. He said high-accuracy, genomic-enhanced

EPDs now aid selection and use of proven sires through artificial insemination (AI). Kasten said capturing premiums for quality has kept his straightbred operation profitable.

Brink acknowledged that straightbred programs do give up some production efficiencies afforded by well-planned crossbreeding. However, he said, it may be worth sacrificing some efficiency to claim

premiums offered by branded beef programs.

“If you can add enough value with straightbreds,” noted Brink, “it may put you on equal footing (profitwise) with the more efficient crossbred operation.”

Weaber said there is opportunity to capture premiums while achieving the production efficiencies of crossbreeding. High-ranking bulls representing breeds other than Angus can also be used in planned crossbreeding strategies to target calves that meet branded program specifications for hide color and quality grade.

Referring to results from the most recent National Beef Quality Audit (NBQA), Oklahoma State University meat scientist Deborah VanOverbeke said retail and restaurateurs claim customer eating satisfaction is based on beef flavor and tenderness. She suspects many consumers share her opinion about the genetics used in producing beef.

“It has to eat good,” stated VanOverbeke. “As long as we end up with a product that consumers are satisfied with, I don’t really care how we get there.”

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— Tom Brink



Editor’s Note: For comprehensive coverage of the 2013 Beef Improvement Federation Research Symposium and Convention, visit www.BIFconference.com.