

THE DATA DIVE

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A Deeper Look Into the World Angus Evaluation

Part 1 of this article is on page 32 in the 'By the Numbers' column. This second part dives deeper into the effects of the additional data included in the World Angus Evaluation.

What does the distribution of data look like?

The World Angus Evaluation is adding records from Angus Australia to the current database for the weekly evaluation. As Angus breeders have been diligent in data collection, the records are being added to a robust database. Figures 1-3 show the distribution of the current data and that being added from Angus Australia for birth weight, calving ease and carcass weight, respectively.

In these figures we can see while there is data being added for these traits, the current data in the database still represents a vast majority of the data in the evaluation.

In general, this collaboration will increase our carcass data records by nearly 10%, while growth traits increase on average by 13%, calving ease scores by 14% and scrotal circumference records by 9%.

How many EPDs are involved in the expansion?

Eleven additional traits will be included in the expansion. As a reminder, foot angle and foot claw set were the first traits included in this World Angus Evaluation environment in 2019. Therefore, in total, 13 EPDs (expected progeny differences) will be in this World Angus Evaluation. The 13 traits are listed in Table 1.

How much will EPDs change?

Overall, the EPDs are very similar with very high correlations of 0.97 or above. However, with the large number of records being added to the genetic evaluation, some changes are expected.

The lowest correlations of 0.97 and 0.98 are found in the backfat thickness (FAT) and calving ease maternal (CEM) EPDs. All other EPDs have a 0.99 correlation or

Table 1: Traits being included in the World Angus Evaluation environment.

| Trait | Abbreviation |
|-----------------------|--------------|
| Birth Weight | BW |
| Weaning Weight | WW |
| Yearling Weight | YW |
| Maternal Milk | Milk |
| Calving Ease Direct | CED |
| Calving Ease Maternal | CEM |
| Marbling | Marb |
| Backfat Thickness | Fat |
| Ribeye Area | RE |
| Carcass Weight | CW |
| Scrotal Circumference | SC |
| Foot Angle* | Angle |
| Foot Claw Set* | Claw |

*Released in a world evaluation environment in 2019

above, which is similar to the movement experienced currently from adding additional data from week to week. The extent of change

Figure 1: Proportion of data for birth weight in the current database and with Angus Australia data.

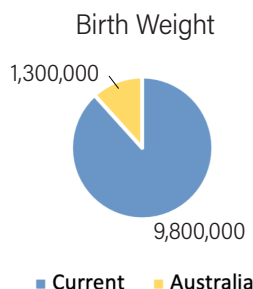


Figure 2: Proportion of data for calving ease in the current database and with Angus Australia data.

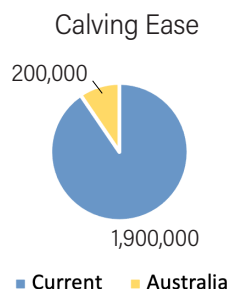
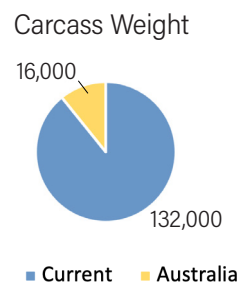


Figure 3: Proportion of data for carcass weight in the current database and with Angus Australia data.



varies depending on an animal's relation to the Angus Australia population.

Digging into the top 200 American Angus sires in 2022, the top changer for weaning weight and yearling weight EPDs decreased by 8 and 15 pounds (lb.), respectively, for each trait. However, the change is being driven by the addition of nearly 150 weaning and yearling weights being added to the genetic evaluation.

Another top mover in the top 200 sire group came with a decrease in the Milk EPD of 8 lb. from a genotype entering the genetic evaluation from Angus Australia.

What can cause an EPD to change?

The largest EPD changes will occur in animals that have added progeny records from Angus Australia's data.

This collaboration includes the addition of genotypes for some animals. To be in the Angus Australia herd book, descendants of artificial insemination (AI) sires, donor dams or other imported animals must have a full genomic profile. Some animals not originally genotyped within the American Angus Association will now have a genotype included in the evaluation because of inclusion in the Australian population.

More than 200,000 genotypes will be added to the Association's weekly single-step genetic evaluation. Because a single-step genetic evaluation more precisely predicts the genomic and pedigree relationships among animals, some individuals will experience changes in their EPDs based on new data.

Are you planning to include other traits in the future?

Angus Genetics Inc. (AGI) will continue to explore other current and future traits for potential collaborations. Traits like feed efficiency or heifer pregnancy are good candidates for further exploration. Before moving ahead, AGI will ensure the ways these traits are captured align appropriately and measure the same outcomes, as was done with the current 13 traits.


How can a member compare sires between the three countries?

Members can access a sire benchmarking search tool through the www.angus.org website.

Much like our U.S. Sire Evaluation Summary, this search tool allows individuals to set EPD thresholds and other search criteria to directly compare sires in all three herd books. As this is a search tool for sires, no females or non-parents will be

included in the search tool at this time. In addition, as bioeconomic indexes are specific to production in the United States, dollar value indexes (\$Values) will not be included on the search facility.

Friday, Oct. 13, 2023, will be a monumental day for the Angus breed both here and across the pond. Moving forward, Angus Australia data will be added to the evaluation biweekly, while the Canadian Angus data will remain on their normal monthly schedule that has been in place for several years.

Tune into the Association's Angus University webinar Tuesday, Oct. 10, which will cover the ins and outs of this expanded World Angus Evaluation. This will be a time when members can get more information and ask questions about the changes taking place this fall. 

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