

Nguni

Genetic Evaluation

SA Stud Book

February 2025

Herd Number: 703670

BLACKOX FARMERS
PO BOX 68623
HIGHVELD PARK
PRETORIA
0169



Nguni Cow Value and Nguni Growth Value

The Cow and Growth Values combine different weighted breeding values into a single value, making it easier to identify the “best” animal when many traits and consequently many breeding values are involved. Breeding values are weighted scientifically according to economic importance and heritability.

Interpretation of Selection Values

Sub Value	<80	80-120	>120
Calving ease	Heavier birth wt	Average birth wt	Lower Birth wt
Calf Growth	Lower weaning wt	Avg weaning wt	Heavier weaning wt
Milk	Lower milk	Average milk	Higher milk
Maintenance	Higher mat.wt/milk	Avg mature wt/milk	Lower mat.wt/milk
Fertility	Lower fertility	Average fertility	Higher fertility

The ‘ideal’ animal will theoretically have the highest possible indices and sub-indices, but breeding objectives should always be kept in mind! Highest is not always best.

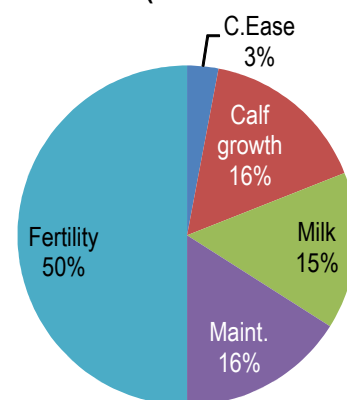
% Components of the Nguni Cow Value and Nguni Growth Value

Sub value	EBV	+ or -	Cow Value	Growth Value
Calving	Birth weight	-	2.5	2.5
Ease	Birth maternal	-	0.5	0.5
Calf growth	Weaning weight	+	16	40
Milk	Milk	+	15	15
Maintenance	Mature wt ^{0.75} + 0.1 Milk	-	16	15
	AFC (age at 1st calving)	-	10	6
Fertility	ICP (intercalving Period)	-	20	10
	Longevity	+	20	11

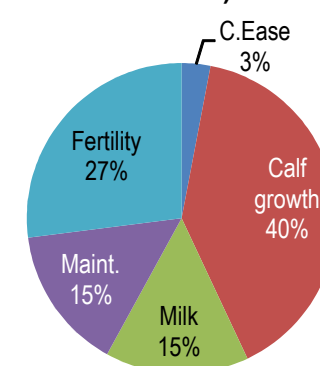
Selection values are expressed around 100 (breed average for live animals). 50% of animals in the breed are average and have selection values between 90 and 110 (2.5 and 3 stars).

The **Nguni Cow Value** focuses more on fertility and less on growth, while the **Nguni Growth Value** emphasizes growth components without impairment of selection for other important features such as milk and fertility.

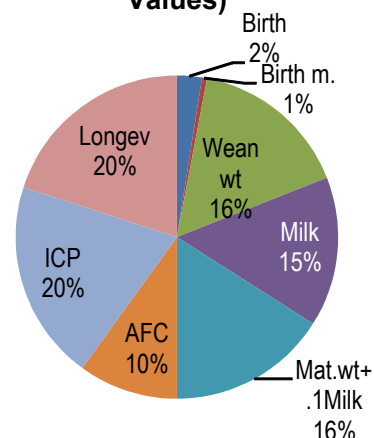
Cow Value (Selection Values)



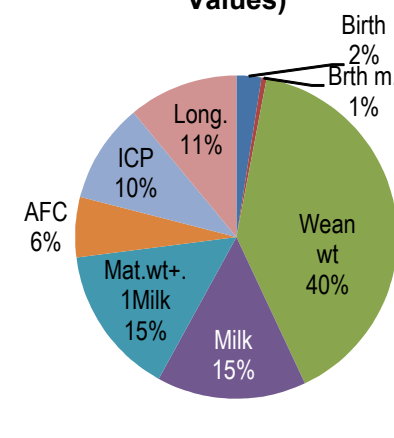
Growth Value (Selection Values)



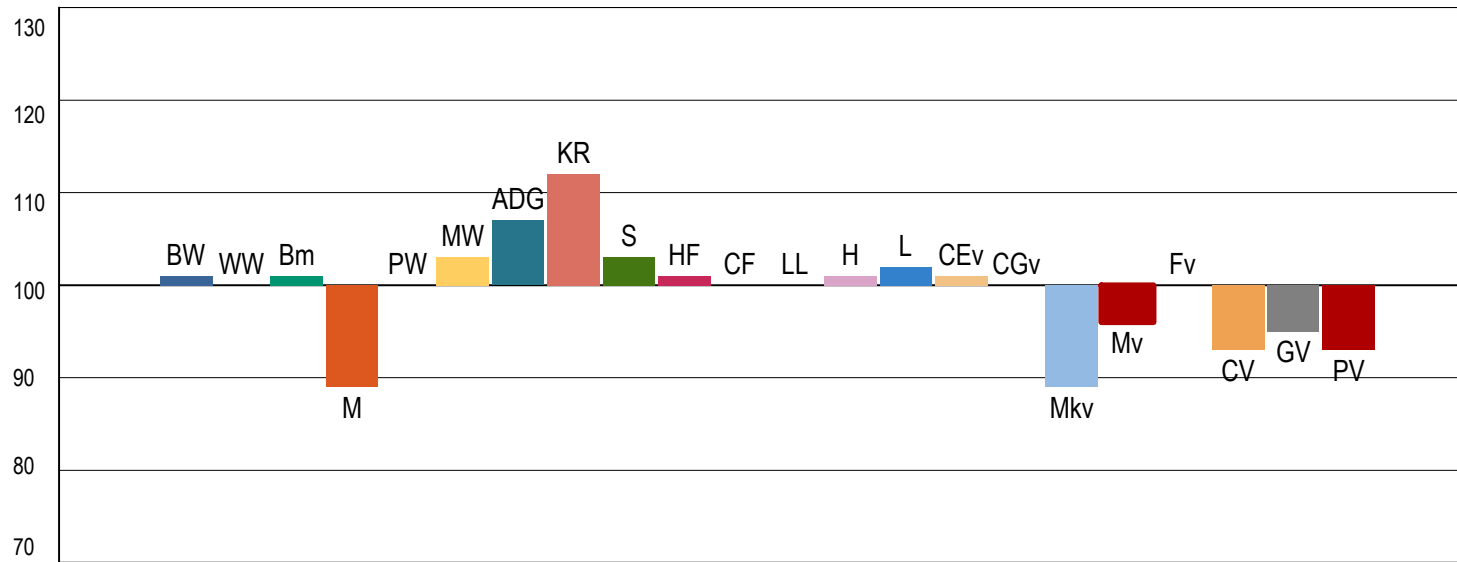
Cow Value (Breeding Values)



Growth Value (Breeding Values)



Herd and Breed Averages



Breeding Value (EBV) and Breeding Value Index (EBVi):

BW	Birth Weight
WW	Weaning Weight
Bm	Birth maternal
M	Milk
PW	Post-Wean Weight
MW	Mature Weight
ADG	Average Daily Gain
KR	Kleiber (feed efficiency on veld)
S	Scrotal Circumference
HF	Heifer Fertility
CF	Cow Fertility
LL	Longevity
H	Height
L	Length

Selection Values

CEv	Calving Ease Value
CGv	Calf Growth Value
Mkv	Milk Value
Mv	Maintenance Value
Fv	Fertility Value
CV	Cow Value
GV	Growth Value
PV	Production Value

	Trait	EBV Herd	EBVi Herd	EBV Breed
Prewean Growth	Birth Wt	0.05	101	0.08
	Weaning Wt	2.32	100	2.3
	Birth Mat.	0.00	101	0.04
	Milk(Wn.Mat.)	-1.7	89	0.9
Postwean Growth	Post wean Wt	3.5	100	3.4
	Mature Wt	7	103	5
	ADG	23	107	8
	Kleiber	43	112	24
Fertility	Scrotal Circumf.	4	103	3
	Heifer Fertility	-6	101	-5
	Cow Fertility	-3	100	-3
	Longevity	22	100	22
Frame	Height	2	101	1
	Length	5	102	4

Selection Value	Avg. Herd
Calving Ease	101
Calf Growth	100
Milk	89
Maintenance	96
Fertility	100
Cow Value	93
Growth Value	95
Production Value	93

- 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?:

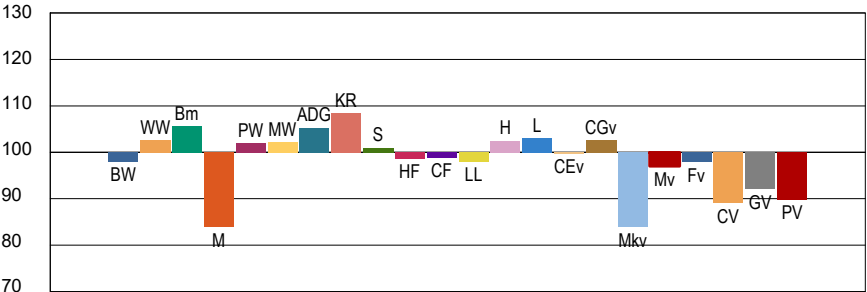
- Calving ease: Smaller calf at birth - easier calving
- Calf growth: Heavier calves at wean due to growth potential of the calf
- Milk: Cows with more milk and better mothering ability
- Maintenance: Animals with low maintenance requirements (lower mature weight).
- Fertility: Cows/daughters that calve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

Genetic Window

Bulls on Farm

Bulls born in 2022 and earlier

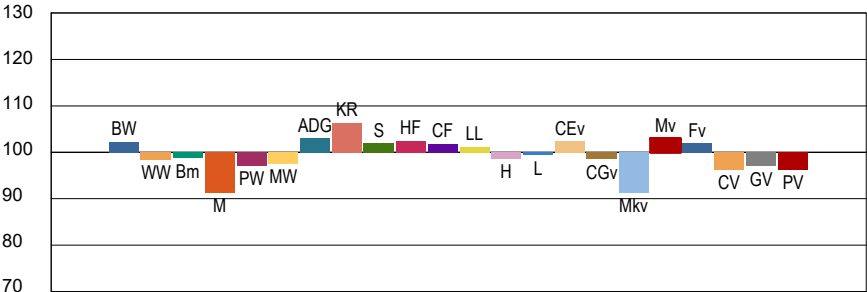
Number: 6



Cow Herd

Cows born in 2023 and earlier

Number: 10



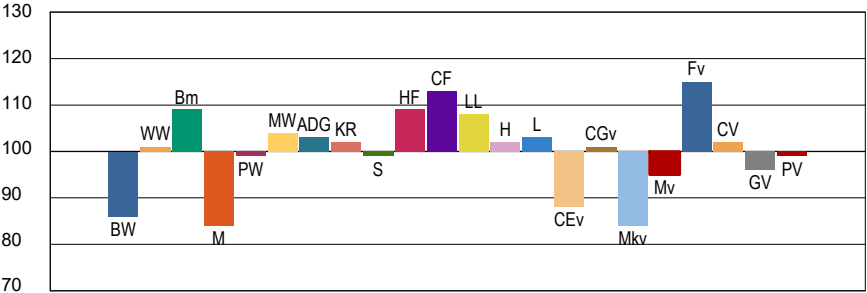
Abbreviations

BW	Birth Weight
WW	Weaning Weight
Bm	Birth mat
M	Milk
PW	Post-wean Weight
MW	Mature Weight
ADG	Avg. Daily Gain
KR	Kleiber Ratio
S	Scrotal Circumf.
HF	Heifer Fertility
CF	Cow Fertility
LL	Longevity
H	Height
L	Length
CEv	Calving Ease Value
CGv	Calf Growth Value
Mkv	Milk Value
Mv	Maintenance Value
Fv	Fertility Value
CV	Cow Value
GV	Growth Value
PV	Production Value

Sires of young animals

Sires of animals 3 years and younger

Number: 1



Cows older than 6 years

Cows born in and earlier

Number:



Bull Calves

Bull calves born in

Number:



Heifers

Heifers born in

Number:



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	99	100	101	100	100	100	100	100	99	100	100	99	99	99	99	99	100	100	100	99	99
2021	9	★★★★	102	99	92	104	103	98	98	98	103	98	98	92	97	97	106	111	106	103	103	101	99	101
2022	1	★★★☆☆	102	98	86	99	97	88	89	87	100	98	106	86	95	100	97	97	94	97	98	99	98	97
Cows in Herd Average:			102	99	89	102	100	93	94	93	102	98	102	89	96	99	102	104	100	100	101	100	99	99

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 (CV)	Growth Value (GV)		
	Birth Weight		Mat EBV	Calv. Ease	Weaning Weight		Calf Growth	Milk (Wn.Mat.)		Postwean Weight		Mature Weight		Maintenance	Heifer Fert.		Cow Fert.		Longevity			Fertility	
	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 (CV)	Growth Value (GV)		
	Birth Weight		Calv. Ease	Weaning Weight	Calf Growth	Milk (Wn.Mat.)		Postwean Weight		Mature Weight		Maintenance	Heifer Fert.		Cow Fert.		Longevity		Fertility					
	Number	Dir EBV				Mat EBV	Number	EBV	Number	EBV	Milk		Number	EBV	Number	EBV	Number	EBV		Number			EBV	Number
2015	2206	-0.01	-0.04	101	2099	2.4	100	2099	0.77	100	641	3.6	221	6	97	1715	-2.3	921	-1.9	12955	12.0	92	89	93
2016	2060	0.05	-0.04	100	1340	2.9	102	1339	0.66	99	355	6.3	223	6	96	1339	-2.3	866	-2.0	10839	12.4	93	91	95
2017	1692	0.04	0.02	99	1223	3.5	104	1223	1.00	101	536	7.4	266	8	95	1431	-2.1	856	-2.0	8724	13.5	94	93	97
2018	1623	0.00	0.00	100	961	4.2	106	961	1.90	105	525	7.2	260	8	94	1317	-2.7	759	-2.2	7291	14.1	96	96	100
2019	1476	0.02	-0.01	100	1204	3.4	103	1202	1.56	103	501	6.3	310	7	96	1271	-3.2	734	-2.7	6653	14.9	97	97	99
2020	1576	0.04	0.00	100	1147	3.8	104	1147	1.94	105	561	5.7	282	7	98	1237	-3.6	525	-2.7	6117	15.2	98	98	101
2021	1537	0.07	0.05	99	1397	3.4	103	1397	2.12	106	770	5.0	89	8	98	903	-4.4	154	-4.3	367	16.7	102	99	101
2022	1327	0.25	0.05	96	1681	4.5	106	1681	1.89	105	779	6.7	46	17	94	259	-5.8	11	-8.2			110	100	102
2023	1208	0.12	0.11	99	1329	3.4	103	1324	1.78	104	304	7.8			93	9	-18.5					119	103	102
2024	1177	0.09	0.10	99	288	6.5	112	287	2.28	106	4	-2.8			108								110	106
2025	16	-0.02	0.09	101																				

Genetic Trends for Growth Test 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	Growth						Fertility			Frame					
	ADG			Kleiber			Scrotal Circumf.			Height			Length		
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi

Breed

Birth Year	Growth						Fertility			Frame					
	ADG			Kleiber			Scrotal Circumf.			Height			Length		
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi
2015	48	37	114	48	40	110	68	7.8	112	48	5	108	48	16	118
2016	61	32	111	61	36	108	66	7.3	111	61	9	118	61	16	117
2017	53	28	109	53	32	105	52	8.2	114	52	7	113	52	16	118
2018	78	30	110	78	38	109	78	8.3	114	78	6	111	78	12	112
2019	66	27	109	66	34	106	66	4.8	104	66	7	113	66	12	113
2020	78	17	104	78	28	103	77	3.4	100	78	4	105	78	8	105
2021	84	8	100	84	20	98	83	3.2	100	84	2	101	84	7	104
2022	171	29	110	171	38	109	95	6.1	108	162	7	113	162	12	111
2023	16	64	126	16	60	123	16	12.2	125	16	13	127	16	24	129
2024															
2025															

Sires

Sire		Selection Values (SV / Acc)								Calf Weight		Mother		Growth & Efficiency				Fertility				Frame			Measured Progeny												
ID	Sire ID	Calving Ease	Calf Growth	Milk	Maintenance	Fertility	Cow Value	Growth Value	Prod Value	Birth weight	Weaning weight	Birth Mat.	Milk (Wn.Mat.)	Post Wean wt	Mature weight	ADG	Kleiber	Scrotal Circumf.	Heifer Fertility	Cow Fertility	Longevity	Height	Length	Birth	Wean	Gr. tests	Daughters / Calves.										
Reg. Nr	Dam ID	Breed Average:								0.08	2.3	0.04	0.9	3.4	5	8	24	3.4	-5.3	-2.6	21.9	1	4														
CSF 100082	SW 020048	91	77	55	110	116	88	68	76	0.53	-5.6	-1.19	-9.2	-13.1	-1	-37	-9	-3.6	-30.3	-3.6	26.8	-8	-10	43	49		5/ 7										
CSF100082	KW 040038	76	87	67	40	63	52	70	61	83	91	87	77	40	143	67	55	59	66	40	93	14	78					14	80	15	81	72	131	31	104	86	109
FF 130104	FF 050023	96	116	68	91	97	84	93	88	0.28	7.7	0.02	-6.4	11.4	13	58	76	7.0	-8.6	-3.1	16.1	5	12	12		10/ 12											
FF 13-104 MFELANE	GF 070097	51	84	73	53	63	53	71	62	51	96	84	116	50	101	73	68	60	117	53	110	63	123				63	132	72	110	67	104	43	102	78	89	73
Q 180004	Q 150070	76	127	105	97	112	121	135	130	1.15	11.4	0.20	1.9	16.2	5	-13	-12	1.6	0.4	-3.4	34.4	2	11	77	1												
Q 180004	Q 150094	45	84	52	35	41	40	59	50	46	78	84	127	42	95	52	105	64	126	35	100	22	90					22	78	30	95	46	93	16	103	60	123
TV 150548	CSF 100082	88	101	84	95	115	102	96	99	0.76	2.8	-0.22	-2.8	3.0	8	14	27	2.8	-12.8	-5.8	26.1	2	6			1/ 1											
TV150548	SW 100021	63	68	54	27	46	39	54	46	69	86	68	101	33	109	54	84	52	99	27	104	10	103				10	102	11	99	50	109	23	113	65	108	11
WT 170020	GL 120033	110	88	96	119	95	95	96	95	-0.39	-1.8	0.09	-0.1	-3.6	-9									2	2												
WT 170020	WT 120135	55	58	42	28	47	36	48	42	58	110	58	88	42	98	42	96	45	86	28	83																
WT 170077	GL 120033	105	100	101	111	107	110	110	110	-0.30	2.2	0.51	1.0	3.7	-3																						
WT1777	WT 120118	43	42	39	18	42	29	38	34	44	108	42	100	40	84	39	101	22	101	18	91																

Bulls

Inbreeding >6% is high

Notation:

EBV
Acc EBVi

Breeding Values with
Acc>5% are printed

Shading: 90-110 for Birth weight, Mature weight and Frame
Other traits above breed average

Bull			Selection Values (SV / Acc)								Calf Weight		Mother		Growth & Efficiency				Fertility				Frame	
ID	%	Sire ID	Calving Ease	Calf Grwth	Milk	Maint.	Fert.	Cow Value	Grwth Value	Prod. Value	Birth Weight	Wean Weight	Birth Mat.	Milk (Wn.Mat.)	Post wean wt	Mature weight	ADG	Kleiber	Scrotal circumf.	Heifer Fertility	Cow Fertility	Longevity	Height	Length
Name	Inbreeding	Dam ID	EBV Breed Average (EBVi = 100):								0.08	2.3	0.04	0.9	3.4	5	8	24	3.4	-5.3	-2.6	21.9	1	4
TV 150548		CSF 100082	88	101	84	95	115	102	96	99	0.76	2.8	-0.22	-2.8	3.0	8	14	27	2.8	-12.8	-5.8	26.1	2	6
TV150548		SW 100021	63	68	54	27	46	39	54	46	69	86	68	101	52	99	27	104	10	103	10	102	11	102
DUN 200017	2	FF 130104	102	106	85	98	93	88	96	91	-0.02	4.3	0.07	-2.6	5.8	5	30	49	3.7	-6.6	-0.9	19.0	1	6
DUN 200017		WT 140105	31	46	40	28	40	31	40	36	31	102	46	106	32	105	28	100	31	110	31	116	37	100
DUN 210034		FF 130104	103	100	86	104	92	87	94	90	0.01	2.4	-0.05	-2.2	4.2	1	15	36	2.0	-4.0	-1.1	18.8	1	5
DUN 210034		WT 130117	30	46	39	29	37	30	40	35	30	101	46	100	32	102	29	95	32	103	32	108	37	101
DUN 210043		TV 150548	101	95	93	90	105	92	84	87	0.22	0.6	-0.36	-0.8	-0.1	12	9	23	2.5	-4.6	-4.1	23.2	3	7
DUN 210043		ANS 160062	41	38	34	16	32	25	33	29	43	97	38	95	26	93	16	109	5	100	5	99	6	104
DUN 210050		FF 130104	103	103	80	103	92	85	93	89	-0.01	3.4	-0.11	-3.6	4.9	2	22	41	2.7	-1.4	0.0	22.3	5	7
DUN 210050		DPN 160007	31	47	43	28	39	31	41	36	31	102	47	103	31	103	28	97	33	106	33	111	37	107
DUN 210054	5	FF 130104	101	111	75	92	90	80	89	83	0.08	6.1	-0.08	-4.8	8.4	11	29	48	8.5	3.5	-2.4	15.3	2	5
DUN 210054		NN 180016	29	50	42	28	35	30	41	36	29	100	50	111	30	110	28	108	33	110	33	115	40	101

Cows

Inbreeding >6% is high

Notation:

EBV
Acc **EBVi**

Breeding Values with
Acc>5% are printed

Shading: 90-110 for Birth weight, Mature weight and Frame
Other traits above breed average

Cow			Selection Values (SV / Acc)								Calf Weight		Mother		Growth & Efficiency						Fertility				Frame													
ID	% Inbreeding	Sire ID Dam ID	Calving	Calf	Milk	Maint.	Fert.	Cow	Grwth	Prod.	Birth	Wean	Birth	Milk	Post wean	Mature	ADG	Kleiber	Scrotal	Heifer	Cow	Longevity	Height	Length														
			Ease	Grwth				Value	Value	Value	Weight	Weight	Mat.	(Wn.Mat.)	wt	weight			circumf.	Fertility	Fertility																	
EBV Breed Average (EBVi = 100):											0.08	2.3	0.04	0.9	3.4	5	8	24	3.4	-5.3	-2.6	21.9	1	4														
DUN 210048	1	FF 130104	100	109	78	95	106	96	99	97	0.14	5.4	-0.01	-4.1	7.3	9	28	46	6.0	-19.5	-4.8	16.9	2	6														
DUN 210048		LRC 150026	31	47	41	29	40	31	41	36	31	99	47	109	30	102	41	78	32	108	29	105	33	109	33	114	37	107	43	118	28	109	49	91	38	101	36	103
DUN 210053	3	FF 130104	105	102	76	96	104	91	90	90	-0.15	3.0	0.02	-4.5	4.6	7	15	36	5.1	-17.1	-4.2	17.0	0	2														
DUN 210053		RV 150042	36	47	42	29	40	32	41	36	37	105	47	102	34	101	42	76	32	102	29	103	31	103	31	108	36	105	42	115	28	107	50	91	37	97	35	98
Q 210072	1	Q 180004	74	119	95	89	118	114	116	116	1.45	8.6	-0.28	-0.3	9.8	13				-13.4	-5.8	28.9																
Q 210072		Q 190026	36	56	40	25	30	29	41	35	37	72	56	118	33	111	40	95	46	113	25	110																
WT 210068	15	WT 170020	108	93	97		95				-0.34	0.1	0.24	0.3	-0.6					-0.3		22.4																
WT 210068		WT 180051	28	30	15		22				31	109	30	93	5	92				26	94	36	101															
WT 210072	3	WT 170020	107	92	93	112	96	93	93	92	-0.25	-0.5	0.13	-0.7	-0.9	-4				5.4	-1.8	23.5																
WT 210072		WT 180050	34	36	25	10	29	21	28	24	36	107	36	92	26	97	25	93	26	91	10	90																
WT 210080	15	WT 170077	106	96	100		106				-0.32	0.9	0.38	0.7						-13.1		23.4																
WT 210080		WT 180076	24	23	15		20				25	108	23	96	16	88	15	100		26	110	32	103															
WT 210091	3	WT 170020	101	94	95	113	94	93	96	94	0.04	0.4	0.08	-0.3	-0.4	-4				-0.4	-0.7	22.4																
WT 210091		WT 180124	31	35	24	10	29	20	28	24	33	101	35	94	22	99	24	95	24	92	10	89																
WT 210094	4	WT 170020	113	88	95	117	101	99	96	97	-0.54	-1.9	0.12	-0.3	-2.2	-7				-2.8	-1.7	26.1																
WT 210094		WT 180111	33	34	24	8	29	20	27	24	35	113	34	88	25	97	24	95	24	88	8	86																
WT 210096	15	WT 170020	108	94	98		103				-0.35	0.1	0.24	0.4	-0.2					-7.5		23.3																
WT 210096		WT 190035	28	29	14		22				31	109	29	94	5	93				27	103	36	102															
DUN 220006		TV 150548	102	98	86	99	97	88	89	87	0.09	1.5	-0.14	-2.4	1.2	4	1	19	1.3	-2.5	-2.1	21.4	0	2														
DUN 220006		RVS 160024	44	41	36	18	30	25	34	30	48	100	41	98	28	95	18	100	9	97	9	97	10	94	32	97	16	98	42	99	11	98	10	97				

Selection List on Cow Values

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	TV 150548	TV150548	CSF 100082	SW 100021	0.1	88 63	101 68	84 54	95 27	115 46	102 39	96 54	99 46	
						★★★★☆								
1	DUN 210043	DUN 210043	TV 150548	ANS 160062	0.0	101 41	95 38	93 34	90 16	105 32	92 25	84 33	87 29	
						★★★								
1	DUN 200017	DUN 200017	FF 130104	WT 140105	1.6	102 31	106 46	85 40	98 28	93 40	88 31	96 40	91 36	
2	DUN 210034	DUN 210034	FF 130104	WT 130117	0.0	103 30	100 46	86 39	104 29	92 37	87 30	94 40	90 35	
3	DUN 210050	DUN 210050	FF 130104	DPN 160007	0.1	103 31	103 47	80 43	103 28	92 39	85 31	93 41	89 36	
4	DUN 210054	DUN 210054	FF 130104	NN 180016	4.9	101 29	111 50	75 42	92 28	90 35	80 30	89 41	83 36	

Selection List on Cow Values

Cows 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	Q 210072	Q 210072	Q 180004	Q 190026	0.9	74 36	119 56	95 40	89 25	118 30	114 29	116 41	116 35
						★★★★							
1	DUN 210048	DUN 210048	FF 130104	LRC 150026	0.5	100 31	109 47	78 41	95 29	106 40	96 31	99 41	97 36
2	DUN 210053	DUN 210053	FF 130104	RV 150042	2.5	105 36	102 47	76 42	96 29	104 40	91 32	90 41	90 36
3	WT 210072	WT 210072	WT 170020	WT 180050	3.2	107 34	92 36	93 25	112 10	96 29	93 21	93 28	92 24
4	WT 210091	WT 210091	WT 170020	WT 180124	3.2	101 31	94 35	95 24	113 10	94 29	93 20	96 28	94 24
5	WT 210094	WT 210094	WT 170020	WT 180111	4.3	113 33	88 34	95 24	117 8	101 29	99 20	96 27	97 24
						★★							
1	DUN 220006	DUN 220006	TV 150548	RVS 160024	0.0	102 44	98 41	86 36	99 18	97 30	88 25	89 34	87 30

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.

