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Sire Selection Decisions

We are daily faced with decisions and each decision leads to different outcomes. I once heard that the primary selection decision a cow/calf producer makes is deciding which bull to use/purchase and mate to which female. After that point, everything else is a matter of reaction and culling based upon that original decision that can't be undone. This illustrates to me that careful consideration should be given to this process. As commercial semen company catalogs hit the mailboxes and bull sale season gets into full swing, there are a few general considerations that producers should ask themselves. This is by no means a complete list, as the amount of information and data grows annually, but are more the "big picture" considerations of sire selection.

Does the operation sell all the calves as terminal feeder calves, focus on replacement females/ bulls or a balance of both? Balancing maternal and terminal traits can be tricky. This is especially true if cows are run in single pastures with one or even multiple bulls. If you want to keep your own replacement heifers and you don't want to either use multiple bulls, with multiple breeding pastures or an investment in parentage testing, or utilize AI (potentially with sexed heifer semen) then the goal is to find bulls with strong material traits in their EPD profiles. This could mean giving up traits that are more important to the feeder calf side of the operation, including growth traits and possibly even carcass traits. Balanced trait selection and use of combined selection indexes, focused on your traits of interest, are important so take the time to understand what these are from your respective breeds.

Should I be looking at actual measured data (weights, scans, ratios, etc...) EPDs, genomic percentile ranks or a combination of all of these? What if this data contradicts? For making selection decisions, the EPD truly is designed to be the best tool. Every other data source for a specific trait (adjusted phenotype measures, the genomics, pedigree, etc.) is already included in the calculation of the EPD. Phenotypes like weights and scans are affected by both genetics and environment. Genomic profiles by themselves do not account for the bull's own performance. Only the EPD brings all those pieces together and appropriately weights them. Indexes go one step further and use multiple EPDs in specific weightings around a particular trait to give an index value.

To go through an example, let's look at one specific trait. Say a live calf, being born unassisted, is the main focus of an operation. What tool best helps me determine which bull should be used? Is that Calving Ease EPD, Birthweight EPD, Calving Ease Indexes, Actual Birthweight or Dam's Birthweight Ratio? Calving ease EPD and Indexes are going to be the most effective in this situation. Calving ease direct EPD are an estimate of how easily a bull's calves will be born when he is bred to heifers. Calving ease maternal EPD are an estimate of how easily a bull's daughters will give birth when they have their first calf. Calving Ease Indexes are combinations of EPDs related to calving ease, and offer a good tool for selection around this trait. While it may be tempting to select on birth weight, as birth weight is only an indicator of calving ease, it does not tell the whole story. In addition, birth weight records are used to calculate calving ease EPD and selecting on both will not improve calving ease more than selecting on calving ease alone.

As stated earlier, this isn't a complete list of considerations when deciding which bull to use, but hopefully gives an idea of a way to approach the growing amount of data found around selection decisions. There are many important phenotypical traits to consider like structure, feet and legs, and disposition to name a few. Remember the lasting effects a herd sire has through his progeny, give careful consideration to making an informed decision and select wisely.