Getting Good Data

A roundup of phenotype collection tips and resources.

by Miranda Reiman, senior associate editor

When the future of a herd depends on the data — and breeders base decisions on it — no data is better than inaccurate data.

That's why Esther Tarpoff, director of performance programs for the American Angus Association, encourages consistency in phenotype collection and the recordkeeping it relies on.

She also suggests breeders start by taking measures that fit naturally into the current workflow and operations.

"Take what you can," she says. "If you can't do it all confidently or don't have the facilities, then only take what you're able to do well."

From there, a breeder can collect phenotypes for the 22 expected progeny differences (EPDs) currently available as well as additional traits for research stored in the Angus Herd Improvement Records (AHIR®) program, she says, including everything from the traditional birth and weaning weights to the newer hair shed and foot scoring measures.

"Once there is a routine, then it's easier to add another thing on. It becomes additive," Tarpoff says.

Having standards for how data are collected allows data to be used from coast to coast, and that keeps the genetic tools working as intended.

"We're able to continue to improve your selection tools by having these phenotypes to be able to inform the evaluation for both you and your customers," she says.

"Having those records to go back on and look historically at trends in your herd, where has selection pressure been placed? Do you see the selection working overtime? It helps you make decisions as you move forward, looking toward what do you need to do differently, and what went well."

When considering data collection, what to take and when, Tarpoff breaks it into three main categories based on the life cycle of a calf: birth, weaning and yearling.

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TO COLLECT AT BIRTH

"The traits we'd collect around that birth event should all be done within 24 hours, so you can collect them at the same time," Tarpoff advises.

They include:

☑ **Birth weight.** Taken with a scale, not an estimation or a tape, she notes. Measured in pounds, it is an objective measure.

☑ **Calving score.** "Did you have to assist that animal or not?" she asks. Although only the heifer data is used in the genetic evaluation, it's helpful to track that data for your own herd management, Tarpoff explains. It's scored on a 1-to-5 scale, making it a "categorical" type of data.

☑ **Teat and Udder Score.** The measure is taken on the combined worst quarter for both traits, and both are subjective measures scored on a scale of 1 to 9. The teat score takes into consideration both length and diameter. The udder is evaluated on suspension form very pendulous to very tight.

Producers need to score this within the first 24 hours of birth, when the udder is full.

"Teats that are difficult for a newborn calf to nurse can interfere with colostrum consumption, and we know that has lasting effects on the calf down the road," Tarpoff says.

WEANING TIME MEASUREMENTS

☑ **Weaning Weight.** Producers can individually weigh calves anywhere from 120 days to 280 days of age, and they'll all be adjusted to 205 days.

"It gives you flexibility to be able to collect an entire group at once even though they may not be the exact same age," she states.

If submitting ultrasound data, producers must have weaning weights recorded and submitted for that to process in the evaluation, she says.

☑ **Mature Cow Weights.** Cows must be weighed across a scale within 45 days either before or after weaning.

"A lot of members will take that at the same time they're doing preg-check around weaning," Tarpoff suggests.

☑ **Body Condition Score.** Measured on a scale of 1 to 9, with one being emaciated and nine being obese, scores are required for the cow weight data to be included in the National Cattle Evaluation (NCE).

☑ **Cow hip heights.** These are optional but recommended and measured in inches, while cows are coming across the scale.

"Make sure they're standing up straight to get a good measure," she says.

YEARLING RECORDS

☑ **Yearling Weight and Yearling Hip Height.** Ranging from 320 to 440 days of age, yearling weights can be recorded during a three-day window.

"You can weigh over the course of three days if you have a big contemporary group," Tarpoff says. Hip heights are optional and add to the accuracy.

☑ **Scrotal circumference.** Sometimes this measure is paired with a breeding soundness exam, but it needs to be taken between 320 and 440 days of age. A measuring tape is placed around the largest point of the scrotum and recorded in centimeters.

☑ **Foot Score.** The earliest a foot score can be taken is at 320 days of age.

"That's really the earliest you may start to see variation," she explains.

☑ **Docility.** It's recorded on a scale of 1 to 6, ranging from mild to very aggressive, and is taken while animals are being worked through the chute.

☑ **Hair Shedding.** These notes should be taken as spring turns to summer in April, May or June, and can be collected each year, starting from yearling age.

☑ **Ultrasound data.** Animals must be 320 days, but not more than 440 for bulls or 460 days for heifers at the time of scanning.

☑ **Pulmonary Arterial Pressure.** This regional measure requires a breeder to be at moderate elevation (4,000 to 5,499 feet) or higher to record, and is tested and reported by a trained veterinarian.

☑ **Carcass data.** Animals must be at least 360 days but not more than 660 days at harvest, and the individual data must contain the standard carcass data measurements such as marbling score, ribeye area, hot carcass weight and backfat.

☑ **Feed Intake.** Test can start as early as 160 days, but must be complete by 480 days of age.

"It's also important that they have a warmup period and a minimum of 35 good days on test," she says.

Of course, collecting data on mature cows is as important as calves, yearlings and bulls, Tarpoff notes. Teat and udder, foot and hair shed scores can all be taken and submitted annually.

"The data collection doesn't stop at the yearling age; it should continue throughout her lifetime. That's how we can best improve the traits that change with age," she notes.

"Performance, or those phenotypes we're collecting, are the results of our genetics and our environment," Tarpoff says.

One of the basic foundations of all good data collection is correctly identifying contemporary groups. That's the set of animals with "equal opportunity to perform," or the same sex, management and environment, she notes.

The Association's AHIR Data Collection Guide (available at *www.Angus.org*) compiles all the traits into a one-page sheet, and the Angus University portion of the website contains many visual resources.

"The hardest part may be just dedicating the time and prioritizing it," Tarpoff says.

Applying attention to detail takes a commitment. When taking subjective measures, it's important to have the same person scoring the whole group.

"You and I may call them a little different, but as long as I score my group and I'm consistent with how I'm scoring that group, we can account for that in the contemporary group," Tarpoff says. "We're able to account for scoring bias within that group, so it's really important to have the same person making those decisions."

The scoring guides are easy to print and carry along, and using them in the field can encourage objectivity, even when taking categorical data.

"Score them as they are. Don't score them for what you want them to be," Tarpoff notes.

It's often a good management practice to have one person designated as the recordkeeper, too, she says. That could mean it's taken chuteside on a notebook or someone with a computer enters it in a spreadsheet.

"You've got to figure out what system works for you," she says.

Often the same person will follow the data entry through to AHIR, because records that are taken but not submitted do almost as much good as those not taken at all, Tarpoff says.

"Some members will record their calving book through the AngusMobile app throughout calving, while others will wait to submit both birth and weaning records after weaning."

Doing a good job

There are numerous breeders who have made it a streamlined process.

"You as members are incredibly dedicated to collecting those phenotypes and understand the value they hold. Your weekly evaluation contains more than 9.8 million birth records, 10.2 million weaning weights and 4.9 million yearling weight records," Tarpoff says.

Carcass records number more than 132,000, and there are more than 347,000 combined foot scores, alongside the 1.2 million genotypes. The list goes on and illustrates the point: that's a lot of information supporting your selection tools.

It represents members running scales and chutes, producers evaluating cattle and spending hours at the computer, all with the hope that it's good data, the kind that can inform decisions for generations to come. AJ

CREATING CONTEMPORARY GROUPS
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PHENOTYPE COLLECTION: WHEN AND WHY
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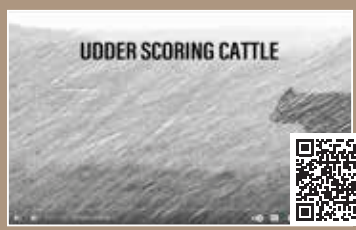

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HAIR SHEDDING SCORING GUIDE
https://www.angus.org/performance/documents/hairshedding_guidelines_final.pdf

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