



# By the Numbers

by American Angus Association staff

## Genetic trends

The American Angus Association's published Sire Evaluation Report provides a benchmark for the breed.

### Real-time target

The Association's database changes with each piece of submitted data. Always has.

Always will. In the past, submission of data (whether individual performance or progeny records) didn't show its full effect until the

Association released its biannual national cattle evaluations (NCE) — one in mid-December and one in mid-July.

Now, with weekly NCE runs, we can see the resulting changes to the expected progeny differences (EPDs) and accuracies of our young seedstock within a week of data submission. Reducing the time that an EPD is classified as an "interim," the weekly evaluations make our numbers on individuals available more rapidly for genetic decision process.

It is true that a week after the *Spring 2011 Sire Evaluation Report* summary statistics (Dec. 10, 2010) were released, newer data on some individuals were available online. However, summarizing the information biannually gives us a chance to step away from the trees so we can monitor the forest, so to speak.

In last month's "By the Numbers" we published the table that summarized the number of records we have for each trait and the resulting number of EPDs in the database, along with the EPD and dollar value (\$Value) averages, standard deviations, minimums and maximums.

This month we present the table characterizing the breed average EPDs and \$Values for current sires (those with at least one calf recorded in the last two years), current dams, the sires in the main listing and the young sire supplement of the *Spring 2011 Sire Evaluation Report*, and non-parent bulls and cows (see Table 1, page 106).

Of course the numbers will be similar, but it's interesting to note the nuances between the older section of sires and the up-and-coming young sires, as well as the differences between bulls and cows.

It's also important for us to keep an eye on the genetic trends. Figs. 1-4 are visualizations of the genetic trends table on page 5 of the *Sire Evaluation Report*. The EPD values are the average for the breed for animals of that birth year. By plotting the average of the breed, by animal birth year, you depict a genetic trend, or genetic change over time.

For instance, Fig. 1 indicates that since 1998, calving ease direct (CED) and calving ease maternal (CEM) have both trended upward — in a positive direction since it represents a genetic increase in unassisted

Fig. 1: Angus genetic trend, EPD by birth year, calving traits

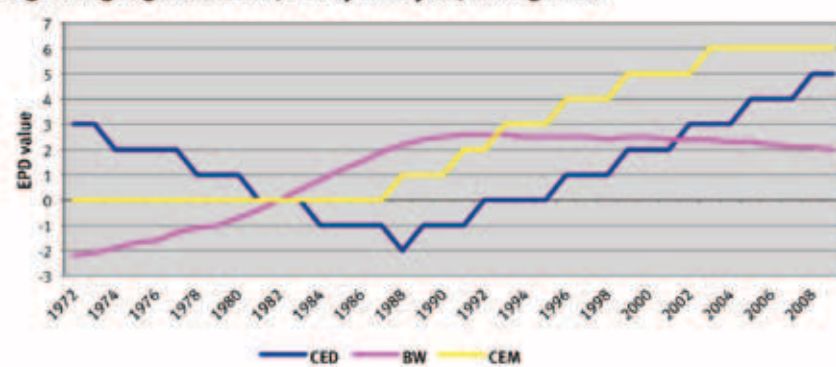


Fig. 2: Angus genetic trend, EPD by birth year, weights and milk

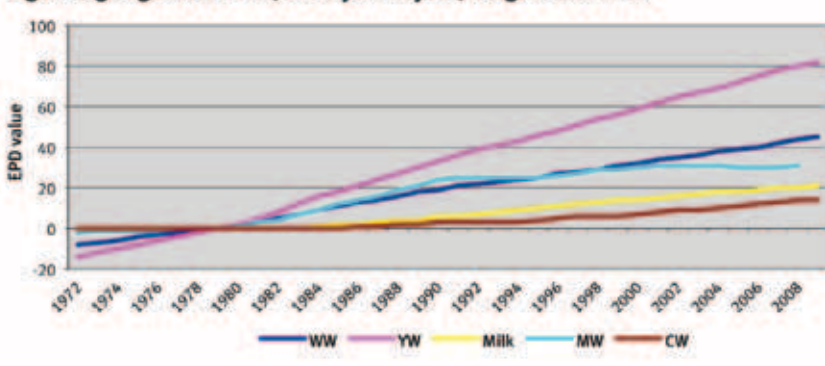
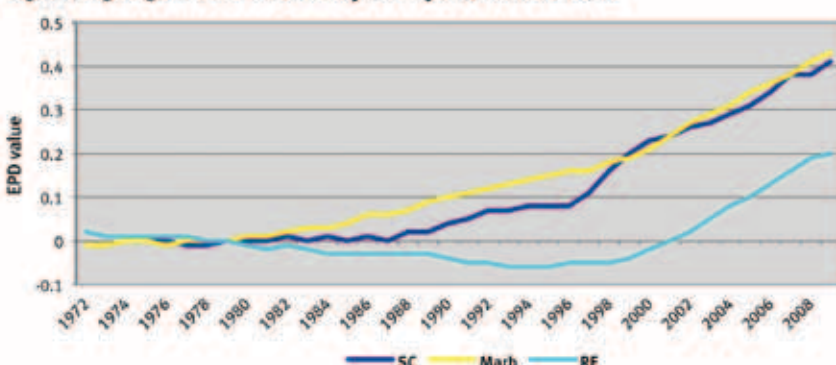


Fig. 3: Angus genetic trend, EPD by birth year, carcass traits



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births among first-calf heifers. During that same time, birth weight EPDs trended slightly downward.

Fig. 2 shows a leveling off of the mature weight (MW) EPD, while weaning weight (WW) and yearling weight (YW) EPDs continue to trend upward.

See page 113 of this issue for an overview of the *Sire Evaluation Report*, with descriptions of each genetic prediction and how to read the report. If you would like to receive a printed copy of the report, contact Brenda Gabriel at 816-383-5144 or send e-mail to [bgabriel@angus.org](mailto:bgabriel@angus.org).



**Fig. 4: Angus genetic trend, EPD by birth year, fat and RADG**



**Table 1: Spring 2011 breed average EPD and \$Values**

	Production								Maternal					Carcass				SValues			
	CED	BW	WW	YW	RADG	YH	SC	Doc	CEM	Milk	MW	MH	SEN	CW	Marb	RE	Fat	SW	SF	SG	SB
Current Sires <sup>1</sup>	+5	+1.9	+44	+81	+13	+4	+41	+8	+7	+21	+30	+4	+2.84	+14	+36	+15	+010	+24.83	+23.24	+22.23	+43.08
Main Sires	+6	+1.9	+47	+85	+14	+3	+42	+9	+7	+21	+30	+4	+2.10	+15	+35	+15	+012	+26.01	+26.46	+21.42	+42.59
Supplemental Sires	+6	+1.6	+49	+90	+13	+4	+54	+9	+7	+23			-1.59	+17	+39	+20	+014	+26.56	+29.55	+22.93	+47.17
Current Dams <sup>1</sup>	+4	+2.3	+40	+73	+12	+4	+29	+7	+6	+20	+31	+4	+6.44	+11	+31	+09	+007	+23.37	+16.97	+20.90	+38.39
Non-Parent Bulls	+5	+2.0	+46	+83	+13	+3	+42	+10	+7	+22			+1.41	+15	+41	+19	+012	+25.48	+24.64	+24.29	+45.95
Non-Parent Cows	+5	+2.0	+46	+83	+13	+4		+9	+7	+22			+1.41	+15	+45	+22	+012	+25.51	+24.57	+24.77	+46.50

<sup>1</sup>At least one calf recorded in herd book within the past two years.