

# **DNA technology center stage**

At the most recent Beef Improvement Federation (BIF) meeting in Sacramento, Calif., discussion of DNA technology and its effect on the beef cattle business was center stage.

# **Opportunity for enhanced EPDs**

DNA is having a profound effect on genetic evaluations in the dairy cattle industry by increasing the accuracy of its genetic predictions. Genetic evaluations using marker-assisted expected progeny differences (EPDs) are generating accuracies equal to sires with small progeny proofs. This increased accuracy will speed the rate of genetic change by increasing generation turnover and improving the efficiency of selection for traits of economic importance to the dairy industry.

There were papers presented on the current state of DNA technology in the beef cattle industry and the opportunities that it can provide. Numerous presentations provided insight into how DNA data from a chip that gathers 50,000 DNA markers will be used in the future in the beef cattle business to improve and enhance genetic predictions. These presentations underscored the importance of the Angus breed to the beef cattle business. A majority of the DNA research presented was based on populations of Angus cattle.

I came away from the meeting believing that, as a breed, we have a unique opportunity to utilize DNA technology to improve our ability to make selection decisions on existing EPD traits, but also to make selection decisions on hard-to-measure traits. The limiting factor is the availability of phenotypes on the traits of interest to associate with the genotypic data.

## **Managing defects**

There were also DNA presentations on the use of DNA in the management of recessive genetic defects. Obviously, this is an issue that our membership is well aware of and with which it is gaining experience. But, it is important to note that we are not the only breed to deal with recessive defects in recent times. A large number of major beef breeds have and are bridging similar issues just as we are with the identification of arthrogryposis multiplex (AM) and neuropathic hydrocephalus (NH).

At the time of this column, the American Angus Association has received test results on more than 65,000 animals for AM. Clearly, our members have utilized the technology to provide answers on AM status and to help them manage their breeding programs to manage this gene.

## Here to stay

DNA technology is changing our daily lives in a multitude of ways. This same technology is helping us answer what would have been unanswerable questions not that many years ago. This technology is not without challenges, but it is also technology that is not going to go away.

The current research presented at BIF shows that the beef cattle business and the Angus breed will continue to be affected by a continually improving DNA technology that will provide greater opportunities to those who adopt its use. You can listen to the sessions yourself by visiting the Newsroom at *www.bifconference.com*, our meeting coverage site of the event.

E-MAIL: bschumann@angus.org

# **AMERICAN ANGUS ASSOCIATION**

3201 Frederick Ave., Saint Joseph, MO 64506-2997 Office hours: (M-F) 8 a.m. to 4:30 p.m. (Central) phone: 816-383-5100; fax: 816-233-9703 e-mail: angus@angus.org = home page: www.angus.org

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