

BONSMARA

GENOMIC BREEDING VALUE REPORT

UPDATED MODELS AND NEW TRAITS

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Updates on the Bonsmara Genomic Evaluation

It has become necessary to re-evaluate and update the parameters used in the Bonsmara Genomic Evaluation. The previous adjustments were made around two generations ago, and since then, there have been significant improvements in both software and hardware, allowing for further refinements in breeding value estimation.

In line with best practices when models are adjusted and to account for selection over generations, heritabilities and genetic correlations have been re-estimated. The following model adjustments have been implemented:

1. **Age Adjustment Within the Contemporary Group:** Previously, due to computing and software limitations, an average adjustment for age had to be applied across all herds. Now, it is possible to design tailor-made adjustments for each herd for weaning weight and growth test traits. These adjustments may impact some herds more significantly than others.
2. **Previous Calf Effect:** A cow whose previous calf died or was not weaned is now penalized concerning her Cow Fertility and the breeding value for Weaning Weight of her current calf. This adjustment may cause re-ranking of some animals, therefore affecting their breeding values.
3. **Contemporary Groups for Cow and Heifer Fertility:** In the current model, the contemporary group for Cow Fertility is based on the weaning group of the previous calf. However, if the previous calf was not weaned, the cow was previously excluded, and the record was lost. The contemporary groups are therefore now organized according to the birth group of the previous calf (for Cow Fertility) and the birth group of the heifer (for Heifer Fertility). Like in the case where adjustments are made for the previous calf effect, this

new definition of contemporary groups for Cow and Heifer Fertility might have a significant effect for some animals being re-ranked and therefore their breeding value values.

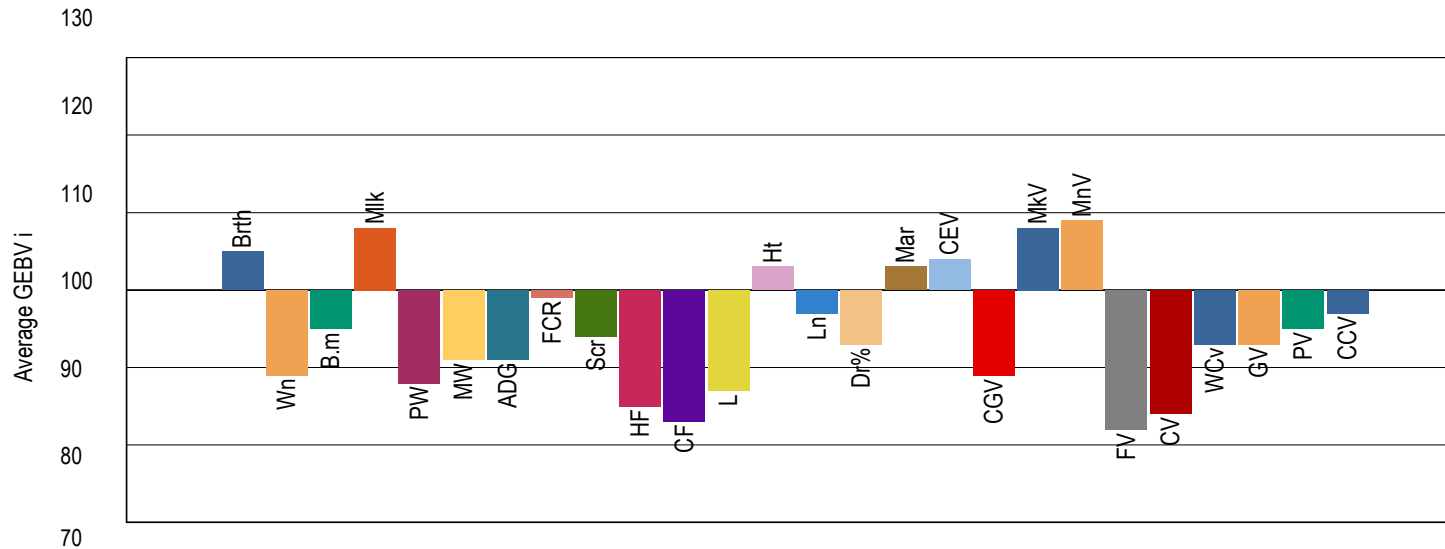
4. **Mature Weight Breeding Value / Maintenance Value:** The new model uses a repeatability model that incorporates all the cow's weights at weaning of her calves, rather than the weight of the cow at weaning for her first three calves as currently. The EBV for Cow Weight at Wean replaces the Mature weight EBV.

New Breeding Values in the Genomic Breeding Value Report:

- **Cow Weight:** at birth as well as wean of the calf
- **Cow – Calf Ratio:** at birth as well as wean of the calf
- **Veld Growth Breeding Value:** This breeding value estimates the adaptability and growth rate of animals in a Phase B test on the veld from weaning to either a year or 18 months.
- **Skin Thickness:** Skin thickness indicates adaptation, as thicker skin provides better protection against ticks and heat (due to an increase in blood vessels).

How Significant Are the Changes? *The breeding value analyses are already at a very high standard and are internationally accredited. These new adjustments enable an even more precise determination of current breeding values. While the effect of these changes may not be drastic for most animals, certain individuals may be significantly affected, especially where weaning weights are affected for cows that did not raise their previous calves to weaning age and where females reranked for female fertility due to changes in contemporary group definition.*

Herd and Breed Averages



Genomic Breeding Values (GEBVs):

Brth:	Birth weight	Scr:	Scrotal circumf.
Wn:	Weaning weight	HF:	Heifer Fertility
B.m:	Birth maternal	CF:	Cow Fertility
Mlk:	Milk	LL:	Longevity
PW:	Post-wean weight	Ht:	Height
MW:	Mature weight	Ln:	Length
ADG:	Average Daily Gain	Dr%:	Dressing%
FCR:	Feed Conversion Ratio	Mar:	Marbling

Selection Values:

CEV:	Calving Ease Value
CGV:	Calf Growth Value
MkV:	Milk Value
MnV:	Maintenance Value
FV:	Fertility Value
CV:	Cow Value
WCv:	Weaner Calf Value
GV:	Growth Value
PV:	Production Value
CCV:	Carcass Value

	Trait	EBV Herd	EBVi Herd	EBV Breed
Prewrite Growth	Birth Weight	0.62	105	1.24
	Wean Weight	9.3	89	15.7
	Birth Mat.	-0.14	95	-0.40
	Milk (Wn.Mat.)	5.0	108	2.2
Postwean Growth	Postwean Wt	14.7	88	23.8
	Mature Weight	7	91	20
	ADG	44	91	81
	FCR	-43	99	-45
Fertility	Scrotal Circumf.	7.6	94	11.3
	Heifer Fertility	9.5	85	-5.4
	Cow Fertility	5.0	83	0.9
	Longevity	23.3	87	30.4
Frame	Height	-1	103	-3
	Length	9	97	12
Carcass	Dressing%	-0.07	93	0.06
	Marbling	0.02	103	-0.23

Selection Value	Ave. Herd
Calving Ease	104
Calf Growth	89
Milk	108
Maintenance	109
Fertility	82
Cow Value	84
Weaner Calf Value	93
Growth Value	93
Production Value	95
Carcass Value	97

- 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?:

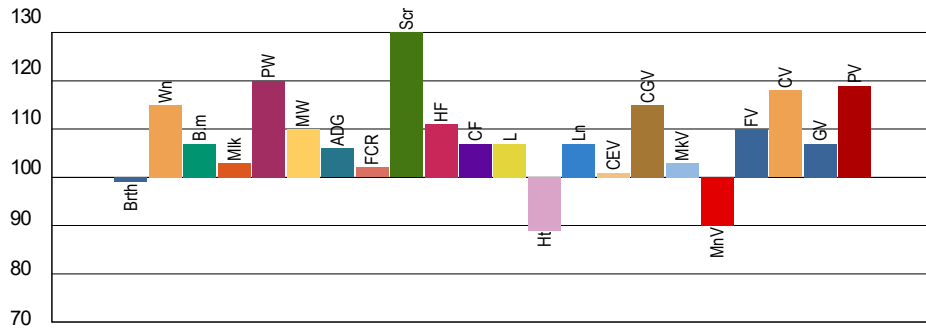
Calving ease:	Smaller calf at birth - easier calving
Calf growth:	Heavier calves at wean due to growth potential of the calf
Milk:	Cows with more milk and better mothering ability
Maintenance:	Animals with low maintenance requirements (lower mature weight).
Fertility:	Cows/daughters that calve earlier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

Genetic Windows

Bulls on the farm

Bulls born in 2021 and earlier

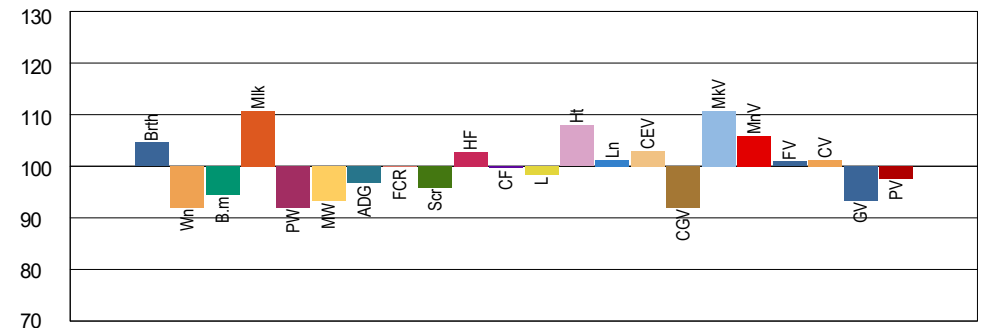
Total: 1



Cow Herd

Cows born in 2022 and earlier

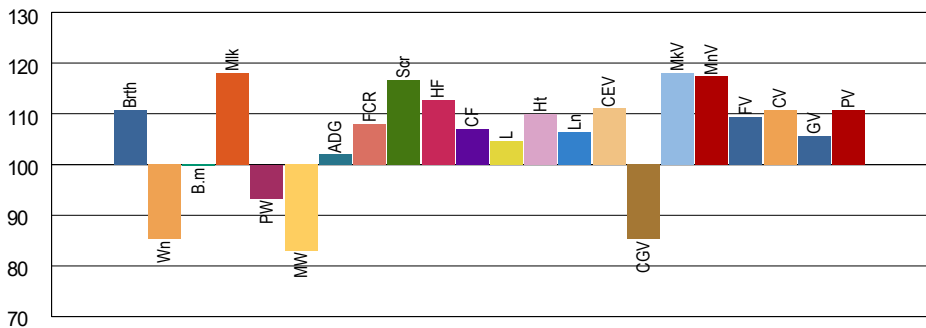
Total: 33



Sires of young animals

Sires of animals 3 years and younger

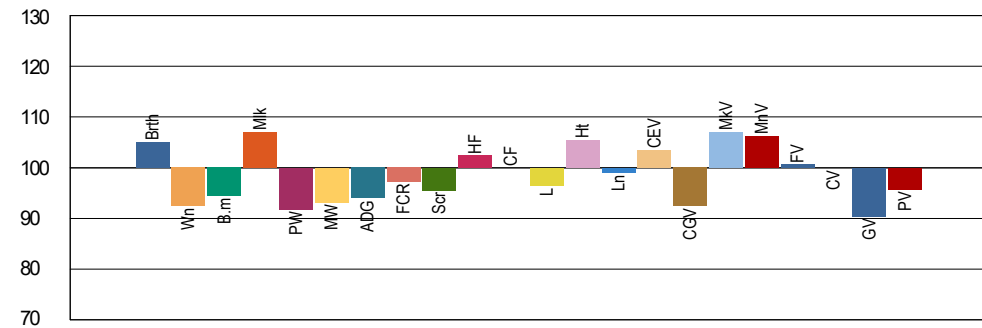
Total: 3



Cows older than 6 years

Cows born in 2018 and earlier

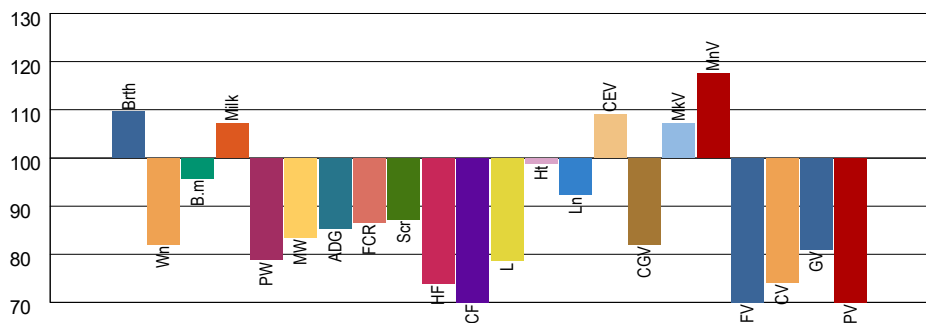
Total: 26



Bull calves

Bulls born in 2023

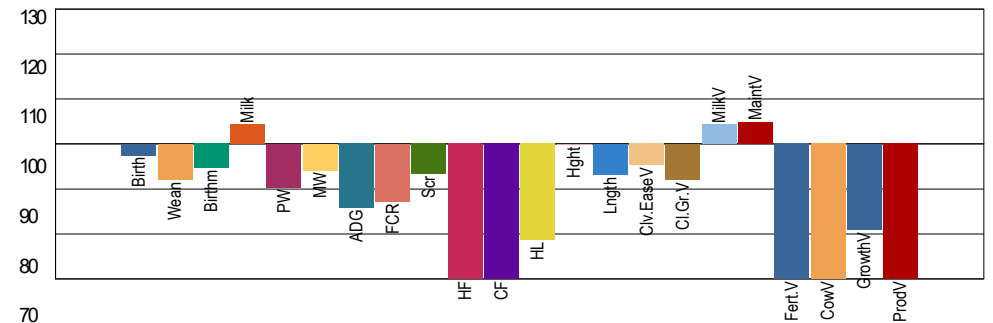
Total: 10



Heifer calves

Heifers born in 2023

Total: 6

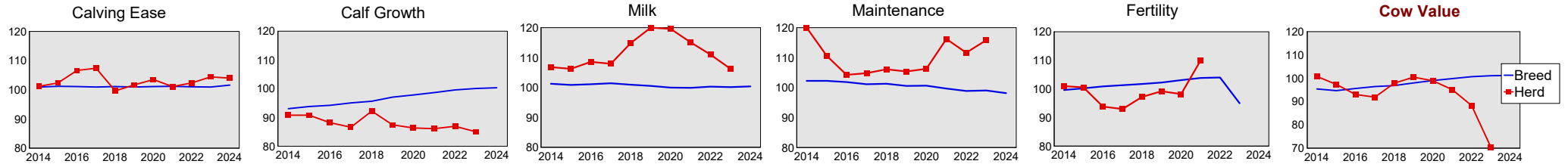


Summary of Cow Herd

			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	FCR	Scrotal Circumf.	Heifer Fertility	Cow Fertility	Longevity	Height	Length
			Cows in Breed Average:										100	100	100	100	100	100	100	100	100	100	100	100
2010	1	★★★★☆	99	93	98	106	113	104	105	103	100	93	96	98	102	92	106	118	101	107	125	89	104	103
2011	2	★★★★☆	98	98	112	104	97	100	91	96	99	98	96	112	94	97	97	103	97	100	91	101	111	102
2012	5	★★★★☆	105	90	106	114	101	100	87	96	105	90	100	106	87	86	90	92	97	102	103	97	104	95
2013	2	★★★★☆	100	94	102	120	106	105	94	102	101	94	98	102	89	82	98	102	93	110	102	101	107	100
2014	3	★★★★☆	98	101	103	106	108	108	99	106	100	101	94	103	101	95	101	99	104	109	110	94	115	109
2015	4	★★★★☆	105	93	109	110	103	105	91	101	107	93	94	109	93	89	98	103	96	105	101	101	106	100
2016	3	★★★★	106	89	107	97	93	91	87	85	109	89	88	107	91	101	89	91	93	98	91	90	98	94
2017	6	★★★★	107	90	110	99	97	95	87	89	109	90	91	110	90	99	90	94	91	97	95	97	103	98
2019	5	★★★★☆	98	92	127	99	102	105	107	105	100	92	93	127	95	98	107	107	95	103	97	107	118	109
2021	2	★★★★☆	109	86	118	117	104	107	99	105	110	86	97	118	89	84	106	115	103	106	104	100	117	109
2022	5	★★★	102	93	105	101	67	73			104	93	95	105	92	97	90	90	93	68	65	90	104	98
2023	6	★★☆	95	92	104	105	65	69	81	58	98	92	95	104	90	94	86	87	93	67	65	79	100	93
2024	10	★★☆	102	86	105	112	64	68	80	65	104	86	95	105	84	88	84	84	89	67	65	75	98	91
Cows in Herd Average:			102	92	108	107	94	95	92	93	104	92	95	108	92	92	96	97	96	95	93	94	107	100

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.



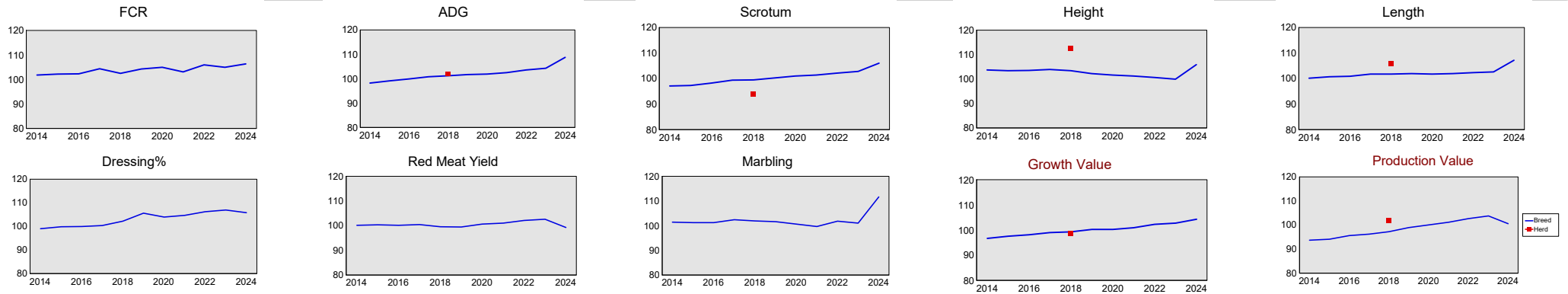
Herd

Birth Year	Calving Ease				Calf Growth			Milk			Maintenance					Fertility							Cow Value
	Birth Weight		Calv. Ease	Dir EBV	Weaning Weight		Calf Growth	Milk (Wn.Mat.)		Postwean Weight	Mature Weight		Maintenance	Heifer Fert.		Cow Fert.		Longevity		Ferti- lity			
	Number	EBV			Mat EBV	Number		EBV	Number		EBV	Milk		Number	EBV	Number	EBV	Number	EBV		Number	EBV	
2014	15	0.96	-0.25	101	5	10.5	91	5	4.67	107		2	-10	122	5	-9.8	2	-0.4	14	23.7	101	101	
2015	27	0.74	-0.10	102	20	10.4	91	20	4.40	106	9	15.3	5	3	111	6	-6.3	5	0.2	25	21.8	101	97
2016	23	0.10	0.12	107	20	9.0	88	20	5.21	109	17	15.7	4	23	104	5	-3.8	4	3.1	23	22.6	94	93
2017	36	0.02	0.14	107	28	8.2	87	28	5.00	108	17	13.8	5	20	105	9	-0.8	5	2.1	33	22.5	93	92
2018	45	1.02	-0.03	100	38	11.3	92	38	7.41	115	37	18.4			106	7	-2.4			42	25.1	97	98
2019	38	0.74	0.02	102	32	8.6	88	32	9.18	120	22	15.7			105	10	-6.6	4	1.7	36	26.4	99	100
2020	29	0.54	0.00	104	23	8.0	86	23	9.03	120	14	14.8			106	11	-5.0			27	26.9	98	99
2021	30	0.92	-0.17	101	36	7.9	86	36	7.49	115	21	15.3			116	2	-20.0					110	95
2022	36	0.77	-0.13	102	18	8.4	87	18	6.05	111	18	15.0			112								88
2023	14	0.57	-0.19	104	15	7.3	85	15	4.38	106	5	11.7			116								70
2024	25	0.58	-0.15	104																			

Breed

Birth Year	Calving Ease				Calf Growth			Milk			Maintenance					Fertility							Cow Value	
	Birth Weight		Calv. Ease	Dir	Weaning Weight	Calf Growth	Milk (Wn.Mat.)	Milk	Postwean Weight	Mature Weight	Maintenance	Heifer Fert.		Cow Fert.		Longevity		Ferti- lity						
	Number	EBV										Mat EBV	Number	EBV	Number	EBV	Number		EBV	Number	EBV	Number		EBV
2014	47820	0.93	-0.13	101	40186	11.8	93	40186	2.67	101	28381	20.2	6730	20	102	10550	-6.0	6931	0.2	50771	19.5	100	95	
2015	46279	0.92	-0.16	101	37670	12.2	94	37670	2.55	101	26418	20.7	6918	20	102	10354	-6.4	6970	0.2	48486	21.5	100	95	
2016	43604	0.95	-0.19	101	35931	12.5	94	35931	2.64	101	25538	21.3	6536	20	102	9025	-6.5	6542	0.1	45453	22.4	101	96	
2017	45310	0.97	-0.19	101	37527	12.9	95	37527	2.74	101	26102	22.1	6680	20	101	9409	-6.8	6805	0.1	46234	23.4	101	96	
2018	43000	0.98	-0.25	101	35672	13.2	96	35672	2.58	101	24863	22.3	6617	20	101	8876	-7.0	6560	0.2	43219	24.2	102	97	
2019	42953	1.03	-0.28	101	35001	14.1	97	35001	2.42	101	24657	23.4	6743	22	101	9113	-7.3	6607	0.2	41202	25.0	102	98	
2020	43020	1.05	-0.34	101	35790	14.5	98	35790	2.25	100	26173	23.6	6618	21	101	9554	-7.8	4850	-0.1	34608	25.0	103	99	
2021	43053	1.05	-0.36	101	35893	15.0	99	35893	2.19	100	26526	24.4	2792	22	100	7587	-7.8	775	-0.4			104	100	
2022	43027	1.08	-0.37	101	36342	15.5	100	36342	2.36	100	26364	25.1	35	23	99	1492	-7.4	4	-2.2			104	101	
2023	43608	1.12	-0.40	101	34818	15.8	100	34818	2.29	100	17717	25.5			99	1	2.1					95	101	
2024	29831	1.04	-0.40	102	5399	15.9	100	5399	2.37	100	43	26.2			98									101

Genetic Trends for Growth Test Traits



Herd

Birth Year	Growth						Frame						Carcass Traits								Selection Values			
	FCR			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		
2014																								
2015																								
2016																								
2017																								
2018				17	88	102	17	7.8	94	17	8	113	17	17	106								99	102
2019																								
2020																								
2021																								
2022																								
2023																								

Breed

Birth Year	Growth									Frame						Carcass Traits								Selection Values	
	FCR			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			
2014	389	-47	102	8378	74	98	9594	9.6	97	9300	0	104	8418	12	100	1967	0.05	99	0.35	100	-0.086	101	97	94	
2015	366	-48	102	7266	78	99	8400	9.7	97	8398	0	103	7305	13	101	1942	0.06	100	0.44	101	-0.111	101	98	94	
2016	245	-48	102	7605	80	100	9082	10.3	98	8941	0	104	7635	13	101	1897	0.06	100	0.42	101	-0.110	101	98	96	
2017	659	-51	104	8459	84	101	9041	10.9	99	8541	0	104	8457	14	102	3129	0.07	101	0.89	102	0.008	102	99	96	
2018	628	-48	103	8227	86	101	8717	11.0	99	7978	0	103	7980	14	102	2986	0.10	102	0.91	102	-0.041	102	99	97	
2019	628	-51	104	8523	88	102	8902	11.4	100	8363	-1	102	8366	14	102	3151	0.16	105	1.34	104	-0.067	102	100	99	
2020	636	-52	105	8817	88	102	9374	11.8	101	8824	-2	102	8827	14	102	4040	0.14	104	1.36	104	-0.175	101	100	100	
2021	664	-49	103	8962	91	103	9592	12.1	101	9198	-2	101	9197	14	102	3802	0.15	105	1.65	105	-0.265	100	101	101	
2022	728	-53	106	8922	95	104	9651	12.5	102	9510	-2	101	9513	14	102	4265	0.18	107	2.08	106	-0.056	102	102	103	
2023	763	-52	105	6701	98	104	6750	12.9	103	6932	-3	100	6934	14	103	3444	0.19	107	2.09	106	-0.128	101	103	104	

Sires

Bull			Selection Values										Birth			Wean				Grwth & Adaptation					Fertility				Raam		Carcass				Progeny		
Index EBV Acc	Genomic	Sire ID Dam ID	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Weaner Calf V	Growth Value	Prod. Value	Carcass V	Cow wt brth	Birth wt	Cow-Calf birth	Cow wt wean	Wean wt	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thckn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %	Nr measured		
ID Comp.nr																																			Birth	Wean	Grwth Test
AEJ 070201 65463168		JJF 000131 AEJ 010125	91	115	98	86	94	100	112	128	103	124	121	91	104	116	115	98	104	124	124	96	109	110	137	92	98	87	131	133	116	106	111	117	49	38	
			90	91	82	79	65	76	88	57	72	36	49	2.30	-1.9	43	24.2	1.4	72	41.4	174	23	-57	0.78	32.4	2.7	1.3	23.2	23	41.9	1.95	0.51	0.87	0.38	11	9	40
			80	93									80	93	84	79	91	82	84	86	79	37	32	80	86	67	41	87	84	79	35	38	34	36			
BPJ 100075 73052805		BHE 030103 BHE 040025	95	105	108	104	101	107	111	97	105	97	94	99	84	94	105	108	117	111	103	107	100	95	110	112	97	88	93	97	102	82	110	98	81	64	
			93	93	84	84	68	79	90	70	77	78	14	1.36	0.6	11	18.7	4.9	103	31.7	91	49	-44	0.01	16.8	-17.3	1.7	23.9	-9	9.7	0.59	-3.70	0.76	0.03	15	16	55
			79	95									79	95	87	84	93	84	87	90	80	33	56	87	88	72	43	89	86	81	74	81	75	78			
CRV 110192 74349150		BHE 030103 BPJ 070034	91	119	111	99	104	119	131	105	120	108	104	97	83	99	119	111	133	111	106	96	91	91	103	110	100	96	112	123	101	91	95	99	90	77	
			93	94	83	84	68	79	91	74	78	48	27	1.64	0.8	18	26.6	6.1	137	31.8	103	21	-32	-0.17	13.3	-15.1	0.8	27.9	7	33.0	0.46	-2.15	-0.70	0.05	19	15	48
			82	96									82	96	87	84	94	83	87	90	81	36	63	78	88	70	44	89	87	82	47	49	47	48			
GTF 170101 85790756		GNK 110045 GTF 120005	106	71	122	127	111	103	84	91	99	101	73	106	91	75	71	122	109	79	92	143	105	116	95	111	113	107	117	96	85	104	110	87	20	22	
			80	83	59	56	45	63	75	46	60	23	-14	0.53	-0.3	-16	-0.5	9.8	83	8.5	49	137	-52	1.08	8.6	-15.6	-2.3	34.3	11	8.6	-0.99	0.17	0.80	-0.18	4		
			56	85									56	85	67	56	83	59	66	78	66	42	19	81	78	41	26	68	75	67	22	24	22	23			
GTF 170106 85790780		GNK 110045 GTF 120014	97	85	130	118	104	106	102	114	107	110	86	98	87	83	85	130	128	92	112	151	127	103	116	106	107	91	126	119	95	106	110	97	16	20	
			79	84	58	56	44	63	75	30	56	20	2	1.51	0.3	-5	7.2	12.6	126	18.0	129	159	-83	0.41	20.7	-11.0	-0.8	25.2	19	29.7	-0.06	0.62	0.80	0.00			
			56	85									56	85	66	56	84	58	66	81	43	41	15	50	50	42	24	67	48	44	19	21	19	20			
HJS 060359 63414668		RCO 980037 HJS 020063	84	112	109	111	112	118	122	120	122	116	92	85	85	88	112	109	130	112	117	85	110	96	102	120	110	93	105	108	105	106	116	106	70	59	
			93	93	87	86	74	81	91	66	78	52	10	3.08	0.5	2	22.3	5.2	131	32.4	146	-6	-59	0.08	12.2	-24.5	-1.6	26.7	1	19.1	0.84	0.59	1.33	0.17	9	19	79
			86	95									86	95	89	86	93	87	89	90	79	49	48	83	86	76	55	90	85	80	51	53	51	52			
HJS 080356 68451301		HJS 050228 HJS 040204	96	90	107	123	94	94	96	92	89	98	88	100	74	81	90	107	109	89	94	95	105	109	103	96	101	75	119	102	101	99	105	101	125	96	
			93	95	82	82	66	79	91	59	75	34	5	1.22	1.8	-8	10.2	4.5	85	15.7	56	20	-51	0.74	13.3	-1.6	0.6	16.5	13	14.3	0.54	-0.68	0.30	0.08	24	14	33
			81	97									81	97	86	82	95	82	86	90	82	22	32	76	90	67	39	92	88	83	32	35	32	34			
JMP 050288 61729257		AEJ 010173 JMP 980227	113	89	93	104	106	98	85	102	96	104	90	112	107	95	89	93	84	99	105	123	139	107	107	98	122	76	95	91	70	116	102	76	43	34	
			91	89	85	83	64	77	88	73	76	62	8	-0.21	-2.2	13	9.2	-0.2	27	23.3	101	89	-100	0.66	15.6	-3.6	-4.6	17.1	-7	3.5	-2.41	2.29	0.01	-0.40	4	14	70
			83	93									83	93	86	83	89	85	86	86	73	26	68	79	81	65	40	86	80	74	58	66	59	62			
LAR 170152 85905313		LAR 140173 LAR 110119	130	100	102	107	113	123	116	112	126	111	99	128	117	91	100	102	107	109	102	90	92	113	139	121	101	116	87	104	122	95	101	120	51	33	
			89	90	74	72	68	74	85	70	73	66	19	-2.21	-3.5	7	15.6	2.8	80	30.3	88	6	-33	0.92	33.6	-25.3	0.6	39.3	-14	15.9	2.52	-1.33	-0.10	0.44	12	1	1
			68	93									68	93	80	72	90	74	79	86	80	33	56	88	87	71	57	76	85	81	66	67	66	66			
NCB 120044 77356277		AG 080047 MF 030032	112	84	115	95	88	89	88	84	82	97	98	117	97	103	84	115	98	89	84	97	86	113	92	92	85	89	97	94	82	104	103	84	68	52	
			90	91	77	77	58	74	86	44	68	26	18	-0.82	-0.9	25	6.9	7.6	59	15.4	19	24	-26	0.96	6.8	2.0	4.6	24.3	-5	6.7	-1.25	0.22	0.07	-0.23			
			77	94									77	94	82	77	91	77	82	85	56	25	26	74	70	55	34	85	67	57	26	27	26	26			
PLB 090008 68365360		RGR 050138 POL 060038	102	94	113	116	107	110	107	91	108	94	79	103	92	85	94	113	118	90	96	92	99	76	90	106	113	95	108	103	97	91	104	96	99	68	
			94	93	88	86	68	80	91	52	74	28	-7	0.87	-0.3	-2	12.5	6.7	104	16.7	65	12	-44	-0.97	5.2	-11.2	-2.3	27.9	4	14.4	0.16	-2.10	0.15	-0.02	8	24	96
			86	96									86	96	89	86	93	88	89	90	74	22	25	86	83	69	43	91	81	75	27	28	26	28			
RSL 070205 65558538		AEJ 010127 AG 010183	109	79	119	135	101	104	98	86	100	95	71	111	79	67	79	119	123	79	91	100	89	120	105	106	100	92	100	95	92	93	99	91	146	130	
			95	96	88	87	72	82	93	60	78	40	-18	-0.18	1.3	-29	3.8	90	115	8.5	46	31	-30	1.33	13.9	-11.0	0.9	26.0	-3	7.1	-0.38	-1.67	-0.38	-0.11	35	21	70
			87	97									87	97	90	87	96	88	90	94	86	29	29	87	92	76	45	94	91	87	38	42	38	40			
RSL 120040 75081091		AEJ 070201 EI 040221	83	115	83	81	103	96	100	110	95	117	120	85	98	123	115	83	88	124	116	86	111	106	136	98	109	92	123	118	113	106	98	114	127	99	
			94	95	85	88	65	80	92	56	75	24	48	3.07	-1.1	54	24.5	-3.6	36	41.4	144	-4	-60	0.57	31.8	-3.3	-1.2	26.1	16	28.4	1.63	0.49	-0.42	0.32	37	29	51
			87	97									87	97	89	88	95	85	89	92	86	21	22	82	92	71	35	88	91	87	23	26	23	24			
ZYL 150015 83236893		WAT 070250 ZYL 080003	103	83	133	102	99	101	96	111	101	104	95	106	92	95	83	133	120	86	110	85	105	88	79	101	96	96	121	108	109	110	92	110	92	81	
			89	93	69	60	53	71	84	48	66	22	15	0.51	-0.3	12	6.2	13.8	109	13.3	119	-6	-51	-0.33	-0.7	-6.6	1.8	28.3	15	19.5	1.25	1.33	-1.07	0.25	9	4	4
			60	95									60	95	74	60	93	69	74	89	72	24	18	85	82	50	28	82	80	73	21	23	21	22			

Growth Test Report

An animal's ability to convert feed economically and efficiently into muscle is under genetic control and this ability can be determined in growth tests. Carcass traits are measured on live animals using RTU (Real-Time Ultrasound) technology. This specialized Growth Test Report lists the active animals in the herd that was tested in growth tests.

Growth test details

Animals are ranked according to ID within the Year and Growth Test Number. The type of test (D is a Farm Growth Test and C is an Intake Growth Test), as well as whether it was a Bull or Heifer test, is also indicated.

Weight traits

Wean dir is the weaning weight breeding value index.

End weight indicates mature weight and is strongly correlated with carcass size.

Conformation traits

Length and Height: Length and Height also indicate carcass size of the animal. These values are shaded intermediate, because both too small (smaller carcass) or too large (due to the transfer to the cowherd) may generally be undesirable.

Length/Height ratio: Longer animals generally have more meat therefore, a longer animal is indicated by a Length/Height value of above 100.

Scrotum: Scrotal circumference is measured at the end of the test and indicates bull fertility.

Growth and Efficiency traits

Intake, ADG (growth), and Feed Conversion: Individual consumption of feed relative to body weight gain is measured in Intake Growth Tests at various test centers. The less the bull consumes per kg of weight gain, the better the animal's ability to efficiently convert feed to muscle, which affects profitability. First select bulls with high values for ADG, then select the ones with lower Intake values from these bulls, as bulls that grow a lot, need a lot of feed. If the EBV index for Feed Conversion is above 100, it is interpreted as above-average feed efficiency.

Growth Value: The Growth Value is a Selection Value for post-wean growth.

Carcass traits

EMA (Eye Muscle Area): EMA is the diameter of the eye muscle (rib-eye muscle) on the back of the animal and correlates to total meat on the animal. The **Fat** measure indicates the subcutaneous fat thickness. The Fat measurement is also an intermediate trait.

Marbling, also known as intramuscular fat, causes tender and juicy meat, which is important for consumer satisfaction.

Dressing% is directly linked to the price per carcass and therefore profit. This is a selection value that takes into account end weight and EMA.

RMeat Yield is a selection value that indicates the red-meat value of the carcass.



Growth Tests

Animal					Weight		Conformation				Growth & Efficiency				Carcass				
Test Code	Sex	Test number	Sire ID	Cow Value	Wean dir	End-wt	Length	Height	Length/Height	Scrotum	Intake	ADG	FCR	Growth Value	EMA Eye muscle Area	Fat	Marbling	Dress %	Carcass Value
Test Station		ID	Dam ID																
202201 D11 M		0548631BON																	
ONS TUISTE		GTF 210187	LAR 170152	118	115	111	107	89	133	146	93	106	102	107	120	92	104	118	113
BEESBOERDERY		93085785	KDT 190016	53	69	35	18	-13	1.25	37.8	0.46	104	-47	44	2.34	-1.85	0.18	0.40	36
						66	62	70	66	72	22	60	22		35	37	35	36	

Breeding Values and Accuracies: Bulls

Inbreeding in red is high

Value <80 Value >120

Breeding values with an accuracy < 5% are not printed

Animal				Selection Value										Birth			Wean				Growth & Adaptation					Fertility				Frame		Carcass			
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -brth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean wt	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
			Sire ID Dam ID																																
GTF 210187 93085785	4	LAR 170152 KDT 190016		101 68	115 69	103 50	90 49	110 36	118 53	121 63	107 44	119 51	113 36	114 39 47	99 1.39 73	110 -2.6 57	110 34 49	115 24.1 69	103 3.3 50	112 92 56	120 38.4 62	106 104 60	90 5 19	102 -47 22	96 0.1 76	146 37.8 72	111 -15.5 40	107 -0.9 22	107 34.2 47	89 -13 70	107 18 62	120 2.34 35	92 -1.85 37	104 0.18 35	118 0.40 36
NCB 220090 94429388	1	GTF 170101 RSL 140213		105 67	82 69	112 48	110 46	108 34	101 51	87 62	99 29	98 47	104 14	88 5 47	105 0.55 72	95 -0.8 55	88 3 46	82 5.6 69	112 6.3 48	101 65 54	89 15.8 68	99 76 42	127 99 22	105 -52 12	112 0.9 49	106 14.9 49	107 -12.5 33	108 -1.2 19	102 31.7 50	118 12 47	104 16 43	94 -0.17 13	103 -0.05 14	106 0.37 13	95 -0.03 14
NCB 220091 94429396	1	GTF 170101 NCB 110023		110 66	74 68	108 51	132 47	105 35	98 52	84 62	86 30	93 48	91 18	65 -26 46	108 0.28 71	95 -0.7 56	71 -23 47	74 1.1 68	108 5.1 51	99 62 55	73 3.6 68	87 31 40	126 96 25	96 -40 16	103 0.4 48	92 6.6 46	105 -9.9 33	109 -1.3 21	98 29.5 50	107 3 45	93 5 41	80 -1.48 17	96 -1.16 18	103 0.12 17	81 -0.30 18
NCB 220098 94429446	1	GTF 170101 NCB 160033		99 65	88 66	115 45	113 45	104 33	102 49	96 59	94 27	99 45	103 16	84 0 45	101 1.14 70	89 0.1 53	87 0 45	88 8.9 66	115 7.4 45	112 90 52	89 15.8 67	96 67 38	105 45 23	103 -50 12	107 0.6 47	98 9.9 45	107 -11.9 31	102 0.3 19	102 31.6 49	108 4 43	99 11 39	95 -0.11 15	98 -0.79 17	105 0.29 15	95 -0.03 16
NCB 220104 94250677	1	GTF 170106 NCB 170001		102 64	89 66	122 44	108 44	98 32	101 49	102 59	101 21	99 43	104 14	90 7 44	103 0.83 70	93 -0.5 52	89 4 44	89 9.7 66	122 9.8 44	119 106 51	91 17.2 68	102 89 28	127 98 22	111 -60 12	105 0.5 33	104 13.6 33	99 -3.9 31	98 1.3 18	94 27.1 48	113 8 31	108 20 28	91 -0.42 13	104 0.13 14	106 0.33 13	93 -0.07 14
NCB 220112 97236137		NCB 160006		107 56	82 31	109 33	103 36	63 21	66 32	82 36			89 8	93 11 34	109 0.07 62	96 -0.9 44	95 13 36	82 5.6 31	109 5.2 33	93 48 33	82 10.8 29	80 3 17	102 36 7	79 -15 22	99 0.2 22	90 5.3 21	66 27.4 18	65 9.5 10	76 16.8 35	96 -6 20	90 3 17	76 -1.81 7	97 -1.09 8	104 0.13 7	77 -0.36 8
NCB 230003 94909777		NCB 130025		111 39	79 58	105 40	128 38	66 27	72 40	88 49			87 8	75 -13 37	111 -0.19 40	90 -0.2 38	75 -16 38	79 4.0 58	105 3.9 40	98 60 45	72 3.3 48	81 7 22	93 15 8	83 -21 9	89 -0.3 25	84 2.3 25	70 23.0 26	65 9.5 16	81 19.7 39	98 -5 24	89 2 22	81 -1.34 8	93 -1.68 9	103 0.12 8	81 -0.29 8
NCB 230004 94909785	1	GTF 170106 RSL 150055		103 56	93 68	121 49	121 46	102 35	111 50	113 60	103 26	110 45	103 23	86 2 46	103 0.92 58	93 -0.5 50	82 -7 46	93 11.9 68	121 9.7 49	129 129 54	93 18.9 59	109 117 34	138 127 23	120 -72 17	101 0.3 38	109 16.5 39	106 -11.1 34	101 0.6 21	96 28.2 50	112 7 37	110 21 34	98 0.24 22	96 -1.21 24	108 0.54 22	98 0.02 23
NCB 230005 95879136		NCB 150027		105 36	85 57	103 38	111 36	63 22	67 38	86 48			96 8	86 2 35	107 0.33 37	90 -0.1 35	88 3 36	85 7.2 57	103 3.4 38	95 52 44	81 10.0 46	87 30 20	83 -11 7	86 -26 8	98 0.2 26	88 4.3 25	65 28.6 22	65 9.5 12	79 18.4 31	97 -6 24	93 6 21	85 -1.00 8	97 -1.09 8	105 0.22 8	86 -0.21 8
NCB 230008 95879169		NCB 150021		111 57	84 58	103 37	109 37	66 24	70 42	85 51			88 8	89 6 36	112 -0.22 63	99 -1.2 45	90 5 37	84 6.5 58	103 3.2 37	92 45 44	81 10.1 36	81 8 22	101 35 6	83 -21 7	87 -0.4 26	81 0.4 25	70 23.9 25	65 9.5 14	79 18.6 34	97 -5 24	90 3 22	81 -1.35 8	93 -1.79 8	104 0.19 8	81 -0.29 8
NCB 230009 95879177		NCB 110016		117 59	74 59	108 41	129 38	63 26	70 44	85 53			84 8	71 -18 36	116 -0.80 64	96 -0.8 47	74 -17 38	74 1.1 59	108 5.1 41	96 55 46	68 0.4 30	76 -13 22	90 7 8	76 -11 9	87 -0.4 26	80 -0.3 25	68 25.4 26	65 9.5 16	76 16.8 36	93 -9 25	83 -4 23	77 -1.73 8	93 -1.66 9	103 0.09 8	77 -0.36 8
NCB 230010 96062872		NCB 190001		117 57	79 57	109 31	109 33	66 20	72 40	85 49			91 8	88 5 23	118 -0.95 63	103 -1.8 43	89 4 33	79 4.0 57	109 5.3 31	94 50 40	77 6.8 30	87 29 21	92 12 7	85 -23 6	91 -0.2 25	86 3.1 24	72 21.8 18	65 9.5 10	78 18.0 32	100 -3 24	93 5 22	84 -1.09 7	96 -1.11 8	101 -0.18 7	84 -0.23 8

Breeding Values and Accuracies: Bulls

Inbreeding in red is high

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Animal				Selection Value										Birth			Wean				Growth & Adaptation					Fertility				Frame		Carcass			
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -brth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean wt	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
			Sire ID Dam ID																																
NCB 230013 96062898		NCB 110023		97 59	87 59	98 41	118 38	63 26	65 44	85 53			86 14	80 -6 37	97 1.58 64	90 -0.1 47	85 -2 38	87 8.2 59	98 1.4 41	92 47	81 9.6 34	80 2 23	93 15 13	80 -17 13	92 -0.2 26	86 3.4 25	66 27.4 26	65 9.5 17	73 15.1 36	94 -8 25	88 1 23	75 -1.95 13	89 -2.36 14	100 -0.20 13	75 -0.41 14
NCB 230014 96062906		NCB 170006		99 57	88 58	108 38	109 36	65 23	70 42	90 51			92 8	90 8 36	101 1.09 63	90 -0.1 44	89 5 36	88 8.9 58	108 5.0 38	102 68	86 13.3 35	84 19 18	92 13 7	85 -24 7	97 0.1 23	85 2.4 22	69 24.6 24	65 9.5 13	79 18.4 33	99 -4 21	94 6 19	82 -1.31 8	96 -1.23 8	104 0.20 8	82 -0.27 8
NCB 230016 96062922		NCB 140001		114 58	74 58	107 40	127 37	66 24	70 42	82 52			88 8	73 -14 36	114 -0.52 64	93 -0.5 46	76 -15 37	74 1.0 58	107 4.7 40	94 50	73 3.9 30	80 3 23	106 46	79 -16 7	89 -0.3 28	89 4.9 26	73 20.1 24	65 9.5 15	69 12.9 32	99 -4 26	90 3 23	79 -1.61 7	94 -1.58 8	104 0.20 7	79 -0.34 8
NCB 230023 97828172		NCB 210034		117 53	78 33	110 25	114 24	70 19	75 29	85 34			92 8	87 3 23	117 -0.85 60	102 -1.6 37	86 0 24	78 3.2 33	110 5.6 25	94 52	76 5.9 28	89 39 21	91 10 7	88 -28 6	88 -0.3 25	85 2.8 24	80 14.1 18	65 9.5 10	76 16.8 28	99 -3 24	93 6 22	87 -0.80 8	94 -1.48 8	100 -0.26 8	87 -0.18 8
NCB 240001 97942114		NCB 170031		99 53	87 35	109 30	106 27	64 22	68 31	88 36			90 9	91 8 26	101 1.05 59	90 -0.1 39	92 8 27	87 8.3 35	109 5.4 30	101 65	85 12.7 34	84 18 18	92 11 8	84 -23 9	97 0.1 23	91 6.2 22	69 24.2 22	65 9.5 13	73 15.1 30	100 -3 21	95 7 19	80 -1.47 9	94 -1.52 9	104 0.14 9	80 -0.31 9
NCB 240002 97942122		NCB 190029		98 53	88 35	113 26	107 24	65 21	71 30	91 35			93 10	91 10 23	99 1.31 59	90 -0.2 38	91 7 24	88 8.7 35	113 6.8 26	106 78	85 13.0 35	92 48 22	94 17 8	91 -32 8	92 -0.1 26	90 5.6 25	71 22.9 23	65 9.5 12	76 16.7 29	102 -2 24	97 9 23	89 -0.66 10	94 -1.56 11	99 -0.31 10	88 -0.16 10
NCB 240003 97942130		NCB 120004		110 54	81 36	102 39	114 37	67 22	69 34	82 39			87 7	82 -3 35	110 -0.06 59	97 -1.0 44	87 0 37	81 5.0 36	102 2.9 39	89 40	78 7.3 33	79 -2 18	100 32 6	81 -19 6	89 -0.3 21	84 2.1 21	71 22.2 21	65 9.5 13	75 16.2 33	95 -7 20	87 0 19	78 -1.67 7	94 -1.54 7	103 0.07 7	78 -0.35 7
NCB 240004 97942502		NCB 160006		109 36	81 31	108 33	103 36	61 19	64 28	81 33			89 8	93 11 34	111 -0.10 37	97 -1.0 35	95 13 36	81 5.2 31	108 5.2 33	92 46	82 10.2 29	80 3 17	102 36	79 -15 7	99 0.2 22	90 5.3 21	66 27.4 18	65 9.5 10	66 11.1 28	96 -6 20	90 3 17	76 -1.81 7	97 -1.09 8	104 0.13 7	77 -0.36 8
NCB 240006 97942148		NCB 160033		107 58	86 36	105 33	110 35	64 23	70 34	89 39			91 11	88 5 35	109 0.09 64	93 -0.4 44	89 3 35	86 7.8 36	105 4.0 33	97 57	85 12.4 32	85 21 19	91 9 8	85 -24 8	95 0.0 23	90 5.8 22	70 23.9 23	65 9.5 14	74 15.6 31	92 -10 22	90 3 19	83 -1.19 11	92 -1.96 11	102 -0.07 11	83 -0.26 11
NCB 240010 97942171		RSL 120073		98 60	88 39	101 40	119 38	64 25	69 37	90 42			92 10	87 3 38	99 1.35 66	89 0.0 47	84 -4 38	88 9.0 39	101 2.4 40	98 59	87 14.2 38	87 30 25	98 27 15	85 -24 10	95 0.0 24	105 13.9 28	67 26.6 26	65 9.5 15	76 16.8 34	100 -3 28	93 6 25	81 -1.37 10	97 -1.01 11	103 0.04 9	82 -0.28 10
NCB 240012 97942197		NCB 160013		106 58	83 37	96 35	103 36	61 22	60 35	76 40			89 10	93 12 36	108 0.25 64	96 -0.9 45	95 13 36	83 6.3 37	96 1.0 35	81 22	80 9.3 35	78 -5 19	92 12 8	79 -16 10	102 0.4 23	84 1.8 22	64 29.2 22	65 9.5 13	75 16.1 31	92 -10 22	86 -1 19	79 -1.61 9	96 -1.16 10	103 0.10 9	79 -0.33 10
NCB 240013 97942205		NCB 170005		115 57	79 35	104 30	102 36	61 22	63 33	77 37			88 10	93 12 33	116 -0.82 63	102 -1.6 44	96 15 36	79 3.9 35	104 3.5 30	84 27	77 7.1 34	80 4 17	98 26 9	84 -22 9	102 0.4 21	87 3.6 21	64 29.4 23	65 9.5 13	74 15.8 30	94 -8 20	88 1 17	77 -1.80 10	94 -1.50 10	100 -0.19 10	77 -0.37 10

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Animal				Selection Value										Birth			Wean				Growth & Adaptation					Fertility				Frame		Carcass			
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -brth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean wt	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
			Sire ID Dam ID																																
NCB 240015 97942221		RSL 150055		107 60	89 38	108 38	118 36	65 25	76 36	99 41	79 22	66 33	89 21	88 5	108 0.26	95 -0.7	84 -3	89 9.4	108 4.9	106 78	87 13.9	89 37	96 22	91 -32	96 0.1	92 6.5	71 23.0	65 9.5	76 16.8	93 -9	90 3	84 -1.12	88 -2.60	104 0.20	83 -0.26
NCB 240017 97942247		RSL 140213		102 60	93 37	99 37	100 37	65 24	69 36	90 40			98 8	100 21	102 0.94	99 -1.2	98 18	93 12.0	99 2.0	93 49	93 18.9	94 58	101 34	94 -36	102 0.4	103 12.8	68 25.0	65 9.5	74 15.6	107 3	103 14	88 -0.68	96 -1.24	103 0.05	89 -0.15
NCB 240018 97942254		NCB 210042		108 54	82 34	104 25	122 23	69 18	73 29	88 34			91 9	83 -2	108 0.21	93 -0.5	81 -7	82 5.8	104 3.5	96 55	79 8.3	83 16	110 56	85 -23	100 0.3	88 4.5	74 19.9	65 9.5	82 20.4	99 -3	91 4	79 -1.57	95 -1.44	104 0.15	80 -0.32
NCB 240019 97942262		NCB 190042		116 56	80 31	112 30	112 24	64 21	72 30	88 34			95 6	89 6	117 -0.86	99 -1.3	87 1	80 4.3	112 6.5	99 62	78 7.7	90 43	87 0	88 -28	95 0.0	90 5.5	66 26.9	65 9.5	83 21.0	105 1	98 10	87 -0.86	98 -0.90	101 -0.17	87 -0.18
NCB 240025 97942312		RSL 130092		102 58	89 39	96 40	114 38	68 26	70 37	88 42	83 20	61 34	94 14	89 7	103 0.91	94 -0.6	87 0	89 9.4	96 1.0	92 46	85 12.9	88 34	96 22	88 -28	88 -0.3	90 5.7	74 19.5	65 9.5	79 18.8	96 -7	92 5	82 -1.25	96 -1.24	106 0.39	83 -0.26
NCB 240026 97942320		NCB 210051		112 53	76 34	110 24	119 23	66 18	69 29	83 34			91 10	84 -1	112 -0.27	98 -1.2	84 -4	76 2.4	110 5.6	94 51	76 6.2	85 24	107 48	88 -29	99 0.2	93 7.3	70 23.0	65 9.5	78 18.0	99 -4	92 5	81 -1.38	92 -1.85	104 0.15	81 -0.30

Breeding Values and Accuracies: Cows & Heifers

Animal				Selection Values										Birth			Wean				Growth & Adaptability					Fertility				Frame		Carcass				
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Sire ID Dam ID	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -birth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean dir	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thicken	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
RSL 100118 72058753	2	JMP 050288 RSL 060133			99 81	93 78	98 80	106 76	113 52	104 68	91 79	105 46	103 64	106 34	90 8	100 1.21	93 -0.5	92 9	93 12.0	98 1.5	96 54	102 25.1	106 105	103 38	118 -70	94 0.0	101 12.1	107 -12.0	125 -5.4	89 24.3	104 0	103 15	89 -0.58	112 1.67	102 -0.07	93 -0.07
NCB 110016 74331042	3	PLB 090008 RGR 030229			106 80	92 76	114 80	120 76	94 50	102 66	107 77	87 33	97 59	92 18	75 -13	105 0.63	97 -0.9	83 -5	92 11.2	114 7.0	118 104	82 10.7	91 47	77 -27	95 -38	83 -0.6	84 1.8	98 -3.3	90 3.3	95 27.4	108 4	97 9	96 0.07	96 -1.17	104 0.12	96 -0.02
RSL 110255 75080671	1	RSL 070205 EI 030204			89 80	103 78	110 81	88 76	99 51	98 67	101 78	94 37	94 61	98 22	114 39	93 2.09	93 -0.5	111 37	103 17.3	110 5.6	106 77	106 28.0	102 87	131 109	111 -60	126 1.6	110 17.2	102 -7.2	91 3.1	106 34.0	113 8	106 18	98 0.21	99 -0.63	101 -0.10	98 0.02
NCB 120004 76379759		PLB 090008 NCB 040431			108 72	86 73	105 79	110 73	109 45	102 63	89 74	84 26	97 56	90 14	79 -7	108 0.18	97 -1.0	89 3	86 7.6	105 3.9	97 56	83 11.4	85 20	105 43	92 -33	84 -0.5	85 2.7	108 -13.1	114 -2.6	97 28.7	102 -1	90 3	87 -0.79	98 -0.89	102 0.01	88 -0.17
NCB 120013 75426510	1	PLB 090008 RGR 000183			115 78	83 74	107 75	134 74	98 49	102 64	100 75	71 34	94 58	79 16	69 -20	112 -0.28	101 -1.5	69 -25	83 6.2	107 4.6	110 86	72 3.2	74 -22	83 -11	73 -8	95 0.0	79 -1.0	101 -6.0	98 1.4	94 27.3	96 -7	84 -3	84 -1.14	94 -1.57	96 -0.66	83 -0.26
NCB 120023 75807123	2	PLB 090008 NCB 070009			106 76	91 69	107 78	107 75	98 49	98 63	96 72	88 32	93 57	91 20	85 1	105 0.66	102 -1.6	91 7	91 10.5	107 4.7	103 71	91 17.0	90 43	96 22	91 -32	89 -0.3	98 10.1	99 -4.5	101 0.7	96 27.9	102 -1	97 9	87 -0.78	95 -1.39	103 0.05	87 -0.18
NCB 120029 76300193	3	PLB 090008 RGR 050127			94 71	97 68	113 76	98 74	100 49	100 61	101 71	94 34	97 56	97 20	97 18	97 1.57	91 -0.2	100 19	97 14.1	113 6.9	111 89	94 19.4	98 73	90 7	103 -49	95 0.0	96 9.1	103 -8.3	99 1.1	97 28.6	110 5	103 15	99 0.30	96 -1.21	101 -0.18	98 0.03
RSL 120073 75081414	1	AEJ 070201 AGS 020054			101 80	92 78	100 80	121 75	101 50	99 67	98 78	98 36	97 61	101 20	87 4	101 1.13	93 -0.5	83 -5	92 11.1	100 2.4	103 69	94 19.5	101 84	101 33	99 -43	98 0.2	126 26.3	99 -4.3	102 0.5	99 29.8	112 7	103 15	94 -0.20	104 0.17	102 -0.05	95 -0.04
NCB 130025 78988912	3	PLB 090008 RGR 030229			111 79	85 76	110 78	129 76	101 50	104 66	100 77	88 32	100 59	91 18	72 -16	112 -0.29	88 0.1	74 -18	85 7.2	110 5.6	112 90	78 7.5	93 53	88 3	99 -43	85 -0.5	88 4.4	105 -10.3	99 1.1	95 27.4	110 6	99 11	95 -0.07	96 -1.18	103 0.10	94 -0.05
RSL 130092 77211787	2	HJS 060359 RSL 080019			89 80	103 78	94 80	111 75	110 52	105 67	101 78	99 40	103 62	103 28	93 12	89 2.56	89 0.1	89 3	103 17.3	94 0.2	104 73	100 24.1	103 91	97 23	104 -51	83 -0.6	98 10.0	114 -18.6	104 -0.2	106 33.9	103 0	101 13	96 0.04	101 -0.28	109 0.65	97 0.00
NCB 140001 80426851	2	PLB 090008 NCB 070007			106 78	89 69	111 79	112 74	106 46	105 63	98 73	92 32	102 57	96 16	81 -4	106 0.47	96 -0.9	87 1	89 9.5	111 6.1	108 82	89 15.6	95 60	111 59	96 -39	86 -0.5	99 10.8	110 -15.3	114 -2.6	80 19.1	115 10	106 17	93 -0.25	97 -0.98	105 0.31	93 -0.07
RSL 140157 80896152	2	CRV 110192 RSL 110176			97 77	102 76	98 77	117 74	114 50	114 65	108 76	93 42	112 60	95 28	92 10	102 1.03	79 1.2	85 -1	102 17.1	98 1.5	110 87	98 22.1	93 54	106 47	88 -28	98 0.2	90 5.8	116 -20.7	113 -2.5	106 33.7	103 -1	100 12	93 -0.26	94 -1.54	98 -0.45	92 -0.08

Breeding Values and Accuracies: Cows & Heifers

Value <80 Value >120

Breeding values with an accuracy < 5% are not printed

Animal				Selection Values										Birth			Wean				Growth & Adaptability					Fertility				Frame		Carcass			
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -birth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean dir	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
			Sire ID Dam ID																																
RSL 140213 80896590	1	RSL 120040 RSL 100158		91 78	111 75	99 74	88 73	103 48	104 64	107 75	112 36	104 58	112 15	114 40	92 2.27	100 -1.3	112 38	111 21.7	99 2.0	103 71	115 35.0	115 139	106 47	114 -64	111 0.8	122 24.1	102 -7.5	104 0.0	95 27.6	127 19	122 32	108 1.18	101 -0.30	102 -0.02	108 0.22
NCB 150021 82438144	26	PLB 090008 NCB 110012		104 75	89 73	109 72	108 74	104 47	102 63	94 73	89 30	97 56	92 16	87 3	106 0.55	94 -0.6	90 5	89 9.6	109 5.4	104 73	90 16.4	92 48	106 45	98 -42	81 -0.7	80 0.0	104 -9.4	106 -0.7	100 30.7	108 4	99 12	93 -0.25	95 -1.39	105 0.24	92 -0.08
NCB 150027 82623299	1	NCB 120044 NCB 120036		102 72	94 74	107 73	102 73	97 44	97 62	95 73	90 30	92 56	101 16	90 8	106 0.49	88 0.1	95 13	94 12.1	107 4.5	103 71	91 17.2	95 62	73 -35	95 -38	103 0.4	90 5.4	96 -1.6	95 2.2	105 33.1	101 -2	97 9	94 -0.12	103 0.04	105 0.26	96 -0.02
RSL 150047 81599490	1	HJS 080356 RSL 050046		107 79	91 77	105 76	111 75	109 51	107 66	97 77	94 38	104 60	99 19	88 5	108 0.29	98 -1.1	88 2	91 10.5	105 3.8	102 69	91 17.3	101 85	91 10	108 -56	101 0.3	112 18.2	113 -17.7	108 -1.1	99 29.7	119 13	104 16	97 0.14	102 -0.20	103 0.07	98 0.02
RSL 150055 81599532	4	BPJ 100075 RSL 070026		107 78	99 76	116 77	119 73	100 51	113 66	119 76	91 43	111 61	94 42	90 7	107 0.39	96 -0.8	84 -4	99 15.3	116 7.7	128 126	99 23.3	104 97	97 24	109 -58	99 0.2	101 11.6	106 -11.6	96 1.9	99 29.8	97 -5	98 10	99 0.30	86 -3.02	105 0.27	96 -0.01
NCB 160006 83892711		NCB 120044 NCB 070007		112 73	83 63	117 67	93 72	93 37	92 57	86 66	86 26	85 51	95 15	99 20	115 -0.61	101 -1.5	105 28	83 6.2	117 8.2	97 58	88 15.2	87 29	107 50	87 -26	106 0.6	96 9.1	97 -2.8	96 1.9	79 18.6	104 0	96 9	84 -1.09	103 0.02	104 0.12	86 -0.20
NCB 160013 85297067	1	NCB 120044 RGR 080089		100 76	90 74	94 71	93 71	90 44	80 62	78 73	81 30	72 56	93 19	101 22	104 0.79	96 -0.8	106 29	90 10.1	94 0.0	80 20	89 15.6	83 13	88 2	88 -28	111 0.8	84 2.2	93 0.9	84 4.9	97 28.5	95 -7	88 1	88 -0.67	102 -0.13	103 0.07	90 -0.13
NCB 160033 85288058	2	NCB 120044 NCB 100028		105 74	94 71	110 67	105 69	97 45	101 60	101 70	95 28	98 54	99 22	90 7	109 0.16	91 -0.2	93 9	94 12.5	110 5.9	110 85	96 20.8	96 65	86 -3	99 -43	98 0.1	98 10.1	105 -9.7	92 2.9	95 27.5	96 -6	97 9	97 0.16	93 -1.72	100 -0.28	96 -0.01
NCB 170001 85288744	2	NCB 120044 NCB 130019		106 72	90 70	116 64	105 67	91 44	96 59	99 69	88 28	90 53	95 20	91 8	108 0.27	96 -0.9	92 9	90 9.9	116 7.9	111 89	90 16.1	89 38	90 6	93 -34	107 0.6	91 6.0	92 2.5	89 3.5	95 27.4	99 -4	94 7	83 -1.16	101 -0.34	101 -0.18	85 -0.22
NCB 170005 85289049	2	NCB 120044 NCB 130032		105 73	88 69	109 60	91 72	94 44	90 59	86 68	86 28	83 53	93 20	101 23	108 0.26	99 -1.2	108 32	88 9.1	109 5.5	93 49	89 16.0	87 31	100 31	96 -40	112 0.9	91 5.8	93 1.2	92 2.8	96 27.9	99 -4	93 6	84 -1.05	98 -0.81	97 -0.50	85 -0.22
NCB 170006 85289056	1	NCB 120044 NCB 110012		111 74	91 73	113 74	102 73	102 45	104 62	99 73	88 28	100 55	98 16	95 15	113 -0.33	100 -1.3	95 13	91 10.6	113 6.7	107 78	91 16.9	92 49	91 9	96 -39	100 0.3	85 2.4	104 -8.9	99 1.2	100 30.6	107 3	102 13	91 -0.40	101 -0.25	105 0.24	92 -0.08
NCB 170009 85289080	1	NCB 120044 NCB 120036		113 75	88 73	93 71	93 70	96 40	88 61	79 72	87 28	81 54	97 16	99 20	116 -0.71	102 -1.6	106 30	88 8.7	93 0.0	78 14	91 17.1	90 41	101 34	93 -36	102 0.4	90 5.5	97 -2.7	95 2.1	98 29.0	100 -3	95 7	90 -0.52	102 -0.11	103 0.11	91 -0.10

Breeding Values and Accuracies: Cows & Heifers

Animal				Selection Values										Birth			Wean				Growth & Adaptability					Fertility				Frame		Carcass					
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Sire ID Dam ID	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -birth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean dir	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %	
NCB 170024 86684305	1	NCB 120044 NCB 110023			108 74	88 71	109 66	102 68	95 43	93 60	91 70	82 29	87 54	92 19	85 1	107 0.31	103 -1.7	96 14	88 8.9	109 5.2	99 61	84 12.1	87 29	75 -32	86 -26	102 0.4	91 6.1	93 1.2	94 2.2	99 29.8	99 -4	95 7	81 -1.35	96 -1.15	100 -0.23	82 -0.28	
NCB 170031 86684354	1	NCB 120044 NCB 150009			96 71	92 70	118 59	98 54	101 43	99 56	97 66	89 29	95 51	97 18	96 15	100 1.23	89 0.0	99 19	92 11.2	118 8.6	111 89	93 18.8	95 59	88 1	97 -41	102 0.4	99 10.9	104 -9.2	100 1.0	93 26.5	111 7	107 18	91 -0.40	98 -0.85	104 0.14	92 -0.09	
NCB 190001 88296900	1	ZYL 150015 NCB 120023			100 73	88 69	123 60	104 67	104 38	104 57	98 68	99 29	101 51	96 14	90 8	101 1.05	93 -0.5	92 9	88 8.7	123 10.3	116 100	89 15.4	99 78	89 4	97 -40	89 -0.3	88 4.4	109 -14.1	101 0.5	98 29.1	111 6	102 14	97 0.12	103 -0.03	97 -0.51	98 0.02	
NCB 190017 89607683	1	ZYL 150015 RSL 110255			98 71	96 72	123 61	91 48	101 41	104 56	103 67	104 30	103 51	101 16	108 32	100 1.20	98 -1.1	107 30	96 13.2	123 10.3	115 97	99 22.8	107 110	108 51	110 -58	107 0.7	96 8.8	102 -7.3	94 2.4	113 37.5	118 12	109 20	104 0.74	105 0.35	97 -0.58	104 0.14	
NCB 190018 89607691	1	ZYL 150015 RSL 120005			95 73	93 72	138 59	95 47	99 42	105 56	108 67	114 32	106 51	108 16	102 24	98 1.48	90 -0.2	102 23	93 11.7	138 15.4	130 131	99 22.8	112 129	101 35	116 -67	97 0.1	99 10.7	101 -6.4	92 2.8	110 35.8	122 15	111 22	105 0.89	108 0.88	100 -0.20	106 0.18	
NCB 190029 89607808	1	ZYL 150015 NCB 110006			92 72	95 70	126 52	99 47	104 42	106 55	105 64	110 32	107 50	102 21	97 17	94 1.96	90 -0.1	97 16	95 12.7	126 11.4	124 117	95 20.0	110 120	93 14	109 -58	91 -0.2	97 9.8	106 -11.6	103 0.2	99 29.7	115 10	111 22	109 1.22	97 -0.94	95 -0.74	108 0.20	
NCB 190042 89804173	1	ZYL 150015 RSL 130063			107 72	90 62	127 59	107 48	100 42	107 53	107 61	107 30	107 48	105 14	92 10	109 0.17	93 -0.5	90 5	90 10.1	127 11.6	125 119	91 17.3	108 110	79 -20	103 -50	98 0.2	97 9.6	98 -3.7	93 2.5	114 38.3	122 15	113 23	104 0.83	105 0.40	98 -0.47	105 0.16	
NCB 210062 92731561	2	GTF 170101 RSL 150055			103 67	92 69	117 49	110 46	105 34	108 52	104 62	93 32	105 48	98 24	90 8	104 0.78	96 -0.8	88 3	92 10.9	117 8.3	118 103	97 21.6	102 87	118 75	111 -60	108 0.7	100 11.2	108 -12.8	104 -0.2	103 32.0	110 5	101 13	93 -0.25	95 -1.43	108 0.54	93 -0.08	
NCB 210073 93478956	1	GTF 170106 NCB 130025			114 66	80 67	119 49	124 47	102 34	105 51	97 61	104 22	104 45	104 14	79 -7	115 -0.61	95 -0.8	79 -11	80 4.3	119 8.7	113 92	80 9.1	109 115	131 110	119 -72	95 0.0	105 14.4	104 -9.3	103 0.2	97 28.7	123 16	116 26	99 0.31	101 -0.29	107 0.48	99 0.05	
NCB 220080 94429339		RSL 120073			106 60	96 62	94 41	110 38	65 27	74 45	97 55			97 10	92 11	104 0.68	101 -1.5	89 38	96 62	94 41	96 47	88 63	91 25	61 -66	85 -23	96 0.1	105 14.4	65 28.3	65 9.5	88 23.7	103 28	97 -1	97 9	86 -0.90	97 -1.03	103 0.08	87 -0.19
NCB 220102 94202587		NCB 170024			100 58	93 58	103 34	96 34	64 23	69 41	90 51			89 10	98 18	102 0.95	98 -1.1	103 24	93 12.0	103 3.3	95 52	93 62	86 18	103 9	89 9	98 22	91 6.2	63 30.2	65 9.5	88 23.8	99 21	95 22	77 -1.80	93 -1.68	102 -0.04	77 -0.37	
NCB 220103 94250669		NCB 120024			94 58	96 58	106 39	100 37	71 26	76 43	96 52			89 8	99 20	96 1.79	93 -0.5	98 17	96 13.7	106 4.3	103 71	98 22.3	89 39	119 78	94 -36	90 -0.2	89 5.1	76 17.8	65 9.5	86 22.6	107 3	101 13	83 -1.16	94 -1.52	105 0.28	83 -0.25	

Breeding Values and Accuracies: Cows & Heifers

Value <80 Value >120

Breeding values with an accuracy < 5% are not printed

Animal				Selection Values										Birth			Wean				Growth & Adaptability					Fertility				Frame		Carcass			
ID Animal no	% Inbreeding	Genomic Parentage	Index EBV Acc	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -birth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean dir	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
			Sire ID Dam ID																																
NCB 220105 94631587		NCB 190042		104 56	90 56	112 31	102 24	66 23	74 39	94 47			95 6	97 17	107 0.39	93 -0.5	96 14	90 10.0	112 6.4	104 73	90 16.7	93 54	88 1	91 -32	96 0.1	92 6.4	66 27.4	65 9.5	94 27.1	107 3	101 13	87 -0.83	98 -0.90	101 -0.16	87 -0.17
NCB 220106 94909553		NCB 190017		106 54	89 58	110 32	97 24	67 23	72 39	89 48			92 8	102 24	109 0.17	98 -1.1	101 21	89 9.2	110 5.7	98 58	90 16.2	91 45	91 10	90 -31	100 0.3	89 5.1	68 25.3	65 9.5	93 26.7	104 0	96 9	85 -0.97	98 -0.92	100 -0.23	86 -0.20
NCB 230002 94909769		NCB 120023		98 38	91 56	105 40	97 37	65 26	68 39	87 48			87 10	99 20	100 1.22	95 -0.7	101 22	91 10.8	105 3.9	95 53	97 21.5	83 15	95 20	82 -20	91 -0.2	91 6.2	66 26.8	65 9.5	85 21.9	96 -6	91 4	77 -1.72	93 -1.79	103 0.09	77 -0.36
NCB 230006 95879144		RSL 110255		97 40	91 39	105 40	100 38	64 26	68 34	88 39			91 10	100 21	100 1.25	93 -0.4	98 17	91 10.7	105 3.9	97 57	90 16.7	87 32	113 65	92 -33	109 0.8	97 9.3	68 25.2	65 9.5	79 18.9	101 -2	95 7	83 -1.17	95 -1.41	102 0.02	83 -0.25
NCB 230007 95879151		NCB 120029		97 58	95 58	105 39	99 37	64 26	70 43	93 52			90 10	98 19	99 1.39	94 -0.6	99 18	95 12.7	105 4.0	100 64	90 16.2	87 32	92 11	89 -30	94 0.0	91 5.9	68 25.0	65 9.5	79 18.4	100 -3	95 7	83 -1.15	93 -1.70	102 -0.03	83 -0.25
NCB 230012 96062880		NCB 120036		92 58	83 59	105 41	124 38	66 25	66 43	84 53			85 8	78 -9	95 1.89	76 1.6	80 -10	83 5.9	105 4.2	100 63	80 9.3	81 5	96 22	81 -18	91 -0.2	83 1.5	70 23.9	65 9.5	82 20.3	92 -10	85 -2	77 -1.78	95 -1.29	103 0.10	77 -0.36
NCB 230015 96062914		RSL 150047		101 59	95 61	100 39	103 37	68 26	74 44	94 54			95 10	96 16	102 0.99	97 -1.0	95 13	95 12.9	100 2.1	97 58	91 17.5	93 52	90 8	96 -39	98 0.1	100 11.5	72 21.4	65 9.5	80 19.0	108 3	99 11	87 -0.80	96 -1.21	104 0.13	87 -0.18
NCB 230018 97828156		RSL 110056		87 58	97 38	106 39	106 38	61 27	68 37	96 41	81 22	58 34	90 14	98 18	89 2.55	86 0.4	92 8	97 13.9	106 4.3	108 81	94 19.2	84 17	84 -8	83 -21	90 -0.3	98 10.0	60 32.8	65 9.5	67 12.0	102 -2	94 6	80 -1.49	98 -0.87	105 0.28	81 -0.30
NCB 240008 97942155		NCB 210053		100 54	81 26	106 18	118 17	61 14	64 24	83 28			90 6	84 0	102 1.03	88 0.1	84 -3	81 5.0	106 4.4	96 54	80 9.1	81 7	107 48	84 -22	98 0.2	87 3.7	62 31.2	65 9.5	79 18.7	98 -5	88 1	76 -1.82	95 -1.38	105 0.30	77 -0.37
NCB 240009 97942163		NCB 130025		101 59	86 38	105 39	124 38	64 25	71 36	92 41			87 8	79 -7	103 0.89	85 0.5	79 -10	86 7.7	105 4.1	104 72	80 8.9	83 15	92 12	85 -24	89 -0.3	86 2.9	70 23.6	65 9.5	74 15.5	99 -4	91 4	82 -1.31	93 -1.68	103 0.12	82 -0.28
NCB 240011 97942189		NCB 170001		105 56	85 35	108 32	110 33	61 22	67 33	89 37			89 10	88 5	106 0.45	94 -0.6	88 3	85 7.3	108 5.1	100 63	83 11.1	81 7	93 14	82 -19	100 0.3	87 3.7	63 30.0	65 9.5	74 15.6	94 -8	89 2	76 -1.85	96 -1.26	102 -0.02	77 -0.37
NCB 240014 97942213		NCB 170024		107 57	84 36	104 33	108 34	62 21	65 33	84 38			88 10	85 2	108 0.29	98 -1.1	90 6	84 6.4	104 3.7	92 47	79 8.5	80 3	85 -5	78 -15	97 0.1	87 3.8	64 29.4	65 9.5	76 16.8	94 -8	89 2	75 -1.94	93 -1.67	102 -0.05	75 -0.40

Breeding Values and Accuracies: Cows & Heifers

Animal				Selection Values										Birth			Wean				Growth & Adaptability					Fertility				Frame		Carcass			
ID	% Inbreeding	Genomic Parentage	Index	Calv. Ease V	Calf Growth V	Milk Value	Maint. V	Fertility V	Cow Value	Wean Calf V	Growth Value	Prod. Value	Carcass V	Cow wt -birth	Birth wt	Cow-Calf birth	Cow wt -wean	Wean dir	Wean mat	Cow-Calf wn	Post wn wt	ADG	Veld growth	FCR	Skin Thickn	Scrotum	Heifer Fert	Cow Fert.	Longevity	Height	Length	EMA	Fat	Marbling	Dress %
			EBV Acc																																
Sire ID	Dam ID																																		
Animal no																																			
NCB 240016				103	87	97	103	62	63	80			90	92	105	94	95	87	97	86	86	82	98	82	97	86	66	65	75	94	89	79	96	104	80
97942239		NCB 170009		58	36	35	35	20	34	39			8	11	0.58	-0.6	14	8.2	1.3	32	13.5	9	28	-20	0.1	3.5	27.4	9.5	16.4	-8	2	-1.53	-1.15	0.12	-0.31
														36	64	44	35	36	35	35	32	18	7	8	22	21	19	13	28	21	18	8	8	8	
NCB 240020				104	84	118	104	64	71	90			96	94	106	94	93	84	118	107	85	93	99	95	95	91	68	65	81	105	97	87	99	102	88
97942270		NCB 190018		56	36	30	24	21	32	36			8	13	0.44	-0.6	10	6.7	8.6	79	12.5	52	28	-37	0.0	6.1	25.5	9.5	19.8	1	9	-0.83	-0.66	-0.03	-0.17
														32	63	39	24	36	30	30	36	22	8	8	24	25	23	11	29	25	23	7	8	7	8
NCB 240021				100	92	99	118	69	75	94	80	65	90	89	103	85	85	92	99	99	87	83	101	80	96	87	75	65	79	95	92	81	92	101	81
97942288		RSL 140157		60	38	38	37	25	36	41	21	33	14	6	0.87	0.5	-2	11.0	1.9	62	14.2	15	34	-16	0.0	3.6	18.4	9.5	18.7	-7	4	-1.40	-1.86	-0.16	-0.30
														37	66	46	37	38	38	38	38	24	11	17	23	26	26	16	32	26	24	14	14	13	14
NCB 240024				103	85	105	107	63	66	85			93	91	104	93	91	85	105	94	84	86	115	91	100	92	67	65	76	100	94	81	97	105	82
97942304		NCB 210050		55	34	23	23	16	29	34			7	9	0.69	-0.5	7	7.4	3.9	51	12.1	25	69	-32	0.3	6.6	26.5	9.5	17.1	-3	6	-1.40	-0.98	0.29	-0.28
														23	62	37	23	34	23	27	30	14	11	6	17	17	15	9	25	16	14	7	7	7	7
NCB 240028				97	89	104	111	63	68	91			87	85	98	92	88	89	104	101	87	82	96	81	91	91	67	65	74	95	90	78	93	103	78
97942346		NCB 120023		56	35	39	37	25	35	39			10	1	1.54	-0.3	2	9.7	3.7	65	14.2	10	22	-18	-0.2	5.8	26.5	9.5	15.8	-7	3	-1.66	-1.79	0.09	-0.35
														36	61	45	37	35	39	37	28	22	9	9	26	25	24	16	34	24	22	9	10	9	10
NCB 240029				102	86	106	115	66	71	90			90	83	103	92	86	86	106	100	84	84	103	84	89	91	72	65	66	102	94	81	94	105	81
97942353		NCB 140001		57	35	39	37	23	35	39			8	-1	0.88	-0.3	-1	7.9	4.2	63	11.8	18	40	-22	-0.3	6.1	21.1	9.5	11.4	-2	7	-1.39	-1.58	0.22	-0.29
														36	62	45	37	35	39	37	30	23	6	7	28	26	24	15	30	26	23	7	8	7	8

Selection List on Cow Value

Bulls 2 years and older

ID Sorted on ID		Name	Sire ID	Dam ID	Visual Score % Inbreeding	Horned / Polled	Myostatin Q204X nt821 F94L			Genomic test	Calving Ease Value Acc	Calf Growth Value Acc	Milk Value Acc	Maint. Value Acc	Fertility Value Acc	Cow Value Acc	Weaner Calf Value Acc	Growth Value Acc	Prod Value Acc	Carcass Value Acc										
					Italics: DNA Test																									
										★★★★★																				
1	GTF 210187	GTF210187	LAR 170152	KDT 190016	7	4.2	0	0	0		101	68	115	69	103	50	90	49	110	36	118	53	121	63	107	44	119	51	113	36
										★★★★☆																				
1	NCB 220090	NCB220090	GTF 170101	RSL 140213	7	0.9					105	67	82	69	112	48	110	46	108	34	101	51	87	62	99	29	98	47	104	14
2	NCB 220098	NCB220098	GTF 170101	NCB 160033	6	0.8					99	65	88	66	115	45	113	45	104	33	102	49	96	59	94	27	99	45	103	16
3	NCB 220104	NCB220104	GTF 170106	NCB 170001	7	0.7					102	64	89	66	122	44	108	44	98	32	101	49	102	59	101	21	99	43	104	14
										★★★★																				
1	NCB 220091	NCB220091	GTF 170101	NCB 110023	7	0.7					110	66	74	68	108	51	132	47	105	35	98	52	84	62	86	30	93	48	91	18
										★★★																				
1	NCB 220112	NCB220112		NCB 160006		0.0					107	56	82	31	109	33	103	36	63	21	66	32	82	36					89	8

Selection List on Cow Value
Cows 2 years and older

ID		Name	Sire ID	Dam ID	Visual Score	Horned / Polled	Myostatin		Genomic test	Calving Ease Value	Calf Growth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Weaner Calf Value	Growth Value	Prod Value	Carcass Value										
Sorted on ID					% Inbreeding		Q204X	nt821	F94L	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc										
					Italics: DNA Test																								
										★★★★★																			
1	RSL 140157	RSL140157	CRV 110192	RSL 110176	8	2.1				97	77	102	76	98	77	117	74	114	50	114	65	108	76	93	42	112	60	95	28
2	RSL 150055	RSL150055	BPJ 100075	RSL 070026	7	4.0				107	78	99	76	116	77	119	73	100	51	113	66	119	76	91	43	111	61	94	42
										★★★★☆																			
1	NCB 110016	NCB 110016	PLB 090008	RGR 030229	7	3.1				106	80	92	76	114	80	120	76	94	50	102	66	107	77	87	33	97	59	92	18
2	NCB 120004	NCB 120004	PLB 090008	NCB 040431	6	0.0				108	72	86	73	105	79	110	73	109	45	102	63	89	74	84	26	97	56	90	14
3	NCB 120029	NCB 120029	PLB 090008	RGR 050127	7	3.1				94	71	97	68	113	76	98	74	100	49	100	61	101	71	94	34	97	56	97	20
4	NCB 130025	NCB 130025	PLB 090008	RGR 030229	6	3.1				111	79	85	76	110	78	129	76	101	50	104	66	100	77	88	32	100	59	91	18
5	NCB 140001	NCB 140001	PLB 090008	NCB 070007	6	1.6				106	78	89	69	111	79	112	74	106	46	105	63	98	73	92	32	102	57	96	16
6	NCB 150021	NCB 150021	PLB 090008	NCB 110012	7	26.1				104	75	89	73	109	72	108	74	104	47	102	63	94	73	89	30	97	56	92	16
7	NCB 160033	NCB160033	NCB 120044	NCB 100028	6	2.0				105	74	94	71	110	67	105	69	97	45	101	60	101	70	95	28	98	54	99	22
8	NCB 170006	NCB170006	NCB 120044	NCB 110012	7	0.8				111	74	91	73	113	74	102	73	102	45	104	62	99	73	88	28	100	55	98	16
9	NCB 190001	NCB190001	ZYL 150015	NCB 120023	7	1.0				100	73	88	69	123	60	104	67	104	38	104	57	98	68	99	29	101	51	96	14
10	NCB 190017	NCB190017	ZYL 150015	RSL 110255	6	0.8				98	71	96	72	123	61	91	48	101	41	104	56	103	67	104	30	103	51	101	16
11	NCB 190018	NCB190018	ZYL 150015	RSL 120005	6	0.7				95	73	93	72	138	59	95	47	99	42	105	56	108	67	114	32	106	51	108	16
12	NCB 190029	NCB190029	ZYL 150015	NCB 110006	6	0.9				92	72	95	70	126	52	99	47	104	42	106	55	105	64	110	32	107	50	102	21
13	NCB 190042	NCB190042	ZYL 150015	RSL 130063	6	0.9				107	72	90	62	127	59	107	48	100	42	107	53	107	61	107	30	107	48	105	14
14	NCB 210062	NCB210062	GTF 170101	RSL 150055	6	1.9				103	67	92	69	117	49	110	46	105	34	108	52	104	62	93	32	105	48	98	24
15	NCB 210073	NCB210073	GTF 170106	NCB 130025	6	0.9				114	66	80	67	119	49	124	47	102	34	105	51	97	61	104	22	104	45	104	14
16	RSL 130092	RSL130092	HJS 060359	RSL 080019	8	1.7				89	80	103	78	94	80	111	75	110	52	105	67	101	78	99	40	103	62	103	28
17	RSL 140213	RSL140213	RSL 120040	RSL 100158	8	1.4				91	78	111	75	99	74	88	73	103	48	104	64	107	75	112	36	104	58	112	15
18	RSL 150047	RSL150047	HJS 080356	RSL 050046	7	0.9				107	79	91	77	105	76	111	75	109	51	107	66	97	77	94	38	104	60	99	19
										★★★★																			
1	NCB 120023	NCB 120023	PLB 090008	NCB 070009	6	1.8				106	76	91	69	107	78	107	75	98	49	98	63	96	72	88	32	93	57	91	20
2	NCB 150027	NCB 150027	NCB 120044	NCB 120036	6	1.0				102	72	94	74	107	73	102	73	97	44	97	62	95	73	90	30	92	56	101	16
3	NCB 170001	NCB170001	NCB 120044	NCB 130019	7	2.2				106	72	90	70	116	64	105	67	91	44	96	59	99	69	88	28	90	53	95	20
4	NCB 170005	NCB170005	NCB 120044	NCB 130032	7	2.1				105	73	88	69	109	60	91	72	94	44	90	59	86	68	86	28	83	53	93	20

Selection List on Cow Value

Cows 2 years and older

ID	Name	Sire ID	Dam ID	Visual Score	% Inbreeding	Horned / Polled	Myostatin	Genomic test	Calving Ease Value	Calf Growth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Weaner Calf Value	Growth Value	Prod Value	Carcass Value										
Sorted on ID							Q204X nt821 F94L		Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc										
									★★★★																			
5	NCB 170024	NCB170024	NCB 120044	NCB 110023	5	0.7			108	74	88	71	109	66	102	68	95	43	93	60	91	70	82	29	87	54	92	19
6	NCB 170031	NCB170031	NCB 120044	NCB 150009	7	1.0			96	71	92	70	118	59	98	54	101	43	99	56	97	66	89	29	95	51	97	18
7	RSL 110255	RSL110255	RSL 070205	EI 030204	8	0.6			89	80	103	78	110	81	88	76	99	51	98	67	101	78	94	37	94	61	98	22
8	RSL 120073	RSL120073	AEJ 070201	AGS 020054	7	1.4			101	80	92	78	100	80	121	75	101	50	99	67	98	78	98	36	97	61	101	20
									★★★★☆																			
1	NCB 160013	NCB160013	NCB 120044	RGR 080089	7	1.1			100	76	90	74	94	71	93	71	90	44	80	62	78	73	81	30	72	56	93	19
2	NCB 170009	NCB170009	NCB 120044	NCB 120036	7	1.0			113	75	88	73	93	71	93	70	96	40	88	61	79	72	87	28	81	54	97	16
									★★★																			
1	NCB 220080	NCB220080		RSL 120073	7	0.0			106	60	96	62	94	41	110	38	65	27	74	45	97	55					97	10
2	NCB 220103	NCB220103		NCB 120024	7	0.0			94	58	96	58	106	39	100	37	71	26	76	43	96	52					89	8
3	NCB 220105	NCB220105		NCB 190042	6	0.0			104	56	90	56	112	31	102	24	66	23	74	39	94	47					95	6
4	NCB 220106	NCB220106		NCB 190017	7	0.0			106	54	89	58	110	32	97	24	67	23	72	39	89	48					92	8
									★★★																			
1	NCB 220102	NCB220102		NCB 170024	7	0.0			100	58	93	58	103	34	96	34	64	23	69	41	90	51					89	10

Selection List on Cow Value

Bull calves younger than 2 years

ID Sorted on ID		Name	Sire ID	Dam ID	Visual Score	% Inbreeding	Horned / Polled	Myostatin		Genomic test	Calving Ease Value	Calf Growth Value	Milk Value	Maint. Value	Fertility Value	Cow Value	Weaner Calf Value	Growth Value	Prod Value	Carcass Value												
								Q204X	nt821	F94L	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc												
					Italics: DNA Test																											
											★★★★★																					
1	NCB 230004	NCB230004	GTF 170106	RSL 150055	7	1.3							103	56	93	68	121	49	121	46	102	35	111	50	113	60	103	26	110	45	103	23
											★★★																					
1	NCB 230003	NCB230003		NCB 130025	0.0						111	39	79	58	105	40	128	38	66	27	72	40	88	49					87	8		
2	NCB 230008	NCB230008		NCB 150021	0.0						111	57	84	58	103	37	109	37	66	24	70	42	85	51					88	8		
3	NCB 230009	NCB230009		NCB 110016	0.0						117	59	74	59	108	41	129	38	63	26	70	44	85	53					84	8		
4	NCB 230010	NCB230010		NCB 190001	0.0						117	57	79	57	109	31	109	33	66	20	72	40	85	49					91	8		
5	NCB 230014	NCB230014		NCB 170006	0.0						99	57	88	58	108	38	109	36	65	23	70	42	90	51					92	8		
6	NCB 230016	NCB230016		NCB 140001	0.0						114	58	74	58	107	40	127	37	66	24	70	42	82	52					88	8		
											★★★																					
1	NCB 230005	NCB230005		NCB 150027	0.0						105	36	85	57	103	38	111	36	63	22	67	38	86	48					96	8		
2	NCB 230013	NCB230013		NCB 110023	0.0						97	59	87	59	98	41	118	38	63	26	65	44	85	53					86	14		

Selection List on Cow Value

Heifers younger than 2 years

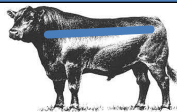
ID Name Sorted on ID		Sire ID	Dam ID	Visual Score % Inbreeding	Horned / Polled	Myostatin Q204X ni821 F94L	Genomic test	Calving Ease Value Acc	Calf Growth Value Acc	Milk Value Acc	Maint. Value Acc	Fertility Value Acc	Cow Value Acc	Weaner Calf Value Acc	Growth Value Acc	Prod Value Acc	Carcass Value Acc
								★★★									
1	NCB 230007	NCB230007	NCB 120029	0.0				9758	9558	10539	9937	6426	7043	9352			9010
2	NCB 230015	NCB230015	RSL 150047	0.0				10159	9561	10039	10337	6826	7444	9454			9510
								★★★									
1	NCB 230002	NCB230002	NCB 120023	70.0				9838	9156	10540	9737	6526	6839	8748			8710
2	NCB 230006	NCB230006	RSL 110255	0.0				9740	9139	10540	10038	6426	6834	8839			9110
3	NCB 230012	NCB230012	NCB 120036	0.0				9258	8359	10541	12438	6625	6643	8453			858

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
	Interpretation	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	
	Interpretation	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)

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.

