DNA test for commercial RED ANGUS released

The Red Angus Association of America has enabled more particular selection of Red Angus commercial females. The Herd Navigator reports herd and breed percentile ranks for the RAAA HerdBuilder and GridMaster indexes, plus 13 EPD traits. The percentile ranks mean a score of 50 is average, 99 is in the top 1%, and a score of 1 ranks in the bottom 1%. The test cost is $25 per female, but the producer is required to own at least one registered Red Angus bull and the registration must be transferred to the producer. The Herd Navigator should only be used on females that are at least 75 percent Red Angus.

The HerdBuilder and GridMaster indexes allow a producer to select for profit. The HerdBuilder index is used if replacement females will be retained from the calf crop. The GridMaster index is used if the entire calf crop will be fed out. Even though the HerdBuilder index accounts for raising replacement females it uses all available traits from conception to slaughter and weights each trait by its economic importance. Economic indexes are the optimal method of multiple trait selection. While the producer can set cutoffs for a small number of traits, such as calving ease or milk, a DNA test ranks the animals that meet those cutoffs by an appropriate economic index. This indicates which animals should be your most profitable.

The Herd Navigator will provide basically the same amount of information as the Red Angus RA50K genomic prediction test. However, commercial producers can now select heifers based on a variety of traits that match their production goals instead of the more traditional route of selecting breeding females based on age, weight, or genetics of the sire.

Example Report

<table>
<thead>
<tr>
<th>Animal ID</th>
<th>Sire Reg</th>
<th>HerdBuilder</th>
<th>GridMaster</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABCD</td>
<td>12345678</td>
<td>44</td>
<td>33</td>
</tr>
<tr>
<td>AB CDC 101Y</td>
<td>12341234</td>
<td>33</td>
<td>28</td>
</tr>
</tbody>
</table>

You will receive a percentile rank for how each female ranks within your own herd (%HERD) and how she ranks within the breed (%BREED). You will also receive these rankings for EPD traits of CED, BW, WW, YW, Milk, Heifer Pregnancy, CEM, Stayability, Marbling, Yield Grade, Carcass Weight, REA, and Fat.
Heifer Selection

Now is the time to start preparing your heifers for fall breeding.

Whether you have raised your own replacement females or purchased heifers to expand your fall-calving herd you probably used some selection tools to choose those females. Maybe you kept the heifers out of your best performing cows or you chose the heifers that were born early in the calving season. With the high cost of purchasing and/or raising replacement heifers it is important that they are ready to enter the breeding season and that you have chosen the best breeding stock to enter your herd.

Heifers need to calve by 24 months of age to achieve maximum lifetime productivity. If heifers conceive late in the breeding season, it is likely they will not have enough time to rebreed in a defined breeding season. This is why it is important to make sure heifers are in proper nutritional, health, and reproductive status prior to their first breeding.

Target weights

Nutrition can have the greatest impact on when a female reaches puberty and also accounts for the greatest cost of raising replacements. A common practice when developing heifers is to have them at 65% of their mature weight at breeding and 85% of mature weight at calving. More recent research would suggest some operations may benefit from having heifers at a target weight of approximately 55% mature weight at breeding. You should take careful consideration of your cow herd and access to forage when selecting target breeding weights.

Considerations for selecting target weight of heifers at breeding

<table>
<thead>
<tr>
<th>Purebred or straightbred</th>
<th>Crossbred heifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Later-maturing breeds</td>
<td>Earlier-maturing breeds</td>
</tr>
<tr>
<td>Large-frame cows</td>
<td>Moderate-framed cows</td>
</tr>
<tr>
<td>Limited cow numbers</td>
<td>Large herd (&gt;200 cows)</td>
</tr>
<tr>
<td>Good forage resources</td>
<td>Limited forage resources</td>
</tr>
<tr>
<td>High replacement value</td>
<td>Average replacement value</td>
</tr>
<tr>
<td>Limited marketing options for open heifers</td>
<td>Ability to retain ownership on heifers in feedlot</td>
</tr>
</tbody>
</table>

The diet after AI may be just as important as what is fed prior to breeding. If nutrition after the start of the breeding season is restricted it can prevent ovulation. Studies show heifers gaining weight following AI have better 1st service conception rates than heifers that maintained body weight or lost body weight following AI.

Pre-breeding exams

Reproductive exams, known as pre-breeding exams, measure the development of the reproductive tract and the area of the pelvic opening. The data collected during these exams can be used to improve the breeding performance during the first breeding period and to minimize the incidence and severity of dystocia resulting in vigorous calves and successful re-breeding during subsequent breeding seasons. Tract scores measure the development of the female reproductive tract and are ranked on a scale of 1 to 5. Tract scores can identify females that have and have not attained puberty, and selection decisions to breed females can be made based on the tract scores. Pelvic area, as determined by measuring the height and width of the pelvis, is another tool to identify heifers that may not be suitable for replacements. A small pelvic area can lead to calving difficulty and the loss of a calf, heifer, or both. A pelvic area of 150 cm$^2$ at the pre-breeding exam is recommended. It is encouraged to perform pre-breeding exams 6 weeks before breeding.

<table>
<thead>
<tr>
<th>Tract Score</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed-time AI pregnancy rate</td>
<td>8%</td>
<td>32%</td>
<td>46%</td>
<td>50%</td>
<td>52%</td>
</tr>
</tbody>
</table>

This summary is based on evaluation of 17,318 heifers enrolled in the Show-Me-Select program from Spring 2010 to Fall 2014 of animals.

Vaccine program

Maintaining herd health and protecting against disease related reproductive losses are important and cost effective steps to take when preparing for any breeding season. Many viral and bacterial diseases can cause abortions, early embryonic death, or calves born with defects. Other sickness causes stress in animals and can reduce conception rates. Heifers should be vaccinated against IBR, BVD, BRSV, PI3, Lepto, and Vibrio 30-60 days prior to breeding. A modified-live vaccine (MLV) is recommended when vaccinating for viral diseases because they provide quicker, better, and longer lasting protection than a killed vaccine. Another advantage of MLV is that one dose may provide protection whereas killed vaccines must be boosted. Remember to booster Lepto and Vibrio which can be done at breeding time. If you are using a 14-day CIDR synchronization protocol, pre-breeding vaccines can be given at CIDR insertion. A proper vaccination schedule should continue through subsequent breeding seasons.
Scab-infected Wheat and Livestock

Averse growing conditions have provided a poor quality wheat harvest this year – low test weight, damaged, and a possibility of high vomitoxin. Scab-infected wheat can contain a mycotoxin (DON) which is more commonly referred to as vomitoxin. Scabbed wheat does not necessarily mean vomitoxin will be present in the grain, but a high level of scabby kernels means it will likely be present. The concentration of vomitoxin or DON is expressed in parts per million (1 pound in 1 million pounds). Livestock diets containing contaminated wheat can cause feed refusal, poor performance, and even impact reproductive performance. Remember that you should also consider other sources of mycotoxins because when scab-infected wheat is blended with other moldy feeds, the effect of mycotoxins will be additive. Feed advisory levels are listed below.

It is advised that if you have scab infected wheat and wish to include it in livestock diets you get it tested to determine the presence and amount of DON (vomitoxin). Cost is $75 and takes about 7 working days to complete.

Samples can be sent to:
Veterinary Medical Diagnostic Lab
Attn: Tim Evans
PO Box 6023
Columbia, MO 65025

Request the “mycotoxin screen in feedstuff”. Visit the following website for more information: http://vmdl.missouri.edu/index.html

<table>
<thead>
<tr>
<th>Species</th>
<th>Vomitoxin (DON) (ppm)</th>
<th>Other considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Cattle</td>
<td>Ruminating beef and feedlot cattle</td>
<td>5</td>
</tr>
<tr>
<td>Dairy Cattle</td>
<td>Lactating cows</td>
<td>2</td>
</tr>
<tr>
<td>Swine</td>
<td>Growing-finishing pigs</td>
<td>1</td>
</tr>
<tr>
<td>Sheep</td>
<td>Finishing lambs</td>
<td>2</td>
</tr>
<tr>
<td>Poultry</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Horses</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

This table lists the FDA limits on dietary concentrations of vomitoxin or DON in ppm. The recommendations are for the total diet.

Recommendations for feeding wheat:
- Limit wheat to 40% or less of the ration in backgrounding and finishing diets
- Limit durum to 30% or less of the ration in backgrounding and finishing diets
- Gradually adapt cattle to wheat-based diets
- Wheat should be coarsely rolled or cracked, not finely ground
- Wheat should not be fed in self feeders
Legislation has expanded the equine liability waiver to include livestock and encourages all livestock owners to make a small investment for a sign that offers protection for your family farm or ranch. Equine professionals already owning a sign will need a new sign to comply with the law.

Butch Meier has signs on hand or signs can be ordered from www.mocattle.org. Cost is $20 for Polyethylene or $35 for Aluminum.

Looking for Hay?

Check out the Hay Directory if you are in need of hay this year: https://agmarketnews.mo.gov/hay-directory

When you are deciding how much to pay for hay or to sell a good reference is the weekly Hay Report found on USDA Ag Marketing Service. www.ams.usda.gov/

- click on Market News
- Livestock, Meats, Poultry, Eggs, Grain and Hay
- Under Reports click Hay
- MO weekly hay summary

Forage testing may be a good idea if you put up wet hay, had delayed hay harvest, or are looking to purchase hay. Wet hay is subject to mold and can produce mycotoxins which can cause problems when feeding to livestock. If delayed harvest occurred, the maturity level may be higher making the forage quality lower. Testing can determine the amount of energy, protein, and NDF levels which are related to the quality and intake of the forage. If you can test hay before purchasing it can help determine the relative value of the hay.

Testing costs around $25. A hay probe is available to borrow to take hay samples. A guide on sampling feeds can be found at: http://ianrpubs.unl.edu/live/g331/build/g331.pdf

Show-Me Quality Assurance (SMQA)

If you are exhibiting livestock at the SEMO District Fair, you must be SMQA certified. There will be an in person training at the following locations:

Jackson: July 22
7–8:30 PM
684 W Jackson Trail
Jackson, MO 63755
RSVP to 573-243-3581 by Monday, July 20

Dexter: July 29
2–4 PM
Bootheel Regional Planning Commission (Old Armory)
105 E. North Main
Dexter, MO 63841
RSVP to 573-568-3344 by Monday July 27

If you are unsure if you need to complete it, call the Extension office and ask Maryann. You will not be allowed to show if it is not completed. These training sessions are open to all counties.

Want to Keep Receiving this Newsletter?

We are cleaning house and this includes our mailing lists. If you would like to continue to receive SEMO Livestock News and other livestock related information, please call the office: 573-243-3581

If you would like to receive an electronic version of the newsletter please email: LarimoreE@missouri.edu

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