

Mississippi Beef Cattle Improvement Association

Mississippi Beef Cattle Improvement Association—Productivity and Quality



Upcoming events:

- March 6—Mississippi BCIA Spring Bull Sale/ Hinds Bull Test Sale, Hinds Community College Bull Sale Facility, Raymond, MS, 12:00 noon
- March 13-15—MSU Artificial Insemination School, Mississippi State, MS
- April 9-10—Magnolia Beef and Poultry Expo, Raleigh, MS
- June 7—Mississippi Hereford Association Annual Field Day, Mississippi State, MS
- June 30-July 3—Beef Improvement Federation Annual Convention, Hyatt Hotel, Calgary, Alberta, Canada
- September 1—Mississippi BCIA Fall Bull Sale nomination deadline

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Hinds Bull Test—MBCIA Joint Spring Bull Sale Debuts this Month

Dear Cattle Producers:

The Hinds Community College Bull Test and Mississippi Beef Cattle Improvement Association are excited about our new bull marketing partnership. We hope that purebred cattle breeders and commercial cattle producers alike benefit from these two proven programs joining together. All bulls in our spring sale are screened for structure, disposition, and performance and are guaranteed as breeders. These bulls have passed breeding soundness examinations, met minimum growth and scrotal circumference requirements, and represent quality beef cattle genetics.

The sale will be broadcast live from the Raymond sale site over the Extension distance education system to interactive bidding sites in the Panola County Extension office in Batesville, MS and the North MS Research and Extension Center in Verona, MS. Producers at the remote sites will have the opportunity to view video of the bulls immediately prior to the sale, view and hear the sale live, and bid on bulls from Batesville and Verona.

The bulls will be available for viewing at the Hinds Community College Sales Facility in Raymond, MS starting on the afternoon of March 5. Hinds Bull Test personnel, BCIA members, breeders, and Extension personnel will be glad to assist you in selecting herd sires that will work for your operation.

We look forward to seeing you at the sale on March 6.

Sincerely,

Kenny Banes
Hinds Bull Test Manager

Jane A. Parish
Extension Beef Cattle Specialist

Spring 2008 Bull Sale Consignors

- | | |
|----------------------------------------------------------|--------------------------|
| Bayou Pierre Farm | Loveless Homeplace Angus |
| Calyx Star Ranch | Monogram Farms |
| Double W Ranch LLC | Southern Shine Pastures |
| Lou-Jen Farms | Stevens Farm |
| Mississippi Agricultural and Forestry Experiment Station | |





The Mississippi Board of Animal Health oversees the voluntary statewide BVD program in cooperation with the MSU College of Veterinary Medicine

Mississippi Voluntary BVD Program Started

Negative effects of bovine viral diarrhea (BVD) on the beef cattle industry have been well documented for several years. It can cause reduced reproductive performance in the cow-calf herd and reduced gains in stocker and feeder cattle. More recently, identification of calves that are persistently infected with BVD (PI-BVD) has become a major issue in the industry. PI-BVD calves result from cows that were exposed to BVD during the first 125 days of gestation. The virus infects the fetus before its immune system is fully developed and it never identifies the infection as an infection that should be cleared. After birth, the calf sheds large amounts of the virus and infects the cattle around it.

The most effective way to identify PI-BVD cattle is to test calves at birth or first work-

ing. If a calf is positive, the dam should then be tested. Most often, the dam is not persistently infected but was infected by the virus during early gestation. Calves and cows that test positive for PI-BVD should be removed from the herd. The meat from these animals is safe for consumption.

In an effort to reduce the impact of PI-BVD on the profitability of Mississippi cattle production, the MS Board of Animal Health has initiated a program to assist with PI-BVD testing. Test kits are now available at a reduced cost and cattle producer are urged to test their calves each year. For more information on how to order testing supplies, contact the Board of Animal Health at **1-888-722-3106** or your local Extension office.

Mississippi BCIA Elects Board of Directors for 2008

At the Mississippi BCIA annual membership meeting in Jackson on February 1, 2008, a new Board of Directors was nominated and approved. The Board is comprised of slots representing a variety of groups and individuals involved in MBCIA. These slots are allocated based on the by-laws adopted at the 2003 annual membership meeting. A by-law change was also passed by the membership that creates a Secretary and a Treasurer position out of the previously combined Secretary-Treasurer position.

The 2008 Mississippi BCIA Board of Directors consists of the following individuals:

Commercial Producers

Doug Ross (Term expires 2009)
David Hayward (Term expires 2010)
Mike Keene (Term expires 2011)
Holton King (Term expires 2011)

Purebred Producers

Buddy Jones (Term expires 2009)
David Dillon (Term expires 2010)
Jimmy Ray Parish (Term expires 2011)
Phil Slay (Term expires 2011)

Mississippi Cattlemen's Assoc. Exec. VP
Sammy Blossom

Mississippi Cattlemen's Assoc. President
David Houston

MSU Animal and Dairy Sciences Department
Rhonda Vann

Extension Animal Scientist
Justin Rhinehart

Area Extension Agent
Roy Higdon

Hinds Bull Test Station
Billie Baner

South Mississippi Forage Bull Test
Mark Mowdy

Past Presidents of Mississippi BCIA

Locations of BCIA sponsored sales
Kenny Baner

Officers (Terms expire 2010)

President
Brian Garner

Vice-President
Johnny Thompson

Secretary
Jane Parish

Treasurer
Robert Field

Mississippi BCIA appreciates the service and dedication of the 2007 Board of Directors.

"...Mississippi BCIA appreciates the service and dedication of the 2007 Board of Directors."

Southeastern Calves are Healthier and More Profitable

It is no secret that feeder calves from the southeast are often regarded as inferior to calves originating from other parts of the country. Even though this is completely inaccurate, the stereotype still remains and serves as an excuse to buy southeastern calves at a discount compared to the national market. This discount has been overcome in some states by aggressively pursuing alternative marketing methods that either build a good reputation for their cattle or capture the benefits of proper management and genetic selection through retained ownership.

The most recent nail in the coffin of this misconception comes from a study presented last month at the Southern Section meeting of the American Society of Animal Science. The study concluded that calves from the Southeast had less health treatments during the feeding phase and were \$11.32/head more profitable than calves from the Midwest.

The trial was conducted from 2002 to 2007 by the Tri-County Steer Carcass Futurity (TCSCF) and included a total of 27,538 steers and heifers. There were 15 states represented:

Southeast	Midwest
Mississippi	Iowa
Georgia	Missouri
Virginia	Indiana
Alabama	Illinois
North Carolina	Minnesota
South Carolina	
Tennessee	
Florida	
West Virginia	
Kentucky	

The cattle were fed a common diet in 10 different feedlots in southwest Iowa. Similar implant and health protocols were maintained in each lot. Within four days of arrival, each of the calves were vaccinated, weighed, implanted and body condition scored. A "warm-up" period of 28 to 35 days allowed the cattle to become acclimated to the ration and new environment. After the warm-up period, they were weighed and considered on test.

The first thing that was noticed was that the age and weight at delivery were different for the two regions. The Southeastern cattle were older and slightly heavier than the Midwestern calves. Morbidity, treatment cost and mortality rates were also different with Southeastern calves lower in each category.

Midwestern calves performed better in the feedlot having a higher overall average daily gain and were heavier at harvest. Some aspects of carcass value also differed between the groups. Midwestern cattle had a larger ribeye area and

lower calculated yield grade. There was no difference in percent Choice but a larger percentage of the Southeastern cattle qualified for Certified Angus Beef (CAB).

Effects of region on feedlot and carcass traits (* indicates statistical difference)

Item	Southeast	Midwest
Number of Head	18,228	9,310
Arrival Wt.*	640	628
Delivery Age (Days)*	324	253
Final Wt.*	1067	1181
Overall ADG*	3.17	3.21
Morbidity Rate*	15.22%	20.76%
Treatment Cost (\$/hd)*	\$5.01	\$7.38
Mortality Rate*	1.43%	1.76%
Hot Carcass Wt.*	723	727
Fat Cover (in)*	0.44	0.42
Ribeye Area (in. ²)*	12.32	12.47
Calculated Yield Grade*	2.84	2.78
% YG 1&2*	58.6	63.5
% YG 3*	39.4	35.9
% YG 4&5*	2.0	1.5
% Prime	1.14	1.01
% Choice	67.94	69.28
% Select	28.33	27.22
% Standard	2.59	2.48
% CAB*	21.57	19.02
Profit (\$ / Head)*	\$48.63	\$37.31

Southeastern calves compared to Midwestern calves were:

- Heavier on delivery (11 lbs.)
- Older on delivery (71 days)
- Health treatments were less (5.5%)
- % Choice or better was not different
- CAB acceptance was greater (2.5%)
- Returns were greater (\$11.32/head)

The argument can be made that the Southeastern cattle represented in this study are managed better than average because producers who retain ownership through the feeding phase tend to be more progressive. However, the same would be true for the Midwestern calves. This makes the comparison (and results) valid. Furthermore, this illustrates one of the best methods to capture the added value of genetic and health management; retained ownership.

“...Calves from the Southeast were \$11.32/head more profitable than calves from the Midwest.”



Iowa State University Extension livestock agents cooperate with Mississippi producers and Extension agents on TCSCF programs

Mississippi Beef Cattle Improvement
Association—Productivity and Quality

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Send questions or comments to Jane Parish or
Justin Rhinehart, Extension Beef Specialists,
Mississippi State University
Extension Service



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or veteran status.

Visit MBCIA online at
[http://msucares.com/
livestock/beef/mbcia/](http://msucares.com/livestock/beef/mbcia/)

MBCIA Membership Application

Name: _____

Address: _____

City: _____

County: _____ State: _____ Zip: _____

Phone: _____ Email: _____

(Check one) Seedstock: Commercial:

Cattle breed(s): _____

Completed applications and \$5 annual dues payable to
Mississippi BCIA should be mailed to:

Mississippi Beef Cattle Improvement Association
Jane Parish, Extension Beef Specialist
Box 9815, Mississippi State, MS 39762

BCIA Genetic Profit Tips – March 2008

What Is Heterosis?

Heterosis refers to the superiority of the crossbred animal relative to the average of its straightbred parents. Heterosis is typically reported in percentage improvement in the trait of interest. For example, bulls of breed A, which have an average weaning weight of 550 pounds, are mated to cows of breed B, which have an average weaning weight of 500 pounds. The average weaning weight of the straightbred parents is then $(550 + 500)/2 = 525$. The F1 (first cross) calves that result have an average weaning weight of 546 pounds. The percentage heterosis is 4% (0.04) or $(546 - 525)/525$. Heterosis percentage is computed as the difference between the progeny average and the average of the straightbred parents divided by the average of the straightbred parents.

Heterosis results from the increase in the heterozygosity of a crossbred animal's genetic makeup. Heterozygosity refers to a state where an animal has two different forms of a gene. It is believed that heterosis is the result of gene dominance and the recovery from accumulated inbreeding depression of pure breeds.

Heterosis is, therefore, dependent on an animal having two different copies of a gene. The level of heterozygosity an animal has depends on the random inheritance of copies of genes from its parents. In general, animals that are

crosses of unrelated breeds, such as Angus and Brahman, exhibit higher levels of heterosis, due to more heterozygosity, than do crosses of more genetically similar breeds such as a cross of Angus and Hereford.

Table 1. Summary of heritability and level of heterosis by trait type.*

Trait	Heritability	Level of Heterosis
Carcass/and product	High	Low
Skeletal measurements		(0 to 5%)
Mature weight		
Growth rate	Medium	Medium
Birth weight		(5 to 10%)
Weaning weight		
Yearling weight		
Milk production		
Maternal ability	Low	High
Reproduction		(10 to 30%)
Health		
Cow longevity		
Overall cow productivity		

* Adapted from Kress and MacNeil, 1998.

Generally, heterosis generates the largest improvement in lowly heritable traits (Table 1). Moderate improvements due to heterosis are seen in moderately heritable traits. Little or no heterosis is observed in highly heritable traits. Heritability is the proportion of the observable variation in a trait between animals that is due to the genetics that are passed between generations and the variation observed in the animal's phenotypes, which are the result of genetic and environmental effects. Traits such as reproduction and longevity have low heritability. These traits respond very slowly to selection since a large portion of the variation observed in them is due to environmental factors and nonadditive ge-

netic effects, and a small percentage is due to additive genetic differences. Heterosis generated through crossbreeding can significantly improve an animal's performance for lowly heritable traits. Crossbreeding has been shown to be an efficient method to improve reproductive efficiency and productivity in beef cattle. Improvements in cow-calf production due to heterosis are attributable to having both a crossbred cow and a crossbred calf.

Source: National Beef Cattle Evaluation Consortium. 2006. Beef Sire Selection Manual. B. Weaber, University of Missouri.