On the Same Playing Field

Last fall's World Angus Evaluation launch strengthens accuracy, puts genetics on a 'common currency.'

by Miranda Reiman, director of digital content and strategy

The Angus business is certainly not identical from country to country, but genetics are a common denominator breeders have shared back and forth for decades. From those individual relationships came natural opportunities for their associations to work together.

In 2019 the American Angus Association partnered with the Canadian Angus Association and Angus Australia to offer a combined genetic evaluation for foot scores (foot angle and claw set). This allowed breeders in all three countries to benefit from increased accuracy and predictability that having more phenotypes and genotypes allowed.

In October 2023, Angus Genetics Inc. (AGI) launched the World Angus Evaluation (WAE), that includes 11 additional traits from the National Cattle Evaluation (NCE) data run in the partnership.

"It's our three groups coming together to put Angus cattle around the world on the same base, on the same genetic evaluation," AGI President Kelli Retallick-Riley says. "Much like the EPDs (expected progeny differences) are directly comparable north and south of the border, we've been working towards individual EPDs that now can also be comparable in Canada, the U.S. and Australia."

WORLD ANGUS EVALUATION

More data, more confidence

The collaboration added 200,000 genotypes and increased the amount of phenotypic data anywhere from 9% on scrotal circumference up to 14% on calving-ease measures.

"The Australians are known for their large sire benchmarking project, in which they include American Angus bulls each year," Retallick-Riley says.

That helped push the increase in carcass data up nearly 10% and the number of growth records up 13%.

In the Association's single-step evaluation model, having phenotypes to tie genotypes back to is key.

"Some of those lines that maybe weren't as characterized with phenotypes before are now getting characterized with the use of the Angus Australia data making the entire system a lot stronger," Retallick-Riley says. "This was a way to take a really good database and amplify what we already have."

The No. 1 question any data update typically sparks with the AGI team is, "How will my cattle's numbers change?"

Correlations are high across the board — .97 or above — Retallick-Riley says, but there was some re-ranking of animals.

"When you're evaluating 12 million animals and predicting 12 million EPDs, even though it's only 3%, there are still going to be some changes that are going to take place," she notes.

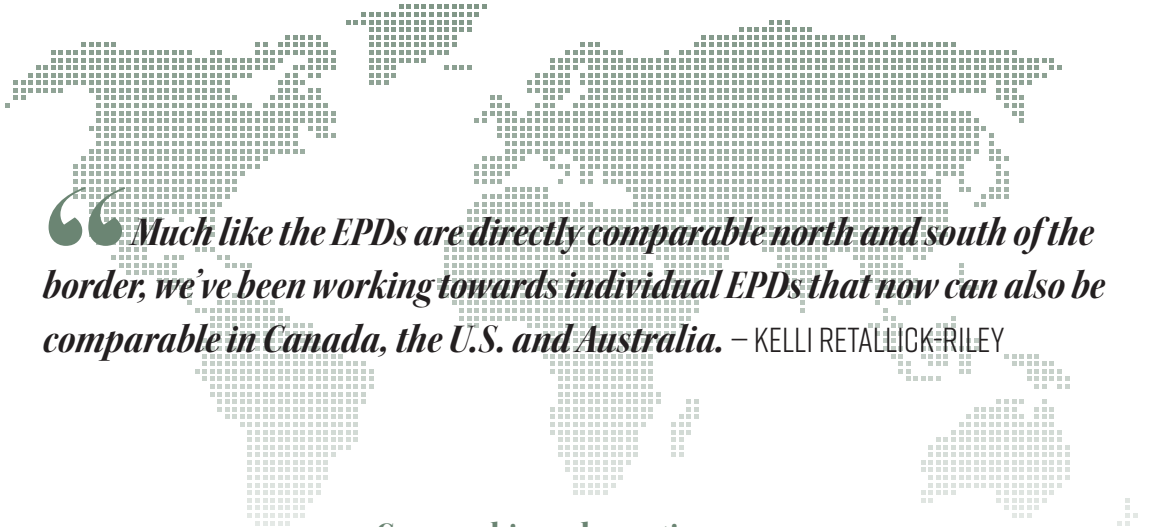
The biggest changes for both the American and Canadian animals were those tied to animals who brought in a lot of data from Australia.

"That's really been a positive," Retallick-Riley notes. "We've seen their accuracy go up, and we have a better reflection of their true genetic merit."

Common currency

Another impetus for running the global evaluation was to allow countries a "common currency" when trading genetics across borders.

"From the association standpoint, one of our obligations to my membership is enhanced market trade, and we don't want to create any hurdles in doing that," says Myles Immerkar, CEO of the Canadian Angus Association. "Data is one of those things that if we can eliminate that as a hurdle, we're going to create an opportunity."



> ***"Much like the EPDs are directly comparable north and south of the border, we've been working towards individual EPDs that now can also be comparable in Canada, the U.S. and Australia.*** – KELLI RETALLICK-RILEY

The Canadian Angus Association has been running in a combined evaluation with the American database since 2000, so this new partnership expands the reach to also give Australian cattle an "apples to apples" comparison on those 13 traits. Breeders from across the globe can find the "World Angus Evaluation" button on the AGI homepage (*www.angus.org/AGI*). That will take visitors to a search that includes sires with a weaning accuracy of at least .45 with five or more weaning progeny and who have had two or more calves included in the herd book in the last two years.

Christian Duff, the general manager of genetic improvement for Angus Australia, says of the top 20 sires by number of registered progeny in the Australian database, 10 are North American bulls.

"Out of the other 10 Australian-bred sires, six of those were by North American sires, so it's probably just an indicator of how important the genetics are coming from North America to the entire Australian cattle population," he says.

Prior to this move, historically using traditional EPDs and more recently genomics helped Angus breeders understand how an American or Canadian bull would fare in the Australian Angus population, but now they have a more accurate picture than ever before.

Geographic and genetic diversity

Some might argue variations in geography and environments make it hard to compile all the data, but that's not unlike the diversity within a country's borders, Immerkar says.

"We have 5,000 kilometers from our west coast to our east coast, and we have probably just as many challenges that you'll have between us and Australia in terms of just our east to west," he notes. "We just don't have one type of cattle in Canada that works here. We have a very diverse country on that side of it, no differently than Canada to Australia."

Duff echoes that sentiment, saying cattle are raised in a diverse set of environments across Australia and New Zealand.

"So even though we're stretching across hemispheres here, it's not totally different to what we're doing already in our own region," he said.

That's an example of why genetic diversity is so important, allowing breeders to pick what works best on their operation, Retallick-Riley says. Supporting trade makes it easier for U.S. breeders to tap into unique sire lines.

Even though there are some differences in data submission or timing among the three associations, the geneticists accounted for those in the adjustments and research work that first began five years ago. That includes converting metric units to English and making data recorded at different ages fit together seamlessly.

"We won't be telling our members to change their data recording protocols," Duff says. "We've adjusted how we supply the data and the models used to account for that. So that won't have any impact on our members on the way they record."

More to come

The feedback has been positive, Retallick-Riley says, and they're already considering ways to expand and improve the WAE. Ideas range from publishing results on younger animals to adding additional traits down the road.

"We invested a lot of time on the front end of this project, to make sure the logistics and the data were working together correctly. So, to be four months in and seeing it accomplish what we set out to do, that's exciting," Retallick-Riley says. "We want Angus breeders to have the most accurate, best tools available to make decisions on; and the World Angus Evaluation fits that bill." AJ

SCAN TO WATCH
last fall's World Angus Evaluation webinar to hear directly from the AGI team.

SCAN TO LISTEN
and hear from all three associations on *The Angus Conversation*, "World Angus Evaluation Combines Growth, Carcass, Foot Measures — What That Means to Breeders"