

# Dissecting a Performance Registration Certificate

Bull-sale season soon will be upon us in a large portion of the country. Breeding decisions you make in the spring of 2003 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 17 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. The following discussion dissects an Angus registration certificate (see Fig. 1) and considers the information that is available on it.

## What does it mean?

A Performance Registration Certificate (PRC) contains the most up-to-date performance data available on a registered 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 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

Fig. 1: An example of a Performance Registration Certificate

**PERFORMANCE REGISTRATION CERTIFICATE**  
**American Angus Association**

REGISTRY NUMBER  
#10226429

1. **Certifies That**  
NAME OF ANIMAL: SCOTCH CAP  
BREEDER: Hoff, Douglas H Bison SD  
FIRST OWNER: Hoff, Douglas H Bison SD

3. **Blood-typed**  
DNA-marker-typed SEX: Bull LEFT EAR: 14 RIGHT EAR: 14

BIRTH DATE: 3/05/1982  
MEMBER CODE: A-258572  
MEMBER CODE: A-258572

2. **Production EPD**

	BW	WW	MW	YH	MI	MH	SC
I	+5.8	+35	+9	+69	+9	+43	+1.2
D	.99	.99	.99	.99	.99	.97	.98
C	+2.3	+24	+5	+45	+9	+45	+1
S	.99	.99	.99	.99	.99	.98	.99
D	+3.8	+30	+13	+62	+2		-.11
M	.91	.84	.83	.89	.80		.38

4. **Carcass EPD**

	CW	Marb	RE	Fat	%RP	Grp/Pg
I	+20	+37	+50	+0.19	+17	101
D	.97	.97	.97	.96	.96	430
C	+1	-.16	-.09	+0.38	-.48	55
S	.93	.94	.92	.92	.92	132
D						
M						

4. **Ultrasound Body Composition EPD**

	%IMP	RE	Fat	%RP	Grp/Pg
I	+39	+40	+0.14	+38	66
D	.71	.71	.75	.71	105
C	-.02	-.03	+0.22	-.13	3
S	.13	.13	.18	.13	3
D					
M					

5. **SIRE**  
BOFFLES EMULOUS 775 #6274681 R As of 02/2002  
EARLY SUNSET EMULOUS 60E #8890783  
EARLY SUNSET PRIDE 88 #10999786  
P S POWER PLAY #8974202GDE #6329603  
MINTTEITH OF GRAHAM 37 #8511577  
P S MINTTEITH BLANCHE 205 #7074946  
P S BLANCHE 415 #8505294

6. **DAM**  
BAND 234 OF IDEAL 3163 #9019342  
BAND 105 OF S C 579 #8622984  
HOFF BAND 07 OF S C 509 #9538351  
C R R EMULOUS 26 17 #7682162  
EMULOUS E OF S C 4 #8645304  
LASSY S C #450822

7. **PRODUCTION**

	CALVING CASE			BIRTH WT			WEANING			YEARLING			ULTRASOUND BODY COMPOSITION		
	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	
Indiv				163	121	163	71	126							
Prog	164	341	1.3	1398	102	1479	56	1041	30	1048	3966	1965	21230	49	
Sire	648	1026	1.3	15438	100	17324	101	9528	101	3962	1.2	5563	100	109	
Dam	4504	15438	1.3	15438	100	17324	101	9528	101	3962	1.2	5563	100	109	
Prog	1	1	1.0	2	7	112	7	110	8	113	7	1.0	12	103	

8. **NAME AND LOCATION OF RECORDED OWNER**  
Hoff, Douglas H Bison SD

MEMBER CODE: A-258572 DATE OF SALE: 03/14/1987

9. **TRANSFER**

I (we) hereby authorize transfer of Registration on the records of the Association to:

NAME: \_\_\_\_\_ MEMBER CODE: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ ST.: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

DATE OF SALE: \_\_\_\_\_ SIGNATURE OF TRANSFEROR: \_\_\_\_\_

If above animal is a female, serviced prior to Date of Sale, Date of Service or exposed period as follows:  
Service date, if known: \_\_\_\_\_ CHECK ONE:  NATURAL  ARTIFICIAL

Service BULL NO.: \_\_\_\_\_ MEMBER CODE: \_\_\_\_\_  
Service BULL NO.: \_\_\_\_\_ MEMBER CODE: \_\_\_\_\_

Feature exposure: From \_\_\_\_\_ to: \_\_\_\_\_  
If the above animal is female and sold with A.I. Breeding Privilege to seller's bull, certify by checking box,  Sold with A.I. Breeding Privilege.

I certify that the above service conforms with the ownership provision of Section VII of the Rules governing artificial insemination, if applicable, as follows:  
 Immediate relative  Full time employee

SIGNATURE OF OWNER OF RECORD OF SERVICE BULL, IF NOT SELLER OF FEMALE: \_\_\_\_\_

10. **Seal**  
Seal of the American Angus Association, featuring a bull's head and the text "AMERICAN ANGUS ASSOCIATION" and "1883".

11. **REGISTRATION INFORMATION**  
The animal described in this Certificate was entered in the American Angus Herd Book in accordance with application certified by First Owner to conform to the By-Laws and Rules of Registration of this Association. Certificate and Entry are made subject to the right of correction and cancellation.  
DATE ISSUED: 2/06/2002 REG. NO.: 10226429 B00003 2198

American Angus Association  
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Saint Joseph, Missouri 64506-2997  
John R. Crouch  
Executive Vice President

through the National CUP Laboratory & Technology Center by ultrasound technicians who have been approved by Walter & Associates, Ames, Iowa. 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, steers 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 between the 12th and 13th ribs (RE) — expressed in square inches;
- External fat as weighted average of 60% of the rib fat measurement and 40% of the rump fat measurement (Fat) — measured in inches;
- 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. The number of herds and number of progeny in the database for each of the ultrasound body-composition traits are included in this information.

**A.** 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.

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, one of the best ways to reinforce the value of your Angus genetics is through a properly transferred PRC. Not providing

one would be like selling a truck and not transferring the title.

When a registered Angus bull is transferred to a buyer who is not a member of the Association, as an added bonus, they will receive a free subscription to the *Angus Beef Bulletin*.

