



## Continuing the Conversation

During the Hereford Genetic Summit Sept. 4-5, 2014, Hereford breeders were challenged to embrace technology, focus on the customer, and concentrate on feed efficiency and end product merit to help position the breed to gain more commercial market share. We “continue the conversation” in *Hereford World* issues as we discuss with breeders key take-home messages from the conference and as an Association we continue to build a roadmap for improving Herefords’ position in the cattle industry. For a complete summary of the event, visit [HerefordGeneticSummit.com](http://HerefordGeneticSummit.com) or see the October 2014 *Hereford World*.

This issue:

### Maternal traits



## Udder EPDs

In the spring of 2015, the American Hereford Association (AHA) released two new expected progeny differences (EPDs) for udder quality. Udder suspension (UDDR) and teat size (TEAT), and their correlations were developed through more than 200,000 udder observations. Scoring these traits separately allows for more precise measurement of each trait, though scores will often correlate.

These traits were found to be fairly heritable, with a .34 score. UDDR and TEAT also have a .72 correlation, which is quite high. Scores are recorded on a scale of 1 to 9 with 9 being the closest to ideal. Scores should also be recorded within 24 hours of calving, if possible.

UDDR measures udder ligament support, with a 1 being very pendulous and a 9 being very tight. A lack of suspension can cause nursing difficulties for calves.

TEAT measures length and circumferences of teats, with a 1 being very large and balloon-shaped and a 9 being very small. Smaller teats are easier for newborn calves to nurse. Larger teats can prevent the calf from getting an adequate amount of colostrum, which can lead to more chance of scours or decreased immunity for a newborn calf. For more information, visit [Hereford.org/UdderEPDs](http://Hereford.org/UdderEPDs). **HW**

# Focused on Females

## New EPDs encourage improvement in maternal traits.

by **Bridget Beran**

**G**ood cows are the basis of a strong herd, and the Hereford breed is putting a new emphasis on the influence of females. With new EPDs and research centered on female attributes, maternal traits are coming into focus.

At the Hereford Genetic Summit, Randall Raymond, veterinarian and Simplot Livestock Co.’s director of research and veterinary services, spoke to breeders about the need for added emphasis on maternal heterosis. Especially in an operation the size of Simplot, with more than 30,000 cows, the importance of maternal traits becomes clear.

“In a cow-calf operation there is a 4.3% increase in pregnancy rate due to maternal heterosis,” Raymond says. “That’s a big deal. The single biggest expense to a commercial cow-calf operation is retention of heifers. Because it costs a lot to make her, and every heifer you keep is a calf you can’t feed or sell at weaning.”

Statistically, the Hereford breed brings a lot to the table in Raymond’s eyes. With heterosis adding up to 18 lb. of preweaning gain and 35 lb. of carcass weight, Herefords, in a crossbreeding program, do a lot of positive things for the Simplot herd. Heterosis also contributes to 4% less preweaning mortality.

“One of the things we love about the Hereford breed is the heterosis it brings to our maternal side,” Raymond says.

While research that was done by Raymond and Simplot in conjunction with the American Hereford Association (AHA) found that Hereford calves came in about 4 lb. heavier due to a longer gestation period, Simplot also retained 1.9% more Hereford-influenced 2007-born replacement heifers and 2.1% more Hereford-influenced 2008-born replacement heifers.

“So those Hereford-influenced females are staying in the herd longer,” Raymond says. “Why is that? It’s heterosis, fleshing ability and reproductive performance. If you say 2% isn’t a lot, out of our 30,000 that’s 600 head. That’s a lot of cattle.”

He encouraged breeders to look further into and to collect more data on maternal traits, such as fertility and udders. And

that is exactly what the AHA has set out to do.

### Enhancing udders and fertility

The AHA recently introduced new expected progeny differences (EPDs) for udder quality (UDDR) and teat size (TEAT). Heather Bradford, who received her master’s degree at Kansas State University and is currently pursuing her doctorate in animal breeding science at the University of Georgia, researched these EPDs. Her research focused on how udder quality and teat size correlated and how heritable each trait is.

“Generally, udder quality is moderately heritable, meaning improvement can be made through genetic selection,” Bradford says. “My research led to the inclusion of udder quality in the AHA’s national cattle evaluation. In the case of the AHA’s EPDs, selecting animals with higher EPDs for udder suspension (UDDR) and teat size (TEAT) will result in genetic improvement for these traits.”

Bradford says these traits have a strong positive correlation, so as one of the two improves, the other can be expected to follow suit.

Also up for development is research for sustained cow fertility (SCF). Mike MacNeil of Delta Genetics, conducted a research project to examine how well Hereford cows maintain their fertility throughout their lifetimes.

“We’ve been interested in EPDs that would help us enhance the fertility of a cow herd,” MacNeil says. “Without a doubt, successful reproduction is the most important piece of any successful operation, commercially or economically. I thought that Hereford needed EPDs for reproductive traits to complement the production traits that they already have to create better power indexes.”

### Building the better female

MacNeil says he foresees several benefits to the implementation of these maternal EPDs for producers. When used in conjunction with excellent management, MacNeil says these EPDs could be used to shorten the time between when cows are bred and calves are born as a means to shorten the calving season.

“Early birthdates could also mean that calves are older when

they’re being sold which makes them more marketable and heavier if they’re being sold by the pound,” MacNeil explains. “And if the calving season is shorter, you are also getting a more efficient use of labor because you’re not having to check all around the clock for near as long.”

An increased focus on maternal traits and fertility is key to an operation’s profitability, according to Bill Bowman and Sally Northcutt, Method Genetics Inc. While breeders have had EPDs for growth and carcass, they say that new traits centered on reproduction add to the toolbox for improving cow herd genetics.

“These selection tools can be incorporated into the breeding goals of the operations,” Northcutt says. “These traits will be great additions to the AHA index values for use by producers to impact profit.”

Bowman and Northcutt assisted with the implementation of recent genetic research projects. They say that the SCF EPD will provide a resource to make genetic progress in the reproductive success of females over their lifetime, increasing an operation’s profitability because it is retaining cows that are more likely to produce a calf. The AHA has made strides in developing maternal trait selection tools for its membership, but these traits come with their own set of challenges.

“Reproductive traits are lowly heritable and more challenging to develop,” Northcutt says. “These new traits give breeders additional selection tools in the cow herd to impact reproductive efficiency and ultimately their operation’s bottom line. In addition, these new EPDs can be rolled into existing AHA index values.”

While maternal traits are important and something for producers to focus on, MacNeil and Northcutt remind producers not to get tunnel vision when it comes to selecting new genetics for their herds. MacNeil recommends considering the entire set of EPDs when selecting a new bull or cow.

“A balanced trait approach is always desirable to avoid chasing extremes or single trait selection,” Northcutt says. “Balance begins with matching cow herd genetics to the production environment.” **HW**