2021 SIRE SUMMARY

practical || profitable || predictable

AMERICAN MAINE ANJOU ASSOCIATION

WHAT ARE EPDs?

Expected Progeny Differences (EPDs) may be used to estimate how future progeny of the subject animal will compare to progeny of other animals within the breed. The key words are estimate, future, compare and within breed. EPDs are not designed to predict the performance of one or two progeny of a sire, but rather should be used to compare bulls based on estimated progeny performance. EPDs predict differences, not absolutes. They describe the genetic value of an animal much like a feed tag describes the contents of a feed sack.

EPDs are computed as part of the AMAA National Cattle Evaluation (NCE) program. The NCE program represents the application of the most recent genetic and computing technology for calculating EPDs for beef cattle. The Maine-Anjou NCE program incorporates all available performance into the prediction of an individual's EPD for a specific trait.

An EPD may be based on any combination of individual performance, pedigree and progeny performance information. In addition, EPDs are more accurate than anything previously available because they account for the following factors:

- Genetic value of cows to which a bull is bred
- Environmental differences affecting contemporary groups
- Genetic values of other parents in the contemporary group.
- Genetic trend

EPDs are reported in pounds for birth weight, weaning weight, maternal milk, maternal milk & growth and yearling weight.

EXAMPLE LISTING AND TRAIT DEFINITIONS

Main & Young Listings | **Carcass Listings**

EPD (ACC) Percentage / Color / HPS	CED	BW	WW	YW	MCE	MM	MWW	Carc Wt.	Fat Thick	REA	MARB	% Retail
					Herd & Progeny / EPD Rank							
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
XYZ SUPERBULL	9.0 (.59)	1.5 (.59)	48.0 (.38)	70.0 (.53)	4.2 (.47)	14.9	39 (.47)	18.0 (.38)	-0.05	0.27 (.47)	0.12 (.47)	0.41
2/22/99 87654321 PB / B / H		⑭ 1 / 17 ⑮	1 / 17	1/13								
S: XYZ GREATBULL	8*	7*	6* ⑯	8*	8*	5*	6*	9*	10*	9*	10*	9*
B: XYZ RANCH, ANYTOWN, TX												
O: XYZ RANCH ANYTTOWN, TX; BETTER FARMS, MY CITY, MO												

1. SIRE INFORMATION

Sires alphabetical registered name. Also included in this column are the bull's date of birth, registration number, breed percentage, color (if available), horned/polled/scurred status, sire (S), breeder (B) and current owners (O).

2. CALVING EASE

Calving ease EPD describes the heritable component of a sire's ability to produce calves with minimal dystocia or calving difficulty when mated to heifers. It is the best selection tool to use to reduce dystocia. A sire with an 9.0 CE EPD is expected to 6% more unassisted births than a sire with a 3.0 CE EPD. Units are in percentage of additional unassisted births.

3. BIRTH WEIGHT

Progeny can be expected to weight 1.2lbs more at birth than progeny sired by a bull with an EPD of 0.3 lb. (1.5 minus 0.3 = 1.2 lb.) Birth weight is an indicator of calving ease. Larger birth weight EPDs usually indicate more calving difficulty.

4. WEANING WEIGHT

Weaning EPD reflects pre-weaning growth. Calves sired by the above bull should have a 16 lb. advantage in 205-day adjusted weaning weight compared to calves sired by a bull with an EPD of 32.0 lb. (48.0 minus 32.0 = 16 lb.)

5. YEARLING WEIGHT

Yearling EPD for this sire indicates his progeny should be 16 lb. above the average of progeny of a bull with an EPD of 54 lb. Yearling EPD reflects differences in the 365-day adjusted yearling weight for progeny. It is the best estimate of total growth.

6. MATERNAL CALVING EASE

Maternal Calving Ease provides an indicator of the ability of a sire's daughters to calve unassisted. Units of measure are additional percentage of unassisted births. A sire MCE EPD of 4.2 is expected to sire daughter that have 4% more unassisted births than a bull with a 0.2 MCE EPD.

7. MATERNAL MILK

The milking ability of a sire's daughters expressed in pounds of calf weaned. It predicts the difference in average weaning weight of sires' daughters' progeny due to milking ability. Daughters of the sire in the above example should produce progeny with 205-day weights averaging 4.1 lb. more (as a result of greater milk production) than daughters of a bull with a maternal milk EPD of 10.8 lb. (14.9 minus 10.8 = 4.1 lb.). This difference in weaning weight is due to total milk production over the entire lactation.

EXAMPLE LISTING AND TRAIT DEFINITIONS (CONTINUED)

8. TOTAL MATERNAL
Maternal Milk & Growth reflects what the sire is expected to transmit to his daughters for a combination of growth genetics through weaning and genetics for milking ability. It is an estimate of daughters' progeny weaning weight. The bull in the above example should sire daughters with progeny weaning weights averaging 5 lb. heavier than progeny of a bull's daughters with a Maternal Milk & Growth EPD of 34 lb. (39 minus 34 = 5 lb.). It is equal to one-half the sire's weaning weight EPD, plus all of his milk EPD. No accuracy is associated with this since it is simply a mathematical combination of two other EPDs. This EPD is sometimes referred to as "total maternal" or "combined maternal."

9. CARCASS WEIGHT
Carcass Weight EPD reflects differences in the 450-day adjusted hot carcass weight (pounds) of progeny. Carcass Weight EPD for this sire indicates his progeny should be 18.0 lb. above the average of progeny of a bull with an EPD of 0.0 lb.

10. FAT THICKNESS
Fat Thickness EPD reflects expected differences in a sire's progeny for the carcass measurement of inches of 12th rib fat thickness. A negative Fat Thickness EPD reflects the expectation of progeny having less fat thickness (leaner carcass). Fat thickness is one of the components used to determine USDA Yield Grade and estimates of cutability.

11. RIB-EYE AREA
Rib-eye Area EPD reflects expected differences in a sire's progeny for the carcass measurement of square inches of rib-eye area taken between the 12th and 13th ribs. Rib eye area is one of the components used to determine USDA Yield Grade and estimates of cutability. Positive Rib-eye Area EPDs are reflective larger average progeny rib-eye area.

12. MARBLING
Marbling EPD reflects differences in expected progeny marbling scores (intramuscular fat). Marbling EPD is measured in marbling score units. For example the progeny of a sire that has a Marbling EPD of 0.50 would be expected to average one-half marbling score better than progeny of a sire with Marbling EPD 0.00.

13. PERCENT RETAIL CUT
Percent Retail Cuts EPD reflects the expected genetic differences in the percentage of boneless closely trimmed retail cuts (PBCTRC) of progeny. PBCTRC is a measure of cutability and is closely related to USDA Yield Grade. Positive values represent expectations of progeny with more desirable cutability (a higher percentage of retail cuts).

14. HERDS
Number of herds in which progeny were raised with recorded measurements for each specific trait. Number of herds gives a general indication of progeny distribution.

15. PROGENY
The number of progeny sired by the bull with recorded measurements for each specific trait. Number of progeny should not be used in lieu of accuracy, but simply to further clarify accuracy values.

PERCENTILE BREAKDOWN OF EPDs

Percentile charts for the breed's active Maine-Anjou and MaineTainer sires (those producing a calf with a performance record since 2012) appear below. These can be used to get a better idea of how a bull ranks in the current group of active sires in the Maine-Anjou or MaineTainer breed groups. The chart is divided into 5 percent increments for each trait. The top 5 percent are further divided into 1 percent increments.

Very few bulls rank at the top in every trait, but through careful evaluation you should be able to find bulls to match your specifications. To see how the table may be used, let's look at our example bull used previously.

Since EPDs may be used to compare young bulls that are not parents, the average EPDs and ranges and a percentile breakdown for animals born in 2011-2012 are also provided. These tables are useful for comparing the EPDs of calves born in these years. Moreover, since the recent change is relatively small, it can be used as a benchmark for all young calves.

The breakdown chart and EPD ranges for the active cows with a calf reported since Jan. 1, 2013, allow one to compare his or her herd with all active cows in the Maine-Anjou breed.

The Percentile Breakdown charts and Genetic Trend graphs for the MaineTainer cattle appear on pages 7 and 8.

PERCENTILE BREAKDOWN OF EPDs FOR MAINE-ANJOU

Maine-Anjou Active Sires

Expected Progeny Differences

	Growth and Maternal							Intake and Carcass			
	CED	BW	WW	YW	MK	TM	CEM	CW	RE	MB	FT
Num Animals	285	285	285	285	285	285	285	208	208	208	208
High	20	9.0	79	106	35	64	14	44	0.85	0.55	0.01
Average	6	2.1	44	56	19	41	1	9	0.29	0.09	-0.04
Low	-12	-5.0	26	24	-2	22	-17	-13	-0.04	-0.19	-0.08
1%	18	-2.9	71	95	33	56	11	33	0.81	0.36	-0.07
2%	17	-2.4	67	88	30	53	9	29	0.70	0.35	-0.07
3%	15	-2.1	62	86	30	53	9	26	0.64	0.28	-0.07
4%	15	-1.8	62	82	29	52	8	25	0.63	0.26	-0.06
5%	15	-1.5	60	81	29	51	8	25	0.53	0.25	-0.06
10%	13	-0.6	56	73	27	48	7	20	0.44	0.19	-0.06
15%	11	-0.2	53	71	26	46	5	18	0.40	0.17	-0.05
20%	10	0.1	52	68	24	45	5	16	0.36	0.15	-0.05
25%	9	0.5	50	66	23	44	4	14	0.34	0.14	-0.05
30%	9	0.8	48	62	22	44	3	13	0.33	0.13	-0.04
35%	8	1.2	47	60	21	43	3	11	0.31	0.12	-0.04
40%	8	1.5	46	59	20	42	2	10	0.29	0.11	-0.04
45%	7	1.8	45	58	19	42	2	9	0.28	0.10	-0.04
50%	6	2.1	44	56	18	41	1	8	0.27	0.09	-0.04
55%	6	2.4	43	54	18	40	1	7	0.26	0.08	-0.04
60%	5	2.7	42	52	17	40	1	6	0.25	0.06	-0.04
65%	4	3.0	40	51	16	39	0	6	0.24	0.06	-0.03
70%	4	3.2	38	49	15	38	0	5	0.23	0.04	-0.03
75%	2	3.4	38	47	14	37	-1	4	0.21	0.03	-0.03
80%	1	4.0	37	45	13	36	-2	3	0.20	0.02	-0.03
85%	1	4.4	36	43	12	35	-3	2	0.19	0.01	-0.03
90%	-1	4.9	34	38	11	33	-4	0	0.17	0.00	-0.02
95%	-4	6.0	30	33	9	31	-6	-4	0.11	-0.05	-0.02

Maine-Anjou Active Dams

Expected Progeny Differences

	Growth and Maternal							Intake and Carcass			
	CED	BW	WW	YW	MK	TM	CEM	CW	RE	MB	FT
Num Animals	1002	1002	1002	1002	1002	1002	1002	576	576	576	576
High	19	8.9	75	105	41	70	15	29	0.74	0.35	0.01
Average	6	2.1	44	56	19	41	2	9	0.27	0.09	-0.04
Low	-13	-4.8	16	18	-2	16	-16	-23	-0.10	-0.16	-0.07
1%	16	-2.7	68	96	34	58	10	26	0.55	0.25	-0.07
2%	15	-2.0	63	85	32	55	9	23	0.51	0.24	-0.06
3%	14	-1.5	60	82	30	53	8	23	0.48	0.23	-0.06
4%	14	-1.3	59	80	29	52	8	22	0.45	0.22	-0.06
5%	14	-1.1	58	78	28	51	8	21	0.44	0.21	-0.06
10%	12	-0.6	55	73	26	49	7	18	0.38	0.18	-0.05
15%	11	-0.2	52	69	25	47	6	16	0.35	0.16	-0.05
20%	10	0.2	51	66	23	46	5	15	0.34	0.15	-0.05
25%	10	0.6	49	64	22	45	4	13	0.32	0.14	-0.04
30%	9	0.9	48	62	22	44	4	12	0.30	0.12	-0.04
35%	8	1.1	47	60	21	43	3	11	0.29	0.11	-0.04
40%	7	1.4	46	58	20	42	3	10	0.28	0.11	-0.04
45%	7	1.7	45	57	19	41	2	9	0.26	0.10	-0.04
50%	6	1.9	44	55	19	41	2	8	0.26	0.10	-0.04
55%	6	2.2	43	54	18	40	1	8	0.25	0.09	-0.04
60%	5	2.4	42	52	17	39	1	7	0.24	0.08	-0.03
65%	4	2.8	41	51	17	38	0	6	0.23	0.07	-0.03
70%	3	3.1	40	49	16	37	0	5	0.22	0.06	-0.03
75%	2	3.5	39	48	15	36	-1	5	0.22	0.05	-0.03
80%	1	4.0	38	46	14	35	-1	4	0.21	0.04	-0.03
85%	0	4.5	36	44	13	35	-2	2	0.19	0.02	-0.03
90%	-1	5.0	35	41	11	33	-3	1	0.17	0.01	-0.02
95%	-4	5.6	32	35	9	31	-5	-1	0.13	-0.01	-0.02

PERCENTILE BREAKDOWN OF EPDs FOR MAINE-ANJOU

Maine-Anjou Non-Parents											
	Expected Progeny Differences										
	Growth and Maternal							Intake and Carcass			
	CED	BW	WW	YW	MK	TM	CEM	CW	RE	MB	FT
Num Animals	1066	1066	1066	1066	1066	1066	1066	501	501	501	501
High	17	9.5	72	96	35	61	11	39	0.86	0.38	0.01
Average	6	1.6	44	55	19	41	1	11	0.28	0.09	-0.03
Low	-13	-5.9	17	14	7	23	-13	-6	0.00	-0.09	-0.06
1%	15	-4.0	62	87	32	54	9	28	0.64	0.31	-0.06
2%	14	-3.4	61	82	29	53	8	26	0.56	0.27	-0.06
3%	14	-2.9	59	79	29	52	8	25	0.54	0.24	-0.06
4%	13	-2.4	58	77	28	51	7	24	0.51	0.22	-0.05
5%	13	-2.1	57	75	28	50	7	23	0.48	0.21	-0.05
10%	12	-1.1	54	71	26	48	5	21	0.40	0.18	-0.05
15%	11	-0.7	52	68	25	47	5	19	0.37	0.16	-0.05
20%	10	-0.3	50	65	24	46	4	18	0.34	0.15	-0.04
25%	9	0.1	49	63	23	45	3	16	0.32	0.14	-0.04
30%	8	0.3	47	61	22	45	3	15	0.31	0.13	-0.04
35%	8	0.7	46	60	22	44	3	14	0.30	0.12	-0.04
40%	8	1.0	45	58	21	43	2	13	0.29	0.11	-0.04
45%	7	1.3	44	56	20	42	2	12	0.28	0.10	-0.04
50%	6	1.6	43	55	19	41	1	11	0.27	0.09	-0.03
55%	6	1.9	42	53	19	41	1	10	0.26	0.09	-0.03
60%	5	2.2	41	52	18	40	0	9	0.26	0.08	-0.03
65%	4	2.4	41	51	17	39	0	8	0.25	0.07	-0.03
70%	4	2.8	40	49	17	38	-1	7	0.24	0.06	-0.03
75%	3	3.3	39	48	16	37	-2	6	0.23	0.04	-0.03
80%	2	3.7	37	46	15	36	-2	5	0.22	0.03	-0.03
85%	1	4.2	36	44	14	35	-3	4	0.21	0.02	-0.02
90%	0	4.8	35	40	13	34	-4	3	0.18	0.01	-0.02
95%	-2	5.4	32	35	11	31	-7	1	0.14	-0.01	-0.02

PERCENTILE BREAKDOWN OF EPDs FOR MAINETAINER

Maintainer Active Sires											
	Expected Progeny Differences										
	Growth and Maternal							Intake and Carcass			
	CED	BW	WW	YW	MK	TM	CEM	CW	RE	MB	FT
Num Animals	392	392	392	392	392	392	392	205	205	205	205
High	20	7.0	69	104	53	63	11	46	1.18	0.50	0.02
Average	8	1.0	42	55	19	40	0	11	0.28	0.12	-0.03
Low	-5	-6.1	-19	-58	-1	23	-16	-19	-0.02	-0.21	-0.07
1%	19	-4.7	65	97	38	60	9	45	1.16	0.50	-0.07
2%	17	-3.6	64	95	37	55	8	34	0.69	0.38	-0.06
3%	17	-2.7	61	92	34	54	7	33	0.62	0.34	-0.05
4%	17	-2.4	60	91	32	52	7	32	0.59	0.32	-0.05
5%	16	-2.2	59	86	31	51	6	31	0.56	0.27	-0.05
10%	14	-1.6	55	76	29	49	5	26	0.46	0.23	-0.04
15%	13	-1.0	52	72	26	47	4	22	0.38	0.20	-0.04
20%	12	-0.7	50	69	25	45	3	19	0.35	0.19	-0.04
25%	11	-0.2	48	66	23	44	3	17	0.34	0.17	-0.03
30%	11	0.1	46	62	22	43	2	15	0.31	0.15	-0.03
35%	10	0.2	45	60	21	42	2	13	0.30	0.14	-0.03
40%	9	0.5	44	59	20	41	1	11	0.28	0.13	-0.03
45%	9	0.6	43	57	20	40	1	10	0.27	0.13	-0.03
50%	8	0.9	42	56	19	39	0	9	0.26	0.12	-0.03
55%	8	1.2	41	54	18	39	0	8	0.24	0.10	-0.02
60%	7	1.4	40	52	17	38	-1	7	0.23	0.09	-0.02
65%	6	1.8	39	50	16	38	-1	6	0.22	0.09	-0.02
70%	6	2.0	37	48	16	37	-1	5	0.21	0.08	-0.02
75%	5	2.3	36	46	15	36	-2	4	0.20	0.06	-0.02
80%	4	2.7	35	43	14	35	-3	3	0.18	0.06	-0.02
85%	3	2.9	32	40	13	34	-4	1	0.16	0.05	-0.02
90%	1	3.5	29	33	11	32	-5	-1	0.12	0.03	-0.01
95%	-1	4.0	23	28	9	30	-7	-3	0.09	0.00	-0.01

PERCENTILE BREAKDOWN OF EPDs FOR MAINETAINER

Maintainer Active Dams

Expected Progeny Differences

	Growth and Maternal							Intake and Carcass			
	CED	BW	WW	YW	MK	TM	CEM	CW	RE	MB	FT
Num Animals	3715	3719	3719	3719	3719	3719	3715	1245	1245	1245	1245
High	22	7.7	86	130	55	68	13	45	0.84	0.63	0.04
Average	8	0.9	44	60	18	40	1	11	0.27	0.15	-0.03
Low	-14	-4.9	-15	-15	-6	17	-22	-18	-0.19	-0.15	-0.07
1%	18	-3.1	69	101	37	59	10	37	0.63	0.43	-0.05
2%	17	-2.6	65	95	32	57	9	33	0.54	0.40	-0.05
3%	16	-2.3	63	92	30	55	9	32	0.52	0.37	-0.05
4%	16	-2.1	62	89	29	53	8	31	0.48	0.36	-0.05
5%	15	-1.9	60	88	28	52	8	28	0.47	0.33	-0.04
10%	14	-1.2	56	81	26	48	6	24	0.41	0.27	-0.04
15%	13	-0.8	54	76	24	46	5	21	0.39	0.23	-0.04
20%	12	-0.5	52	73	23	45	4	19	0.36	0.21	-0.03
25%	11	-0.3	50	70	21	44	3	17	0.34	0.19	-0.03
30%	10	0.0	49	68	21	42	3	16	0.33	0.17	-0.03
35%	10	0.2	48	65	20	42	2	14	0.31	0.16	-0.03
40%	9	0.4	46	63	19	41	2	13	0.30	0.15	-0.03
45%	8	0.6	45	61	18	40	1	11	0.28	0.14	-0.03
50%	8	0.9	44	59	17	39	1	10	0.27	0.14	-0.03
55%	7	1.1	43	57	17	38	0	9	0.25	0.13	-0.02
60%	6	1.3	42	55	16	38	0	8	0.24	0.12	-0.02
65%	6	1.5	41	53	15	37	-1	7	0.23	0.11	-0.02
70%	5	1.7	40	51	14	36	-1	6	0.21	0.10	-0.02
75%	4	2.0	38	49	13	35	-2	5	0.20	0.09	-0.02
80%	4	2.2	37	46	12	35	-3	4	0.19	0.07	-0.02
85%	3	2.6	35	43	11	33	-3	3	0.17	0.06	-0.02
90%	1	2.9	32	40	10	31	-4	1	0.14	0.05	-0.01
95%	0	3.4	29	34	8	30	-6	-1	0.10	0.02	-0.01

Maintainer Non-Parents

Expected Progeny Differences

	Growth and Maternal							Intake and Carcass			
	CED	BW	WW	YW	MK	TM	CEM	CW	RE	MB	FT
Num Animals	5479	5484	5484	5484	5484	5484	5479	1422	1422	1422	1422
High	23	9.3	85	133	45	68	14	58	1.02	0.70	0.05
Average	8	0.9	44	58	18	40	-1	14	0.31	0.14	-0.03
Low	-17	-6.4	5	-8	-13	19	-13	-18	-0.16	-0.13	-0.07
1%	18	-3.7	68	101	32	55	8	39	0.73	0.51	-0.05
2%	17	-3.0	64	95	30	53	7	34	0.67	0.43	-0.05
3%	16	-2.6	62	92	29	52	7	32	0.61	0.40	-0.05
4%	16	-2.4	61	89	28	51	6	31	0.59	0.37	-0.04
5%	15	-2.2	60	87	27	50	6	30	0.55	0.34	-0.04
10%	14	-1.5	56	79	25	47	4	26	0.46	0.27	-0.04
15%	13	-1.0	53	74	23	46	3	23	0.40	0.22	-0.04
20%	12	-0.6	51	70	22	45	3	22	0.38	0.20	-0.03
25%	11	-0.3	49	67	22	44	2	20	0.36	0.18	-0.03
30%	11	-0.1	48	65	21	42	1	19	0.35	0.17	-0.03
35%	10	0.2	46	63	20	42	1	17	0.33	0.16	-0.03
40%	9	0.5	45	61	19	41	0	16	0.32	0.14	-0.03
45%	9	0.8	44	59	18	40	0	15	0.31	0.13	-0.03
50%	8	1.0	43	57	18	39	0	14	0.30	0.12	-0.03
55%	8	1.2	42	56	17	38	-1	12	0.29	0.11	-0.03
60%	7	1.4	41	54	16	38	-1	11	0.27	0.10	-0.02
65%	6	1.7	40	52	16	37	-2	10	0.26	0.10	-0.02
70%	6	1.9	39	50	15	36	-2	9	0.25	0.09	-0.02
75%	5	2.2	38	48	14	36	-3	7	0.23	0.08	-0.02
80%	4	2.5	36	46	13	35	-4	6	0.21	0.07	-0.02
85%	3	2.8	35	44	12	34	-5	5	0.19	0.05	-0.02
90%	2	3.2	33	40	11	32	-6	3	0.17	0.04	-0.01
95%	0	3.7	29	35	9	30	-7	0	0.14	0.01	-0.01

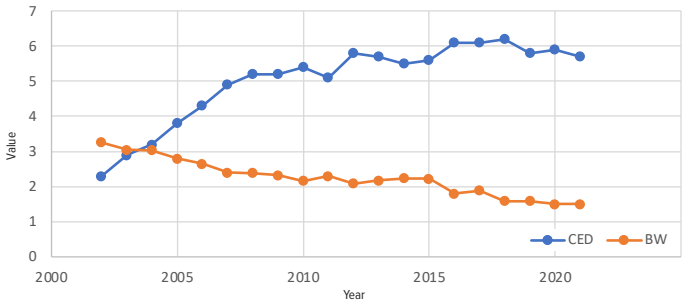
GENETIC TRENDS

The graphs below illustrate the genetic trends in the Maine-Anjou and MaineTainer breed groups. All animals in the analysis were used to generate this information. This includes Fullblood and Purebred animals as well as lower percentage Maine-Anjou cattle. In general, the EPD changes from one year to the next are quite small.

This does not mean the performance of the cattle has not changed over the years. The actual weights taken on animals are phenotypic measurements. Phenotypic changes can be made through changing not only an animal's genetics, but also by changing an animal's environment.

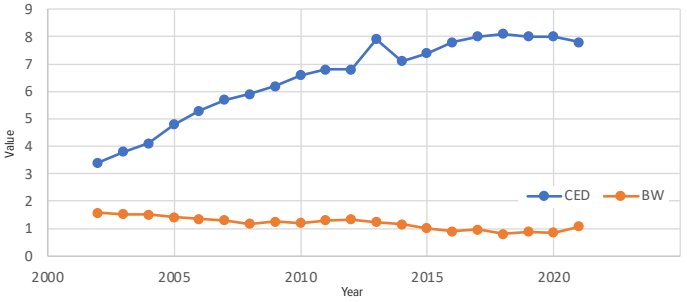
MAINE-ANJOU BW & CED TRAITS

Genetic Trend || 2000 to 2021



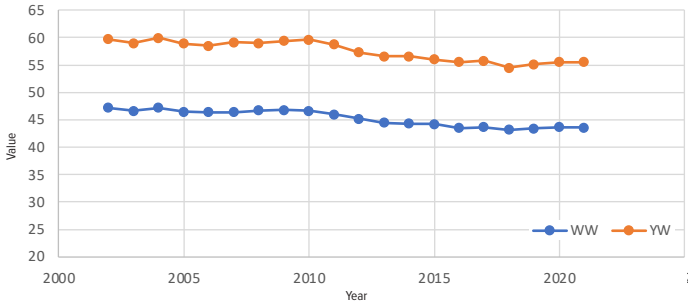
MAINETAINER BW & CED TRAITS

Genetic Trend || 2000 to 2021



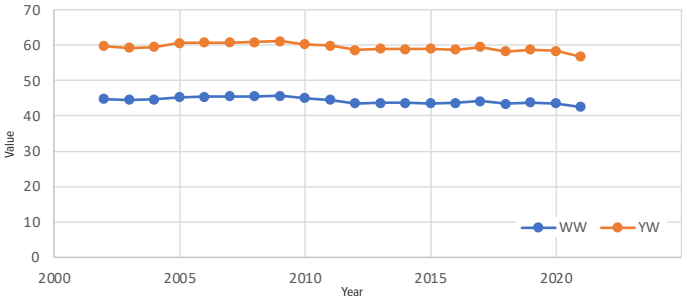
MAINE-ANJOU WW & YW TRAITS

Genetic Trend || 2000 to 2021



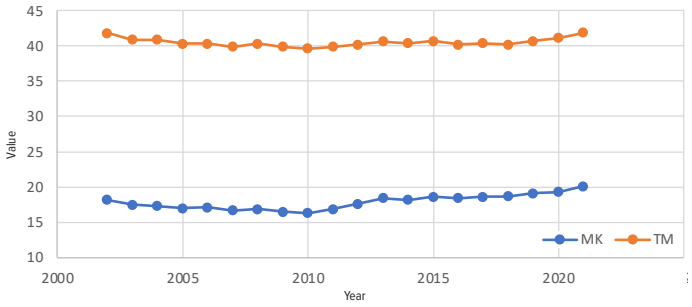
MAINETAINER WW & YW TRAITS

Genetic Trend || 2000 to 2021



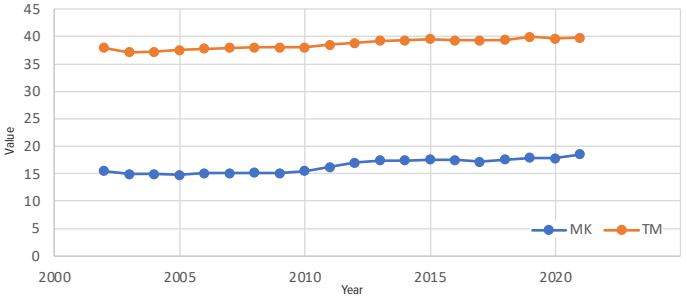
MAINE-ANJOU MK & TM TRAITS

Genetic Trend || 2000 to 2021



MAINETAINER MK & TM TRAITS

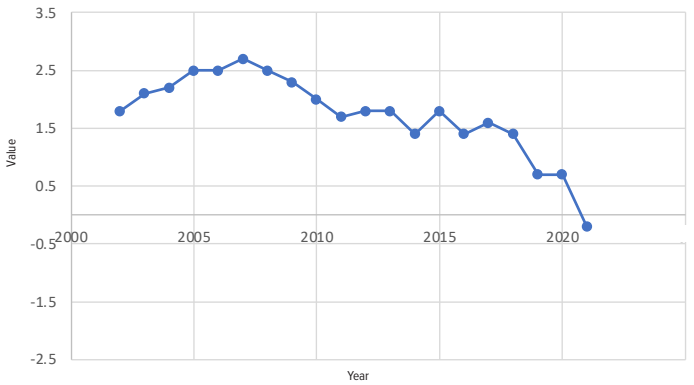
Genetic Trend || 2000 to 2020



GENETIC TRENDS (CONTINUED)

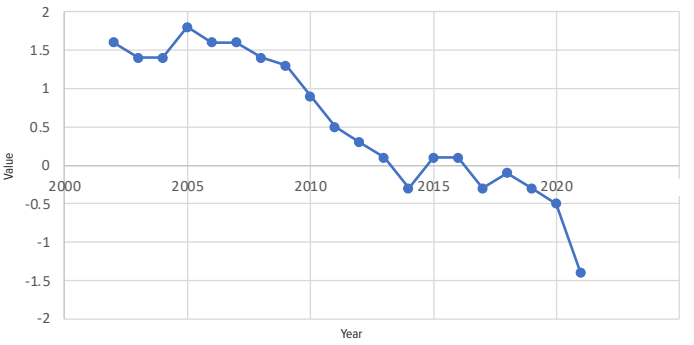
MAINE-ANJOU CEM TRAITS

Genetic Trend || 2000 to 2021



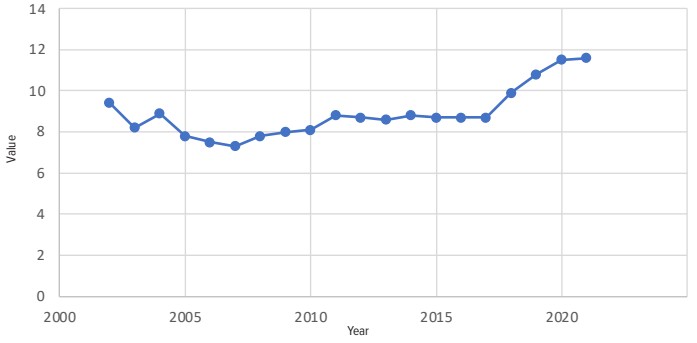
MAINETAINER CEM TRAITS

Genetic Trend || 2000 to 2021



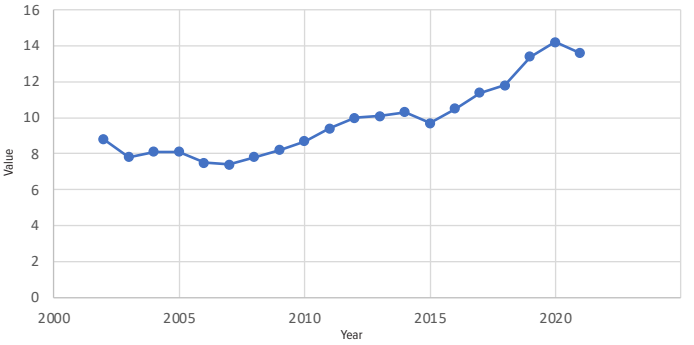
MAINE-ANJOU CW TRAITS

Genetic Trend || 2000 to 2021



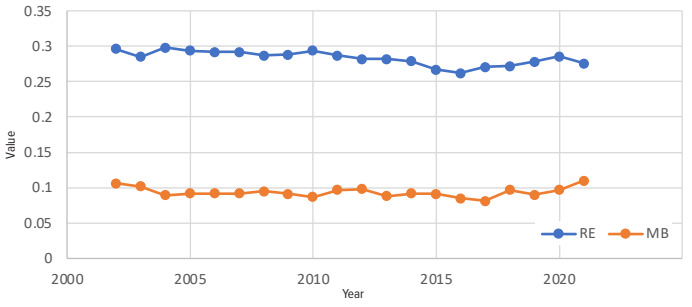
MAINETAINER CW TRAITS

Genetic Trend || 2000 to 2021



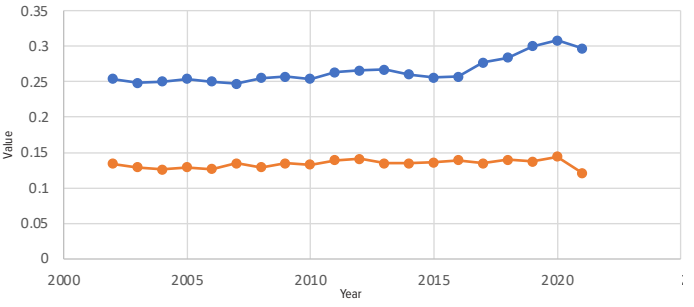
MAINE-ANJOU RE & MB TRAITS

Genetic Trend || 2000 to 2021



MAINETAINER RE & MB TRAITS

Genetic Trend || 2000 to 2021



QUESTIONS -AND- ANSWERS

If a bull has a yearling weight EPD of +80lb., does this mean he will ad 80 lb. to yearling weights?

It is important to remember that EPDs do not predict performance; they merely allow us to compare the average expected performance of progeny of different bulls. This bull, when compared to another bull within the same breed with a 65 lb. yearling EPD, would be expected to produce an additional 15 lb. of yearling weight if both were randomly mated to a large number of cows in thesame environment.

Does a +15 lb. milk EPD mean an extra 15 lb. of milk?

No. Maternal milk EPDs are expressed in pounds of calf weaning weight, not in pounds of milk. In an attempt to explain how this works, let's consider a contemporary group of calves where there is a prediction of how each calf should rank within that group based on weaning weight EPDs of the sires and dams represented. Assume that a bull has daughters that consistently wean calves that are 15 lb. above the predicted rank when compared to daughters of other bulls in the same contemporary group. This greater weaning weight is credited to milk production, even though other environmental factors may also play a role.

Do I need to know what the breed average is for birth weight before I select a bull?

Absolute breed averages for birth weight or any other traits do not exist because of non-genetic environmental factors such as climate, nutrition, management systems, etc. For example, we know that birth weights may be as much as 15 to 20 lb. lower in Florida than in Montana, strictly due to variation in temperature, humidity and grass quality. Thus, breed averages will vary from one herd to the next and the only way you will know what breed average is in your herd is with experience gained by using proven bulls with high accuracy. Remember, EPDs are meant to predict differences in progeny performance rather than determine absolute performance.

How much confidence can I have in an EPD with a low accuracy value less than .30?

If you were able to sample several bulls with low accuracy, on the average the EPDs would do a fairly good job of sorting the bulls into high, medium and low performance levels. However, when you are selecting only one bull, "on the average'' is not good enough, so you really need to know the possible change associated with the given accuracy. For example, let's assume the minimum yearling weight you are willing to accept is 70 lb., and you were considering a bull with a yearling weight EPD of +85 lb. with an accuracy of .40. Next we look at the Possible Change Value table on page 3 and find a value of +15.4 for yearling weight with an accuracy of .40. This bull may work for you because +85 minus 15.4 is 69.6 lb., which is slightly lower than the acceptable level of 70 lb. It is true that the bull could stay the same or even go up in yearling weight EPD. You must decide how much risk you are willing to accept. For a given accuracy, approximately 67 percent of the bulls will not change more than plus or minus the possible change value when re- evaluated with additional progeny information. The table for converting accuracy to possible change is printed on page 3 of this Sire Summary. Please note that possible change values differ for each trait.

How are embryo transfer (ET) calves handled with respect to EPD values?

The performance records of ET calves are not considered in the calculation of EPDs for the animal or its sire and dam. The reason is because there is no way to account for the influence of the recipient female on the calf's performance. EPDs for ET animals are estimated using information from relatives until the animal has progeny with performance records.

Will mating a specific sire to my best cows affect his EPDs?

No. When calculating EPDs, the mates of a particular animal are accounted for in the analysis. In other words, breeding a sire to either high growth cows or low growth cows should not affect his EPDs. For example, let's say you have 50 cows. You breed your higher yearling weight EPD cows to Sire A and breed your lower yearling weight EPD cows to Sire B. Sire A's calves should weigh more at a year of age than Sire B's simply because of the dams. This type of mating is accounted for in the present statistical analysis.

How important is it to identify my contemporary groups correctly?

Extremely important. More inaccuracies in the genetic analysis occur from incorrectly identifying contemporary groups than any other single cause. Weaning Management Codes (feed code and group) must be used to distinguish calves which have had different opportunities to perform. Calves that have been treated differently should have different management codes.

Do I need to send in to AMAA the performance records of all my calves?

Absolutely YES. Sending in only your best calves really hurts your best sires and dams. You must record ALL calves for the analysis to be correct. If one calf has been sick and therefore weighs much less, simply give him a different management code. Also at birth, weighing the dead calves is just as important as the live calves.

Should calves out of my first-calf heifers be in separate contemporary groups than calves out of my older cows?

A contemporary group is a group of animals who have been treated alike. If you treat your first-calf heifers differently than your mature cows, those calves should be in different contemporary groups. If you treat your first- calf heifers identically to your mature cows, both sets of calves would be considered contemporaries. Use different management codes to identify separate contemporary groups. How you manage and feed your cows is totally your decision, but calves (or dams) treated differently should be grouped separately. If you treat your first-calf heifers better than your mature cows and still group them all together, the calves out of the first-calf heifers get the added adjusted weaning weight correction as well as the superior treatment.

GLOSSARY

ACCURACY (ACC)
A measure of certainty regarding the genetic merit of an animal. Accuracy values are calculated for each EPD according to Beef Improvement Federation (BIF) Guidelines and reported as a decimal number between zero and one. Larger values indicate greater accuracy.

BIRTH WEIGHT
Calf weight at birth adjusted to a mature dam equivalent. Expected progeny performance is reported in pounds. The EPD value predicts the difference in average birth weight of a bull's calves compared to calves of all other bulls evaluated. When comparing birth weight EPDs of two sires, the larger EPD indicates a heavier average birth weight for calves sired by this bull.

CALVING EASE
Controlling the percentage of heifers experiencing dystocia during their first calving is a goal of many produers. Service sires mated to these heifers can have a large influence on the rate of calving difficulty or dystocia. Calving ease EPD describes the additional percentage of calves expected to be born unassisted. The CE EPD uses both calving ease scores for calves born to heifers and birth weights from calves born to all age of dam classifications to predict calving ease.

CARCASS WEIGHT
Carcass Weight EPD reflects differences in the 450-day adjusted hot carcass weight of progeny. Carcass Weight EPDs are estimated from progeny carcass weights and/or the genetically correlated ultrasound Scan Weight of the individual and/or progeny. Larger Carcass Weight EPDs are associated with heavier expected progeny average hot carcass weights. Carcass Weight EPD is expressed in pounds.

EXPECTED PROGENY DIFFERENCE (EPD)
The expected difference in performance of a bull's progeny when compared to the average progeny performance of all evaluated bulls. The EPD is a prediction of 1/2 of an animal's breeding value or its genetic value as a parent.

FAT THICKNESS
Fat Thickness EPD reflects expected differences in a sire's progeny for the carcass measurement of 12th rib fat thickness at a standard 450 days of age. The EPD is scaled in inches of fat thickness. A negative Fat Thickness EPD reflects the expectation of progeny having less fat thickness (leaner carcass) on average. Fat thickness is one of the components used to determine USDA Yield Grade and estimates of cutability.

GENETIC CORRELATION
Correlations between two traits that arise because the same genes affect both traits. When two traits are positively correlated (e.g. weaning and yearling weights) selection for an increase in one trait will result in an increase in the other trait. When two traits are negatively correlated (e.g. birth weight and calving ease) selection for an increase in one trait will result in a decrease in the other trait.

HERITABILITY
The proportion of variation observed in a trait that is due to heredity and is transmitted to offspring (i.e. additive gene action). Heritability varies from zero to one. The higher the heritability of a trait, the more rapid should be the response to selection.

MARBLING
Marbling EPD reflects differences in expected progeny marbling scores (intramuscular fat) at an age constant basis of 450 days. Marbling EPD is measured in marbling score units. For example the progeny of a sire that has a Marbling EPD of 0.50 would be expected to average one-half marbling score better than progeny of a sire with Marbling EPD 0.00. The USDA Quality Grade of Select contains animals that display marbling in the Slight score (Slight 00 - Slight 99). The Choice grade spans three marbling scoreS: Small 00 - Small 99 (Choice-), Modest 00 - Modest 99 (Choiceo) and Moderate 00 - Moderate 99 (Choice+).

MATERNAL CALVING EASE
In addition to the genetic influence a service sire has on the calving ease of a particular calf, there is a genetic component to the ability of a sire's daughters to calve unassisted. This genetic effect is described by MCE EPD. The unit of measure is in additional percentage of calves born unassisted to first calf heifers.

MATERNAL MILK
The maternal ability of a bull's daughters. Expected progeny performance is expressed in pounds of calf weaning weight. The EPD value predicts the difference in average 205-day weight of a bull's daughters' calves compared to calves from daughters of all other bulls evaluated. When comparing milk EPDs of two sires, the larger maternal milk EPD indicates heavier average weaning weights due to daughters' greater maternal ability.

MATERNAL WEANING WEIGHT
The weaning weight of a bull's daughters' calves. Expected progeny performance is reported in pounds. The EPD value predicts the difference in average 205-day weight of a bull's daughters' calves compared to calves from daughters of all other bulls evaluated. The evaluation reflects both the maternal ability of a bull's daughters and the growth potential of their calves. When comparing maternal weaning weight EPDs of two sires, the larger maternal weaning weight EPD indicates heavier weaning weights due to daughters' ability to produce heavier calves.

PERCENT RETAIL CUTS
Percent Retail Cuts EPD reflects the expected genetic differences in the percentage of boneless closely trimmed retail cuts (PBCTRC) of progeny. PBCTRC is a measure of cutability and is closely related to USDA Yield Grade. Percent Retail Cuts EPD is computed as a linear index of Carcass Weight, Fat Thickness and Rib-eye Area EPDs. Positive values represent expectations of progeny with more desirable cutability (a higher percentage or retail cuts) on average.

RIB-EYE AREA
Rib-eye Area EPD reflects expected differences in a sire's progeny for the carcass measurement of rib-eye area taken between the 12th and 13th ribs at an age constant basis of 450 days of age. Rib-eye Area and Rib-eye Area EPD are measured in square inches. Rib eye area is one of the components used to determine USDA Yield Grade and estimates of cutability. Positive values represent expectations of progeny with larger average rib-eye area.

WEANING WEIGHT
Calf weight taken between 130 and 280 days of age and adjusted to 205 days of age and a mature dam equivalent. Expected progeny performance is reported in pounds. The EPD value predicts the difference in average 205- day weight of a bull's calves compared to calves of all other bulls evaluated. When comparing weaning weight EPDs of two sires, the larger EPD indicates a heavier average weaning weight for calves sired by this bull.

YEARLING WEIGHT
Weight taken between 300 and 470 days of age and adjusted to 365 days of age and a mature dam equivalent. Expected progeny performance is reported in pounds. The EPD value predicts the difference in average 365-day weight of a bull's progeny compared to progeny of all other evaluated bulls. When comparing yearling weight EPDs of two sires the larger EPD indicates a heavier average yearling weight for calves sired by this bull.