

# Bull Buying and Headaches

As the new year begins, the process of buying a bull picks up. New bulls are great, but what about the old bulls?

Although one wants to keep lots of openness when reviewing new bulls, the truth be told, there is a wealth of information available on most bulls that probably is not well tapped. With ever-growing databases, improved techniques and computer applications to access the data, reviewing records of old bulls to access the current genetics within the herd aids in understanding the herd.

The field of genetics is the study of tracing back the source of the many

genes each living organism has. The cow and the bull contribute equally to an individual calf. However, the bull has the capacity to sire numerous calves each season, so understanding what genes are present within a particular bull is easier to see because the probability that a gene will express itself is greater.

That is not to say producers should not critically monitor the genetics of individual cows. However, commercial producers buy bulls, and it is those bulls that are the focus of imported genetics within the herd. The herd is a product

of the bulls, provided one is keeping replacements from within the herd.

Likewise, the calves that are sold are absolutely a product of the bulls. As calves are selected to stay within the herd, the current calves carry half of their genetic material from the bulls, the other half from the cows.

Where does the cow genetic material come from? Well, it comes from the bulls that sired the cows, so one-half of the genetic material in the cows can be traced directly to the bulls that sired the cows.

When a cow produces an egg, the egg contains a random assortment of genes that, on average, comes half from

her sire and half from her dam. When one looks at an individual calf, a product of that egg, plus the sperm cell from a bull, the statement often is made that half the genes within a calf come from the sire and, on average, one-fourth of the remaining genes come from the maternal grandsire and one-fourth come from the maternal granddam.

For the average calf, the sire and the maternal grandsire are projected to have contributed three-fourths of the calf's genes. Although it is somewhat challenging to do all the math, on average, if one goes back an additional generation, 87.5% of the genes within the calf crop are potentially accounted for by the last three sets of bulls that the producer bought.

For example, a producer buys three new bulls every three years, so a possible situation would be that three bulls were purchased in 2012, three in 2009 and three in 2006. The heifers that are being bred in 2014 are daughters of the three bulls purchased and used in 2012. Of the genes within those heifers, 50% would be from the three bulls that were purchased in 2012. Additionally, on average, 25% of the heifers' genes could be traced to the three bulls that were purchased in 2009 and 12.5% could be traced to the three bulls purchased in 2006.

If this was a 100-cow herd that maintained a bull battery of three bulls, the genes from the last three groups of bulls purchased (nine bulls), on average, would account for 87.5% of the genes in the 2015 crop.

This point is where the headache sets in when a producer is trying to remember all these records that cross several years. It is hard enough to remember the nine bulls, but if the producer keeps 15 replacement heifers each year, during the course of the past nine years, one is trying to remember 135 cows coming and going.

The focus of this discussion, besides giving one a headache, is to draw attention to the need to buy bulls diligently. Not to downplay the importance of cow families, but in the commercial world, bulls are the mechanism that producers use to buy the genes that they need.

These genes determine the genetic makeup of the calves, and the producer then sets about providing the proper management to allow for the desired genetic expression within each calf produced.

Reviewing the current expected progeny differences (EPDs) for previously used bulls is an important exercise to see what genes actually have been placed within the herd. Actually, given today's website developments and opportunities to retrieve bull data, producers can get the EPDs for old bulls. Ironically, a producer may know more about a bull today than when the bull actually was used.

The gene pool of any herd is the genes that were introduced based on the bulls that were used. If a producer doesn't know what they are, he should look them up. **HW**

## Hereford online tools

Producers can visit *Hereford.org* for resources related to individual animal performance as well as basic performance and marketing tools.

The American Hereford Association (AHA) measures 11 traits and calculates four profit (\$) indexes. The *Hereford Sire Summary*, which is produced each spring and posted online, provides breeders with a tremendous amount of information on a large population of Hereford sires. The "Records/TPR" page on *Hereford.org* has links to the *Hereford Sire Summary* and *Trends & Distribution Report*.

The *Trends & Distributions Report* contains information on the breed average expected progeny differences (EPDs) for each of the 11 reported traits. Additionally, this report contains a listing of the EPD distributions of active sires, active dams and calves born in the past two years broken down by percentile rankings for each of the EPD traits. There are four trait leader reports available that provide the top 200 animals of specific classes or types in the Hereford breed based on the \$Profit Indexes, which use multiple EPD criteria in their calculation. An explanation can be found within each of the reports.

Breeders can also visit the AHA website and do a comprehensive sort of Hereford sires — go to *Hereford.org* and click on "EPD Search." Producers can do a sort on an individual EPD range or based on multiple EPD parameters.

Authorized users — individuals, ranches, farms or companies — that have set up an AHA Internet account, can utilize the "Mating Predictor." This tool facilitates planned matings by allowing breeders to enter a sire or sires by registration number and then select females by registration number or from their herd inventory.

For more information about Hereford resources and tools contact, Christy Bradshaw, AHA education coordinator, at 816-842-3757 or cbradshaw@hereford.org. **HW**

Utilizing the AHA website to look up EPDs allows breeders to efficiently research and sort performance information for their future breeding decisions. Go to *Hereford.org* and click on "EPD Search." The EPD lookup utilities and animal search features are useful tools that allow producers to make comparative decisions when evaluating their herds or making a decision on which animals to use in upcoming breeding seasons.

The "Mating Predictor" tool allows producers to predict the offspring of different sire and female matings to assist in breeding decisions.