



# Finding the Good Ones...

## The Need for Meaningful Contemporary Groups

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**The basis of Expected Progeny Difference (EPD) calculations is separating the genetics of an animal from the non-genetic (environment) impacts on the trait being analyzed. Pick up any genetic textbook and you will find the formula: Phenotype = Genetics + Environment. Given this formula, it is easy to understand that reliable EPDs begin with accurate contemporary grouping. Below you will find a detailed list of the various components that the Red Angus Association uses to separate animals into different birth, weaning, and yearling contemporary groups.**

### Birth Weight Contemporary Group

*Workgroup.* The first component of contemporary group formation is the workgroup number created for data as it comes into the National Office. If data from one herd is submitted on separate days please inform the Registration Department so they can combine the data. Additionally, anytime work is submitted for different memberships (such as families who run their cattle together) and needs to be combined, please inform the Registration Department

*Management Group.* This field appears on the data reporting form, and allows the reporting member to indicate if calves were managed differently. Obviously, only calves that are managed the same will be contemporary grouped together. If the entire calf crop was managed equally, simply leave this field blank.

#### *Embryo Transfer (ET) and Twins.*

Accurately accounting for the portion of birth weight that is due to maternal environment is imperative in calculating BW EPD. Typically, recipient cows used in ET programs are commercial cows; therefore, we don't have pedigree or past performance information to estimate maternal environment effects. Due to these circumstances, both ET and twin calves are considered irregular and are placed in a single head contemporary group.

*Sex of Calf.* As we all know, heifers and bulls have different growth patterns that begin before birth. Therefore, bulls are

only compared against other bulls; and heifers are only compared against other heifers.

*90-Day Birth Window.* Seasonal changes in weather can have an impact on birthweights of calves by impacting the nutritional status of the dam. For example, compare two dams in Southern Oklahoma grazing native pasture. One dam calves in early January and the other dam calves in early June. So, the first dam is grazing low quality dormant pasture prior to calving and the second dam is grazing high quality spring regrowth prior to calving. The majority of fetal growth occurs in the last trimester of pregnancy. Therefore, although the cows are in the same pasture and managed the same, the two fetal calves are provided different sub-environments. In an effort to account for these environmental differences, RAAA limits contemporary groups to 90-day calving windows. Calves born outside the main 90-day calving window are placed in separate contemporary groups.

*First Calf Heifers.* Calves born to females classified as 2 year olds (less than 1,004 days of age) are contemporary grouped separately from calves born to mature cows. This is due to the fact that a 2 year old female is still physically developing during her pregnancy; thus, pulling nutritional inputs away from the growth of the fetus which in turn will influence the birth weight of the calf.

*Breed Composition.* In 1979, RAAA implemented the category system, which



### Contemporary Group:

A group of animals of the same sex, of similar age, and having experienced an equivalent environment that provided the same opportunity to perform.

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allows for the registration of cattle regardless of breed composition. Due to the fact that our current EPD calculations can not account for the increase in performance resulting from hybrid vigor (heterosis), we must separate animals into contemporary groups that have similar breed composition. Those groups are: 87% to 100% Angus (Red or Black), 50% to 86% Angus, and 0% to 49% Angus.

### Weaning Weight Contemporary Group

**Birth Contemporary Group.** Exposure to different environments will continue to have an effect on weights/measures for an extended time period, even after the animal is removed from one environment. Thus, if two calves are in different contemporary groups at birth, they should be in different contemporary groups at weaning to be fairly evaluated. Therefore, the first component of weaning weight contemporary group is birth weight contemporary group.

**Management Group.** Identical to birth weight reporting forms, members should differentiate animals that were managed differently in their herd. This is accomplished by completing the weaning management group field on the weaning worksheet. Additionally, we separate animals that were provided supplemental creep feed from calves that did not. This is achieved through the feedcode field.

**Weigh Date and Age Ranges.** Obviously, animals must be weighed on the same day in order to get an accurate evaluation of weaning weight. If the animals are weighed on separate days they will be placed in different contemporary groups. In the case that all calves can not be weighed on the same day, simply weigh the calves that will be eligible to be in the same contemporary group on the same day. Once the weaning weight data is received at the National Office we adjust the weights to a 205-day equivalent. This is done to get equal comparisons between animals. In order to accurately make these adjustments the calves must be relatively close in age at weaning.

Calves that are less than 160 or greater than 250 days of age at the time of weaning will be grouped separately into one of the following groups:

- group 1: 90 to 129 days
- group 2: 130 to 159 days
- group 3: 251 to 280 days
- group 4: 281 to 310 days

Therefore, it is advisable to plan your weaning date around the age of the calves in order to get the most animals per contemporary group.

**Sex of Calf.** Identical to birth contemporary group formation, sex of calf at the time of weaning is a component of weaning contemporary group. Clearly, the sex of a heifer will not change between birth and weaning; however, a male calf may be steered. The time of castration determines the sex classification that should be reported with the weaning data. If the male calf is castrated at weaning, report the animal as a bull. However, if the castration is performed prior to weaning, report the animal as a steer.

### Yearling Weight Contemporary Group

The components of yearling contemporary group are very similar to weaning contemporary grouping: workgroup, member assigned management group, weigh date, and sex of calf. In addition, in order for calves to be in the same contemporary group at yearling, they must have been in the same contemporary group at weaning.

**Age Range.** As discussed above, age range is mandatory in equal comparisons for weight traits. As weaning weights are adjusted to a 205-day equivalent weight, yearling weights are adjusted to a 365-day equivalent weight. In order to make correct adjustments, the age range of the calves being evaluated in the same contemporary group can not be too extreme. To ensure proper adjustments are made, calves that are less than 320 or greater than 410 days of age at the time yearling weights are taken will be grouped separately into one of the following groups:

- group 1: 260 to 289 days
- group 2: 290 to 319 days
- group 3: 411 to 440 days
- group 4: 441 to 470 days

### Final Thoughts

Many components work together in building proper contemporary groups,

### Contemporary Grouping for a Multi-Breed EPD Evaluation

One of the largest benefits of a Multi-Breed EPD evaluation is the ability to accurately account for performance due to hybrid vigor. This Multi-Breed technology does not require contemporary groups to be broken on breed composition, thus keeping larger contemporary groups intact. The majority of large breed associations who have a significant number of registrations from hybrid animals have already implemented Multi-Breed EPD evaluations.

As you have read in previous issues of the ARA Magazine, RAAA is moving to a Multi-Breed EPD calculation. Once that advanced technology is implemented, RAAA will no longer break contemporary groups based on breed composition. One of the largest misunderstandings RAAA members have regarding contemporary grouping in a Multi-Breed evaluation is that their animals will be compared against their neighbor's Brangus animals. This is NOT the case. Your animals will only be compared against your animals. If you do not have animals that are less than 87% Angus, there will NOT be a change to your contemporary grouping. Your animals will be contemporary grouped the same as they have in the past.

and each is important to ensure that all animals in the group are properly compared. Failing to consider these components could potentially result in EPDs generated by smaller than necessary contemporary groups, or contemporary groups that compare animals that - for very legitimate reasons should not be compared against one another. Small contemporary groups provide very limited information to EPD calculations. In fact, data from single head contemporary groups are not included in EPD calculations. By knowing, and understanding, how contemporary groups are formed, better management decisions can be made to provide for larger, more meaningful contemporary groups. Contemporary grouping is the foundation of any breed's genetic predictions (EPDs), and it is the reliability of those EPDs that help us identify the "good ones" and avoid those that stand out on the other end. ■