

NGUNI

BREEDING VALUE REPORT

September 2026



MAC BREEDERS (PTY) LTD

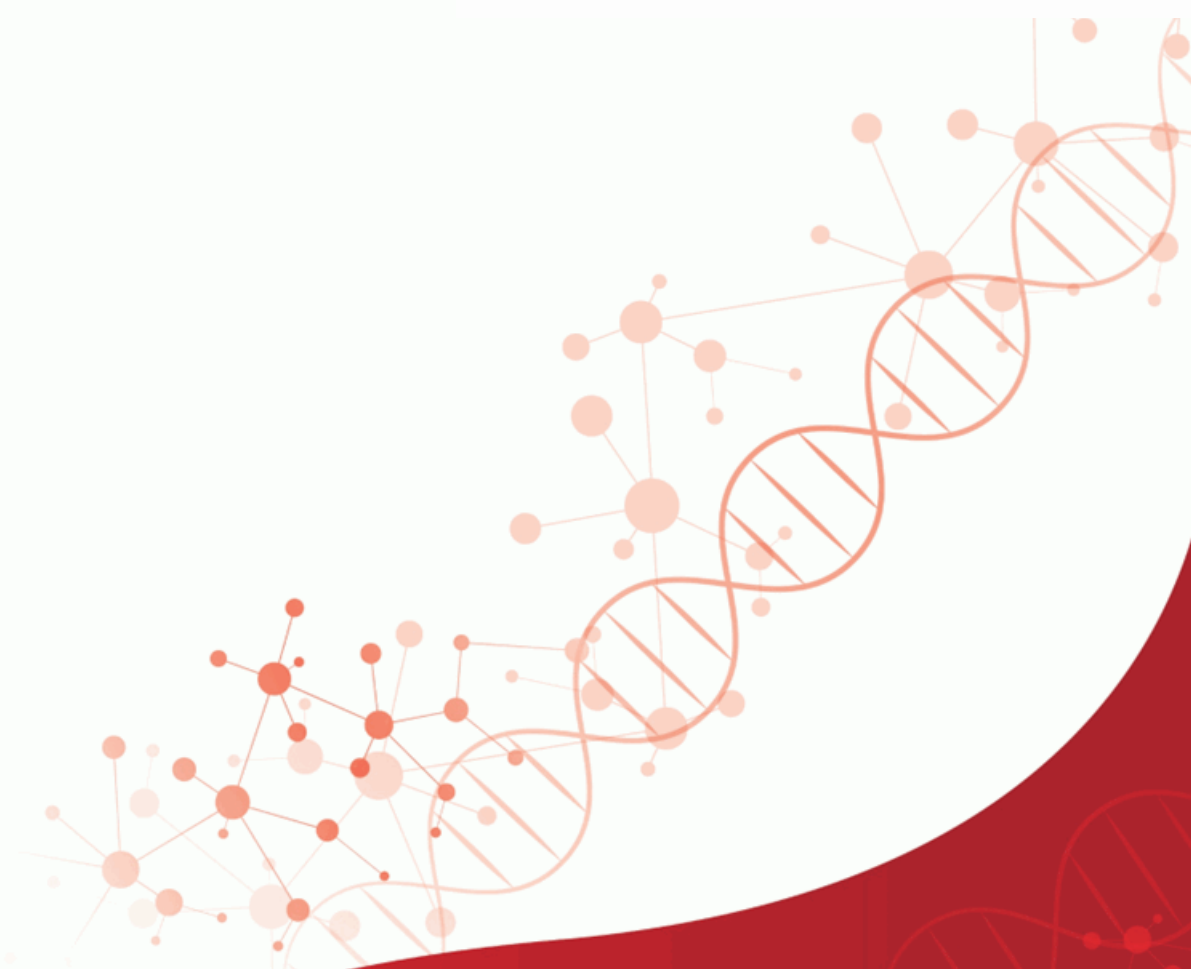
Herd Number: 693320

E-mail: louisam@ngupi.pro
maraislouisa456@gmail.com

NGUNI Cattle Breeders' Society
Beestelersgenootskap



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



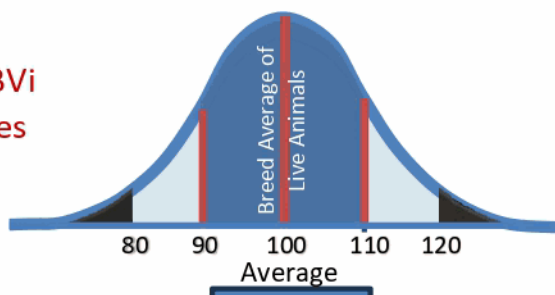
80% LOGIX Cow Value +
20% LOGIX Growth Value

LOGIX Carcass Value

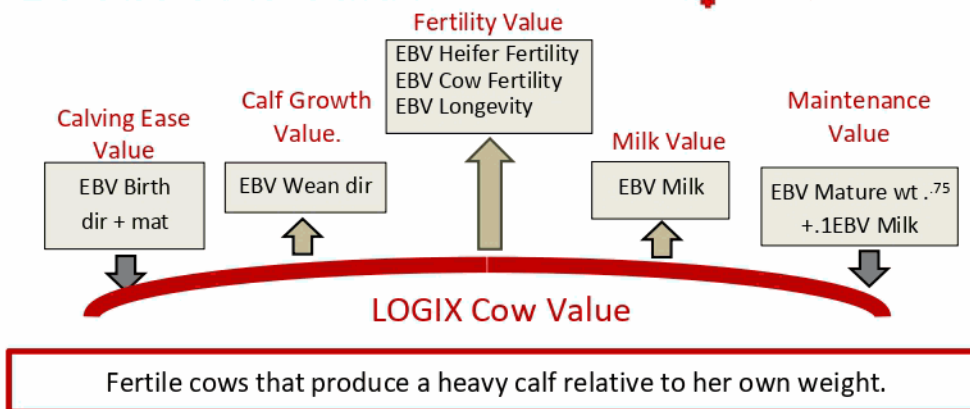


Select for more meat on the carcass as measured from end weight in Phase C and D Growth Tests and RTU scanning.

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

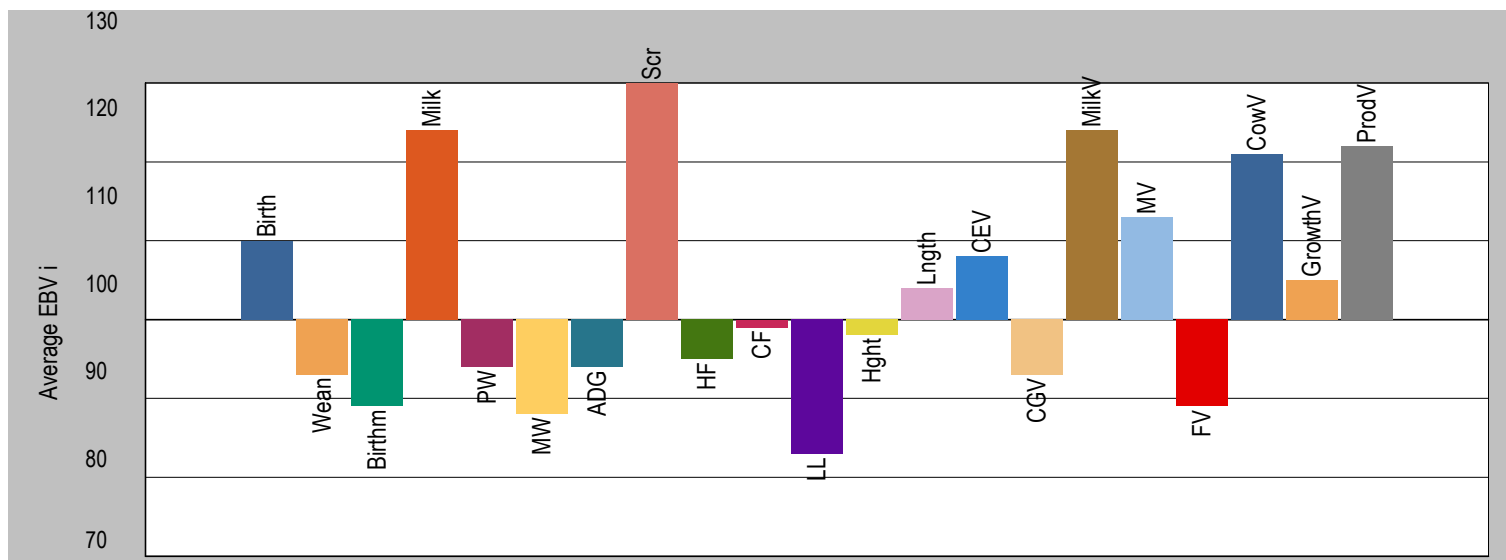
(HARSH ENVIRONMENT)

- 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

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		

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	-0.34	110	0.12
	Wean Weight	-0.1	93	2.6
	Birth Mat.	0.35	89	0.05
	Milk (Wn.Mat.)	6.6	124	1.0
Postwean Growth	Postwean Wt	0.5	94	3.7
	Mature Weight	-6	88	5
	ADG	0	94	12
Fertility	Scrotal Circumf.	22.9	150	3.8
	Heifer Fertility	-2.4	95	-6.2
	Cow Fertility	-2.5	99	-2.9
	Longevity	13.7	83	23.2
Frame	Height	1	98	2
	Length	8	104	5

Selection Value	Ave. Herd
Calving Ease	108
Calf Growth	93
Milk	124
Maintenance	113
Fertility	89
Cow Value	121
Growth Value	105
Production Value	122

- 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	100	100	100	100	100	100	100	99	99	99	99	99	100	100	100	99	99
2010	3																								
2011	2																								
2012	5																								
2013	4																								
2014	5																								
2015	6																								
2016	3																								
2020	5																								

Cows in Herd Average:

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.)		Milk	Postwean Weight		Mature Weight		Mainte- nance	Heifer Fert.		Cow Fert.		Longevity		Ferti- lity	
	Number	EBV			Number	EBV		Number	EBV		Number	EBV	Number	EBV		Number	EBV	Number	EBV	Number	EBV		

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.)		Milk	Postwean Weight		Mature Weight		Maintenance	Heifer Fert.		Cow Fert.		Longevity		Ferti- lity	
	Number	Dir EBV			Number	EBV		Number	EBV		Number	EBV	Number	EBV		Number	EBV	Number	EBV	Number	EBV		
2016	2062	0.06	-0.03	101	1340	2.9	101	1339	0.64	98	355	6.3	223	5	97	1339	-2.4	868	-1.9	10845	12.2	90	87
2017	1692	0.05	0.03	100	1223	3.5	102	1223	1.02	100	536	7.3	266	7	95	1431	-2.1	859	-1.9	8766	13.2	91	90
2018	1623	0.00	0.02	101	961	4.1	104	961	1.83	104	525	6.9	260	8	95	1317	-2.9	764	-2.0	7360	13.8	93	93
2019	1476	0.03	0.01	100	1204	3.3	102	1202	1.73	103	501	6.3	314	7	96	1273	-3.5	775	-2.6	6887	14.6	94	94
2020	1577	0.05	0.01	101	1147	3.7	103	1147	1.93	104	561	5.4	352	6	98	1269	-4.3	672	-2.5	6779	15.4	96	95
2021	1538	0.08	0.06	99	1397	3.4	102	1397	2.14	105	770	4.9	292	5	99	1218	-5.0	585	-2.9	6379	16.8	98	96
2022	1327	0.25	0.06	97	1681	4.4	105	1681	2.02	104	780	6.7	261	10	95	962	-4.7	240	-4.2	2616	17.4	101	97
2023	1221	0.08	0.12	100	1478	3.2	102	1478	1.87	104	509	6.2	62	12	97	379	-5.9	45	-5.3			106	99
2024	1380	0.08	0.12	99	1392	4.2	105	1392	1.90	104	510	7.3	1	-6	94	128	-6.5					110	102
2025	1033	0.14	0.10	99	1054	4.6	106	1052	1.82	103	173	12.0			84	7	-42.1					133	105
2026	191	0.05	0.02	102	23	7.6	114	23	3.11	109													109

Genetic Trends for Growth Test Traits

Herd

Birth Year	Growth						Frame						Selection Values	
	ADG			Scrotal Circumf.			Height			Length			Growth Value	Prod Value
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi		

Breed

Birth Year	Growth						Frame						Selection Values	
	ADG			Scrotal Circumf.			Height			Length			Growth Value	Prod Value
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi		
2016	61	31	109	66	6.6	107	61	10	115	61	15	114	92	89
2017	53	27	107	52	7.3	109	52	7	110	52	15	113	94	92
2018	78	28	107	78	7.5	110	78	6	108	78	10	107	98	95
2019	66	30	108	66	4.7	103	66	7	111	66	12	109	96	95
2020	78	21	104	77	3.9	100	78	4	105	78	8	103	98	96
2021	84	11	100	83	3.6	99	84	3	101	84	7	102	99	97
2022	171	26	107	95	5.9	106	162	7	109	162	11	108	99	98
2023	65	30	108	64	5.9	106	65	6	109	65	11	108	100	99
2024	64	24	106	63	5.8	105	64	4	105	64	11	107	102	101
2025				21	13.2	125							104	104

Sires

Bull			Selection Values								Calf		Dam		Growth			Fertility				Frame		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	Scrotal Circ.	Heifer Fertility	Cow Fertility	Long- evity	Height	Length	Birth wt	Wean wt	Dgt/Calvs.	Grwth Test
AZ 110057		CS 020092 AZ 040001	98	106	113	85	96	94	94	94	101	106	82	113	100	114	114	137	93	122	72	108	111	1	70	8	27
AZ 11.57 M			62	92	80	66	70	60	79	70	63	92	58	80	70	66	44	60	74	48	87	51	49				
SW 120417		SW 040048 MTN040662	95	90	97	118	69	71	84	77	93	90	107	97	85	84	81	82	81	71	85	83	88			2	2
SW 120417			50	45	46	30	59	38	47	42	53	45	33	46	28	30	19	19	68	28	81	22	21				

Growth Tests

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

Animal				Weight			Frame				Growth	
Test Code	Sex	Test no	Sire ID	Cow	Wean	End-	Length	Height	Length/	Scrotum	ADG	Growth
Test station		ID	Dam ID	Value	dir	weight			Height			Value
201501	B22	M	0568331NGI									
EXSTEEN NGUNI'S & SANGA'S		EX 150302	AZ 110057	121	92	104	110	98	127	150	94	122
		81400335	EX 070508	57	90	65	12	1	1.13	22.9	0	76
							65	67	66	76	59	

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	
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	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	
EX 150302 81400335 DONKIE	AZ 110057 EX 070508	114 65	92 90	141 74	116 58	101 66	121 57	122 76	122 66	117 -0.70 65	82 0.55 65	84 -10 58	92 -0.2 90	141 10.5 74	139 104 74	95 1.3 75	94 0 59	150 22.9 76	103 -9.1 71	122 -8.0 43	76 10.1 85	98 1 67	110 12 65		
SW 160399 93254357 SW 160399	SW 120417	102 25	93 22	107 23	109 15	76 29	88 23	102 0.03 27	96 0.16 16	92 -2 15	93 0.0 22	107 2.6 23	103 25 20	92 -0.4 14	88 -14 10	85 -1.8 9	87 4.3 34	75 3.0 14	89 17.2 40	97 1 11	97 3 11				

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	
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	Birth wt dir	Birth mat	Mature wt	Wean wt	Wean mat	Cow-Calf Ratio (Wean)	Postwean wt	ADG	Scrotal Circ.	Heifer Fertility	Cow Fertility	Longevity	Height	Length

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	EX	150302	DONKIE	AZ 110057	EX 070508	0.3	11465	9290	14174	11658	10166	12157	12276	12266

Selection List on Cow Value

Cows 2 years and older

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	
Sorted on ID													

	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 18mnth 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.

