

THE DATA DIVE

by Esther Tarpoff, director of performance programs

Are Phenotypes Still Being Recorded?

Data collection has evolved over the decades. Where do performance records stand today?

The groundwork was laid in the early 1950s for the American Angus Association's Angus Herd Improvement Records (AHIR®) program. At the time, the word "performance" was not viewed favorably. In the early years, measures such as weaning weight and yearling weight were recorded to return information such as average daily gain and ratios.

Since then, the program has continued to grow because of member dedication to data recording. Records in AHIR serve as the backbone of the National Cattle Evaluation (NCE) that updates weekly to provide expected progeny differences (EPDs) for selection.

As additional traits have been added, members have embraced recording the phenotypes during both the research and production

phases to improve selection tools. Looking at some of the more recent EPDs to be added, such as foot structure including claw and angle, pulmonary arterial pressure (PAP), and hair shed (HS), the number of phenotypes for each of these traits increases each week.

Since 2010 phenotypes have been coupled with genomics to enhance accuracy, evaluate traits at earlier ages and predict difficult-to-measure traits for Angus breeders. Phenotypes work hand-in-hand with genomics to make predictions.

Currently, about 3,000 genotypes enter the evaluation each week. In fiscal year (FY) 2022, 65% of the animals registered were genotyped. This is a testament to Angus breeders adopting technology to continue to make the best breeding decisions.

Turning to the data

With the addition of genomic technology, a common question that often arises is "Are members still submitting phenotypes?"

This question comes up partially because of the opportunity genomics have provided Angus members to predict EPDs early in an animal's life before many phenotypes can be collected. Today, a Neogen AngusGSSM or Zoetis HD50K[®] test can provide all EPDs on an animal.

So, if all EPDs are predicted, do we still need to collect phenotypes? The answer is yes.

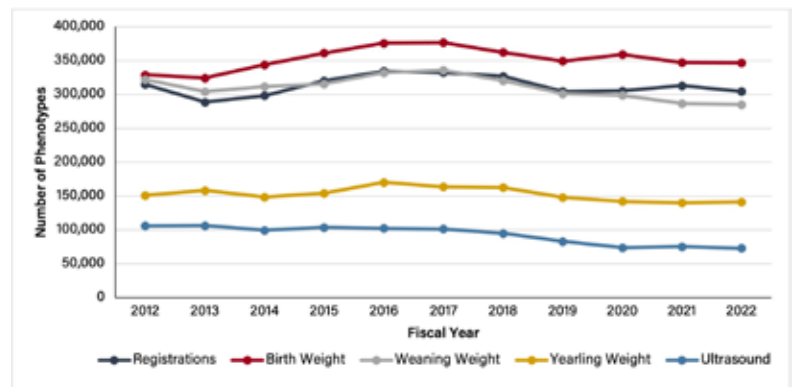
Data submission

Table 1 shows the comparison of FY 2021 vs 2022 for several traits. The total number of registrations in FY 2021 was 313,138 animals and 304,822 animals in FY 2022. Looking

Table 1: FY 2021 vs. 2022 phenotypic data submission

	2021	2022	Change
Total Weights	774,770	773,796	-0.1%
Reporting Herds	9,948	9,845	-1.0%
Ultrasound Animals	75,461	73,305	-2.9%
Carcass	2,976	3,177	6.8%
Breeding	31,353	35,704	13.9%
PAP	5,756	5,874	2.1%
Foot Score	29,476	39,640	34.5%
Whole Herd Reporting, Females	81,025	97,311	20.1%

Figure 1: Number of phenotypes submitted for various traits by fiscal year



at the overall total number of weights submitted, there were 0.1% fewer weights in FY 2022, coming from 1.0% fewer herds. Carcass ultrasound records were down 2.9% from FY 2021 while actual carcass records were up 6.8% in FY 2022. Inventory Reporting had a 20.1% increase in the number of females enrolled.

As a result of more members being enrolled in the program and earning MaternalPlus® status, there was also approximately a 14% increase for the number of breeding records submitted. For newer phenotypes such as PAP and foot scores, both were up from FY 2021 with a 34.5% increase in foot scores submitted. Angus members remain committed to recording and submitting phenotypes.

Trends over the last decade


Taking a look at a bigger picture, Figure 1 shows trends for specific

traits since 2012. Note that included in the figure is the trend for registrations. The number of phenotypes submitted is related to the number of animals registered. Overall, trends have remained relatively steady over the last decade.

Looking at the birth weight trend, there are routinely more birth weights submitted than animals registered, which makes sense as not all animals that have a birth weight recorded are ultimately registered.

The trend for weaning weight remains closely aligned with the trend for the number of animals registered. In FY 2022, the average age at registration was 292 days, right between the weaning and yearling periods. Looking at yearling weights submitted, while this is a trait that has few records submitted than either birth or weaning weights, this trend has remained overall steady

over the last decade. While there has been a slight decrease in the number of ultrasound records submitted, there were more than 73,000 records in FY 2022, remaining relatively steady since 2020.

A lot has changed since the inception of AHIR, but the overall purpose remains the same. Ultimately, collection of these traits, paired with genomic technology, provides better, more accurate selection tools for members and their customers. 

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THE 50TH ANNUAL
Carolina
ANGUS FUTURITY

SATURDAY, MARCH 18 AT NOON
T. ED GARRISON LIVESTOCK ARENA

CLEMSON, SOUTH CAROLINA

FRIDAY, MARCH 17, 2023

NOON: Sale Cattle in Place

6 PM: Social Hour
CLEMSON OUTDOOR LAB
415 CHARLIE WHITE TRAIL
PENDLETON, SC 29670

7 PM: 50th Annual Meeting & Banquet

SATURDAY, MARCH 18, 2023

T. ED GARRISON ARENA

9 AM: SC Junior Angus Silent Auction

NOON: 50th Annual Carolina Futurity Sale

TO REQUEST A SALE BOOK, CONTACT

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