

How to DNA-type

Juniors learn about DNA-typing and sampling at Zoetis educational event.

by **Raney Lovorn**, editorial intern

Known for cutting-edge technology and a devotion to data collection and interpretation, the Angus breed is continually looking for new ways to improve and expand. At the 2015 National Junior Angus Show (NJAS) in Tulsa, Okla., an educational event presented by Zoetis helped the future of the Business Breed understand the importance of genotyping animals and how to sample their cattle themselves.

Zoetis summer interns Erika Edwards, Shane Schaake, Allison Christian, Audrey Daniel and Esther McCabe helped junior members understand the basics of DNA-typing animals and answered questions in small groups following the event. Juniors were most concerned with how they could learn to sample their own animals, and Zoetis provided some insight with their top tips for collecting and submitting samples.

Here's a summary of some of the tips we gleaned from the educational session.



Use restraints

Taking samples is easier if cattle are in head restraints, making the process safer for both the owner and the animal. Using restraints helps keep the animal calm and minimizes the time it takes to sample individuals. Sampling animals while they are already in a headgate during events like weaning, vaccinating or clipping helps manage time and exposes the animals to the least amount of stress.

Stand back

Taking blood and hair samples is similar for cattle and people in the sense that while it may not be painful, it is a little intimidating. Cattle will react nervously to new experiences, especially those that require needles and pulling hair. Maintain a calm demeanor when sampling, and always be aware of your proximity in relation to the animal. Kicking is a reactionary response, especially when pulling hair, so stand back and give the animal some room to move.



Go for the ear

Blood samples can be taken from the ear or the neck in cattle, with the ear being the easiest option, the Zoetis representatives said. Veins are slightly easier to locate in the ear. For a blood sample, one small nick with a needle will produce enough blood. A new needle must be used for each animal. Taking blood samples from the ear will be quicker and easier, especially for junior members doing the work themselves.

Pulling blood from the tail head is also appropriate and sometimes preferred, noted Tonya Amen, genetic service director for Angus Genetics Inc. (AGI). She reminds producers to be sure to clean any earwax or manure from the sampling area before drawing blood.



Fill the whole area

Make sure when dropping blood onto the card it spreads to fill the entire square or

an Animal



circle given. A sample that does not fill the entire area does not have enough blood to test, so it is imperative that you get enough blood on the card. The blood will naturally spread when it hits the paper; the longer the card is held to the animal's ear, the more the blood will soak into the paper. Typically four to five drops of blood is enough to fill the entire area.

Let it dry

Folding the card into a triangle shape will allow the blood to dry without being contaminated or smeared. Making sure the card is fully dry before it is packaged will help ensure the integrity of your sample. Letting samples dry at room temperature in a low-humidity environment is optimal.



Tail tales

The recommended way to take hair samples is to pull them from the switch of the tail. When taking the samples, it is critical that the switch is clean and dry, with no manure or other contaminants on it. Zoetis recommends pulling a minimum of 20 hairs for the optimal sample size, and all of the hairs must have follicles attached to the end. The DNA sample comes from the hair follicle

rather than the hair itself, so pulling the hair out and protecting the root is important for a quality sample.



Careful packaging

Handle the cards with care to avoid damaging the samples. If put in a plastic bag, do not seal it. Be conscious of how packaging will fare in the mail and how the sample is contained in the package.

Complimentary tools

Zoetis offers free tissue guns for sampling at your convenience. The vials to send in tissue samples can be purchased from Zoetis on their website or from the American Angus Association through AAA Login (www.angusonline.org).



Amen clarified that the Association accepts tissue samples only for GeneMax® testing, not for profiling registered cattle.

Multiple tests for less

Individual samples can be tested more than once for a variety of different genetic traits. Having multiple tests run on a single sample, as opposed to having individual tests run on multiple samples, could come with a discount attached.

Two for you

After samples are sent to Zoetis, the American Angus Association takes ownership of those samples to store them in an optimal environment in the safety of its vault. This allows the Association to send samples back to Zoetis at the producer's request for more testing, without the hassle of taking new samples. If a producer would like to keep a sample for personal use or storage, they should take two samples.



► Zoetis summer interns Erika Edwards, Shane Schaake, Allison Christian, Audrey Daniel and Esther McCabe helped junior members understand the basics of DNA-typing animals and answered questions in small groups following an educational event presented by Zoetis at the 2015 National Junior Angus Show in Tulsa, Okla.

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