

SANTA GERTRUDIS

GENOMIC BREEDING VALUE REPORT

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LOGIX



EBVs, EBVi's and GEBVs

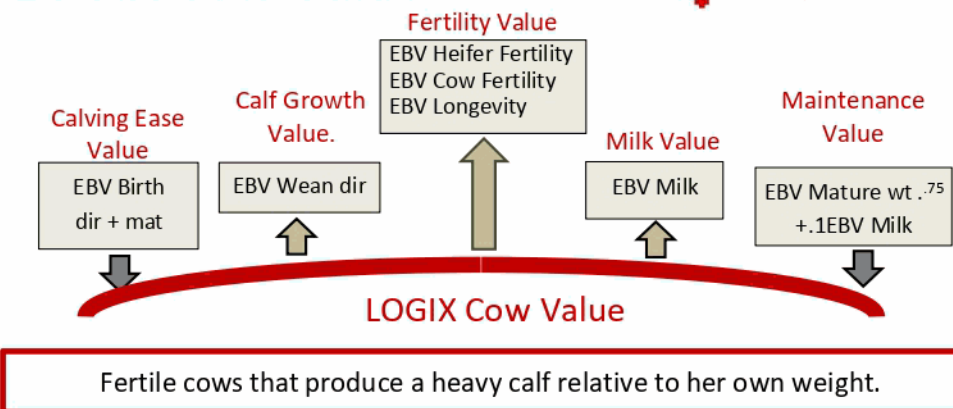
EBVi (Breeding Value Index): Genetic potential relative to the average (100) of the live (active) animals in the breed. Roughly 50% of the animals have values between 90 and 110. Values above 100, depending on the trait, tend to be in the more favourable direction.

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)

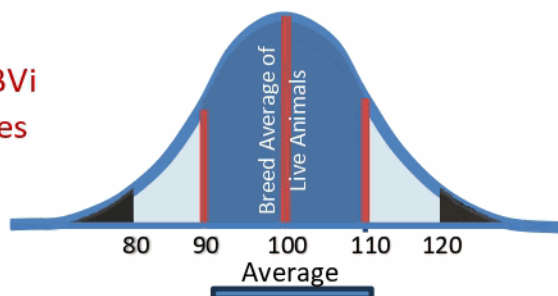
- WeanerCalf / Growth Value > 120
 - Cow Value and Fertility Value average to high
- Growers are usually heavier at birth (lower Calving Ease Value), and maturity (lower Maintenance Value).

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

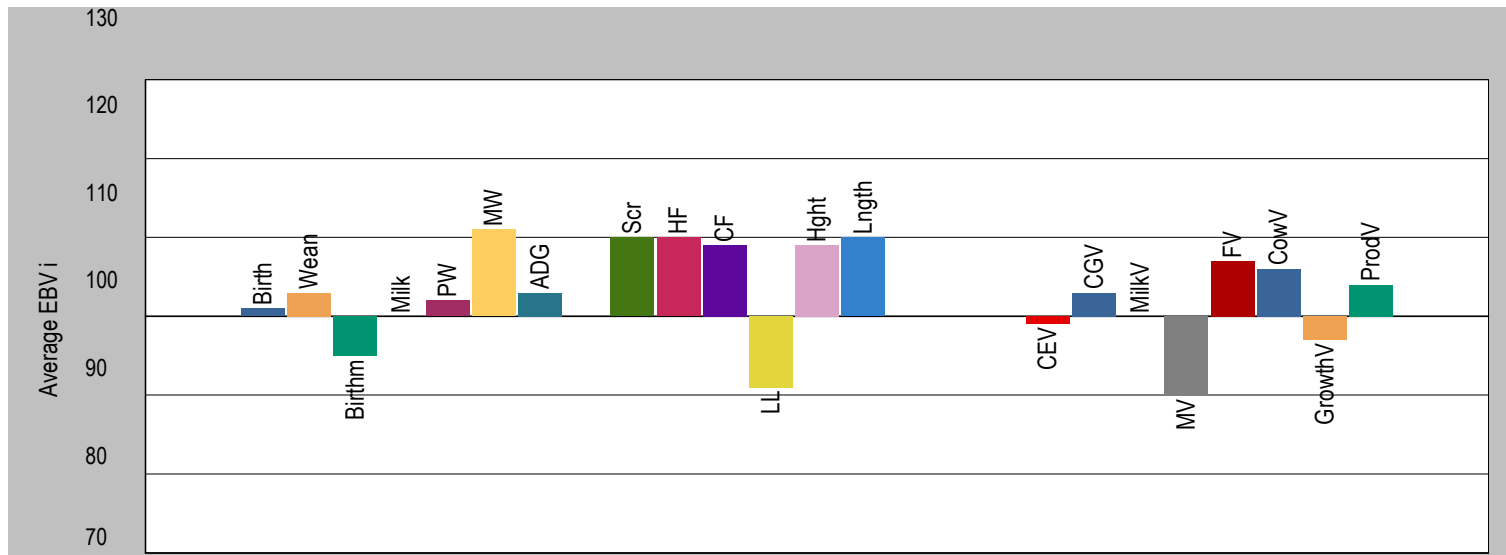
Larger groups result in more accurate and stable breeding values, as the mean and distribution of the group can be more accurately determined and are thus more representative. Groups should preferably have more than 5 animals. Weigh all the animals in the same group on the same day, as corrections for 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	Lnght:	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	1.04	101	1.11
	Wean Weight	16.6	103	14.7
	Birth Mat.	0.12	95	-0.07
	Milk (Wn.Mat.)	0.7	100	0.7
Postwean Growth	Postwean Wt	24.2	102	23.1
	Mature Weight	29	111	19
	ADG	108	103	95
	FCR			
Fertility	Scrotal Circumf.	15.9	110	10.4
	Heifer Fertility	-11.4	110	-3.8
	Cow Fertility	-7.7	109	-5.8
	Longevity	26.8	91	33.0
Frame	Height	18	109	12
	Length	35	110	24
Carcass	Dressing%			
	RedMeatYield			
	Marbling			

Selection Value	Ave. Herd
Calving Ease	99
Calf Growth	103
Milk	100
Maintenance	90
Fertility	107
Cow Value	106
Growth Value	97
Production Value	104

- 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	100	99	99	99	100	100	100	99	99
2010	1		117	84	99	111	105				113	84	107	99	82	87	71	66	79	110	104	93	75	81	
2011	1		111	81	104	113	104		75		113	81	91	104	87	86	89	93	100	113	101	90	86	88	
2013	2		108	88	109	107	100		75		109	88	93	109	89	92	89	89	102	108	98	91	89	92	
2014	3		109	85	107	109	101		75		110	85	92	107	88	90	89	90	101	110	99	91	88	91	
2015	2		98	104	99	84	112				101	104	89	99	102	118	105	99	107	118	114	87	118	116	
2016	2		98	104	99	84	112				101	104	89	99	102	118	105	99	107	118	114	87	118	116	
2017	2		98	104	99	84	112				101	104	89	99	102	118	105	99	107	118	114	87	118	116	
2018	2		98	104	99	84	112				101	104	89	99	102	118	105	99	107	118	114	87	118	116	
2019	10		98	104	99	84	112				101	104	89	99	102	118	105	99	107	118	114	87	118	116	
2021	15	★★★★☆	97	109	97	90	103	105	100	102	97	109	100	97	106	111	107	103	117	101	107	94	108	110	
Cows in Herd Average:			103	97	101	95	107	105	81	102	105	97	93	101	96	106	97	94	103	113	108	108	89	104	104

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		Dir EBV	Calv. Ease	Weaning Weight		Calf Growth	Milk (Wn.Mat.)		Postwean Weight		Mature Weight		Maine- nance	Heifer Fert.		Cow Fert.		Longevity			Ferti- lity
	Number	EBV			Number	EBV		Number	EBV	Milk	Number	EBV	Number		EBV	Number	EBV	Number	EBV	Number		

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		Mainte-nance	Heifer Fert.		Cow Fert.		Longevity			Ferti-lity	
	Number	Dir EBV			Number	EBV		Number	EBV	Number	EBV	Number	EBV		Number	EBV	Number	EBV	Number	EBV			Number
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			

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.	Calf	Milk	Maint.	Fertility	Cow	Growth	Prod	Birth	Wean	Birth	Wean	Post wn	Mature	ADG	FCR	Scrotal	Heifer	Cow	Long-evi	Height	Length	EMA	Fat	Marbling	Birth	Wean
			Ease Value	Grwth Value	Value	Value	Value	Value	Value	Value	Value	Dir	Dir	Mat.	Mat.	wt	weight				Fertility	Fertility	ty						Grwth Test
DJW 130073 13073DJW		DT 100129 DJW 060064	106	101	78	99	103	94	97	92	102	101	111	78	98	102	106	120	122	98	109	101	105	97	129	79	101	32	31
			88	89	81	55	69	76	48	70	0.95	15.1	-0.51	-5.8	21.4	21	119	-44	22.1	-1.9	-7.5	33.5	15	21	3.17	-2.51	0.48	4	12 39
DJW 160023 16023DJW		DJW 130073 DJW 110024	91	123	92	85	97	112	111	110	89	123	110	92	117	118	116	124	132	89	108	100	114	116	136	80	105	6	5
			76	77	63	36	52	63	35	57	2.05	27.1	-0.44	-1.6	36.5	36	164	-49	27.6	5.1	-7.4	33.0	20	41	3.74	-2.32	0.82	1	2 5
HBF 020088 MONTGOMERY		SV 980139 HBF 000076	101	86	78	136	83	73	63	66	103	86	141	78	84	72	64	72	46	90	85	89	57	68	74	99	94		
			71	58	54	33	53	54	38	51	0.89	6.8	-1.66	-5.9	10.9	-7	-59	14	-18.7	3.9	-2.7	25.3	-14	-10	-1.37	0.13	-0.07		
HBF 040026 RAPSCALLION		HBF 000077 HBF 990023	105	79	88	138	81	71	80	67	102	79	109	88	94	69	100	102	88	97	78	82	78	83	93	89	95		
			67	67	46	25	44	53	57	54	0.95	3.0	-0.43	-3.0	18.3	-10	93	-22	3.6	-1.2	-1.3	20.7	-1	6	0.15	-1.16	0.01		
HBF 050026 RAZZMATAZZ		DJW 010079 HBF 990018	91	105	106	107	65	88	99	87	87	105	115	106	100	90	101	107	97	75	67	87	89	98	111	84	98		
			67	50	49	34	46	48	36	46	2.20	17.5	-0.66	2.5	23.4	10	98	-28	8.6	15.8	1.0	23.9	6	23	1.65	-1.81	0.25		
											72	50	49	49	38	34	42	27	46	46	31	61	35	34	17	16	15		
JL 110172 JL110172		HN 050046 LF 040059	85	126	78	75	96	106	128	108	79	126	106	78	123	133	132	120	102	105	104	75	142	138	134	86	107		
			48	71	60	31	53	55	36	51	2.90	29.1	-0.29	-5.9	41.1	50	231	-43	11.4	-8.1	-6.6	16.2	37	65	3.54	-1.59	0.96		
											49	71	46	60	46	31	45	25	49	55	40	64	46	45	28	26	26		
VV 160207 VV160207		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
			92	93	90	87	89	85	88	86	1.59	22.3	-0.37	7.2	33.0	24	163	-26	23.4	-7.3	-12.9	42.6	28	46	1.53	2.28	1.25		
											93	93	90	90	88	87	88	87	88	89	88	91	88	88	88	87	87	2	4

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	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																																
DJW 160023	1	DJW 130073	91	123	92	85	97		112	111	110	116	89	110	118	123	92	108	117	116	124	132	89	108	100	114	116	136	80	105		
291059202		DJW 110024	76	77	63	36	52		63	35	57	46	2.05	-0.44	36	27.1	-1.6	73	36.5	164	-49	27.6	5.1	-7.4	33.0	20	41	3.74	-2.32	0.82		
16023DJW													80	58	36	77	63	59	42	48	17	53	56	33	66	53	51	48	44	43		
VV 210026		VV 160207	86	116	118	85	115		121	120	120	119	84	106	115	116	118	122	114	122	113	118	107	120	106	131	126	116	108	111		
291323020		VV 160129	65	67	50	21	41		53	26	48	24	2.49	-0.32	34	23.3	6.2	109	34.1	188	-35	20.1	-9.0	-9.8	36.8	30	53	2.08	1.18	1.28		
VV210026													70	47	21	67	50	46	28	26	22	29	43	29	50	31	29	26	23	23		

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	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																														
VRT 100001		HBF 020088	117	84	99	111	105				80	113	107	87	84	99	88		82	71	62	79	110	104	93	75	81	87	126	133
291372779			35	29	27	16	26				12	-0.01	-0.34	7	5.9	0.5	25		9.2	-28	25	-0.8	-11.9	-6.7	28.5	-3	4	-0.33	3.54	3.08
TEAM J 10 01												37	29	16	29	27	24		24	25	12	26	27	20	32	23	23	12	11	11
VRT 110013		HBF 040026	111	81	104	113	104		75			113	91	86	81	104	89		87	89	78	100	113	101	90	86	88			
291372787			33	34	23	12	22		28			0.02	0.27	6	4.0	2.0	28		12.9	48	6	10.3	-14.4	-5.9	26.2	3	12			
TEAM J 11 013												36	23	12	34	23	23		32	32	21	37	23	13	31	22	21			
VRT 130004		HBF 040026	111	81	104	113	104		75			113	91	86	81	104	89		87	89	78	100	113	101	90	86	88			
291372803			33	34	23	12	22		28			0.02	0.27	6	4.0	2.0	28		12.9	48	6	10.3	-14.4	-5.9	26.2	3	12			
TEAM J 13 04												36	23	12	34	23	23		32	32	21	37	23	13	31	22	21			
VRT 130009		HBF 050026	104	94	113	101	96				97	105	94	97	94	113	106		90	89	81	104	103	95	92	91	96	105	118	135
291372795			34	25	24	17	23				8	0.65	0.16	16	11.3	4.7	68		15.4	50	3	12.8	-5.9	-4.8	27.8	7	20	1.18	2.57	3.24
TEAM J 13 09												36	25	17	25	24	22		19	21	14	23	23	15	30	17	17	9	8	8
VRT 140005		HBF 040026	111	81	104	113	104		75			113	91	86	81	104	89		87	89	78	100	113	101	90	86	88			
291372811			33	34	23	12	27		28			0.02	0.27	6	4.0	2.0	28		12.9	48	6	10.3	-14.4	-5.9	26.3	3	12			
TEAM J 14 05												36	23	12	34	23	23		32	32	21	37	23	13	45	22	21			
VRT 140012		HBF 050026	104	94	113	101	96				97	105	94	97	94	113	106		90	89	81	104	103	95	92	91	96	105	118	135
291372837			34	25	24	17	28				8	0.65	0.16	16	11.3	4.7	68		15.4	50	3	12.8	-5.9	-4.8	27.5	7	20	1.18	2.57	3.24
TEAM J 14 012												36	25	17	25	24	22		19	21	14	23	23	15	45	17	17	9	8	8
VRT 140016		HBF 040026	111	81	104	113	104		75			113	91	86	81	104	89		87	89	78	100	113	101	90	86	88			
291372829			33	34	23	12	27		28			0.02	0.27	6	4.0	2.0	28		12.9	48	6	10.3	-14.4	-5.9	26.3	3	12			
TEAM J 14 016												36	23	12	34	23	23		32	32	21	37	23	13	45	22	21			
VRT 150002		JL 110172	98	104	99	84	112				112	101	89	118	104	99	97		102	105	89	107	118	114	87	118	116	116	119	139
291372852			25	36	30	16	26				14	1.00	0.34	36	17.1	0.5	47		24.3	117	-7	14.2	-17.8	-8.6	24.0	23	41	2.12	2.68	3.60
TEAM J 15 02												25	23	16	36	30	27		23	23	12	25	27	20	32	23	22	14	13	13
VRT 150015		JL 110172	98	104	99	84	112				112	101	89	118	104	99	97		102	105	89	107	118	114	87	118	116	116	119	139
291372845			25	36	30	16	26				14	1.00	0.34	36	17.1	0.5	47		24.3	117	-7	14.2	-17.8	-8.6	24.0	23	41	2.12	2.68	3.60
TEAM J 15 015												25	23	16	36	30	27		23	23	12	25	27	20	32	23	22	14	13	13
VRT 160008		JL 110172	98	104	99	84	112				112	101	89	118	104	99	97		102	105	89	107	118	114	87	118	116	116	119	139
291372860			25	36	30	16	26				14	1.00	0.34	36	17.1	0.5	47		24.3	117	-7	14.2	-17.8	-8.6	24.0	23	41	2.12	2.68	3.60
TEAM J 16 08												25	23	16	36	30	27		23	23	12	25	27	20	32	23	22	14	13	13
VRT 160014		JL 110172	98	104	99	84	112				112	101	89	118	104	99	97		102	105	89	107	118	114	87	118	116	116	119	139
291372878			25	36	30	16	26				14	1.00	0.34	36	17.1	0.5	47		24.3	117	-7	14.2	-17.8	-8.6	24.0	23	41	2.12	2.68	3.60
TEAM J 16 014												25	23	16	36	30	27		23	23	12	25	27	20	32	23	22	14	13	13
VRT 170003		JL 110172	98	104	99	84	112				112	101	89	118	104	99	97		102	105	89	107	118	114	87	118	116	116	119	139
291372894			25	36	30	16	26				14	1.00	0.34	36	17.1	0.5	47		24.3	117	-7	14.2	-17.8	-8.6	24.0	23	41	2.12	2.68	3.60
TEAM J 17 03												25	23	16	36	30	27		23	23	12	25	27	20	32	23	22	14	13	13

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																													
VRT 170006 291372886 TEAM J 17 06	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 180007 291372902 TEAM J 18 07	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 180011 291372910 TEAM J 18 011	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190091 291372993 TEAM J 19 91	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190092 291372944 TEAM J 19 92	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190093 291372928 TEAM J 19 93	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190094 291372969 TEAM J 19 94	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190095 291372936 TEAM J 19 95	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190096 291373009 TEAM J 19 96	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190097 291372977 TEAM J 19 97	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190098 291372951 TEAM J 19 98	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 190099 291373017 TEAM J 19 99	JL 110172		98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13

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	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																													
VRT 190910 291372985 TEAM J 19 910		JL 110172	98 25	104 36	99 30	84 16	112 26				112 14	101 1.00 25	89 0.34 23	118 36 16	104 17.1 36	99 0.5 30	97 47 27	102 24.3 23	105 117 23	89 -7 12	107 14.2 25	118 -17.8 27	114 -8.6 20	87 24.0 32	118 23 23	116 41 22	116 2.12 14	119 2.68 13	139 3.60 13
VRT 210011 291373033 TEAM J 21 11	1	DJW 160023 VRT 100001	104 42	103 41	96 34	97 20	101 29	102 34	89 20	97 31	98 24	101 1.02 44	108 -0.39 33	102 22 20	103 16.5 41	96 -0.6 34	98 50 32	100 22.8 24	94 68 27	95 -14 10	106 13.4 30	99 -3.4 31	106 -7.0 19	97 30.7 37	94 9 29	98 23 28	111 1.70 25	103 0.61 23	119 1.95 22
VRT 210012 291373041 TEAM J 21 12		DJW 160023 VRT 150002	94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52 42	99 -0.05 31	118 36 20	114 22.1 42	96 -0.5 35	102 60 32	109 30.4 24	111 140 26	107 -28 11	119 20.9 29	103 -6.4 31	111 -8.0 19	93 28.5 37	116 21 29	116 41 28	126 2.93 25	100 0.18 23	122 2.21 22
VRT 210013 291373066 TEAM J 21 13		DJW 160023 VRT 170003	94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52 42	99 -0.05 31	118 36 20	114 22.1 42	96 -0.5 35	102 60 32	109 30.4 24	111 140 26	107 -28 11	119 20.9 29	103 -6.4 31	111 -8.0 19	93 28.5 37	116 21 29	116 41 28	126 2.93 25	100 0.18 23	122 2.21 22
VRT 210014 291373074 TEAM J 21 14		DJW 160023 VRT 130004	101 41	102 42	98 34	97 19	101 28	100 34	93 23	96 32	102 23	101 1.03 44	100 -0.08 31	102 21 19	102 15.6 42	98 0.2 34	99 52 32	102 24.7 26	103 106 29	102 -22 14	116 19.0 32	101 -4.7 30	104 -6.6 18	95 29.6 36	100 12 29	102 27 28	116 2.08 24	101 0.29 22	119 1.97 21
VRT 210015 291373025 TEAM J 21 15		DJW 160023 VRT 140005	101 41	102 42	98 34	97 19	101 29	100 34	93 23	96 32	102 23	101 1.03 44	100 -0.08 31	102 21 19	102 15.6 42	98 0.2 34	99 52 32	102 24.7 26	103 106 29	102 -22 14	116 19.0 32	101 -4.7 30	104 -6.6 18	95 29.7 40	100 12 29	102 27 28	116 2.08 24	101 0.29 22	119 1.97 21
VRT 210016 291373157 TEAM J 21 16		DJW 160023 VRT 170006	94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52 42	99 -0.05 31	118 36 20	114 22.1 42	96 -0.5 35	102 60 32	109 30.4 24	111 140 26	107 -28 11	119 20.9 29	103 -6.4 31	111 -8.0 19	93 28.5 37	116 21 29	116 41 28	126 2.93 25	100 0.18 23	122 2.21 22
VRT 210017 291373090 TEAM J 21 17		DJW 160023 VRT 180007	94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52 42	99 -0.05 31	118 36 20	114 22.1 42	96 -0.5 35	102 60 32	109 30.4 24	111 140 26	107 -28 11	119 20.9 29	103 -6.4 31	111 -8.0 19	93 28.5 37	116 21 29	116 41 28	126 2.93 25	100 0.18 23	122 2.21 22
VRT 210018 291373165 TEAM J 21 18		DJW 160023 VRT 160008	94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52 42	99 -0.05 31	118 36 20	114 22.1 42	96 -0.5 35	102 60 32	109 30.4 24	111 140 26	107 -28 11	119 20.9 29	103 -6.4 31	111 -8.0 19	93 28.5 37	116 21 29	116 41 28	126 2.93 25	100 0.18 23	122 2.21 22
VRT 210019 291373082 TEAM J 21 19	1	DJW 160023 VRT 130009	97 42	108 40	103 34	92 20	97 28	105 34	98 20	101 31	106 23	97 1.35 44	102 -0.14 32	107 26 20	108 19.2 40	103 1.6 34	107 71 31	104 26.0 24	103 107 26	103 -24 11	118 20.2 29	96 -0.4 30	101 -6.1 18	96 30.4 36	102 14 28	106 31 27	121 2.46 24	99 0.12 22	120 2.03 22
VRT 210111 291373116 TEAM J 21 111		DJW 160023 VRT 180011	94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52 42	99 -0.05 31	118 36 20	114 22.1 42	96 -0.5 35	102 60 32	109 30.4 24	111 140 26	107 -28 11	119 20.9 29	103 -6.4 31	111 -8.0 19	93 28.5 37	116 21 29	116 41 28	126 2.93 25	100 0.18 23	122 2.21 22
VRT 210112 291373132 TEAM J 21 112	1	DJW 160023 VRT 140012	97 42	108 40	103 34	92 20	97 29	105 34	98 20	101 31	106 23	97 1.35 44	102 -0.14 32	107 26 20	108 19.2 40	103 1.6 34	107 71 31	104 26.0 24	103 107 26	103 -24 11	118 20.2 29	96 -0.4 30	101 -6.1 18	96 30.2 40	102 14 28	106 31 27	121 2.46 24	99 0.12 22	120 2.03 22

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Animal			Selection Values										Birth		Wean				Growth			Fertility				Frame		Carcass		
Index EBV Acc	ID Number Name	% 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
VRT 210113 291373124 TEAM J 21 113	DJW 160023 VRT 110013			101 41	102 42	98 34	97 19	101 28	100 34	93 23	96 32	102 23	101 1.03	100 -0.08	102 21	102 15.6	98 0.2	99 52	102 24.7	103 106	102 -22	116 19.0	101 -4.7	104 -6.6	95 29.6	100 12	102 27	116 2.08	101 0.29	119 1.97
VRT 210114 291373108 TEAM J 21 114	DJW 160023 VRT 160014			94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52	99 -0.05	118 36	114 22.1	96 -0.5	102 60	109 30.4	111 140	107 -28	119 20.9	103 -6.4	111 -8.0	93 28.5	116 21	116 41	126 2.93	100 0.18	122 2.21
VRT 210116 291373058 TEAM J 21 116	DJW 160023 VRT 140016			101 41	102 42	98 34	97 19	101 29	100 34	93 23	96 32	102 23	101 1.03	100 -0.08	102 21	102 15.6	98 0.2	99 52	102 24.7	103 106	102 -22	116 19.0	101 -4.7	104 -6.6	95 29.7	100 12	102 27	116 2.08	101 0.29	119 1.97
VRT 210118 291373140 TEAM J 21 118	DJW 160023 VRT 150015			94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	114 24	95 1.52	99 -0.05	118 36	114 22.1	96 -0.5	102 60	109 30.4	111 140	107 -28	119 20.9	103 -6.4	111 -8.0	93 28.5	116 21	116 41	126 2.93	100 0.18	122 2.21

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								
						nt821	Q204X	F94L	Genomic tested																
Sorted on ID									Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc								
								★★★★★																	
1	VV 210026	VV210026	VV 160207	VV 160129	0.5				86	65	116	67	118	50	85	21	115	41	121	53	120	26	120	48	
								★★★★★																	
1	DJW 160023	16023DJW	DJW 130073	DJW 110024	0.9				91	76	123	77	92	63	85	36	97	52	112	63	111	35	110	57	

Selection List on Cow Value

Cows 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	VRT 210011 TEAM J 21 11	DJW 160023	VRT 100001	0.9						104 42	103 41	96 34	97 20	101 29	102 34	89 20	97 31	
2	VRT 210012 TEAM J 21 12	DJW 160023	VRT 150002	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
3	VRT 210013 TEAM J 21 13	DJW 160023	VRT 170003	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
4	VRT 210014 TEAM J 21 14	DJW 160023	VRT 130004	0.4						101 41	102 42	98 34	97 19	101 28	100 34	93 23	96 32	
5	VRT 210015 TEAM J 21 15	DJW 160023	VRT 140005	0.4						101 41	102 42	98 34	97 19	101 29	100 34	93 23	96 32	
6	VRT 210016 TEAM J 21 16	DJW 160023	VRT 170006	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
7	VRT 210017 TEAM J 21 17	DJW 160023	VRT 180007	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
8	VRT 210018 TEAM J 21 18	DJW 160023	VRT 160008	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
9	VRT 210019 TEAM J 21 19	DJW 160023	VRT 130009	1.2						97 42	108 40	103 34	92 20	97 28	105 34	98 20	101 31	
10	VRT 210111 TEAM J 21 111	DJW 160023	VRT 180011	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
11	VRT 210112 TEAM J 21 112	DJW 160023	VRT 140012	1.2						97 42	108 40	103 34	92 20	97 29	105 34	98 20	101 31	
12	VRT 210113 TEAM J 21 113	DJW 160023	VRT 110013	0.4						101 41	102 42	98 34	97 19	101 28	100 34	93 23	96 32	
13	VRT 210114 TEAM J 21 114	DJW 160023	VRT 160014	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	
14	VRT 210116 TEAM J 21 116	DJW 160023	VRT 140016	0.4						101 41	102 42	98 34	97 19	101 29	100 34	93 23	96 32	
15	VRT 210118 TEAM J 21 118	DJW 160023	VRT 150015	0.3						94 40	114 42	96 35	85 20	105 29	108 34	105 20	106 31	

	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.

