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There is much interest these days in attempting to increase income on dairies by crossbreeding bottom end dairy cows to beef sires. Many questions remain regarding the best approach to take in such a system; however, one approach is likely sound regardless of the dam being bred and that is to choose the appropriate bull.

Selecting beef bulls based on their Genetically Enhanced Expected Progeny Differences (GE-EPDS) for carcass traits may be one of the first steps necessary to achieve acceptable results in a beef on dairy crossbreeding program. While it may be tempting to go straight to indexes for growth and carcass characteristics that are listed on the pedigrees, caution should be taken when attempting to apply these indexes as a selection tool in beef sires used for dairy cows. Terminal indexes are based on beef breeding programs only and research has not proven these indexes will correlate to beef on dairy crosses. The indexes also incorporate economic data that also relates to beef breeds only. Therefore, much more emphasis should be placed on a few key traits from the GE-EPDS for selection of bulls for use in dairy cows. More will be discussed on this point later, but first one needs to understand why it matters. Why is bull selection to improve growth and carcass characteristics of these crossbred animals so important?

In our commodity beef system, beef is packed in boxes and shipped nationally and internationally. Therefore, beef packers are looking for cattle that will produce carcasses that fit the box. In other words, packers want carcasses that are uniform in weight, muscling, marbling, and back fat thickness. The Holstein steer is a great example of a dairy breed that fits the box for one packer. Because of the selection pressures put on the Holstein breed for milk production, and the use of genetically superior sires for milk production, the carcasses from Holstein steers can be extremely uniform when fed a grain-based diet and managed similarly from birth to harvest. However, because not all packers are purchasing these steers, Holstein fed cattle are often priced about $10/cwt below prices paid for native fed cattle. This has made many feedlots shy away from feeding the Holsteins and has caused a decrease in the value of Holstein calves at the market. Dairy producers have found that by crossbreeding the Holstein with a beef breed they can usually demand a higher price for those calves at the auction house when compared to the purebred Holstein calf. However, the beef industry has a box for native cattle and a box for Holstein cattle. These beef on dairy crosses are adding another genetic combination into the commodity beef system, creating a problem for the beef industry as it determines what to do with these carcasses – what box they fit in. Unfortunately, the answer is not clear on this issue because research on the topic of beef on dairy cattle is limited. However, the simple guidelines below may help you solve some of the problems facing the beef on dairy crosses being produced today.

Dairymen need to use their genetic prowess and begin using all the data provided on beef bulls that they often use to breed their Holstein cows, instead of just choosing semen that is cheap and will yield a black calf. It is true, the Certified Angus Beef Program (CAB) requires a black hide, which is why many producers and semen companies have been touting cheap, black semen, but there is much more to the requirements than just that. There are ten science-based requirements an animal must meet before it can be labeled CAB. So, just breeding for a black hide will not guarantee that beef on dairy crosses will bring the CAB premium. Premiums may not be the right market to target anyway.

Remember that each animal in the beef on dairy cross contributes 50% of the genetic makeup of the resulting calf.
the end of the day, a packer wants saleable red meat yield and a product, a carcass that fits the box. By selecting bulls with superior muscling while also contributing to marbling increases your chances of producing calves that may fit the need of the packer. Again, while there is very little research to justify which breed, or which bull within a breed, will provide the most consistent beef on dairy cross, using the available data to more carefully select bulls may help dairymen get closer to meeting the "box requirements."

When selecting a beef bull, of any breed, carefully consider the growth and carcass characteristics that bull will bring to the cross. All semen catalogs carry information on sires used for artificial insemination. For instance, in the Angus, Simmental, Hereford, Charolais, and Limousin breeds, each sire is listed with GE-EPDs for Yield Grade (YG), Marbling (MB), Carcass Weight (CW), Ribeye Area (REA), and Fat Thickness (FAT). Terminal indexes will combine all the carcass characteristics and place a dollar value on them. For example, in the Angus breed, the terminal index is the $Beef (or $B), in the Simmental breed it is expressed as a $terminal index (ST), and in the Hereford breed as Certified Hereford Beef (CBH). While the terminal indexes are critical to native beef cattle producers looking to enhance the value of feeder calves produced from their herd, it is important to keep in mind that these terminal indexes and EPDs are based on that sire's beef progeny, not on his ability to bring those traits to a dairy cow's progeny. Terminal indexes have not been widely developed for beef on dairy crosses yet. Thus, while the current terminal indexes available may serve as one more tool, they should be interpreted with some caution.

There are many breed and breeder variations, or composites, such as SimAngus, SimSolution, LimFlex, etc. that could work well as a beef sire in a beef on dairy crossbreeding system. Each sire comes with their own genetic evaluations and sires within the breed should be evaluated individually for the optimal trait selection. Just as breeding decisions are carefully considered for dairy replacements, so should decisions be based on genomics when selecting beef bulls. Some AI companies and stud providers have done research attempting to find out what bulls will work the best on Holstein cows. Consult your AI rep for information on their studs; but, do not be afraid to ask for proof as to why they are promoting a specific bull for use on Holsteins.

There is a wide variety of breeds to choose from when creating beef on dairy crosses. Keep in mind what will push your Holsteins towards making a carcass that fits the box. Do not fall for the fads that promote tons of marbling. Rather focus on the muscling and growth aspect of prospective sires so that your beef on dairy crosses will have a better chance of fitting the box and contributing to the high-quality beef that consumers are looking for. If you can get beef on dairy crosses to resemble native breeds by selecting for high growth, carcass-type bulls, your calves will realize more value in the market. If beef on dairy crosses perform in the feedlot and on the rail, buyers will come looking for your calves. As with any good breeding program, you will not reap the results overnight. It takes time and selective breeding to deliver a sought-after product to buyers. Making sound decisions, based on available data, will assist you in attaining buyer attention.

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Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

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Code: ART-6289