

SORTING GATE

Levels 3 & 4: Selecting replacements and benchmarking your herd

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It's been all about the boys thus far on our journey of building our genetic game plan, but we all know it

takes a good steady group of females to drive genetic improvement. Levels 3 and 4 are all about the cow herd.

While bull selections may be the most tedious and expensive decisions you make for the herd each year, it could be argued female selection and culling are a close second. With a good set of eyes, some historical knowledge, and a few quick tools, female selection can become a favorite task on the farm or ranch.

Form and function

No doubt the first sweep through the replacement heifer pen is going to be focused on form and function. On that initial cut, females that are too small or too big may not make it through until the next stage. They will be evaluated for feet and leg structure, body

condition and performance.

Older females tend to get the nod quicker as they have more time to mature, increasing their opportunity to cycle sooner as the breeding season approaches.

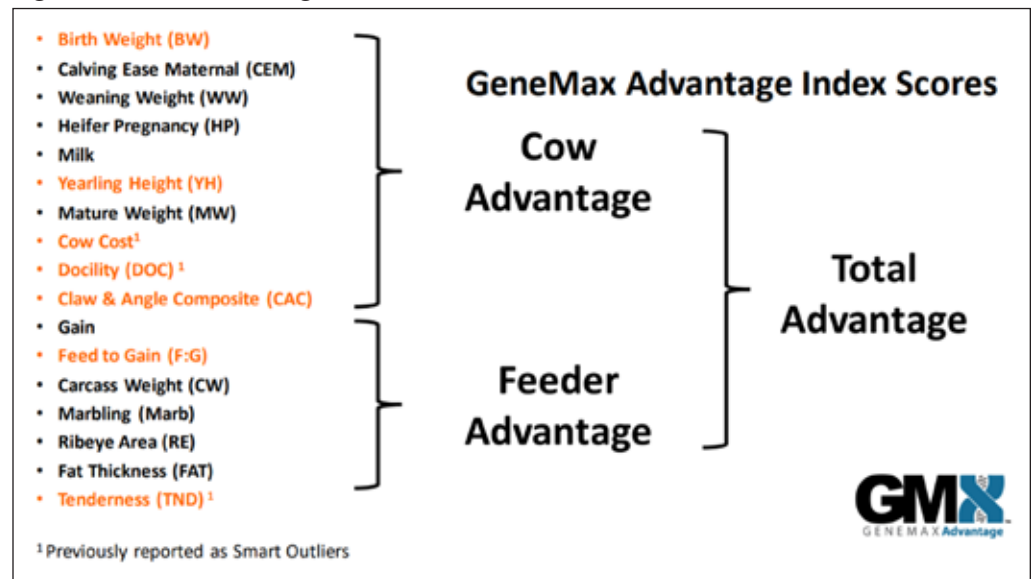
Once you get through those initial steps, where do you go from there?

That's where GeneMax[®] Advantage[™] comes

in. GeneMax Advantage is a genomic test for commercial heifers that allows producers to get genetic scores for traits that drive profitability in the beef industry. The simple test can utilize blood, hair or tissue sampling units (TSUs), such as those discussed in our last "Sorting Gate" article.

While GeneMax Advantage has been around since 2014, it has just undergone an exciting upgrade to

Fig. 1: GeneMax Advantage offers 17 individual trait scores



provide ample value to commercial users of registered Angus genetics. The test's reporting of traits has nearly doubled with the upgrade. It now reports 17 individual trait scores. A highlight includes the claw set and foot angle composite score, which is a first of its kind for any commercial heifer test.

With that, previous smart outliers, including docility, cow cost and tenderness, have upgraded to

their own individual score. Finally, a new feed-to-gain index has been added that combines feed intake and postweaning gain into an easy-to-use number to rank heifers for feed efficiency. Fig. 1 outlines all 17 individual traits currently included in the GeneMax Advantage suite of traits.

Producers can also take advantage of the three bioeconomic

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Fig. 2: Average fed-steer value for pens of calves tested with Feeder Advantage



selection indexes that highlight animals predicted to be the most profitable for different segments of the industry.

Cow Advantage describes profitability from conception to weaning. It includes all maternal traits — from heifer pregnancy and weaning weight to mature cow size and claw and angle composite, all weighted appropriately based on the economics of the industry.

Feeder Advantage describes the terminal side of the supply chain, bolstering animals that are predicted to produce progeny efficient for the feedyard and effective on the rail. It combines both the feedlot efficiency piece, along with carcass quality, to find those animals that will target the *Certified Angus Beef*® (CAB®) brand when hung on the rail.

Finally, **Total Advantage** works to put the supply chain profitability all together. This index combines both the maternal and terminal traits in one individual value.

The indexes are formulated to align with indexes assessed on registered Angus bulls, meaning strong relationships between Cow Advantage and maternal weaned calf value (\$M), Feeder Advantage and beef value (\$B), and Total Advantage and combined value (\$C) exist. This allows commercial cattlemen to use the information in bull-buying decisions, as well as in selecting replacement females. For example, if you find yourself longing to increase your herd's Feeder Advantage score, because of the relationship between Feeder Advantage and \$B, selecting a herd bull with a high \$B will increase your herd's Feeder Advantage score.

Along with that, this \$28-per-head test comes with free sire verification. This allows for all producers to get all the benefits of sire identification and the genetic predictors outlined above with one simple test.

Does it work?

While the test certainly has all the

bells and whistles, the real frank question is: Does it all really work?

A study done in conjunction with Angus Genetics Inc. (AGI), Zoetis, Top Dollar Angus and Gardiner Angus Ranch set out to understand just that. Fig. 2 depicts two groups of high- and lower-Feeder-Advantage-score pens of feeder cattle.

Both groups were handled under the same management conditions and given the same opportunity to perform throughout their lifetime. The difference was in the genetic merit to perform on carcass traits. Pen A had a group average predicted Feeder Advantage score of 31, while Pen B had a group average score of 81. In the end, Pen B had, on average, a \$137-per-head advantage over the individuals in Pen A.

So what's the plan?

For those interested in using GeneMax to select their replacement heifers, there are a few

tips you may want to consider:

1. After your initial cut for earliest born and visually acceptable heifers, test three-fourths (based on number of heifers needed) of the females left.
2. Select and breed the "top" half based primarily on Total Advantage and individual trait predictions.
3. A standard rule of thumb if utilizing for selection purposes is "test 2, keep 1."

For tips on how to best sample and submit DNA testing, take a look at the January 2022 "Sorting Gate." For more information on GeneMax Advantage, feel free to reach out to the AGI Team at 816-383-5100 or at agiusers@angus.org. |

Editor's note: Authored by staff of Angus Genetics Inc. (AGI), "Sorting Gate" is a regular *Angus Beef Bulletin* column featuring herd improvement topics for commercial producers using Angus genetics. For additional information on performance programs available through the American Angus Association and AGI, visit www.angus.org and select topics under the "Management" tab.