

Tuli

Genetic Evaluation

SA Stud Book
June 2025

Herd Number: 711228

MORODI TULI
T/A MORODI INVESTMENT AND AGRIC SERVICES
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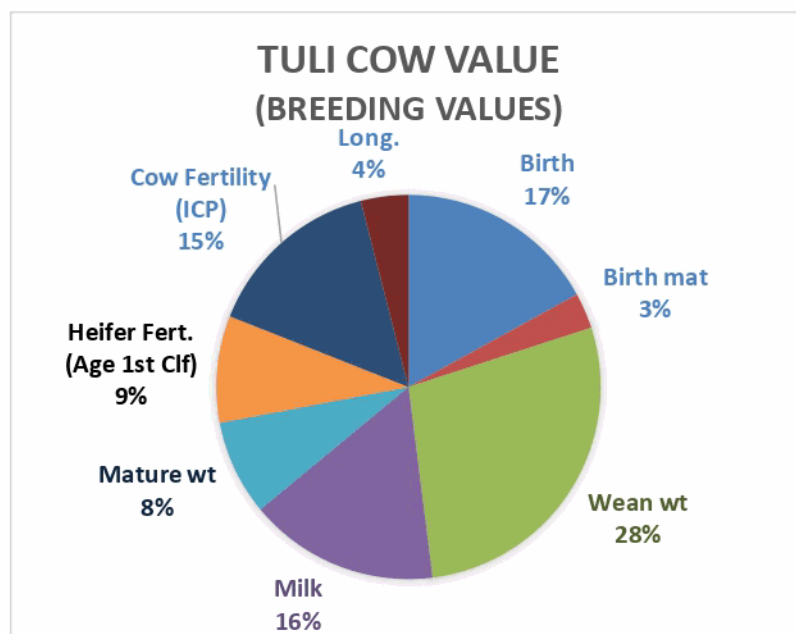


Figure 1: Breeding values as components of the Tuli Cow Value

SA Stud Book strives to stay abreast of the latest scientific and technological developments. The Cow Values of all Stud Book breeds are currently being evaluated and adjusted in collaboration with the relevant Councils.

The weights of the traits in the Tuli Cow Value has been evaluated and adjusted. Both Fertility and Calf Growth are important components of the Cow Value as, for example, a cow must be fertile and be able to wean an acceptable calf. Longevity is also included in the fertility component because it is a very important component of a fertile, well-adapted animal.

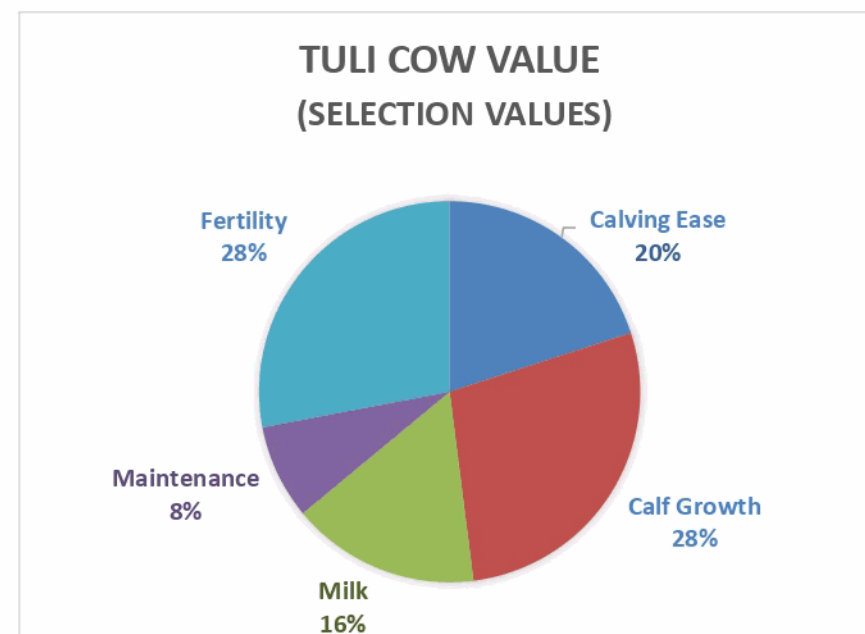


Figure 2: Selection Values as components of the Tuli Cow Value

Maintenance has a negative pressure to benefit cows with favourable cow-calf ratios (lighter cow with heavier calf) but has a low weight because breeders may prefer smaller or larger animals due to their environment.

The Cow Value and selection values of individual animals have therefore shifted, but in the breed the correlations with the previous values are still high. Breeders are advised to select animals on the selection-values as well, not just on the Cow Value, because animals with different genetic makeup may get the same Cow Value.

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.

CV: Cow Value

(Combination of EBVs based on measurements of cows and calves on the farm)

Selection Values	Calving Ease	Calf growth	Milk	Maintenance	Fertility
	Birth Weight: Calf's genetic potential for weight at birth	Wean weight: Calf's genetic potential for growth	Milk (wean maternal): Milk and mothering ability of cow	Mature weight : Heavier cows have higher maintenance requirements	Heifer Fertility: Age at 1 st calving
	Birth Mat: Cow's genetic ability to limit calf 's birth weight			0.1 x Milk: Higher milk increases maintenance requirements	Cow Fertility: ICP (inter-calving period) Longevity: Retention of family
>120 (Green)		Heavier weaner calf	More milk	Lower maintenance (smaller cow)	More fertile and/or good retention
80 - 120 (Grey)	Average birth weight	Average weaner calf	Average milk	Average maintenance (average cow size)	Average
< 80 (Red)	Heavy Birth Weights (More difficult calving)	Lighter weaner calf	Less milk	Higher maintenance (Heavier cow)	Less fertile and/or culled early

Breeding Values (EBVs)	Birth weight	Mat. birth weight	Weaning weight	Milk	Cow weight	Longevity	Heifer Fertility	Cow Fertility
Higher EBV	Heavier weight	Heavier weight	Heavier weight	More milk	Heavier weight	Family remains longer	Later calving	Longer ICP
Lower EBV	Lighter weight	Lower weight	Lighter weight	Less milk	Lighter weight	Family culled earlier	Earlier calving	Shorter ICP
Optimum EBV	Lower intermediate	Lower intermediate	Higher	Higher	Higher intermediate	Higher	Lower	Lower
Optimum EBVindex*	Higher intermediate	Higher intermediate	Higher	Higher	Higher intermediate	Higher	Higher	Higher

*EBV index above 100 is in a more favourable direction and better than breed average (100).

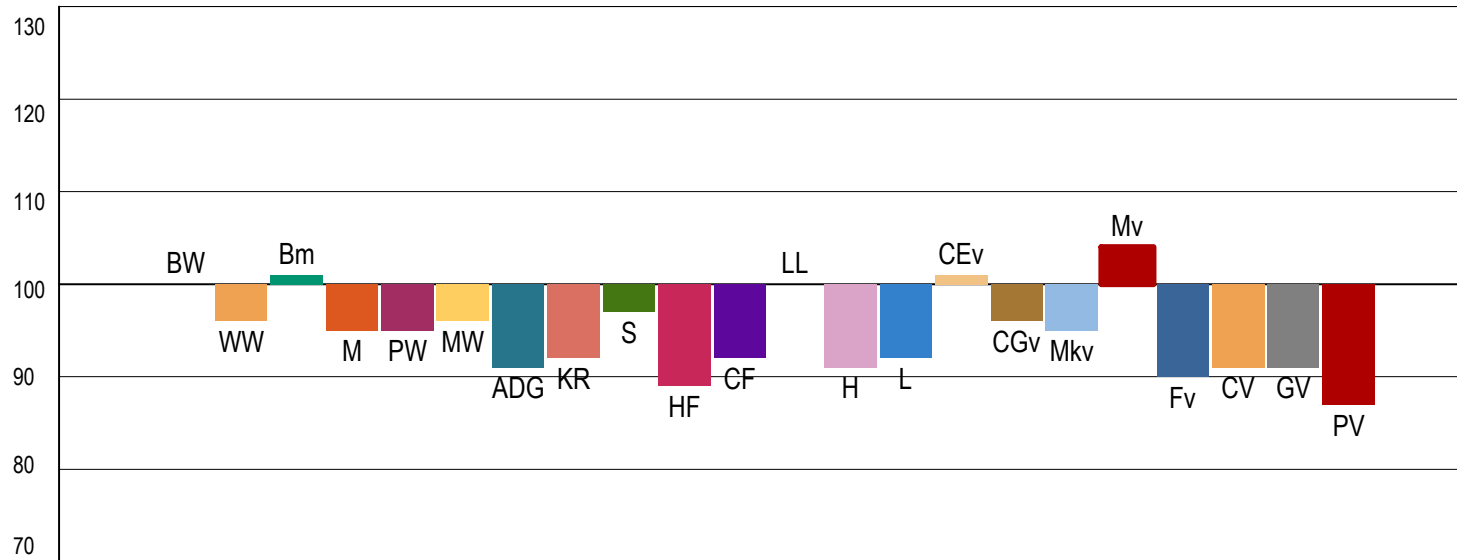
GV: Growth Value

(Combination of EBVs based on bulls measured in growth tests)

Breeding Values (EBVs)	ADG	Kleiber ratio	Feed conversion ratio	Scrotal circumference	Height	Length	Carcass
	Average daily gain	Growth efficiency	Feed conversion ratio	Bull fertility	Shoulder/Hip heigh	Body length	Dressing%, Red Meat Yield and Marbling
Higher EBV	More growth	More efficient on veld	Higher intake per kg gain	Larger scrotum	Taller animal	Longer animal	More
Lower EBV	Less growth	Less efficient on veld	Lower intake per kg gain	Smaller scrotum	Shorter animal	Shorter length	Less
Optimum EBV	Higher	Higher	Lower	Higher	Intermediate	Intermediate/high	Higher
Optimum EBV index	Higher	Higher	High	Higher	Higher intermediate	Higher intermediate	Higher

PV: Production Value is a combination of CV and GV)

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	EBV Index	EBV Breed
Prewrite Growth	Birth Weight	0.86	100	0.88
	Wean Weight	5.2	96	6.8
	Birth Mat.	0.14	101	0.17
	Milk (Wn.Mat.)	1.5	95	2.8
Postwean Growth	Postwean Wt	8.3	95	11.2
	Mature Weight	9	96	14
	ADG	91	91	115
	Kleiber	22	92	32
Fertility	Scrotal Circumf.	13.3	97	14.6
	Heifer Fertility	7.0	89	-1.5
	Cow Fertility	-1.7	92	-3.5
	Longevity	15.2	100	15.3
Frame	Height	9	91	14
	Length	20	92	27
Carcass	Dressing%	0.01	97	0.05
	RedMeatYield	-0.1	98	0.3
	Marbling	-0.44	94	0.22

Selection Value	Ave. Herd
Calving Ease	101
Calf Growth	96
Milk	95
Maintenance	104
Fertility	90
Cow Value	91
Growth Value	91
Production Value	87

- 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?:

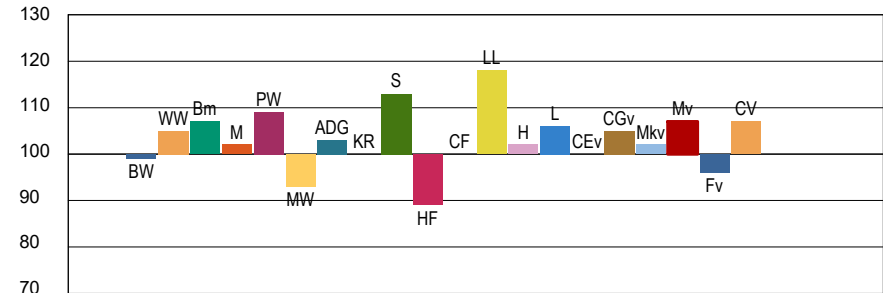
- Calving ease: Smaller calf at birth - easier calving
- Calf growth: Heavier calves at wean due to growth potential of the calf
- Milk: Cows with more milk and better mothering ability
- Maintenance: Animals with low maintenance requirements (lower mature weight).
- Fertility: Cows/daughters that calve

Genetic Window

Bulls on Farm

Bulls born in 2022 and earlier

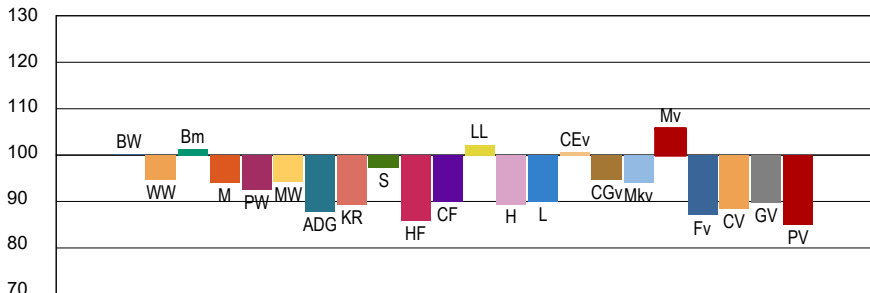
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Cow Herd

Cows born in 2023 and earlier

Number: 16



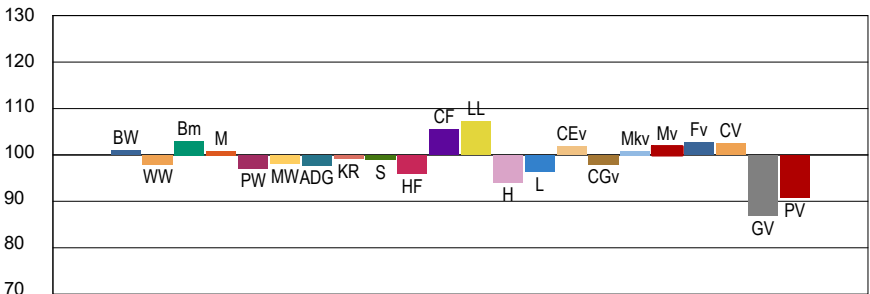
Abbreviations

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

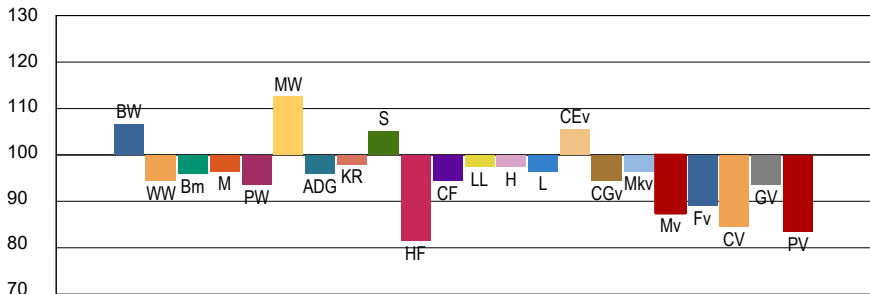
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Cows older than 6 years

Cows born in 2019 and earlier

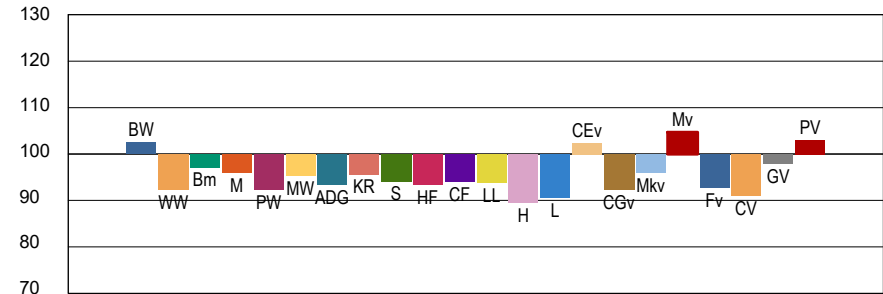
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Bull Calves

Bull calves born in 2024

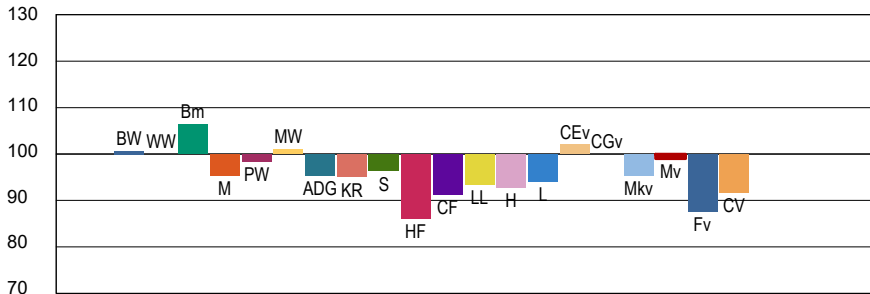
Number: 6



Heifers

Heifers born in 2024

Number: 3



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	99	100	101	101	100	99	100	100	99	100	100	99	99	99	99	99	99	101	100	100	99	99
2016	1	★★★★☆	106	85	104	110	105	101	95	99	109	85	84	104	86	90	95	100	94	98	107	91	97	93	
2018	1		92	108	81	93	104				93	108	94	81	108	107	114	118	99	112	99	99	116	108	
2019	1	★★☆	105	104	89	65	73	68	92	68	104	104	108	89	101	135	97	96	116	65	82	104	98	100	
2020	4	★★★★	102	96	106	104	85	94	88	93	101	96	103	106	93	96	89	86	93	85	88	95	92	94	
2021	9	★★★★☆	99	94	89	110	89	88	89	81	98	94	101	89	92	90	86	89	97	89	91	106	88	88	
2022	1	★★★	102	93	82	115	73	79				100	93	109	82	91	85	82	86	97	74	78	111	79	82
2024	3	★★★★	102	100	95	99	88	92				101	100	106	95	98	101	95	95	96	86	91	93	93	94
Cows in Herd Average:			101	97	92	99	88	87	91	85	101	97	101	92	96	101	94	96	99	87	91	100	95	94	

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		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

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		Fertility		
	Number	Dir EBV			Number	EBV		Number	EBV		Number	EBV	Number	EBV		Number	EBV	Number	EBV	Number	EBV		Number	
2015	2293	0.62	0.18	103	1783	3.8	92	1783	1.85	97	983	7.3	431	9	104	636	0.0	467	-2.5	3022	7.4	95	92	
2016	2171	0.68	0.19	102	1650	4.1	93	1650	1.76	96	1062	7.4	383	8	104	553	-0.9	430	-2.7	2654	8.2	96	92	
2017	2227	0.80	0.21	101	2114	4.8	95	2114	2.42	99	1376	9.1	384	10	103	628	1.6	445	-3.0	2784	8.6	95	93	
2018	2265	0.74	0.22	101	1980	5.1	96	1980	2.29	98	1244	9.8	464	12	102	617	-0.1	500	-2.9	2852	9.0	97	96	
2019	2067	0.84	0.22	100	1917	5.4	96	1917	1.90	97	1208	9.9	478	12	101	679	0.6	510	-3.3	2834	9.3	97	93	
2020	2003	0.88	0.20	100	1998	6.1	98	1998	1.92	97	1278	11.0	401	12	100	658	0.5	348	-3.6	2444	9.8	98	96	
2021	2356	0.79	0.14	101	2331	6.0	98	2331	2.21	98	1584	10.6	289	15	101	543	0.1	85	-5.0	425	8.7	100	98	
2022	2343	0.83	0.14	101	2317	6.0	98	2317	2.41	99	1387	10.8	42	11	101	124	0.2	1	-2.7			96	98	
2023	2325	0.79	0.20	101	2225	6.6	99	2225	2.47	99	1263	11.7			100	3	-7.8					107	100	
2024	2146	0.79	0.14	101	1112	7.5	102	1112	2.58	99	103	10.8			102								105	
2025	271	0.79	0.23	101																				

Genetic Trends for Growth Test Traits

Herd

Birth Year	Growth						Frame						Carcass Traits						Selection Values					
	Kleiber			ADG			Scrotal Circumf.			Height			Length				Dressing%		RMeat Yield		Marbling		Growth Value	Prod Value
	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	Number	EBV	EBVi	EBV	EBVi	EBV	EBVi		

Breed

Birth Year	Growth									Frame						Carcass Traits								Selection Values	
	Kleiber			ADG			Scrotal Circumf.			Height			Length			Number	Dressing%		RMeat Yield		Marbling		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			
2016	90	28	97	90	111	99	90	14.8	100	90	14	100	90	27	101	57	0.08	101	0.39	101	0.938	107	97	94	
2017	151	31	99	151	118	101	151	15.6	102	151	14	101	151	28	102	97	0.05	100	0.54	102	0.251	100	101	98	
2018	147	24	94	147	103	95	147	16.3	104	147	14	100	147	26	99	114	0.00	97	-0.74	94	-0.045	98	96	95	
2019	155	28	97	155	114	99	155	15.8	102	155	15	101	155	28	102	87	0.08	102	0.34	100	0.369	101	99	94	
2020	242	32	100	242	126	104	259	16.7	104	260	17	105	260	32	106	185	0.12	104	0.93	104	0.324	101	103	99	
2021	213	36	104	213	132	106	212	17.5	106	213	16	104	213	32	106	192	0.13	105	1.09	105	0.493	103	105	103	
2022	233	33	101	233	130	105	233	17.9	107	233	17	106	233	33	107	199	0.13	104	1.29	106	0.475	102	105	103	
2023	132	33	101	132	125	103	138	16.4	104	131	16	103	131	31	105	138	0.05	100	0.71	102	-0.129	97	102	102	
2024																									
2025																									

Sires

Sire		Selection Values (SV / Acc)								Calf Weight		Mother		Growth & Efficiency				Fertility				Frame		Carcass			Measured Progeny	
ID Name	Sire ID Dam ID	Calf Ease	Calf Grwth	Milk	Maint.	Fertility	Cow Value	Grwth Value	Prod. Value	Birth Weight	Wean Weight	Birth Mat.	Milk Wn.Mat.	Postwn Weight	Mature Weight	ADG	Kleiber	Scrotal Circumf.	Heifer Fert.	Cow Fert.	Longevity	Height	Length	Dress %	RMeat Yield	Marbling	Birth test	Wean Dght/Calv.
		Breed average:								0.88	6.8	0.17	2.8	11.2	14	115	32	14.6	-1.5	-3.5	15.3	14	27	0.05	0.3	0.22		
		<75	75 - 125	>125																								
AM 110165 AM110165	W 060015	95	111	106	107	118	124	93	121	1.39	11.1	-0.02	4.4	13.7	7	86	-7	6.8	-9.0	-7.9	2.8	1	34	0.20	0.4	1.92	25	48
	AM 090062	89	91	84	62	64	77	61	74	91	94	91	111	78	106	57	57	65	77	51	80	66	78	49	108	44	3	20
AM 140061 AM140061	V 100110	88	112	87	114	65	85	98	85	2.15	11.2	-0.48	-1.0	8.2	-1	120	28	17.8	18.2	4.3	16.5	6	26				29	119
	AM 110035	88	95	85	53	63	77	36	69	91	84	95	112	70	119	33	33	41	82	44	78	42	86	40	99	34	51	
AM 170076 AM 170076	SW 100022	92	85	109	95	114	91	88	90	1.48	1.0	0.37	5.3	4.4	19	78	8	16.3	-15.9	-5.7	21.0	20	26	0.03	-2.1	-0.84	90	118
	ASE 090045	90	95	63	34	44	68	48	64	95	95	64	63	84	87	42	42	51	56	32	68	52	110	24	99	18	1	1
CHK 130051 CHK C130051	CR 030069	73	133	84	75	82	84	110	86	2.95	19.1	0.45	-1.6	24.7	39	180	51	25.3	12.7	-0.2	12.4	28	45				14	29
	CHK 090106	57	90	81	56	61	69	30	61	57	75	56	81	82	125	28	28	33	72	50	75	33	124	31	123	28	28	
CHK 170032 CHK C170032	CR 110107	89	107	105	111	98	107	100	106	1.88	9.3	-0.10	4.3	15.3	2	125	32	18.8	9.3	-4.5	29.0	11	28				25	27
	CHK 110178	79	87	61	38	45	64	23	56	86	88	41	108	75	108	20	100	26	57	33	104	26	95	24	102			
CHK 180088 CHK C180088	CR 110107	103	72	115	126	93	94	74	89	0.34	-3.7	0.85	7.1	-2.1	-12	46	8	11.3	8.5	-2.9	22.7	-5	5	-0.31	-5.1	-1.39	1	45
	CHK 150069	55	91	62	41	44	60	33	55	57	107	44	80	82	75	30	81	38	60	29	65	38	67	16	79	9	1	1
CHK 180210 CHK C180210	HBH 140074	87	101	94	108	102	97	106	98	1.94	7.3	0.11	1.2	7.6	5	148	52	15.7	-3.5	-3.9	18.8	10	29	0.35	1.3	0.34	1	54
	CHK 130009	55	92	62	40	44	60	37	55	57	87	44	102	84	93	35	112	40	52	35	102	40	94	27	117	24		
CHK 180270 CHK C180270	DKH 150256	102	108	84	95	76	84	96	84	1.01	9.8	-0.37	-1.7	16.4	19	116	29	20.7	19.9	0.7	22.1	14	27	0.02	0.0	-0.45		19
	CHK 130055	45	84	58	34	44	55	33	51	46	98	39	116	72	110	30	98	36	61	28	82	37	100	20	98	14		
CHK 190203 CHK C190203	AR 140005	113	112	105	90	106	118			-0.05	11.4	0.03	4.2	15.3	24	179	63	14.5	-7.9	-4.3	14.9	23	36	0.00	3.0	0.15	2	25
	CHK 101027	57	87	59	30	32	55			60	111	43	104	78	108	11	123	13	40	24	103	14	116	10	97	9		
CHK 200034 CHK K200034	DKH 150256	104	97	79	98	81	78	86	76	0.72	5.7	-0.14	-3.2	10.5	16	81	19	16.0	20.1	-1.1	20.0	6	17	-0.08	-2.3	-0.26	1	4
	CHK 150224	54	78	58	34	39	54	32	50	56	102	43	109	69	99	29	89	36	51	27	90	36	87	18	92	18		
CR 180028 CR 180028	CR 140035	96	106	118	101	120	124			1.30	9.2	-0.01	8.1	16.2	13			11.7	-5.4	-9.0	17.1	18	34				41	47
	CR 120079	85	90	52	17	28	59			91	95	52	105	72	109			19	39	18	59	12	108					
DKH 150256 DKH150256	DKH 120064	110	106	91	83	54	72	88	72	0.45	9.1	-0.70	0.3	12.4	30	109	18	24.9	33.4	5.4	17.3	10	28	-0.01	0.5	-0.62		105
	DKH 120075	73	93	83	53	62	73	63	71	76	105	58	125	86	102	58	89	68	81	42	76	70	93	53	96	53	24	43
R 060050 R 06 50	T 000012	110	80	113	106	110	103	92	101	-0.31	-0.8	1.59	6.6	1.8	8	102	28	14.9	-4.4	-6.1	14.5	14	24				34	110
	R 030053	92	96	94	73	76	84	35	74	93	115	86	59	90	82	32	97	40	86	65	91	40	100				48	208
R 140147 14147	W 050018	99	90	131	119	67	97	82	94	0.97	3.1	0.27	11.8	2.7	-6	85	11	13.9	28.1	2.0	8.4	10	23	-0.06	-1.6			85
	R 110002	76	91	84	53	62	73	35	65	78	99	64	97	82	84	32	83	37	78	46	77	38	93	6	93	6	25	45
R 190225 R 190225	R 130166	108	100	94	88	114	104	82	100	0.55	6.9	-0.44	1.1	10.8	26	93	13	15.5	-2.6	-7.8	23.5	10	24				1	27
	R 130060	76	89	63	32	42	63	26	56	79	104	61	118	76	99	24	85	29	53	30	118	29	93					

Bulls

Inbreeding in red is high

EBV
Acc Index

Breeding values with an accuracy < 5% are not printed

Bull			Selection Values (SV / Acc)								Calf Weight		Mother		Growth & Efficiency				Fertility				Frame		Carcass															
ID	% Inbreeding	Sire ID	Calf Ease	Calf Grwth	Milk	Maint.	Fertility	Cow Value	Grwth Value	Prod. Value	Birth Weight	Wean Weight	Birth Mat.	Milk Wn.Mat.	Postwn Weight	Mature Weight	ADG	Kleiber	Scrotal Circumf.	Heifer Fert.	Cow Fert.	Longevity	Height	Length	Dress%	RMeat Yield	Marb-ling													
			Breed average:							0.88	6.8	0.17	2.8	11.2	14	115	32	14.6	-1.5	-3.5	15.3	14	27	0.05	0.3	0.2														
			Bull average:							0.93	99	7.6	102	0.16	100	2.9	100	12.4	102	17	103	126	104	34	102	16.2	103	-0.3	98	-3.3	99	15	103	30	104	104	1.1	102	0.3	100
			Shaded EBVi							90-110	>100	>100	>100	>100	>100	90-110	>100	>100	>100	>100	>100	>100	>100	90-110	90-110	>100	>100	>100												
CHK 210239	5	CHK 170032	100	105	102	107	96	107			0.99	8.6	-0.06	3.5	15.8	7	123	31	20.6	7.2	-3.6	25.8	15	32																
CHK C210239		CHK 170099	49	73	49	27	30	47			52	99	73	105	64	109	27	93	22	113	40	89	20	100	46	118	15	21	102	32	20	106								
MO 241103		CHK 210312	97	93	103	101	77	80			0.98	4.1	0.62	3.7	9.1	13	111	30	13.3	14.3	1.3	0.8	9	21																
MO 241103		CHK 210312	27	37	30	17	22	27			28	99	37	93	34	96	17	99	11	97	30	79	14	80	27	75	12	12	93	11	93									
MO 241104		CHK 210340	105	86	101	91	72	71			0.38	1.6	0.44	3.2	8.0	23	89	21	12.4	16.2	2.3	0.3	8	17																
KG		CHK 210340	22	37	30	17	22	26			23	106	37	86	33	94	17	109	17	95	30	77	13	76	27	74	17	17	91	15	88									
MO 241109	6	CHK 180210	95	101	98	112	102	104	98	103	1.39	7.0	0.03	2.2	8.7	2	111	27	11.2	-3.1	-4.0	12.5	7	26																
MO 241109		CHK 200076	37	58	44	23	28	39	22	36	38	94	58	101	50	95	23	88	24	93	38	102	19	102	41	95	25	25	89	23	99									
MO 241111	5	R 190225	106	93	81	106	103	94			0.59	4.2	-0.31	-2.4	5.3	7	76	15	11.6	-2.0	-4.3	19.1	4	16																
MO 241111		CHK 210276	45	57	43	22	28	40			47	104	57	93	50	89	22	94	15	94	39	101	18	103	41	107	14	14	83	13	86									
MO 241212	4	CHK 180088	98	90	98	109	98	93			0.88	3.0	0.62	2.3	6.6	4	99	31	12.8	-1.0	-3.1	18.7	9	19																
MO 241212		CHK 180232	30	53	44	20	25	35			31	100	53	90	46	91	20	91	17	96	34	99	16	98	40	106	17	17	91	15	91									
MO 241215	1	CHK 190203	113	91	95	109	104	104			-0.13	3.4	0.20	1.3	5.1	4	98	34	9.8	-2.7	-4.6	18.5	8	16																
MO 241215		CHK 210323	35	57	38	18	23	36			36	112	57	91	50	89	18	91	11	90	33	102	13	105	38	106	11	11	90	10	87									
MO 250001	5	CR 180028	93	101	118	100	101	106			1.50	7.1	0.09	7.9	12.3	14				2.4	-4.4	16.1																		
MO 250001		CHK 200206	48	58	41	20	22	39			51	92	58	101	46	102	20	100		34	95	11	104	39	102															

Cows

Inbreeding in red is high

EBV
Acc Index

Breeding values with an accuracy < 5% are not printed

Cow			Selection Values (SV / Acc)							Calf Weight		Mother		Growth & Efficiency				Fertility				Frame		Carcass																	
ID Name	% Inbreeding	Sire ID Dam ID	Calf Ease	Calf Grwth	Milk	Maint.	Fertility	Cow Value	Grwth Value	Prod. Value	Birth Weight	Wean Weight	Birth Mat.	Milk Wn.Mat.	Postwn Weight	Mature Weight	ADG	Kleiber	Scrotal Circumf.	Heifer Fert.	Cow Fert.	Longevity	Height	Length	Dress%	RMeat Yield	Marb-ling														
Breed average:											0.88	6.8	0.17	2.8	11.2	14	115	32	14.6	-1.5	-3.5	15.3	14	27	0.05	0.3	0.22														
Cow average:											0.86	100	6.5	99	0.18	100	2.8	100	10.8	99	13	99	112	99	31	99	14.1	99	-2.0	101	-3.6	100	13	99	26	99	98	-0.1	99	0.2	100
			<75	75 - 125	>125	Shaded EBVI					90-110	>100	>100	>100	>100	90-110	>100	>100	>100	>100	>100	>100	>100	90-110	90-110	>100	>100	>100													
CHK 160040	3	R 060050	106	85	104	110	105	101	95	99	0.14	1.2	0.73	4.0	3.7	4	100	32	11.6	-0.4	-5.3	10.3	12	22																	
CHK C160040		CHK 130070	53	75	68	43	54	59	22	52	54	109	75	50	84	48	104	20	25	94	64	98	25	97	23	93															
CHK 180232		CHK 130051	92	108	81	93	104				1.42	9.8	0.38	-2.5	15.3	21	153	54	14.3	-10.6	-3.3	14.7	23	33																	
CHK K180232			28	57	63	28	30				28	93	57	28	94	28	107	14	16	99	36	112	16	116	16	108															
CHK 190164	5	DKH 150256	105	104	89	65	73	68	92	68	0.58	8.1	-0.10	-0.2	11.8	49	108	27	22.3	25.0	0.8	17.6	13	27																	
CHK C190164		PC 150017	52	76	71	46	45	58	34	53	54	104	76	39	108	46	135	31	38	116	60	65	39	98	37	100	-0.06	-0.4	-0.82												
CHK 200076	7	AM 110165	102	100	101	116	102	111	90	108	0.85	6.6	-0.05	3.2	9.8	-2	74	2	6.6	-2.7	-4.1	6.1	5	24																	
CHK C200076		CHK 130047	49	73	64	36	44	54	32	50	50	100	73	43	106	36	84	30	35	83	59	101	36	84	34	96	-0.05	-1.5	-0.90												
CHK 200174	5	R 140147	103	83	115	116	94	98			0.42	0.2	0.73	7.0	2.9	-2	67	12	10.0	7.8	-3.1	14.0	7	16																	
CHK C200174		CHK 170251	45	72	56	34	44	51			46	106	72	39	84	34	84	12	18	90	60	88	18	89	16	87															
CHK 200206	7	R 140147	90	95	118	98	82	88			1.69	5.0	0.18	7.8	8.3	16	105	26	15.0	10.3	0.2	15.1	15	25																	
CHK C200206		CHK 180023	45	74	64	39	42	53			46	90	74	38	100	39	102	10	18	101	59	85	18	103	16	98															
CHK 200352	6	DKH 150256	113	106	91	86	62	80	85	78	0.19	9.2	-0.55	0.3	8.6	28	91	16	14.0	26.0	4.0	13.7	8	22																	
CHK C200352		BR 120015	54	74	60	35	44	54	31	49	55	108	74	47	121	35	114	28	38	99	61	64	39	91	26	94	0.10	0.1	-0.18												
CHK 201135	5	AM 170076	92	94	94	96	100	85	87	84	1.47	4.5	0.26	1.1	8.1	17	74	13	13.4	-6.7	-2.6	19.1	15	20																	
CHK M210135		CHK 180229	48	74	48	27	30	47	22	42	50	93	74	36	98	27	104	18	24	97	40	107	25	102	23	92															
CHK 210137	6	CHK 180088	104	84	83	125	105	95			0.46	0.6	0.37	-1.9	3.5	-11	37	9	7.7	3.0	-5.6	21.7	-3	3																	
CHK C210137		CHK 160052	38	73	50	26	37	47			39	105	73	33	94	26	75	12	20	85	54	94	20	70	17	70															
CHK 210142	8	CHK 180270	96	107	91	100	89	93			1.22	9.3	0.08	0.2	18.2	14			16.3	11.3	-2.1	20.1	13	23																	
CHK C210142		CHK 100107	38	71	53	27	39	47			38	96	71	36	103	27	100		13	103	56	83	14	99	10	95															
CHK 210198	2	DKH 150256	107	95	99	93	79	84	93	84	0.27	5.0	0.35	2.6	8.2	20	111	27	18.0	16.3	0.3	17.8	12	25																	
CHK K210198		CHK 140020	43	73	58	34	38	50	32	46	44	107	73	36	95	34	107	29	35	107	49	77	35	97	33	98	-0.02	-0.1	-0.33												
CHK 210272	5	AM 140061	97	100	74	113	83	83			1.25	6.8	-0.11	-4.7	6.4	1	88	24	12.6	10.9	-0.1	16.0	4	16																	
CHK K210272		CHK 160147	50	74	58	34	44	53			52	95	74	42	108	34	87	15	22	96	60	84	22	83	20	87															
CHK 210312	5	AM 140061	86	104	98	115	86	94			2.00	8.2	0.26	2.2	8.7	-2	118	29	17.6	8.1	-0.5	17.9	11	27																	
CHK C210312		CHK 150087	53	74	59	34	44	54			55	86	74	43	98	34	85	15	23	106	60	88	23	95	21	100															
CHK 210323	6	CHK 180088	113	70	85	128	103	89			-0.21	-4.6	0.37	-1.5	-5.1	-15	17	4	5.0	2.4	-5.0	22.2	-7	-4																	
CHK C210323		CHK 150165	38	73	51	26	37	47			39	113	73	33	94	51	85	12	20	80	54	95	20	64	17	63															
CHK 210340	6	DKH 150256	102	91	94	96	77	75	86	74	0.81	3.3	-0.10	1.2	6.5	18	75	10	15.8	11.9	1.4	16.8	8	19																	
CHK C210340		CHK 090074	44	73	60	33	44	52	30	48	45	101	73	39	108	33	104	26	33	102	60	83	33	91	31	91	-0.19	-2.0	-0.87												
CHK 210401	5	AM 140061	92	105	87	120	80	93			1.68	8.6	-0.18	-1.0	10.1	-7	106	29	14.9	6.6	1.3	14.9	7	22																	
CHK C210401		CHK 160152	52	74	58	34	44	54			53	90	74	43	110	34	80	14	21	101	60	89	22	89	20	94															
CHK 220397	6	CHK 200034	102	93	82	115	73	79			0.88	4.3	-0.13	-2.4	6.3	-2	67	15	13.1	18.3	1.7	21.8	2	12																	
CHK K220397		CHK 190205	37	71	45	27	28	43			38	100	71	29	109	27	85	8	17	97	37	74	17	79	15	82															
MO 241001	5	R 190225	100	103	90	104	97	98			1.12	7.8	-0.31	0.1	10.4	9	99	21	15.2	2.0	-3.2	19.2	9	23																	
DR FLO		CHK 210401	45	57	42	22	28	40			47	97	57	37	114	22	96	6	14	101	39	95	14	91	12	95															
MO 241105			102	91	91	100	75	75			0.60	3.4	0.44	0.2	7.9	14	96	28	10.8	15.7	1.5	-0.1	6	15																	
MO 241105		CHK 210272	25	37	29	17	22	27			26	103	37	21	92	17	100	8	11	92	30	78	11	87	10	86															
MO 241108	5	CR 180028	104	106	105	93	91	102			0.74	9.2	-0.28	4.2	12.4	20	112	28	12.8	10.3	-2.5	15.4	13	28																	
PERKY		CHK 200352	50	58	40	18	24	40			53	102	58	35	113	40	105	5	18	96	35	85	17	100	14	101															

Selection List on Cow Values

Bulls 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	CHK 210239 CHK C210239	CHK 170032	CHK 170099	4.7	100 49	105 73	102 49	107 27	96 30	107 47			

Selection List on Cow Values

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	
					★★★★★								
1	CHK 200076	CHK C200076	AM 110165	CHK 130047	7.0	102 49	100 73	101 64	116 36	102 44	111 54	90 32	108 50
						★★★★☆							
1	CHK 160040	CHK C160040	R 060050	CHK 130070	3.4	106 53	85 75	104 68	110 43	105 54	101 59	95 22	99 52
						★★★★							
1	CHK 200174	CHK C200174	R 140147	CHK 170251	4.7	103 45	83 72	115 56	116 34	94 44	98 51		
2	CHK 210137	CHK C210137	CHK 180088	CHK 160052	5.9	104 38	84 73	83 50	125 26	105 37	95 47		
3	CHK 210142	CHK C210142	CHK 180270	CHK 100107	8.3	96 38	107 71	91 53	100 27	89 39	93 47		
4	CHK 210312	CHK C210312	AM 140061	CHK 150087	5.0	86 53	104 74	98 59	115 34	86 44	94 54		
5	CHK 210401	CHK C210401	AM 140061	CHK 160152	5.3	92 52	105 74	87 58	120 34	80 44	93 54		
						★★★☆☆							
1	CHK 200206	CHK C200206	R 140147	CHK 180023	6.7	90 45	95 74	118 64	98 39	82 42	88 53		
2	CHK 200352	CHK C200352	DKH 150256	BR 120015	5.5	113 54	106 74	91 60	86 35	62 44	80 54	85 31	78 49
3	CHK 210135	CHK M210135	AM 170076	CHK 180229	5.0	92 48	94 74	94 48	96 27	100 30	85 47	87 22	84 42
4	CHK 210198	CHK K210198	DKH 150256	CHK 140020	2.4	107 43	95 73	99 58	93 34	79 38	84 50	93 32	84 46
5	CHK 210272	CHK K210272	AM 140061	CHK 160147	5.1	97 50	100 74	74 58	113 34	83 44	83 53		
6	CHK 210323	CHK C210323	CHK 180088	CHK 150165	5.9	113 38	70 73	85 51	128 26	103 37	89 47		
						★★★							
1	CHK 210340	CHK C210340	DKH 150256	CHK 090074	5.6	102 44	91 73	94 60	96 33	77 44	75 52	86 30	74 48
2	CHK 220397	CHK K220397	CHK 200034	CHK 190205	6.2	102 37	93 71	82 45	115 27	73 28	79 43		
						★★★☆☆							
1	CHK 190164	CHK C190164	DKH 150256	PC 150017	5.1	105 52	104 76	89 71	65 46	73 45	68 58	92 34	68 53

Selection List on Cow Values

Bull Calves younger than 2 years

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	MO 241109	MO 241109	CHK 180210	CHK 200076	5.6	95 37	101 58	98 44	112 23	102 28	104 39	98 22	103 36
2	MO 241215	MO 241215	CHK 190203	CHK 210323	0.7	113 35	91 57	95 38	109 18	104 23	104 36		
3	MO 250001	MO 250001	CR 180028	CHK 200206	5.5	93 48	101 58	118 41	100 20	101 22	106 39		
						★★★★							
1	MO 241111	MO 241111	R 190225	CHK 210276	5.2	106 45	93 57	81 43	106 22	103 28	94 40		
2	MO 241212	MO 241212	CHK 180088	CHK 180232	4.0	98 30	90 53	98 44	109 20	98 25	93 35		
						★★★★							
1	MO 241103	MO 241103		CHK 210312	0.0	97 27	93 37	103 30	101 17	77 22	80 27		
						★★★							
1	MO 241104	KG		CHK 210340	0.0	105 22	86 37	101 30	91 17	72 22	71 26		

Selection List on Cow Values
Heifers younger than 2 years

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	MO 241108 PERKY	CR 180028	CHK 200352	4.7	104 50	106 58	105 40	93 18	91 24	102 40			
					★★★★								
1	MO 241001 DR FLO	R 190225	CHK 210401	5.4	100 45	103 57	90 42	104 22	97 28	98 40			
					★★								
1	MO 241105 MO 241105		CHK 210272	0.0	102 25	91 37	91 29	100 17	75 22	75 27			

LCV: Logix Cow Value (Combination of EBVs based on measurements of cows and calves on the farm)

Sub-values	Calving Ease		Calf Growth	Milk	Maintenance	Fertility		
Traits for which breeding values (EBVs) and EBV indices (EBVi) are estimated	Birth weight  Calf's genetic potential for birth weight	Mat. Birth weight  Cow's genetic ability to limit calf weight	Weaning weight  Calf's genetic potential for growth	Milk  Mothering ability of cow	Mature weight  Mature weight + Milk	Longevity  Stayability	Heifer Fertility  Age at 1 st calving	Cow Fertility  ICP
	Calving Ease		Calf growth	Milk	Maintenance	Fertility		
Sub-value above 100	Easier calving		Heavier weaner calf	More milk	Lower maintenance	More fertile and retained in herds		
Sub-value below 100	Difficult calving		Lighter weaner calf	Less milk	Higher maintenance	Less fertile and culled early		
	Birth weight	Mat. birth weight	Weaning weight	Milk	Cow weight	Longevity	Heifer Fertility	Cow Fertility
Higher EBV	Heavier weight	Heavier weight	Heavier weight	More milk	Heavier weight	Family remains longer	Later calving	Longer ICP
Lower EBV	Lighter weight	Lower weight	Lighter weight	Less milk	Lighter weight	Family culled earlier	Earlier calving	Shorter ICP
Optimum EBV	Lower intermediate	Lower intermediate	Higher	Higher	Higher intermediate	Higher	Lower	Lower
Optimum EBV index*	Higher intermediate	Higher intermediate	Higher	Higher	Higher intermediate	Higher	Higher	Higher

*EBV index above 100 is in a more favourable direction and better than breed average (100).

LGV: Logix Growth Value (Combination of EBVs based on bulls measured in growth tests)

Traits for which breeding values (EBVs) and EBV indices (EBVi) are estimated	ADG  Average daily gain	Kleiber Ratio  Growth efficiency	FCR  Feed conversion ratio	Scrotal circumference  Bull fertility	Height  Shoulder/Hip height	Length  Body length	Carcass  Dressing%, Red Meat Yield and Marbling from RTU Measurements
	ADG	Kleiber ratio	Feed conversion ratio	Scrotal circumference	Height	Length	Carcass
Higher EBV	More growth	More efficient on veld	Higher intake per kg gain	Larger scrotum	Taller animal	Longer animal	More
Lower EBV	Less growth	Less efficient on veld	Lower intake per kg gain	Smaller scrotum	Shorter animal	Shorter length	Less
Optimum EBV	Higher	Higher	Lower	Higher	Intermediate	Intermediate/high	Higher
Optimum EBV index	Higher	Higher	High	Higher	Higher intermediate	Higher intermediate	Higher

LPV: Logix Production Value (Combination of LCV and LGV)

