IGENITY® Details for Increased Success

Make more right heifer selection decisions with IGENITY.

Developing replacement heifers represents a significant investment, an important contributor to cow herd profitability and a key to the future of the herd. So you can't afford to approach it without as much information as possible.

Adding IGENITY to the selection protocol at weaning this fall adds information about more than 15 economically important traits, seven genetic abnormalities and more. Many of these traits are difficult or even impossible to measure with traditional tools, but they may have a major impact on the profitability of replacement females.

This inside information can help avoid the cost of investing in females that will be culled at breeding time — or worse, females that will reduce the herd's genetic progress for years to come.

Invest early to help avoid costly long-term mistakes. Research into the economics of breeding animals becomes more precise every year. For example:

- A series of articles in *BEEF* magazine in 2007 calculates the expense of developing a preg-checked replacement heifer to be $1,160.[1]
- A female may not break even until 6 years of age.[2]
- Each replacement heifer will play a large role in defining the future genetic direction and profitability of the herd.

This could make an investment in IGENITY for all replacement heifer candidates one of the best decisions a producer can make during weaning this fall.

Help take some guesswork out of replacement heifer selection.

Replacement heifer selection often begins at weaning with an initial sort of the female calf crop. Start putting the power of DNA to work by collecting DNA samples when you are handling cattle during fall weaning and add the information from IGENITY to your existing selection protocols.

The initial success of a replacement heifer candidate hinges on her ability to:

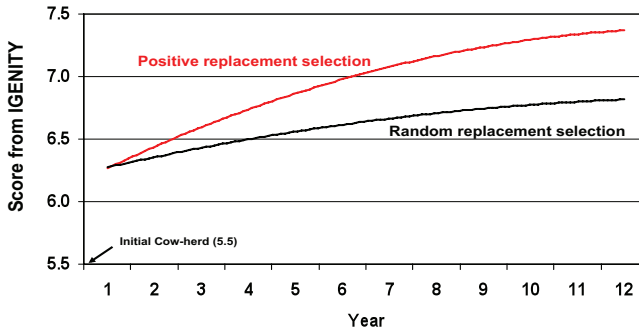
- Grow quickly
- Grow efficiently
- Breed on time

If you use the IGENITY profile and custom sort software to evaluate potential females for key traits at weaning, you can help avoid the cost of developing subpar females that may not have

the genetic potential to reach these first milestones. On the other hand, if you wait to evaluate heifers until their first calf is harvested, it may be too late because she already has had another calf on the ground and could be bred for a third time.

The cumulative advantages of positive selection over random selection. Selecting the right replacement heifers not only affects the profitability of the individual, but perhaps more important, it affects the genetic merit and profitability of the herd for years to come.

Effect of Replacement Heifer Selection on Calf-crop Genetic Change – Marbling (7 score sires)



To help illustrate how selection decisions can affect a herd over time, Dr. Bob Weaber, state extension specialist, beef genetics, University of Missouri, developed a model for IGENITY that calculates the potential genetic outcome based on a given scenario. This model is designed to illustrate the differences in genetic merit based on using the IGENITY profile to help select sires or replacement heifers, or a combination of both.

This graph illustrates the change in genetic merit of progeny for a given trait over time if producers use the IGENITY profile to help select superior replacement females. This example uses marbling as the selected trait; however, this scenario can be applied to any trait available from IGENITY. In this example, the herd size remains the same for both groups. Both groups improve their genetic potential by using sires with a score of 7 for marbling. However, for the herd represented by the red line, the best 20 percent of the females are selected to return as replacements, based on their scores from IGENITY. Random replacement selection is made for the herd represented by the black line.

By selecting the best 20 percent of the females using the IGENITY profile, you could realize a 10 percent advantage compared with random selection over a 12-year period. A 10 percent difference can mean significant differences in profitability for traits such as heifer pregnancy rate, feed efficiency or carcass traits if you are selling calves on a grid.

By continuing to use the IGENITY profile for positive selection of sires and replacement females, you can help ensure you are investing in breeding stock that will continue to point your herd in the right direction, rather than leaving progress up to chance.

The IGENITY profile turns genetic science into user-friendly knowledge. Collecting DNA samples from calves at weaning is the first step toward putting the science of DNA to work for you when predicting fertility and growth in young females.

IGENITY is the only DNA profile that offers maternal and reproductive traits, as well as residual feed intake and average daily gain. So you now have the option to evaluate cattle for important traits that have traditionally been difficult to measure in calves.

After receiving inside information from the comprehensive IGENITY profile, you can sort and manage the information for your individual herd goals with the user-friendly IGENITY software. For example, in the case of replacement heifers, you might start with the custom sort software and focus on traits such as fertility, feed efficiency and growth. Then benchmark your replacement heifer choices against the rest of the herd to help measure how much progress you are making.

DNA technology that's easy to use.
Expert advice that makes it even more useful.
Even the most powerful DNA information is just data if producers don't know how to manage or apply it. IGENITY provides an entire system of the most comprehensive DNA profile, plus expert consultation and IGENITY software help turn profile information into actionable knowledge that can be customized to individual operations. IGENITY continues to discover new DNA technology — and new ways to make it more user-friendly than ever before.

igenity®

www.igenity.com 1-877-IGENITY

[1]Hughes, J. Heifer economics (1 and 2). Available at: http://beefmagazine.com/hughes/beef_heifer_economics_part/. Accessed June 17, 2009.
[2]Red Angus Association of America. Heifer pregnancy and stayability. Performance update. Available at: http://old.redangus.org/newredsite/themagazine/julyaugust02/performanceupdate.html. Accessed June 17, 2009.

MERIAL