

2004 ACROSS BREED EPD TABLE

The table of adjustment factors to estimate across-breed expected progeny differences (AB-EPDs) for seventeen breeds was presented to the Genetic Prediction Committee at the Beef Improvement Federation Annual Meeting in Sioux Falls, South Dakota, May 26 (see table). Animals of different breeds can be compared on the same EPD scale, after adding the appropriate adjustment factor to expected progeny differences (EPDs) produced in the most recent genetic evaluations for each of the seventeen breeds.

For example, suppose the EPD for birth weight for a Charolais bull is + 2.0 (which is slightly above the average of 1.5 for Charolais bulls born in 2002) and for a Hereford bull is 4.0 (which is slightly above the average of 3.8 for Hereford bulls born in 2002). The across-breed EPD adjustment factors (see table) are 10.5 for the Charolais and 3.4 for Herefords. The across-breed EPD for the Charolais bull is $10.5 + 2.0 = 12.5$ and for the Hereford bull is $3.4 + 4.0 = 7.4$. The expected birth weight difference when both are mated to cows of another breed (e.g., Angus) would be $12.5 - 7.4 = 5.1$ lb.

The AB-EPDs are most useful to commercial producers purchasing bulls of two or more breeds to use in systematic cross breeding programs. Uniformity from one generation to the next can be improved by selection of bulls with similar AB-EPDs. Uniformity, is especially important in selection of bulls for use in rotational cross breeding systems for traits such as birth weight to manage calving difficulty, and for traits related to cow size and milk production to effectively manage feed requirements in cow herds. Divergence of AB-EPDs for growth traits should be emphasized in selection of bulls for terminal cross breeding. Divergence in AB-EPDs should be considered in selection of bulls for use on first calf heifers, emphasizing lower birth weights.

EPDs are published annually by breed associations for most breeds of beef cattle. EPDs can be used to estimate differences expected in performance of future progeny of two or more individuals in the same breed for birth weight, weaning weight, yearling weight, maternal weaning weight, and milking ability (as reflected in progeny weaning weights). Without the across breed adjustment factors, EPDs can not be used to compare animals of different breeds because they are computed separately for each breed and each breed has a different base point. The adjustment factors not only reflect current breed differences but also differences in the base (EPD = 0) of each breed. Thus, adjustment factors alone cannot be used to estimate average breed differences.

The adjustment factors were updated using EPDs from the most recent national cattle evaluations conducted by associations of each of the sixteen breeds. The table is based on

“head to head” comparison of the breeds at the U.S. Meat Animal Research Center (MARC), Clay Center, Nebraska. Brangus and Beefmaster were included in the analysis for the first time last year. Adjustment factors are not yet available for Brangus and Beefmaster MILK. The analysis was conducted by MARC Research Geneticists Dale Van Vleck and Larry Cundiff.

ADJUSTMENT FACTORS TO ADD TO EPDs OF FIFTEEN DIFFERENT BREEDS TO ESTIMATE AB-EPDs				
Breed	Birth wt.	Weaning wt.	Yearling wt.	Milk
Angus	0.0	0.0	0.0	0.0
Hereford	3.4	-2.0	-13.7	-17.8
Red Angus	3.6	-1.4	0.7	-7.8
Shorthorn	7.8	31.4	44.5	12.1
S. Devon	6.7	21.7	40.8	3.5
Brahman	13.0	34.8	-4.4	24.6
Limousin	4.5	1.8	-19.9	-15.9
Simmental	6.4	22.4	21.9	10.0
Charolais	10.5	38.4	53.4	2.6
Gelbvieh	5.4	7.1	-21.1	1.7
Maine Anjou	6.7	17.6	5.5	7.6
Salers	4.9	30.7	46.1	9.0
Pinzgauer	7.7	28.3	25.5	6.1
Tarentaise	3.6	30.1	13.4	17.8
Braunvieh	6.5	30.0	13.9	22.2
Brangus	5.7	20.0	20.4	---
Beefmaster	9.7	39.0	37.9	---

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