By the Numbers

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

Fall performance checklist

Spring-calving herds will soon be making plans for the normal fall work, including collecting complete performance data. Planning now to consider the various measures on the calf crop and cow herd will ensure the data can be utilized to generate selection tools through the Association's national cattle evaluation (NCE).

Calf data

The following outline provides key areas for calf data collection. In many cases, an age window is necessary to provide accurate genetic predictions using the animal's own performance record from a proper contemporary group.

- ►Birth weight (within 24 hours of birth)
  Birth weights are to be reported in actual pounds from a scale weight. Estimates from a birth tape or hoof circumference are not accepted.
- ►Calf sex
- ►Birth type (single, twin)
- ►Calving score (1 to 5)
  1 = unassisted
  2 = some assistance
  3 = mechanical
  4 = C-section
  5 = Abnormal presentation

Weaning data

- ►Weaning weight (120-280 days of age)
- ►Management code
- ►Mature cow size data (±45 days of weaning weight)
- ►Cow body condition score (BCS; 1 to 9)
- ►Cow weight and height

Yearling data

- ►Yearling weight, hip height (320-440 days of age)
- ►Scrotal circumference (320-440 days of age)
- ►Temperament (320-440 days of age; 1 to 6 scale)
- ►Ultrasound data (bulls 320-440 days of age; heifers 320-460 days of age)

Contemporary groups, ratios and EPDs

Contemporary grouping allows animals to be evaluated on how well they performed compared with their herdmates raised under similar environmental conditions. This grouping accounts for environmental or unequal treatment effects, so that heritable differences, such as expected progeny differences (EPDs), can be predicted.

Two or more animals of the same sex are necessary in the contemporary group for the EPD to be calculated based on phenotypic measures alone, assuming other data edits are met. Each animal is compared relative to the average performance of the contemporaries in the defined group.

Cow size assessment

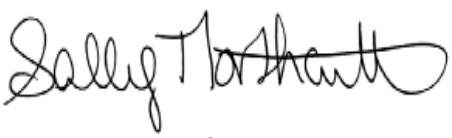
As production input costs continue to escalate, it becomes more important than ever to identify genetics to best match the environment and resources available. Cow size becomes a crucial measurement that can be used to better characterize Angus genetics, allowing producers to use the resulting tools to make profit-affecting decisions.

Data points reported on the cow, such as mature cow measures, are used in mature size EPDs and dollar value indexes ($Values). The refinement of mature weight EPDs provides the opportunity to identify cows that are moderate in size while still maintaining superior performance for other economically important traits.

Cow size phenotypic measures are collected at weaning time to best reduce the influence of the gestating calf. Below are the "rules" to make your hard work in collecting these measures worthwhile:

- ►Breeding female can be any age (including first-calf heifers).
- ►Must wean a calf (cow weights/heights are discarded that are not associated with a calf weaning weight).
- ►Cow weights/heights must be taken ±45 days of calf weaning date.
- ►Cow weight must have an associated BCS. Cow weights without BCS are not used for EPDs. (BCS system is outlined and example photos are presented at *www.cowbcs.info.)*
- ►Measures on donor females are not used.
- ►Try to capture hip height measures on breeding females when possible. If you miss a year, data from other years are still usable.

The mature size evaluation uses repeated measurements on females to generate mature weight and height EPDs. If you have the ability to capture weights and heights on your cows and heifers, these records will be used to better characterize Angus cow size genetics.



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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.*

What splits calves into separate weaning contemporary groups?

- ►Management codes (creep vs. noncreep)
- ►Group codes
- ►Weaning dates more than three days apart
- ►Location codes
- ►Registered vs. commercial dams
- ►Natural vs. embryo transfer (ET) calves, registered Angus vs. other recipients