The Whiteface

HEREFORDS — THE EFFICIENCY EXPERTS JANUARY 2008

# The Hereford Advantage

*First-year Harris Ranch results prove whiteface steers are more efficient.*

Hereford cattlemen have long been saying their cattle have the efficiency advantage. This year the phase-one results of a study were released proving just that. And it couldn't have come at a better time. It is no secret the beef cattle industry has shifted toward a solid black-hided product based on carcass quality but, in a world where diesel costs more than $3 a gallon and corn costs nearly $4 a bushel, harvesting only all-black cattle may not be best for the industry.

## Better than black

So what's better than all black? How about a black baldie? If a whiteface Hereford-crossbred steer costs $11.94 less a hundredweight (cwt.) to feed, doesn't it make more sense to feed him than an Angus steer? These questions are answered by a study that proves the Hereford breed can help the industry cinch up its belt and keep costs down.

In the controlled study measuring the impacts of crossbreeding, Hereford-influenced cattle dominated Angus cattle in nearly every aspect. The three-year study is being conducted by California State University, Chico, in cooperation with the American Hereford Association (AHA). Other cooperators are Lacey Livestock, Harris Feeding Co. and Harris Ranch Beef Co., all of California.

**Year two steers have been weaned, sent to a grower lot and are now at the Harris Feeding Co. feedlot in Coalinga, Calif. At weaning the Hereford-sired steers outweighed the Angus-sired steers by 13 lb.**

The objective of the Harris Ranch project is to compare Hereford and Angus bulls under real-world commercial conditions, emphasizing economic differences at the ranch, feedlot and packing plant. Differences in weaning performance, feedlot performance, carcass value and overall profitability are measured.

The study is designed to be as similar as possible to a typical commercial operation. To begin, 400 Angus-based cows (cows that would normally be found in a commercial operation which has used Angus sires for several years) were identified and mated randomly to 10 Hereford bulls or 10 Angus bulls. The bulls were chosen based on their comparable genetics measured by expected progeny differences (EPDs). The offspring of these cows were then observed by collecting data during times when a commercial producer would — preconditioning, weaning, feedlot and carcass phases.

## The proof

After the first year of the study, the Hereford-sired calves had the advantage in net return, nearly $78 per head (see Table on third page). The primary differences in the two sets of calves were morbidity, mortality, gain and efficiency.

In the preweaning phase, there were limited differences in the two groups, but the Hereford-sired calves were slightly heavier, giving them a $10.80 per head advantage in that phase.

After weaning and a short preconditioning phase, the cattle were weighed again. Primary differences during the weaning phase were attributed to two deads among the Angus-sired calves, resulting in another advantage to the Hereford-influenced calves of $14.10 per head.

The Hereford-sired calves dominated the feedlot phase with better average daily

*continued on third page…*

Performance testing bulls is vital to continue to prove Herefords are more efficient.

# QUANTIFYING Hereford Efficiency

***Scientists and producers prove Hereford efficiency through research and performance testing.***

As the cost of inputs continues to rise, universities and organizations are working on ways to help producers reduce costs by providing them more information on cattle efficiency. The University of Missouri at Columbia (MU) has several projects in progress dealing with these efficiency issues, and the West Virginia Beef Industry Council (WVBIC) and the West Virginia Cattlemen's Association (WVCA) are continuing to test more Hereford bulls annually. All three are producing results that continue to prove that Herefords are the efficiency experts.

Using the residual feed intake (RFI) formula, scientists can numerically compare efficiencies of cattle. According to Monty Kerley, MU animal science professor, "RFI is calculated as the difference in feed intake between what the animal consumed and what the average intake was for the contemporary group." Therefore an animal with a negative RFI would be interpreted as a more efficient animal.

In one MU study, scientists are phenotyping the RFI of heifers produced from the MU Hereford herd and comparing them to a group of Simmental-Angus cross heifers that were purchased. The results show the Hereford group was more efficient. The Hereford heifers had an average RFI of -0.13 compared to the Simmental-Angus cross heifers at a RFI average of 0.42.

Kerley explains that this means the Hereford group would be expected to consume about 1 lb. of feed per day less than the Angus-Simmental crosses. Although the two groups of heifers did have a similar range of individuals, meaning some were very efficient and some were inefficient, the Hereford group was more efficient overall.

Kerley says the results weren't surprising. "These data support the research done in Australia that identified Hereford as being more efficient than other breeds tested." He adds that the results also support the first-year data from the Harris Ranch study on using Hereford genetics in a crossbreeding program to produce more efficient cattle. (See first page for more information on the Harris Ranch study.)

Continuing with their efforts to phenotype cattle for RFI, MU researchers have asked Hereford producers to allow them to phenotype hundreds of females. Kerley says, "While there has been emphasis on phenotyping bulls, this effort will result in approximately 550 females being phenotyped for RFI. This will provide us the opportunity to identify matings of sires and females of known RFI phenotype."

West Virginia is also witnessing the Hereford efficiency advantage in the Wardensville bull test conducted by the WVBIC and the WVCA. This bull test has been in operation for 39 years, says Gene Felton, West Virginia University (WVU) animal science assistant professor, making it the longest running bull test in the country. It is predominantly an Angus bull test, but in the last few years, more and more Hereford bulls have been consigned.

Even though these organizations have been testing bulls at Wardensville for decades, it wasn't until the 2004-05 test that they started collecting net feed efficiency data, specifically RFI figures, on the bulls and making those numbers available. Since that year, the number of Hereford bulls on test has steadily risen, but it is still a relatively small group.

In the last two years, the Hereford bulls have consistently outperformed the rest of the predominantly Angus group based on RFI data. During the 2006-07 test, the 19 Herefords averaged an RFI of -1.18 with the rest of the mostly Angus group at about 0. Also, in the 2005-06 bull test, the most efficient animal overall was a Hereford, and in the 2006-07 year it was a Hereford-Angus cross bull.

Based on this data, Felton concludes, "Herefords were, on average, more efficient." Although, he cautions that this conclusion is based on limited numbers.

The bulls brought to the Wardensville bull test are producer-owned bulls, and Felton says the WVU-owned bulls are also tested with consistently similar results.

MU has also released the results from a cow efficiency study demonstrating the difference an efficient cow can make in a producer's herd. MU faculty completed a research project measuring differences between Hereford cow efficiency during gestation and lactation. The scientists first identified the one-third most efficient Hereford cows and the one-third least efficient Hereford cows. Then both groups of cows were grazed such that forage intake could be measured. Kerley explains that during summer gestation, the efficient group consumed 20.5% less forage on a dry-matter basis than the inefficient group.

During the winter and early spring when the cows were lactating, the efficient group consumed 11.4% less dry matter than the inefficient group. Kerley says, "These data agree with other research showing that during lactation the difference in intake between efficiency groups becomes less but is still significant." In other words, an efficient cow will save the producer money year round, but the time it will have the most effect is during gestation.

Although Herefords have come out on top in these efficiency tests, the bottom line is that more Herefords need to be tested to continue to prove their efficiency. Felton says, "Performance testing is important from the aspect of trying to have more uniformity in the calves being produced and the overall quality of the products that we are sending to consumers."

**MU faculty calculates efficiency using the relative feed intake formula in carefully monitored conditions.**

*...The Hereford Advantage continued*

gain and feed efficiency, as well as lower morbidity and mortality rates. Because of the Hereford efficiency advantage, the Hereford-sired calves had a lower cost of gain ($11.94 per cwt.), resulting in an $86.10 per head advantage in that phase.

At the time of harvest, the Angus-sired calves did look better on the rail. A higher percentage of the Angus-sired calves graded Choice or higher resulting in a $33 per head advantage to the Angus-sired calves on carcass merit.

Despite the Angus-sired calves' carcass advantage, Hereford efficiency and heterosis were worth more when examining the overall total value of the calves. Overall, the Hereford-influenced calves still made $77.73 more per head for the producer in this vertically integrated system.

These results prove that crossbreeding the country's primarily Angus-based cows to Hereford bulls gives the producer an economic advantage compared to breeding those same cows to an Angus bull, especially if the producer plans to retain ownership.

## The study continues

For the next two phases of the study, Lacey Livestock has increased the numbers of cows to 600 and added additional Hereford and Angus sires. The effect of maternal heterosis will also be measured by tracking the productivity of the replacement heifers that were grouped by sire based on DNA testing. The goal is to measure lifetime productivity and profitability of each group.

Although this is only phase one of a three-year study, the results come at a time when the industry may need a little reality check to remind us all what we learned in animal science 101: a well-planned crossbreeding program is key. And research proves Hereford genetics provide a powerful cross for any producer.

**Harris Ranch research project economic summary[a]**

| Traits | Angus sired | Hereford sired |
|---|---|---|
| Ranch | | $10.80 |
| Backgrounding | | $14.10 |
| **Pre-Feedlot** | | **$24.90** |
| Feedlot | | $86.10 |
| Carcass | $33.27 | |
| **Feedlot and Carcass** | | **$52.83** |
| **Net Value Difference** | | **$77.73** |

*[a]Year one results of a three-year project*

Cal Siegfried says he's sold on feeding Herefords because of their efficiency.

# Feeding Herefords at a PREMIUM

*Hereford cattle are cornerstone to cattle feeder's operation.*

Although cattle feeder Cal Siegfried didn't start out in the cattle business planning to feed Herefords, he quickly discovered he likes to do so because of Herefords' efficiency and hardiness.

Siegfried grew up on a diversified farming, cattle and hog operation in southwest Nebraska. He worked for the National Cattlemen's Association and in 1986 went to work for Decatur County Feed Yard, Oberlin, Kan. Nearly 20 years later he started Cornerstone Cattle Co., McCook, Neb.

Siegfried explains Cornerstone Cattle Co. is a commercial cattle feeding, cattle procurement and databasing company. It is a managing partner in Flat Iron Feeders, Holdrege, Neb., and together the companies have an agreement with Vande Rose Farms to feed out Hereford and Hereford-influenced cattle for its premium Hereford beef program.

Since Cornerstone Cattle's start about a year and a half ago, Siegfried and the staff at Flat Iron have fed nearly 3,000 Herefords, black baldies and red baldies for Vande Rose's program. Siegfried says cattle are bought from producers all over the Western U.S., basically anywhere west of the company's base in southwest Nebraska.

As Siegfried and his staff search for cattle that qualify for Vande Rose's program, they keep an eye on quality and are also looking for cattle with supporting data. "We are looking for high-quality cattle with data behind them so we can limit our risk as much as we can as far as cattle performance is concerned," Siegfried says.

By keeping high standards for the cattle he purchases, Siegfried says he appreciates the resulting consistency. "By really watching our quality and getting as much data as we can, I have been very pleased with the consistency of these cattle performing in the feedyard."

But consistency isn't the only thing he appreciates about feeding Hereford and Hereford-cross cattle. He says, "We like the way the cattle feed, and we are very pleased with their performance."

Siegfried continues, "I like their feed conversion, I like their gain, I like their hardiness in the winter and I like that they can stand the summer heat a little better because of their red color."

Another plus for Cornerstone Cattle is that Vande Rose management likes the cattle to be heavier when finished. "Vande Rose likes their cattle to weigh over 1,350 lb.," Siegfried says, "and these cattle have performed well even up to that point." He adds the Hereford and Hereford-cross cattle "have continued to be very good performers in the feedyard, even taking them to 1,350 or 1,400 lb."

Although Cornerstone Cattle Co. is still a fledgling enterprise, the staff is continuously collecting data on all the cattle fed, many of which are earmarked for branded beef programs. That data is helping them make decisions on whose cattle they want to purchase again based on how they performed in the feedlot. And Siegfried says they will feed as many Herefords as they can market. And why wouldn't they? When, as he puts it, the Herefords' efficiency, gain and hardiness, "all tie in to make them one very efficient performing animal."


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