

SANTA GERTRUDIS

GENOMIC BREEDING VALUE REPORT

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LOGIX



EBVs, EBVi's and GEBVs

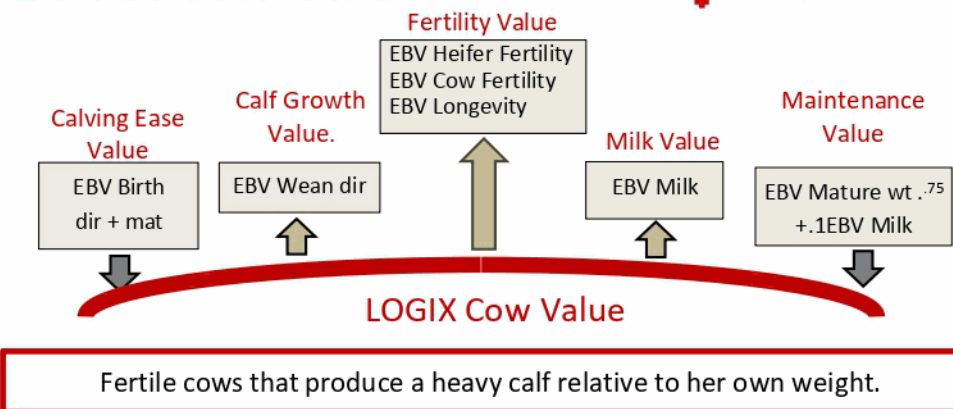
EBVi (Breeding Value Index): Genetic potential relative to the average (100) of the live (active) animals in the breed. Roughly 50% of the animals have values between 90 and 110. Values above 100, depending on the trait, tend to be in the more favourable direction.

EBV (Breeding Value): Genetic potential relative to the average of the animals born in the base year (1990), expressed in the unit of measurement.

GEBV (Genomic Breeding Value) Interpreted like the EBVi. (GEBV = EBV + Genomic information)

LOGIX Selection values combine different breeding values in a logical way. For example, Heifer Fertility (how early a heifer starts calving), Cow Fertility (how regular she calves) and Longevity (retention within the family) are combined to form the Fertility Value.

LOGIX Cow Value



Selection Values

LOGIX Cow Value



Selecting for:

- fertile,
- low maintenance,
- easy calving cows
- with heavy weaners

LOGIX Growth Value



Select for efficient growers on veld and in feedlot, as measured in Phase C and D Growth Tests.

LOGIX Carcass Value



Select for more meat on the carcass as measured from end weight in Phase C and D Growth Tests and RTU scanning.

LOGIX Production Value



80% LOGIX Cow Value +
20% LOGIX Growth Value

How to use the Cow Value

Selection values should be compatible with your selection goal.

AVERAGE ANIMALS

(NO GROWTH EXTREMES)

- Selection Values 90 to 110
 - Cow Value and Fertility Value average to high
- A safe choice, as animals are profitable in most environments.

GROWERS

(GOOD ENVIRONMENT)

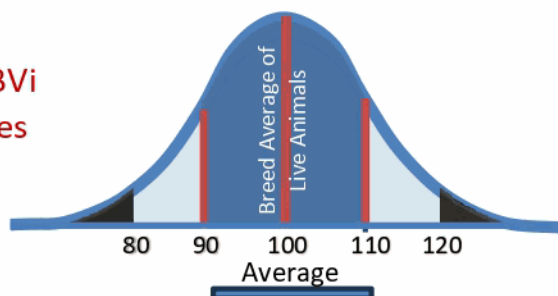
- WeanerCalf / Growth Value > 120
 - Cow Value and Fertility Value average to high
- Growers are usually heavier at birth (lower Calving Ease Value), and maturity (lower Maintenance Value).

LOW- MAINTENANCE ANIMALS

(HARSH ENVIRONMENT)

- Maintenance Value >110
 - Cow Value and Fertility Value average to high
- Lighter cows have a lower maintenance.

Interpretation of EBVi and Selection Values



Examples

Type of Animal	Cow Value	Calving Ease V	Weaner Calf V	Milk Value	Maint. Value	Fertility Value
Average	Med-High	Avg	Avg	Avg	Avg	Med-High
Grower	Med-High		High			Med-High
Low Maintenance	Med-High				High	Med-High

Contemporary Groups

The correct composition of contemporary groups is one of the cornerstones of BLUP breeding value estimation. Breeding values are estimated from the differences between animals exposed to the same environment, *as these differences are caused by genetics*. The following aspects are important:

1. Animals at the same time, place and treatment

A contemporary group is a comparable group of animals measured at the same time in the same environment. It is therefore a comparable group of animals that were together on the same farm or camp in the same year and season. If there are animals in the group that were treated differently, they should be given a separate treatment code because their performance is influenced by other environmental influences than the rest of the group. Examples of possible different treatments are when some animals received supplements or creep feed, sale or show animals, embryo donors, sick or foster calves or even purchased cows and calves. If bull and heifer calves or older cows and young heifers were in the same camp, they should be placed in the same group – corrections for sex, age and first calving of cows are automatically made during breeding value estimation.

2. Progeny of at least two sires, of which one is a link sire

The progeny of different sires needs to be compared in the same group in order to determine the sires' genetic merit relative to each other. At least one sire should be a link sire with progeny in other herds. Genetic links between herds are used to determine the position of sires in the breed. All sires are good link sires. Smaller herds could artificially inseminate some cows or allow some cows to be covered by another herd's bull.

3. Larger groups stabilise Breeding Values

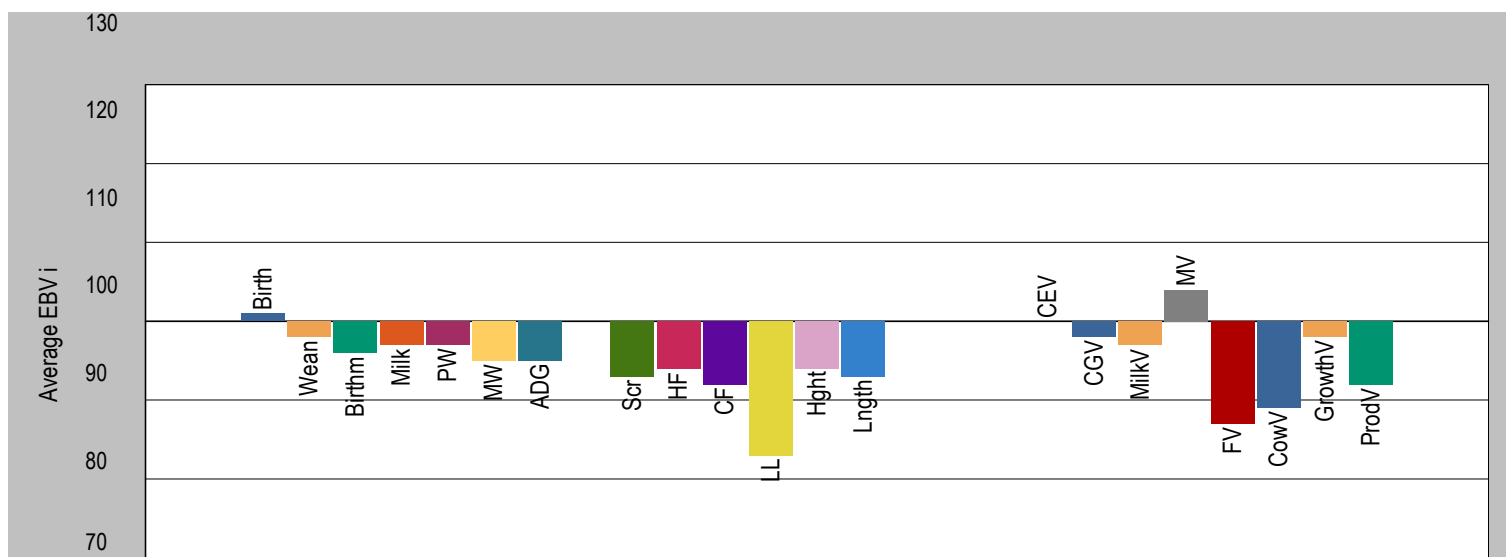
Larger groups result in more accurate and stable breeding values, as the mean and distribution of the group can be more accurately determined and are thus more representative. Groups should preferably have more than 5 animals. Weigh all the animals in the same group on the same day, as corrections for age differences are made during genetic evaluation. The use of breeding seasons rather than through the year calving will also increase contemporary group size. Groups with less than 3 animals are not included in breeding value estimation. An accidental mistake in a small group affects the animal itself, its family, all the other animals in the group and their families. The effect could be much less in large groups.

4. Measure all animals in the contemporary group

Weigh ALL the animals in the contemporary group, the good as well as the poor performers. Weigh animals before they are culled, so their parents can be penalized for their poor breeding.



Herd and Breed Averages



Breeding Values:

Birth:	Birth weight	Scr:	Scrotal circumf.
Wean:	Weaning weight	HF:	Heifer Fertility
Birthm:	Birth maternal	CF:	Cow Fertility
Milk:	Milk	LL:	Longevity
PW:	Post-wean weight	Hght:	Height
MW:	Mature weight	Lngth:	Length
ADG:	Average Daily Gain	Dr%:	Dressing%
FCR:	Feed Conversion Ratio	RMV:	Red Meat Yield
		Marb:	Marbling

Selection Values:

CEV:	Calving Ease Value
CGV:	Calf Growth Value
MilkV:	Milk Value
MV:	Maintenance Value
FV:	Fertility Value
CowV:	Cow Value (CV)
GrowthV:	Growth Value (GV)
ProdV:	Production Value (PV)

	Trait	EBV Herd	EBV Index	EBV Breed
Prewean Growth	Birth Weight	1.01	101	1.11
	Wean Weight	13.6	98	14.7
	Birth Mat.	0.08	96	-0.07
	Milk (Wn.Mat.)	-0.3	97	0.7
Postwean Growth	Postwean Wt	21.0	97	23.1
	Mature Weight	14	95	19
	ADG	75	95	95
	FCR			
Fertility	Scrotal Circumf.	6.3	93	10.4
	Heifer Fertility	1.2	94	-3.8
	Cow Fertility	-4.1	92	-5.8
	Longevity	21.5	83	33.0
Frame	Height	8	94	12
	Length	17	93	24
Carcass	Dressing%			
	RedMeatYield			
	Marbling			

Selection Value	Ave. Herd
Calving Ease	100
Calf Growth	98
Milk	97
Maintenance	104
Fertility	87
Cow Value	89
Growth Value	98
Production Value	92

- Average of live animals in the breed: 100
- Above 100: **more favourable**,
- Below 100: **less favourable**

What does a sub-selection value above breed average (100) mean?:

Calving ease:	Smaller calf at birth - easier calving
Calf growth:	Heavier calves at wean due to growth potential of the calf
Milk:	Cows with more milk and better mothering ability
Maintenance:	Animals with low maintenance requirements (lower mature weight).
Fertility:	Cows/daughters that calve

Genetic Windows

Bulls on the farm

Bulls born in and earlier that are available for natural mating
130
120
110
100
90
80
70

Animals available for breeding

Total:	Cows born in and earlier
	130
	120
	110
	100
	90
	80
	70

Cow Herd

Total:

Sires of young animals

Sires (Natural mating and AI) of animals 3 years and younger
130
120
110
100
90
80
70

Results of previous selection decisions

Total:	Cows born in and earlier
	130
	120
	110
	100
	90
	80
	70

Cows older than 6 years

Total:

Selection possibilities

Bull calves

Bulls born in
130
120
110
100
90
80
70

Total:

Heifers born in
130
120
110
100
90
80
70

Heifer calves

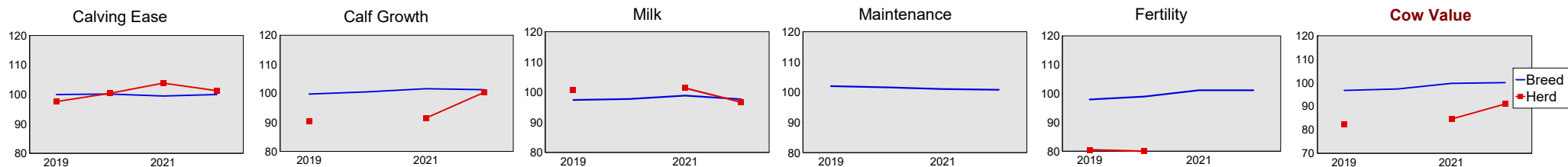
Total:

Summary of Cow Herd

			Selection Values (SV)								Calf Weight		Dam		Growth & Efficiency				Fertiity				Frame		
Birth Year	No. Cows	Average Cow Value	Calving Ease	Calf Grwth	Milk	Maint.	Fertility	Cow Value	Growth Value	Prod Value	Birth Weight	Wean Weight	Birth Mat.	Milk (Wn.Mat)	Postwn Weight	Mature Weight	ADG	Kleiber	Scrotal Circumf.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	
Cows in Breed Average:			100	100	100	101	100	100	99	99	100	100	100	100	100	100	99	99	99	99	100	100	100	99	99
2007	1	★★★★☆	92	101	80	114	98	89	81	83	90	101	108	80	92	86	84	86	88	108	99	83	79	83	
2012	13	★★★★	97	103	91	102	91	92	99	90	97	103	103	91	104	97	101	104	94	100	92	88	97	97	
2013	12	★★★★	97	100	91	108	88	90	94	87	97	100	105	91	100	92	96	100	85	96	86	93	92	92	
2014	2	★★★★	96	101	95	99	94	93	103	92	96	101	106	95	104	101	102	107	88	101	94	90	101	98	
2015	2	★★★★	91	103	88	106	91	91	88	86	88	103	105	88	101	94	90	89	84	96	90	95	92	92	
2016	7	★★★★	97	102	96	107	86	92	95	92	97	102	103	96	98	92	98	102	96	90	93	85	86	91	
2017	3		111								116			80									81		
2018	17	★★★★	107	105	95	104	89	95	101	100	112	105	83	95	100	96	97	96	97	86	96	81	94	97	
2019	13	★★★★☆	99	93	100	110	85	85	101	110	101	93	95	100	90	90	89	92	90	96	92	76	93	89	
2020	11	★★★★	99	98	103	104	86	91	107	109	100	98	98	103	96	94	96	98	95	91	95	85	95	93	
2021	20	★★★★☆	101	91	101	112	85	84	93	90	104	91	89	101	89	87	88	91	86	92	92	75	92	86	
2022	9	★★★★☆	98	93	101	111	80	83			101	93	92	101	89	88	86	88	89	90	90	77	91	86	
Cows in Herd Average:			99	99	95	107	88	90	96	94	100	99	97	95	97	92	93	96	90	95	93	84	92	91	

Genetic Trends for On-Farm Traits

The graphs show the genetic gain of the herd relative to the breed. Only data of animals with measurements are included.



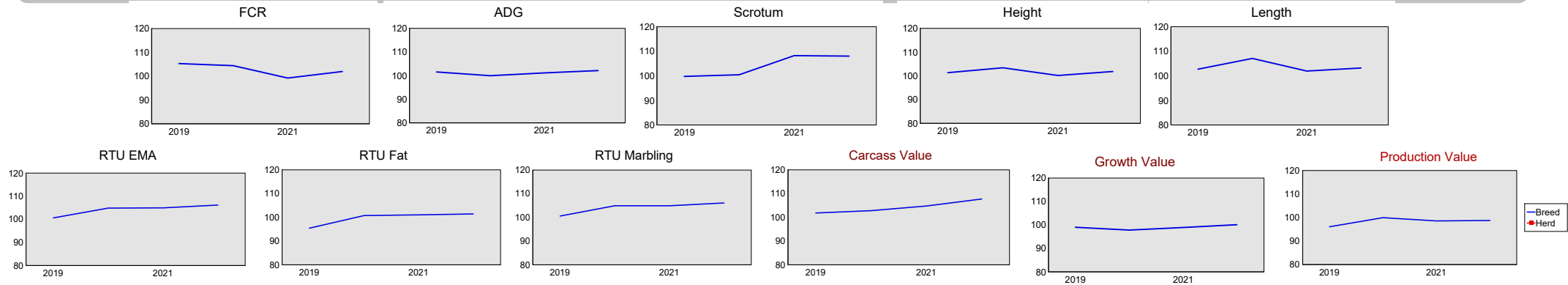
Herd

Birth Year	Calving Ease				Calf Growth			Milk			Maintenance						Fertility						Cow Value
	Birth Weight		Mat EBV	Calv. Ease	Weaning Weight		Calf Growth	Milk (Wn.Mat.)		Postwean Weight	Mature Weight		Maintenance	Heifer Fert.		Cow Fert.		Longevity		Ferti- lity			
	Number	Dir EBV			Number	EBV		Number	EBV		Milk	Number		EBV	Number	EBV	Number	EBV	Number		EBV	Number	
2019	15	1.14	0.12	98	10	9.5	91	10	1.00	101					12	3.6			4	15.9	81	82	
2020	8	0.94	0.09	100											3	1.3					77		
2021	34	0.55	0.30	104	6	10.0	92	6	1.05	101									15	11.4		85	
2022	45	0.74	0.29	101	3	14.7	100	3	-0.21	97									20	9.1		91	

Breed

Birth Year	Calving Ease				Calf Growth			Milk			Maintenance					Fertility						Cow Value	
	Birth Weight		Mat EBV	Calv. Ease	Weaning Weight		Calf Growth	Milk (Wn.Mat.)		Postwean Weight		Mature Weight		Maine-nance	Heifer Fert.		Cow Fert.		Longevity		Ferti- lity		
	Number	Dir EBV			Number	EBV		Number	EBV	Milk	Number	EBV	Number		EBV	Number	EBV	Number	EBV	Number			EBV
2016	2689	1.09	-0.07	100	1903	13.7	98	1903	-0.18	97	513	20.0	171	13	105	1226	-3.3	906	-4.7	5869	24.3	94	93
2017	2776	1.13	-0.09	100	2154	14.4	99	2154	-0.17	97	642	20.4	214	14	106	1179	-4.1	871	-4.8	5765	25.8	96	93
2018	2956	1.05	-0.07	101	2127	15.3	101	2127	-0.52	96	545	22.6	259	13	105	1243	-3.8	835	-5.5	6004	26.3	97	98
2019	3205	1.15	-0.07	100	2831	14.6	100	2831	-0.05	97	800	23.6	299	15	102	1189	-3.7	844	-5.7	5985	27.5	98	97
2020	3447	1.14	-0.10	100	3076	14.9	100	3076	0.03	98	695	23.9	286	17	102	1192	-3.4	704	-5.7	6060	28.1	99	97
2021	3337	1.21	-0.16	99	3401	15.6	102	3401	0.37	99	732	22.7	273	17	101	1071	-4.0	641	-6.0	5554	29.9	101	100
2022	3474	1.17	-0.14	100	3746	15.4	101	3746	0.01	98	748	23.3	226	18	101	854	-3.8	274	-6.5	2809	29.7	101	100
2023	3301	1.22	-0.18	100	3337	16.3	103	3337	-0.10	97	702	24.6	48	23	101	435	-2.9	15	-7.5			103	102
2024	3311	1.17	-0.16	100	3379	16.1	103	3379	0.56	99	667	25.1			101	21	-6.0					108	103
2025	3015	1.12	-0.13	101	1920	16.2	103	1920	0.86	100	441	17.5			105								104
2026	1509	1.01	-0.07	102	57	13.1	97	57	1.96	104													98

Genetic Trends for Growth Test Traits



Herd

Birth Year	Growth									Frame						Carcass						Selection Values			
	FCR			ADG			Scrotum			Height			Length			EMA			Fat		Marbling		Carcass Value	Growth Value	Prod Value
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	RTU Number	EBV	EBVi	EBV	EBVi	EBV	EBVi			
2019																									
2020																									
2021																									
2022																									

Breed

Birth Year	Growth									Frame						Carcass								Selection Values		
	FCR			ADG			Scrotum			Height			Length			RTU Number	EMA		Fat		Marbling		Cracss Value	Growth Value	Prod Value	
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi		EBV	EBVi	EBV	EBVi	EBV	EBVi				
2017	73	-23	102	285	93	100	299	9.4	98	288	11	99	285	24	100	202	0.47	96	-0.03	98	0.58	102	99	97	94	
2018	47	-23	102	220	86	98	275	9.2	98	248	11	98	220	22	98	123	0.85	101	0.10	99	0.72	104	103	95	101	
2019	55	-26	105	256	102	102	338	10.3	100	253	13	101	183	27	103	206	1.00	103	-0.39	95	0.48	101	102	99	96	
2020	30	-25	104	229	95	100	292	10.6	100	170	14	103	138	32	107	206	0.67	99	0.29	101	0.82	105	103	98	100	
2021	35	-19	99	271	100	101	299	14.8	108	278	12	100	271	27	102	196	1.02	103	0.33	101	0.82	105	105	99	99	
2022	22	-22	102	198	104	102	198	14.7	108	198	13	102	198	28	103	83	1.38	107	0.38	101	0.92	106	108	100	99	
2023	28	-34	112	154	111	104	154	12.8	104	154	12	100	154	27	103	99	1.43	108	0.64	103	1.10	108	112	102	99	
2024	28	-28	107	96	148	112	95	14.8	108	135	15	105	135	37	111	104	1.50	109	0.70	104	0.92	106	114	111	107	
2025				94	70	94	94	12.6	104	136	13	101	136	25	100	32	1.90	114	1.19	108	1.46	113		92	95	
2026																										

Sires

Bull				Selection Values							Calf		Dam		Growth				Fertility				Frame		Carcass			Measured Progeny		
ID	Index EBV Acc	Sire ID	Dam ID	Calv. Ease Value	Calf Grwth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Growth Value	Prod Value	Birth Dir	Wean Dir	Birth Mat.	Wean Mat.	Post wn wt	Mature weight	ADG	FCR	Scrotal	Heifer Fertility	Cow Fertility	Long-evi ty	Height	Length	EMA	Fat	Marbling	Birth Grwth Test	Wean Dgt/Calvs.
				Name																										
DJW 070059		DJW 040053	DJW 030082	90	104	80	103	79	81	101	81	88	104	113	80	108	97	100	101	101	81	93	80	92	97	109	100	113	65	57
				95	96	94	88	92	88	89	88	96	96	-0.59	-5.3	29.5	16	95	-21	10.8	11.0	-4.3	19.3	7	22	1.50	0.15	1.44		14
DJW 150045		JF 110061	DJW 110043	82	110	86	102	87	91	113	92	82	110	97	86	121	98	108	96	118	91	92	89	102	108	110	81	103	22	27
				81	87	61	25	52	67	31	60	87	87	0.06	-3.5	39.7	17	128	-15	20.2	3.3	-4.2	25.8	13	33	1.58	-2.22	0.70		1
JF 070047		DJW 020053	JF 010042	98	96	99	83	101	91	122	94	100	96	94	99	104	119	114	102	105	114	92	91	122	112	113	98	107	52	54
				89	92	82	32	71	76	36	68	92	92	0.17	0.4	26.2	38	155	-22	12.9	-15.3	-4.2	26.8	25	37	1.81	-0.06	0.97		12
JF 110061		VV 060027	JF 070219	88	120	104	95	81	107	116	107	70	120	123	104	123	104	119	115	132	82	89	89	127	119	113	99	121	40	29
				88	89	75	42	67	74	50	69	92	89	-0.96	1.8	41.2	23	177	-38	27.8	10.7	-3.6	25.7	28	45	1.85	0.03	2.17	7	7
JH 170046		254730	JH 120155	98	108	111	95	107	113	109	111	98	108	104	111	110	103	115	134	116	98	113	105	102	101	119	121	118	57	50
				95	96	93	91	93	88	92	89	96	96	-0.23	4.1	31.2	22	161	-60	19.2	-2.3	-8.5	36.5	13	25	2.35	2.93	1.89		13
JL 050119		ER 000015	JL 990149	104	107	116	99	122	124	106	120	102	107	105	116	111	99	109	120	103	101	149	103	111	107	96	135	118	159	149
				98	98	98	94	97	91	94	92	98	98	-0.26	5.6	32.0	18	133	-44	12.3	-4.2	-15.7	35.0	19	32	0.46	4.75	1.92		55
JO 090174		JO 040366	JO 050051	94	102	114	89	102	102	109	101	90	102	117	114	100	111	106	93	82	105	97	103	106	104	89	94	104	79	76
				97	97	96	91	94	90	91	90	97	97	-0.74	4.9	23.4	30	119	-12	0.4	-7.7	-5.2	34.7	16	28	-0.15	-0.56	0.73		29
K 060010		JR 020008	K 010058	100	105	90	89	101	98	101	96	99	105	104	90	112	112	101	107	70	89	116	98	114	106	96	104	107	117	41
				96	92	89	44	81	81	43	73	97	92	-0.21	-2.2	32.4	31	100	-28	-5.7	5.0	-9.0	31.9	21	31	0.42	0.68	0.96		30
KT 060001		KT 960005	KT 990030	102	100	105	112	90	99	83	93	100	100	108	105	93	87	88	88	96	91	97	90	96	98	88	79	80	48	40
				90	90	78	34	69	75	29	66	93	90	-0.37	2.4	17.5	7	43	-6	8.3	3.0	-5.2	26.3	9	22	-0.24	-2.46	-1.21		10
KT 070013		VV 000110	KT 000002	91	110	80	103	94	95	95	92	90	110	109	80	112	97	99	102	81	115	82	85	104	102	92	76	87	172	130
				98	97	96	90	95	90	90	90	98	97	-0.41	-5.2	32.8	16	91	-22	0.0	-16.1	-2.1	22.9	14	27	0.12	-2.94	-0.62	1	51
KT 110020		VV 040074	KT 000033	96	105	88	111	53	78	93	76	100	105	89	88	119	89	97	97	96	61	56	91	83	93	97	71	72	207	194
				99	98	97	96	97	91	96	92	99	98	0.36	-2.9	38.2	8	84	-17	8.4	27.3	3.2	26.7	2	16	0.53	-3.53	-1.81	1	43

Sires

Bull				Selection Values							Calf		Dam		Growth				Fertility				Frame		Carcass			Measured Progeny		
ID	Index EBV Acc	Sire ID	Dam ID	Calv. Ease Value	Calf Grwth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Growth Value	Prod Value	Birth Dir	Wean Dir	Birth Mat.	Wean Mat.	Post wn wt	Mature weight	ADG	FCR	Scrotal	Heifer Fertility	Cow Fertility	Long-evi ty	Height	Length	EMA	Fat	Marbling	Birth Grwth Test	Wean Dgt/Calvs.
SP 080029		SP 050074	SP 060029	82	108	92	87	99	93	100	91	84	108	96	92	115	116	107	106	103	111	95	87	106	111	105	121	122	54	43
ZINC				90	92	84	37	72	77	58	73	2.46	19.0	0.07	-1.6	34.5	34	125	-27	12.1	-12.2	-4.7	24.4	16	36	1.17	2.92	2.19	4	12 51
SS 130031		VV 080131	SS 100004	95	114	111	87	119	122	102	117	93	114	110	111	103	113	100	86	129	131	102	103	121	120	78	139	102	161	108
CHAMP				98	98	96	95	95	91	96	92	1.69	22.1	-0.45	4.1	25.8	32	95	-3	26.1	-28.7	-6.2	35.1	25	46	-1.06	5.24	0.60	17	47 109
VV 000014		HM 910019	VV 970025	98	104	104	105	105	107	110	106	97	104	107	104	101	93	116	114	114	109	117	78	97	100	111	89	101	49	50
00 14				90	92	79	36	73	77	36	69	1.41	17.1	-0.36	1.9	24.3	13	164	-36	18.1	-10.8	-9.3	17.9	11	25	1.67	-1.26	0.47		6 25
VV 020141		DT 990084	VV 960019	101	105	79	100	99	95	94	92	97	105	112	79	97	100	93	90	104	101	103	91	91	96	83	115	99	72	69
02 141				94	94	90	41	80	81	42	73	1.34	17.6	-0.52	-5.6	21.1	19	65	-8	12.7	-4.6	-6.3	26.9	7	20	-0.63	2.08	0.37		24 97
VV 020194		DT 990084	VV 000066	87	109	94	89	80	90	109	90	88	109	103	94	93	112	111	109	117	84	82	94	84	99	104	90	78	250	242
CHAMP 02 194				99	99	98	95	97	92	96	93	2.12	19.5	-0.18	-0.9	17.9	31	142	-30	19.7	9.0	-2.2	28.6	3	24	1.06	-1.14	-1.35		73 309
VV 080106		VV 020194	VV 020072	93	119	96	87	102	113	117	113	93	119	104	96	114	114	121	114	113	91	115	99	108	117	105	92	80	59	28
08 106				92	90	86	34	75	78	46	72	1.75	25.2	-0.24	-0.4	34.1	33	184	-37	17.4	3.2	-8.8	32.1	17	43	1.15	-0.80	-1.21		14 55
VV 090068		VV 020008	VV 970133	93	95	96	117	64	75	92	74	90	95	113	96	94	83	98	95	77	93	48	82	88	93	82	89	90	63	46
VV090068				95	94	91	84	89	86	84	86	1.98	11.8	-0.56	-0.5	18.2	3	84	-14	-1.9	1.4	4.9	20.6	5	16	-0.67	-1.27	-0.41		15 44
VV 090171		VV 000014	VV 050045	98	105	88	117	107	104	89	98	101	105	92	88	100	83	94	104	113	116	110	81	88	89	93	93	91	86	72
VV090171				95	96	92	85	90	87	86	87	1.06	17.3	0.23	-3.0	23.1	3	70	-25	17.4	-16.2	-7.8	20.1	5	13	0.23	-0.64	-0.28	5	19 62
VV 100040		VV 060027	VV 070024	88	98	98	114	73	81	82	77	87	98	110	98	90	85	82	79	88	62	94	93	88	94	88	93	93	184	170
VV100040				98	98	97	94	96	91	94	92	2.25	13.7	-0.47	0.0	15.5	5	20	5	4.0	26.4	-4.6	28.3	5	18	-0.19	-0.67	-0.16		46 127
VV 120032		VV 080098	VV 050063	97	86	99	112	68	70	82	67	93	86	120	99	80	87	89	95	78	75	80	77	71	80	87	79	82	41	27
VV120032				89	88	77	28	66	73	30	64	1.72	7.2	-0.84	0.5	7.6	7	47	-14	-1.7	15.7	-1.7	17.4	-5	3	-0.31	-2.47	-1.00	1	9 27
VV 120052		VV 020194	VV 010143	94	117	99	84	95	109	124	111	93	117	106	99	109	118	125	111	122	87	107	96	109	117	126	90	86	47	12
VV120052				95	93	92	88	91	87	88	87	1.69	24.0	-0.31	0.5	30.0	37	200	-33	22.5	6.5	-7.2	30.6	18	43	2.90	-1.06	-0.68		6 21

Sires

Bull				Selection Values							Calf		Dam		Growth				Fertility				Frame		Carcass			Measured Progeny				
ID	Index EBV Acc	Sire ID	Dam ID	Calv. Ease Value	Calf Grwth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Growth Value	Prod Value	Birth Dir	Wean Dir	Birth Mat.	Wean Mat.	Post wn wt	Mature weight	ADG	FCR	Scrotal	Heifer Fertility	Cow Fertility	Long-evi ty	Height	Length	EMA	Fat	Marbling	Birth Grwth Test	Wean Dgt/Calvs.		
VV 120148		VV 020194	VV 060068	93	107	100	86	111	106	115	106	93	107	105	100	96	115	118	111	107	94	129	99	100	107	111	111	77	81	218	218	
VV120148				99	99	98	96	98	92	96	93	99	99	98	98	96	96	96	96	96	98	97	98	96	96	96	96	96	96	96	48	138
VV 130040		VV 090068	VV 020123	91	96	85	122	64	73	85	70	91	96	105	85	95	80	93	96	78	86	55	85	82	84	80	90	89	2			
VV130040				71	59	57	15	49	53	23	47	75	59	56	57	23	15	23	21	25	53	33	62	25	24	16	14	14				
VV 140112		JL 050119	VV 120051	113	105	97	98	103	109	91	103	109	105	110	97	102	101	93	98	101	93	104	114	96	104	88	150	113	153	124		
VV140112				97	97	94	90	93	89	91	89	98	97	94	94	92	90	92	89	93	94	90	95	93	92	92	91	91	15	37 67		
VV 140208		JL 050119	VV 060126	97	111	79	104	124	112	113	111	99	111	98	79	107	96	113	116	109	108	134	107	105	107	105	108	107	104	78		
VV140208				93	94	84	34	75	79	34	70	96	94	83	84	49	34	39	27	42	81	56	88	42	41	35	33	32	20	43		
VV 150102		JL 050119	VV 070161	101	101	102	109	108	106	97	102	101	101	102	102	105	89	99	104	97	101	116	100	97	95	91	112	100	3	1		
VV150102				74	64	62	28	56	58	32	53	77	64	61	62	42	28	36	26	38	57	45	65	38	37	33	31	30				
VV 160207		VV 130121	VV 020135	96	114	121	93	124	130	116	127	94	114	108	121	113	105	116	105	124	104	135	114	126	120	109	116	110	12	12		
VV160207				92	93	90	87	89	85	88	86	93	93	90	90	88	87	88	87	88	89	88	91	88	88	88	87	87	2	4		
VV 170225		RH 070008	VV 140086	95	118	117	79	98	118	117	117	95	118	102	117	112	124	119	110	105	77	110	116	121	122	105	115	108	130	68		
VV170225				98	97	96	95	96	90	95	91	98	97	96	96	95	95	95	95	95	96	95	96	95	95	95	95	95	2	2		
VV 180071		VV 100040	VV 130065	82	116	94	100	112	111	108	109	80	116	96	94	109	99	110	101	108	100	121	106	107	113	108	95	92	92	43		
VV180071				96	95	92	90	92	88	90	88	97	95	92	92	90	90	90	90	90	92	90	93	90	90	90	90	90	1	2		

Breeding Values and Accuracies: Bulls

Green: >120 High
White: 80-120 Average
Orange: <80 Low

Inbreeding in red is high

Value <80 Value >120

Breeding values with an accuracy < 5% are not printed

Animal				Selection Values								Birth		Wean				Growth			Fertility				Frame		Carcass			
Index EBV Acc	% Inbreeding	Sire ID Dam ID		Calv. Ease V	Calv Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
ID Number Name																														
VV 090052 68469691 VV090052	2	VV 000014 VV 950042		95 70	103 71	92 59	105 28	101 50	97 58	101 24	95 51	95 18	94 1.60 73	105 -0.28 57	94 13 28	103 16.1 71	92 -1.8 59	97 47 53	99 22.2 34	105 115 31	104 -25 16	107 14.0 34	111 -12.5 52	104 -6.6 40	81 20.1 59	101 12 33	99 23 33	96 0.41 19	92 -0.86 17	93 -0.17 17
VV 100123 71478051 VV100123	4	KT 060001 VV 050088		97 70	106 70	101 59	98 24	97 49	102 57	93 24	98 50	94 18	95 1.57 73	111 -0.51 57	101 20 24	106 18.0 70	101 0.9 59	105 67 51	99 22.7 30	96 77 28	95 -14 18	105 13.2 30	96 -0.7 52	101 -6.0 37	95 29.8 58	100 12 30	102 26 29	89 -0.13 19	97 -0.16 18	89 -0.47 17
VV 110125 73865255 VV110125	2	VV 020194 VV 050130		100 70	105 71	97 63	95 28	87 54	95 59	102 32	94 54	100 31	98 1.28 73	107 -0.34 60	105 24 28	105 17.2 71	97 -0.2 63	99 53 54	95 19.2 38	105 117 34	104 -25 28	108 14.9 37	97 -1.6 57	81 -2.0 45	94 29.2 60	92 7 37	100 24 36	99 0.66 32	97 -0.13 30	89 -0.48 30
VV 110146 73866006 VV110146	1	DJW 070059 VV 050116		93 69	98 69	88 58	104 20	89 47	84 56	95 30	82 51	93 21	92 1.82 72	108 -0.37 55	95 15 20	98 13.8 69	88 -3.0 58	89 28 49	97 20.9 34	98 88 37	100 -20 20	92 5.8 41	88 5.9 50	105 -6.8 35	81 19.8 57	97 10 30	98 22 29	100 0.75 22	104 0.66 20	109 1.16 20
VV 110158 74122805 VV110158	14	VV 020194 VV 040047		93 72	105 72	92 65	98 30	86 57	91 61	100 36	89 56	98 34	93 1.69 74	103 -0.19 63	102 21 30	105 17.2 72	92 -1.8 65	96 45 56	93 18.0 40	103 106 38	104 -24 30	105 13.2 42	88 5.8 60	94 -4.6 48	89 25.5 63	83 2 42	95 19 41	95 0.39 35	98 0.00 33	89 -0.48 32
VV 110165 74122888 VV110165	1	DJW 070059 VV 060199		93 70	106 70	85 60	99 21	97 50	95 57	100 34	93 52	97 24	91 1.93 73	113 -0.57 58	101 20 21	106 18.1 70	85 -3.9 60	92 36 50	106 27.9 37	100 94 41	96 -16 23	108 15.0 45	100 -4.0 53	105 -6.7 38	86 23.5 59	88 5 35	98 23 34	103 0.98 25	104 0.72 24	107 0.97 23
VV 120164 290804889 VV120164	2	VV 080106 VV 060145		99 69	109 69	96 58	94 20	95 48	103 56	102 27	101 50	102 26	98 1.25 72	104 -0.23 55	106 25 20	109 19.8 69	96 -0.4 58	103 61 49	109 29.9 31	107 126 29	105 -26 23	104 12.5 32	97 -1.6 51	91 -3.9 36	102 34.7 56	96 10 32	105 30 31	98 0.62 27	98 -0.05 25	94 -0.08 24
VV 130040 290837681 VV130040	5	VV 090068 VV 020123		91 71	96 59	85 57	122 15	64 49	73 53	85 23	70 47	80 15	91 1.88 75	105 -0.28 56	80 1 15	96 12.5 59	85 -3.8 57	90 29 44	95 19.3 23	93 63 23	96 -15 21	78 -1.4 25	86 7.4 53	55 3.5 33	85 22.5 62	82 1 25	84 7 24	80 -0.86 16	90 -1.13 14	89 -0.51 14
DJW 150045 291000008 15045DJW	2	JF 110061 DJW 110043		82 81	110 87	86 61	102 25	87 52	91 67	113 31	92 60	106 42	82 2.66 87	97 0.06 55	98 17 25	110 20.4 87	86 -3.5 61	99 51 58	121 39.7 51	108 128 43	96 -15 15	118 20.2 48	91 3.3 50	92 -4.2 31	89 25.8 74	102 13 48	108 33 46	110 1.58 43	81 -2.22 40	103 0.70 39
VV 150102 290993369 VV150102	2	JL 050119 VV 070161		101 74	101 64	102 62	109 28	108 56	106 58	97 32	102 53	95 32	101 1.04 77	102 -0.14 61	89 9 28	101 15.4 64	102 1.3 62	106 70 51	105 27.3 42	99 90 36	104 -24 26	97 8.9 38	101 -4.3 57	116 -9.1 45	100 32.8 65	97 10 38	95 19 37	91 0.01 33	112 1.68 31	100 0.46 30
VV 170209 291141810 VV170209	1	JO 090174 VV 080093		105 72	103 71	99 63	89 22	92 53	98 59	104 26	97 52	98 24	100 1.12 75	118 -0.76 61	111 30 22	103 16.1 71	99 0.5 63	97 48 52	100 23.1 32	102 102 27	93 -12 23	92 6.1 31	89 4.7 56	99 -5.5 40	97 31.3 64	102 13 30	101 26 29	90 -0.06 25	89 -1.25 23	91 -0.34 21
VV 180134 291170959 VV180134	4	KT 110020 VV 140150		81 69	110 70	90 59	103 20	74 50	87 57	96 23	85 50	95 23	86 2.32 72	92 0.23 56	96 16 20	110 20.4 70	90 -2.2 59	103 61 50	120 38.3 32	100 94 25	99 -19 18	95 7.8 28	88 5.6 55	66 1.1 37	92 27.9 59	93 8 29	100 24 27	96 0.47 24	81 -2.28 22	83 -0.99 21

Breeding Values and Accuracies: Bulls

Green: >120 High
White: 80-120 Average
Orange: <80 Low

Inbreeding in red is high

Value <80 Value >120

Breeding values with an accuracy < 5% are not printed

Animal				Selection Values								Birth		Wean				Growth			Fertility				Frame		Carcass			
Index EBV Acc	% Inbreeding	Sire ID	Dam ID	Calv. Ease V	Calv Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
ID Number Name				Calv. Ease V	Calv Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
VV 190090 291211803 VV190090	5	VV 140208	VV 120024	91 88	119 88	83 86	95 83	106 85	110 81	110 84	108 82	110 83	90 1.97	108 -0.38	106 25	119 25.0	83 -4.3	101 57	109 30.4	110 136	110 -31	99 9.8	89 5.1	119 -9.7	108 38.6	115 21	116 42	106 1.30	102 0.44	101 0.53
CSS 210021 94779618 CSS2121		VV 190083		107 57	94 35	106 30	103 20	92 25	95 34	88 22	90 32	86 24	107 0.52	97 0.03	95 15	94 11.5	106 2.6	101 56	86 12.6	90 51	79 5	102 11.3	101 -5.0	97 -5.3	79 18.8	98 11	93 17	87 -0.27	99 0.09	74 -1.68
CSS 220012 95538674 CSS2212		VV 130223		104 59	91 36	90 33	116 11	90 28	84 35			75 14	104 0.80	101 -0.11	84 4	91 9.5	90 -2.3	87 23	86 12.7	82 18	77 7	84 1.5	97 -1.7	91 -4.0	87 24.4	89 5	83 6	84 -0.55	86 -1.58	70 -2.04
CSS 220014 96156286 CSS2214		CSS 190003		98 53	87 53	104 26	115 5	78 20	78 37			74 6	101 1.01	92 0.25	84 4	87 7.3	104 2.0	96 44	80 7.9	84 25	73 12	88 4.0	82 10.1	87 -3.2	84 21.8	90 6	83 6	90 -0.09	85 -1.74	61 -2.73
CSS 220016 96474630 CSS2216		CSS 190008		103 29	89 30	105 17	109 6	89 19	86 23			79 6	105 0.69	93 0.20	89 9	89 8.7	105 2.1	97 46	84 10.7	85 30	73 12	92 6.1	96 -0.4	96 -4.9	81 20.1	96 10	88 11	94 0.31	88 -1.38	66 -2.30
CSS 220017 96474622 CSS2217		CSS 200002		117 52									119 -0.51	88 0.41								99 -3.1		65 9.2						
CSS 220019 96131362 CSS2219	1	VV 150102	VV 130144	103 64	100 65	98 45	101 17	96 38	98 50	103 20	96 44	97 16	102 0.95	105 -0.25	98 17	100 14.8	98 0.3	99 52	105 26.7	102 104	101 -22	99 9.7	98 -2.2	92 -4.2	104 35.5	101 13	99 23	96 0.40	105 0.83	102 0.59
CSS 220020 96474689 CSS2220	4	DJW 150045	VV 180083	86 65	114 69	88 46	98 17	89 38	97 52	111 20	97 46	105 24	87 2.23	102 -0.15	102 21	114 22.1	88 -2.9	102 58	115 34.9	110 138	102 -22	113 17.3	86 7.4	95 -4.8	99 32.6	100 12	106 31	110 1.55	81 -2.26	92 -0.19
CSS 220027 96149539 CSS2227		VV 120093		105 59	85 36	100 34	111 10	83 24	79 34			80 6	107 0.54	95 0.14	87 7	85 6.3	100 0.7	89 28	83 10.2	89 50	78 5	89 4.6	97 -1.2	88 -3.3	73 14.9	95 9	87 11	91 0.05	89 -1.26	75 -1.61
CSS 220037 96474812 CSS2237		CSS 200005		104 29	87 17	105 14	109 5	72 18				78 6	107 0.51	91 0.29	89 9	87 7.8	105 2.3	96 44	83 9.7	84 29	74 11	91 5.3	80 11.8	92 -4.2	64 8.8	93 8	86 9	93 0.20	90 -1.13	66 -2.31
CSS 220039 96154372 CSS2239		CSS 200008		110 53	82 17	107 14	110 5	79 18	78 22				112 0.06	90 0.31	88 8	82 4.7	107 2.7	92 34	78 6.4	84 29		89 4.7	91 3.4	93 -4.3	66 9.7	94 8	84 8			
CSS 220044 96474648 CSS2244		CSS 190008		103 29	89 30	105 17	109 6	84 18	84 23			79 6	105 0.69	93 0.20	89 9	89 8.7	105 2.1	97 46	84 10.7	85 30	73 12	92 6.1	96 -0.4	96 -4.9	68 10.9	96 10	88 11	94 0.31	88 -1.38	66 -2.30

Breeding Values and Accuracies: Bulls

Green: >120 High
White: 80-120 Average
Orange: <80 Low

Inbreeding in red is high

Value <80 Value >120

Breeding values with an accuracy < 5% are not printed

Animal				Selection Values								Birth		Wean				Growth			Fertility				Frame		Carcass			
Index EBV Acc	ID Number Name	% Inbreeding	Sire ID Dam ID	Calv. Ease V	Calv Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
CSS 220045	96156203		CSS 190010	104 53	90 31	103 18	107 7	80 18	83 28			80 5	106 0.58 61	93 0.21 22	91 11 7	90 9.3 31	103 1.6 18	95 43 19	85 11.2 8	88 42 7	77 7 5	91 5.3 8	88 5.9 26	98 -5.4 10	67 10.5 19	98 11 8	89 12 8	96 0.46 5	87 -1.52 5	66 -2.35 5
CSS 220046	96156260		CSS 190011	111 53	82 18	102 15	114 6	75 20	76 23				112 0.07 61	93 0.19 23	85 5 6	82 4.8 18	102 1.4 15	89 28 13	79 6.9 7	81 13 7	71 14 5	83 1.1 8	84 9.1 26	91 -4.0 10	67 10.3 23	91 7 8	82 5 8	88 -0.21 5		
CSS 220056	96156252	1	DJW 150045 CSS 190009	82 61	104 53	98 35	102 13	78 32	85 43			97 22	84 2.45 68	95 0.11 35	96 16 13	104 17.0 53	98 0.2 35	103 62 34	107 28.9 26	101 100 22	90 -8 9	105 12.9 25	81 11.2 36	90 -3.7 18	83 21.3 42	100 12 25	100 25 24	103 1.01 22	84 -1.85 21	89 -0.46 20
CSS 220063	96156278		VV 120088	114 57	85 35	99 28	107 10	85 24	82 33			81 6	114 -0.06 64	96 0.07 29	92 11 10	85 6.2 35	99 0.4 28	87 22 24	83 9.7 14	88 45 13	79 5 8	92 6.3 14	97 -1.5 25	91 -3.9 17	75 15.8 31	95 9 12	87 11 11	91 0.06 7	92 -0.88 6	76 -1.55 6
VV 220161	94730462		VV 180071 VV 160157	88 87	105 87	93 84	102 81	83 83	89 80	95 81	87 80	95 81	86 2.34 88	112 -0.52 84	96 16 81	105 17.6 87	93 -1.3 84	100 54 84	98 21.2 81	97 81 81	89 -7 81	100 10.1 81	85 7.7 83	82 -2.1 82	101 33.8 84	96 10 81	102 26 81	97 0.51 81	94 -0.57 81	92 -0.25 81
VV 220211	94730140		VV 170225 VV 160080	89 86	119 86	118 83	83 80	92 82	115 79	123 80	116 79	123 80	83 2.58 87	115 -0.67 83	118 36 80	119 25.0 86	118 6.2 83	124 113 83	111 31.7 80	122 189 80	110 -32 80	111 16.6 80	85 8.1 82	94 -4.7 81	109 39.4 83	122 25 80	123 49 80	109 1.48 80	112 1.80 80	105 0.81 80

Breeding Values and Accuracies: Cows

Green: >120 High
White: 80-120 Average
Orange: <80 Low

Inbreeding in red is high										Value <80		Value >120		Breeding values with an accuracy < 5% are not printed																
Animal				Selection Values								Birth		Wean				Growth			Fertility				Frame		Carcass			
Index EBV Acc	% Inbreeding	Sire ID Dam ID	Name	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
ID Number																														
VV 070027	2	VV 020141	290680420	92	101	80	114	98	89	81	83	79	90	108	86	101	80	87	92	84	86	88	108	99	83	79	83	73	107	96
07 27		VV 040200		72	70	60	25	52	58	26	52	18	1.94	-0.39	6	15.1	-5.4	24	17.0	25	-4	3.6	-9.9	-5.6	21.7	0	6	-1.43	1.06	0.14
													74	63	25	70	60	52	30	29	20	32	53	40	64	32	31	19	18	17
VV 120061		DJW 070059	4000043119	85	107	83	103	90	88	100	87	94	86	105	96	107	83	93	108	100	98	100	88	102	88	90	95	103	98	100
VV120061		VV 040097		72	71	61	22	51	59	30	53	22	2.33	-0.26	16	18.3	-4.5	36	29.5	93	-18	10.3	5.9	-6.2	24.6	6	19	1.03	-0.03	0.44
													74	62	22	71	61	51	34	37	19	41	52	37	64	30	29	23	21	21
VV 120088		JF 070047	4000132532	107	95	88	99	94	88	102	88	92	104	107	100	95	88	85	96	98	94	97	107	87	91	98	95	92	101	98
VV120088		VV 060168		70	69	56	20	48	56	22	49	14	0.75	-0.33	19	11.7	-2.8	17	20.1	89	-12	8.8	-9.7	-3.2	26.6	11	19	0.12	0.28	0.29
													73	58	20	69	56	48	30	25	16	27	49	35	61	23	22	14	13	12
VV 120093		JF 070047	4000164667	98	92	90	108	90	82	103	82	90	97	103	91	92	90	86	95	101	93	91	107	82	88	98	95	92	95	97
VV120093		VV 070151		73	72	69	21	49	60	24	53	12	1.33	-0.19	11	10.3	-2.3	21	19.2	99	-11	5.2	-9.1	-2.1	24.8	11	19	0.09	-0.47	0.17
													75	66	21	72	69	54	32	28	18	30	50	34	62	23	22	12	11	10
VV 120097		JF 070047	4000164691	90	97	98	96	89	85	105	85	95	94	94	103	97	98	94	101	104	98	94	99	87	88	102	98	98	97	97
VV120097		VV 070146		70	69	57	19	49	56	21	49	12	1.67	0.18	22	13.2	0.1	40	24.2	111	-18	7.0	-3.1	-3.2	24.8	13	22	0.57	-0.23	0.17
													73	59	19	69	57	48	29	25	16	27	51	34	62	22	22	13	12	11
VV 120142	1	JL 050119	4000266488	103	109	106	98	111	117	106	113	107	101	106	101	109	106	113	111	108	112	102	107	118	96	106	105	97	117	104
VV120142		VV 080151		71	70	60	28	56	59	32	54	32	1.00	-0.29	20	19.6	2.5	85	31.5	128	-34	11.6	-9.5	-9.5	30.0	16	30	0.55	2.36	0.78
													73	63	28	70	60	53	42	36	25	38	57	45	65	38	37	33	31	30
VV 120146		SP 080029	4000266520	96	109	90	99	94	99	95	95	99	94	111	101	109	90	99	108	99	96	98	106	93	82	102	104	98	103	105
VV120146		VV 090030		72	70	63	23	50	58	34	53	26	1.65	-0.49	20	19.4	-2.4	51	29.5	90	-15	9.4	-8.4	-4.4	20.9	14	29	0.64	0.55	0.83
													74	65	23	70	63	52	38	37	27	40	52	34	63	41	39	26	25	24
VV 120160		SP 080029	290804848	98	100	100	99	81	89	95	87	95	97	107	100	100	100	99	103	99	99	95	86	86	89	93	97	95	109	107
VV120160		VV 050135		71	70	60	21	49	57	31	52	22	1.41	-0.33	19	14.7	0.6	53	25.7	92	-19	7.9	7.5	-3.0	25.6	8	21	0.32	1.38	1.02
													74	61	21	70	60	50	33	35	25	38	50	34	63	38	37	23	22	22
VV 120169		SP 080029	290804939	96	112	90	93	85	97	98	95	103	96	104	107	112	90	99	111	104	104	99	87	95	86	99	104	100	111	106
VV120169		VV 070072		72	69	58	22	51	57	32	52	24	1.48	-0.21	26	21.0	-2.4	53	31.4	110	-25	9.7	6.7	-4.7	23.5	11	29	0.78	1.61	0.95
													74	62	22	69	58	50	34	36	26	39	53	36	63	39	38	25	23	23
VV 120178	6	KT 070013	290819002	97	100	81	116	86	85	84	81	81	95	108	84	100	81	88	100	90	93	77	113	67	85	91	89	81	83	85
VV120178		VV 060142		76	71	63	19	54	60	28	54	26	1.53	-0.37	4	14.5	-5.1	25	23.0	50	-11	-1.9	-14.2	0.9	22.5	7	13	-0.82	-1.98	-0.80
													77	70	19	71	63	51	32	28	26	32	57	40	66	32	31	27	25	24
VV 120190	2	KT 070013	290819036	95	101	84	108	89	87	99	86	90	94	106	92	101	84	89	103	100	97	89	97	93	85	98	95	94	84	89
VV120190		VV 040163		75	72	67	22	55	61	31	55	27	1.60	-0.29	11	15.0	-4.1	28	25.2	93	-16	4.2	-1.6	-4.3	22.8	11	19	0.25	-1.88	-0.46
													76	69	22	72	67	54	36	32	27	36	58	42	66	36	34	28	26	25
VV 120197	3	VV 080106	290818954	88	106	95	105	94	95	101	94	91	88	104	94	106	95	103	104	105	105	92	90	103	95	88	93	92	85	84
VV120197		VV 040095		73	71	66	24	53	60	28	54	26	2.13	-0.21	14	17.9	-0.9	61	26.4	115	-25	6.0	4.3	-6.4	29.9	5	17	0.12	-1.71	-0.86
													75	66	24	71	66	54	34	30	24	33	54	40	64	34	32	27	25	25

Breeding Values and Accuracies: Cows

Green: >120 High
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Orange: <80 Low

Inbreeding in red is high										Value <80		Value >120		Breeding values with an accuracy < 5% are not printed																	
Animal				Selection Values								Birth		Wean				Growth			Fertility				Frame		Carcass				
Index EBV Acc	% Inbreeding	Sire ID	Dam ID	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling	
ID Number Name																															
VV 120416 96458922 VV 120416				111 28									116 -0.29 26	80 0.69 35									115 -16.0 19		84 21.9 40						
VV 130011 290822568 VV130011	3	K 060010 VV 080041		108 72	96 60	86 62	100 25	91 52	88 55	98 24	86 49	90 18	106 0.60 74	105 -0.26 64	99 19 25	96 12.4 60	86 -3.6 62	84 15 49	100 23.1 27	100 95 25	103 -24 21	78 -1.4 28	94 0.9 55	98 -5.4 38	88 25.2 64	97 10 28	94 18 27	90 -0.07 19	96 -0.27 17	99 0.31 17	
VV 130068 290848779 VV130068	8	VV 090068 VV 080133		88 70	93 70	83 64	126 18	79 51	74 58	84 25	71 51	77 22	90 2.00 73	101 -0.12 60	79 -1 18	93 10.7 70	83 -4.4 64	85 18 51	89 14.7 26	90 51 25	92 -11 23	78 -1.4 28	92 2.2 53	71 0.2 38	95 29.3 63	74 -4 28	79 2 27	75 -1.26 22	91 -0.95 21	83 -0.97 20	
VV 130088 290857150 VV130088		JF 070047 VV 090200		95 67	100 68	93 53	98 20	90 46	89 54	101 22	88 48	95 13	97 1.40 71	97 0.05 50	102 21 20	100 14.9 68	93 -1.3 53	94 39 47	103 25.4 31	100 94 26	98 -17 16	94 6.9 28	102 -5.1 50	84 -2.6 33	90 26.5 55	102 13 23	99 23 22	97 0.50 14	96 -0.34 12	95 0.05 12	
VV 130128 290874155 VV130128	6	KT 070013 VV 080183		94 72	101 72	82 70	118 20	86 53	87 60	85 30	83 54	82 27	94 1.66 74	106 -0.30 66	83 3 20	101 15.3 72	82 -4.6 70	91 34 54	100 23.1 34	90 54 29	95 -14 27	81 0.0 33	105 -8.0 55	75 -0.6 39	88 24.8 65	90 6 33	89 12 32	83 -0.66 28	84 -1.84 26	86 -0.71 25	
VV 130129 290874163 VV130129	1	K 060010 VV 060050		104 75	95 70	80 61	109 24	83 53	81 59	90 26	78 52	82 18	102 0.96 76	106 -0.29 69	90 10 24	95 12.1 70	80 -5.4 61	81 8 52	101 24.1 28	89 46 30	93 -12 21	68 -7.0 33	88 5.4 55	87 -3.1 38	90 26.4 65	90 6 32	87 11 31	81 -0.83 19	104 0.68 17	98 0.26 16	
VV 130135 290874221 VV130135	2	JL 050119 VV 070173		100 72	104 72	103 64	104 29	104 55	106 60	97 34	102 55	97 35	98 1.27 74	106 -0.31 62	94 14 29	104 16.8 72	103 1.5 64	107 72 55	102 24.3 43	100 95 37	106 -28 28	97 8.8 40	97 -1.6 58	114 -8.7 46	98 31.5 61	92 7 40	93 17 39	90 -0.05 36	110 1.47 34	97 0.22 33	
VV 130144 290876820 VV130144		JF 070047 VV 060087		100 70	104 71	94 64	92 19	81 49	91 58	110 23	91 51	102 12	98 1.30 73	108 -0.39 59	108 27 19	104 16.7 71	94 -1.0 64	95 43 51	107 28.9 32	107 125 27	100 -20 17	102 11.4 29	95 0.5 50	69 0.6 35	100 33.1 62	107 16 25	104 29 25	102 0.93 12	98 0.00 11	104 0.75 10	
VV 130168 290881622 VV130168	7	VV 090068 VV 090003		101 73	100 69	94 56	112 17	78 51	90 57	91 23	86 50	87 19	100 1.15 75	105 -0.25 67	87 7 17	100 14.9 69	94 -1.0 56	100 54 47	98 21.9 24	97 82 23	96 -15 21	83 1.1 25	95 -0.2 53	70 0.3 36	87 24.4 64	90 6 25	94 17 25	85 -0.46 20	90 -1.13 18	87 -0.64 17	
VV 130170 290881648 VV130170	2	JO 090174 VV 070035		85 72	109 72	107 69	95 18	83 52	96 60	106 22	95 52	100 19	86 2.29 74	104 -0.21 65	103 22 18	109 19.5 72	107 2.9 69	112 84 53	106 28.1 26	106 123 24	98 -18 18	90 4.9 26	84 9.0 55	87 -3.2 39	94 29.1 62	101 13 26	101 26 26	97 0.49 20	91 -0.94 18	96 0.09 16	
VV 130206 290895085 VV130206	3	JL 050119 VV 060089		95 69	96 70	101 61	120 27	92 53	92 58	86 34	87 53	87 33	96 1.45 72	100 -0.08 58	81 1 27	96 12.4 70	101 0.9 61	103 62 53	99 22.6 42	92 60 37	101 -21 29	83 1.0 39	92 2.4 57	96 -5.0 44	95 29.4 59	87 4 40	86 9 39	79 -0.98 34	115 2.11 32	100 0.46 32	
VV 130212 290895143 VV130212	2	JO 090174 VV 070161		92 73	98 71	97 66	107 18	96 52	92 59	94 22	89 52	85 19	91 1.87 75	108 -0.39 66	92 11 18	98 13.8 71	97 -0.2 66	98 50 52	99 22.7 26	93 65 24	87 -4 18	82 0.7 26	104 -6.6 55	90 -3.7 39	98 31.4 63	89 6 26	88 11 25	83 -0.67 20	91 -1.02 18	92 -0.23 16	

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Green: >120 High
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Inbreeding in red is high

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Animal				Selection Values								Birth		Wean				Growth			Fertility				Frame		Carcass		
Index EBV Acc	% Inbreeding	Sire ID Dam ID	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
ID Number Name																													
VV 130223 290895259 VV130223	4	KT 070013 VV 080025	107 75	100 72	69 67	116 21	96 54	90 61	82 30	84 55	80 27	102 0.94 76	115 -0.66 69	85 5 21	100 14.6 72	69 -8.7 67	77 0 53	98 21.4 33	86 35 30	90 26 26	79 -1.0 34	108 -10.2 55	89 -3.5 40	91 26.8 66	86 3 34	86 10 32	77 -1.10 28	90 -1.12 26	86 -0.69 25
VV 140001 290894989 VV140001		JF 070047 VV 090117	102 67	98 68	101 54	98 19	94 46	95 55	106 22	94 48	97 12	101 1.06 71	105 -0.27 52	101 20 19	98 13.6 68	101 1.2 54	98 50 47	102 24.4 29	104 113 25	97 -17 17	93 6.6 27	112 -13.1 49	84 -2.6 33	87 24.1 55	103 14 23	100 24 22	102 0.96 13	96 -0.37 12	98 0.25 11
VV 140023 290917251 VV140023	1	K 060010 VV 040193	90 73	104 72	89 70	99 26	93 53	91 61	99 27	89 54	92 20	90 1.99 75	107 -0.33 66	100 20 26	104 16.8 72	89 -2.5 70	94 40 56	105 27.1 30	100 94 29	102 -22 22	83 1.0 32	90 4.4 56	103 -6.4 40	92 27.6 64	99 11 32	96 20 31	94 0.31 21	97 -0.15 19	100 0.42 19
VV 150116 290993500 VV150116	1	VV 100040 K 090021	81 72	100 70	98 59	105 20	80 53	82 58	84 22	78 51	85 20	79 2.94 74	94 0.16 65	94 13 20	100 14.9 70	98 0.0 59	100 54 50	97 20.8 28	85 30 25	87 -4 18	80 -0.6 27	75 15.8 55	89 -3.5 40	99 32.5 63	91 6 28	91 15 27	83 -0.65 21	100 0.14 19	97 0.14 18
VV 150141 291010411 VV150141	2	KT 070013 VV 080121	101 72	106 71	78 63	107 20	101 54	99 59	92 29	94 53	88 26	97 1.39 74	115 -0.67 64	93 12 20	106 18.1 71	78 -5.9 63	89 29 51	104 26.5 32	94 69 29	95 -14 26	87 3.5 32	116 -16.7 56	91 -3.9 41	90 26.2 64	93 8 33	93 17 31	85 -0.50 27	91 -0.98 25	90 -0.35 24
CSS 160006 96458864 CSS 160006			110 25									115 -0.21 23	79 0.75 32										78 17.8 12						
VV 160008 291025724 VV160008	4	VV 090171 VV 060029	86 74	107 71	86 60	111 25	106 52	99 59	92 29	95 53	93 18	89 2.04 76	95 0.14 68	88 8 25	107 18.6 71	86 -3.7 60	98 50 52	102 24.5 42	97 83 39	104 -24 16	103 12.3 42	115 -15.5 55	111 -8.0 38	78 18.1 64	86 4 42	90 14 41	90 -0.03 18	103 0.56 17	92 -0.19 17
VV 160015 291025799 VV160015	4	KT 110020 VV 070173	92 72	110 72	86 62	105 22	68 53	87 59	96 25	85 52	92 25	93 1.67 74	100 -0.06 64	94 14 22	110 20.0 72	86 -3.4 62	99 53 52	111 31.7 34	99 92 27	99 -18 20	99 9.6 30	75 15.9 56	69 0.5 40	91 26.8 63	85 3 31	93 16 30	96 0.47 26	78 -2.61 24	76 -1.53 23
VV 160084 291029726 VV160084	8	VV 120052 VV 080129	101 69	104 69	95 58	97 20	102 48	101 56	103 24	99 50	98 22	101 1.04 73	102 -0.16 55	102 21 20	104 16.7 69	95 -0.9 58	98 49 49	98 21.6 30	104 111 27	98 -17 18	105 12.9 30	98 -2.2 50	110 -7.8 36	95 29.5 57	92 7 30	98 22 29	102 0.95 23	98 -0.10 21	90 -0.40 21
VV 160126 291069656 VV160126	4	VV 120032 VV 100139	87 67	95 68	103 54	113 18	82 44	83 54			81 18	86 2.35 71	111 -0.50 52	85 5 18	95 12.0 68	103 1.5 54	102 60 47	90 15.5 24	92 59 22	94 -13 13	87 3.1 25	87 6.3 47	93 -4.3 31	80 19.5 55	79 -1 26	84 7 25	88 -0.20 19	83 -2.04 17	85 -0.80 17
VV 160127 291069664 VV160127	4	VV 120032 VV 050077	102 73	97 71	108 64	104 18	75 48	89 58			89 19	97 1.36 75	118 -0.77 64	93 13 18	97 12.8 71	108 3.2 64	105 67 51	93 17.7 25	100 95 22	101 -21 13	92 6.2 25	80 11.8 51	86 -3.0 33	80 19.4 61	85 3 26	91 14 25	94 0.26 20	86 -1.65 18	86 -0.72 17
VV 160143 291069821 VV160143	5	VV 120032 VV 120058	103 69	98 69	100 57	110 20	85 47	93 56	88 22	89 49	88 23	99 1.20 72	115 -0.64 56	89 8 20	98 13.4 69	100 0.8 57	102 58 49	93 17.8 29	95 75 26	103 -24 17	87 3.3 28	86 7.6 50	91 -4.0 34	94 28.8 56	88 5 29	89 13 28	92 0.14 24	96 -0.31 22	94 -0.03 21

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Animal			Selection Values										Birth		Wean				Growth			Fertility				Frame		Carcass		
Index EBV Acc	% Inbreeding	Sire ID Dam ID	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calif Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling	
VV 170596 96459003 VV 170596			106 26									113 -0.01 25	76 0.88 32											81 19.9 30						
VV 170659 96458997 VV 170659			116 36									119 -0.51 34	84 0.54 44											81 20.0 31						
VV 170662 96459011 VV 170662			112 26									116 -0.31 25	81 0.68 32											81 19.9 30						
CSS 180001 95538690 CSS180001		VV 130128	97 48	91 36	97 35	117 10	81 30	81 33			76 14	100 1.16 47	94 0.16 51	83 3 10	91 9.8 36	97 -0.2 35	94 41 27	88 13.6 17	84 28 15	80 4 13	84 2.0 16	96 -0.6 27	84 -2.6 19	75 16.2 43	91 7 17	84 8 16	87 -0.33 14	83 -1.94 13	69 -2.05 12	
CSS 180002 96469135 CSS 180002			116 34									119 -0.54 32	85 0.52 44											86 23.4 28						
CSS 180003 96469168 CSS 180003			108 34									114 -0.10 32	77 0.82 44											78 18.1 26						
CSS 180004 96470091 CSS 180004			104 34									112 0.10 32	74 0.95 44											85 22.6 23						
CSS 180005 96469143 CSS 180005			110 34									115 -0.22 32	79 0.74 44											76 16.4 31						
CSS 180006 96469192 CSS 180006			120 34									122 -0.76 32	88 0.38 44											75 16.3 30						
CSS 180007 96469176 CSS 180007			103 34									111 0.15 32	73 0.99 44											76 17.0 26						
CSS 180008 96469184 CSS 180008			119 34									121 -0.70 32	87 0.42 44											77 17.4 26						
CSS 180009 96469234 CSS 180009			99 25									109 0.35 23	69 1.12 32											78 18.0 22						

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Animal					Selection Values										Birth		Wean				Growth			Fertility				Frame		Carcass		
Index EBV Acc	% Inbreeding	Sire ID	Dam ID	ID Number Name	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling	
CSS 180010 96469242 CSS 180010					112 34									117 -0.34 32	81 0.66 44										77 17.6 30							
CSS 180011 96473665 CSS 180011					97 34									108 0.45 32	68 1.18 44										77 17.6 30							
CSS 180012 96469218 CSS 180012					112 25									117 -0.32 23	81 0.67 32										79 18.7 31							
CSS 180013 96473723 CSS 180013					114 34									118 -0.42 32	83 0.60 44										77 17.1 31							
CSS 180014 96469226 CSS 180014					107 34									113 -0.05 32	76 0.85 44										78 17.8 31							
CSS 180015 96469259 CSS 180015					112 25									117 -0.31 23	81 0.68 32										78 18.0 22							
VV 180083 291158764 VV180083	5	VV 120148 VV 150176			86 73	119 73	91 67	93 22	89 53	103 61	110 24	102 54	106 24	86 2.33 75	108 -0.38 63	107 26 22	119 25.0 73	91 -2.1 67	107 70 54	111 31.7 32	114 153 26	109 -30 18	109 15.0 29	81 11.6 57	98 -5.4 41	102 34.1 61	100 12 29	107 32 28	110 1.63 26	81 -2.29 23	82 -1.05 23	
VV 180126 291170884 VV180126	4	VV 140112 VV 140067			102 70	105 71	97 60	102 31	96 50	102 58	91 30	97 52	98 40	99 1.23 73	111 -0.51 58	97 16 31	105 17.6 71	97 -0.1 60	103 62 54	101 23.8 42	92 60 41	93 -11 17	99 10.0 45	81 11.2 56	107 -7.3 38	108 38.2 57	92 7 45	99 24 44	90 -0.08 41	124 3.32 38	104 0.78 38	
CSS 190001 96470042 CSS1901					113 25									117 -0.36 23	82 0.64 32										78 18.1 21							
CSS 190002 95538724 CSS1902					VV 130128	101 58	85 61	99 36	125 10	81 27	78 44			70 14	103 0.86 64	95 0.13 33	79 -1 10	85 6.3 61	99 0.4 36	91 33 36	83 9.7 17	80 10 15	76 8 13	80 -0.3 16	98 -2.0 27	83 -2.3 19	74 15.1 35	86 4 17	79 2 16	82 -0.72 14	83 -1.99 13	68 -2.15 12
CSS 190004 95538609 CSS1904					VV 130223	112 59	83 61	91 35	126 11	86 28	80 44			68 14	111 0.17 65	100 -0.05 34	79 -1 11	83 5.6 61	91 -1.9 35	83 13 36	81 8.2 17	76 -6 15	72 13 13	78 -1.6 17	100 -3.5 28	89 -3.6 20	75 16.0 36	82 1 17	76 -1 16	78 -1.07 14	86 -1.64 13	68 -2.17 12
CSS 190006 96149513 CSS1906					VV 120093	108 59	81 61	101 36	115 10	83 25	77 44			76 6	109 0.32 65	94 0.17 33	84 4 10	81 4.0 61	101 1.1 36	87 23 36	80 7.7 16	86 36 14	76 9 9	86 2.7 15	98 -2.1 25	87 -3.1 17	73 14.9 34	91 6 11	83 6 11	88 -0.25 6	88 -1.30 5	74 -1.69 5

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Index EBV Acc	% Inbreeding	Sire ID Dam ID	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
ID Number Name																													
CSS 190008		VV 120146	101 58	98 61	98 33	103 11	93 35	94 45			88 12	101 0.98	100 -0.05	95 14	98 13.5	98 0.3	98 49	94 18.2	91 59	83 1	96 8.3	105 -7.5	98 -5.3	76 17.0	101 12	96 20	98 0.61	93 -0.71	80 -1.21
CSS1908												0.98 64	-0.05 32	14 11	13.5 61	0.3 33	49 35	18.2 19	59 18	1 13	8.3 20	-7.5 50	-5.3 17	17.0 38	12 20	20 20	0.61 13	-0.71 12	-1.21 12
CSS 190009		VV 130170	85 62	97 61	110 36	103 9	69 36	80 46			87 10	89 2.05	94 0.16	95 14	97 13.1	110 3.7	107 71	93 17.5	94 71	83 0	91 5.5	71 19.2	87 -3.1	76 16.7	99 11	93 17	96 0.43	87 -1.47	75 -1.61
CSS1909												2.05 67	0.16 44	14 9	13.1 61	3.7 36	71 35	17.5 13	71 12	0 9	5.5 13	19.2 51	-3.1 20	16.7 38	11 13	17 13	0.43 10	-1.47 9	-1.61 8
CSS 190010		VV 140023	104 62	100 61	95 36	99 13	86 36	92 47			91 10	104 0.79	99 -0.03	100 19	100 14.8	95 -0.8	95 43	95 19.5	97 83	89 -7	93 6.8	89 5.1	102 -6.2	75 16.1	105 15	98 22	102 0.92	91 -1.00	79 -1.30
CSS1910												0.79 66	-0.03 44	19 13	14.8 61	-0.8 36	43 37	19.5 15	83 15	-7 11	6.8 16	5.1 51	-6.2 20	16.1 38	15 16	22 15	0.92 11	-1.00 10	-1.30 9
CSS 190013		VV 130011	101 61	86 59	100 32	110 12	81 37	77 45			75 10	102 0.96	98 0.01	88 8	86 6.8	100 0.9	90 31	85 11.9	85 32	81 2	80 -0.7	90 4.4	94 -4.6	72 14.2	90 6	82 5	86 -0.36	89 -1.20	75 -1.62
CSS1913												0.96 66	0.01 43	8 12	6.8 59	0.9 32	31 34	11.9 14	32 13	2 10	-0.7 14	4.4 51	-4.6 19	14.2 40	6 14	5 13	-0.36 10	-1.20 9	-1.62 8
CSS 190014		VV 130212	101 62	81 61	107 34	118 9	85 36	78 46			70 10	106 0.63	85 0.51	82 2	81 4.4	107 2.9	94 40	81 8.6	80 8	70 15	79 -0.9	97 -1.4	90 -3.7	76 16.8	83 2	77 -1	80 -0.87	86 -1.60	71 -1.94
CSS1914												0.63 66	0.51 44	2 9	4.4 61	2.9 34	40 35	8.6 13	8 12	15 9	-0.9 13	-1.4 51	-3.7 19	16.8 39	2 13	-1 13	-0.87 10	-1.60 9	-1.94 8
CSS 190015		VV 120190	85 62	92 61	100 35	112 11	71 38	73 47			78 14	91 1.88	87 0.43	86 6	92 10.5	100 0.8	97 47	91 16.2	88 43	80 4	87 3.4	77 14.5	88 -3.4	72 14.0	93 8	86 9	91 0.02	83 -1.97	71 -1.95
CSS1915												1.88 66	0.43 45	6 11	10.5 61	0.8 35	47 36	16.2 18	43 16	4 13	3.4 18	14.5 51	-3.4 21	14.0 41	8 18	9 17	0.02 14	-1.97 13	-1.95 12
CSS 190016		VV 160127	91 61	102 61	106 33	100 9	87 35	94 45			92 10	94 1.63	96 0.10	98 18	102 16.0	106 2.6	107 72	95 19.2	99 93	91 -9	101 10.7	97 -1.7	99 -5.5	69 11.8	101 13	98 22	104 1.09	85 -1.73	72 -1.82
CSS1916												1.63 66	0.10 43	18 9	16.0 61	2.6 33	72 34	19.2 12	93 11	-9 6	10.7 13	-1.7 50	-5.5 16	11.8 38	13 13	22 12	1.09 10	-1.73 9	-1.82 9
CSS 190017	5	VV 130040	89 67	101 46	85 41	116 15	90 43	88 44			86 12	91 1.92	100 -0.07	84 4	101 15.5	85 -3.7	94 39	98 21.8	95 73	100 -19	91 5.5	109 -11.0	85 -2.8	79 18.5	84 2	87 10	85 -0.44	96 -0.28	90 -0.35
CSS1917		VV 160008										1.92 71	-0.07 51	4 15	15.5 46	-3.7 41	39 34	21.8 24	73 22	-19 13	5.5 24	-11.0 55	-2.8 25	18.5 49	2 24	10 24	-0.44 12	-0.28 11	-0.35 11
VV 190083	2	SS 130031	98 72	112 70	102 61	92 40	109 51	114 59	101 46	110 56	103 48	96 1.46	109 -0.40	107 26	112 21.1	102 1.4	109 77	102 24.6	101 101	94 -13	115 18.7	116 -16.7	101 -6.0	99 32.6	105 15	107 32	84 -0.55	116 2.23	95 0.03
VV190083		VV 140160										1.46 74	-0.40 63	26 40	21.1 70	1.4 61	77 57	24.6 42	101 44	-13 44	115 48	116 54	101 38	99 60	15 50	32 47	-0.55 48	2.23 47	0.03 46
CSS 200001		VV 120160	109 57	88 35	105 30	106 11	78 24	82 33			82 12	109 0.30	96 0.07	91 11	88 7.8	105 2.1	94 41	86 12.6	89 46	82 1	92 5.9	86 7.1	90 -3.8	74 15.3	92 7	88 12	93 0.16	96 -0.33	80 -1.19
CSS2001												0.30 64	0.07 31	11 11	7.8 35	2.1 30	41 25	12.6 16	46 17	1 13	5.9 19	7.1 25	-3.8 17	15.3 31	7 19	12 19	0.16 12	-0.33 11	-1.19 11
CSS 200002		VV 120416	110 57									113 0.02	90 0.34									111 -12.9		71 13.4					
CSS2002												0.02 62	0.34 36									111 46		71 28					
CSS 200003		VV 150116	89 58	91 35	104 30	110 10	78 26	77 33			77 10	93 1.71	90 0.31	88 8	91 9.5	104 2.0	98 50	86 12.1	81 16	75 9	84 1.6	81 11.3	91 -4.0	79 18.7	91 7	85 9	87 -0.32	91 -0.95	75 -1.63
CSS2003												1.71 64	0.31 33	8 10	9.5 35	2.0 30	50 25	12.1 14	16 12	9 9	1.6 14	11.3 28	-4.0 19	18.7 32	7 14	9 13	-0.32 10	-0.95 9	-1.63 9

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Index EBV Acc	% Inbreeding	Sire ID	Dam ID	Calv. Ease V	Calf Growth V	Milk V	Maint. V	Fertility V	Cow Value	Growth Value	Prod. Value	Carcass Value	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	FCR	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	EMA	Fat	Marbling
ID Number Name																														
CSS 200004	96144522	VV	120061	90	95	97	109	82	81			82	92	96	90	95	97	96	93	89	81	94	87	98	73	91	87	97	90	77
CSS2004				57	35	30	11	25	33			12	1.77	0.09	9	12.1	-0.2	45	17.6	47	2	7.1	6.3	-5.4	14.8	7	11	0.52	-1.03	-1.48
				64	31								64	31	11	35	30	25	17	18	9	21	26	18	32	15	15	12	11	10
CSS 200005	96144506	VV	120169	104	95	100	103	70	82			86	106	95	95	95	100	96	91	91	84	93	74	90	70	95	92	95	97	80
CSS2005				57	35	29	11	36	35			12	0.62	0.13	15	11.7	0.7	44	16.3	56	-2	6.8	16.8	-3.8	12.8	9	16	0.39	-0.22	-1.22
				64	31								64	31	11	35	29	25	17	18	13	20	51	18	40	20	19	12	12	11
CSS 200006	96143359	5	VV 130040	87	102	90	112	79	84			85	88	105	87	102	90	97	100	99	100	85	88	79	90	85	89	86	87	86
CSS2006			VV 120197	64	46	44	14	36	42			16	2.18	-0.25	7	15.6	-2.3	47	23.4	89	-20	2.3	5.8	-1.4	26.2	3	12	-0.37	-1.42	-0.68
				69	43								69	43	14	46	44	35	20	19	16	21	38	26	45	21	20	16	15	14
CSS 200007	96156245	VV	150141	112	90	94	111	88	87			79	111	101	88	90	94	89	86	86	80	88	101	92	74	92	87	88	87	72
CSS2007				58	36	31	10	27	34			14	0.17	-0.09	8	9.3	-1.2	27	12.6	35	4	3.7	-5.0	-4.2	15.6	7	10	-0.25	-1.51	-1.87
				64	32								64	32	10	36	31	26	16	14	13	16	28	20	32	16	16	14	13	12
CSS 200008	96154216	VV	120097	102	88	103	105	83	81			82	104	94	93	88	103	93	87	91	82	91	95	91	73	97	89	94	90	75
CSS2008				61	35	29	9	35	35			6	0.75	0.15	13	8.0	1.8	38	12.7	56	2	5.4	0.1	-4.0	14.4	10	12	0.29	-1.14	-1.61
				66	42								66	42	9	35	29	24	14	12	8	13	50	17	38	11	11	7	6	6
VV 200039	291270940	1	JH 170046	89	109	102	101	106	107	101	104	105	90	103	97	109	102	110	110	107	117	103	96	112	109	99	98	101	120	112
VV200039			VV 170160	62	69	53	23	42	53	37	50	34	2.01	-0.20	16	19.4	1.4	80	31.0	123	-39	11.8	-0.4	-8.2	38.8	12	22	0.87	2.81	1.37
				63	56								63	56	23	69	53	48	36	33	36	39	47	28	52	41	38	36	33	32
VV 200182	291295566	1	JH 170046	97	106	109	99	80	98	102	96	107	99	97	99	106	109	113	102	107	114	108	80	81	102	89	97	104	111	103
VV200182			VV 130005	87	87	85	82	84	80	82	80	82	1.24	0.04	19	18.1	3.4	85	24.6	123	-37	14.9	12.3	-1.8	34.6	6	21	1.06	1.58	0.69
				88	85								88	85	82	87	85	85	82	82	82	83	84	82	85	83	83	82	82	82
VV 200207	291304681	2	VV 160207	101	114	122	88	116	128	117	126	115	98	109	111	114	122	127	114	119	110	109	98	122	116	122	119	107	110	105
VV200207			VV 180052	86	86	83	80	82	79	80	79	80	1.27	-0.43	30	22.6	7.5	119	33.7	175	-32	15.4	-2.6	-10.3	44.1	25	45	1.36	1.53	0.84
				87	83								87	83	80	86	83	83	80	80	80	80	82	81	83	80	80	80	80	80
CSS 210001	96154224	VV	120197	98	94	102	108	88	88			82	100	96	90	94	102	99	90	93	86	91	88	99	88	91	88	93	84	69
CSS2101				59	61	35	12	27	44			13	1.14	0.10	10	11.7	1.2	52	15.5	64	-3	5.7	6.0	-5.5	24.6	7	12	0.19	-1.86	-2.09
				65	33								65	33	12	61	35	36	16	15	12	17	27	20	35	17	16	13	13	12
CSS 210002	95538740	VV	130128	100	96	94	113	84	87			80	101	97	86	96	94	95	91	88	82	88	95	85	84	95	89	91	84	70
CSS2102				58	61	36	10	27	44			14	1.01	0.03	6	12.3	-1.0	42	15.9	43	1	3.8	0.5	-2.8	22.1	9	12	0.00	-1.90	-1.97
				64	33								64	33	10	61	36	36	17	15	13	16	27	19	35	17	16	14	13	12
CSS 210004	96458906	VV	130068	102	80	99	130	79	73			67	104	93	76	80	99	87	76	78	73	78	92	80	80	76	73	77	86	66
CSS2104				35	61	33	9	27	39			10	0.78	0.22	-4	3.7	0.4	23	5.0	2	11	-1.8	2.7	-1.8	19.4	-2	-5	-1.15	-1.56	-2.31
				36	30								36	30	9	61	33	34	13	13	11	14	26	19	35	14	13	11	10	10
CSS 210008	96156237	VV	130212	97	90	104	111	85	83			77	98	97	87	90	104	98	87	86	75	85	95	92	78	90	84	87	87	72
CSS2108				59	36	33	9	26	34			10	1.25	0.03	7	9.1	1.9	48	13.3	33	9	2.3	0.1	-4.1	18.1	6	7	-0.33	-1.53	-1.81
				65	33								65	33	9	36	33	26	13	12	9	13	28	19	31	13	13	10	9	8

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ID Number Name																															
CSS 210011 96149521 CSS2111		VV	120093	91 59	89 61	102 36	112 10	84 25	78 44			79 6	94 1.66 65	95 0.13 33	87 7 10	89 8.4 61	102 1.2 36	94 41 36	87 13.0 16	89 47 14	78 6 9	89 4.2 15	97 -1.3 25	88 -3.3 17	77 17.3 34	94 8 11	86 10 11	91 0.00 6	89 -1.26 5	75 -1.63 5	
CSS 210012 96145800 CSS2112		VV	130170	89 58	103 61	107 36	99 9	82 27	91 44			92 10	91 1.87 64	97 0.05 32	99 18 9	103 16.2 61	107 2.7 36	108 73 35	97 20.6 13	99 89 12	86 -4 9	95 7.8 13	83 9.8 28	93 -4.3 20	87 24.1 34	104 14 13	98 23 13	101 0.82 10	87 -1.42 9	76 -1.51 8	
CSS 210013 96154232 CSS2113		VV	140023	90 59	87 61	104 36	112 13	88 28	79 45			75 10	93 1.69 65	95 0.12 33	87 7 13	87 7.7 61	104 1.9 36	95 42 37	86 12.7 15	84 27 15	79 5 11	80 -0.2 16	90 4.0 28	97 -5.1 20	86 23.6 35	89 6 16	82 5 15	87 -0.31 11	89 -1.16 10	75 -1.60 9	
CSS 210014 96144480 CSS2114	1	VV	150102 130129	103 65	98 48	91 44	109 19	96 38	94 44	93 21	90 39	89 18	102 0.98 70	104 -0.21 46	90 10 19	98 13.7 48	91 -2.1 44	93 38 37	103 25.6 25	94 68 23	99 -18 17	83 0.9 25	95 0.5 40	102 -6.1 29	95 29.6 46	94 8 25	91 15 24	86 -0.41 19	108 1.18 18	99 0.36 17	
CSS 210023 96471362 CSS2123		CSS	180001	101 52	86 18	104 17	116 5	80 16	79 22			72 6	104 0.74 59	90 0.31 26	83 3 5	86 6.8 18	104 1.9 17	95 42 13	81 8.3 8	81 15 7	72 14 7	86 2.9 8	91 3.1 14	89 -3.5 10	72 13.9 25	91 7 8	82 5 8	89 -0.16 7	83 -1.99 6	61 -2.72 6	
CSS 210024 96470398 CSS2124		CSS	180002	118 50									120 -0.63 57	85 0.50 22											72 14.2 14						
CSS 210025 96470414 CSS2125		CSS	180003	107 50									112 0.08 57	82 0.64 22												68 11.5 13					
CSS 210026 96470448 CSS2126		CSS	180004	95 50									101 1.00 57	80 0.69 22												72 13.7 15					
CSS 210028 96469879 CSS2128		CSS	180006	114 50									116 -0.28 57	87 0.42 22												67 10.6 15					
CSS 210029 96471396 CSS2129		CSS	180007	94 50									101 1.01 57	80 0.71 22												68 11.4 17					
CSS 210030 96473236 CSS2130		CSS	180008	114 50									116 -0.29 57	87 0.44 22												68 11.1 13					
CSS 210031 96469895 CSS2131		CSS	180009	90 49									98 1.32 57	78 0.77 16												68 11.5 11					

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ID Number Name																													
CSS 210032		CSS 180010	112									116	84											68					
96469887			50									-0.26	0.56											11.3					
CSS2132												57	22											15					
CSS 210034		CSS 180011	93									101	77											68					
96473681			50									1.04	0.81											11.3					
CSS2134												57	22											15					
CSS 210038		CSS 180015	109									113	84											68					
96469903			49									-0.05	0.57											11.5					
CSS2138												57	16											11					
CSS 220001		VV 130168	104	90	102	114	77	82			78	105	96	85	90	102	97	86	87	80	85	91	82	73	91	87	88	86	70
96123898			59	34	28	8	25	33			10	0.65	0.10	5	9.1	1.5	47	12.1	42	3	2.5	3.3	-2.1	14.7	7	10	-0.23	-1.59	-2.01
CS 2201												65	33	8	34	28	23	12	12	10	13	26	18	32	13	12	10	9	9
CSS 220003		CSS 180004	107									112	80											83					
291418960			50									0.07	0.71											21.7					
CS 2203												57	22											15					
CSS 220005		CSS 180002	109									112	86											86					
96470406			50									0.05	0.49											23.8					
CSS2205												57	22											18					
CSS 220011		VV 160015	98	95	99	110	71	81			81	101	93	89	95	99	98	93	89	82	93	81	82	75	88	86	94	80	64
291418945			58	36	31	11	26	34			12	1.05	0.19	8	12.0	0.3	48	17.4	47	2	6.7	11.3	-2.0	15.9	5	10	0.24	-2.33	-2.46
CS 2211												65	32	11	36	31	26	17	14	10	15	28	20	31	15	15	13	12	12
CSS 220015		VV 120169	103	95	100	103	80	86			86	105	95	95	95	100	96	92	91	84	93	87	94	72	95	92	95	97	80
291418978			57	35	29	11	25	33			12	0.72	0.12	15	11.9	0.7	46	16.6	56	-2	6.8	6.7	-4.6	14.2	9	16	0.39	-0.22	-1.22
CS 2215												64	31	11	35	29	25	17	18	13	20	26	18	31	20	19	12	12	11
CSS 220022		VV 070027	93	92	96	115	86	82			74	95	98	85	92	96	94	85	81	75	88	97	96	71	85	81	82	95	75
291418895			57	35	30	12	26	33			10	1.56	0.02	5	10.4	-0.6	39	11.3	13	10	3.8	-1.6	-5.0	13.3	3	4	-0.71	-0.49	-1.63
CS 2222												64	31	12	35	30	26	16	15	10	16	27	20	32	16	15	10	9	9
CSS 220032		VV 120178	95	92	96	116	80	80			75	97	97	84	92	96	94	89	84	78	83	100	81	72	91	85	86	83	69
291419463			59	36	32	10	27	34			12	1.41	0.04	4	10.3	-0.4	40	14.4	26	6	1.0	-3.7	-1.8	13.7	7	8	-0.41	-2.01	-2.10
CS 2232												65	35	10	36	32	26	16	14	13	16	29	20	33	16	15	13	12	12
CSS 220065		VV 150116	82	93	105	110	78	77			77	87	91	88	93	105	101	88	81	75	84	81	91	79	91	85	87	91	75
291419414			58	35	30	10	26	33			10	2.21	0.30	8	10.7	2.1	56	13.6	16	9	1.6	11.3	-4.0	18.7	7	9	-0.32	-0.95	-1.63
CS 2265												64	33	10	35	30	25	14	12	9	14	28	19	32	14	13	10	9	9
CSS 220066		VV 200039	95	95	107	108	91	91			87	97	95	90	95	107	104	93	92	91	95	91	103	84	95	89	96	101	82
291419422			56	34	27	11	21	32			18	1.37	0.12	10	12.0	2.7	64	17.6	62	-9	7.8	3.2	-6.4	21.9	9	12	0.44	0.38	-1.01
CS 2266												63	28	11	34	27	24	18	17	18	20	23	14	26	20	19	18	17	16

Selection List on Cow Value

Bulls 2 years and older

ID	Name	Sire ID	Dam ID	% Inbreeding	Horned / Polled	Myostatin				Calving Ease Value	Calf Growth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Growth Value	Prod Value										
Sorted on ID						nt821	Q204X	F94L	Genomic tested	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc										
										★★★★★																	
1	VV 190090	VV190090	VV 140208	VV 120024	5.2	HH	1	0	0		91	88	119	88	83	86	95	83	106	85	110	81	110	84	108	82	
2	VV 220211	VV220211	VV 170225	VV 160080	7.9	HH	1	0	0		89	86	119	86	118	83	83	80	92	82	115	79	123	80	116	79	
										★★★★★																	
1	VV 100123	VV100123	KT 060001	VV 050088	4.2						97	70	106	70	101	59	98	24	97	49	102	57	93	24	98	50	
2	VV 120164	VV120164	VV 080106	VV 060145	2.2						99	69	109	69	96	58	94	20	95	48	103	56	102	27	101	50	
3	VV 150102	VV150102	JL 050119	VV 070161	1.9						101	74	101	64	102	62	109	28	108	56	106	58	97	32	102	53	
										★★★★★																	
1	CSS 210021	CSS2121		VV 190083	0.0						107	57	94	35	106	30	103	20	92	25	95	34	88	22	90	32	
2	CSS 220019	CSS2219	VV 150102	VV 130144	0.6						103	64	100	65	98	45	101	17	96	38	98	50	103	20	96	44	
3	CSS 220020	CSS2220	DJW 150045	VV 180083	4.4						86	65	114	69	88	46	98	17	89	38	97	52	111	20	97	46	
4	DJW 150045	15045DJW	JF 110061	DJW 110043	1.6						82	81	110	87	86	61	102	25	87	52	91	67	113	31	92	60	
5	VV 090052	VV090052	VV 000014	VV 950042	2.0						95	70	103	71	92	59	105	28	101	50	97	58	101	24	95	51	
6	VV 110125	VV110125	VV 020194	VV 050130	2.1						100	70	105	71	97	63	95	28	87	54	95	59	102	32	94	54	
7	VV 110158	VV110158	VV 020194	VV 040047	14.4						93	72	105	72	92	65	98	30	86	57	91	61	100	36	89	56	
8	VV 110165	VV110165	DJW 070059	VV 060199	0.6						93	70	106	70	85	60	99	21	97	50	95	57	100	34	93	52	
9	VV 170209	VV170209	JO 090174	VV 080093	0.9						105	72	103	71	99	63	89	22	92	53	98	59	104	26	97	52	
										★★★★★																	
1	CSS 220012	CSS2212		VV 130223	0.0						104	59	91	36	90	33	116	11	90	28	84	35					
2	CSS 220016	CSS2216		CSS 190008	0.0						103	29	89	30	105	17	109	6	89	19	86	23					
3	CSS 220044	CSS2244		CSS 190008	0.0						103	29	89	30	105	17	109	6	84	18	84	23					
4	CSS 220045	CSS2245		CSS 190010	0.0						104	53	90	31	103	18	107	7	80	18	83	28					
5	CSS 220056	CSS2256	DJW 150045	CSS 190009	1.2						82	61	104	53	98	35	102	13	78	32	85	43					
6	CSS 220063	CSS2263		VV 120088	0.0						114	57	85	35	99	28	107	10	85	24	82	33					
7	VV 110146	VV110146	DJW 070059	VV 050116	0.6						93	69	98	69	88	58	104	20	89	47	84	56	95	30	82	51	
8	VV 180134	VV180134	KT 110020	VV 140150	4.2						81	69	110	70	90	59	103	20	74	50	87	57	96	23	85	50	
9	VV 220161	VV220161	VV 180071	VV 160157	7.8	HH	1	0	0		88	87	105	87	93	84	102	81	83	83	89	80	95	81	87	80	

Selection List on Cow Value

Bulls 2 years and older

ID Name Sorted on ID			Sire ID	Dam ID	% Inbreeding	Horned / Polled	Myostatin				Calving Ease Value Acc	Calf Growth Value Acc	Milk Value Acc	Maint. Value Acc	Fertility Value Acc	Cow Value Acc	Growth Value Acc	Prod Value Acc	
							nt821	Q204X	F94L	Genomic tested									
											★★★								
1	CSS 220014	CSS2214		CSS 190003	0.0						9853	8753	10426	1155	7820	7837			
2	CSS 220027	CSS2227		VV 120093	0.0						10559	8536	10034	11110	8324	7934			
3	CSS 220039	CSS2239		CSS 200008	0.0						11053	8217	10714	1105	7918	7822			
4	CSS 220046	CSS2246		CSS 190011	0.0						11153	8218	10215	1146	7520	7623			
5	VV 130040	VV130040	VV 090068	VV 020123	5.5						9171	9659	8557	12215	6449	7353	8523	7047	

Selection List on Cow Value

Cows 2 years and older

ID Sorted on ID	Name	Sire ID	Dam ID	% Inbreeding	Horned / Polled	Myostatin				Calving Ease Value Acc	Calf Growth Value Acc	Milk Value Acc	Maint. Value Acc	Fertility Value Acc	Cow Value Acc	Growth Value Acc	Prod Value Acc	
1	VV 200207	VV200207	VV 160207	VV 180052	1.8	HH	0	0	0									
1	VV 120142	VV120142	JL 050119	VV 080151	1.5													
2	VV 190083	VV190083	SS 130031	VV 140160	2.4													
1	VV 130135	VV130135	JL 050119	VV 070173	2.1													
2	VV 160084	VV160084	VV 120052	VV 080129	7.9													
3	VV 180083	VV180083	VV 120148	VV 150176	4.5													
4	VV 180126	VV180126	VV 140112	VV 140067	3.7													
5	VV 200039	VV200039	JH 170046	VV 170160	0.7													
1	CSS 190008	CSS1908		VV 120146	0.0													
2	CSS 190010	CSS1910		VV 140023	0.0													
3	CSS 190016	CSS1916		VV 160127	0.0													
4	CSS 210012	CSS2112		VV 130170	0.0													
5	CSS 210014	CSS2114	VV 150102	VV 130129	0.7													
6	CSS 220066	CS 2266		VV 200039	0.0													
7	VV 120146	VV120146	SP 080029	VV 090030	0.2													
8	VV 120169	VV120169	SP 080029	VV 070072	0.3													
9	VV 120197	VV120197	VV 080106	VV 040095	3.0													
10	VV 130144	VV130144	JF 070047	VV 060087	0.1													
11	VV 130168	VV130168	VV 090068	VV 090003	7.3													
12	VV 130170	VV130170	JO 090174	VV 070035	2.4													
13	VV 130206	VV130206	JL 050119	VV 060089	2.6													
14	VV 130212	VV130212	JO 090174	VV 070161	1.7													
15	VV 130223	VV130223	KT 070013	VV 080025	4.2													

Selection List on Cow Value

Cows 2 years and older

ID		Name	Sire ID	Dam ID	% Inbreeding	Horned / Polled	Myostatin				Calving Ease Value	Calf Growth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Growth Value	Prod Value	
Sorted on ID							nt821	Q204X	F94L	Genomic tested	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	
											★★★★								
16	VV 140001	VV140001	JF 070047	VV 090117	0.4						102	98	101	98	94	95	106	94	
17	VV 140023	VV140023	K 060010	VV 040193	1.1						90	104	89	99	93	91	99	89	
18	VV 150141	VV150141	KT 070013	VV 080121	2.2						101	106	78	107	101	99	92	94	
19	VV 160008	VV160008	VV 090171	VV 060029	3.6						86	107	86	111	106	99	92	95	
20	VV 160143	VV160143	VV 120032	VV 120058	5.0						103	98	100	110	85	93	88	89	
21	VV 200182	VV200182	JH 170046	VV 130005	1.1	HH	0	0	0	🇺🇸	97	106	109	99	80	98	102	96	
											★★★★☆								
1	CSS 180001	CSS180001		VV 130128	0.0						97	91	97	117	81	81			
2	CSS 190004	CSS1904		VV 130223	0.0						112	83	91	126	86	80			
3	CSS 190009	CSS1909		VV 130170	0.0						85	97	110	103	69	80			
4	CSS 190017	CSS1917	VV 130040	VV 160008	4.9						89	101	85	116	90	88			
5	CSS 200001	CSS2001		VV 120160	0.0						109	88	105	106	78	82			
6	CSS 200004	CSS2004		VV 120061	0.0						90	95	97	109	82	81			
7	CSS 200005	CSS2005		VV 120169	0.0						104	95	100	103	70	82			
8	CSS 200006	CSS2006	VV 130040	VV 120197	5.3						87	102	90	112	79	84			
9	CSS 200007	CSS2007		VV 150141	0.0						112	90	94	111	88	87			
10	CSS 200008	CSS2008		VV 120097	0.0						102	88	103	105	83	81			
11	CSS 210001	CSS2101		VV 120197	0.0						98	94	102	108	88	88			
12	CSS 210002	CSS2102		VV 130128	0.0						100	96	94	113	84	87			
13	CSS 210008	CSS2108		VV 130212	0.0						97	90	104	111	85	83			
14	CSS 220001	CS 2201		VV 130168	0.0						104	90	102	114	77	82			
15	CSS 220011	CS 2211		VV 160015	0.0						98	95	99	110	71	81			
16	CSS 220015	CS 2215		VV 120169	0.0						103	95	100	103	80	86			
17	CSS 220022	CS 2222		VV 070027	0.0						93	92	96	115	86	82			
18	CSS 220032	CS 2232		VV 120178	0.0						95	92	96	116	80	80			
19	VV 070027	07 27	VV 020141	VV 040200	1.7						92	101	80	114	98	89	81	83	
20	VV 120061	VV120061	DJW 070059	VV 040097	0.1						85	107	83	103	90	88	100	87	
21	VV 120088	VV120088	JF 070047	VV 060168	0.2						107	95	88	99	94	88	102	88	
22	VV 120093	VV120093	JF 070047	VV 070151	0.5						98	92	90	108	90	82	103	82	
23	VV 120097	VV120097	JF 070047	VV 070146	0.4						90	97	98	96	89	85	105	85	

Selection List on Cow Value

Cows 2 years and older

ID Sorted on ID	Name	Sire ID	Dam ID	% Inbreeding	Horned / Polled	Myostatin nt821 Q204X F94L Genomic tested	Calving Ease Value Acc	Calf Growth Value Acc	Milk Value Acc	Maint. Value Acc	Fertility Value Acc	Cow Value Acc	Growth Value Acc	Prod Value Acc	
											★★★				
24	VV 120160	VV120160	SP 080029	VV 050135	0.2		98 71	100 70	100 60	99 21	81 49	89 57	95 31	87 52	
25	VV 120178	VV120178	KT 070013	VV 060142	5.8		97 76	100 71	81 63	116 19	86 54	85 60	84 28	81 54	
26	VV 120190	VV120190	KT 070013	VV 040163	2.1		95 75	101 72	84 67	108 22	89 55	87 61	99 31	86 55	
27	VV 130011	VV130011	K 060010	VV 080041	3.0		108 72	96 60	86 62	100 25	91 52	88 55	98 24	86 49	
28	VV 130088	VV130088	JF 070047	VV 090200	0.2		95 67	100 68	93 53	98 20	90 46	89 54	101 22	88 48	
29	VV 130128	VV130128	KT 070013	VV 080183	6.4		94 72	101 72	82 70	118 20	86 53	87 60	85 30	83 54	
30	VV 130129	VV130129	K 060010	VV 060050	0.9		104 75	95 70	80 61	109 24	83 53	81 59	90 26	78 52	
31	VV 150116	VV150116	VV 100040	K 090021	1.2		81 72	100 70	98 59	105 20	80 53	82 58	84 22	78 51	
32	VV 160015	VV160015	KT 110020	VV 070173	4.4		92 72	110 72	86 62	105 22	68 53	87 59	96 25	85 52	
33	VV 160126	VV160126	VV 120032	VV 100139	4.3		87 67	95 68	103 54	113 18	82 44	83 54			
34	VV 160127	VV160127	VV 120032	VV 050077	4.4		102 73	97 71	108 64	104 18	75 48	89 58			
											★★				
1	CSS 190002	CSS1902		VV 130128	0.0		101 58	85 61	99 36	125 10	81 27	78 44			
2	CSS 190006	CSS1906		VV 120093	0.0		108 59	81 61	101 36	115 10	83 25	77 44			
3	CSS 190013	CSS1913		VV 130011	0.0		101 61	86 59	100 32	110 12	81 37	77 45			
4	CSS 190014	CSS1914		VV 130212	0.0		101 62	81 61	107 34	118 9	85 36	78 46			
5	CSS 190015	CSS1915		VV 120190	0.0		85 62	92 61	100 35	112 11	71 38	73 47			
6	CSS 200003	CSS2003		VV 150116	0.0		89 58	91 35	104 30	110 10	78 26	77 33			
7	CSS 210004	CSS2104		VV 130068	0.0		102 35	80 61	99 33	130 9	79 27	73 39			
8	CSS 210011	CSS2111		VV 120093	0.0		91 59	89 61	102 36	112 10	84 25	78 44			
9	CSS 210013	CSS2113		VV 140023	0.0		90 59	87 61	104 36	112 13	88 28	79 45			
10	CSS 210023	CSS2123		CSS 180001	0.0		101 52	86 18	104 17	116 5	80 16	79 22			
11	CSS 220065	CS 2265		VV 150116	0.0		82 58	93 35	105 30	110 10	78 26	77 33			
12	VV 130068	VV130068	VV 090068	VV 080133	8.1		88 70	93 70	83 64	126 18	79 51	74 58	84 25	71 51	

	EBVi	Description / Measurement	Goal	Low Value	High Value
Selection Values	Calving Ease Value	Difficult calving due to high birth weight	Average birth weight	High	Low
	Calf Growth Value	Calf's genetic ability for prewean growth	Heavy weaner	Light	Heavy
	Milk Value	Cow's genetic mothering and milking ability	Enough milk for calf	Less	More
	Maintenance Value	Maintenance requirement of cow (weight and milk)	Low cow maintenance	High	Low
	Fertility Value	Fertility and retention of cows and heifers	Fertile cows	Low	High
	Cow Value	Combination of calving ease, calf growth, milk, maintenance and fertility values (Rand-value per Ha)	Profitable cows	Loss	Profit
	Weaner Calf Value	Heavier weaners and more milk, with lower birth and cow weights	Heavy weaner	Light	Heavy
	Growth Value	Efficient growth on veld and in feedlot (Rand-value per animal)	Profitable growth	Loss	Profit
	Production Value	Combination of Cow- and Growth Values (Rand-value)	Profitable animals	Loss	Profit
	Carcass Value	Meat on carcass (Weight and RTU EBVs)	Meat on carcass	Less	More
Birth	Cow weight - birth	Cow weight at birth of calves	Mature cow weight	Light	Heavy
	Birth weight direct	Birth weight (Calf's genetic ability)	Average birth weight	Heavy	Light
	Cow-Calf birth	EBV Birth dir / EBV Mature cow weight	Average	Low	High
Wean	Cow Weight wean	Cow weight at weaning of calves	Mature cow weight	Light	Heavy
	Weaning weight direct	Weaning weight (Calf's genetic ability)	Heavy weaners	Light	Heavy
	Weaning weight mat	Weaning weight (Dam's genetic ability)	Good mothers	Poor	Good
	Cow-Calf Wean	EBV Wean dir / EBV Mature cow weight	High cow-calf ratio	Low	High
Growth & Adaptation	Post-Wean weight	12- and 18mth weights	Post-wean growth	Low	High
	Ave. Daily Gain	Average daily gain in growth test (Phase C and D)	Good growth	Poor	Good
	Veld Growth	ADG on veld (Phase B)	Good adaptation	Poor	Good
	Feed Conversion Ratio	100g feed intake /g weight gain	Feed Efficiency	Poor	Good
	Final Test Weight	Final weight in growth test (Phase C and D)	Heavy Carcasses	Light	Heavy
	Skin Thickness	Measured in growth tests	Thicker skin	Thin	Thick
Fertility	Scrotal Circumference	Scrotal circumference in growth test	Fertile bulls	Less	More
	Heifer Fertility	Age at first calving	Fertile heifers	Less	More
	Cow Fertility	First 3 inter-calving periods (ICPs)	Fertile cows	Less	More
	Longevity	Retention of progeny	Acceptable progeny	Poor	Good
Frame	Height	Shoulder / Hip height in growth test	Average height	Short	Tall
	Length	Length in growth test	Longer (more meat)	Short	Long
	Length:Height	EBV Length / EBV Height	Longer, not higher	Less desirable	More desirable
Carcass	Eye Muscle Area	RTU Eye muscle area	Muscle in carcass	Small	Big
	Fat	RTU P8 Backfat Thickness	Carcass quality & adaptability	Thin	Thick
	Marbling	RTU % Marbling	Juicy meat	Low	High
	Dressing%	Carcass weight / Live weight	High dressing %	Low	High

Notes on the interpretation of EBVs, EBVi's, sub-values and selection values

EBVi (EBVindex) is the breeding value index and is easier to interpret than the breeding value, especially for commercial farmers buying from stud farmers. The base of a breeding value index is 100, which is the average of all the live animals in the breed, and all values are expressed relative to this value. Values above 100 are always in a more desirable direction: an index of 105 for AFC indicates a genetic potential to calve earlier. Note that a very high index is not always desirable. For certain traits, such as birth weight, average values can be better.

EBV: (Estimated Breeding Value) indicates the genetic potential of the animal for a specific trait. It is presented in the unit of measurement and relative to the average of animals born in the base year (1990 for most breeds and traits). Higher values for certain traits are better while lower values for other traits are better, for example, an EBV of -2 for AFC (age at first calving) indicates that the animal has the genetic potential to calve 2 days earlier than the average heifer in 1990 (the base year). Earlier calving is better and therefore low breeding values (high breeding value indices) are better. For weaning weight, higher values are better.

Sub-values combine similar breeding values in a scientific manner to simplify the selection of animals. For example, AFC (age at first calving) and ICP (inter-calving period) are combined to form the sub-value Fertility by taking the heritability and economic importance in consideration. The sub-value is expressed in an index format, thus an animal with a sub-value of 110 for Fertility will genetically be above average compared to the live animals in the breed.

Selection Values (Cow Value and Growth Value) combine the sub-values into a single value. This gives a quick and easy indication of the combined genetic value of an animal compared to the breed. It is advised to still look at the sub-values to see where the strengths and weaknesses lie.

How to use breeding values to select animals

Selecting animals on breeding values is easy if you know how. There is a common saying that “good nutrition can mask poor breeding”. This is very true. If an animal that is genetically inferior is fed well, it can appear as a great animal. This great performance will not be passed over to future generations. An animal that is genetically superior can appear to be inferior if its environment did not allow it to reach its true potential. It is best to select animals that are most adapted to the environment and can reach their full potential. To continuously adapt the environment to the animal can be expensive.

The reason why the use of breeding values is such a valuable tool is because it “removes” the environmental effect that contributes to the performance.

Scientific methods are used to determine how much of the performance is due to genetics and to identify genetically superior animals. This involves the measurement of animals under controlled environments, complete record keeping and pedigree information. *If performance recording and pedigree information are not done correctly, breeding values of these animals will not be useful.* Keep in mind that breeding is a long-term option: the effect of a bull selected/bought today will only show much later. If it is a good decision, his daughters will become part of the breeding herd and contribute to overall profitability in future.

Even if a bull is not perfect in all aspects, knowing the shortcomings will allow strategic selection with suitable cows. Traits are genetically correlated, meaning that a change in one trait can lead to a change in another. This change can be favourable or unfavourable. An increase in weaning weight can lead to an increase in birth weight, which can lead to calving difficulty. It is therefore advisable to not only select on a single trait. Take other traits in consideration to avoid negative effects.

How to improve the herd genetically

The first and most important aspect is to know what type of animal will improve the herd genetically. This can be determined through the following factors:

What happens to the calves? For example: used as replacement heifers, sold as stud animals or sold to commercial breeders who sell weaner calves.

How much feed is available? The availability of feed (or the hardness of the environment) determines the optimal frame size. If feed is abundant and the environment is less harsh, larger animals would be ideal. If not, medium framed animals would be ideal.

What is the genetics of the cow herd? Are they the wrong frame type, grow too slowly, do not have enough milk, etc.? Always aim to breed a calf that is superior to its dam.

Conclusion

Different types of bulls are suitable for different types of cows, environments and breeding objectives. Inbreeding should be avoided or limited as much as possible. Mating programs are available to aid in the pairing of bulls and cows.

The data used for this evaluation is pedigree information and performance data found on LOGIX as provided by breeders. All attempts are made to present accurate information. SA Stud Book takes no responsibility for the use and interpretation of information presented in this report.

