

Texas Dairy Matters

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USE OF BEEF SEMEN ON DAIRIES: **Current Benefits and Considerations**

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The application of beef semen has recently become a popular reproductive management strategy on dairy farms. This strategy not only benefits dairy producers by increasing calf value, but also has the potential to help produce calves that better meet the needs of the beef industry. Using the right beef genetics will help to produce beef-on-dairy crossbred calves that are more ideal in terms of meeting beef industry demands for feeding performance and economics, carcass size and value, and consumer preferences. Nevertheless, more information is needed in order to assess the growth performance and carcass quality of beef-on-dairy crosses in order to optimize their value to the dairy operation and beef supply chain.

From 2017 to 2018, data obtained from the National Association of Animal Breeders (NAAB) has shown 59% increase in domestic beef semen sales! This upward trend has most likely been driven in part by the increased use of beef semen on dairies (NAAB, 2020; Table 1). Implementation of beef genetics in a breeding program can often provide dairy producers with some additional benefits beyond the increased value of the crossbred calves. Some of these benefits include facilitating the use of sexed semen and genomic testing, which help to enhance herd productivity. Nevertheless, there are some considerations to keep in mind when deciding if implementing beef semen will be beneficial to a dairy operation.

Bovine Semen Sales (2018)	Sales in Million units (% change from 2017)		Total
	Dairy	Beef	
Domestic	21.8 (↓5.7%)	4 (↑59%)	25.8
Exports	27.3	7.7	35
Total	49.1	11.7	60.8

Table 1. United States Bovine Semen Industry Sales in 2018 (and % change from 2017). Source: The National Association of Animal Breeders (NAAB)

Benefits and Considerations for Implementing Beef Semen

One of the main benefits of terminal beef-on-dairy crosses is obviously the greater value these calves have when compared with than purebred dairy calves. Provided that some purebred dairy calves can be sold for as little as \$0 or \$20 per head, anything above this provides an added value to the dairy producer. However, the amount of value added to dairy calves by incorporating beef genetics will depend on the current market price and demands for feeder cattle and carcasses that meet certain specifications, as well as health and performance experiences throughout the production chain.

A reasonable strategy when deciding what groups of cows should be inseminated with beef semen is identification of cows that are reproductively inefficient through assessing previous performance. Cows that are reproductively inefficient are generally repeat breeders that require 3 or more inseminations every year.

Use of genomic testing can assist in identifying cows that would be expected to perform above or below the goals of the herd, and therefore determining which cows should be inseminated using sexed, conventional, and/or beef semen. Although genomic testing can help to increase the rate of genetic progress in the herd, it is important to remember that genetics is not the only factor that influences a cow's performance (phenotype). The other factor that affects a cow's phenotype is management (environment). Best management practices are and always will be key to maximizing the productivity of a cow.

Some Questions to Ask

Here are just a few questions to consider when deciding if beef semen should be used.

1. Does the current reproductive performance of my herd and replacement program provide sufficient surplus of replacement heifers to allow use of beef semen?
2. What types of cows are going to receive beef semen?
 - a. Cows with poor reproduction such as repeat breeders?
 - b. Cows with poor genetics?
 - c. Cows with greater number of lactations?
3. Is genomic testing being used or will it be used?
4. Will sexed and conventional semen be used as well?
 - a. If so, what groups of cows will receive sexed or conventional semen?
5. What beef bulls should be used?
 - a. What traits will be used to select the bull?
 - b. Is there data on the bull to justify its use as means of adding value to calves?

In conclusion, if the use of beef semen is to be beneficial, then its success should be recorded and assessed, and strategies revised over time based upon those experiences. By recording and assessing certain parameters (i.e. conception rates, replacement rate, value of beef-on-dairy calves, culling rates, death rates, diseases, etc.) the success and benefits of this practice can be examined. This is a relatively new management strategy that is becoming more and more popular, however, there is not a lot of information available and this is an area of research that warrants further investigation.

References

National Association of Animal Breeders (NAAB). 2020. Semen Sales: Annual reports of semen sales and custom freezing, 2018-2017. <https://www.naab-css.org/semen-sales>

<http://texasdairymatters.org>

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