

Udder Importance

Hereford breeders now have the most progressive tools to make genetic progress on udder quality.

by Julie White and Angie Stump Denton



“When we visit with our commercial producers, they tell us they want to make genetic progress, but their No. 1 goal is to create hassle-free genetics,” says Lorna Marshall, Genex Cooperative U.S. beef marketing manager. With the release of the spring 2015 Pan-American Cattle Evaluation (PACE), the American Hereford Association (AHA) has released two new expected progeny differences (EPDs) for udder quality to help producers do just that.

The two traits – udder suspension (UDDR) and teat size (TEAT) – were first released on the web in December.

“I think it’s great that the Hereford breed is the first to create and release udder quality

Udder scoring

Seedstock producers should manage udder quality closely, says Bob Weaber, University of Missouri Extension beef genetics specialist. “Your commercial customers expect trouble-free cattle when they make a purchase at your farm or ranch. Don’t give your customers a reason to buy genetics from another source to ‘clean up’ udders produced by your bulls.”

Cows with good udder quality not only take less labor but also may have improved longevity due to lower incidence of mastitis or injury. “Poor udders, especially large teat size, may delay timely colostrum intake by calves, resulting in poorer transmission of passive immunity,” Weaber explains. Hereford breeders are encouraged to

report udder scores to the American Hereford Association (AHA) to be utilized in genetic evaluation.

How to score

Udder and teat scores should be taken (on the weakest quarter) within 24 hours of calving. Scores should preferably be taken by the same person throughout the calving season. With the new system, producers score both teat size and udder suspension. The scores for both characteristics range from 1 to 9.

“A two-score system allows independent evaluation of teat size and suspension characteristics,” Weaber says. “While there is a general trend for cows with large teat

size to also have poorer suspension, this is not always the case. The independent scoring of the two important udder quality traits allows more precise measurement of each trait. Even though these scores are subjective, they’ll do a better job documenting variation in udder quality than a single-score system. When the two scores are used, the heritability estimates for each trait should be higher due to increased precision of measurement.”

Weaber suggests producers get in the habit of scoring udders when they collect calving ease data. “Make udder score collection a routine part of your performance data collection,” he says. “Until you get comfortable with the scoring system, tape a scoring guide to your clipboard or reduce on a copy machine and tape in your ‘red book’ for use in the field. Try to get as close as you can to the guide and be as consistent as possible.

“Once you do it for a while, you’ll start picking out the really good ones and really bad ones easily. Be honest with yourself and use as much of the scale as needed. If she’s a ‘1’ on suspension and ‘1’ on teat size, give the scores. Your customers expect it!”

Submitting scores

Hereford breeders record udder scores on the Registration Application/Birth Information Worksheet (Form 1).

According to Jack Ward, AHA chief operating officer and director of breed improvement, with the new system, breeders will list the score in the same field used previously, but instead of recording one score, they will input the two digits. The first digit will be the udder suspension (attachment) score, and the second digit will be teat size. For example, if a cow has an attachment score of 7 and a teat size of 5, the breeder will record 75 in the “dam udder score” column.

Research shows udder and teat characteristics are heritable; thus, change can be made through selection.

It is also important to understand that there is no perfect score, but it is the ranking and the differences within the herd that are important. **HW**



Udder score 21



Udder score 33



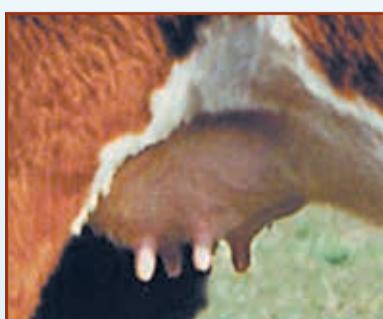
Udder score 55



Udder score 74



Udder score 77



Udder score 99

EPDs,” Marshall says. “This is a great example of recognizing an area that is very important to commercial cattle producers and proactively providing genetic tools so that breeders can make progress.”

Fred Larson, a Hereford breeder from Spring Valley, Wis., and AHA breed improvement committee chairman, says the AHA Board of Directors pursued creating udder quality EPDs because udder quality plays into the longevity of the Hereford breed. “It’s obviously one of those things we can always improve on,” he says. “I think certain breeders have always paid a lot of attention to it while other breeders maybe let it slide a little bit. In order to keep improving our breed, we need to keep making those steps forward.”

Easing management

Labor is a huge issue for the commercial industry both in terms of finding labor and in being able to afford labor, according to Marshall. “Sometimes it’s hard to put an economic value on udder traits, but any trait that increases labor and management costs for commercial producers is very important,” she says. “The Hereford breed has taken a real genetic leadership role in the beef industry — tackling what I consider important traits that are sometimes very hard to measure but still economically relevant.”

Having grown up in Wisconsin, Larson says his family had dairy cows until about 15 years ago, and, therefore, he has a learned focus on the importance of udder quality in the beef industry. “Obviously the dairy thing is huge where I’m from,” Larson explains. “I was exposed to dairy judging through FFA and I learned a lot about udders going on those field trips. Udder quality has always been something that has lurked in the back of my mind and for that reason we have maintained pretty good udders in our Hereford herd. I am excited to see this and I think it’s a really good development.”

According to Jack Ward, AHA chief operating officer and director of breed improvement, there were around 200,000 udder observations included in the first evaluation, and the heritability for both UDDR and TEAT is about .34, which makes this trait fairly highly heritable, so genetic progress can be made rather quickly.

“The correlation between the two scores and one is .72, so it makes all udder scores useful in this evaluation,” Ward says. “This EPD can be used the same as other EPDs and will allow you to compare animals and, most importantly, has

“Sometimes it’s hard to put an economic value on udder traits, but any trait that increases labor and management costs for commercial producers is very important. The Hereford breed has taken a real genetic leadership role in the beef industry — tackling what I consider important traits that are sometimes very hard to measure but still economically relevant.”

— Lorna Marshall

the potential to change udder quality between sire groups.”

Producers can find the two traits by going to Hereford.org and clicking on “EPD Search.” They are located in the EPD trait box positioned right after maternal cow weight (MCW). This first release will be the trait by itself with no correlations to other traits, and there will not be a genomic impact with genomic-enhanced expected progeny differences (GE-EPDs).

Making progress

For cattlemen considering making genetic progress in udder quality, Marshall says these are not necessarily traits in which producers have to select for the extreme best. “I think the EPDs are going to be very useful for us in terms of avoiding the issues on the bottom end of the breed,” she says. “How we would probably recommend the use of those EPDs is making sure you are breed average or better depending upon how much genetic progress you need to make and where you feel like the udder trait is in your herd already. For some producers it’s not going to be an issue and probably staying in the top 60-70% of the breed is going to be great. Guys who are trying to make progress maybe should increase selection pressure by staying in the top 30% of the breed. It’s a trait with which we can make progress really quickly because it’s highly heritable. I think it varies depending upon how much progress they want to make.”

Larson says UDDR and TEAT are like any other traits and cautions breeders to avoid the single-trait selection mentality. “This has to be thrown into the basket with everything else you are looking for,” he says. “I think it’s important but I don’t think it’s the No. 1 thing that should be selected for.”

Each breeder has his own goals within his cow herd and different ways he is trying to improve from year to year. “If you happen to have a cow herd that has a real high-quality udder throughout the herd, this is certainly one way you can help maintain that and not let things go backwards,” Larson says. “If you are at the other end of things where you really need to make some headway and improve those scores, I think this will be a little

farther up your list of things to look for when shopping for another animal whether it’s a bull or a cow.”

Using the EPDs

In July 2008 the Beef Improvement Federation (BIF) adopted a two-score system for evaluating udders. The AHA Board of Directors followed suit and adopted the same system during its August 2008 meeting. See the “Udder Scoring Fact Sheet” posted in the Hereford.org “Education Center.”

Scores of 1 to 9 are used for both traits with 9 being closer to ideal. “This scoring system is not concerned with milk flow or production; those will be measured with the weaning weight (WW) and milk and growth (M&G) EPDs,” Ward explains. “All we are looking at with this trait is the type of udder and teat.”

Udder suspension: Scores range from 9 (very tight) to 1 (very pendulous) and represent assessments of udder support. Weak udder suspension results in pendulous udders that make it difficult for a calf to nurse.

Weak suspension in the udder indicates a lack of support in the ligament that ties the udder to the cow’s body wall. Over time, weakness in this ligament will allow the udder to hang down too far from the body and may subject the udder to serious problems and increased potential for injury.

UDDR EPDs are reported on the scoring scale. Differences in sire EPDs predict the difference expected in the sires’ daughters’ udder characteristics when managed in the same environment. For example, if sire A has an UDDR EPD of 0.4 and sire B has an UDDR EPD of -0.1, the difference in the values is 0.5, or one-half of a score. If daughters of sires A and B are raised and managed in the same environment, a producer would expect half a score better udder suspension in daughters of sire A, compared to udder suspension in daughters of sire B.

Teat size: Scores range from 9 (very small) to 1 (very large, balloon shaped) and are subjective assessments of the teat length and circumference. Oversized teats are difficult for newborn calves to nurse, and the calf may not receive adequate colostrum. Nursing difficulty could lead to a

higher incidence of scours or decreased immunity levels in the newborn calf.

TEAT EPDs are reported on the scoring scale. Differences in sire EPDs predict the difference expected in the sires’ daughters’ udder characteristics when managed in the same environment.

For example, if sire A has a teat size EPD of 0.4 and sire B has a teat size EPD of -0.1, the difference in the values is 0.5, or one-half of a score. If daughters of sires A and B are raised and managed in the same environment, a producer would expect half a score smaller teat size in daughters of sire A, compared to teat size in daughters of sire B.

Just like with the scoring system, the higher the EPD the better for both traits.

“These are important traits to analyze because commercial producers demand genetics that are problem-free,” Ward says. “The loss of time, longevity and calf performance due to a poor quality udder cannot be tolerated.”

With the release of spring 2015 EPDs, the updated Trends, Traits and Distributions report is now also available online at Hereford.org.

“The Association’s role is to give our members tools to make improvement in beef production,” Ward adds. “Udder EPDs are the next phase in breed improvement strategies that will allow our members to continue to improve the genetics they produce.”

Marshall says she gives the Hereford breed a lot of credit. “The mentality the Hereford breed has taken in terms of genetic leadership and addressing traits they may have had a negative perception on in the past head-on I think is gaining them tremendous market share,” she says. “I think the commercial industry realizes the Hereford breed is addressing their issues and it makes them very comfortable — if they are looking to add some heterosis to their cow herd — to utilize Hereford as that breed to do so because they realize how progressive their genetic evaluation is.” **HW**

Editors Note: For more information about AHA’s suite of EPDs or breed improvement programs, contact Jack Ward at 816-842-3757 or jward@hereford.org.