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June 2018

MISSISSIPPI
BCIA
BEEF CATTLE IMPROVEMENT ASSOCIATION

- June 20-23—BIF Conference—Loveland, CO
- July 13—Deep South Stocker Conf., Starkville
- August 6—Homeplace Feeder Calf Board Sale, Hattiesburg
- August 25—Southern Producers Replacement Heifer Sale, Hattiesburg,
- October 18-20 - Mississippi State University Artificial Insemination School, MSU
- November 3—Fall BCIA Bull and Heifer Sale, Raymond

Inside this issue:

BCIA Supports MSU Judging Team

From the desk of Brett Crow, Livestock Judging Team Coach

I never know what to say in response to the enormous support that your group consistently provides our judging program, but please know that we are incredibly grateful! Our efforts to fund the travel that we do start over with each team since we don't get funds from the department. We are able to keep generating a new "batch" of young livestock leaders each year because you believe in our cause, and if you have gotten to know any of our alumni, you've heard them talk about the difference judging made in their lives. Many of you were a part of the program and can attest to that yourselves. We are able to make an impact on the state of Mississippi with our students regardless of where they grew up. One young man who was on last year's team grew up about 900 miles from Starkville but has now landed a career that has settled him about two hours from campus. You'll be excited to know that he is managing a beef herd! Another young person on that same team will be an agriscience teacher here in Mississippi. I have no doubt she will be expanding our impact exponentially by getting her future students interested in the beef industry. The current team consists of students with diverse backgrounds, some of whom are currently doing internships here in our state that will no doubt lead to jobs in the future.

As for the current team's success to date, they are only half way through their year of competition, and they have already been named "reserve champion team" on two occasions! The team was among nine universities competing at the Southeastern Livestock Exposition in Montgomery, AL where they ranked second overall (picture above). Our team actually defeated every team from the Southeast and was bested only by the team from Michigan State University. We were also the reserve champion team at the "All East" evaluation contest among 13 universities. That contest was hosted in Versailles, KY. You'll be proud to learn that we had the champion to team in cattle evaluation at that event!

We are forever grateful to you for your support! We'll do our best to give you maximum return on your dollar!

Improving Cow Herd Reproduction Via Genetics—Part 2

Wade Shafer, Ph.D., American Simmental Association Executive Vice President (This article was originally published in March 2008 issue of the SimTalk written by Wade Shafer, Ph.D. Drs. Lauren Hyde and Jackie Atkins provided updates for this reprint)

This article is a continuation from the May edition of the BCIA Newsletter.

Indirect Selection

Because the assessment of a cow's reproductive performance is generally determined later in her life, it seems logical to look for early indicators to hasten the process. For example, it is a commonly held belief that females with a propensity toward fatness will excel reproductively.

Though research has shown that increased fatness, to a point, is strongly and favorably associated with reproductive performance on a phenotypic scale, the few attempts to assess the relationship on a genetic level shows an unfavorable, though weak, relationship. Using data from the Red Angus Association of America (RAAA), researchers at Colorado State University (CSU; Beckman et al., 2006) derived genetic correlations ranging from -.12 to -.22 between body condition at various ages and Stayability (by industry convention, the probability of a cow remaining in the herd through 6 years of age). At the American Simmental Association (ASA), we have found a correlation of -.19 between an animal's genetic propensity for backfat in the feedlot and their inherent Stayability. We (ASA) have also calculated a -.11 genetic correlation between backfat and heifer pregnancy (the likelihood of a heifer being pregnant at the end of the breeding season) using RAAA data.

Admittedly, these unfavorable correlations between fatness and reproduction may seem illogical. We have all seen a higher proportion of thin cows open at pregnancy test time. Keep in mind, however, that the aforementioned correlations are genetic correlations. The relationships we actually observe, i.e., phenotypic correlations, are influenced by a combination of underlying environmental and genetic relationships. There is little question that females within a herd lucky enough to experience an environment for increased body condition (e.g., extra energy intake) are likely to have better reproductive performance than their herd mates. Furthermore, this strong and positive environmental relationship between fat and reproduction apparently overwhelms what appears to be a slightly negative genetic relationship — yielding the strong, favorable phenotypic relationship we typically observe.

Frankly, there is not enough evidence about the genetic relationship between fatness and reproductive function to make recommendations based on it at this time; however, though it may fly in the face of conventional wisdom, it appears that selecting "easy-fleshing" genotypes will not gain us ground reproductively.

Scrotal circumference has been considered as a predictor of female reproductive performance. Though the preponderance of evidence indicates a strong to a moderately favorable relationship between scrotal circumference and age at puberty in related females, research is less clear on the relationship between scrotal circumference and subsequent measures of reproduction. In a study based on a large population involving several breeds at the MARC, Martinez-Velazquez et al. (2003) found a slightly unfavorable (.15) relationship between scrotal circumference and age at first calving and no relationship between scrotal circumference and first pregnancy, first calving, and first weaning rates. Their conclusion was that selection on scrotal circumference would not be effective in improving female reproduction. These findings are in agreement with some studies and contradicted by others. For those interested, Martinez-Velazquez et al. (2003) provides an excellent literature review on the subject. Given the conflicting evidence, it may not be advisable to base selection decisions on scrotal circumference with the intent of enhancing maternal reproduction.

As for other traits that may be related to reproductive function, Rogers et al. (2004) found that increased levels

Improving Cow Herd Reproduction Via Genetics—continued

of milk EPD increased the risk of females being culled. This finding is consistent with ASA data showing an unfavorable (-.15) genetic correlation between milk and Stayability. Other ASA genetic correlations of note are -.26, .40, and -.19 between Stayability and mature weight, maternal calving ease and marbling, respectively. Based on these findings, we would expect females that are inherently lower milking, smaller at maturity, easier calving, and less marbled to stay in the herd longer; however, none of these relationships is strong enough to make a sizable impact on Stayability by selecting for them. Furthermore, other than mature weight, because of its strong relationship to early growth, determining the genetic level of a young heifer for these traits by simply observing them (which is what most commercial producers are limited to) is not possible. Therefore, a different tactic will be required if we wish to improve reproductive performance via selection. Namely, select for it directly — which, as we will point out, is not a trivial task.

Summary

In closing, we must reiterate that crossbreeding needs to be at the center of any effort to improve the reproductive function of your cow herd. The dramatic impact of heterosis on reproductive performance is crystal clear — no herd should be without it! Though reproductive improvement through selection is possible, it is generally limited to utilizing reproductive EPDs when selecting your herd sires. By combining crossbreeding with the selection of superior sires you will position your enterprise to excel in the most vital area of beef cattle production — cow herd reproduction.

MISSISSIPPI STATE UNIVERSITY EXTENSION

Save the dates for the Southern Producers Bred Heifer Sale and the Deep South Stocker Conference!

June 2018 — Management Calendar

GENERAL

Control summer weeds and brush. Manage pastures to rotationally graze young growth and harvest excess for hay. Overgrown pastures may need to be clipped. Target the production of high quality hay by harvesting bermudagrass hay at 4-5 week intervals, weather permitting, to keep standing hay crops from becoming too mature and fibrous. Fertilize hay fields between cuttings or on a regular interval to replace soil nutrients removed by hay production and improve hay yield and quality. Have proper free-choice minerals and fresh water available for cattle at all times, checking them often. Make sure adequate shade is available for cattle in the summer months. Continue with fly control program, and watch for cancer eye, pinkeye, and foot rot. Maintain a complete herd health program in consultation with a veterinarian including internal and external parasite control and vaccinations. Keep good production and financial records.

SPRING CALVING

Spot check cows and heifers to see if most are bred. Maintain good breeding records including heat detection records, artificial insemination dates, dates bulls turned in and out, identification of herd females and breeding groups, dates bred, returns to heat, and expected calving dates. Remove bulls 283 days prior to the end of the desired calving season (before June 20 to end the calving season in March). Keep bulls in a small pasture traps with effective fences. Feed bulls to start the next breeding season in good condition. Complete management practices for late calves, and castrate & dehorn any calves missed at birth.

FALL CALVING

Make sure fences where weaned calves will be placed are in good shape, and repair fences where needed. Wean calves based on market and pasture conditions using weaning strategies that minimize calf stress. Record weaning weights and cow body condition scores as measures of animal and herd performance and nutritional status. Calculate and evaluate weaning percentage (calves weaned/ cows exposed to breeding) and cow efficiency (calf weight/ cow weight). After weaning, cull cows based on pregnancy status, soundness (eyes, udders, feet, legs, teeth), and performance records. Develop plans for marketing cull cows based on market conditions and cow body condition. Select replacement heifers based on performance. Plan a heifer development program based on nutritional resources and gain needed to reach target breeding weights. Explore various calf marketing options to determine what best fits your operation. Prepare for special feeder calf sales. To precondition calves, vaccinate for respiratory diseases (IBR, BVD, PI3, BRSV, and others upon veterinary advise), and wean for at least 45 days before shipment. Train calves to eat from a bunk and drink from a water trough during the preconditioning period. Maintain bulls in small pasture traps with adequate nutrition to be in good body condition at the start of the next breeding season.

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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 lifetime dues payable to Mississippi BCIA should be mailed to:

Mississippi Beef Cattle Improvement Association
Box 9815, Mississippi State, MS 39762