



M I S S I S S I P P I
BCIA
BEEF CATTLE IMPROVEMENT ASSOCIATION

Upcoming events:

- August 4—Homeplace Producers Feeder Calf Board Sale, Hattiesburg, MS
- August 7-8—Deep South Stocker Conference, Meridian, MS
- September 15—BCIA Fall Bull and Heifer Sale Nomination Deadline
- October 16-18—Cattle Artificial Insemination School, Mississippi State, MS
- November 12—MBCIA Educational Meeting and Supper, Raymond, MS
- November 13—MBCIA Fall Bull and Heifer Sale, Raymond, MS

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Nutrition's Effects on Developmental Programming

by [Kasey Brown](#), associate editor, Angus Journal®

LINCOLN, Neb. (June 19, 2014) —

What the cow eats while she's pregnant can affect the performance of her calf, a phenomenon often called developmental programming, explained Kim Vonnahme, associate professor of animal science at North Dakota State University. She spoke to attendees of the 2014 Beef Improvement Federation (BIF) Research Symposium & Annual Meeting in Lincoln, Neb., June 18-21.

She explained that developmental programming is the effect of a stimulus or insult that establishes a permanent response to the phenotype. The phenotype equals the genotype plus the environment. The hypothesis behind developmental programming is that exposure during a critical period in development may influence later metabolic or physiological functions in adult life. Simply put, management changes during certain stages in pregnancy can affect the calf. She illustrated examples that steers with dams supplemented with protein late in the pregnancy had heavier live weights and heavier hot carcass weights. Additionally, a higher percentage of those steers graded Choice.

On the female side, Vonnahme noted that a higher percentage of heifers born to dams who received protein supplementation calved in the first 21 days and had an increased overall pregnancy rate.

The placenta plays a huge role in fetal growth. Nutrition of the dam affects the blood flow to the fetus, she explained. In a study looking at how nutrient restriction affects blood flow to the uterus, there was no alteration in blood flow until day 140, and then compensatory blood flow was observed. In tests with nutrient restriction early in the pregnancy, not much restriction of blood flow was observed. However, when the nutrients were restricted later in the pregnancy, blood flow was also restricted.

"The timing of the restriction affects placenta function," Vonnahme said. The placenta is adaptable and has a great ability to compensate. Future work will look at maternal intake and efficiencies, timing of supplementation and specific components of the diet. Developmental programming isn't just on the dam side, Vonnahme noted. Sires can impact fetal development, though research is lacking in livestock.

This article is reprinted with permission from www.BIFconference.com, the Angus Journal's online coverage site of the 2014 Beef Improvement Federation Research Symposium and Annual Meeting.

Even if you missed the recent Beef Improvement Federation Research Symposium and Annual Meeting, you can still get up to speed on what was presented at the conference. Conference presentation summaries (like the one on this page and the next page), slides, audio, and proceedings papers are available online now.



Washington State University animal geneticist Holly Neibergs noted costs attributable to BRDC include prevention and treatment products, labor, and death loss, but the biggest hit comes from reduced carcass

Genetic Edge to Bovine Respiratory Disease Resistance

by [Troy Smith](#), field editor, Angus Journal® LINCOLN, Neb. (June 20, 2014) — The development of genomic breeding values for sires that produce calves that are less susceptible to bovine respiratory disease is under way. According to Washington State University animal geneticist Holly Neibergs, the effort to calculate genomic-enhanced expected progeny difference (GE-EPD) values for disease susceptibility is part of ongoing, multi-institutional research driven by USDA-grant funding. Neibergs explained why the research matters in a presentation to the 2014 Beef Improvement Federation (BIF) symposium June 18-21 in Lincoln, Neb.

According to Neibergs, the bovine respiratory disease complex (BRDC) is the most prevalent and costly disease challenge for the U.S. beef industry. Despite efforts to suppress the disease through vaccination and metaphylaxis (mass treatment with antimicrobials) incidence of the disease remains relatively unchanged. BRDC morbidity and mortality rates have stood at about the same levels for 20 years. Neibergs called BRDC a significant health management challenge for 97% of U.S. cattle-feeding operations.

“That’s probably underestimated, since more than 60% of all slaughter cattle show some evidence of lung lesions resulting from BRDC, even though some cases of illness in the feedlot went undetected,” added Neibergs.

Costs attributable to BRDC include prevention and treatment products, labor,

and death loss, but the biggest hit comes from reduced carcass value. Generally, cattle experiencing BRDC produce fewer carcasses of Choice quality grade than do healthy cattle. Neibergs said recent research findings support that which virtually all cattle feeders have experienced.

“It wasn’t slippage from Choice to Select. Instead, [BRDC-affected cattle] actually fell off the grid. They went to no-roll, were condemned at slaughter or died before they got there,” reported Neibergs.

Research suggests the average loss in value for BRDC cases, compared to healthy animals, was \$162.78 in 2013. That’s money lost as a result of reduced carcass quality. Add in treatment costs, and the estimated cost of each BRDC case in the feedlot is more than \$200.

The good news comes through evidence indicating susceptibility to BRDC is at least partially a result of genetic predisposition. Differences in BRDC susceptibility have been found between cattle breeds and between sire lines. Heritability is estimated to be in the low to moderate range. This suggests that selecting for BRDC-resistant cattle could have a real effect on disease prevalence and industry profitability.

“If we want to get serious about this,” Neibergs stated, “I think there is some opportunity.”

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2014 Mississippi Hay Contest

The Mississippi State University Forage Extension Program announces the 2014 Mississippi Hay Contest. The program is in collaboration with the Mississippi Forage and Grassland Council.

Hay and baleage samples will be evaluated in the following categories:

1. Warm-season Perennial Grass Hay (e.g., bermudagrass and bahiagrass).
2. Mixed, Annual Grass, or Other hay (e.g., clover/tall fescue, clover/annual ryegrass, millet, annual ryegrass, sorghum-sudangrass, sudangrass, crabgrass, tall fescue/bermudagrass, bermudagrass/bahiagrass/dallisgrass).
3. Grass Baleage (high moisture grass forage ensiled in wrapped bales).

The 2014 Mississippi Hay Contest form is the ONLY form that must be submitted. However, it MUST accompany the sample being entered along with a check for \$15.00 per sample. Sample has to be collected and submitted by the Extension Agent. Sample should be from hay produced in Mississippi between January and October of 2014.

Hay entries will be judged using NIR testing procedures by the MSU Forage Quality Lab. The entries will be ranked using the Relative Forage Quality (RFQ) evaluation system, which accounts for protein, energy and fiber digestibility. If necessary, ties in RFQ scores will be broken based on visual evaluation by the Forage Research and Extension Team at Mississippi State University.

Form and complete contest rules can also be downloaded from the MSUCares website at: mississippiforages.com or msucares.com/crops/forages

This contest is open to any hay or baleage producer from Mississippi and entries must be submitted by the farm where the forage was grown. Samples should be from hay produced between January and October 2014.

A producer can only submit one hay sample per category. Hay samples should have not been submitted to any independent forage testing lab prior to entering the contest.

A portion of the hay should be collected for display purposes when the sample is collected. Display samples should be collected in a 1 or 2-gallon zip-type bag labeled with the Sample ID as described above. No baleage display sample is required due to storage issues.

Lab analysis samples must be taken from a single lot of hay and from a minimum of 5-10 randomly sampled square or round bales (Total of 20 cores). Forage samples for analysis and contest entry (display) must be collected using a hay probe. Hay probe information is online at www.foragetesting.org/index.php?page=hay_probes

Forage samples must be taken from fields with a minimum maturity or re-growth of at least 25 days to ensure fair competition. Hay from fields with less than 25 days of growth will be disqualified.

Dry hay samples with over 18% moisture will be disqualified. There are no moisture requirements for baleage categories.

All entries must be postmarked or received by the MSU Forage Quality Lab by 5:00 p.m. on Friday, October 3, 2014.

First place winners in each category will be recognized with a belt buckle and second and third place winners in each category will be recognized with a plaque. Winners of the Mississippi Hay Contest will be recognized at Mississippi Forage and Grassland Annual Conference in Verona, MS on November 14, 2014.

For more information on the 2014 Mississippi Hay Contest contact:
Rocky Lemus
Mississippi State University
Extension Forage Specialist
(662) 325-7718
RLemus@ext.msstate.edu

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Mississippi Beef Cattle Improvement Association—Productivity and Quality

Mississippi Beef Cattle Improvement Assn.
 Box 9815
 Mississippi State, MS 39762
 Phone: 662-325-7465
 Fax: 662-325-8873
 Email: bkarisch@ads.msstate.edu

Send questions or comments to Brandi Karisch, Extension Beef Cattle Specialist, Mississippi State University Extension Service

Brandi Karisch



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Visit MBCIA online at <http://msucares.com/livestock/beef/mbcia/>

MISSISSIPPI
BCIA Membership Application
BEEF CATTLE IMPROVEMENT ASSOCIATION

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
 Box 9815, Mississippi State, MS 39762

DID YOU KNOW?

Cattle were to most valuable U.S. agriculture commodity with \$76.4 billion in sales in 2012, based on the 2012 Census of U.S. Agriculture. <http://www.agcensus.usda.gov/>

619,172

The number of farms and ranches specializing in beef cattle in the U.S. in 2012.



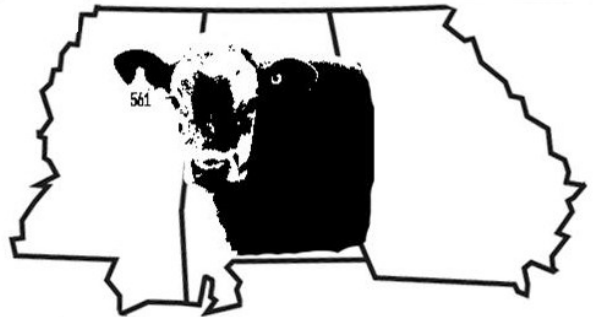
That's 29% of all farms, the largest category of operations in the U.S.

Deep South Stocker Conference

August 7th and 8th, 2014

Tour: Bar D Ranch, Rose Hill, MS

Conference: Kahlmus Auditorium, Meridian, MS



This conference will address issues that affect:
Stocker Operators (Winter & Summer Grazing)
Backgrounders & Pre-conditioning Yards
Cow-Calf Producers

Tradeshow During Breaks and Meals

For more information, visit our website (www.DeepSouthStocker.com), or contact Dr. Brandi Karisch, Beef Cattle Extension Specialist (662-325-7465, bkarisch@ads.msstate.edu)