Putting It All Together

Association creates dollar-based multitrait selection tools.

*by **Shauna Rose Hermel***

Beef producers today have access to a powerful list of genetic selection tools, primarily in the form of expected progeny differences (EPDs). However, this wealth of information can become overwhelming when it's time to rank potential bull selections using numerous performance measures. While it may be easy to find the leanest or the fastest-growing bull, how do you know which bull among a set of yearlings offers the best total package for your operation?

In September, the American Angus Association Board of Directors approved the release of three multitrait indexes to help simplify multitrait comparisons. The *Spring 2004 Sire Evaluation Report* will include the first in a suite of bioeconomic values, expressed in dollars per head (dollar values), to assist commercial beef producers in making their genetic selections, says Sally Dolezal, genetic research director for the Association.

The dollar values are derived using available EPDs, converted into economic terms using industry relevant components for feedlot performance (days on feed, ration cost, cash price, etc.) and carcass merit (the Choice-Select spread, heavyweight and yield grade (YG) 4 and 5 discounts, etc.). "Keep in mind," Dolezal advises, "the dollar values are sensitive to the assumptions used for the industry-relevant components used in calculating the values."

► **Feedlot value ($F).** $F calculates a dollar-per-head difference in expected progeny performance for postweaning merit. It is based on weaning and yearling weight EPDs, as well as trait interrelationships, Dolezal explains. $F accounts for feedlot gain value, feed consumption and cost differences. The standard formula includes industry values for days on feed, ration costs and cash cattle prices.

► **Carcass grid value ($G).** $G combines quality grade and yield grade attributes and is calculated for animals with carcass EPDs, ultrasound EPDs, or both. "A three-year rolling average is used to establish industry economic values for quality and yield grade schedules," Dolezal explains. A grid impact in dollars per hundredweight (cwt.) and dollars per head are calculated from yield and quality grade components, then combined to arrive at $G.

► **Total beef value ($B).** $B encompasses the dollar-per-head progeny difference in combined postweaning and carcass merit. The values are calculated for animals with growth-trait EPDs and end-product predictions. The $B value incorporates $F and $G, but it is not a sum of the two, Dolezal explains. Adjustments are made to avoid certain traits — such as weight, which carries a value in both $F and $G — from being overemphasized in the final value.

"Total beef value — dollar B — facilitates what almost every beef breeder is already seeking — simultaneous multitrait genetic improvement for feedlot and carcass merit, based on dollars and cents," Dolezal says.

The standard $F, $G and $B values will be in the printed version of the *Spring 2004 Sire Evaluation Report* and may be viewed and sorted by accessing the Sire Evaluation Search page at *www.angussiresearch.com*. The report is scheduled to be available online by Dec. 20. The printed report will be available by mid-January 2004.

As an example, the new values may appear as follows:

	$F	$G	$B
Bull A	$22.85	$19.33	$37.12
Bull B	10.35	11.57	21.59

Like EPDs, the dollar values are meant to show differences among bulls. In this case, compared to Bull B, Bull A would be expected to sire calves that, mated to the same cows, would generate $12.50 per head more value in the feedlot, $7.76 more on the rail and $15.53 more value from the feedlot to the rail, based on the standard Association formulas.

Further enhancements to this technology will include an interactive Web site where users can define postweaning and carcass parameters to create tailored dollar values for their given scenarios. This would, for example, allow producers selling cattle on a specific grid to incorporate that grid's premiums and discounts into the formula to calculate a custom $G value. Also, producers could specify their own five-year-average feed cost in the formula to calculate a custom $F value.

"Although carcass merit is an important component of the beef production chain, the total beef value is not to be used as a single selection criterion, since it only combines postweaning and carcass industry segments," Dolezal warns. "The complete system of bioeconomic values, or net merit system, will, in the future, include comprehensive reproduction and weaned calf values."

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