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What kind of dairy cow should you be creating? continued

pregnant with dairy semen were bred with beef semen. However, with the adoption of genomic testing and reproductive efficiencies over the past several years, the number of dairy animals bred with beef semen has dramatically increased.

Dairy producers are producing replacement heifers at a rate faster than needed. This allows farms to be more selective in the replacement animals they keep, and genomics helps to identify these animals. To prove this point, let's look at a real herd from eastern New York. This herd has 2,400 milking cows and genomic testing is done on all of them. The results of that testing show how the top 25% of the herd compares to the bottom 25%. Net merit of first lactation cows varies by 368 points between the top 25% of animals and the bottom 25%. The top 25% averages 658 for net merit while the bottom 25% averages 290 for net merit. The sold and died rate for the top 25% of the herd was 13.5% while the sold and died rate for the bottom 25% of the herd was 40.9%. Selecting for traits like productive life, which is a measure of how many months a lactating animal remains in the herd, or livability, which is a measure of deaths on the dairy, and daughter pregnancy rates allows us to create cows that will stay in the herd longer and be more productive.

Once we determine the top cows, we want to ensure they pass along their genetics to the next generation while the bottom cows, which may be as much as three-fourths of the herd, do not. These bottom animals become prime candidates to breed to beef semen. This allows us to accelerate the genetic progress of our herd while creating an additional revenue stream from the beef x dairy calves created.

Beef x dairy crossbred calves are a sustainability mechanism for the dairy industry. Dairy farmers that produce milk and beef are considered more carbon-neutral than a standard cow-calf operation because they are producing two protein products from one operation.

To be able to properly tap into this market, we need to know what feedlots are looking for genetically, and from a management standpoint. To maximize profits on these crossbred animals it is important to select appropriate beef sires that produce calves that possess these wanted traits. The goal is to raise animals that finish at Yield Grade 2 to 3, and grading Choice or better.

Crossbreeding cattle

Crossbreeding can increase performance and help introduce superior traits from one breed into another. For example, crossbreeding a Holstein with a Jersey can increase milk fat percent and increase fertility while reducing the feed intake combined with a smaller frame size. Crossbreeding has the potential to maximize output and efficiency at the same time. For Jersey herds, Holsteins have the potential to increase frame size, thereby increasing the market value.

Conclusion

The combination of chromosomes inherited by an animal plays a role in their ultimate phenotypic expression. If we can select the animals with greater feed efficiency, livability, productive life, and daughter pregnancy rate, then we can feed the world with fewer inputs and greater sustainability and efficiency. While we will always have a top and a bottom to our herds, we can move where these averages lie through genetic selection. It is essential to keep in mind that crossbreeding can be a tool that can be used to influence the herds of the future. As inbreeding rates increase, genetic variation can be introduced through crossbreeding.

References

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