By the Numbers

► *by American Angus Association staff*

Key points about $Values

With the various expected progeny differences (EPDs) and dollar values ($Values) provided by the American Angus Association, the list of tools for genetic improvement in the Angus breed is useful but sometimes overwhelming when you need a quick definition or key point regarding these tools. The following summary includes typically asked questions regarding Angus $Values.

What is a $Value?

The Angus $Values are selection index tools designed with the commercial bull buyer in mind to simplify genetic decisions for future calf crops. Indexes are challenging to develop, but they are easy to use and multi-trait by design. The $Values 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 area of interest. The $Values incorporate both genetic components (EPDs) and economic terms relevant to feedlot performance, carcass merit and cow-calf production.

The primary $Values are weaned calf value ($W), feedlot value ($F), grid value ($G) and beef value ($B). $W represents the preweaning phase. A component of $W, cow energy value ($EN) is an index specifically focused on cow input costs. $B is a combined terminal postweaning and carcass value index.

$W, $F, $G and $B are presented in dollars per head, while $EN is presented in dollar savings per cow per year. More details can be found at *www.angus.org/Nce/ValueIndexes.aspx*.

Which EPDs contribute to the $Values?

$Values use available EPDs on registered Angus animals, and the accuracies on traits are used to assess how much emphasis can be placed on particular traits in some cases. The following list summarizes EPDs that may affect a given $Value.

Weaned Calf Value ($W)

$W is geared toward the preweaning performance and maternal traits of the cow herd. It includes:
► birth weight EPDs;
► weaning weight EPDs;
► milk EPDs;
► mature cow weight and height EPDs; and
► yearling weight and height EPDs (depending on the accuracy and availability of mature size EPDs).

Beef Value ($B)

In contrast, the $B is a terminal trait index made up of $F and $G to improve postweaning performance and carcass trait merit.

$F considers:
► weaning weight EPDs; and
► yearling weight EPDs.

$G can be used wholly or broken down into its quality grade ($QG) and yield grade ($YG) index attributes.

$QG includes:
► marbling EPDs;

$YG includes:
► carcass ribeye and fat EPDs;
► carcass weight EPDs; and
► yearling weight EPDs.

An animal can have a $F, but still have no $G or $B. In this case the animal has no carcass EPDs to contribute to $G. That is a limiting factor to calculate $B. Also, $B is not simply the sum of $F and $G. The $B calculations include additional adjustments.

Why are $Values expressed in dollars?

Economic assumptions are used in the $Value calculations to convert the genetic effect differences into dollars. A three-year rolling average is used to establish typical industry economic values for assumptions such as Choice-Select spread. Examples of these economic assumptions are given in Table 1.

An example of how to use $Values

Table 2 illustrates the comparison of two sires and their $Values. As with EPDs, the difference between animals indicates the average expected difference in the relative value of future progeny if random mating is assumed and calves are exposed to the same environment. $Values have meaning only when compared to the $Values of another animal or breed average.

On average, the future calves out of Bull B will be expected to have about a $9 per head advantage over calves out of Bull A for the preweaning phase. If these calves were retained through the feedlot and carcass phase, the calves from Bull A are $15.85 greater in postweaning and carcass value.

Will $Values change?

Yes. If the EPDs change or the economic assumptions change, then the $Values are sensitive to these component changes. $Value indexes do not appear with an accuracy value.

Table 1: Economic assumptions

Wean calf assumptions

Base calf price	$115
% cows	80
% heifers	20
Feed energy cost	$0.065

Feedlot assumptions

Days on feed	160
Ration cost, $ per dry ton	$225
Fed market, $ per cwt. live	$87

Quality grade assumptions

Prime, $ above Choice	$8
CAB®, $ above Choice	$3.50
Choice-Select spread	$11
Standard discount	−$15

Yield grade assumptions

YG 1 premium	$3
YG 2 premium	$1.50
YG 3 (base)	0
YG 4 & 5 discount	−$25
Average carcass weight, lb.	816

Table 2: Comparison of two sires and their $Values

Animal	$W	$F	$G	$B
Bull A	$16.11	$31.89	$20.76	$45.95
Bull B	$25.09	$27.30	$ 7.29	$30.10
Difference $/head	$ 8.98	$ 4.59	$13.47	$15.85

Animals with higher accuracies associated with their EPDs have lower possible change values. This tends to reduce fluctuation in their $Values due to EPD changes.

Where do I find $Values and breed averages?

Index values are available in the Association's Sire Evaluation Report, which is searchable at *www.angussiresearch.com*. Individual animals may be viewed through EPD/Pedigree lookup at *www.angus.org/Animal/EpdPedSearch.aspx*. Members can also access $Values through AAA Login. Breed averages and percentiles for EPDs and $Values can be found at *www.angus.org/Nce/SireEvaluationDefault.aspx*.

What is $EN?

An additional selection index, $EN is a specialized value accounting for savings in future daughters by monitoring lactation and maintenance energy requirements. A larger value is more favorable when comparing two animals (more dollars saved on feed energy expenses).

$EN includes:
- ▶ milk EPDs;
- ▶ mature cow weight and height EPDs; and
- ▶ yearling weight and height EPDs (depending on the accuracy and availability of mature size EPDs).

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