



The American Angus Association makes changes to improve reliability of EPD accuracy values.

by Courtney Wimmer

According to Webster's dictionary, to fine-tune is "to adjust precisely so as to bring to the highest level of performance or effectiveness." The American Angus Association is constantly working to provide cattle producers with tools to fine-tune their operations. Angus Herd Improvement Records (AHIR), Angus Information Management Software (AIMS) and the Angus Beef Record Service (BRS) are a few examples of that effort. The Association is now taking steps to fine-tune expected progeny difference (EPD) accuracy values and how those numbers are calculated.

EPDs are coupled with an accuracy value that provides a gauge as to the level of confidence producers can place in the figures and the sire. The closer the accuracy value is to 1.0, the higher the reliability of the EPD. Through the fine-tuning process, producers can be more confident that when they choose a high-accuracy sire, there is solid proof to back up the values.

Beginning with birth weight

"Accuracy values are a very important tool for us because we use those when we are managing risk or a possible change associated with those EPDs," says Sally Dolezal, Dolezal Enterprises, Derby, Kan. With each sire evaluation that is conducted, there are a number of high-accuracy sires whose EPDs change dramatically.

Dolezal, a genetic advisor to the Association, performed a study comparing the fall 2001 and spring 2002 sire evaluations to identify "changer" bulls. A changer bull is defined as one whose change in birth weight

EPD between two evaluations is greater than 0.9 pounds (lb.).

"We worked first with birth weight because that's one trait producers are very conscious of watching," Dolezal says.

Bill Bowman, director of performance programs for the American Angus Association, says the study was conducted "because breeders making their decisions for breeding the next generation rely on those EPDs and their accuracy levels to put confidence in those decisions."

For the study, Dolezal compared the birth weight EPDs of all registered Angus sires. Of the 97,669 bulls evaluated, less than 3% (2,449) deviated more than 0.9 lb. from the earlier evaluation.

"They're a small piece of the sire population in the breed," Dolezal says. "But it is still interesting to look at them and see why their EPDs varied to a certain extent from one evaluation to the next."

Dolezal examined each sire's evaluation to learn more information about his progeny, such as how many progeny he had, the number of herds the progeny were in, and how the progeny were distributed across those herds. She also looked at weaning weight numbers to locate any deviations from one summary to the next.

"What we found out in the higher-accuracy sires was, even though a small percentage of them are changers, the changers tend to have most of their progeny in the three largest contributing herds," Dolezal says. "A pretty big percentage of them had most of their progeny in just one or two herds."

Setting parameters

Dolezal then started looking at the percentages of progeny each sire had in his three largest contributing herds. In the spring 2002 sire evaluation, Dolezal noted that 80% of the changer sires had all their progeny in a single herd.

If there were a way to ensure that progeny records were being distributed across numerous herds before a bull would be given a high accuracy value, that would add even more to what we know about the EPDs on those high-accuracy bulls, Dolezal says.

There were 181 changer bulls with an accuracy of at least 0.9 for birth weight EPD in the spring 2002 sire evaluation. Dolezal looked at various progeny distributions to see if there was a logical cutoff point at which to limit the percentage of progeny represented in the three largest contributing herds before assigning a bull a high accuracy value. By setting the cutoff percentage at 50%, all but six changers were identified and precluded from the high accuracy value.

"So from a practical standpoint, we looked at saying the three largest contributing herds for each sire would have to have a combined total of no more than 50% of their progeny before we'd let their accuracy values exceed a certain limit."

At the June meeting of the American Angus Association Board of Directors, the Breed Improvement Committee accepted a proposal to hold birth and weaning weight EPD accuracy values on sires at 0.85 until less than 50% of their progeny data is collected from the three largest contributing herds.

"Knowing an animal is above 0.85 then has that extra added bonus of having been used more extensively across herds, and that takes some of the guesswork out of the small percentage of bulls that are changers," Dolezal says.

Building confidence

Bowman says the decision to limit birth weight EPD accuracy values will be a benefit to both purebred and commercial operations. "It will give purebred producers greater confidence in that bull's proof across the industry and across a wide variety of herds and herd sizes," Bowman says. "In terms of the commercial producer, he's going to be buying seedstock for his program out of those kinds of bulls, and that information is going to build confidence levels there as well."

Bowman says it is important to reassure producers that the bulls they select to use in their breeding programs will not deviate greatly from the original EPD figures. He explains that if a producer buys a son of a high-accuracy bull with a 1-lb. birth weight

EPD and then that sire's birth weight increases 3 or 4 lb., suddenly the yearling bull moves into an unacceptable range to use in a calving-ease situation.

"That again is where some of the concerns arise when you see some of the animals that do change like that and the impact it can have not only on the commercial producer, but ultimately on the breeder who's selling those cattle or who has sold them already," Bowman says.

Despite the small percentage of bulls that are considered changers, Dolezal says the study is important because producers make many breeding decisions based on EPDs and

accuracy values. "Even though it might be a small percentage of the bulls in the breed, if you were using that bull it would be very important to you," she says.

The Association will enact the Board's decision with the Spring 2003 National Cattle Evaluation. The percentage of sires that will have EPD accuracy value changes from this decision is projected to be 11% for birth weight and 6% for weaning weight. Dolezal says there may be numerous young sires that have accumulated quite a few records in one or two herds. They could potentially be held to the 0.85 accuracy level.

The fine-tuning process will provide producers with a higher level of confidence when selecting herd sires. "You're talking about an extremely popular breed in terms of reducing difficult births in first-calf heifers, and those are numbers people watch," Dolezal says. "Producers are always trying to do things in an even better, more refined fashion. Any time we can break it down and be able to examine those it is a benefit to everybody, particularly when there is such a large number of sires in the breed."

