

Association Adopts New Procedure for Parent Verification

BY SHELIA STANNARD

Technological advances have changed and improved many of the methods cattle producers have used over the years. Members of the American Angus Association soon will experience another technological improvement. Beginning Jan. 1, 2001, DNA-marker-typing will replace blood-typing as a means of animal identification.

Even though the procedure for collecting samples to verify parentage and identification will change, says Don Painter, director of member services, breeders will receive the same level of service they've come to expect.

During the past 40 years, Angus breeders have submitted more than 80,000 blood samples for testing to the Animal Genetics Laboratory at Ohio State University (OSU). OSU will continue to verify animal identification for the Association using the new genetic markers.

The conversion to DNA-marker-typing follows the identification of 10 internationally uniform and accepted DNA markers. Chuck Hines, director of molecular services at OSU, says the markers are recognized and used internationally and potentially will simplify parent verification by providing more genetic information than possible through blood-typing.

The procedure

DNA markers are found in every type of cell, including hair and tissue, and therefore



PHOTO BY JAMES SHUEY

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offer more options for sample submission than blood-typing. However, the primary samples for parent verification through the Association will be blood and semen, both of which can be submitted via mail in a standard envelope.

"It should be a lot easier to collect the samples and ship them," Hines says. "We aren't going to be restricted to the tubes of blood that had to be shipped in insulation with coolant to ensure [they] arrived in the lab not too hot or too cold."

The new procedure to collect samples will include a small filter-paper card that has places to record such information as the animal's name, registration number, birth date, sex, sire and dam. A small area on the card will be marked to indicate where the blood sample, consisting of a few drops, will be collected. Once the sample is dry, producers will put the card in

a plastic sleeve and mail it to OSU for analysis.

Semen samples also can be submitted in a similar manner since the semen will be evaluated only for its DNA markers and won't require freezing.

The collection procedure will require only a drop or two of blood, so using a separate small, disposable syringe on each animal and taking blood from the ear likely will be the most used method. A breeder can ask a veterinarian to do the work, but it will not be necessary, Hines says.

Producers will need to pay strict attention to the integrity of the samples. Blood or tissue from other animals will contaminate the sample.

"This is simply a change in how we help our members solve parentage problems," says Richard Spader, Association executive vice president. "This is business as usual."

Getting started

Breeders can request the filter-paper cards from the Association, a regional manager or the OSU laboratory in Columbus. The cost is predicted to be \$40/sample.

At the outset, Hines says, turnaround time could be up to three weeks. Once the system is refined, the results should be available within 10 days to two weeks, much like the current blood-testing results.

It will not be necessary to retype animals that are now on record as having been blood-typed unless a DNA workup is desired. All animals that have been blood-typed since Oct. 1, 1995, are eligible for DNA-marker-typing because blood samples from these animals were saved as a source for DNA. Breeders requesting DNA workups on previously blood-typed animals must pay the fee.

Breeders should continue sending their samples to the Animal Genetics Laboratory, Department of Animal Sciences, Ohio State University, 2027 Coffey Rd., Columbus, OH 43210.

For more information about DNA-marker-typing for parent verification or to obtain the filter-paper cards, contact the Association at (816) 383-5100. Refer also to the "Breeders' Reference" on page 78.

