November 2020 - Canadian Charolais Breed Average, Percentiles and Trends

Single Step Genetic Evaluation

The November 2020 evaluation is conducted for CCA by Angus Genetics Incorporated (AGI) using single step genomic technology. This means that the EPD contain information from pedigree, performance and DNA information directly in the calculation of the EPD. The use of DNA in the EPD calculation allows us to increase the accuracy of the EPD for tested animals and better predict outcomes, particularly on young cattle.

For example, in the evaluation a DNA test is roughly equivalent to the reporting of the following numbers of progeny records

Table 1. Progeny records roughly equivalent to the information provided from a genotype test in the SSE. Milk equivalents are expressed as grandprogeny from daughters. Carcass traits are expressed as ultrasound record equivalents.

	Progeny Equivalents
CE	10
BW	25
WW	15
YW	8
Milk	10
REA	6
Fat	6
Marb	6

Including the DNA information allows us to greatly enhance our selection process, particularly on young animals.

Specific animals may have differences in their EPD between the Fall 2020 evaluation and the new evaluation, due to additional data and DNA test results, however overall, members should notice very few changes to the overall averages or trends and even most animals. The EPD traits and their use are the same as in previous evaluations, and they can be used for selection in the same manner as before.

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Breed Average EPD

	BW	WW	YW	MILK	TM	CE	CW	REA	Fat	LY	Marb
Current	0.9	44.1	85.0	21.0	43.1	5.2	17.5	0.44	0.56	1.04	0.18
Sires	0.8	44.0	84.4	20.9	42.9	5.1	17.0	0.45	0.54	1.05	0.15
Dams	1.4	42.5	81.4	20.9	42.1	4.1	16.9	0.43	0.33	1.03	0.09

Current – all calves born in the last 2 ½ years (2018 - 2020)

Sires – all sires with a calf reported in the last 2 ½ years

Dams – all dams with a calf reported in the last 2 ½ years

Percentile

Pctl	BW	WW	YW	MILK	TM	CE	CWT	REA	FAT	LY	MARB
Avg	0.9	44.1	85.0	21.0	43.1	5.2	17.5	0.44	0.56	1.04	0.18
Min	-10.9	-1.2	6.4	0.3	17.0	-15.9	-19.3	-0.29	-1.68	-0.27	-2.61
Max	11.6	79.6	145.3	37.2	66.0	19.7	44.7	1.26	4.67	2.37	3.99
SD	2.30	7.55	13.73	4.17	4.98	3.97	6.31	0.133	0.582	0.245	0.467
1	-5.2	63.3	118.4	30.7	55.2	14.5	32.7	0.81	-0.89	1.68	1.40
2	-4.4	60.6	114.6	29.5	53.6	13.4	30.7	0.74	-0.74	1.58	1.22
3	-3.8	59.1	111.7	28.8	52.8	12.7	29.7	0.71	-0.62	1.52	1.10
4	-3.5	57.9	109.7	28.3	52.0	12.2	28.7	0.68	-0.51	1.48	1.02
5	-3.1	57.0	108.2	27.9	51.5	11.8	27.7	0.66	-0.41	1.45	0.96
10	-2.1	53.8	102.6	26.3	49.5	10.3	25.7	0.60	-0.16	1.34	0.75
15	-1.4	51.8	99.0	25.3	48.2	9.3	23.7	0.57	-0.01	1.28	0.63
20	-0.9	50.2	96.2	24.5	47.2	8.5	22.7	0.54	0.12	1.23	0.54
25	-0.5	49.0	93.8	23.8	46.3	7.8	21.7	0.52	0.20	1.19	0.46
30	-0.1	47.8	91.8	23.2	45.6	7.2	20.7	0.50	0.27	1.16	0.39
35	0.2	46.8	89.8	22.6	44.9	6.6	19.7	0.48	0.35	1.13	0.33
40	0.5	45.8	88.0	22.1	44.2	6.1	18.7	0.47	0.43	1.09	0.27
45	0.8	44.8	86.3	21.6	43.6	5.6	17.7	0.45	0.48	1.07	0.21
50	1.0	44.0	84.6	21.0	43.0	5.1	17.7	0.44	0.55	1.04	0.16
55	1.3	43.1	82.9	20.5	42.4	4.6	16.7	0.42	0.63	1.01	0.11
60	1.6	42.1	81.2	20.0	41.8	4.1	15.7	0.41	0.68	0.98	0.05
65	1.8	41.2	79.4	19.5	41.1	3.7	14.7	0.39	0.76	0.95	0.00
70	2.1	40.2	77.6	18.9	40.5	3.2	14.7	0.37	0.83	0.92	-0.07
75	2.4	39.1	75.7	18.3	39.8	2.6	13.7	0.36	0.94	0.89	-0.13
80	2.7	38.0	73.5	17.6	38.9	2.0	12.7	0.34	1.04	0.85	-0.20
85	3.1	36.6	71.0	16.8	38.1	1.2	10.7	0.31	1.14	0.80	-0.28
90	3.6	34.9	67.7	15.8	36.9	0.3	9.7	0.28	1.29	0.74	-0.39
95	4.4	32.3	63.1	14.1	35.2	-1.2	7.7	0.24	1.52	0.66	-0.54
100	11.6	-1.2	6.4	0.3	17.0	-15.9	-19.3	-0.29	4.67	-0.27	-2.61
N	44168	44168	44168	44168	44168	38084	44168	44168	44168	44168	44168

Percentiles are based on Current Calves – all calves born in the last 2 ½ years (2018 – 2020)

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Genetic Trends for Calving Ease, Growth and Carcass
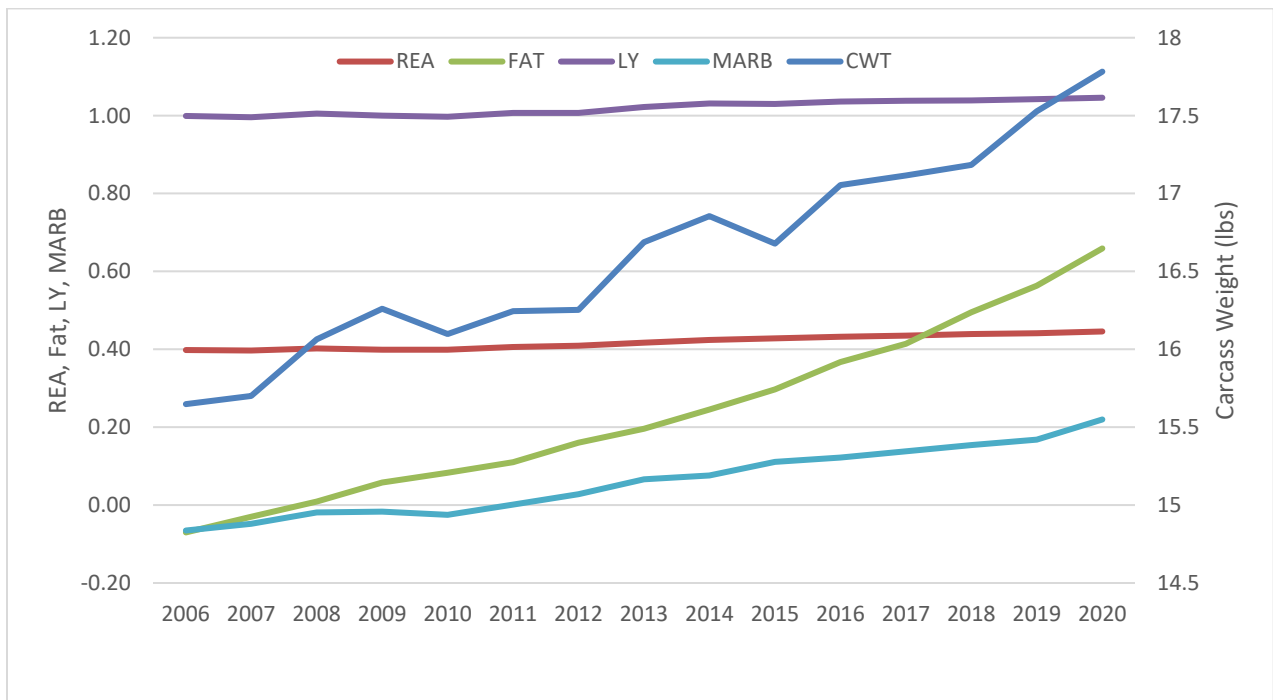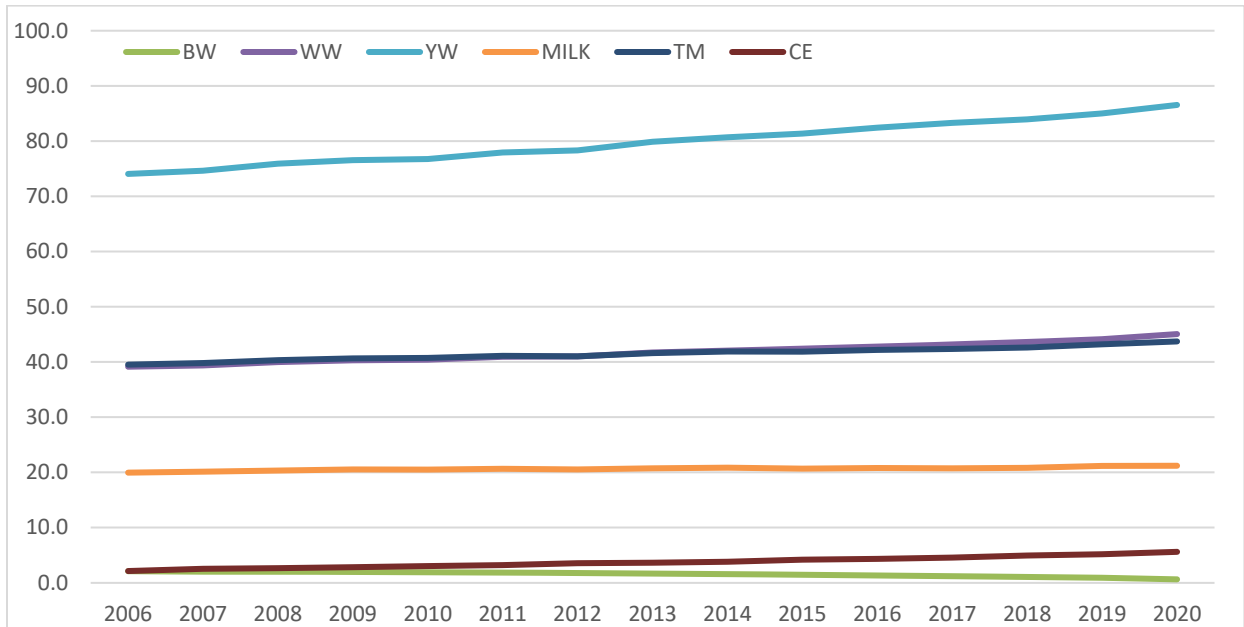
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EPD Abbreviations

Trait	Trait	Description	Units
BW	Birth weight	Describes genetic differences for progeny birth weight. A larger number indicates heavier calves at birth.	Lbs
WW	Weaning Weight	Genetic difference for progeny weaning weight. A larger number indicates heavier calves at weaning.	Lbs
YW	Yearling Weight	Genetic difference for progeny yearling weight. A larger number indicates heavier calves at one year of age.	Lbs
MILK	Milk	Genetic difference for daughters' progeny weaning weight due to their milk production (grandprogeny). A larger number indicates heavier calves from daughters at weaning.	Lbs
TM	Total Maternal	Genetic difference for daughters' progeny weaning weight due to their genes for milk and growth (grandprogeny). A larger number indicates heavier calves at weaning.	Lbs
CE	Calving Ease	Genetic difference for unassisted calving of progeny. A larger number indicates easier calving (less assistance).	Unassisted
CWT	Carcass Weight	Genetic difference for progeny carcass weight in pounds. A larger number indicates heavier carcasses.	Lbs
REA	Rib-Eye Area	Genetic difference for progeny Rib-Eye area in square inches. A larger number indicates bigger rib-eye muscle.	Sq. In.
FAT	Fat Thickness	Genetic difference for progeny backfat thickness at 12/13 rib. A larger value indicates fatter carcasses.	mm
LY	Lean Yield	Genetic difference for progeny lean meat yield. A larger number indicates more lean meat in the carcass and more yield grade 1 carcasses.	%
MARB	Marbling	Genetic difference for progeny marbling score (quality grade) in marbling score units. A larger number indicates more marbling.	MSU