



# By the Numbers

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

## Don't forget the yearlings

*It's amazing how many breeders go to the effort of collecting birth and weaning weights but fall short of completing the genetic picture by not capturing yearling measures, which can be equally valuable.*

### Yearling weights and measures

In referencing the fiscal year (FY) 2006 Angus Herd Improvement Records (AHIR<sup>SM</sup>) summary, 348,020 weaning weights were reported compared with 186,522 yearling weights. Granted, there is culling between weaning and yearling time, but many producers just do not submit yearling weights, especially on females.

If you do not submit yearling weights, you still receive a yearling weight expected progeny difference (EPD) through the National Cattle Evaluation (NCE) biannual run. The genetic correlation between weaning weight and yearling weight that is accounted for in the NCE methodology allows this to be possible. You may receive a yearling weight EPD because of this correlation, but you fail to identify animals that may excel in the postweaning gain period. To better characterize the cattle and make the EPDs more informative, the yearling weight is a pivotal step.

Yearling weights are used not only for

yearling weight EPDs, but also in the analysis of yearling height and scrotal circumference (SC) EPDs. The height and scrotal evaluations use yearling weight as a genetically correlated trait, at a moderate level of 0.54 with height and 0.29 with scrotal circumference.

As a reminder, the acceptable age range for yearling weights, heights and scrotal measurements on bulls is 320 to 440 days of age. Long yearling measures on scrotal and height are not utilized in the EPD calculations. Contemporary groups at yearling still apply in order for an animal's own record to be utilized as part of NCE.

Remember that the yearling contemporary group is no larger than the weaning contemporary group. If one bull calf is sent to a bull test station, for example, he becomes a yearling contemporary group of one, since his peers are the bulls at home from his weaning contemporary group. EPDs cannot be generated using the individual records if the bull has no contemporaries. For more information on contemporary groups, see

[www.angus.org/performance/documents/contemporary\\_grp.html](http://www.angus.org/performance/documents/contemporary_grp.html) or the May 2005 "By the Numbers" column.

Yearling weights are only used on embryo transfer (ET) calves recorded out of a registered Angus recipient female. As a note for scrotal and yearling height, the ET calf's individual records can be used in the NCE, provided all other NCE requirements are met. If the dam is not a registered recipient, then no age-of-dam adjustment is made for these two traits.

It's important to also weigh heifers as yearlings. Not only are these weights used in yearling EPD predictions, but the data also are utilized in the development of mature cow size EPDs, which also influence weaned calf value (\$W) and cow energy value (\$EN). For heifers, the use of yearling weights and heights has more merit than ever before. The mature size evaluation uses repeated measures on females to generate mature weight and height EPDs. If you have the ability to capture yearling weights and heights on your heifers, these records will be used to better characterize Angus cow size genetics.

### Yearling temperament score

Everybody is talking about it. If you have attended beef cattle meetings recently, various segments of the industry (feedlots, packers, Extension educators, commercial producers) are referencing temperament as an important convenience trait. Temperament is one of the most important behavioral traits in cattle, as disposition can influence production and management areas in beef production.

The American Angus Association continues to develop a yearling temperament score database. The scoring system for AHIR reporting is comprised of six subjective categories. These scores range from 1 (docile) to 6 (very aggressive) (see Table 1). As with other scoring systems of this nature, such as body condition scores (BCS), consistency is the key. Calves in the same yearling contemporary group should be scored by the same person. Your neighbor may not interpret the scoring system the same way you do, but your scores relate to the contemporary group of cattle you evaluate in your herd.

Although temperament scores have been

**Table 1: Temperament scores**

Codes	Description
<b>1) Docile</b>	Mild disposition. Gentle and easily handled. Stands and moves slowly during processing. Undisturbed, settled, somewhat dull. Does not pull on headgate when in chute. Exits chute calmly.
<b>2) Restless</b>	Quieter than average, but may be stubborn during processing. May try to back out of chute or pull back on headgate. Some flicking of tail. Exits chute promptly.
<b>3) Nervous</b>	Typical temperament is manageable, but nervous and impatient. A moderate amount of struggling, movement and tail-flicking. Repeated pushing and pulling on headgate. Exits chute briskly.
<b>4) Flighty (wild)</b>	Jumpy and out of control, quivers and struggles violently. May bellow and froth at the mouth. Continuous tail-flicking. Defecates and urinates during processing. Frantically runs fenceline and may jump when penned individually. Exhibits long flight distance and exits chute wildly.
<b>5) Aggressive</b>	May be similar to Score 4, but with added aggressive behavior, fearfulness, extreme agitation, and continuous movement, which may include jumping and bellowing while in chute. Exits chute frantically and may exhibit attack behavior when handled alone.
<b>6) Very aggressive</b>	Extremely aggressive temperament. Thrashes about or attacks wildly when confined in small, tight places. Pronounced attack behavior.

an available performance field in the cow data details, the primary focus is to collect less-selected temperament data on bulls and heifers at a year of age, before culling. Research is already under way with the University of Missouri to use the Association's current database of more than 50,000 yearling temperament scores to assess genetic variation for the trait in Angus cattle and the potential for docility EPDs.

### Ultrasound

Rounding out the complex of yearling measures is ultrasound data collection. It never hurts to review the high points on age

**Table 2: Acceptable scanning ages for Angus cattle**

Breed	Yearling bulls	Developing heifers
Angus	320-440 days	320-460 days

**Note:** Scan weights that are submitted on barn sheets with your ultrasound data are not automatically provided to the American Angus Association as yearling weights. You must submit yearling weight data directly to the Association through the appropriate channels used for this trait.

ranges and contemporary group definitions. Acceptable age ranges are 320-440 days of age for bulls, and 320-460 days for heifers (see Table 2).

The contemporary group definition starts with weaning. This makes the submission of weaning weights and barn sheets a necessary

part of the AHIR ultrasound process. Contemporaries are from the same weaning group, and there must be at least two calves of the same sex to form a usable contemporary group for ultrasound EPD calculations. Scan weights are required and

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should be taken within seven days of the technician capturing the ultrasound data. For the animals within the contemporary group, they should be scanned on the same day or no later than two consecutive days. Many breeders will schedule the scanning date to coincide with data collection for other yearling traits.

The Association now accepts ultrasound data from multiple approved labs. Consult with your ultrasound field technician as part

of the decision process on where to send your scan data for interpretation. Details on ultrasound breeder protocol, field technicians, authorized labs and policy can be found at [www.angus.org/performance/index.html](http://www.angus.org/performance/index.html).

Yearling time provides a whole host of opportunities for Angus breeders to learn what their cattle will do. The AHIR program would not be what it is today without your commitment to excellence. Thanks for your continued service to the Angus breed and genetic improvement.



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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.