



# By the Numbers

► by **Tonya Amen**, American Angus Association

## Using \$EN and \$W

*As I travel around the country visiting with Angus breeders and commercial cattlemen, I'll inevitably field a question about the \$EN value published by the American Angus Association.*

### What are \$Values?

First of all, what are the dollar values (\$Values) — \$W, \$B, \$EN, etc.?

Most simply stated, the \$Values are bioeconomic selection indexes, which of course begs the question, "What's a selection index?"

Selection indexes in general are used to simplify genetic selection decisions by incorporating multiple traits into one number, allowing for simultaneous change in those traits through the use of one easily interpreted number reported in dollars.

The Angus \$Values specifically take into account the outputs considered on the revenue side of the profit equation, but they also consider the input, or expense, side associated with the production phase of interest. The \$Values incorporate both genetic components [expected progeny differences (EPDs)] and economic terms relevant to feedlot performance, carcass merit and cow-calf production.

Before using any selection index in your breeding decisions, it's really important to understand the traits underlying the index. If the trait EPDs used in the computation of the index are not those that are important for the production goals and needs of your ranch, using them as a selection tool may not yield the desired result.

So, let's take a look at \$W and its related preweaning index, \$EN.

### What is \$EN?

\$EN, or cow energy value, is a specialized index that accounts for savings in future daughters due to their anticipated lactation and maintenance energy requirements. A larger value is more favorable when comparing two animals, as it's an indicator of more dollars saved on feed expenses. The EPDs included in the index include:

- milk;
- mature cow size (mature weight and mature height); and
- depending on the accuracy and availability of mature size EPDs, the corresponding yearling measurements may be used because of their high genetic correlation with mature cow traits.

### What is \$W?

\$W, the weaned calf value, is the other \$Value geared toward preweaning performance and maternal traits of the cow

herd. In addition to economic and energy requirement assumptions, \$W includes the following EPDs:

- birth weight;
- weaning weight;
- milk;
- mature cow size (mature weight and mature height); and
- depending on the accuracy and availability of mature size EPDs,

corresponding yearling measurements may be used due to their high genetic correlation with the same traits in the mature cow.

### Why both indexes?

You'll notice that the milk and mature cow size features of \$EN are also included in the \$W index. So, why both indexes?

In some variable environments with limited feed resources, extreme

negative values for \$EN may be undesirable. However, caution must be used because continued selection for high, positive \$EN without proper balance on some type of calf output (weaning weight, yearling weight, etc.) could lead to unnecessarily small mature cows with excessively low milk production.

With that in mind, it's important to re-emphasize that \$W includes all of the math associated with \$EN, but also incorporates appropriate focus on calf growth.

Since many commercial operations still rely on selling weaned calves as the major revenue source, we can't lose sight of the importance of outputs, as well as inputs, in a balanced breeding program.

**Before using any selection index in your breeding decisions, it's really important to understand the traits underlying the index.**

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**Editor's Note:** "By The Numbers" is a column by Association performance programs staff to share insights about data collection and interpretation, National Cattle Evaluation (NCE), genetic selection and relevant technology and industry issues. Tonya Amen is director of genetic services for the American Angus Association. If you have questions or would like to suggest a topic for a future column, contact the Association at 816-383-5100.

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