BY THE NUMBERS

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Angus $Values: simplifying genetic selection

Angus dollar value indexes ($Values) first came onto the scene in 2004. Since then, they have gained major popularity among Angus breeders and their commercial customers. Thousands of breeding stock excelling for one $Value or another are sold every year for a premium — but let's set the marketing aside for a minute.

$Values are tremendous tools to aim for more herd profitability. Like a business plan for your ranch, selection indexes start with an end goal in mind. In the case of animal breeding, we call these breeding objectives. Therefore, when utilizing $Values, producers must first be clear as to the goals of their operation — or, perhaps more importantly, the goals of their customers.

Each $Value was built with an underlying breeding objective; the traits [expected progeny differences (EPDs)] and economic assumptions (relative emphasis on each EPD) included in the index are selected and weighted appropriately to make more profit for the particular scenario.

They aim to simplify multi-trait genetic selection by combining several different EPDs into one value. By doing so, they drive genetic progress in multiple EPDs at once, all while condensing the number of EPDs that must be juggled.

Traits are appropriately weighted based on a three-year rolling average of industry trends. Assumptions about base calf price, feed costs and grid premiums are made to project the profitability parameters.

Terminal vs. maternal

Consider beef value, more

Table. 1: *Components of* $*Value*

$Value	Goal	Type	Traits Included
Weaned Calf ($W)	Retaining replacement females and marketing culls as feeders (weanlings)	Maternal	Birth weight, weaning weight, milk, mature cow size
Cow Energy ($EN)	Maintaining affordable females	Maternal	Mature cow size, milk
Beef ($B)	Retained ownership on all progeny, both males and females, marketed on the grid	Terminal	Postweaning gain (PWG = YW- WW), dry-matter intake, carcass weight, marbling, ribeye area, fat
Feedlot ($F)	Selling cattle on the live fed-cattle market	Terminal	Postweaning gain (PWG = YW - WW), dry-matter intake
Grid ($G)	Marketing cattle on the grid	Terminal	Carcass weight, marbling, ribeye area, fat

commonly known as $B. It was built to be a terminal index. Terminal indexes assume all progeny, males and females, will be fed and sold on the rail. Traits included in the index include anything associated with profitability in both the feeding and harvesting sectors. Economic assumptions are based on average feed costs and an average grid market.

In contrast, weaned calf value, or $W, was designed to fill the needs of those producers who retain their own replacement females and market their culls as feeder calves (weanlings). In addition to weaning weights, $W takes into account maternal characteristics including birth weight, milk and mature size.

Milk is included as both a cost and revenue source. The revenue portion comes from the pounds of calf at weaning due to the dam's individual mothering ability on top of the calf's individual performance. Costs are associated with increased feed energy costs needed to maintain a heavier-milking cow in the herd.

Common misconceptions

Even today, 14 years after their release, common misconceptions exist about $Values.

Misconception: $B is a one-size-fits-all index for the Angus breed.

$B is not a one-size-fits-all index. It is a terminal index, which means no maternal traits are included. If a producer is trying to retain females out of his or her own herd, using $B, which is made up of strictly growth and carcass traits, as the sole guide to create replacement females may not be the best choice.

Misconception: Average grid assumptions do not fit my operation, so the indexes in no way reflect my premiums.

While its true average grid assumptions are used to weight the relative emphasis of carcass traits in the $B model, producers do have a way to customize $Values to better fit their particular operation. By logging into AAA Login, producers can find an interactive tool to customize these indexes. For example, if a producer routinely receives a larger *Certified Angus Beef*® (CAB®) brand premium, using the customizable index tool they can increase that premium to more than $4, which is currently used in $B's calculation.

Misconception: $Values are making Angus into a one-trait breed.

The very definition of selection indexes challenges this idea. It is true that when selecting on $Values producers are selecting toward the same breeding objective, which is "to make more profit," but many already have that in mind.

Remember, by selecting on $Values, breeders are selecting on multiple traits at once with the correct economic weights for the average cattle market at that time. As the cattle market shifts or feed costs fluctuate, the relative economic weights change, as well.

In Closing

$Values can be an effective selection tool providing for members of the Association and their commercial customers. However, it is important to understand how to utilize them to fit individual operations. If you have any questions on $Values, contact the Performance Programs Department. AJ