

NCE Annoyances

USMARC researcher explains what annoys him with national cattle evaluation.

by **Kasey Brown**, associate editor

National Cattle Evaluation (NCE) has brought about many advancements in genetic evaluation, but it still has some shortcomings, Mark Thallman, research geneticist with the U.S. Meat Animal Research Center (USMARC), told the Advancements in Genetic Prediction Committee at the 2014 Beef Improvement Federation Annual Meeting and Research Symposium in Lincoln, Neb., in June.

Some of those shortcomings were brought to his attention as he helped his father-in-law buy a bull. The sale book offered only identical midparent expected progeny differences (EPDs) — the average of the trait value of the sire and the dam.

“How can we expect people to look only at the EPDs and ignore actual birth weights if the best EPD we can provide is a pedigree average?” he asked.

Without questioning the status quo, improvement is far less likely to occur, Thallman said. So, in the spirit of constructive criticism, he presented 10 questions to address what he sees as the current shortcomings of NCE.

1. Why do the largest cow-calf producers calculate within-herd EPDs? Thallman speculated this happens because these herds believe their needs are not met by the purebred industry.

2. Why don't we have fertility EPDs beyond stayability? Stayability was a great first attempt, he said. It worked to transition the seedstock industry to whole-herd reporting. However, it is not the end goal. Culling open cows is not the answer, either, he added.

3. Why is there no attempt to account for genotype and environment interaction?

4. Why is there no attempt to evaluate components of longevity? He suggested collecting disposal codes and conducting survival analysis. Visual scores could be given for structural soundness, udder soundness and sheath scores.



EPD Wish List

Producer and association staff panels discuss wish list of EPDs and performance data.

The beef industry is continuously changing, and selection tools are changing with it. A panel of seedstock and commercial cattlemen consisting of Berry Bortz, CB Farms, Preston, Kan.; Troy Marshall, Marshall Cattle Co., Burlington, Colo.; Frank Wedel, Wedel Red Angus, Leoti, Kan.; Butch Schuler, Schuler Red Angus, Bridgeport, Neb.; and Mike Wells, Wells Farm, Selma, Ala.; described their wish list for expected progeny differences (EPDs) and selection tools at the joint Advancements in Selection Decisions and Advancements in Producer Applications committees at the 2014 Beef Improvement Federation (BIF) symposium in Lincoln, Neb., June 18-21.

Another panel of association breed improvement representatives consisting of Larry Keenan, director of breed improvement for the Red Angus Association of America; Joe Epperly, director of commercial marketing for the North American Limousin Foundation; Tommy Perkins, executive vice president of the International Brangus Breeders Association; Lauren Hyde, American Simmental Association genetic evaluation programming specialist; and Robert Williams, director of breed improvement and foreign marketing of the American International Charolais Association, responded to the requests and added their own requests in performance data.

An overarching theme from the producer panel was simplicity and system integration. Bortz suggested that more whole-system thinking be prevalent. He suggested trait evaluation be based on carcass value, not just weaning weights. He added that when the market can reward people beyond weaning weights, he thinks less single-trait selection would occur.

With the average age of cattlemen, the panel suggested more emphasis on docility, tenderness and disease resistance. Marshall recommended simple traits like fleshing ability, feet and legs, and milking ability be a focus.

Marshall noted that his buyers may not use all of the traits listed for selection, but not posting them hurts transparency. He said selection indexes are great, but they need the economics to be as sophisticated as the genetics.

The association panel emphasized that presentation of data may need to be improved. There is a lot of variation in breeders and knowledge bases. They rely on publications and extension educators.

Keenan emphasized that performance data is needed from breeders. He said that associations need to get beyond collecting marketable traits and collect those that really affect profitability. He added that phenotype data, like soundness and udder conformation, should go into indexes to avoid just “throwing more numbers at breeders.”

Audio files of these two panel discussions are available for download at www.bifconference.com/bif2014/newsroom.html.

— by **Kasey Brown**, associate editor

5. Why do we avoid subjective information? There are EPDs for subjective traits like docility. There are standards for udder scoring, but no EPDs. Neither are there EPDs for structural soundness or sheath score.

6. Why don't we reward breeders for submitting high-quality information? Thallman suggested that breeders who submit high-quality information could have higher accuracies. Those who do not submit data or who submit biased information could have lower accuracies and their animals' EPDs could correspondingly be shrunken more toward the mid-parent mean. This could be done statistically as part of the evaluation, he added.

7. Why don't we take advantage of orders of magnitude of improvements in computing power? He postured that any NCE could be

calculated on a smartphone if the software were developed. “We could run far more sophisticated models on high-end computing hardware, and I believe we could improve accuracy and utility,” Thallman added.

8. Why do we assume that NCE has to run in software written specifically for this task? The NCE no longer qualifies as “big data,” he asserted. He thinks there is software that is capable of applying far more sophisticated models to the volume of data in the NCE.

9. Why are we so reluctant to improve the NCE? “Reranking bulls does not imply progress, but it is an inevitable consequence of progress,” he said.

10. Why is there little progress on decision support? He suggested better tailoring selection to the needs of customers.