By the Numbers

by **Dan Moser,** *American Angus Association*

Index enhancements

This month, the equations for the dollar value indexes $F and $B will be updated. In addition to the annual updates of economic values, feed-intake data will be incorporated beginning Dec. 5.

Economic update

In 2004 the American Angus Association released multitrait dollar value indexes ($Values) — feedlot value ($F), grid value ($G) and beef value ($B). These terminal indexes for sire evaluation revolutionized beef cattle selection in the United States, allowing producers to select for a desirable combination of performance and product traits simultaneously.

During the last decade, the economic assumptions those tools are based upon have changed significantly, reflecting the dramatic increases in weaned-calf and fed-cattle prices, as well as higher feed and other production costs. Accordingly, the range of values for the indexes has increased to reflect the greater advantage in profit potential offered by Angus genetics.

Again this December, those economic assumptions were updated to reflect current, but long-term conditions. Tom Brink, economist and advisor to the American Angus Association, has worked with Association and Certified Angus Beef LLC (CAB) staff to provide the most up-to-date economic assumptions for weaned-calf and fed-cattle prices, feed costs, grid values and other factors.

These assumptions are calculated on a conservative three-year average that reflects our best estimate of economic conditions affecting profitability through the various segments of the production chain. It's important to remember that genetic decisions made by Angus breeders and their commercial customers will impact profitability for years to come as those genetics enter seedstock and commercial herds.

Table 1 shows the updated assumptions impacting the $Value indexes for the national cattle evaluation (NCE) to be released Dec. 5, 2014. In general, higher cattle prices and slightly lower feed costs should result in greater overall profitability and an increased range of values for all Angus indexes.

Table 1: Updated assumptions impacting the $Value indexes

	Previous assumption	Dec. 5 assumption
Base calf price	$145 per cwt.	180
Cow/heifer mix	80%/20%	Same
Cow weight	1,300 lb.	Same
Feed energy cost	$.090 per MCal NE_m	0.115
Feedlot assumptions:		
Time on feed	160 days	Same
Ration cost	$305 per dry ton	295
Fed market	$115 per cwt. live	130
Grid assumptions: Quality components:		
Prime premium (above Choice)	$14.00	Same
CAB premium (above Choice)	$4.00	Same
Choice-Select spread	$10.00	Same
Standard discount	($22.00)	Same
Yield components:		
YG 1 premium	$4.50	Same
YG 2 premium	$2.25	Same
YG 3 base	$0.00	Same
YG 4 & 5 discount	($18.00)	Same
Avg. carcass wt., lb.	816	Same
Heavyweight discount	($20.00)	Same

Source: Angus Genetics Inc.

Feed intake

While the economic assumptions that underlie these indexes have been annually updated, the definitions for each index and the component traits have remained fairly constant. This month marks a major change to $F and $B: incorporation of feed-intake information.

When those indexes were first developed in 2004, very little feed-intake information was being collected. Today more than 13,000 individual animal feed-intake records have been submitted to our database, and more than 100,000 animals have molecular breeding values for dry-matter intake.

Previously, $F attempted to account for differences in feed efficiency by assuming that faster-gaining cattle are more efficient. There's certainly a high correlation between growth and efficiency, but the relationship is not perfect. Since 2010, the Angus genetic evaluation for residual average daily gain (RADG) has documented differences in genetic levels of feed intake and efficiency within the breed. Given the significance of feed costs to beef production, particularly in the growing and finishing phases of production, it's logical to include feed-intake information in the $F and $W calculations.

To better understand the changes, let's review how feed-intake data are currently used in Angus genetic evaluations. Most Angus cattle have an expected progeny difference (EPD) for RADG, which combines feed intake, growth and body-composition information into a selection tool for improved feed efficiency. Growth and body composition were previously included in $F and $B calculations, so the only new information being added is feed-intake data.

The production cost components in $F and $B are a direct result of genetic values for feed intake and feed costs. As a result, the "new" $F and $B equations are a better representation of the true differences in profit potential among progeny, providing even more powerful tools for Angus seedstock producers and their commercial customers to select for genetics that enhance their bottom line.

When the research efforts to incorporate feed intake into the indexes began nearly a year ago, the primary motivation was to better represent the economics of cattle feeding. However, it's interesting to note that in the last 10 years, the Angus breed has an increasing genetic trend for feed intake. You would expect that as growth and carcass-merit genetics have increased in the breed, feed intake would increase as well. It's clear that even with increased feed intake, Angus genetics are more profitable than they've ever been.

Nonetheless, by incorporating feed-intake information into $F and $B, changes in feed intake will be considered when predicting overall profitability differences among animals, so genetics that offer optimum combinations of performance, efficiency and product quality will be appropriately characterized.

EMAIL: dmoser@angus.org