



# The Whiteface

HEREFORDS — THE EFFICIENCY EXPERTS

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## Herefords' Undisputed Role in the Industry

by **Craig Huffhines**, American Hereford Association executive vice president

For several years now, I have talked about the nonsensical demands placed on black hide color within the U.S. cattle industry. For years the U.S. beef sector has promoted and almost institutionalized the breeding of the national cow herd to an Angus or black-hided base. Hence, at least a dozen other breeds of cattle have followed suit in the chase of a more marketable animal since hide color has been more or less the deciding factor in sorting cattle into perceived quality groups.

A couple of years back, I had a discussion regarding breed improvement programs with a breed executive of one of the "turned black" breeds. We were talking about the top few reasons cows were being disposed of from our respective registered cow herds.

In the Hereford breed, cows were culled because they were old, they were open or they were tailing off on their production cycle, among others. For the other breed, the No. 1 factor for cows being culled was because of color. The breed was systematically eliminating genetics that many breeders had spent a lifetime developing because the cows were not black. Now that, to me, is throwing the baby out with the bath water, but it has



become common practice within our industry.

Today the economic cycle of the U.S. beef industry is dramatically changing along with other industries struggling to make ends meet in a difficult recessionary economy. All of us are facing growing demands on input costs. The current government administration is, of all things, contemplating an added tax on beef producers because of the natural biological emissions cattle produce.

The term "cap and trade" is certainly an appropriate title to a tax that will absolutely cap profitability and kill trade. The green movement, as irrational as it might seem sometimes, is not going away. The feedlot industry is struggling not only to make money but simply to limit their losses during this down turn, and the American consumer is looking for a high-quality beef product purchased at a bargain.

I outline these trends simply because the American Hereford Association



(AHA) Board, as well as Hereford breeders, understands that we must make our cattle better in order to compete; and we have! While working on things that improve the quality

of our seedstock, we have also invested a great deal in research that has quantified what the Hereford breed can do for the cow-calf sector, the feedlot sector and the food industry to help during trying times.

The Harris Ranch project along with the Circle A project documented the real world heterosis advantages that the Hereford breed brings to the table when crossed with Angus and Angus-cross cows. This heterosis/hybrid vigor effect directly affects long-term profitability of a cow-calf operation more dramatically than what most producers realize.

Cash flow, herd size, retained fertility and longevity are major drivers of cow-calf profitability. They are difficult to

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# Project Proves Profitability of Hereford-Angus Cross

*Economic analysis of Circle A Ranch Heterosis Project results predicts an advantage of \$514 net per cow over a period of 10 years.*

Using Hereford bulls on Angus-based cows will give producers advantages in profitability, cash flow, herd size, and retained female fertility and longevity according to a recently completed study at Circle A Angus Ranch. In fact, when the data were

further analyzed for economic emphasis, the results showed an advantage of \$514 net per cow over a period of 10 years. That's a \$51 difference per cow per year.

Economic models also predicted that if replacement females are retained over a period of 10 years, Hereford-sired females will generate a 20% advantage in herd size for the same relative cost versus the straight Angus commercial cows because of increased fertility and longevity.

The study, conducted by Circle A Ranch headquartered in Iberia, Mo., in cooperation with the American Hereford Association (AHA), was started in 2007. Mark Akin, Circle A Ranch

manager, says, "The female side was what really peaked my interest, because we've bred purebred Angus for all these years, and I was curious if the heterosis from the cross would make available a better conception rate for us, and it did."

To start the project, Circle A Ranch AI-bred 600 commercial Angus cows to 10 Hereford bulls with the goal of comparing the best of its Angus herd to the best of the Hereford-Angus cross. The control group included progeny from three proven Angus sires. The average expected progeny differences (EPDs) of the Angus sires would place them in the top 30% of the Angus breed for birth weight and top 20% of the breed for weaning weight. All of the cows and resulting calves were commingled and managed the same.

Data were collected by Circle A staff and interpreted by Dan Moser, Kansas State University associate professor of



Jack Ward (left) and Mark Akin, Circle A Ranch general manager, discuss the research project that started in 2007.

genetics, and Vern Pierce, University of Missouri associate professor of agricultural economics.

The Hereford-cross calves showed the advantage from birth. Average birth weight for the Hereford-sired calves was 72 lb., 3 lb. heavier than the Angus sires, but still desirable and nearly ideal for commercial operations, according to Moser.

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.

After being weaned, a portion of the steers were fed at Circle A's feedlot in Huntsville, Mo., where the Hereford-cross steers outgained the Angus by about .15 lb. per day.

While both breed groups were similar for fat thickness (Angus = 0.52 versus Hereford = 0.54), the Hereford-sired steers had about 13 more lb. of carcass weight and about  $\frac{3}{4}$  of an inch more ribeye area.

Heifer calves were developed and bred at Circle A's Lineville, Iowa, ranch. The Hereford-sired heifers showed their prowess as productive females by boasting a 7% advantage in conception rate over the Angus heifers.

Seventy-five of the bred heifers were sold at Circle A's annual production sale and averaged \$110 more per head than their commercial Angus counterparts.

Maternal traits and the effect on birth and weaning weights of the calves will continue to be measured as the retained heifers calve and rebreed.

Although difficult to measure, Circle A staff members say they were impressed with the baldies' quiet, easy-to-handle disposition as well.

Pierce 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.

Pierce says, "The bottom line is if a rancher with Angus-based cows uses Hereford bulls compared to using Angus bulls and gets the same response as we had in this study, he will have improved cash flow, increased herd size and more calves to sell over a 10-year period." 🐮



The steers were placed on feed efficiency test at Circle A Feeders. Individual feed intake was recorded and evaluated.

## About the project

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.

### 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 top 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.
- 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 placed on a feed efficiency test at the Circle A feedlot near Huntsville, Mo., and fed to harvest.
- 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 outgained the Angus-sired steers by almost .15 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. 🐮



# Believing in Heterosis

*John and Mark Lacey are presented the AHA Hereford Industry Innovator Award for their years of service to the beef industry and their cooperation in the Harris Ranch heterosis project.*

**T**hird and fourth generation cattlemen, John and Mark Lacey, are true leaders in the beef industry. The father-son team, based in Independence, Calif., raise cattle and horses.

“John and Mark Lacey have been faithful servants to the U.S. beef industry for decades,” says Craig Huffhines, American

Hereford Association (AHA) executive vice president. “John has held the top level leadership role of our industry as president of the former National Cattlemen’s Association back in the 1990s.”

Since 2005 Lacey Livestock has been cooperating with AHA, Harris Feeding Co. and Harris Ranch Beef Co. in a research project studying the value of heterosis. The objective of the project is to conduct a controlled crossbreeding system comparing progeny sired by Hereford and Angus bulls under commercial conditions, emphasizing economic differences at the ranch, feedlot and packing plant.

John Lacey says he is happy with the research project results. “We reaffirmed the value of heterosis and saw an improvement in weaning weight, health and feed conversion,” he says. “We believe the project was done in a real-world commercial setting and others should experience the same results.”



In early December the Lacey calves were shipped from the backgrounding lot in Smith Valley, Nev., to the feedlot in Coalinga, Calif. Mark Lacey says their 2008 calf crop had one of their highest weaning weight averages in recent years. He attributes the increased pounds to crossbreeding as well as improved feed sources.

“When we asked John and Mark if they would be willing to work with us on the Harris Ranch study, they both jumped at the opportunity,” Huffhines says. “They have always been loyal to the industry first. They have strived to protect our ranching rights, and they have never turned down an opportunity to evaluate those things that can make commercial cattlemen more profitable.”

The AHA recognized the Lacey family in Denver by presenting them with the AHA Hereford Industry Innovator Award for their years of service to the beef industry and their commitment and cooperation with the Harris Ranch heterosis project.

## Ranching tradition

The Lacey family has been ranching in California since 1870. After settling in the Owens Valley, Mark B. Lacey and his son expanded the operation to include 15,000 acres of city of Los Angeles lease land that increased their carrying capacity to 1,000 head. The ranch began with Hereford and Shorthorn cattle. In 1960 Angus cattle were introduced to replace the Shorthorns.

Mark B. Lacey passed away in 1964, leaving John and his wife, Dee, along with their children, Mark and Nicki, to continue to manage Lacey Livestock. John and son Mark still ranch most of the original Lacey outfit. They have divested themselves of all federal lands and have added 40,000 acres more to the Owens Valley Ranches. Altogether, Lacey Livestock is 60,000 acres with approximately 2,000 cows.

Today the Lacey family ranch is a cow-calf and stocker operation. They also raise Quarter Horses, and in 2003 Lacey Livestock earned the title of American Quarter Horse Association Remuda of the Year.

The Lacey family owned several ranches in San Luis Obispo County that they sold in 2000 to purchase the historic Dressler Ranch in Bridgeport, Calif. This ranch has 7,000 acres and annually is home to 8,000 steers. Lacey Livestock purchased this ranch with David Wood under the Centennial Livestock partnership. The partners completed an easement with the American Land Conservancy and the California Rangeland Trust. This ranch will be preserved for perpetuity. Centennial Livestock also leases 230,000

acres of the historic Tejon Ranch, south of Bakersfield, which is home to about 7,000 head.

### Heterosis study

Huffhines says the Harris research project is becoming a landmark study defining what genetics can do for the industry when used properly in a real-world commercial setting.

Mark says, prior to participating in the project, his family had been part of the Harris Partnership for Quality (PQ) program since 1997. To participate in the PQ program, producers have to follow Harris' guidelines, which include specific genetic criteria and prescribed best management and animal health practices.

Mark says producers don't know the value of heterosis in a cow herd until they lose it. Then they are really caught because it takes too long to re-establish especially when you keep and develop your own replacement females.

"Heterosis is invaluable," he says. "From my observations at the ranch, as we lost heterosis, we were seeing more health issues and the weaning weights just held their own.

"It was our opinion that we couldn't continue to just breed to Angus indefinitely and continue to lose heterosis in our herd. Harris agreed to allow the trials of other breeds to see if they could meet the company's carcass requirements. The Hereford Association stepped up and was willing to participate. My dad has always been a Hereford fan, so it was a perfect fit for us."

To start the project, 400 mature Angus-based cows were sorted and identified with electronic ear tags in the Lacey Livestock program. Cows were randomly mated to 10 Hereford or 10 Angus bulls, selected based on rigorous genetic parameters (expected progeny differences [EPDs]) for overall merit. The project is being conducted for a three-year period, the typical lifespan of a bull under Western range conditions. To have more numbers for the project in year two and three, Lacey Livestock increased the number of cows to 600 and the number of Hereford bulls to 16.

Year one results showed a \$78 advantage for Hereford-sired calves compared to Angus-sired calves in a real-world commercial setting. The second calf crop has been harvested and the third crop is at the feedlot in Coalinga, Calif.



**"The baldie females are the biggest pay off for us participating in the project. It is allowing us to get some heterosis back in our cow herd."**  
— Mark Lacey

The Hereford Role in Heterosis



"I was pleasantly surprised by the Hereford cattle's feedlot performance," Mark says. "They were very efficient and lived up to their billing. As far as grade, I expected them to be lower, but the first calf crop was a little lower than expected."

Data on the second group of calves are still being reviewed, but early results show that the Hereford-sired calves narrowed the quality-grade gap in 2008.

"It is evident they are efficient," Mark says about the Hereford-sired calves. "They do it in the feedlot, and in general I think the Hereford-sired females are showing the same efficiency on the range."

The study is also tracking the productivity of the females. Females from the first calf crop have weaned their first set of calves and are at the feedlot. The effect of maternal heterosis will be determined by tracking productivity of the replacement heifers that were retained and identified to a sire. The objective is to attempt to determine lifetime productivity and profitability differences between sire groups.

"The baldie females are the biggest pay off for us participating in the project," Mark says. "It is allowing us to get some heterosis back in our cow herd."

Mark says he and his father are anxious to see the improvements in fertility, longevity and health. "In the cattle business, fertility and longevity is what make us money," Mark says.

The female data showed that the baldie females had a 7% advantage in pregnancy rate in 2008. As more data are compiled and reviewed, the Laceys expect to see even more value with the Hereford-sired females and their calves. Mark says the heterosis is giving them increased calf survivability and a better weaning percentage.

"By and large the project has gone as expected," Mark says. "We're not breaking




Year one results of the heterosis project showed a \$78 advantage for Hereford-sired calves compared to Angus-sired calves. The second calf crop has been harvested and the third crop is at the feedlot in Coalinga, Calif.

new ground. What we were hoping is that Harris would find the beef to be a product that would fit the PQ program. Harris has been impressed with the dollar advantage, but trying to figure out how to market the beef is the issue."

### The future

As the project comes to an end, Mark says the Laceys will continue to use the Hereford bulls that remain in their bull battery. This year he also artificially inseminated his black replacement heifers, nearly 250, to two calving-ease Hereford bulls.

"We want to continue to produce more baldie females," Mark says. "As range cows go, I think the Hereford female is a superior range cow and makes a great mother." 

# Building the Baldie

*Commercial cattlemen can find value utilizing crossbreeding and heterosis.*

As fall bull sale and breeding season approaches, it's a good time to remember the benefits of crossbreeding and the value of heterosis. For commercial producers with black cow herds, Hereford bulls are a great option to add value to the resulting calf crop.

According to Matt Spangler, University of Nebraska-Lincoln Extension beef genetics specialist, "Crossbreeding takes advantage of heterosis (hybrid vigor) and breed complementarity. Commercial cattlemen must realize that no one breed excels in all areas that affect profitability. Breed combinations can be engineered to accommodate environmental constraints and meet marketing objectives."

A crossbred animal is created by mating two straightbred animals of different breeds or a crossbred animal to an animal of a third breed or two crossbred animals of different mixes of breeds. Crossbreeding is the opposite of inbreeding.

Traditional crossbreeding systems have been shown to maximize heterosis but can be very cumbersome in practice. "Crossbreeding is yet another tool in the tool box of genetic improvement and like anything else can be very profitable if understood and used correctly," Spangler explains.

Beginning in the 1960s, numerous studies documented crossbreeding effectiveness in improving lifetime productivity by more than 20%. Crossbreeding can be fairly easy to implement and has the potential for significant benefits.

"There is a clear economic advantage to crossbreeding," Spangler says. "Crossbred cows can generate \$100 per year or more than their purebred contemporaries. Traits that are lowly heritable, like reproductive traits, benefit greatly from heterosis."

Spangler says the advantages of crossbreeding can be thought of as 1) taking advantage of breed complementarity, 2) taking advantage of non-additive effects (dominance and epistatic) and 3) capturing heterosis (hybrid vigor).

Breed complementarity is the combination of strengths of the breeds in the cross. Spangler adds that the strengths of the Hereford breed can be utilized to complement strengths and weaknesses of other breeds in a strategic crossbreeding system. "Heterosis can only be garnered by crossbreeding, and the use of Hereford genetics in a traditionally straightbred commercial herd can help capture profit for the commercial cattleman that

straightbred cattle leave on the table," he explains.

As explained by Jim Gosey, retired University of Nebraska Extension beef specialist, heterosis is actually the recovery of accumulated inbreeding depression. In just one generation, the offspring exhibit the maximum of what was lost through generations of "pure" breeding within a closed gene pool.

By definition, the gene pool in any given breed is limited. A certain amount of production potential is always sacrificed in order to gain the uniformity desired in a breed, since the most dependable way to gain the uniformity was by using inbreeding and linebreeding in the early history of the breed. A breed is essentially a closed group of cattle, not allowing any infusion of other genetics. It thus accumulates some inbreeding over time, even if it's not done deliberately.

## Heterosis

Spangler says a phenomenon as old and as recognized as heterosis still seems to spark debate and, unfortunately, confusion. A quick search of the scientific literature will provide numerous studies quantifying heterosis for specific traits under specific crosses.

## Crossbred cows provide the ultimate benefit

Commercial cattlemen can experience the greatest amount of benefit gained by crossbreeding when using crossbred cows. Even though many stockmen use crossbreeding of straightbred parents to produce exceptional market calves – calves that gain faster than straightbreds and do well in the feedlot – the crossbred cow is the key to maximum beef production and profitability in a cow-calf operation since hybrid vigor in the cow produces phenomenal maternal advantages.

Research has shown that a crossbred cow is 8% more efficient than a purebred cow, lives 38% longer and has 25% more lifetime production in pounds of calf weaned. These advantages are partly due to crossbreeding having the biggest effect on traits that are not highly heritable (and hence more difficult to improve through selective breeding within a breed), such as fertility, age at puberty and longevity.

Crossbred cows live longer and are also less apt to be culled for being late or open due to increased fertility. Any cow that can calve at 2 years of age, never miss a year of calving and stay in the herd another year or two beyond average culling age makes her owner money. When a producer considers all the benefits of a crossbred cow, he can see why animal scientists call this the "only free lunch" in the cattle business.

As pointed out by Larry Cundiff, retired from the U.S. Meat Animal Research Center (USMARC), Clay Center, Neb., data from its heterosis studies showed that the breakeven costs of production were reduced about 10% by using crossbred cows.

Another study at Montana State University compared the effects of breed and heterosis on heifer pregnancy using purebred and crossbred females of several breeds. Results showed that a higher percent of crossbred heifers calved at 2 years of age, reaching puberty and becoming pregnant earlier than purebreds.

And if a cow is healthier, with a stronger immune system due to hybrid vigor, she develops better immunity when vaccinated and imparts better colostrum to her calf, which in turn keeps him healthier through the risky days of early calthood. Genetics plays a big role in an animal's immunity and immune response. The crossbred animal is hardier than a straightbred animal partly just because genes control the process of recognizing disease agents and inbreeding doubles up more of the undesirable immune-response genes. Crossbreeding ensures more genetic diversity and optimal

“We would expect that when mating two parental lines (breeds), the corresponding calf crop would represent the average of the two parents,” Spangler explains. “Heterosis is the unexpected, and often beneficial, deviation from the parental average. This deviation arises due to dominance and epistatic effects that within breed selection tools do not allow us to capture.”

Heterosis beneficially influences many traits that are important for increased beef production, including fertility and reproduction, calf survival — due to hardier calves — maternal ability, growth rate of young animals, efficiency and longevity.

Percent heterosis can be calculated as:

$$\% \text{ heterosis} = [(\text{crossbred average} - \text{straightbred average}) \div \text{straightbred average}] \times 100$$

A simple example would be the percent heterosis realized in the average

**Table 1:**  
**Individual heterosis: Advantage of the crossbred calf<sup>1</sup>**

Trait Observed	Improvement	% Heterosis
Calving rate	3.2	4.4
Survival to weaning	1.4	1.9
Birth weight	1.7	2.4
Weaning weight	16.3	3.9
ADG	0.08	2.6
Yearling weight	29.1	3.8

<sup>1</sup>Adapted from Cundiff and Gregory, 1999

weaning weight from breeding a herd of Breed A cows to a group of Breed B bulls. Let 525 lb. be the average weaning weight of the F1 calves, 450 be the average weaning weight of the Breed A population and 550 be the average weaning weight of the sire’s population.

The pounds of heterosis would be:

$$\text{pounds of heterosis} = 525 - [(450+550)/2] = 25 \text{ lb.}$$


The percent of heterosis would be:

$$\% \text{ heterosis} = 25/[(450+550)/2] = .05 \text{ or } 5\%$$

The amount of heterosis that is realized for a particular trait is inversely related to the heritability of the trait. This result is logical since traits that are lowly heritable have a small additive component (proportionally speaking) and crossbreeding takes advantage of dominance and epistatic effects.

With that in mind, traits of low heritability (reproductive traits) generally benefit from heterosis the most (Table 1).

They generally have a heritability of less than 10% and can be improved through the adequate use of crossbreeding systems. End-product traits that benefit from heritability in the moderate to high range, on the other hand, benefit less from heterosis.

Spangler says there are three main types of heterosis: 1) individual, 2) maternal and 3) paternal. He says the offspring of a F1 female will benefit from maternal heterosis (Table 2). See “Crossbred cows provide the ultimate benefit,” for more about the F1 female. 

**The Hereford** | **Role in Heterosis**



**Table 2:**  
**Maternal heterosis: Advantage of the crossbred cow<sup>1</sup>**

Trait Observed	Improvement	% Heterosis
Calving rate	3.5	3.7
Survival to weaning	0.8	1.5
Birth weight	1.6	1.8
Weaning weight	18.0	3.9
Longevity	1.36	16.2
<b>Cow lifetime production:</b>		
No. calves	0.97	17.0
Cumulative wean wt., lb.	600	25.3

<sup>1</sup>Adapted from Cundiff and Gregory 1999

immune response. Thus, a crossbred cow tends to have more optimum immune system function than a straightbred cow and, hence, not only stays healthier herself but may also produce more protective colostrum.

When all factors are weighed, the crossbred cow gives her owner the most benefit. By contrast, the stockman who is merely trying to take advantage of hybrid vigor in the calves using straightbred cows and bulls of another breed, gains less impact on profitability. Calf weaning weights for crossbred calves are 5% more (and yearling weights 4% more) than straightbred calves. The research study in the 1990s that came up with these figures showed that a straightbred cow with a crossbred calf earned an average of \$23.37 more than if she had a straightbred calf. But a crossbred cow with a crossbred calf netted \$116.88 more than a straightbred cow with a straightbred calf. This potential increase in profit is one reason a number of producers went to crossbred cow herds.

During the past decade, however, with the increasing popularity of “black” cattle and the drive toward more uniformity and marbling, many of America’s commercial cow herds have

lost most of the heterosis they once had. Due to market pressures for beef calves, many stockmen have been using bulls of just one breed, and the replacement heifers then become more and more straightbred with each generation.

Jim Gosey, retired University of Nebraska beef Extension specialist, says the loss of heterosis in these herds shows up most quickly in the traits that are least heritable and most associated with inbreeding depression, namely reproduction (fertility), hardiness and longevity. The price paid for the loss of heterosis is cumulative – as a number of very small losses add up and amount to a substantial sacrifice in lifetime productivity.

As one cattle buyer observed a few years ago after a very cold and slow spring during which feed supplies were short, most of the cows in several herds he worked with were thin, and there was a high rate of open cows after the breeding season. Interesting to note, the cows that bred back the best and on time – in spite of the tough conditions – were the old crossbred cows that were still in the herds. The younger females that were a high percentage of straight breeding didn’t do as well.

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measure, and they are rarely tracked at the commercial level, but agriculture economist Vern Pierce, from the University of Missouri, states that they are of great benefit to cattlemen over the long haul.

Pierce analyzed the data from the Circle A research project in which 10 Hereford bulls were compared to two top Angus bulls, all bred to more than 600 commercial Angus cows.

One of the Angus bulls was the top bull in the breed for registrations in 2008. Economically relevant traits from birth to carcass were measured on every calf, and the replacement females from the project were followed through to their first pregnancy. Pierce reported that the baldie program would return \$514 dollars per cow over 10 years or more than \$50 per head annually due to production advantages when compared to straight Angus commercial cows.

#### Circle A research result highlights:

- Data predicts Hereford-sired females will have a \$51 annual advantage in profitability.
- Hereford-sired calves were within 3 lb. of the Angus calves at birth. The Angus bulls used were in the top 30% of the breed for birth weight EPD.
- The Hereford-sired calves were 11.9-lb. heavier at weaning than the Angus-sired calves.
- Hereford-sired calves had a carcass weight advantage of 13 lb. compared to the Angus-sired calves.
- While feed efficiency was nearly identical when compared to the progeny of Circle A's two top feed efficiency bulls, the Hereford-sired calves outgained the Angus-sired calves by .15 lb. per day.
- The Hereford-sired females had a 7% advantage in pregnancy rate compared to the Angus-sired females.

- The baldie females brought \$110 more than their straight black counterparts in Circle A's production sale.

Depending on the year and depending on the input costs, the Harris Ranch and Circle A studies have both proven that Hereford hybrid vigor generated from the crossing of the two most popular maternal breeds in America added \$50 to \$80 per head on an annual basis.


To make up this advantage, 500-lb. straight Angus calves would have to bring between \$10 to \$16 per hundredweight more than the baldie calves at the market. The reality is that many times producers

see baldie calves bring more than the straight blacks when sold.

Baldie calves will qualify for every branded beef program in America. The message is clear, and we will continue to educate our commercial base of these advantages. If producers continue to avoid the Hereford breed because of the few red-hided calves they might produce, then I might just have to borrow a line from one of my favorite blue-collar comedians, Bill Engvall, when he says, "Here's your sign."

The continued practice of avoiding profitable genetic selection decisions because of hide color is just as ludicrous as charging a tax for cow flatulence.

#### Laceys continue to use Herefords

As a result of the outcome of the three-year Harris Ranch project, Mark and John Lacey have begun to use Hereford bulls on a full-time basis to develop baldie replacement females for their mature cow herd. During the last two years, the Laceys have bred nearly all of their straight Angus replacement heifers to highly proven AI sires with great success. Reports from the ranch suggest that the calves are easy calving and vigorous with a high survival rate. 

**The continued practice of avoiding profitable genetic selection decisions because of hide color is just as ludicrous as charging a tax for cow flatulence.**



#### Mailing address:

P.O. Box 014059, Kansas City, MO 64101

#### Physical address:

1501 Wyandotte St., Kansas City, MO 64108  
(816) 842-3757 • (816) 842-6931 fax  
[www.hereford.org](http://www.hereford.org)

#### Executive vice president:

**Craig Huffhines**

[chuffhin@hereford.org](mailto:chuffhin@hereford.org)

#### Chief operating officer and director of breed improvement:

**Jack Ward**

[jward@hereford.org](mailto:jward@hereford.org)

#### Director of communications:

**Angie Stump Denton**

(785) 363-7263, [adenton@hereford.org](mailto:adenton@hereford.org)

#### Director of field management and seedstock marketing:

**Joe Rickabaugh**

[jrick@hereford.org](mailto:jrick@hereford.org)

#### Field Staff:

##### Western Region – Mark Holt

Ariz., Calif., Idaho, Nev., Ore., Utah and Wash.  
P.O. Box 229, Baker City, OR 97814  
(541) 403-2832, [mholt@hereford.org](mailto:mholt@hereford.org)

##### Mountain Region – Ben Brillhart

Colo., Mont., Wyo. and western Canadian provinces  
P.O. Box 181, Musselshell, MT 59059  
(406) 947-2222, [bbrillhart@hereford.org](mailto:bbrillhart@hereford.org)

##### North Central Region – Levi Landers

Kan., Minn., Neb., N.D. and S.D.  
48302 Springdale Rd., Ord, NE 68862  
(308) 730-1396, [llanders@hereford.org](mailto:llanders@hereford.org)

##### Upper Midwest Region – John Meents

Ill., Ind., Ky., Md., Mich., Ohio, Pa., W.Va. and Wis.  
21555 S.R. 698, Jenera, OH 45841  
(419) 306-7480, [jmeents@hereford.org](mailto:jmeents@hereford.org)

##### Southwest Region – Adam Cotton

Ark., La., N.M., Okla. and Texas  
P.O. Box 1015, Sanger, Texas 76266  
(940) 390-2656, [acotton@hereford.org](mailto:acotton@hereford.org)

##### Eastern Region – Andee Marston

Ala., Fla., Ga., Miss., N.C., S.C., Tenn. and Va.  
190 Cherry St., Pikeville, TN 37367  
(931) 335-0303, [amarston@hereford.org](mailto:amarston@hereford.org)

##### Central Region – Contact the AHA

Iowa and Mo.

##### Northeast Region – Contact the AHA

Conn., Del., D.C., Maine, Mass., N.H., N.J., N.Y., R.I.,  
Vt. and eastern Canadian provinces



P.O. Box 014059  
Kansas City, MO 64101  
(816) 842-3758  
(816) 842-6931 fax  
[www.herefordbeef.org](http://www.herefordbeef.org)

#### Hereford Verified and HerfNet.com specialist:

**Heidi Tribbett**

(970) 580-4503, [hktribbett@hereford.org](mailto:hktribbett@hereford.org)

#### For information about Herfnet:

**(866) HerfNet or [www.herfnet.com](http://www.herfnet.com)**

#### For information about Certified Hereford Beef:

**(816) 842-3758 or [www.herefordbeef.org](http://www.herefordbeef.org)**