

Mississippi Beef Cattle Improvement Association

Mississippi Beef Cattle Improvement Association—Productivity and Quality



Upcoming events:

- January 12, 14, 19, 21—Mississippi Master Cattle Producer Program Webinar Internet-based Certification and Live Chat, 6:00 to 9:00 p.m.
- **January 20—Mississippi BCIA Spring Bull Sale nomination deadline**
- February 12—Mississippi BCIA Annual Membership meeting, Jackson, MS, 1:00 p.m.
- March 4—Hinds CC Bull Test Sale and Mississippi BCIA Spring Bull Sale, Hinds Community College Bull Sale Facility, Raymond, MS
- March 18-20—MSU Artificial Insemination School, Mississippi State, MS
- April 6—Cattlemen's Exchange Feeder Calf Board Sale, Winona, MS
- April 16—Beef Cattle Boot Camp, Prairie Research Unit, Prairie, MS, 9:00 a.m. to 3:30 p.m.
- April 17—Beef Cattle Boot Camp, Brown Loam Station, Raymond, MS, 9:00 a.m. to 3:30 p.m.

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Mississippi BCIA Bull Sale Nomination Reminder

Preparation continues for the Spring 2010 Mississippi BCIA Bull Sale to be held on March 4, 2010 at 12:00 noon at the Hinds Community College Sales Facility in Raymond, Mississippi. This sale will once again be held in conjunction with the Hinds Community College Bull Test Sale on the traditional Hinds Bull Test sale date.

Current bull sale information is posted on the BCIA website at msucares.com/livestock/beef/mbcia/bcia_bullsale.html. The Rules and Regulations and nomination form are available on this website.

Mississippi BCIA Spring Bull Sale Nomination Deadline

January 20, 2010

If you are interested in consigning bulls to this sale, please complete the nomination form and return it to Box 9815, Mississippi State, MS 39762 no later than **January 20, 2010**. Be sure to include the nomination

fee, a signed registration certificate, actual birth weight, and adjusted weaning and yearling weights and ratios for each bull. If you have any questions about the sale requirements or past results,

please call your local Extension Service office or contact Jane Parish at 662-325-7466 or jparish@ads.msstate.edu.

Log on to Master Cattle Producer Webinars in January 2010

The Mississippi Master Cattle Producer Program is a comprehensive training offered by the MSU Extension Service on major beef cattle production topics. The training focuses on improving overall management and decision-making skills and developing a broad production knowledge base.

The Master Cattle Producer Program was updated in 2009 with new course materials and format including Internet-based training modules to meet the needs of persons wanting to complete the training at their own pace and schedule. Producers must successfully review all course materials and complete the exams for all 8 training topics to be eligible for Master Cattle Producer certification. Beef cattle producers enrolled in the Master Cattle Producer program complete training in the following subjects: 1) beef cattle nutrition, 2) forage systems, 3) beef cattle reproduction, 4) breeding and genetics, 5) economics and marketing, 6) herd health and handling, 7) beef end product, and 8) Beef Quality Assurance (BQA). Internet-based training modules are online at msucares.com/livestock/beef/mcp.

Course participants can view online training modules and download training materials free of charge. Alternately, participants completing the program can receive printed course materials, a metal farm sign, Master Cattle Producer cap, and certificate of completion for a course fee of \$75.

A live Internet-based Master Cattle Producer webinar training is scheduled for 4 evenings in January 2010. The webinar schedule is:

Tuesday, January 12, 2010, 6:00-9:00 pm
BQA, Herd Health and Handling

Thursday, January 14, 2010, 6:00-9:00 pm
Beef Cattle Nutrition, Forage Systems

Tuesday, January 19, 2010, 6:00-9:00 pm
Breeding and Genetics, Cattle Reproduction

Thursday, January 21, 2010, 6:00-9:00 pm
Beef End Product, Economics and Marketing

Participants will be able to submit questions and chat online during the presentations. To participate in the webinars, go to msucares.com/livestock/beef/mcp and click on the webinar link during the times listed above.



Mississippi is a source of both quality breeding replacement cattle and feeder calves

MBCIA Annual Membership Meeting Ahead in February

Mississippi BCIA will hold its annual membership meeting on Friday, February 12, 2010 at the Trademart on the state fairgrounds in Jackson, MS in conjunction with the Mississippi Cattlemen's Association annual convention.

The BCIA session will start at 1:00 p.m. It will feature Drs. Trent Smith and Jane Parish of the MSU Animal and Dairy Sciences Department, speaking on "Debunking Myths

about Mississippi Cattle." This session will focus on Mississippi as a source of quality seedstock and feeder calves and using data to dispel myths about cattle quality.

Educational presentations at the MCA convention will begin at 1:00 p.m. on Friday, February 12 and continue through Saturday, February 13. For the complete schedule of events, call the Mississippi Cattlemen's Association at (601) 354-8951.

MBCIA Annual Membership Meeting

**Friday, February 12, 2010, 1:00 p.m.
Trademart, State Fairgrounds, Jackson, MS**

Blood Test For Pregnancy Diagnosis Becoming More Popular

The financial advantage gained from "preg. checking" the cows at weaning has been well documented. However, finding a veterinarian that is willing and able can be difficult and costly in some areas. Many states have veterinary practice legislation that prohibits anyone except licensed veterinarians from charging a fee to diagnosis pregnancy status in livestock. So, even though it is a good idea to identify open cows early to better control feed and forage resources, it can be easier said than done.

One solution is a commercially available blood test. This test detects a protein, that is only produced during pregnancy, called Pregnancy Specific Protein B (PSPB). It is produced by the developing embryo and can be detected in the blood as early as 30 days after breeding. So, it is possible to use this tool for early pregnancy detection. However, there will be residual PSPB for up to 90 after a cow calves. This makes it important not to test too early and risk false positive (pregnant when open) results.

Testing for pregnancy with a blood sample was not accurate in the early stages of development. In fact, several other tests, relying on different indicators, were developed before the PSPB test was found to be commercially viable. According to independent validation studies, the accuracy of this test ranges from 95-99% for determining preg-

nant cows and 100% for determining open cows. This means that culling open cows (as indicated by the test) is safe.

Using the PSPB blood test is relatively easy in a herd of cows with a restricted calving season. Waiting to take the blood samples until 30 or more days after the bull is removed will ensure that most of the cows are at least 90 days post-calving. The blood can be drawn from the jugular or tail vein. The samples are then shipped to the testing laboratory and the results will be returned by mail, e-mail or fax within a few days. If taken at the right time, this test can even be used to estimate fetal age. The cost of the test will range from \$2.50 to \$5.00 but the cost of shipping, labor and supplies should also be considered.

The most significant drawback of using the PSPB testing method is the possibility of keeping open cows that were called pregnant by the test. After all, the main purpose of pregnancy checking the cows is to cull the ones that consume resources without producing a product. However, even palpation and ultrasound can be flawed depending on the experience and accuracy of the technician. The fact that this method was shown to be 100% accurate in determining pregnant cows makes it a valid alternative to traditional methods.

"...the accuracy of this test ranges from 95-99% for determining pregnant cows and 100% for determining open cows."

Bull Management Practices on U.S. Cow-calf Operations

The U.S. Department of Agriculture's National Animal Health Monitoring System (NAHMS) conducted the Beef 2007-08 study, which focused on beef cow-calf health and management practices in 24 States including Mississippi. These major beef cow-calf producing States represented 79.6 percent of U.S. operations with beef cows and 87.8 percent of U.S. beef cows.

One of the goals of the Beef 2007-08 study was to take an in-depth look at bull management procedures on U.S. beef cow-calf operations, since proper selection and management of bulls is a fundamental component of any operation's reproductive program.

During the Beef 2007-08 study, beef producers were asked about their use of artificial insemination or natural service, and the methods used to ensure that bulls were fertile.

Bull Breeding

The most common breeding method used by cow-calf producers is "natural service" by a bull only, as opposed to artificial insemination alone or in combination with natural service. At least some replacement heifers and cows were bred only by bulls on nearly all operations (95.7 percent). Most heifers and cows were only exposed to a bull (79.2 percent and 94.2 percent, respectively) (Figure 1).

Ensuring optimal cow-to-bull ratios minimizes costs and enhances reproduction. Using too many bulls for the same group of females increases the risk of injury to the bulls and may result in additional expenditures for purchasing and maintaining bulls. Overall, cow-calf producers expected mature bulls to service 25 females and yearling bulls to service 17 females. Most reproductive specialists advocate that a mature bull can service 25 to 35 cows.

Reproductive Examinations

An annual reproductive examination is important to ensure that bulls are healthy and fertile. The percentage of operations that tested the semen of at least some bulls in preparation for the last breeding season

ranged from 18.1 percent of operations with 1 to 49 beef cows to 61.1 percent of operations with 200 or more beef cows. Similarly, scrotal measurements were performed on a lower percentage of operations with 1 to 49 cows than on larger operations (figure 2). Overall, 26.8 percent of operations semen tested bulls and 15.6 percent of operations performed scrotal measurement. Of the 30.7 percent of operations that purchased, leased, or borrowed bulls for the last breeding season, 71.3 percent semen tested at least some of these bulls.

Trichostrongylus axei

Trichostrongylus axei (*T. axei*)—of which bulls are the primary carrier—is a sexually transmitted protozoan that causes early embryonic loss in cattle and, therefore, prolonged calving seasons. Once infected, a female can transmit the protozoan to other bulls during breeding but will usually clear the infection by the next breeding season. Older bulls are more likely to be chronic carriers. Young bulls can sometimes clear the infection.

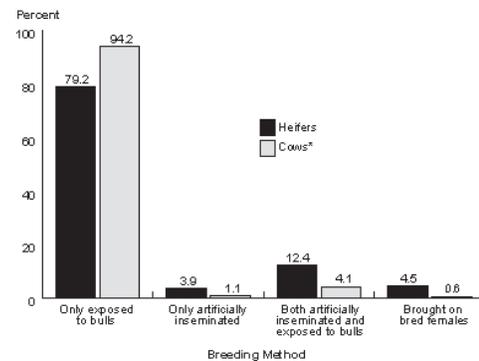
Critical strategies to prevent *T. axei* infections include maintaining a closed cow herd, purchasing virgin bulls, and testing nonvirgin bulls. Only 9.8 percent of operations cultured bulls for *T. axei*, and just 18.5 percent of bulls were cultured for *T. axei* in preparation for the last breeding season; 35.1 percent of operations that purchased, leased, or borrowed bulls in preparation for the last breeding season cultured bulls. Additionally, 53.3 percent of operations that purchased, leased, or borrowed a bull, added bulls that were more than 18 months of age or no longer considered virgin, but only 34.4 percent of those operations cultured all these bulls for *T. axei*.

Summary

Breeding management decisions are key to the production and profitability of cow-calf operations. Data from this study suggest that there may be areas in which producers can improve the operations efficiency and reduce its disease risk through better bull management.

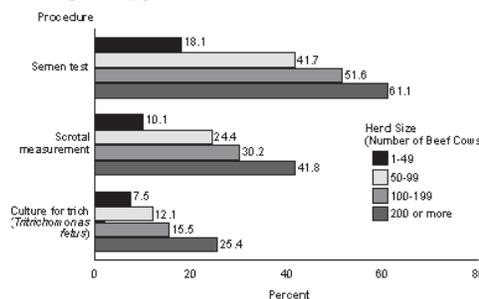
Source: USDA APHIS. NAHMS, 2009. www.nahms.aphis.usda.gov

Figure 1. Percentage of Heifers and Cows Bred or Intended to be Bred for Calving in 2007, by Breeding Method



*Some heifers may have been included in this category.

Figure 2. Percentage of Operations that Performed the Following Reproductive Procedures on Bulls* in Preparation for the Last Breeding Season, by Herd Size



*Bulls that had been on operations for at least the last two breeding seasons and including bulls purchased, leased, or borrowed.

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Mississippi Beef Cattle Improvement Assn.
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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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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 or \$100 life-
time dues payable to Mississippi BCIA should be mailed to:

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

One More Season—Problems with Keeping a Bull too Long

When economic troubles hit, producers may be tempted to keep herd sires around longer than originally planned. While there may be some instances where this is a good idea, there are many potential downsides to keeping a bull around too long.

Problem 1: Missing out on improved genetics

Most of the management practices for improving the profitability of a cow-calf operation are ultimately limited by the genetic potential of the cows and calves. For instance, using growth-promoting implants can improve the weaning weight for a group of calves. However, using implants in calves with more genetic potential will result in even greater weaning weights. The best way to improve that genetic potential is through the sire.

Seedstock producers constantly strive to make a better product each year. So, even if a bull purchased three years ago had the best genetic potential (for whatever traits are important to that operation) for its value, even better genetics should be available at the end of that period. Also consider that missing out on several breeding seasons worth of improved genetics will not only slow the improvement of feeder calves, it will also slow the improvement of replacement females and set the cow herd back further down the road.

Problem 2: Breeding to daughters in production

The most immediate problem that can occur with breeding a sire back to its daughter is the increased risk of expressing genetic defects. In fact, before molecular laboratory

techniques were developed, the preferred method of testing purebred sires for genetic defects was to breed them back to their daughters. If genetic abnormalities existed, they would most likely be expressed in the resulting offspring.

Inbreeding leads to a depression in desirable traits. Essentially, it is the opposite of the heterosis (hybrid vigor) gained by crossing different lines or breeds. Again, this does not only affect the feeder calves from a crop but can also have a long lasting influence on the cow herd through replacement females.

Problem 3: Fertility problems

Generally, serving capacity increases as a bull ages. However, there are several factors that can reduce a bull's overall fertility as it gets older. One of the first impacts will be on structural soundness. As a bull ages and its joints wear and it can become less interested in breeding cows and more interested in staying comfortable. It is important to observe breeding behavior of bulls (young or old) each time they are turned out with the cows. Breeding soundness exams evaluate structure but not libido.

As a bull ages and is exposed to more cows, it can also be exposed to disease agents that lower fertility (ex: trichomoniasis). These sexually transmitted diseases grow in the bull's sheath and are introduced into each new cow it breeds. This is made worse in older bulls because their sheaths tend to be larger and have more crypts where the diseases grow. So, the disease can last longer in older bulls, be spread to more cows and take longer to clear up.