

SUSSEX

BREEDING VALUE REPORT

September 2026



ECHODALE SUSSEX

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The brand you need

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.

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 Production Value



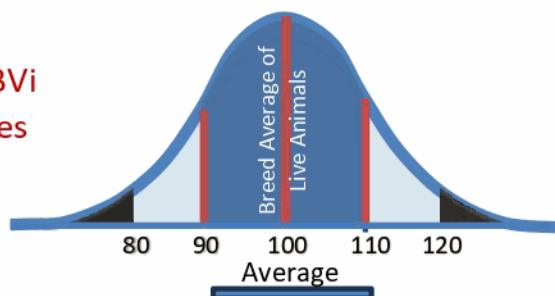
80% LOGIX Cow Value +
20% LOGIX Growth Value

LOGIX Carcass Value

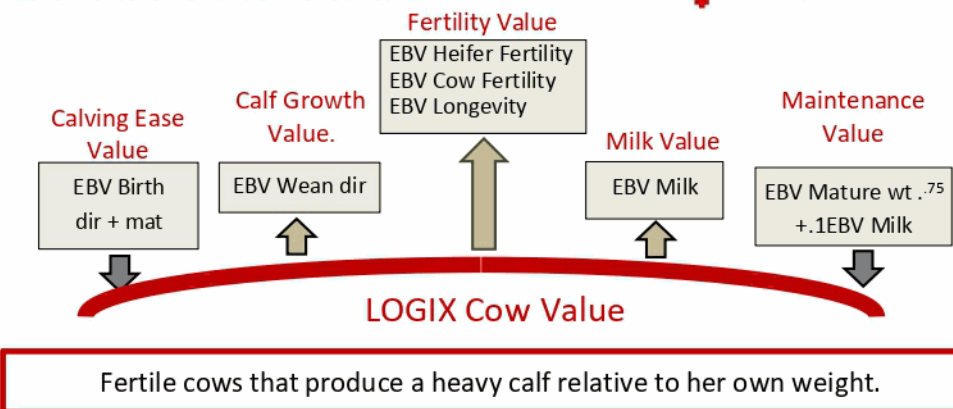


Select for more meat on the carcass as measured from end weight in Phase C and D Growth Tests and RTU scanning.

Interpretation of EBVi and Selection Values



LOGIX Cow 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.

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

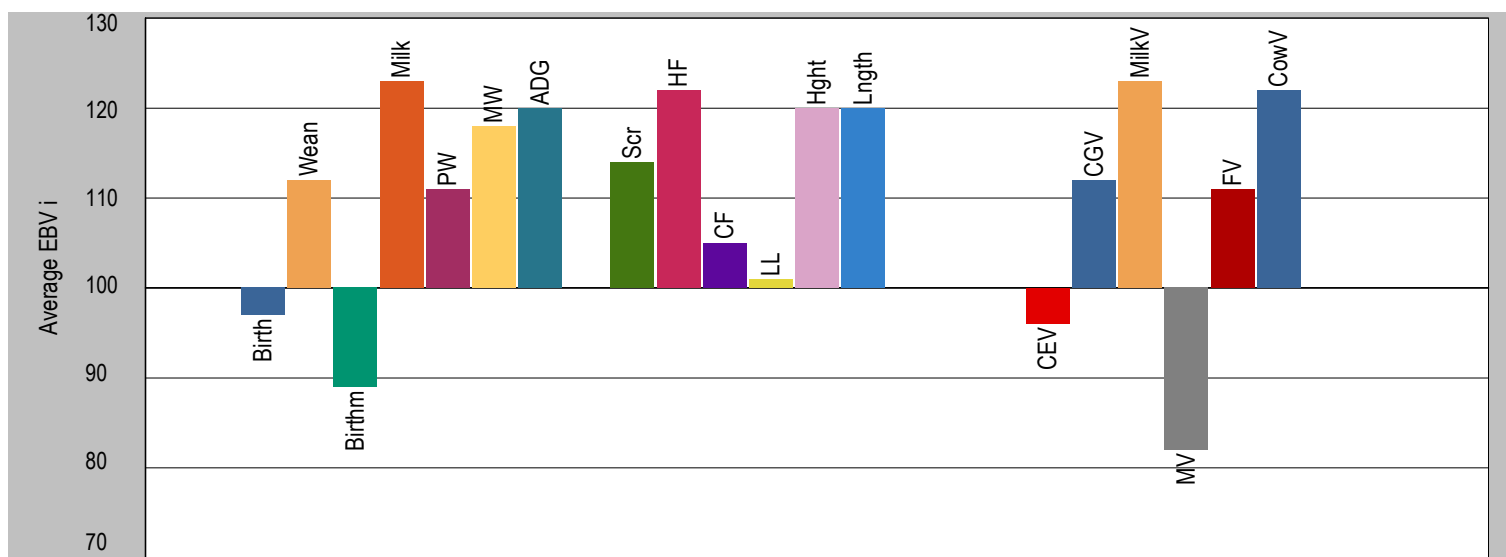
Larger groups result in more accurate and stable breeding values, as the mean and distribution of the group can be more accurately determined and are thus more representative. Groups should preferably have more than 5 animals. Weigh all the animals in the same group on the same day, as corrections for 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
Prewrite Growth	Birth Weight	1.33	97	1.09
	Wean Weight	21.5	112	15.4
	Birth Mat.	0.92	89	0.44
	Milk (Wn.Mat.)	13.3	123	6.2
Postwean Growth	Postwean Wt	39.7	111	29.9
	Mature Weight	44	118	26
	ADG	221	120	113
	FCR			-90
Fertility	Scrotal Circumf.	20.7	114	13.7
	Heifer Fertility	-19.9	122	-1.5
	Cow Fertility	-6.9	105	-5.8
	Longevity	25.5	101	24.9
Frame	Height	34	120	19
	Length	58	120	32
Carcass	Dressing%			-0.05
	RedMeatYield			0.4
	Marbling			-0.65

Selection Value	Ave. Herd
Calving Ease	96
Calf Growth	112
Milk	123
Maintenance	82
Fertility	111
Cow Value	122
Growth Value	
Production Value	

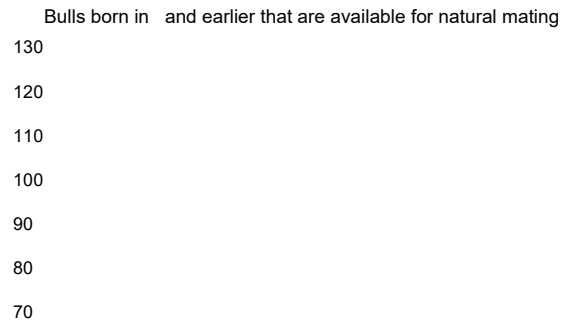
- Average of live animals in the breed: 100
- Above 100: **more favourable**,
- Below 100: **less favourable**

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

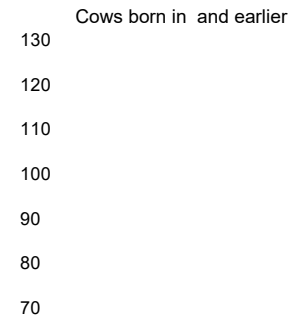
Genetic Windows

Bulls on the farm



Animals available for breeding

Total:

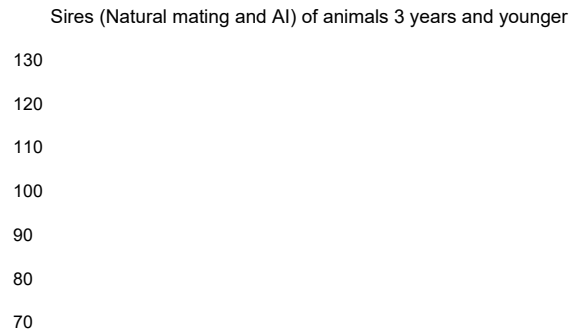


Cow Herd

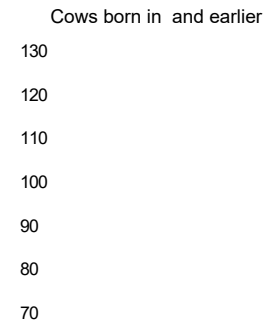
Total:

Results of previous selection decisions

Sires of young animals



Total:

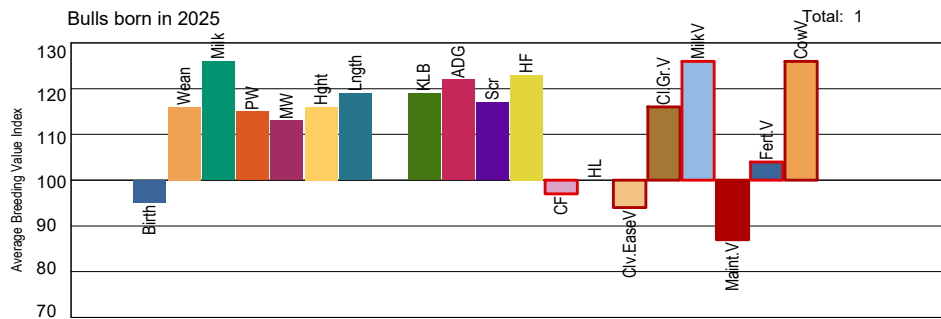


Total:

Cows older than 6 years

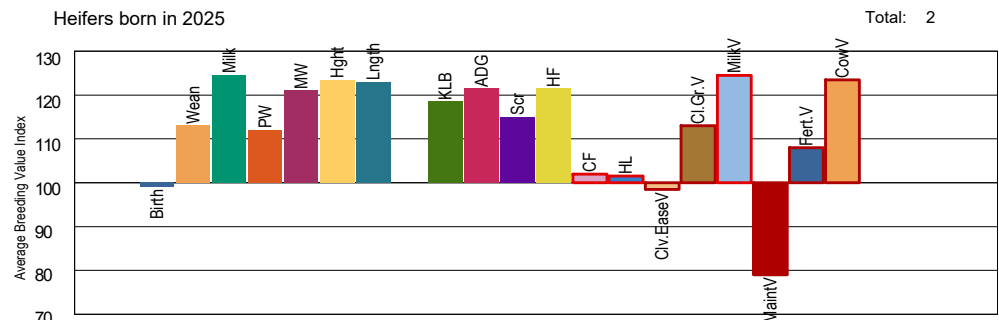
Selection possibilities

Bull calves



Total: 1

Heifer calves



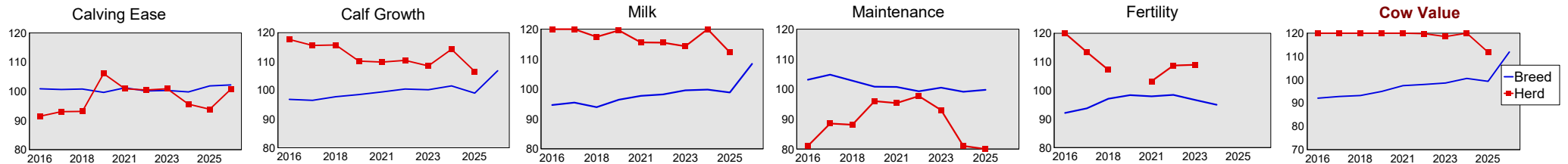
Total: 2

Summary of Cow Herd

			Selection Values (SV)								Calf Weight		Dam		Growth & Efficiency				Fertility				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	100	100	100	99	99	100	100	100	100	100	100	99	99	99	100	100	100	100	99	99
2024	2	★★★★★	92	116	120	78	107	119			94	116	89	120	114	122	120	117	118	119	103	96	123	123	
2025	2	★★★★☆	99	113	125	79	108	124			99	113	93	125	112	121	122	119	115	122	102	102	124	123	
Cows in Herd Average:			96	115	123	79	108	122			97	115	91	123	113	122	121	118	117	121	103	99	124	123	

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.



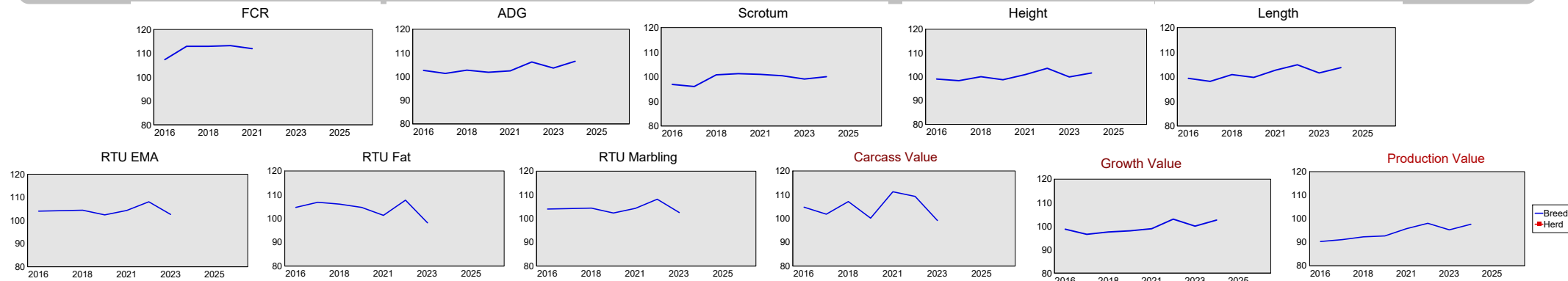
Herd

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		Mainte-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	7	1.81	0.61	91	7	24.3	118	7	12.77	121	5	53.5	2	54	81	1	-31.9	1	-11.7	9	24.5	124	128		
2017	10	1.65	0.61	93	8	23.2	116	8	13.21	122	8	44.8	5	36	89	5	-11.5	5	-8.5	8	23.8	113	127		
2018	7	1.67	0.58	93	8	23.2	116	8	11.65	117	7	46.2	4	36	88	5	-5.5	5	-7.3	5	26.4	107	122		
2020	17	0.50	0.88	106	7	20.5	110	7	12.29	120	6	45.2			96					15	28.8		122		
2021	14	0.91	1.08	101	12	20.3	110	12	11.10	116	9	46.0	4	29	95	5	-0.8	5	-6.6	11	29.9	103	120		
2022	12	0.94	1.10	100	11	20.6	110	11	11.05	115	11	43.2	4	33	98	4	-2.9			1	22.1	109	120		
2023	12	0.90	1.04	101	11	19.6	108	11	10.71	114	4	45.5			93	3	-3.5					109	119		
2024	15	1.35	1.04	96	11	22.5	114	11	13.34	123	11	42.0			81								124		
2025	13	1.52	0.91	94	12	18.7	107	12	10.06	112	2	40.0			79								112		
2026	3	0.24	0.99	101																					

Breed

Birth Year	Calving Ease				Calf Growth			Milk			Maintenance						Fertility								Cow Value
	Birth Weight		Calv. Ease	Dir EBV	Mat EBV	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	Milk	Number	EBV	Number		EBV	Number	EBV	Number	EBV	Number		EBV	Number	
2016	1955	1.03	0.37	101		1392	13.8	97		1392	4.56	95	1016	27.2	155	24	103	490	1.9	379	-4.2	1999	17.9	92	92
2017	2176	1.04	0.42	101		1503	13.7	97		1503	4.83	95	1143	26.9	231	21	105	589	1.5	426	-4.4	2201	18.1	94	93
2018	2151	1.03	0.34	101		1437	14.3	98		1437	4.35	94	1018	28.3	233	23	103	512	-0.1	390	-5.4	2143	17.4	97	93
2019	2032	1.08	0.35	100		1356	14.5	98		1356	5.11	96	967	28.6	173	26	101	519	0.5	353	-5.2	2109	18.7	96	95
2020	2209	1.13	0.42	100		1596	14.7	99		1596	5.13	96	1107	28.3	226	27	101	587	-0.5	403	-5.6	2251	18.7	98	95
2021	2344	1.00	0.39	101		1733	15.1	99		1733	5.53	98	1384	29.5	220	25	101	696	-0.1	414	-5.4	2145	19.1	98	98
2022	2141	1.10	0.38	100		1549	15.6	100		1549	5.68	98	1124	30.7	148	25	99	479	1.6	92	-5.9	898	19.9	98	98
2023	2136	1.05	0.46	100		1634	15.5	100		1634	6.11	100	1211	29.9	17	26	100	237	0.4	3	-6.6			97	99
2024	2177	1.09	0.46	100		1492	16.2	102		1491	6.17	100	992	31.7			99	22	-3.8					95	101
2025	2001	0.91	0.46	102		1255	14.9	99		1255	5.87	99	218	32.9			100								99
2026	686	0.88	0.57	102		27	18.8	107		27	8.86	108													112

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			
2017																								
2018																								
2020																								
2021																								
2022																								
2023																								
2024																								
2025																								
2026																								

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						
2017	4	-123	113	264	120	101	263	11.8	96	264	18	98	264	30	98	51	-0.06	102	1.13	107	-0.29	104	102	96	91	
2018	3	-124	113	218	128	103	218	14.1	101	218	19	100	218	33	101	39	0.53	107	1.02	106	-0.27	104	107	98	92	
2019	10	-124	113	147	137	104	147	13.5	100	147	20	102	147	35	102	28	0.60	108	1.85	113	-0.09	106	111	99	93	
2020	7	-123	113	182	123	102	182	14.3	101	182	18	99	182	32	100	49	-0.11	102	0.85	105	-0.45	102	100	98	93	
2021	3	-120	112	253	127	102	253	14.2	101	253	20	101	253	36	103	27	0.70	108	0.45	101	-0.28	104	111	99	96	
2022				221	146	106	221	13.9	100	221	22	104	221	38	105	48	0.94	111	1.23	108	0.05	108	109	103	98	
2023				241	133	104	241	13.2	99	241	19	100	241	34	102	94	-0.31	100	0.07	98	-0.43	103	99	100	95	
2024				154	148	106	166	13.8	100	132	20	102	132	37	104									103	98	
2025																										
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																												
GMO 160047		MS 120012 GMO 100025	97	113	128	71	113	124			99	113	84	128	110	129	122		125	137	103	99	126	124				135	121
TIMMO			94	93	80	16	60	63			95	93	83	80	88	16	23		26	77	43	73	26	25				21	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	% 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																														
WAB 240020	2	GMO 160047 WAB 210068	89 71	120 70	122 49	84 17	112 32	127 42				92 1.80 73	79 1.33 50	116 42 17	120 25.4 70	122 13.0 49	125 132 45		121 48.2 54	121 227 19		115 20.9 23	120 -18.1 43	108 -7.6 21	105 28.2 44	118 33 23	120 57 22			
WAB 240022	1	GMO 160047 WAB 180037	98 72	111 70	122 54	82 16	124 34	124 44				99 1.23 73	90 0.86 54	118 44 16	111 21.1 70	122 13.1 54	118 115 47		120 39.3 56	120 221 20		111 19.1 24	127 -23.8 45	118 -10.0 23	100 24.7 46	125 37 24	122 59 23			
WAB 240023	1	GMO 160047 WAB 170008	104 71	98 70	123 52	89 17	115 33	115 43				105 0.68 73	91 0.81 53	111 37 17	98 14.7 70	123 13.5 52	112 102 46		119 26.3 54	119 212 20		110 18.6 23	129 -24.8 44	108 -7.6 22	103 27.2 46	117 32 23	116 52 22			
WAB 240025	2	GMO 160047 WAB 200054	99 69	108 56	122 46	86 12	110 30	119 36				101 1.04 71	84 1.13 50	114 40 12	108 19.4 56	122 13.0 46	117 114 38		118 37.0 48	118 208 19		110 18.6 23	122 -19.7 41	105 -6.9 20	106 28.9 44	114 29 23	115 51 22			
WAB 250030	1	GMO 160047 WAB 170010	94 59	116 58	126 50	87 17	104 34	126 40				95 1.53 60	90 0.88 51	113 39 17	116 23.3 58	126 14.4 50	126 135 42		122 42.6 50	122 228 22		117 21.8 26	123 -20.4 45	97 -5.1 24	100 25.0 46	116 31 26	119 57 25			

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	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
WAB 240026 98456767 TIMOTHY 9TH	1	GMO 160047 WAB 150001	95 71	112 68	117 54	80 13	108 35	116 43	97 1.41 72	90 0.88 55	120 46 13	112 21.1 68	117 11.5 54	114 106 45	111 39.0 56	116 199 20	117 22.0 23	121 -18.7 47	103 -6.5 23	94 20.8 46	119 33 24	119 56 23								
WAB 240027 98456775 TIMOTHY 10TH	1	GMO 160047 WAB 180033	89 70	119 68	123 51	76 11	106 34	122 41	90 1.94 71	88 0.93 52	124 51 11	119 25.0 68	123 13.4 51	122 124 43	117 44.9 56	124 238 19	119 22.7 23	117 -15.3 45	102 -6.2 22	97 23.1 44	126 39 23	126 65 22								
WAB 250028 98456783 TIMOTHY 11TH	1	GMO 160047 WAB 180036	101 71	116 68	123 53	74 17	110 34	126 43	101 1.00 72	98 0.52 53	126 53 17	116 23.3 68	123 13.5 53	119 118 46	115 42.6 56	124 242 21	123 25.0 25	119 -17.0 45	105 -7.0 23	102 26.2 45	127 39 25	127 66 24								
WAB 250029 98457294 TIMOTHY 12TH	1	GMO 160047 WAB 180035	96 70	110 68	126 53	84 15	106 33	121 42	97 1.32 72	88 0.96 52	116 42 15	110 20.5 68	126 14.3 53	121 122 45	109 37.4 56	119 212 20	107 17.2 24	124 -20.9 44	99 -5.6 22	101 25.6 45	120 34 24	119 56 23								

Selection List on Cow Value

Bulls 2 years and older

ID Sorted on ID	Name	Sire ID	Dam ID	% Inbreeding	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	WAB 240020 TIMMO 1ST	GMO 160047	WAB 210068	1.6	89 71	120 70	122 49	84 17	112 32	127 42			
2	WAB 240022 TIMMO 2ND	GMO 160047	WAB 180037	1.4	98 72	111 70	122 54	82 16	124 34	124 44			
					★★★★☆								
1	WAB 240023 TIMMO 3RD	GMO 160047	WAB 170008	1.4	104 71	98 70	123 52	89 17	115 33	115 43			
2	WAB 240025 TIMMO 4TH	GMO 160047	WAB 200054	1.6	99 69	108 56	122 46	86 12	110 30	119 36			

Selection List on Cow Value

Cows 2 years and older

ID Name Sorted on ID			Sire ID Dam ID	% Inbreeding	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	WAB 240027	TIMOTHY 10TH	GMO 160047 WAB 180033	1.3	89 70	119 68	123 51	76 11	106 34	122 41			
					★★★★☆								
1	WAB 240026	TIMOTHY 9TH	GMO 160047 WAB 150001	1.4	95 71	112 68	117 54	80 13	108 35	116 43			

Selection List on Cow Value

Bull Calves younger than 2 years

ID Name Sorted on ID			Sire ID	Dam ID	% Inbreeding	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	WAB 250030	TIMMO 5TH	GMO 160047	WAB 170010	1.2	9459	11658	12650	8717	10434	12640			

Selection List on Cow Value

Heifers younger than 2 years

IDName Sorted on ID			Sire IDDam ID	% Inbreeding	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	WAB 250028	TIMOTHY 11TH	GMO 160047WAB 180036	1.3	10171	11668	12353	7417	11034	12643			
2	WAB 250029	TIMOTHY 12TH	GMO 160047WAB 180035	1.4	9670	11068	12653	8415	10633	12142			

	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.

