



By the Numbers

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Using Angus index selection tools: \$B

Attending various beef cattle meetings across the country, many industry presenters speak to the value of using a selection index approach in making genetic decisions that affect animal production systems. Since the first availability of Angus dollar value indexes (\$Values) in 2004, Angus breeders and — more importantly — the commercial users of Angus genetics, have widely used these \$Values to simultaneously improve production for multiple, economically important traits.

Which EPDs contribute?

Breeders often ask which expected progeny differences (EPDs) contribute to the beef dollar value index (\$B). Most breeders interested in genetic selection for combined postweaning growth and carcass merit opt for the use of \$B in their program. Yet, at times, a more detailed approach, emphasizing component parts of the index, is of interest.

\$B was designed with the commercial bull buyer in mind to simplify a list of EPDs and apply economic weightings to those traits to form an index. Yet registered Angus breeders may want to make more specific improvement for quality or yield grade attributes in their herds.

As a review, the \$B index has two overall pieces: feedlot value (\$F) and grid value (\$G). While \$F is pretty easy to understand, relative to yearling growth impact and its value, \$G may not seem as straightforward without recognizing its pieces.

There are two component pieces within \$G — the yield grade (\$YG) and the quality grade (\$QG) \$Values. They are not new and have been available on any registered animal through an EPD Pedigree Lookup available

online at www.angus.org, or by going directly to www.angus.org/Animal/EpdPedSearch.aspx. Click on the \$B and \$G hotlinks in the EPD boxes of the animal's pedigree. Fig. 1 illustrates the impact pieces on an individual animal.

The \$QG index represents the quality grade advantage split out separately from the yield grade (\$YG) attributes found in the \$G. The EPD used in \$QG is the carcass marbling EPD. A three-year rolling average is used to establish the quality grade schedule, as illustrated in Fig. 1.

USDA Yield Grade

The industry continues to keep an eye on the importance of red meat yield, even though the premiums are more conservative than those seen in quality grade. The USDA Yield Grade exists to describe cutability differences in carcasses. The numerical USDA Yield Grades (YG 1, 2, 3, 4 and 5) each represent a range of expected percentage of closely trimmed, boneless retail cuts from the round, loin, rib and chuck. A lower numerical yield grade is the more favorable direction (YG 2 more favorable than YG 4).

For example, a YG 2 represents 50.3%-52.3% boneless closely trimmed retail cuts, and a YG 4 is only 45.7%-47.7%.

In the American Angus Association's \$YG index, a higher value is more favorable and is reported in dollars per head. The yield grade portion (\$YG) of the \$G index is influenced by yield grade premiums and discounts as seen in Fig. 1, along with the EPDs for carcass ribeye area, carcass fat thickness

What is beef value?

The dollar beef value index (\$B) combines the contributions of the feedlot value dollar index (\$F) and the grid value dollar index (\$G). This postweaning and carcass merit terminal index combines the feedlot and carcass value premiums and discounts into one composite value, \$B. An index expressed in dollars per head, \$B is the expected average difference in future progeny performance for postweaning and carcass value compared to progeny of other sires.

\$F and \$G are not strictly additive. Adjustments are made to avoid double counting weight traits and to make adjustments for the incidence of potential heavyweight carcasses in the genetic profile of each animal.

and carcass weight. The \$YG is expressed in dollars per head and reflects industry-driven economic weightings affected by premiums and discounts shown in Fig. 1.

\$G combines both \$QG and \$YG and may be the best carcass decision tool to focus on quality and red meat yield simultaneously. With this in mind, the use of \$YG separately is for the specialized user wanting to place more emphasis on red meat yield aspects. \$YG offers an evaluation of ribeye, fat thickness and weight, providing one economic value for red meat yield attributes.

Searchable sires

The sire search at www.angus.org/Nce/SireEvaluationDefault.aspx is a practical way to search the main sire listing and the supplement sire listing using \$YG, or even \$QG, as part of your EPD and \$Value criteria.

Example:

Bull A \$YG = 7.21

Bull B \$YG = 0.21

On the average, we would expect the calves sired out of Bull A to have a \$7.00-per-head advantage in carcass yield grade value over the calves out of Bull B. \$Values have meaning when used in comparing the relative merit or ranking of two individuals. Each sire listed in the report is comparable to every other sire.

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

Fig. 1: Example screenshot of \$B screen with its components

Beef Value (\$B) : +\$1.83			
Feedlot Value (\$F)		+34.74 per head	
Feedlot Assumptions			
Time on Feed	180 days	Difference in Value of Weight Gain	\$ per head
Ration Cost	\$290 dry ton		\$1.83
Fed Market	\$100 cwt. live	Difference in Cost of Feed Consumed	\$ per head
			\$7.89
Grid Value (\$G)		+18.55 per head	
Quality Grade Schedule			
Prime (above Choice)	\$10.00	Yield Grade Schedule	
CAB (above Choice)	\$4.00	YG 1 Premium	\$3.00
Choice-Selected Spread	\$10.00	YG 2 Premium	\$1.75
Standard Discount	\$-18.00	YG 3 Discount	\$0.00
		YG 4 & 5 Discount	\$-25.00
		Average Carcass Weight	816
Grid Impact	\$ per cwt. \$ per head	Grid Impact	\$ per cwt. \$ per head
Quality Grade(\$QG)	2.72 22.17	Yield Grade(\$YG)	41 3.62