BeefTalk 694: Bull Buying and Headaches

SUPPORTING MATERIALS

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As the year wraps up, 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 the ever-growing databases and 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 their genetic material from the bulls, the other half from the cows.

Where does the cow genetic material come from? Well, 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

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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 somewhat challenging to do all the math, on average, if one goes back an additional generation, 87.5 percent 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 let's say 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 percent would be from the three bulls that were purchased in 2012. Additionally, on average, 25 percent of the heifers' genes could be traced to the three bulls that were purchased in 2009 and 12.5 percent 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 percent of the genes in the 2015 crop.

This is where the headache sets in when 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 you don't know what they are, look them up.

May you find all your ear tags.

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