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 17 breeds are presented in this report. Mean EPDs for growth traits are shown in Table 1 (17 breeds), for other production traits in Table 2 (13 breeds), and for carcass and composition traits in Table 3. 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 2005 average EPDs from 2007 evaluations for growth traits

Breed	Birth Weight (lb)	Weaning Weight (lb)	Yearling Weight (lb)	Maternal Milk (lb)	**Total Maternal (lb)**
Angus	2.3	40	74	20	
Hereford	3.7	39	65	15	35
Red Angus	0.4	30.1	52.4	15.5	30.5
Shorthorn	1.8	14	22	2	9
South Devon	0.01	19.6	26.7	7.5	17.3
Beefmaster	0.43	7.0	12.0	2.0	5.5
Brahman	1.8	14.0	23.2	6.3	
Brangus	2.2	23.6	39.1	7.7	19.5
Braunvieh	-0.15	3.3	5.9	0	0.91
Charolais	1.3	20.9	37.6	6.3	16.8
Chianina	1.43	40.04	71.95	8.98	29.35
Gelbvieh	1.7	41	74	18	38
Limousin	1.9	37.6	71.2	19.4	
Maine-Anjou	2.36	39.1	77.6	19.3	38.8
Salers	1.1	16.3	27.4	8.4	16.5
Simmental	1.7	32.9	57.5	4.9	21.3
Tarentaise	1.5	4	11	1	

Table 2. Birth year 2005 average EPDs for other production traits

Breed	Calving Ease Direct (%)	Calving Ease Maternal (%)	Scrotal Circumference (cm)	Docility Score	**Stayability (%)**
Angus	5.0	6.0	0.32		
Hereford	-0.3	0.4	0.6		
Red Angus	5.4	3.3			10.4
Shorthorn	0.2	0.1			
Beefmaster			0.09		
Brangus			0.51		
Braunvieh	-0.26	-1.1			
Charolais	2.0	5.2	0.52		
Gelbvieh	104	104	0.4		5
Limousin	6.7	2.7	0.3	13.9	16.8
Salers			0.3	7.6	
Simmental	5.8	2.1			17.1
Tarentaise	0	1			

Table 3. Birth year 2005 average EPDs for carcass and composition traits

		Retail		Carcass			Ultrasound		
Breed	Carcass Wt (lb)	Product (%)	Yield Grade	Marbling Score	Ribeye Area (in^2)	Fat Thick-ness (in)	IMF (%)	Ribeye Area (in^2)	Fat Thick-ness (in)
Angus	5.7			0.21[a]	0.20[a]	-0.003[a]	0.14	0.23	0.005
Hereford							0.00[b]	0.13[b]	0.003[b]
Red Angus				0.06	0.03	-0.001[a]			
Shorthorn	-2	-0.01		-0.02[a]	-0.04[a]	0.0[a]			
South Devon	16.8			0.4	0.24	-0.3			
Brangus							-0.001	0.30	-0.001
Charolais	13.07			0.00	0.18	-0.003			
Gelbvieh	-0.19			-0.04[a]	0.07[a]	0.00[a]			
Limousin	15.5		0.03	0.01	0.12				
Maine-Anjou	8.2	0.27		0.22	0.26	0.0			
Salers	19.2	0.1		0.0	0.01	0.0			
Simmental	-1.12		0.002	0.09	0.04	0.007			

[a]Calculated using only actual carcass data (no ultrasound data)
[b]Calculated using ultrasound and carcass data in a multi-trait model

Table 4. Birth year 2005 average EPDs for other traits unique to individual breeds

	Mature Weight (lb)	Mature Height (in)	Cow Energy Value ($)	Weaned Calf Value ($)	Feedlot Value ($)	Grid Value ($)	**Beef Value ($)**
Angus	32.3	0.5	6.18	23.44	18.79	14.77	32.38

	Maternal Index ($)	Brahman Influence Index ($)	Certified Hereford Beef Index ($)	Calving Ease Index ($)
Hereford	14.7	14.2	16.45	14.0

	Heifer Pregnancy (%)	Mature Cow Maintenance (Mcal/mo)
Red Angus	8.5	4.4

	Feedlot Merit ($)	Grid Merit ($)	Gestation Length (d)
Gelbvieh	14.32	11.66	-1.4

	Mainstream Terminal Index ($)
Limousin	42.2

	All Purpose Index ($)	Terminal Index ($)
Simmental	90.4	61.4