



# By the Numbers

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## Carcass data for sire evaluation: Adding value to the Angus database

*In 1972, the American Angus Association adopted a National Sire Evaluation Program, created to compare sires for performance and carcass traits through a designed progeny-testing program, which randomly mated superior sires to commercial- or registered-Angus cows. The progeny records generated by the project resulted in the first Angus Sire Evaluation Reports.*

### History

The “Group 1 Report,” released in the fall of 1974, included information (and photos) on only 23 bulls, three of which were deceased at the time of printing. While the impact as measured by the number of bulls seems limited, that report introduced a new term to Angus breeders — expected progeny differences (EPDs). Interestingly, in the 22 pages of the report, the abbreviation EPD is never used, as few readers at the time would have had any idea what those letters stood for.

From a modest beginning grew, arguably, the most valuable resource in the beef industry, the Angus performance records database. By 1980, advancements in genetic data analysis combined with extensive use of artificial insemination (AI) allowed Angus to release the first-ever *Sire Evaluation Report* utilizing all member-submitted Angus Herd Improvement Records (AHIR®) data in addition to data from designed matings.

The technology of live-animal ultrasound soon followed, and by the 1990s most Angus bulls had EPDs for carcass traits. These EPDs were calculated from their own ultrasound measurements and scans from progeny and other relatives.

While ultrasound increases the number of animals evaluated for carcass traits, at much younger ages, carcass data still has value. The genetic correlations between ultrasound measures of breeding animals and actual carcass measurements range from 0.70 to 0.80, which is high, but not perfect. Age at measurement, intact males vs. steers, and level of grain feeding all impact how bulls and breeding heifers scan compared to carcass measurements of related steers. As a result, corresponding EPDs of sires sometimes change significantly when their first carcass progeny records are submitted, even if they



have a large number of ultrasound progeny records in the database.

### Structured program

While a majority of the carcass data will continue to be submitted by individual breeders and semen companies, the American Angus Association has initiated a structured sire evaluation program to generate progeny of the most extensively used Angus AI sires.

Sires eligible for the program are among the highest for progeny registrations in the previous fiscal year, but have few or no progeny carcass records. Commercial producers participating in the evaluation choose bulls that fit their breeding program from the list of eligible sires, along with proven reference sires.

When parent-verified carcass data is submitted, participating commercial producers receive a premium, paid by the Association, for each carcass record. Since these tested sires will be represented in many Angus pedigrees in future years, it benefits the entire membership when accuracy is added to their carcass EPDs.

It's important to note this is not a young-sire testing program. Sires selected in the program will be fairly old by the time carcass

data is collected. However, this may be the only chance we have to collect carcass progeny of these bulls and further document their genetics for the future. Data collected in this project will also add accuracy to future genomic tools available to Angus breeders.

In fall 2015 and spring 2016, 24 extensively used bulls and five different reference sires were used in three large herds, with the first carcass records to be

collected in 2018. Large commercial herds with the ability to AI 300 or more cows and retain ownership of progeny to harvest are being sought to participate for fall 2016 and spring 2017 breeding.

### Carcass evaluation by breeders

Individual Association members are encouraged to collect and submit carcass data on progeny of their sires. To be useful in genetic evaluation, contemporary

group size should be as large as possible and include both young tested sires and proven reference sires. A minimum of 15 progeny records per sire is suggested to significantly increase accuracy of carcass EPDs.

Reference sires, bulls with high-accuracy carcass EPDs resulting from previous progeny carcass data, should be included to tie the new records to the existing database.

Spreadsheets for submitting carcass data are available for download from AAA Login. Staff of the Association's Performance Programs Department are glad to assist individual breeders who wish to design a testing program for their sires. Contact Dan Moser at [dmoser@angus.org](mailto:dmoser@angus.org) or 816-383-5196, or Kelli Retallick at [kretallick@angus.org](mailto:kretallick@angus.org) or 816-383-5190, for more information on collecting carcass data for sire evaluation.

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