

# IMPORTANCE OF INFORMATION IN THE TENNESSEE BULL MARKET

Seth Ingram, Graduate Research Assistant, Department of Agricultural and Resource Economics

Charley Martinez, Assistant Professor, Department of Agricultural and Resource Economics

Karen DeLong, Associate Professor, Department of Agricultural and Resource Economics

Andrew P. Griffith, Professor, Department of Agricultural and Resource Economics

Christopher Boyer, Professor, Department of Agricultural and Resource Economics

Bull selection is one of the most important decisions seedstock and commercial cattle producers make. Selecting quality sires for breeding (i.e., bulls, semen) is key to enhancing an operation's long-term profitability while also accelerating the genetic progress of beef cattle herds. Cattle breeders use genetic-, visual- and social-based information to make their decisions. An example of genetic-based information is Expected Progeny Differences (EPDs). EPDs allow producers to compare statistical estimates of genetic differences between animals. EPDs are presented as statistics that predict the difference in performance of a bull's future progeny to the progeny of other bulls within the same breed for given traits. These EPDs enable cattle breeders to make more informed and accurate selections decisions. In addition to the use of EPDs, visual-based evaluation can be utilized and could be the appearance of the bull on sale day. Social-based information could also be the seller's reputation amongst buyers. This publication provides insights from a survey of Tennessee producers and what they indicated as important regarding EPDs and other forms of information used when buying bulls.

## EPD Importance Rankings

In the summer of 2020, an online survey was administered to Tennessee cow-calf producers participating in the Tennessee Agricultural Enhancement Program. In this survey, producers were asked to indicate the importance of certain EPDs in their bull-purchasing decisions on a scale of one (not important) to seven (very important). The total number of Tennessee purebred breeders and commercial producers that completed the survey was 670. The average producer in this sample was 56 years old with a median herd size of approximately 80 head of cattle.

EPD	Observations	Mean	Standard Dev.	Min	Max
Calving ease direct*(CED)	655	6.17	1.28	1	7
Docility (Doc)	638	6.05	1.27	1	7
Birth weight (BW)*	668	5.98	1.37	1	7
Weaning weight (WW)*	656	5.91	1.30	1	7
Maternal milk (Milk)*	668	5.36	1.39	1	7
Heifer pregnancy (HP)**	651	5.34	1.59	1	7
Foot score	639	5.23	1.59	1	7
Weaned calf value (SW)	637	5.19	1.53	1	7
Average daily gain (ADG)	660	5.12	1.52	1	7
Mature weight (MW)**	656	5.07	1.56	1	7
Ribeye area (RE)**	658	4.98	1.61	1	7
Carcass weight (CW)**	656	4.90	1.63	1	7

**Table 1.** Tennessee producers' value of EPDs on a scale of 1 (not important) to 7 (very important)

\*, \*\*, \*\*\*, represent production EPDs, maternal EPDs and carcass EPDs, respectively

Production EPDs (colored in green and marked by \*) are found to be highly valued by Tennessee producers. Selecting sires with superior performance for these traits is expected to increase the profitability of cattle operations through a combination of reduced dystocia and increased weaning weights. Docility is also designated as an important EPD by producers, as this is an taken into consideration for producer safety and fence and facility upkeep. Maternal EPDs (colored in blue and marked by \*\*) are slightly less valued by the producers surveyed. This may be a result of some producers in our sample purchasing replacement heifers rather than retaining heifer calves for this purpose. Interestingly, the weaned calf value economic selection index was rated lower than the majority of EPDs considered in our survey. This index measure combines production and maternal EPDs and is intended to aid and simplify producers' evaluation of EPDs by providing an estimate of profitability differences in progeny in dollars per head, balanced by reduced cow maintenance costs. This lower rating of importance may indicate a need for further education on the value and purpose of EPD dollar-value indexes. Additionally, these index EPDs are newer, and producers might not be familiar with them. Carcass EPDs (colored in red and marked by \*\*\*) and the average daily gain (ADG) measure pertaining to post-weaning growth were among the least valued by the producers in our survey. This aligns with industry standards, considering that most cow-calf producers do not retain ownership after weaning and are therefore less concerned with carcass traits and post-weaning performance of animals.

### Other Information Importance Rankings

Producers were also asked to rate the importance of various information often available to bull buyers at the time of the sale in addition to EPDs on the same one-to-seven scale. Table 2 displays the indicated importance of other information, such as appearance or seller reputation, by Tennessee purebred and commercial producers. A bull's appearance, structural soundness and docility on the day of sale were all found to be more important to producers than the bull's EPDs. In addition, the reputation of a bull's seller was revealed to be one of the most important factors in the bull selection process. Producers place a high value on trusting relationships and the reliability of information from bull suppliers. Additionally, GE-EPDs were valued at a lower rate than standard EPDs on average, even though GE-EPDs are designed to be more accurate and reliable measures of a bull's genetic merit. It should be noted that the same information for a GE-EPD and a non-GE-EPD get reported, but it is just a matter of whether the GE-EPD icon shows up in an EPD profile. Thus, producers could signal that GE-EPDs are not important to them, but they could also be using GE-EPDs.

Information	Observations	Mean	Standard Dev.	Min	Max
EPDs	670	5.88	1.54	1	7
Structural soundness	670	6.59	0.87	1	7
Docility	670	6.37	1.08	1	7
Seller's reputation	670	5.98	1.35	1	7
Physical appearance	670	5.95	1.25	1	7
Accuracy of EPDs	670	5.73	1.54	1	7
Genomically enhanced EPDs	670	4.98	1.87	1	7
Performance test results	670	4.21	2.15	1	7

Table 2. Tennessee producers' value of bull information on a scale of 1 (not important) to 7 (very important)

### Conclusions

For cattle breeders purchasing bulls and semen, there are numerous sources of information available to assist in determining a purchase. The rankings by Tennessee producers found in the 2020 online survey regarding the abundant information availability can be helpful for all participants in the marketplace. For buyers, information can help make the correct bull selection. For sellers, understanding what buyers deem to be important and not important can help make a more efficient marketing strategy.

Some EPDs and information were signaled as not important to producers. This offers the opportunity for educational programming for Extension personnel. As the beef industry evolves, more information will become available, and importance could change. Nonetheless, Tennessee producers have indicated that foundational traits are still important to them, even with the growing amount of information.



[UTIA.TENNESSEE.EDU](http://UTIA.TENNESSEE.EDU)

Real. Life. Solutions.™