



By the Numbers

► by **Sally Northcutt**, director of genetic research, American Angus Association

Effects of \$QG, \$YG on \$G

One of the common questions you may face as a breeder is understanding how end product values generated by the American Angus Association relate to real-world beef production. Tying these predictions to the traits that contribute to value differences of harvested cattle and combining those traits in a proper relationship can be challenging. The grid value (\$G) provides a tool to accomplish that goal.

\$G index components

Some producers may still want to make more specific improvement in the quality grade (QG) or yield grade (YG) attributes of their herds. Although many may not be aware, there are two components within \$G. These dollar value indexes (\$Values) are called yield grade value (\$YG) and quality grade value (\$QG).

They are not new and have been available on any registered animal through an Internet search at www.angus.org, either through the \$Value search at www.angus.org/performance/beefvalue/index.html, or by clicking on the “Grid Value” or “Beef Value” links in red on the expected progeny difference (EPD) Pedigree Lookup screen (see www.angus.org/registeredangus/index.html). Fig. 1 illustrates the effect these components have on an individual animal.

\$QG represents the quality grade advantage split out separately from the yield attributes found in \$G. The carcass marbling (Marb) EPD and ultrasound-derived percent

intramuscular fat (%IMF) EPD contribute to \$QG.

A three-year rolling average is used to establish the quality grade premium/discount schedule illustrated in Fig. 1.

Yield grade effect

The industry definitely needs to keep an eye on the importance of red meat yield, even though the premiums are more conservative than those seen for quality grade on most grids. The USDA YG exists to describe cutability differences in carcasses. The numerical yield grades — YG 1, 2, 3, 4 and 5 — each represent a range in the expected percentage of closely trimmed, boneless retail cuts from the round, loin, rib and chuck. A lower numerical grade is more favorable. For example, a YG 2 represents the expectation of 50.3%-52.3% boneless, closely trimmed retail cuts, while a YG 4 represents 45.7%-47.7%.

In the Association’s \$YG index, reported in dollars per head, a higher value is more favorable. The yield grade portion of \$G is

influenced by yield grade premiums and discounts (see Fig. 1), along with EPDs from carcass and ultrasound databases for ribeye, fat thickness and weight.

Based on these traits, \$YG has similarities to the percent retail product (%RP) EPD, but \$YG is expressed in dollars per head and reflects industry-driven economic weightings. The correlation between %RP (ultrasound and carcass) and \$YG in the Angus data is 0.80, so similarities exist.

\$G incorporates both

As a reminder, \$G combines both \$QG and \$YG, and may be the best carcass decision tool for focusing on quality and red meat yield simultaneously. With this in mind, the use of \$YG separately is intended for the specialized user wanting to place more emphasis on red meat yield. \$YG is user-friendly, reported in dollars per head, where a higher value is more favorable. It provides a multi-trait approach to encompass ribeye, fat thickness and weight into an economic value for red meat yield attributes.

In the spring 2006 National Cattle Evaluation (NCE), %RP EPDs for carcass and ultrasound will no longer be provided in the listing of EPDs available through the Association. A searchable \$YG tool, available at www.angus.org, will provide an alternative to %RP for use in making selection decisions.

Fig. 1: The components of \$B

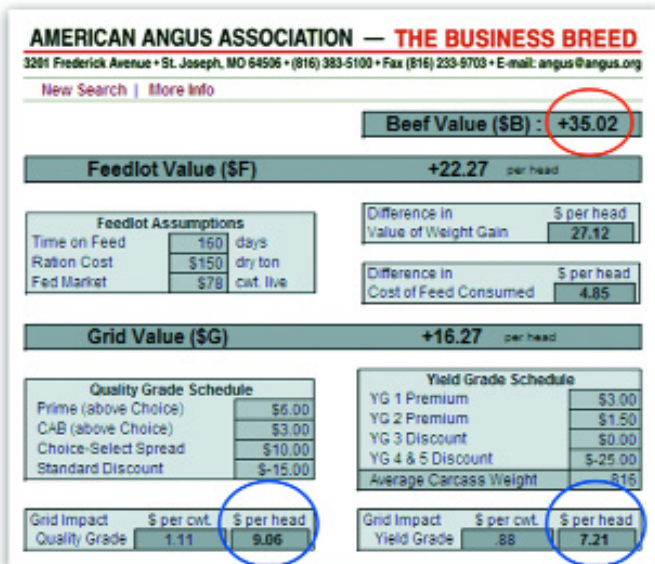


Fig. 2: Sire search options for \$Values



Keep in mind:

- ▶ Yield grade is the language of the industry; the %RP formula is not.
- ▶ Yield grade is how we sell cattle; it significantly determines value.
- ▶ %RP is one step removed — it is a linear trait, where the “more is better” thought process prevails.
- ▶ Yield grade is more of a threshold effect — avoid YG 4s and 5s vs. create more YG 1s and 2s.

Searchable sires

The sire search at www.angussiresearch.com is a practical way to search main and supplemental sires using \$YG, or even \$QG, as part of your EPD and \$Value criteria (see Fig. 2).

\$Values have meaning when used in comparing the relative merit or ranking of two

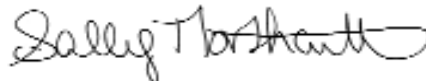
individuals. Each sire listed in the report is comparable to every other sire.

Example:

Bull A \$YG = 7.21

Bull B \$YG = 0.21

On the average, we would expect the calves sired by Bull A to have a \$7-per-head advantage in carcass yield grade value vs. the calves sired by Bull B when sold on a typical grid.



E-MAIL: snorthcutt@angus.org

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

What is beef value?

The beef dollar value index (\$B) combines the contributions of the feedlot value (\$F) and grid value (\$G) indexes. This postweaning and carcass merit terminal index encompasses the feedlot and carcass value premiums and discounts into one composite value. 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.