



By the Numbers

► by **Kelli Retallick**, AGI director of genetic service

Using birth weights earlier for genetic evaluation

This summer, updates to the weekly Angus genetic evaluation will be incorporated. Birth weights submitted after this date will be incorporated into the Angus genetic evaluation upon completion of the calving season as issued by individual members. This allows earlier assessment of calving ease and birth weight traits on sires before the next breeding season.

Historical process

Calving ease records (on first-calf heifers) and birth weights are used in the weekly genetic evaluation to predict birth weight (BW) and calving ease direct and maternal (CED/CEM) expected progeny differences (EPDs). Historically, these measures were not utilized in the evaluation until a subsequent weaning weight (WW) was turned in. Once a weaning weight was reported, weaning weight contemporary groups were assigned to calves, and all information was used in the evaluation to predict EPDs.

Because of this, young bulls with progeny from their first breeding season were not given credit for the birth weights and calving ease scores on sired progeny until after the second breeding season. This lag delayed availability of information, resulting in less accurate predictions.

Birth contemporary groups

Recent upgrades to the weekly genetic evaluation will allow these data points to be used earlier. Members will be able to submit birth weights and calving ease scores at the conclusion of the calving season. Calves will be placed in birth contemporary groups based on several criteria. Because the birth contemporary group will follow calves throughout their life, it is very important to formulate these groups properly.

Contemporary groups will first be broken by sex (bull or heifer) and birth type. Birth type is whether or not calves were produced by embryo transfer or *in vitro* fertilization and whether or not these embryos were placed in registered or commercial recipient dams.

Criteria 3 is a 90-day birth-date window, starting with the birth of the first calf. Any animals born within 90 days of this initial date will be grouped together. The member must notify the Association when the calving season ends. The information will then be grouped and adjusted for use in the weekly genetic evaluation.

If your calving season is longer than 90

days, you may want to apply additional group codes for better contemporary grouping. For example, if your calving season is Jan. 1-April 30, you may want to code calves born in January-February separate from calves born in March-April. Submitting weights without birth group codes will group the calves born in the first 90 days together (January-March) and calves born in the last 30 days together. While creating two 60-day groups may not be necessary, it may avoid an unwanted contemporary group structure.

In addition, group codes can also be utilized to label groups of calves whose dams are managed differently. For instance, if you manage first-calf heifers separately from mature cows prior to calving, it would be wise to create separate birth codes for these groups. Think of birth group codes in the same way you assess weaning management groups. Calves born to mothers that have been treated in the exact same way should be placed in the same group birth code. Bulls and heifers will automatically be separated at the Association for evaluation; they do not require different birth group codes.

Even if birth information is not submitted until weaning, a 90-day window to build birth contemporary groups will still be imposed.

Data submission

Data can be recorded through several channels, including the electronic calving book via Angus Mobile, AAA Login, Angus Information Management Software (AIMS), an excel spreadsheet or paper submission. If birth data is submitted prior to weaning, the \$3 Angus Herd Improvement Records (AHIR®) enrollment fee will be assessed at birth data processing time rather than weaning-data processing. Regardless, members will pay only one \$3 AHIR fee per calf. MaternalPlus® enrollees will be able to submit birth records free of charge as a \$3 per cow fee is already assessed.

Members can signal the Association that calving season has ended via AAA Login.

All birth records should be submitted to the Association at once to avoid unwanted contemporary group divisions. AAA Login users will be prompted to notify end of calving season at cart checkout. Records will remain in cart checkout until an end-of-calving-season notification is received or a corresponding weaning weight is entered. Records mailed in on paper, sent though AIMS or by Excel spreadsheet upload should not be sent until the entire spring- or fall-calving herd has calved.

You can submit birth records on some calves but not others, and these calves will still be grouped together at weaning. However, only those calves of the same sex born within a 90-day window of each other will be allowed in the same group, whether or not birth weights are reported. This means even if calves are managed and weaned together, they will not be allowed in the same weaning contemporary group if they fall out of the specified window. This differs from the current weaning weight contemporary group criteria that allow calves born within a 160-day window to be grouped together. Calves will still need to be 120-280 days of age for weaning weights to be accepted.

Calves born dead on arrival can be weighed and reported to the Association as long as the dead calf fits within the birth contemporary group criteria. This information will then be utilized in the weekly genetic evaluation. At the time of birth recording, a birth code such as dead on arrival can be provided to avoid confusion in the future.

Conclusion

Once data enters the evaluation, sires and dams will be credited in the genetic evaluation for the birth information reported, leading to more accurate predictions of BW, CE and EPDs. No EPDs will be generated on the progeny until the progeny have been registered, unless the member is enrolled in MaternalPlus. MaternalPlus enrollees will receive individual CED, BW, and WW EPDs on individual progeny once birth data has been processed. Please note any birth records reported, with or without weaning records, previous to implementation will not be placed into birth contemporary groups and will be utilized in the same fashion they have been historically.

Allowing birth information into the genetic evaluation earlier will allow better real-time predictions of CE and BW EPDs. Producers will no longer have to make mating decisions without the birth information on a bull's current calf crop.

If you have any questions, contact anyone in the Performance Programs Department at 816-383-5100.

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BTN Addition A:

Contemporary groups will first be broken by sex (bull or heifer) and birth type. Birth type is whether or not calves were produced by embryo transfer or *in vitro* fertilization and whether or not these embryos were placed in registered or commercial recipient dams.

BRN Addition B:

, sent though AIMS or by Excel spreadsheet upload (edited)