

BY THE NUMBERS

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Contemporary Groups

Understanding and creating proper contemporary groups.

Contemporary groups are the cornerstone of genetic evaluation. A contemporary group is a set of animals that have had equal opportunity to perform and are the same sex, managed alike, and exposed to the same environmental conditions and feed resources.

We know environment and management have a large effect on animal performance. When animals are exposed to different management or environment, it is impossible to know if differences in performance are because of the environment or their genetics. To attribute differences in performance to genetics, animals in a contemporary group must have been exposed to the same management and environment.

In many cases, one contemporary group per sex for an operation each calving season is sufficient. Within one operation, there are circumstances that require establishment of multiple contemporary groups.

How are groups divided?

Breeders are responsible for creating proper contemporary groups from a management perspective. Animals can be divided by a few factors including sex, a birth date within a 90-day window, management codes, group codes, weaning date (no more than

three days apart), location codes, registered vs. commercial dams, natural [including natural service and artificial insemination (AI)] vs. embryo transfer (ET) calves, registered Angus recipients vs. nonregistered Angus recipients, and how data are submitted (see Table 1).

Codes

Codes identify animals that were managed differently or in a different environment.

Birth group codes are used to distinguish calves whose dams were not managed in the same environment before the birth of the calves. For example, if there were thin cows kept separate from the rest of the herd, these calves would need a separate birth group code.

Weaning or yearling group codes designate calves managed different from other calves, such as different groups. For example, orphaned calves or extremely sick calves should receive a group code to separate them from the rest of their contemporaries.

For weaning information, the group code is required. If all the calves are in the same group, use the same number or letter.

Management codes designate if an animal received additional feed while nursing through supplemental or creep feed. For weaning, the management code is required.

Location codes designate animals

Table 1: Grouping guidelines

Contemporary group: A set of calves (two or more) that are the same sex, managed alike and exposed to the same environment.

What splits calves into separate contemporary groups?

- Sex (bull or heifer)
- 90-day birth date window
- Management codes (creep-fed vs. noncreep-fed)
- 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
- Submitting data on calves that could be in the same contemporary group at different times [using paper forms, AAA Login carts, or Angus Information Management Software (AIMS) files]. Sending data on calves at later dates than their other contemporaries causes unwanted groups to be formed. These calves will not be joined with the previously submitted calves.

in a different location. For example, if one operation has multiple locations, this code can separate animals.

Building a good foundation

Building proper contemporary groups starts at birth. The importance of placing individual calves in the correct birth contemporary groups cannot be overstated.

The birth group follows animals for the entirety of their lives. The birth contemporary group is as

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large as a group can ever be and the foundational building block for future groups such as weaning and yearling.

Data submission

One of the most common reasons unnecessary contemporary groups form is because of data submission dates. When records arrive at the Association, unless otherwise indicated, data in that file are processed, indicating the file contains all records for the group, and closes the respective groups.

Paper forms, AIMS and spreadsheets

Data submission through paper forms or spreadsheets [i.e., Angus Information Management Software (AIMS) files or a spreadsheet downloaded from AAA Login] will close groups. This makes it especially important to submit complete records at one time for proper grouping.

AAA Login

When birth weight records are checked out through the cart in AAA Login, a question appears right after the payment information asking, “Are these birth weights the last calves to be reported for the birth contemporary group?”

Answering “yes” to this question indicates all birth records for the calving season are submitted and will close the birth contemporary group. Answering “no” to this question will allow additional calves, in later submissions, to be included in the same contemporary group.

The birth contemporary group will close one of three ways. The first is answering the question at checkout with “yes.” The second is submission of weaning weights. When weaning weights are submitted, groups will form as the data processes, so it is important to submit complete weight records at one time to maximize contemporary groups. If weaning weights take multiple days to enter,

the information can be left in the cart until all weights are entered. After all weights are in your cart, check out the cart to process all weights at one time.

The third is a time limit. If no weaning information has been provided within 205 days of birth information submission, the group will close.

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 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, assuming other data edits are met. Each animal is compared relative to the average performance of its contemporaries.

You cannot have EPDs beyond a pedigree index interim EPD without contemporary groups. A contemporary group of one animal does not provide any information to compute EPDs from the Association’s National Cattle Evaluation (NCE).

For example, if there are 10 bull calves weaned at your farm or ranch (treated alike, same sex, fed/managed the same), the bulls form one weaning contemporary group. Then, you send two calves to the bull test station and feed out the remaining eight at home.

Their yearling and ultrasound records will be processed as two separate contemporary groups, not as one. If you send one bull to a test station, this creates a contemporary group of one for the yearling and ultrasound data. Association ratios

for these traits will be 100, and the animal’s own yearling and ultrasound performance will not be used in evaluation procedures for EPDs.

A ratio is the performance on an individual animal relative to the average performance for his or her contemporaries. Contemporary groups should include as many animals as can be accurately compared.

Continuing our example, say the 10 bull calves at weaning weighed an average of 600 pounds (lb.). One calf weighed 630 lb., so he is 5% above the average of his contemporaries. His ratio is 105.

$$\text{Ratio} = (630 \div 600) \times 100 = 105$$

Another calf weighed 570 lb., which is 5% below the contemporary group average of 600 lb. His ratio is 95.

$$\text{Ratio} = (570 \div 600) \times 100 = 95$$

In the calculation of EPDs, the animal’s own record (a weight or measure) is used relative to the contemporary group’s average performance. It is sometimes a misunderstanding that the numerical ratio (like the ratio computed above) is used in the computations.

Ratios can be a within-group tool. However, the use of more advanced selection tools, like EPDs, provides comparisons among all animals in the breed with greater accuracy.

AHIR reports

Reports for Angus Herd Improvement Records (AHIR®) can be found in your AAA Login account under Reports > AHIR Reports > AHIR Work History/Reports.

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Editor’s note: For more information, visit www.angus.org/performance/ContemporaryGrouping or contact the member services department at (816) 383-5100.