

Heifer Pregnancy Future

Here's a look at the new heifer pregnancy EPD.

by *Mathew Elliott*

The American Angus Association continually searches for ways to help producers make genetic improvements that will enhance production efficiency and customer satisfaction. One way the Association helps producers is by providing expected progeny differences (EPDs) as a selection tool for genetic improvement. As the term implies, EPDs predict differences in the performance of one animal's progeny compared to the progeny of another.

EPDs can help predict differences in progeny birth, weaning and yearling weights; milk production; and even ribeye area — all of which are very important. Still, until a female conceives and has a calf, those EPDs mean nothing.

To help producers increase pregnancy efficiency, the Association has been researching a heifer pregnancy (HP) EPD.

The start of a new EPD

The HP EPD started with the Association's Board of Directors approving research into heifer breeding records, specifically heifer pregnancy. Richard Tokach, Breed Improvement Committee chairman, says the Board had been discussing reproductive traits for several years, but their low heritability made them more difficult to measure than performance and carcass traits.

"We'd come up with the \$F (feedlot value) and \$B (beef value), but we knew that we eventually wanted to get into reproductive traits," the North Dakota cattleman says.

After some initial work at the university level, the Association started collecting breeding performance records in 2004. Today, around 40,000 records have been submitted, and a portion of those are specifically being looked at to establish HP EPDs.

"Since 2004 we've been pulling heifer breeding records and generating research EPDs," says Sally Northcutt, American Angus Association director of genetic research. For the evaluation, a heifer's breeding record is coded as a success or a failure based on results taken during any pregnancy-check or on calving information recorded and submitted by the producers (see the

April 2007 *Angus Journal* "By the Numbers" column, page 124).

The HP EPD is a tool to predict the chance of a sire's daughters becoming pregnant, Northcutt explains. Percentage units will be used to report the EPD. To use the EPD as a decision-making tool, producers should consider the difference in percentage between bulls, with a higher percentage being more favorable.

"During the September Breed Improvement Committee meeting, Jarold Callahan suggested that a special Reproductive Efficiency Committee be formed to make recommendations on how to proceed in collecting and analyzing reproductive traits in Angus females," Tokach explains. "The committee discussed heifer pregnancy evaluation, stayability, udder scoring, and feet and leg structure, among other traits."

At the November 2006 Association Board Meeting in Louisville, Ky., the Reproductive Efficiency Committee recommended to the full Board that work proceed to collect and analyze data for a potential heifer pregnancy EPD, Tokach adds. In February 2007, the Board approved the release of HP EPDs on sires with a minimum accuracy value of 0.30 as a special research report.

The Board opted to give the membership until June 15 to submit records to be a part of the initial evaluation, which will be released to coincide with the July 2007 National Cattle Evaluation (NCE). While the HP EPD will not be included in the published *Sire Evaluation Report*, it will be

available online as a web-based listing at www.angus.org.

Importance of new data

"I hope providing data to breeders will spark more interest, then catch on like wildfire," Northcutt says, encouraging producers to continue to send in their breeding records. "As data grows, we can provide more feedback. Breeders can then use this information to place emphasis on sire selection for replacement females."

Association Performance Programs Director Bill Bowman says the new reproductive and fertility traits being studied will provide producers the opportunity to increase profitability.

"Heifer pregnancy is the first step in other research with reproductive traits," Bowman says. "It's an area important to all producers who keep replacement heifers."

"There are lots of other factors that we are starting to look at," Bowman says, "so more data is very important to us."

Bowman adds that the data received so far is reflective of the total (Angus) membership. There are some large and small operations turning in information.

"Hopefully," he says, "the research report will help spur interest in the trait and provide producers more incentive to turn in information."

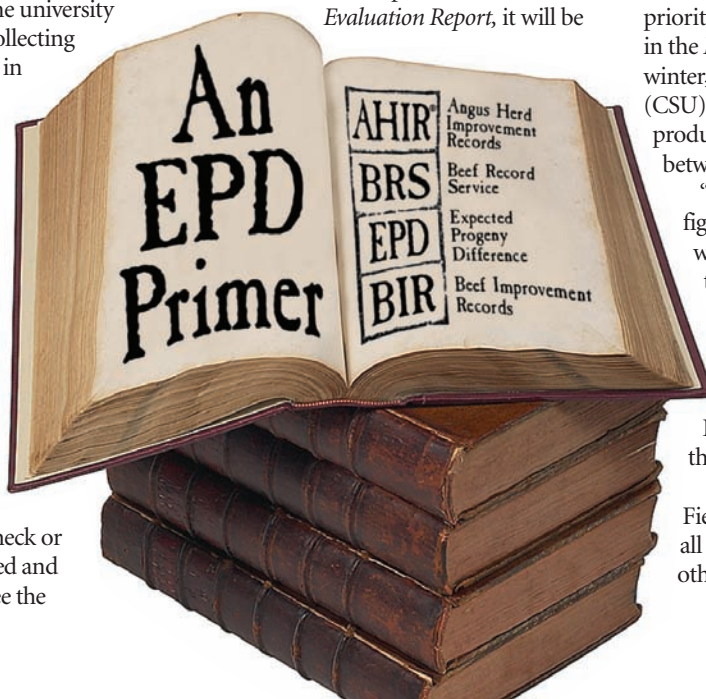
Herd nutrition and health, both cornerstones of reproductive performance, were among the top three management priorities for producers and industry leaders in the *Priorities First* report released this winter, notes Colorado State University (CSU) professor Tom Field. Field says producers and suppliers see the connection between nutrition and pregnancy.

"No reproductive rate equals no fighting chance," Field says. "Working with reproductive traits is a key piece of the puzzle for producers. With an open cow, you have no income, which then makes that cow a liability to your operation."

Field says the concept of an HP EPD provides producers with a tool that has strong reproductive merit.

"It is such a key piece of the puzzle," Field says. "Without reproductive success, all amounts of carcass growth or any other trait are all for naught."

CONTINUED ON PAGE 76



Heifer Pregnancy Future

CONTINUED FROM PAGE 75

On the ranch

Tom Perrier of Dalebanks Angus says the new HP EPDs will become very important. Several years ago, Dalebanks Angus started to send its heifer breeding records to the Association.

"We have always been interested in improving the methods we use to select cattle," Perrier says. "We have been involved with Angus Herd Improvement Records (AHIR®) since the 1960s and very much encouraged the development of EPDs. In fact, our AHIR data was used to help generate the original data."

Dalebanks Angus is in the Flint Hills of eastern Kansas and has approximately 400 registered Angus cows. Perrier artificially inseminates (AIs) most of the cows, and their total breeding season is around 50-60 days for heifers and 70-75 for cows. He looks forward to using the HP EPDs to make better breeding decisions.

"By turning in data, I hope we can help validate and increase the accuracy of the heifer pregnancy EPD. This — as with other existing Angus EPDs — should help us improve our traits as a breed and maintain our position in the commercial beef industry," Perrier says.

Thomas Angus Ranch, Baker City, Ore., is also very involved with the HP EPDs. Rob and his wife, Lori, believe that the research and results from the HP EPDs will help both their operation and their customers.

"We sell basically to commercial herds that have around 500 to 800 cows," Thomas says.

"These are full-time cowboys. Most don't have time for other jobs, so they have to rely on the data that we can provide them. We are in a results-driven business, and that means we have to provide the traits customers want."

Lori does most of the work with the data. Rob says that Angus Information Management Software (AIMS) has helped them collect and organize the data, which he says is of significant economic importance.

"As Angus producers, we represent the 'Business Breed,'" says Thomas, who currently sits on the Association Board. "If there is a need for a trait to be backed up by economics, Angus breeders will step up to the plate and take care of it. Like many of the traits, the value in the numbers is worth the time to add more value to Angus cattle."

Thomas says that there is a lot to gain from the improvements. He sees a possible genetic shift that would improve the breed and increase the desire for and marketability of Angus cattle.

"We have documented results that we can measure traits and do it more consistently and accurately with this knowledge than any other breed," he says. "If we increase the conception rate, we make Angus cows more profitable, and that makes Angus bulls more profitable."

With each successful development, there are opportunities for new developments. Thomas would like to see EPDs that deal with cow stayability. He says that reproduction in mature cattle might be just as important as the EPDs that are being

All breeding records important


Heifer pregnancy records are not the only important fertility information being turned in to the American Angus Association. Sally Northcutt, American Angus Association director of genetic research, says it is important breeders describe all events in a cow's life. Breeding dates, pregnancy-checking/days pregnant information, records on opens, and disposal codes and dates are all very important.

"To build a substantial database," Northcutt says, "we encourage more people to submit their breeding records. In February of 2005 we had approximately 12,000 records; in February of 2007 we had more than 40,000 records. Throughout this time, we've reviewed models, research and field data to continue to fine-tune our lifetime productivity database."

measured in heifers. One thing will lead to another, Thomas says, and more traits will be defined and put into the database.

"The database is the most valuable tool that we have," Thomas says. "How we use it is our strength."

"The database gives producers a handle on genetic merit," CSU's Field says. "With basic science and the genes for fertility, we will be able to find those and make a huge leap in genetic improvements."

Perrier adds, "Even though a 'new' EPD might not show enough difference to make a large improvement initially, once large amounts of valid, meaningful data are submitted, it is phenomenal the genetic progress that we can make. We saw it with the initial weaning weights, then ultrasound EPDs a few years ago, and I hope that we'll be able to see the same scenario with fertility EPDs. It's extremely important for many breeders to submit meaningful data, since EPDs cannot be generated without it." 

Editor's Note: For more information on HP EPDs, refer to the American Angus Association's web site, www.angus.org; and to the November 2006, April 2007 and May 2007 "By the Numbers" columns in the Angus Journal.

How to submit your records

Producers have three options for submitting breeding records, pregnancy-check results and calving data:

- ▶ Submit electronically via AAA Login (www.angusonline.org).
- ▶ Submit electronically via Angus Information Management Software (AIMS).
- ▶ Request a printed form from the Association.

Tip: Be sure to submit information on all breedings — successful and unsuccessful, notes Bill Bowman, director of performance programs for the American Angus Association. Tracking information on open females is very important.