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## Mean EPDs Reported by Different Breeds

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## **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, 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 26 breeds are presented in this report. Mean EPDs for growth traits are shown in Table 1 (26 breeds), for other production traits in Table 2 (20 breeds), and for carcass and composition traits in Table 3 (21 breeds). Several breeds also have EPDs and indices 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 and Thallman in these proceedings).

This list is likely incomplete; evaluations for some breeds are not widely reported. We are aware of recent EPD evaluations for the Blonde d'Aquitaine, North American Piedmontese, American Pinzgauer, and American Waygu breeds but their EPDs do not appear to have been updated in the last year. 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](mailto:Larry.Kuehn@ars.usda.gov)) or Mark ([Mark.Thallman@ars.usda.gov](mailto:Mark.Thallman@ars.usda.gov)).

**Table 1.** Birth year 2014 average EPDs from 2016 evaluations for growth traits

Breed	Birth Weight (lb)	Weaning Weight (lb)	Yearling Weight (lb)	Maternal Milk (lb)	Total Maternal (lb)
Angus	1.3	51	91	23	
Black Hereford	2.8	45.6	78.4	21.9	44.6
Hereford	3.3	48.2	78.2	20.3	44.4
Murray Grey	3.8	24	37	4	16
Red Angus	-1.3	57	88	20	
Red Poll	1.7	15	24	6	
Shorthorn	2.4	55	66	18	46
South Devon	2.3	43.6	81.7	25.1	46.9
Beefmaster	0.6	23	45	9	21
Braford	1.1	12	18	3	9
Brahman	1.8	16	25.6	5.6	
Brangus	1.2	24.4	46.5	9.5	21.7
Red Brangus	1.7	12.1	19.4	5.5	11.6
Santa Gertrudis	0.2	3.8	5.2	0.5	
Senepol	1.1	12	14.9	4.4	9.8
Simbrah	3.7	60.0	81.3	21.9	51.8
American Akaushi	-0.1	24.0	44.4	26.3	38.3
Braunvieh	2.7	44.4	68.0	34.6	56.8
Charolais	0.5	26.7	48.7	8.7	22
Chianina	2.3	43.3	63.1	15.3	37.0
Gelbvieh	0.5	65.6	96.8	26.8	59.7
Limousin	1.3	62.7	92.3	26.8	58.2
Maine-Anjou	1.6	47.2	62.6	19.1	42.8
Salers	1.8	41.0	78.3	19.9	40.4
Simmental	1.9	63.4	92.5	21.6	53.3
Tarentaise	1.3	17.5	30.8	0.7	9.4

**Table 2.** Birth year 2014 average EPDs from 2016 evaluations for other production traits

Breed	Calving Ease Direct (%)	Calving Ease Maternal (%)	Scrotal Circ. (cm)	Docil. Score	Mature Weight (lb)	Heifer Pregnancy (%)	Stayability (%)
Angus	5	8	0.84	14	31	10.6	
Hereford	1.1	1.3	0.8		87		
Murray Grey	-0.6	-0.1	0.2		55		
Red Angus	5	4				10	11
Shorthorn	5.0	1.0					
South Devon			0.1				
Beefmaster			0.4				
Brahman				0.0			
Brangus	3.8	4.1	0.45				
Simbrah	2.5	6.0		8.7			
American Akaushi	3.2	5.5					
Braunvieh	5.8	0.7	0.02				
Charolais	3.3	3.9	0.75				
Chianina	5.1	-3.2					
Gelbvieh	10.2	6.4				3.7	6.2
Limousin	7.9	6.2	0.66	19.6			16.7
Maine Anjou	7.6	2.4					
Salers	0.2	0.3	0.3	8.7			23.6
Simmental	8.9	9.4		10.7			20.5
Tarentaise	-0.1	0.7					

**Table 3.** Birth year 2014 average EPDs from 2016 evaluations for carcass and composition traits

Breed	Carcass Wt (lb)	Retail Product (%)	Yield Grade	Carcass			Rump fat (in)	WBSF (lb)
				Marbling Score	Ribeye Area (in <sup>2</sup> )	Fat Thickness (in)		
Angus	33.0			0.59	0.53	0.017		
Hereford	61			0.09	0.31	0.003		
Murray Grey	32	0.4		0.0 <sup>a</sup>	0.11 <sup>a</sup>	0.00 <sup>a</sup>	0.00 <sup>a</sup>	
Red Angus	20		-0.01	0.45	0.13	-0.007		
Shorthorn	12.0			0.05	-0.05	-0.03		
South Devon	28.3	0.8		0.4	0.23	0.01		
Beefmaster				-0.10 <sup>a</sup>	-0.16 <sup>a</sup>	-0.01 <sup>a</sup>		
Braford	7			0.01	0.06	0.012		
Brahman	1.4	-0.01		0.00	0.01	0.00		0.02
Brangus				0.02 <sup>a</sup>	0.34 <sup>a</sup>	-0.041 <sup>a</sup>		
Santa Gertrudis	3.3			-0.01	0.04	0.002		
Simbrah	23.5		-0.23	-0.07	0.45	-0.060		-0.05
American Akaushi				0.75 <sup>a</sup>	0.11 <sup>a</sup>	0.057 <sup>a</sup>		
Braunvieh				0.56	0.35	-0.090		
Charolais	16.8			0.04	0.32	0.005		
Chianina	10.9	0.53		0.10	0.32	-0.06		
Gelbvieh	27.6		-0.18	0.09	0.45			
Limousin	26.3		-0.19	-0.01	0.48	-0.040		
Maine-Anjou	9.0	0.37		0.05	0.21	-0.041		
Salers	20.5	0		0.2	0.02	0.00		
Simmental	27.6		-0.33	0.14	0.79	-0.056		-0.33

<sup>a</sup>Derived using ultrasound measures and reported on an ultrasound scale (IMF% instead of marbling score)

**Table 4.** Birth year 2014 average EPDs from 2016 evaluations for other traits unique to individual breeds

Angus	Residual		Cow		Weaned		Grid	Beef
	Average Daily	Mature	Yearling	Energy	Calf	Feedlot		
	Gain (lb)	Height (in)	Height (in)	Value (\$)	Value (\$)	Value (\$)	Value (\$)	Value (\$)
	0.21	0.4	0.5	-8.36	43.73	42.62	31.51	106.09
Hereford	Baldy	Brahman	Certified	Calving		Udder Score	Teat Score	
	Maternal Index	Influence	Hereford Beef	Ease Index				
	(\$)	Index (\$)	Index (\$)	(\$)				
	17.9	15.7	23.1	15.3	0.98	1.04		
Red Angus	Mature Cow Maintenance							
	(Mcal/mo)							
	0							
Gelbvieh	30-Month					Efficiency	Feeder	
	Pregnancy	DMI (lb/d)	ADG (lb/d)	RFI (lb/d)	\$ Cow (\$)	Profit Index	Profit Index	
						(\$)	(\$)	
	1.1	0.016	0.005	-0.010	61.11	101.81	69.51	
Limousin	Mainstream Terminal		Gestation					
	Index (\$)		Length (d)					
	50.04		-2.1					
Simmental	All Purpose	Terminal	Simbrah	All Purpose	Terminal			
	Index (\$)	Index (\$)		Index (\$)	Index (\$)			
	121	67.7		71.3	50.5			
Shorthorn			\$ British Maternal					
	\$ Calving Ease	\$ Feedlot	Index					
	17.9	52.68	111					
Murray Grey			Gestational	Days to				
	600-d wt (lb)	Length (d)	Length (d)	Calving (d)				
	53	-0.2	-0.9					