

Mean EPDs reported by different breeds

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Expected progeny differences (EPDs) have been the primary tool for genetic improvement of beef cattle for over 40 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 25 breeds are presented in this report. Mean EPDs for growth traits are shown in Table 1 (25 breeds), for other production traits in Table 2 (15 breeds), and for carcass and composition traits in Table 3 (20 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).

This list is likely incomplete; evaluations for some breeds are not widely reported. If you see a breed missing and would like to report the average EPDs for that breed, please contact Larry (Larry.Kuehn@ars.usda.gov) or Mark (Mark.Thallman@ars.usda.gov).

Table 1. Birth year 2009 average EPDs from 2011 evaluations for growth traits

Breed	Birth Weight (lb)	Weaning Weight (lb)	Yearling Weight (lb)	Maternal Milk (lb)	Total Maternal (lb)
Angus	2.0	46	83	22	
Black Hereford	3.1	42	65.1	13.8	34.8
Hereford	3.6	43	71	17	38
Murray Grey	3.4	20	31	4	14
Red Angus	0.0	30.9	58.2	16.7	
Red Poll	1.7	15	24	7	
Shorthorn	2.4	15.3	24.8	2.3	10
South Devon	2.8	41.4	77.3	22.8	43.5
Beefmaster	0.4	9	14	2	
Braford	1.0	9	13	2	7
Brahman	1.9	14.8	23.8	6.3	
Brangus	-.77	22.6	44.8	10.7	22.1
Red Brangus	1.5	12.7	20.1	5.7	12.1
Santa Gertrudis	0.5	4.0	5.0	0.0	2.0
Senepol	0.9	7.7	10.4	4.2	8.0
Simbrah	2.6	28.3	46.3	2.3	16.5
Braunvieh	-0.11	6.2	12.2	0.4	3.5
Charolais	0.6	24.2	42.3	6.4	18.5
Chianina	2.1	32.0	59.5	12.1	28.1
Gelbvieh	1.3	41	75	18	38
Limousin	1.8	42.9	80.2	20.9	
Maine-Anjou	1.9	39.7	78.1	19.5	39.3
Salers	1.8	40.2	77.4	19.5	39.6
Simmental	0.9	32.1	57.9	3.6	19.7
Tarentaise	1.9	16	28.6	0.6	

Table 2. Birth year 2009 average EPDs from 2011 evaluations for other production traits

Breed	Calving		Scrotal Circumference (cm)	Docility Score	Mature Weight (lb)	Stayability (%)
	Calving Ease Direct (%)	Ease Maternal (%)				
Angus	5	7	0.42	9.5	31	
Hereford	0.3	0.7	0.7			
Murray Grey	-0.7	-0.2	0.10		47	
Red Angus	5.4	3.3				9.0
Shorthorn	-1.7	-1.7				
South Devon			0.1	0.0		
Beefmaster			0.2			
Brangus			0.69			
Braunvieh	-0.05	-1.25				
Charolais	2.8	3.5	0.59			
Gelbvieh	105	104	0.4			4
Limousin	7.7	4.1	0.4	16.6		18.4
Salers	0.2	0.3	0.3	8.0		22.7
Simmental	7.0	3.0				17.8
Tarentaise	-1.2	0.6				

Table 3. Birth year 2009 average EPDs from 2011 evaluations for carcass and composition traits

Breed	Carcass							
	Carcass Wt (lb)	Retail Product (%)	Yield Grade	Marbling Score	Ribeye Area (in ²)	Fat Thickness (in)	Rump fat (in)	WBSF (lb)
Angus	15.0			0.43	0.21	0.012		
Hereford				0.04	0.22	0.002		
Murray Grey	27	0.3		0.0	0.09	0.00	-0.01	
Red Angus	35.5		-0.003	0.07	0.07	-0.034		
Shorthorn	4.9			-0.02	0.07	-0.01		
South Devon	25.0	0.8		0.3	0.21	0.01		
Beefmaster				0.00 ^a	0.03 ^a	0.000 ^a	0.00 ^a	
Braford	6			0.01	0.06	0.002		
Brahman	5.2	0.01		-0.01	0.04	-0.002		0.0
Brangus	0.7			0.04 ^b	0.37 ^b	0.00 ^b		
Santa Gertrudis	0.0			0.00	0.00	0.00		
Simbrah	-6.3		0.06	-0.01	-0.2	0.01		-0.03
Braunvieh	0.1			0.12	0.01	0.115		
Charolais	14.1			0.01	0.18	-0.001		
Chianina	-1.2	-0.20		0.09	0.02	0.01		
Gelbvieh	8.3 ^c			-0.03 ^c	0.10 ^c			
Limousin	19.4		-0.08	-0.04	0.49			
Maine-Anjou	-0.1	0.29		0.20	0.15	0.00		
Salers	20.0	0.0		0.1	0.03	0.00		
Simmental	-1.7		-0.001	0.15	0.10	0.15		-0.30

^aDerived using ultrasound measures and reported on an ultrasound scale (IMF% instead of marbling score)

^bReported on an ultrasound scale (IMF% instead of marbling score) but calculated using ultrasound and carcass data in a multi-trait model

^cAdjusted to a fat-constant endpoint

Table 4. Birth year 2009 average EPDs from 2011 evaluations for other traits unique to individual breeds

Angus	Residual Average Daily Gain (lb)	Mature Height (in)	Yearling Height (in)	Cow Energy Value (\$)	Weaned Calf Value (\$)	Feedlot Value (\$)	Grid Value (\$)	Beef Value (\$)
	.13	0.4	0.35	1.41	25.50	24.61	24.53	46.23
Hereford	Baldy Maternal Index (\$)	Brahman Influence Index (\$)		Certified Hereford Beef Index (\$)		Calving Ease Index (\$)		
	15	14		18		14		
Red Angus	Heifer Pregnancy (%)	Mature Cow Maintenance (Mcal/mo)						
	7.5	4.1						
Gelbvieh	Feedlot Merit (\$)	Carcass Value (\$)	Gestation Length (d)	Days to Finish (d)				
	8.82	6.74	-1.4	3.5				
Limousin	Mainstream Terminal Index (\$)							
	42.5							
Simmental	All Purpose Index (\$)	Terminal Index (\$)	Simbrah	All Purpose Index (\$)	Terminal Index (\$)			
	104.6	62.5		75	47			
Murray Grey	600-d wt (lb)	Gestational length (d)	Days to calving (d)					
	45	-0.1	-0.6					