

## **MEAN EPDs REPORTED BY DIFFERENT BREEDS**

*Larry A. Kuehn and R. Mark Thallman  
Roman L. Hruska U.S. Meat Animal Research Center, USDA-ARS,  
Clay Center, NE 68933*

Expected progeny differences (EPDs) have been the primary tool for genetic improvement of beef cattle for over 30 years beginning with evaluations of growth traits. Since that time EPDs have been added for several other production traits such as calving ease, stayability, and carcass merit and conformation. Most recently, several breed associations have derived economic indices from their EPDs to increase profit under different management and breeding systems.

It is useful for producers to compare the EPDs of potential breeding animals with their breed average. The current EPDs from the most recent genetic evaluations of 23 breeds are presented in this report. Mean EPDs for growth traits are shown in Table 1 (23 breeds), for other production traits in Table 2 (13 breeds), and for carcass and composition traits in Table 3 (18 breeds). Several breeds also have EPDs that are unique to their breed; these EPDs are presented in Table 4.

Average EPDs should only be used to determine the genetic merit of an animal relative to its breed average. To compare animals of different breeds, across breed adjustment factors should be added to animals' EPDs for their respective breeds (see Across-breed EPD Tables reported by Kuehn et al. in these proceedings).

**Table 1.** Birth year 2007 average EPDs from 2009 evaluations for growth traits

Breed	Birth Weight (lb)	Weaning Weight (lb)	Yearling Weight (lb)	Maternal Milk (lb)	Total Maternal (lb)
Angus	2.2	43.5	80	20.5	
Hereford	3.5	41	68	16	37
Murray Grey	3	18	28	4	
Red Angus	0.3	31.2	54.9	16.1	
Shorthorn	2.2	14.3	23.4	2.5	9.7
South Devon	2.6	39.7	75.5	21.4	41.3
Beefmaster	0.49	7.3	12.5	2.0	
Braford	1.3	8	13	3	7
Brahman	1.8	13.6	22.2	5.8	
Brangus	0.55	21.9	40.0	7.3	18.2
Red Brangus	1.5	12.6	2.0	5.6	11.9
Santa Gertrudis	0.5	4.0	7.0	0.0	2.0
Senepol	0.8	7.9	10.7	3.9	7.9
Simbrah	2.9	26.3	42.5	3.3	16.4
Braunvieh	-0.21	0.9	1.5	0.3	0.6
Charolais	0.6	23.3	41.2	6.5	18.1
Chianina	1.2	44.2	80.4	9.5	31.6
Gelbvieh	1.3	41	74	18	38
Limousin	1.7	42.6	79.1	21.3	
Maine-Anjou	1.9	40.1	79.1	20.0	39.9
Salers	0.9	17.8	29.6	8.4	17.3
Simmental	1.3	32.4	57.5	4.2	20.5
Tarentaise	1.5	4	11	1	

**Table 2.** Birth year 2007 average EPDs from 2009 evaluations for other production traits

Breed	Calving Ease Direct (%)	Calving Ease Maternal (%)	Scrotal Circumference (cm)	Docility Score	Stayability (%)
Angus	5	6	0.38		
Hereford	0.0	0.6	0.6		
Red Angus	5.7	3.3			8.6
Shorthorn	-1.5	-1.3			
Beefmaster			0.10		
Brangus			0.69		
Braunvieh	0.20	0.15			
Charolais	2.7	3.9	0.55		
Gelbvieh	104	105	0.4		4
Limousin	7.5	3.2	0.3	15.3	17.5
Salers	0.2	0.2	0.3	7.6	22.6
Simmental	6.6	2.6			18.3
Tarentaise	0	1			

**Table 3.** Birth year 2007 average EPDs from 2009 evaluations for carcass and composition traits

Breed	Carcass Wt (lb)	Retail		Carcass			Ultrasound			WBSF (lb)
		Product (%)	Yield Grade	Marbling Score	Ribeye Area (in <sup>2</sup> )	Fat Thick- ness (in)	IMF (%)	Ribeye Area (in <sup>2</sup> )	Fat Thick- ness (in)	
Angus	10.5			0.31	0.15	0.011				
Hereford				0.3	0.17	0.002				
Red Angus				0.06	0.05	-0.001 <sup>a</sup>				
Shorthorn	-0.78	0.02		0.0	-0.02	0.0				
South Devon	11.5			0.26	0.1	-0.01				
Braford	4.6			0.002	0.040	0.001				
Brahman	5	0.02		-0.01	0.07	-0.003				0.0
Brangus							-0.026 <sup>b</sup>	0.366 <sup>b</sup>	-0.001 <sup>b</sup>	
Santa Gertrudis	1.0			0.00	0.02	0.00				
Simbrah	-7.8		0.7	0.03	-0.19	0.01				-0.05
Braunvieh	1.4			0.005	0.01	-0.003				
Chianina	5.2	-0.24		0.13	-0.11	0.02				
Charolais	13.2			0.03	0.17	0.001				
Gelbvieh	7.7 <sup>c</sup>			-0.04 <sup>c</sup>	0.08 <sup>c</sup>					
Limousin	17.2		-0.5	0.00	0.4					
Maine-Anjou	0.0	0.31		0.21	0.16	0.0				
Salers	19.9	0.0		0.0	0.02	0.0				
Simmental	-1.7		0.0	0.13	0.08	0.01				-0.08

<sup>a</sup>Calculated using only actual carcass data (no ultrasound data); all other carcass scale evaluations for Red Angus use a multi-trait model

<sup>b</sup>Reported on an ultrasound scale but calculated using ultrasound and carcass data in a multi-trait model

<sup>c</sup>Adjusted to a fat-constant endpoint

**Table 4.** Birth year 2007 average EPDs from 2009 evaluations for other traits unique to individual breeds

Angus	Mature Weight (lb)	Mature Height (in)	Yearling Height (in)	Cow Energy Value (\$)	Weaned Calf Value (\$)	Feedlot Value (\$)	Grid Value (\$)	Beef Value (\$)
	32	0.5	0.3	3.05	24.25	22.75	21.01	38.86
Hereford	Baldy Maternal Index (\$)	Brahman Influence Index (\$)	Certified Hereford Beef Index (\$)	Calving Ease Index (\$)				
	15.13	14.20	17.66	14.30				
Red Angus	Heifer Pregnancy (%)	Mature Cow Maintenance (Mcal/mo)						
	9.1	4.2						
Gelbvieh	Feedlot Merit (\$)	Carcass Value (\$)	Gestation Length (d)	Days to Finish (d)				
	8.42	5.63	-1.4	3.4				
Limousin	Mainstream Terminal Index (\$)							
	44.1							
Simmental	All Purpose Index (\$)	Terminal Index (\$)	Simbrah	All Purpose Index (\$)	Terminal Index (\$)			
	100.2	60.6		68	44			