CSA Genetic Evaluation

Contents

Breed Average

	CE	BW	WW	YW	MCE	Milk	MWW	SC	CWT	REA	Fat	Marb
Current	5.6	2.6	36.3	61.0	5.2	6.8	25.0	0.17	1.8	-0.04	0.003	0.05
Active Sire	5.5	2.7	36.4	61.1	5.1	7.7	25.9	0.17	2.4	-0.01	0.002	0.05
Active Dam	4.6	3.2	36.4	60.2	5.1	7.7	25.9	0.18	2.8	-0.02	0.003	0.06

Current Population – all calves born in the last 2 ½ years (2009-2011)

Active Sire – any sire with a calf reported in the last 2 ½ years (2009-2011)

Active Dam – any dam with a calf reported in the last 2 ½ years (2009-2011)

Percentiles

Percentiles show where an animal stands within the Simmental population. The following percentiles are based on CSA current calves (2009-2011).

Pct	CE	BW	WW	YW	MCE	Milk	MWW	SC	CWT	REA	Fat	Marb
Avg	**5.6**	**2.6**	**36.3**	**61.0**	**5.2**	**6.8**	**25.0**	**0.17**	**1.8**	**-0.04**	**0.003**	**0.05**
Min	-11.5	-9.0	-6.7	-6.1	-1.9	-13.5	-12.4	-1.67	-64.0	-1.02	-0.061	-0.83
Max	18.5	14.6	74.0	116.6	9.9	24.2	49.4	1.55	56.0	0.89	0.118	1.14
SD	3.28	2.30	7.93	12.53	1.32	5.09	6.58	0.382	16.6	0.24	0.025	0.22
1	13.5	-3.3	54.7	90.2	8.2	18.1	39.2	1.19	42.0	0.54	-0.047	0.58
2	12.5	-2.4	52.5	86.6	7.7	17.0	37.8	1.04	36.1	0.45	-0.043	0.50
3	11.5	-1.9	51.1	64.4	7.4	16.3	36.8	0.95	34.0	0.41	-0.040	0.47
4	11.0	-1.5	50.0	82.7	7.4	15.8	36.0	0.90	31.2	0.38	-0.037	0.44
5	11.0	-1.2	49.0	81.3	7.2	15.3	35.4	0.86	29.0	0.37	-0.036	0.41
10	9.5	-0.3	46.2	76.8	6.9	13.7	33.3	0.68	22.0	0.27	-0.027	0.32
15	9.0	0.3	44.0	73.8	6.4	12.4	31.8	0.53	19.0	0.20	-0.022	0.25
20	8.5	0.8	42.8	71.3	6.2	11.4	30.6	0.46	15.0	0.15	-0.018	0.22
25	7.5	1.1	41.6	69.3	6.2	10.5	29.5	0.40	13.0	0.11	-0.014	0.18
30	7.5	1.5	40.4	67.5	5.9	9.6	28.5	0.35	10.0	0.08	-0.011	0.16
35	7.0	1.8	39.3	65.8	5.7	8.8	27.6	0.29	8.0	0.04	-0.008	0.13
40	6.5	2.1	38.3	64.2	5.7	8.0	26.7	0.24	6.0	0.01	-0.005	0.10
45	6.0	2.4	37.4	62.7	5.4	7.3	25.9	0.19	4.0	-0.02	-0.002	0.07
50	5.5	2.7	36.4	61.2	5.2	6.6	25.1	0.15	2.0	-0.05	0.001	0.04
55	5.0	2.9	35.4	59.7	5.2	6.0	24.3	0.11	0.0	-0.08	0.004	0.01
60	5.0	3.2	34.4	58.2	4.9	5.3	23.5	0.07	-2.0	-0.11	0.007	-0.01
65	4.5	3.5	33.4	56.5	4.7	4.7	22.7	0.03	-5.0	-0.14	0.011	-0.03
70	4.0	3.8	32.3	54.8	4.7	4.0	21.8	-0.02	-7.0	-0.17	0.014	-0.06
75	3.5	4.1	31.1	53.0	4.4	3.4	20.9	-0.07	-9.0	-0.20	0.017	-0.09
80	3.0	4.5	29.8	50.8	4.2	2.6	19.8	-0.13	-11.2	-0.24	0.022	-0.13
85	2.0	4.9	28.2	48.4	3.9	1.6	18.5	-0.19	-15.0	-0.29	0.027	-0.17
90	1.5	5.4	26.2	45.2	3.4	0.5	16.8	-0.28	-19.0	-0.34	0.036	-0.23
95	0.0	6.2	23.1	40.2	2.9	-1.4	14.0	-0.40	-25.0	-0.43	0.048	-0.31
Num	39,879	43,866	43,866	43,866	39,879	43,866	43,866	967	1,443	1,443	1,443	1,443

For Canadian Users of Simmental Genetics

CSA has secured a long term, scientifically valid and well supported genetic evaluation. AGI is a high quality service provider for the genetic evaluation and the evaluation gives CSA a high degree of control over and insight into the genetic evaluation. This allows for better support of breeder questions and improvement of service levels. It also gives CSA a strong say in the development of the genetic evaluation model. A couple of good examples of this are that the evaluation includes embryo calves and the rescaling of the CE evaluation.

While the evaluation uses EPD from other organizations to improve predictions, it is driven by Canadian data only. This means that some animals will change their ranking within the population. It also means that it is imperative that Canadian breeders report data, including growth, scrotal, maternal and ultrasound/carcass data. Canadian Simmental EPDs are not directly comparable to US Simmental, although each will be strongly represented in the others' dataset.

About AGI

As most of you are hopefully aware by now, roughly 3 years ago the board of directors decided to move the genetic evaluation (EPDs) to a new service provider. This was done after much careful consideration of the options. Over the past several years there has been a lot of turmoil in the field of genetic evaluation. Historically EPD were calculated by Universities at less than cost, and prior to that by government. During this time frame CSA worked through Cornell University for genetic evaluation services. This work represented the first multi-breed genetic evaluation for beef cattle in North America. Multi-breed evaluation was an important step forward as many of the Simmental genetics in use today were derived from upgrading using fullblood genetics to produce recorded and purebred seedstock. The multi-breed evaluation helps to account for the effect of using these non Simmental parents and helps to better determine the true additive genetic merit of an individual.

Over the last several years universities across North America have started moving away from applied science and towards pure research. This combined with the pending retirement of many senior researchers created a gap in the provision of genetic evaluation services.

During this same time frame, the National Beef Cattle Evaluation Consortium (NBCEC) was created. The NBCEC represents a group of universities with a strong interest in genetic evaluation. This includes Cornell, University of Georgia, Colorado State University, Iowa State University and the University of Kentucky. Through the consortium they work together and pool their research resources to accelerate the development of science surrounding evaluation and to produce educational material for industry. As part of this development, many universities announced that they were getting out of the business of being service providers. It was during this period that the CSA genetic evaluation moved "in house" to the American Simmental Association. ASA used the multi-breed model developed by Cornell with some adaptations over the course of operations.

In the interest of gaining more control over genetic evaluation, improving communication with the service provider, and ensuring the long term sustainability of genetic evaluation the board of CSA began looking for a longer term solution. This led them to examine several options and ultimately the decision

to work with Angus Genetics Inc. (AGI). AGI is an independent subsidiary of the American Angus Association and employs a staff of several geneticists and a large number of programmers. Additionally, AGI employs a multi-breed model developed by the University of Georgia which is leased from the NBCEC. NBCEC members have collectively decided to support the UGA model. This means that the evaluation is supported by research at the participating universities and sees new research incorporated very quickly. Work by the NBCEC also shows that the results from the UGA model are very similar to the Cornell model. This placed AGI as the front runner in the business of being a genetic evaluation service provider.

AGI's stated objectives are:

- To provide services to the beef industry that would assist in the genetic evaluation of cattle traits
- To develop and promote technology for use by the beef industry including DNA technology
- To conduct research, develop and prove new science and technology to benefit all beef producers

Trait Abbreviations

Abbrev.	Description	Units
CE	Calving Ease	% Unassisted
BW	Birth Weight	Pounds
WW	Weaning Weight	Pounds
PWG	Post-Weaning Gain	Pounds
YW	Yearling Weight (WW + PWG)	Pounds
MCE	Maternal Calving Ease	% Unassisted
BWM	Birth Weight Maternal	Pounds
Milk	Milk	Pounds
MWW	Maternal Weaning Weight	Pounds
SC	Scrotal Circumference	Centimetres
CWT	Carcass Weight	Pounds
REA	Carcass Rib-Eye Area	Square Inches
Fat	Carcass Fat Thickness	Inches
Marb	Carcass Marbling	Marbling Score Units

Growth Evaluation

Key Points

The genetic evaluation uses Canadian data only. The evaluation also uses the multi-breed evaluation model developed at the University of Georgia (UGA). Research has shown that this model is very comparable to the Cornell model used by ASA, however the UGA model is the one supported by the National Beef Cattle Evaluation Consortium (NBCEC). The evaluation also uses external EPD from American and South African Simmental populations as well as Angus and Red Angus in the growth evaluation. These EPD provide a more accurate "starting point" for cattle that come into the evaluation from outside populations. The new evaluation also includes ET calves from recipient dams with supporting information.

In the trial evaluation rank correlations for all traits were > 0.90. This means that the new evaluation is quite consistent with the previous North American evaluation conducted by ASA, however some differences will be evident to users of Simmental genetics in Canada.

Genetic Parameters

Heritabilities used in the evaluation are on the **diagonal**, genetic correlations between traits are on the off diagonal.

Birth Weight, Weaning Weight, Post-Weaning Gain and Milk

	BW	WW	PWG	MILK
BW	**0.40**	0.50	0.21	0.00
WW		**0.23**	0.34	-0.20
PWG			**0.19**	0.00
MILK				**0.12**

1. Genetic parameters are from the University of Georgia Multi-breed evaluation run.
2. Units are imperial (lbs)
3. Heritability on the diagonal, correlations on the off diagonal.

Calving Ease Evaluation

Key Changes

The calving ease/maternal calving ease base have been changed so that the EPD for active sires at the time of conversion are equal to 5. The current population EPD are determined by genetic selection from this point in time. Higher values still indicate easier calving (less calving difficulty). EPD are reported as differences in % unassisted calving within the Canadian Simmental population.

Key Points

The calving ease evaluation uses only Canadian data. The evaluation also uses a much more technically sound animal model approach rather than the sire/maternal grandsire model used previously. The birth weight information is kept consistent between the growth and calving ease runs (Birth weights from all calves in growth evaluation) however only calving ease records from 1st calvers is included. This is due

to the lack of variation in calving ease among mature cows. The new model also includes a maternal influence on birth weight and restricts the evaluation to those calves that are 87.5% SM as opposed to 75% used by ASA.

Genetic Parameters

Heritabilities used in the evaluation are on the **diagonal**, genetic correlations between traits are on the off diagonal.

Birth Weight, Birth Weight Maternal, Calving Ease and Maternal Calving Ease

	BW	BWM	CE	MCE
BW	**0.47**	-0.30	0.76	0.00
BWM		**0.12**	0.00	0.50
CE			**0.18**	-0.16
MCE				**0.12**

1. Genetic parameters are from the AAA CE genetic evaluation run.
2. Units are imperial (lbs) and CE score units (1 – 5)
3. Heritability on diagonal, correlations on off diagonal

Carcass Evaluation

Key points

The carcass evaluation uses Canadian data only. This is significant as the Canadian carcass and ultrasound data set is quite small and thus relatively few animals are evaluated. Ultrasound data represents the largest portion of the dataset and provides most of the information on carcass merit. As well three models (Marbling, Fat thickness and REA/Carcass weight) are run using up to date genetic parameters and combining ultrasound and carcass measurements.

Ultrasound traits are used in the evaluation as indicator traits (see definitions below) and only carcass traits are published since carcass characteristics are what drives profit and are the traits we are interested in improving.

Abbrev.	Description	Units
CWT	Carcass Weight	Pounds
Scan WT	Ultrasound Scan Weight	Pounds
REA	Carcass Rib-Eye Area	Square Inches
BREA	Bull Ultrasound Rib-Eye Area	Square Inches
HREA	Heifer ultrasound Rib-Eye Area	Square Inches
Fat	Carcass Fat Thickness	Inches
BFAT	Bull Ultrasound Fat Thickness	Inches
HFAT	Heifer Ultrasound Fat Thickness	Inches
Marb	Carcass Marbling	Marbling Score Units
BIMF	Bull Ultrasound Intramuscular Fat	Percent
HIMF	Heifer Ultrasound Intramuscular Fat	Percent

Genetic Parameters

Heritabilities used in the evaluation are on the **diagonal**, genetic correlations between traits are on the off diagonal.

Weight and Rib-Eye Area

	CWT	REA	ScanWT	BREA	HREA
CWT	**0.49**	0.46	0.77	0.19	0.17
REA		**0.44**	0.12	0.80	0.54
ScanWT			**0.62**	0.21	0.24
BREA				**0.37**	0.85
HREA					**0.50**

Fat

	FAT	BFAT	HFAT
FAT	**0.35**	0.79	0.83
BFAT		**0.53**	0.67
HFAT			**0.69**

Marbling

	MARB	BIMF	HIMF
MARB	**0.53**	0.74	0.69
BIMF		**0.48**	0.79
HIMF			**0.52**

1. Genetic parameters were based on Crews et al. 2003 JAS 1427-1433
2. Variances converted from metric to imperial
    a. Weight kg > lbs
    b. REA cm2 > in2
    c. Fat mm > in
3. Scan and carcass weight parameters were estimated using a combination of the AN evaluation table and adapted variances from Crews.

Base

The base determines the “look and feel” of the EPD, rather than the rank or differences between animals. Base adjustment is a constant that is applied to each EPD in the entire dataset. The 3,543 Active Sires as of Fall 2008 serve as the “base population”. These sires have their EPD from the new evaluation adjusted so that the average EPD of these sires is equal to their average from the Fall 2008 North American Evaluation. The difference between their EPD and the Fall 2008 EPD for the same trait, becomes the “base adjustment” for the trait. The base adjustment is then applied to all the animals in the database. This approach preserves the look and feel of Simmental EPD for users in Canada. The evaluation is adjusted such that the average EPD of the 3543 active sires in the Fall 2008 evaluation have their new EPD adjusted to the following average. For CE and MCE the base population average EPD are set equal to 5. The average of the “base population” of sires is shown in the table.

CE	BW	WW	YW	MCE	Milk	CWT	REA	Fat	Marb
5.0	3.0	35.9	59.9	5.0	8.0	3.1	-0.020	0.003	0.070

Accuracy and Possible Change

Every EPD is presented with an associated accuracy value. Accuracy values reflect the amount of information available on the animal and it relatives for use in genetic evaluation. As we obtain and use more information in evaluating an animal's genetic merit, the accuracy value will increase. Accuracy values can range from 0.00 and 1.00 with a higher value representing greater accuracy.

Because accuracy indicates available information, they are extremely valuable as a risk management tool. The higher the accuracy the more certain we are of an animal's genetic merit and thus, the less risk there is in using the animal. The table shows the possible change (plus or minus) in the EPD of an animal, based on its' accuracy. Any EPD changes are expected to fall within this range (EPD plus and minus the possible change) 95% of the time.

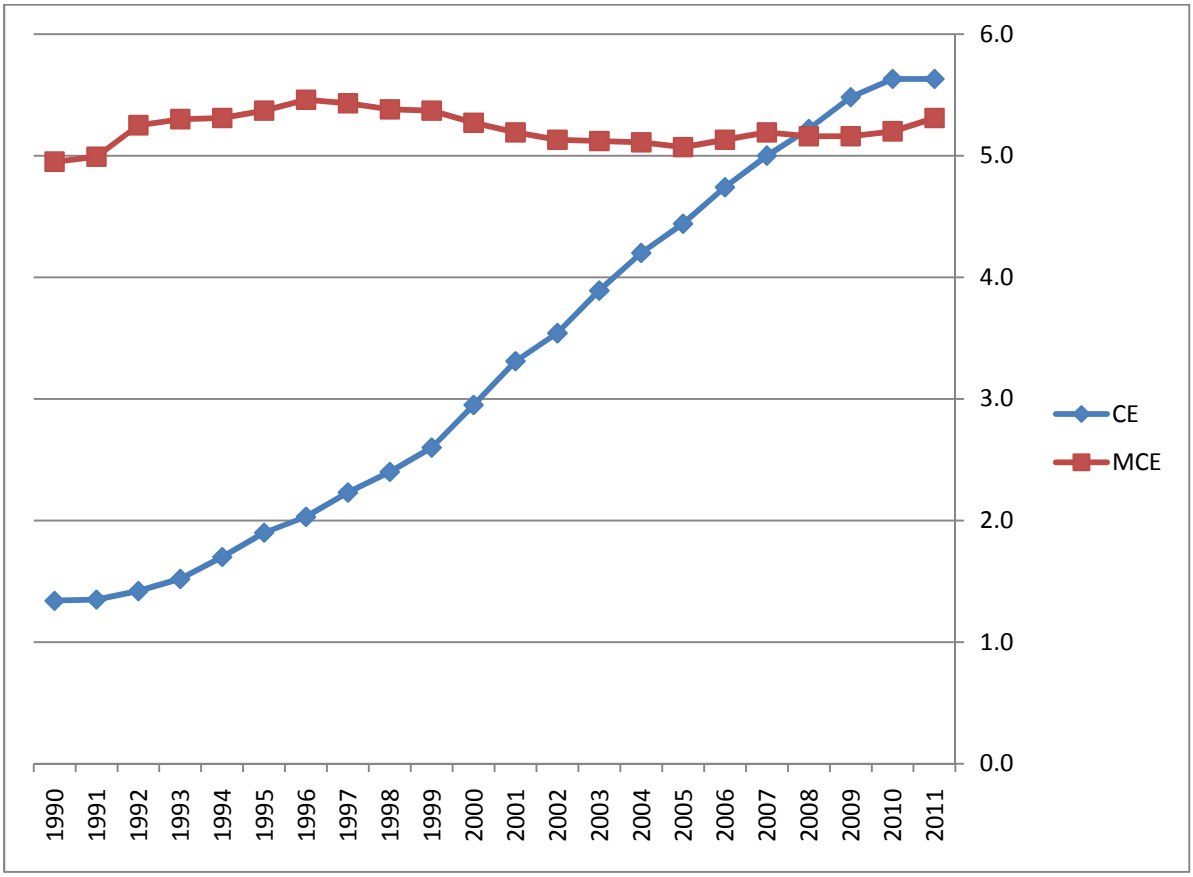
Acc	CE	BW	WW	YW	MCE	Milk	SC	CWT	REA	Fat	Marb
.05	3.9	2.7	11.9	17.3	4.7	8.5	0.75	23.0	0.41	0.038	0.30
.10	3.6	2.5	11.2	16.4	4.4	8.1	0.71	21.8	0.39	0.036	0.29
.15	3.4	2.4	10.6	15.5	4.2	7.6	0.67	20.6	0.37	0.034	0.27
.20	3.1	2.2	10.0	14.6	3.9	7.2	0.63	19.4	0.35	0.032	0.26
.25	2.9	2.1	9.4	13.7	3.7	6.7	0.59	18.2	0.33	0.030	0.24
.30	2.7	2.0	8.7	12.7	3.4	6.3	0.55	17.0	0.30	0.028	0.22
.35	2.6	1.8	8.1	11.8	3.2	5.8	0.51	15.8	0.28	0.026	0.21
.40	2.4	1.7	7.5	10.9	2.9	5.4	0.48	14.6	0.26	0.024	0.19
.45	2.2	1.5	6.9	10.0	2.7	4.9	0.44	13.3	0.24	0.022	0.18
.50	2.0	1.4	6.2	9.1	2.5	4.5	0.40	12.1	0.22	0.020	0.16
.55	1.8	1.3	5.6	8.2	2.2	4.0	0.36	10.9	0.20	0.018	0.14
.60	1.6	1.1	5.0	7.3	2.0	3.6	0.32	9.7	0.17	0.016	0.13
.65	1.4	1.0	4.4	6.4	1.7	3.1	0.28	8.5	0.15	0.014	0.11
.70	1.2	0.8	3.7	5.5	1.5	2.7	0.24	7.3	0.13	0.012	0.10
.75	1.0	0.7	3.1	4.6	1.2	2.2	0.20	6.1	0.11	0.010	0.08
.80	0.8	0.6	2.5	3.6	1.0	1.8	0.16	4.9	0.09	0.008	0.06
.85	0.6	0.4	1.9	2.7	0.8	1.3	0.12	3.6	0.07	0.006	0.05
.90	0.4	0.3	1.2	1.8	0.5	0.9	0.08	2.4	0.04	0.004	0.03
.95	0.2	0.1	0.6	0.9	0.3	0.4	0.04	1.2	0.02	0.002	0.02
1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00	0.000	0.00

EPDs are directly comparable, regardless of the accuracy, and they are also the most reliable reflection of an animal's genetic merit. Accuracies, simply reflect potential risk.

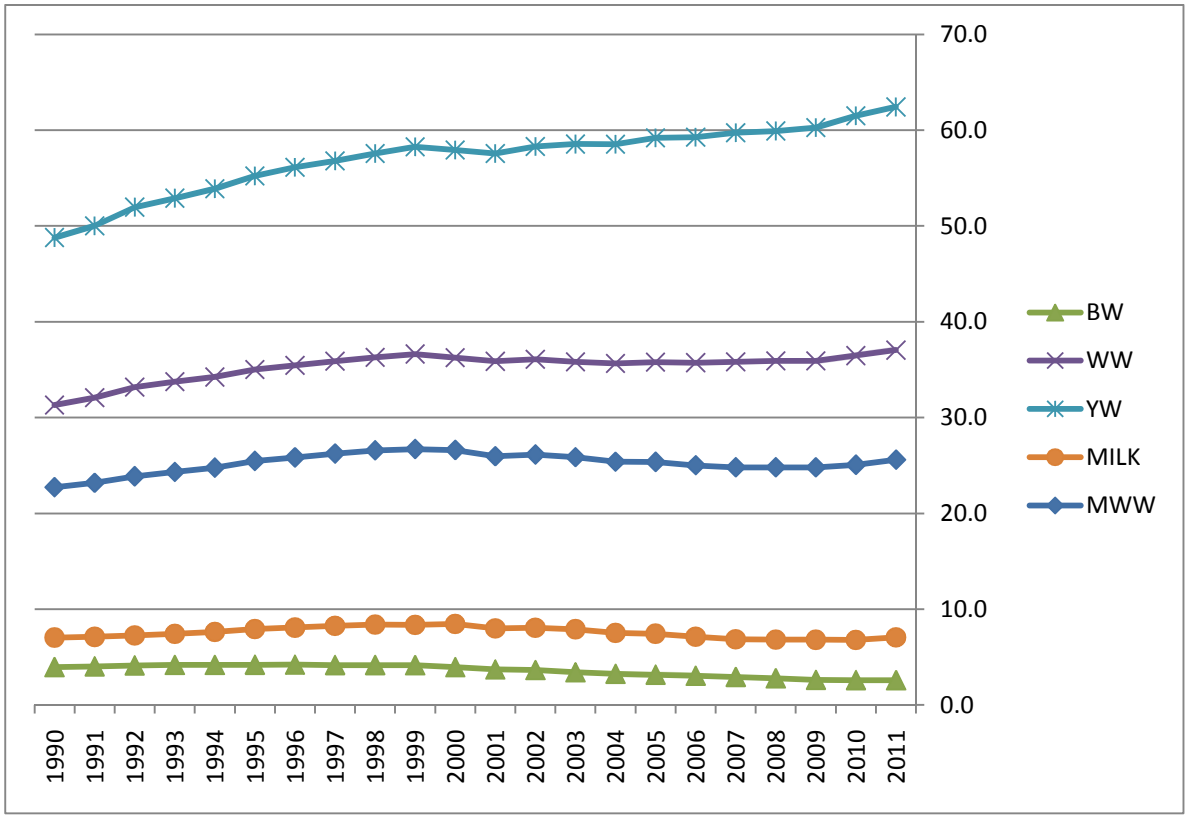
Genetic Trend

Year	CE	BW	WW	YW	MCE	Milk	MWW	SC	CWT	REA	Fat	Marb
2011	5.6	2.6	37.0	62.4	5.3	7.1	25.6					
2010	5.6	2.6	36.5	61.5	5.2	6.8	25.1	0.20	2.4	-0.04	0.001	0.05
2009	5.5	2.6	35.9	60.3	5.2	6.8	24.8	0.14	1.5	-0.05	0.004	0.05
2008	5.2	2.8	35.9	59.9	5.2	6.8	24.8	0.19	1.9	0.00	0.003	0.02
2007	5.0	2.9	35.8	59.7	5.2	6.9	24.8	0.17	1.7	-0.03	0.004	0.04
2006	4.7	3.1	35.7	59.3	5.1	7.1	25.0	0.18	1.3	-0.04	0.003	0.05
2005	4.4	3.2	35.8	59.2	5.1	7.4	25.4	0.18	2.6	-0.02	0.001	0.06
2004	4.2	3.3	35.7	58.5	5.1	7.5	25.4	0.15	1.2	-0.03	0.000	0.04
2003	3.9	3.4	35.8	58.6	5.1	7.9	25.9	0.18	1.7	-0.03	0.001	0.06
2002	3.5	3.6	36.1	58.3	5.1	8.1	26.1	0.17	3.4	-0.02	-0.001	0.07
2001	3.3	3.7	35.9	57.6	5.2	8.0	26.0	0.17	3.7	-0.02	0.003	0.08
2000	3.0	4.0	36.3	57.9	5.3	8.5	26.6	0.18	3.6	-0.02	0.001	0.07

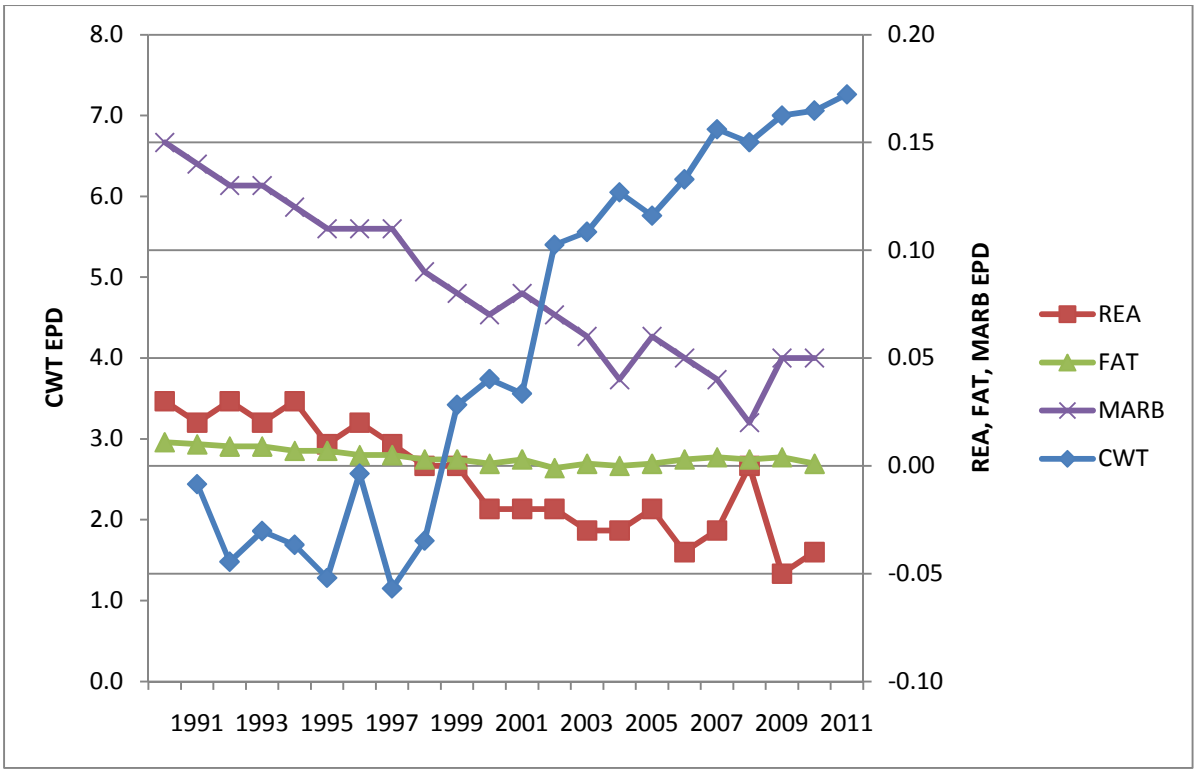
Calving Ease Trend



Growth Trend



Carcass Trend



Terms

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.

Active Dam – a dam that has had a calf reported in the last 2 years.

Active Sire – A bull that has had a calf reported in the last 2 years.

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 the birth weight EPDs of two sires, the larger EPD indicates a heavier average birth weight for calves sired by this bull.

Calving Ease – The ease with which a bull's calves are born to first calf heifers. A first calf heifer is defined as a female calving for the first time at 33 months of age or less. EPDs are reported as the expected difference in unassisted calvings. When comparing calving ease EPDs of two sires, the larger EPD indicates a higher percent of unassisted births for calves sired by this bull.

Carcass Weight – The hot carcass weight of a bull's progeny. Expected progeny performance is reported in pounds and adjusted to a slaughter age of 475 days. The EPD predicts the difference in average carcass weight of a bull's progeny, compared to progeny of all other bulls evaluated. A positive value indicates heavier than average carcass weights, while a negative value (-) indicates lighter than average carcass weights.

Current Population – all calves born in the last 2 years.

Expected Progeny Difference (EPD) – the expected difference in performance of an animal's progeny when compared to the average progeny performance of all evaluated animals. The EPD is a prediction of the animal's breeding value or its' genetic value as a parent.

Fat Thickness – The external fat thickness of a bull's progeny. Expected progeny performance is reported in inches and is adjusted to a slaughter age of 475 days. The EPD predicts the difference in external fat thickness of a bull's progeny, compared to the progeny of all other bulls evaluated. A positive value indicates thicker than average fat cover compared to the progeny of other bulls evaluated, while a negative (-) value indicates less external fat cover.

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 weight) 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 the variation observed in a trait that is due to heredity and is transmitted to offspring (e.g. 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 Score – A subjective evaluation of the amount and distribution of intramuscular fat. Degree of marbling is evaluated in the rib-eye muscle between the 12th and 13th rib and is a major factor in determining USDA quality grade. Marbling scores range from 1 (devoid) to 10 (abundant). Expected progeny performance is reported in tenths of a marbling score and adjusted to slaughter age of 475 days. The EPD value predicts the difference in average marbling score of an animal's progeny compared to progeny of all other evaluated bulls. A positive value indicates higher than average marbling scores, while a negative value (-) indicates lower than average scores.

Maternal Calving Ease – The ease with which a sire's daughters calve as first calf heifers. A first calf heifer is defined as a female calving for the first time at 33 months of age or less. Expected progeny differences are reported as the difference in % unassisted calvings. When comparing the maternal calving ease EPDs of two sires, the larger EPD indicates a higher percentage of unassisted births for calves born to this sire's daughters.

Maternal Milk – The maternal ability of an animal's daughters. Expected progeny performance is reported in pounds of calf weaning weight. The EPD value predicts the difference (due to maternal ability) in average 205-day weight of an animal's daughters calves, compared to calves of daughters of all other evaluated animals. When comparing the maternal milk EPDs of two sires, the larger maternal milk EPD indicates heavier average weaning weights due to the daughters' greater maternal ability.

Maternal Weaning Weight – The weaning weight of an animal's daughters' calves. Expected progeny performance is reported in pounds. The EPD value predicts the difference in average 205-day weight of an

animal's daughters' calves compared to calves from daughters of all other animals evaluated. The evaluation reflects both the maternal ability of an animal'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 weights due to daughters' ability to produce heavier calves.

Percentile Rank – An indication of where an animal ranks for a particular trait in relation to other animals in the evaluation. For example, a percentile rank of 10% indicates that the sire lies in the top 10% of the breed for that particular trait. If a bull has a percentile rank of 90%, this indicates that the sire lies in the top 90% of the breed.

Scrotal Circumference – scrotal size taken between 330 and 440 days of age and adjusted to 365 days. Expected progeny performance is reported in centimeters. The EPD value predicts the difference in average 365 day scrotal circumference of the animal's calves compared to calves of all other animals evaluated. When comparing the scrotal circumference EPDs of two sires, the larger EPD indicates a larger scrotal size for calves sired by this bull.

Weaning Weight – Calf weight taken between 160 and 250 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 an animal's calves compared to calves of all other animals evaluated. When comparing the 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 330 and 440 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 an animal's progeny, compared to the progeny of all other animals evaluated. When comparing the yearling weight EPDs of two sires, the larger EPD indicates a heavier average yearling weight for calves sired by this bull.

Additional Services

The CSA works hard to provide genetic evaluation services to the membership. As part of this effort several services are available to members and their customers.

Users of Simmental genetics are encouraged to use the internet based tools at: http://search.simmental.com. There are various options available including EPD and individual animal searches.

The CSA also publishes a sire summary that lists active sires in the breed and their respective EPD. The sire summary is available at www.simmental.com.

Fullblood percentile reports are also available on request from the CSA office. These reports provide fullblood breeders with a tool to compare their cattle within the Canadian fullblood population.

EPD reports are also routinely furnished to THE members at weaning and yearling and sales agencies upon request. Members on the on-line system can access their most current EPD at any time. http://online.simmental.com