

Circle A Ranch Heterosis Project

FACT SHEET

In 2007 Circle A Ranch, Iberia, Mo., agreed to participate in a research project with the American Hereford Association designed to determine and measure the advantages of using Hereford genetics on commercial Angus cows.

Circle A used 10 Hereford bulls with the goal of comparing the best of its Angus herd to the best of the Hereford-Angus cross.

Throughout the project, weaning weight and economically relevant traits such as feedlot gain, feed efficiency and fertility of the black baldie females were all measured and compared to straight commercial Angus cattle. Dan Moser, associate professor of genetics at Kansas State University, analyzed and interpreted the collected data.

Results from the project documented the Hereford efficiency advantage. With a 7% increase in conception rate, along with improved feed efficiency and average daily gain, Herefords were proven the right choice for commercial producers today.

Vern Pierce, University of Missouri associate professor of agricultural economics, evaluated the performance differences between the Hereford and Angus groups including birth, weaning and feedlot growth and carcass data on the steer calves, and pregnancy rates from the female progeny of the sire groups. He developed an economic model projecting the added value of Hereford heterosis over a 10-year period and found that using Hereford bulls on Angus-based females would add

\$514 net over the life of a cow or approximately \$51 per cow per year to a rancher's bottom line.

Economic models also predicted that after 10 years, due to increased fertility and longevity Hereford-sired females would generate a 20% advantage in herd size versus the straight Angus commercial cows due to increased calving and replacement options

Bottom line: According to Pierce, if a rancher with Angus-based cows uses Hereford bulls compared to using Angus bulls he will have improved cash flow, increased herd size and more calves to sell over a 10-year period.

Project specifics:

- 600 Circle A commercial Angus females were randomly AI-bred to 10 Hereford sires, of both proven and unproven genetics.
- The control group included progeny from three proven Angus sires, one being the top Angus sire for registrations in 2008. The average EPDs of the Angus sires would place them in the top 30% of the Angus breed for birth weight and 20% of the breed for weaning weight.
- Average birth weight for the Hereford-sired calves was 72 lb. — 3 lb. heavier than the Angus sires, but extremely desirable and nearly ideal for commercial operations.



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- At weaning, the Hereford-sired calves were 11.9 lb. heavier than the Angus-sired calves, despite the Angus sires ranking in the top 20% of their breed for weaning weight EPD.
- Resulting heifer calves were developed and bred at Circle A's Lineville, Iowa, ranch. Conception rates were tracked.
- A portion of the steer calves were fed to harvest and placed on a feed efficiency test at the Circle A Feedlot in Huntsville, Mo.
- While both breed groups were similar for fat thickness (Angus = 0.52 vs. Hereford = 0.54), Hereford-sired steers had about 13 more lb. of carcass weight and about $\frac{3}{4}$ of an inch more ribeye area.
- While feed conversion was nearly identical, Hereford-sired steers out gained the Angus-sired steers by almost 15-hundredths of a lb. per day.
- Heifer calves were bred and part of the group was marketed through the Circle A Production Sale with the baldie average price \$110 more than the straight blacks.
- Circle A staff appreciated the disposition of the Hereford-sired calves.

About Circle A Ranch:

Circle A Ranch is a 32,000-acre, 10,000-head seedstock and commercial cow-calf operation headquartered in Iberia, Mo., with satellite

operations in Stockton and Huntsville, Mo., and Lineville, Iowa. Owned by the Dave Gust Family, Circle A's motto is "Quality beef is our business." Circle A markets more than 400 black and Red Angus bulls and 500 Angus females annually.

The 9,000-head commercial herd has provided a great, "real life" testing ground for the registered seedstock herd. Circle A has done more than any beef seedstock operation in the world to accurately describe genetic differences for both output and input costs and develop a true profitability index.

As founders of the Angus Sire Alliance and partners with ABS Global, Circle A has aggressively tested the Angus breeds most promising genetics in their 9,000 head commercial herd and then rapidly multiplied the most profitable genetics in their high-quality registered herd.

In May 2007, Circle A opened Circle A Feeders, a 5,000-head feedlot all under one roof, designed to capture added value and increase returns for Circle A customers. To qualify, the calves must be sired by a bull or out of a female purchased directly from Circle A Angus Ranch. The calves must weigh between 600-800 lb. as calf feds, have two complete rounds of vaccinations and be weaned for a minimum of 45 days.



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About AHA:

The American Hereford Association, with headquarters in Kansas City, Mo., is one of the largest U.S. beef breed associations. The not-for-profit organization along with its subsidiaries — Certified Hereford Beef (CHB) LLC, Hereford Publications Inc. (HPI) and American Beef Records Association (ABRA) — provides programs and services for its members and their customers, while promoting the Hereford breed and supporting education, youth and research. For more information about the Association, visit Hereford.org.

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