

# THE ANGUS LINK

by JOHN CROUCH & BILL BOWMAN

## Dissecting a Performance Registration Certificate

As you are receiving this issue of the Angus Beef Bulletin, bull-sale season soon will be upon us in a large portion of the country. Breeding decisions you make in the spring of 2001 most likely will produce beef that will be consumed two to three years from now, and those decisions can affect the maternal makeup of your program for many years to come.

The decision to purchase bulls today may not seem as simple as it was in the past. The information – performance data, expected progeny differences (EPDs) and measurements – to which we have access in making the decision may seem overwhelming to some.

There is a world of information out there for a potential buyer to evaluate. At the American Angus Association, through the Angus Herd Improvement Records (AHIR) program, we currently provide EPDs on 18 traits, including new ultrasound body-composition EPDs that now appear on Angus pedigrees. Combine that with actual performance data and measurements, ratios, ultrasound data, and possibly the production history of some ancestors, and a buyer may have 30-40 different pieces of information to consider.

But that's good!

Having the opportunity to analyze and to select from these various pieces of information allows producers to improve their programs with the Angus seedstock they select. The key is to understand the data – what it means and how to use it. With the new EPD information now available, we thought it would be an appropriate time to dissect an Angus registration certificate and to consider the information that is available on it.

### What's it mean?

A newly transferred Performance Registration Certificate (PRC) is the most important document you receive when you purchase a registered Angus bull. It contains the most up-to-date performance data available on the animal and its close relatives. At a glance, the PRC seems rather complicated; however, closer examination provides valuable information. Let's dissect the pedigree and see what all the numbers mean.

**1.** The top portion of the certificate deals with the pertinent information, such as name, registration number, sex, tattoo, breeder and first owner. The breeder is the Association member who owned the dam at the time the animal was conceived; the first owner is the person who was the dam's owner of record when the calf was born.

**2.** Next appear EPDs relating to production traits for the animal, its sire and its dam. EPDs

are numeric expressions of the differences in genetic merit of animals:

- Birth (BW), weaning (WW) and yearling weight (YW) – expressed in pounds;
- Maternal weaning weight (Milk) – expressed in pounds;
- Yearling height (YH) – expressed in inches;
- Mature daughter weight (MW) – expressed in pounds;
- Mature daughter height (MH) – expressed in inches; and
- Scrotal circumference (SC) – expressed in centimeters.

Each EPD is followed by an accuracy value that indicates the degree of reliability of the trait. They range from zero to 1.0 – the higher the accuracy, the more reliable the EPD. Accuracy

values take into account the number of records included in the calculation of the EPD and the distribution of those records across contemporary groups.

Accuracy values of less than 0.10 indicate the EPD is calculated totally from information on the sire and dam or relatives. Accuracy values between 0.10 and 0.37 usually indicate the EPD is calculated from the individual record of the animal, plus pedigree information.

In some instances, an "I" will appear before the EPD indicating that it is an interim EPD. Interim EPDs are in-house calculations of genetic merit on cattle that have not been processed through National Cattle Evaluation (NCE) or where there is insufficient information to generate an NCE EPD. Accuracy values that

accompany interim EPDs are derived from a percentage of the accuracy of the sire and a percentage of the accuracy of the dam.

## Carcass information

**3.** The carcass EPD section of the data block lists available EPDs for carcass traits for the individual, the sire and the dam. These carcass EPDs are generated from harvest data derived from the Angus structured sire evaluation program:

- Carcass weight (CW) – expressed in pounds;
  - Marbling (Marb) – expressed in a percent of a U.S. Department of Agriculture (USDA) marbling score;
  - Ribeye area (RE) – expressed in square inches;
  - Fat thickness (Fat) – expressed in inches; and
  - Percent retail product (%RP) – a way of expressing yield grade as a percent of hot-carcass weight.
- Grp/Pg is the number of contemporary groups and the number of progeny used in the analysis.

**4.** Ultrasound body-composition EPDs result from ultrasound scans processed through the American Angus Association Centralized Ultrasound Processing (AAACUP) program coordinated with Iowa State University. These EPDs are from a young data set and are calculated from a different base than the carcass data.

Only scans from purebred yearling bulls and heifers are used. This allows EPDs to be adjusted for bias in matings; hence, ultrasound body-composition EPDs may differ in some instances from carcass EPDs. Attempts to compare should be made only within each data set and not between data sets.

- Percent intramuscular fat in the ribeye muscle (%IMF) – expressed as a percent of a marbling score (4% IMF would relate to Small marbling (low-Choice);

- Ribeye area at the junction of the 12th and 13th ribs (RE) – expressed in square inches;
- External fat over the 12th rib (Fat) – measured in inches;
- External fat over the rump (Rump Fat) – measured in inches; and
- Percent retail product (%RP) – expressed in pounds.

• Grp/Pg identifies the number of contemporary groups by scan date and breeder code used in the analysis.

**5.** Just below the EPD block appears an “as of” date. This is the date of the most current NCE from which the EPDs were calculated.

## Family history

**6.** Next appears the animal’s three-generation pedigree. Embryo transfer (ET) animals will show a plus sign (+) before the registration number. A pound sign (#) before the registration number indicates the animal is a Pathfinder. Listings of Pathfinders and the related requirements can be found each year in the April Issue of the Angus Journal.

**7.** Below the pedigree information is a table that contains performance data on the individual and various relatives.

**A.** The number of herds and number of progeny in the database for each of the ultrasound body-composition traits are included in this information. The first line is the individual information on the animal.

For example, this bull was calved unassisted (calving-ease score of 1). He had a birth weight ratio of 121 (21% heavier than the average of the 163 calves in his group). His weaning weight ratio was 112 (compared to the same group of 163 calves). His yearling ratio was 126; however, only 71 of the 163 calves in his weaning group were kept to yearling age in his management group.

**B.** The production and body-composition sections of Line B reflect the performance of the individual’s progeny. In the calving-ease columns, only records from first-calf heifers are

used. The maternal section deals with daughters of the bull and their respective records.

**C.** The production and maternal sections of Line C reflect records of the sire’s progeny.

**D.** The production and maternal sections of Line D reflect records of the dam’s progeny.

## Pertinent details

**8.** Section 8 lists the name of the recorded owner and service-sire information reported on transferred females.

**9.** Section 9 provides space to transfer the animal to a buyer.

**10.** This block lists genetic defects or genetic code factors that, when applicable, will precede the registration number of any animal in the pedigree. Further information on these codes can be obtained from the Association’s Breeder’s Reference Guide.

**11.** At the bottom of the PRC again appear the registration number of the animal, the date the PRC was issued and the file number of the office transaction.

## Get the paper

In this era of many black breeds of beef cattle, the only way of being sure of the Angus genetics you purchase is through a properly transferred PRC. Not getting one would be like buying a truck and not receiving the title. When you have a registered Angus bull transferred to you, as an added bonus, you also receive a free subscription to the Angus Beef Bulletin and a semiannual copy of the Sire Evaluation Report. After all, it’s your money you are spending, and you deserve it.



**Editor’s note:** John Crouch is director of performance programs for the American Angus Association. Bill Bowman is assistant director of performance programs and director of commercial relations.