# 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 (21 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) or Mark (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 | 1.2 | 49 | 87 | 24 | |
| Black Hereford | 2.8 | 44.6 | 75.7 | 21.8 | 44.1 |
| Hereford | 3.2 | 48.9 | 79.4 | 21.0 | 45.5 |
| Murray Grey | 3.8 | 24 | 37 | 4 | 16 |
| Red Angus | -1.4 | 58 | 88 | 21 | |
| Red Poll | 1.7 | 15 | 24 | 6 | |
| Shorthorn | 1.9 | 51 | 59.3 | 17.1 | 42.6 |
| South Devon | 2.2 | 45 | 83 | 25 | 48 |
| Beefmaster | 0.5 | 23 | 42 | 9 | 21 |
| Braford | 1.1 | 14 | 21 | 4 | 11 |
| Brahman | 1.9 | 16.8 | 26.8 | 5.5 | |
| Brangus | 1.1 | 25.3 | 47.2 | 9.3 | 22.0 |
| Red Brangus | 1.6 | 11.9 | 19.2 | 5.4 | 11.3 |
| Santa Gertrudis | 0.2 | 4.2 | 6.2 | 0.7 | |
| Senepol | 0.6 | 8.3 | 9.6 | 3.8 | 8.0 |
| Simbrah | 3.6 | 60.0 | 81.3 | 21.1 | 50.8 |
| American Akaushi | 0.1 | 25.6 | 46.1 | 27.0 | 39.8 |
| Braunvieh | 2.5 | 44.0 | 68.0 | 34.7 | 56.0 |
| Charolais | 0.4 | 26.8 | 49.3 | 8.8 | 22.2 |
| Chianina | 2.2 | 40.1 | 57.2 | 15.8 | 35.7 |
| Gelbvieh | 0.5 | 68.7 | 99.8 | 27.6 | 62.0 |
| Limousin | 1.2 | 61.9 | 90.4 | 26.0 | 57.0 |
| Maine-Anjou | 1.5 | 44.6 | 57.2 | 18.3 | 40.5 |
| Salers | 1.5 | 43.8 | 83.4 | 19.7 | 41.6 |
| Simmental | 1.8 | 62.6 | 91.3 | 21.1 | 52.4 |
| Tarentaise | 0.5 | 14.6 | 26.9 | 0.3 | |

**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 | 6 | 8 | 0.81 | 15 | 27 | 11.5 | |
| Hereford | 1.2 | 1.4 | 0.9 | | 88 | | |
| Murray Grey | -0.5 | -0.1 | 0.2 | | 56 | | |
| Red Angus | 5 | 4 | | | | 11 | 10 |
| Shorthorn | 5.1 | 1.1 | | | | | |
| South Devon | | | 0.1 | | | | |
| Beefmaster | | | 0.3 | | | | |
| Brahman | | | 0.2 | 0.0 | | | |
| Brangus | 3.8 | 4.1 | 0.48 | | | | |
| Santa Gertrudis | | | -0.01 | | | | |
| Simbrah | 2.9 | 6.0 | | 8.8 | | | 7.6 |
| American Akaushi | 3.7 | 5.0 | | | | | |
| Braunvieh | 5.9 | 0.9 | -0.09 | | | | |
| Charolais | 3.1 | 3.2 | 0.78 | | | | |
| Chianina | 4.7 | -2.1 | | | | | |
| Gelbvieh | 10.8 | 6.5 | | | | 3.8 | 6.0 |
| Limousin | 8.0 | 6.4 | 0.74 | 20.1 | | | 7.8 |
| Maine Anjou | 7.4 | 1.7 | | | | | |
| Salers | 0.4 | 0.4 | 0.3 | 8.6 | | | 23.8 |
| Simmental | 9.3 | 8.7 | | 10.8 | | | 11.6 |
| Tarentaise | 0.6 | 0.5 | | | | | |

**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 ($in^2$) | Fat Thickness (in) | | |
| Angus | 35.0 | | | 0.59 | 0.57 | 0.018 | | |
| Hereford | 61 | | | 0.09 | 0.34 | 0.005 | | |
| Murray Grey | 33 | 0.5 | | 0.0[a] | 0.11[a] | 0.00[a] | 0.00[a] | |
| Red Angus | 21 | | 0.00 | 0.43 | 0.14 | -0.005 | | |
| Shorthorn | 7.4 | | | 0.05 | 0.01 | -0.042 | | |
| South Devon | 29.0 | 0.8 | | 0.4 | 0.23 | 0.01 | | |
| Beefmaster | | | | 0.00[a] | -0.17[a] | -0.03[a] | | |
| Braford | 7 | | | 0.02 | 0.06 | 0.012 | | |
| Brahman | 1.8 | -0.01 | | 0.01 | 0.01 | 0.00 | | 0.03 |
| Brangus | | | | 0.02[a] | 0.36[a] | -0.040[a] | | |
| Santa Gertrudis | 4.0 | | | -0.01 | 0.04 | 0.002 | | |
| Simbrah | 23.3 | | -0.23 | -0.06 | 0.46 | -0.058 | | -0.11 |
| American Akaushi | | | | 0.74[a] | 0.16[a] | 0.055[a] | | |
| Braunvieh | 22.6 | | | 0.60 | 0.34 | -0.089 | | |
| Charolais | 16.8 | | | 0.04 | 0.34 | 0.005 | | |
| Chianina | 8.8 | | -0.24 | 0.06 | 0.38 | -0.049 | | |
| Gelbvieh | 29.6 | | -0.29 | 0.12 | 0.45 | -0.040 | | |
| Limousin | 25.0 | | -0.19 | -0.02 | 0.46 | -0.044 | | |
| Maine-Anjou | 6.2 | 0.53 | | -0.03 | 0.31 | -0.050 | | |
| Salers | 22.9 | 0 | | 0.2 | 0.04 | 0.000 | | |
| Simmental | 26.8 | | -0.33 | 0.14 | 0.80 | -0.055 | | -0.32 |

[a]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

| | Residual Avg Daily Gain (lb) | Dry Matter Intake (lb) | Mature Height (in) | Yearling Height (in) | Cow Energy Value ($) | Weaned Calf Value ($) | Feedlot Value ($) | Grid Value ($) | Beef Value ($) |
|---|---|---|---|---|---|---|---|---|---|
| Angus | 0.22 | 0.20 | 0.3 | 0.5 | -3.15 | 47.38 | 42.56 | 35.91 | 117.44 |

| | Baldy Maternal Index ($) | Brahman Influence Index ($) | Certified Hereford Beef Index ($) | Calving Ease Index ($) | Udder Score | Teat Score |
|---|---|---|---|---|---|---|
| Hereford | 18.15 | 15.84 | 23.58 | 15.5 | 1.18 | 1.12 |

| | Mature Cow Maintenance (Mcal/mo) |
|---|---|
| Red Angus | 0 |

| | 600-d wt (lb) | Gestational Length (d) | Days to Calving (d) |
|---|---|---|---|
| Murray Grey | 55 | -0.2 | -0.8 |

| | $ Calving Ease | $ Feedlot | $ British Maternal Index |
|---|---|---|---|
| Shorthorn | 20.4 | 51.01 | 110.1 |

| | Terminal Index ($) | Maternal Index ($) |
|---|---|---|
| Beefmaster | 71.06 | 15.31 |

| | 30-Month Pregnancy | DMI (lb/d) | ADG (lb/d) | RFI (lb/d) | $ Cow ($) | Efficiency Profit Index ($) | Feeder Profit Index ($) |
|---|---|---|---|---|---|---|---|
| Gelbvieh | 1.2 | 0.017 | 0.005 | -0.015 | 65.27 | 113.07 | 71.56 |

| | Mainstream Terminal Index ($) | Gestation Length (d) |
|---|---|---|
| Limousin | 49.48 | -2.8 |

| | All Purpose Index ($) | Terminal Index ($) | ADG (lb/d) |
|---|---|---|---|
| Simmental | 121.9 | 67.6 | 0.18 |

| | All Purpose Index ($) | Terminal Index ($) |
|---|---|---|
| Simbrah | 79.9 | 51.6 |