

Meatmaster Genetic Analysis

SA Stud Book
04 November 2024

OLIVE BRANCH MEATMASTERS
POSBUS 63
GERDAU
2729



FDM: JR



CERTIFICATE
OF QUALITY
Valid up to
1 April 2024

General Information

This **Genetic Report** of your flock enables you to determine the genetic merit and potential of the animals in your herd relative to that of the breed. An animal's performance is determined by two factors, namely the environment and genetics. Good nutrition and management can improve performance, but an animal cannot perform better than its genetic potential. Superior performance due to the environment cannot be carried over to the next generation. It is therefore extremely important not to neglect genetic progress of your flock. Due to the interaction between environment and genetics, it is difficult to identify genetically superior animals on performance data. Estimated Breeding Values (EBVs) are therefore predicted for every animal to determine its genetic potential, as well as its worth as a parent for the next generation. Through the use of EBVs, animals can be compared fairly **within the breed**, therefore across herds, years and production systems. Results presented in this report allow the breeder to identify the underlying genetics of the animals.

Genetic parameters

Genetic parameters (heritability and genetic correlations) are estimated on a breed-basis and are required for the prediction of breeding values. The **heritability** refers to the portion of the variation of a trait in a population that is due to transferrable genetics (the rest of the variation can be attributed to the environment and non-transferrable genetics). Some traits are genetically correlated, which means that a change in one trait will lead to changes in other traits. The strength of this association amongst traits is referred to as a **genetic correlations** and can be desirable or undesirable.

Breeding Values

The prediction of EBVs makes use of performance recordings of the animal as well as those of its relatives, pedigree information and genetic parameters. The deviation of the animal's measurement relative to the average of its contemporary group, forms the basis for identifying the animal's genetic potential for the trait. A **contemporary group** is a group of animals that have been exposed to the same environmental and biological effects, including herd, year, sex and age effects. After adjusting for differences in these effects, animals can fairly be compared and the difference in performance that still persist are then assumed to be due to differences in the genetic merit of the animals.

The EBV predicted for an animal at birth and until it has been measured, is the average EBV of its parents, since the animal received half of its genes from each parent. This mid-parent value makes the assumption that the same half of the parents' genes are carried over to all their offspring. In reality, each offspring receives a random sample of each parent's genes,

therefore mid-parent EBVs are still of low accuracy, but it does indicate the genetic level that can be expected due its parental history. An animal's true genetic merit can be predicted more accurately as more information becomes available, eg. when the animal has been measured or when the number of relatives with measurements increases. Estimated breeding values therefore change over time as more information becomes available. EBVs of animals are published with an **accuracy** (%), which indicates how much information was available for the estimation of breeding values and therefore the confidence with which a breeder can use it. Factors that influence the accuracy of an EBV are the heritability of the trait, the number of measured relatives, the size of the contemporary group, the precision with which the measurements were taken and the completeness of pedigree information. An EBV with an accuracy of 85% or more is less likely to change significantly with subsequent genetic analyses.

Interpretation of breeding values

EBVs are expressed around a **base year** (5 years ago), which means that the average breeding value of the base year is set as zero and all breeding values are expressed relative to this average. An animal with an EBV of +1kg for weaning weight is therefore genetically superior by 1kg compared to an average animal born in the base year. EBVs therefore express genetic merit of animals relative to each other. The true performance of an animal cannot be calculated from the EBV, but it enables the breeder to know which animals will make a better contribution to the next generation. For easier interpretation EBVs are also expressed as breeding value indices. For these indices the average value of the **active population** is set as 100 with a standard deviation of 12. An index of 76 therefore indicates that the animal is 2 standard deviations below the average and an index of 112 indicates that the animal is 1 standard deviation above the average of the active population for the specific trait. Please note that negative EBVs are favourable for Inter-Lambing Period and Age at First Lambing, therefore shorter inter-lambing periods and younger ages at first lambing indicates better fertility. However, breeding value indices are expressed in the same way for all traits, therefore higher indices indicates desirability for the traits and lower indices are undesirable. This makes it easy to identify superior animals for all traits.

The data used in this evaluation has been obtained from LOGIX, as supplied by breeders. Everything possible had been done to present the information correctly. SA Stud Book does not take any responsibility for the use and interpretation of the information from this publication.

Selection Indices

It is easy to select on a single trait, but that is not the best approach to follow. Selecting on only one trait can lead to the deterioration of performance in other traits due to genetic correlations. There are different traits that are important, some being more important than others. A selection index combines multiple traits, each with an economic weight to take the different levels of importance into account. EBVs for different traits cannot simply be added together, since the unit of measurement and range of the values differ and in some cases negative values are favoured. These factors are accounted for in the compilation of a selection index. An overall selection index includes EBVs of all the traits of economic importance, while other selection indices are more focused on specific breeding objectives. Selection indices are expressed around 100, with 100 being the average of the active population, with a standard deviation of 12. A selection index of 124 is therefore 2 standard deviations above the average and an index of 88 is one standard deviation below the average of the active animals of the population.

Three Indices are constructed for the Meatmaster breed, namely the Growth Index, Reproduction Index and the Logix Merit Index. These indices, their purpose and the contribution of the different traits to the indices are summarised as follows :

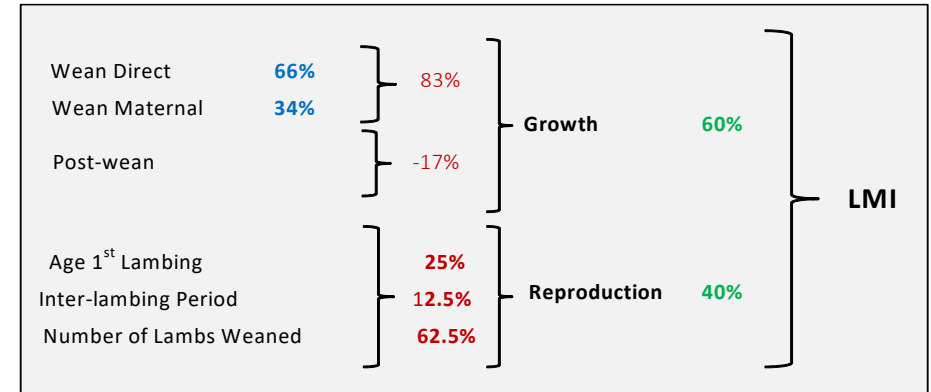
Logix Merit Index (LMI)

This index combines all the traits to select for a balanced, profitable animal that is fertile and delivers a desirable level of production while not reaching very large adult weights. Very large animals require more feed to meet their maintenance requirements, which makes them more expensive to keep and more likely to struggle during difficult times. Since large animals in a breeding flock are unfavourable, a penalty is placed on Post-Wean Weight EBV (indicated by the negative value) in the index. Selection based on the LMI will lead to breeding of balanced animals that will have the genetic potential to wean at a heavier weight (both due to its own potential and having dams that produce sufficient milk), lambs at an early age, give multiple lambs and has lower maintenance requirements. This value is especially important for sustainability, which requires the selection of good, productive replacement animals for the flock.

The **LMI** is constructed as follows :

$$(0.33 * \text{Wean Dir}) + (0.17 * \text{Wean Mat}) - (0.10 * \text{Post-wean}) + (0.25 * \text{N_Lambs_Weaned}) + (0.10 * \text{AFL}) + (0.05 * \text{ILP})$$

Schematically the LMI can be explained as follows :



Growth Index (GI)

The Growth Index indicates growth potential up to weaning and is a combination of Wean Direct, Wean Maternal and Post-Wean breeding values. The Growth Index is useful to indicate an animal's advantage in crossbreeding systems. The GI is constructed as follows :

$$GI = 0.54 \text{ Wean Dir} + 0.26 \text{ Wean Mat} + 0.2 \text{ Post-Wean}$$

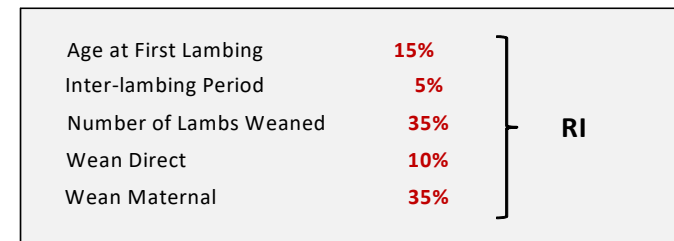
Reproduction Index (RI)

This index includes the EBVs of the components of Total Weight Weaned (Weaning Direct and Maternal and Number of Lambs Weaned), as well as Age at First Lambing and Interlambing Period. This is especially an important index to consider in the development of a dam line.

The **RI** is constructed as follows :

$$(0.15 * \text{AFL}) + (0.05 * \text{ILP}) + (0.35 * \text{N_Lambs_Weaned}) + (0.10 * \text{Wean Dir}) + (0.35 * \text{Wean Mat})$$

Schematically it can be explained as follows :



Meatmaster

Genetic Averages of Animals

Trait	Flock **			Breed		
	All	Rams	Ewes	All	Rams	Ewes
Weaning Weight Direct	0.89	1.90	0.85	-0.34	-0.18	-0.39
Weaning Weight Maternal	0.37	0.51	0.36	-0.06	-0.03	-0.07
Weaning Weight Comb	0.81	1.46	0.78	-0.23	-0.12	-0.26
Post-wean Weight	1.26	2.28	1.22	-1.02	-0.77	-1.12
Number Lambs Weaned	-0.07	1.30	-0.13	0.27	0.34	0.24
Total Weight Weaned	1.21	3.19	1.13	-0.23	-0.01	-0.32
Age at First Lambing	3.84	7.58	3.69	0.04	0.20	-0.02
Interlambing Period	3.14	-4.69	3.46	-0.95	-0.76	-1.03
Selection Indices						
Logix Merit Index	101	110	100	96	97	96
Reproduction Index	100	105	100	97	98	97
Growth Index	106	114	106	95	96	94
Inbreeding						
Inbreeding (%)	2.44	3.43	2.40	3.59	4.07	3.43
Number of Animals						
Number of Animals	25	1	24	25378	6655	18703

** Averages of all active animals in the flock.

Breeding Value Indices

Trait	Flock **		
	All	Rams	Ewes
Weaning Weight Direct	105.4	114.1	105.0
Weaning Weight Maternal	105.1	107.9	105.0
Weaning Weight Comb	106.3	113.3	106.0
Post-wean Weight	106.6	111.9	106.4
Number Lambs Weaned	97.4	104.0	97.1
Total Weight Weaned	103.0	113.2	102.5
Age First Lambing	91.8	80.8	92.3
Interlambing Period	94.5	105.5	94.0
Selection Indices			
Logix Merit Index	100.5	109.9	100.1
Reproduction Index	99.8	105.3	99.5
Growth Index	106.3	113.7	106.0
Inbreeding			
Inbreeding (%)	2.44	3.43	2.40
Number of Animals			
Number of Animals	25	1	24

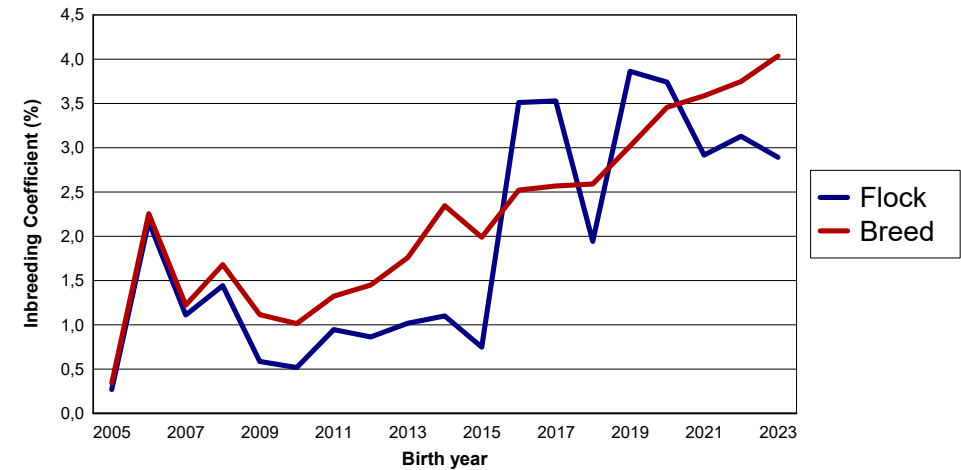
** Averages of all active animals in the flock.

Inbreeding

Notes

- Inbreeding primarily leads to decreased fertility and low survivability of lambs.
- The effects of inbreeding can be observed from 6.25% onwards.
- It is therefore highly recommended to record pedigree information as accurately and completely as possible and to use a selection programme for selection of unrelated rams.
- Incomplete or incorrect pedigree information can be reported to SA Stud Book. Inbreeding is dependent on pedigree information. Conventional methods for the Calculation of inbreeding coefficients usually assume that unknown parents are unrelated. However, this is usually far from the truth. An algorithm is used for the calculation of inbreeding, where the average inbreeding coefficient is assigned to unknown parents based on the generation in which they were born. This result is a more accurate reflection of inbreeding of the herd and breed.

Rate of Inbreeding



Level and Rate of Inbreeding

Year of Birth	Level* (%)	Rate (% / year)
2005 - 2023	2.89	0.15
Recommended:	< 6.25	< 0.1 - 0.2

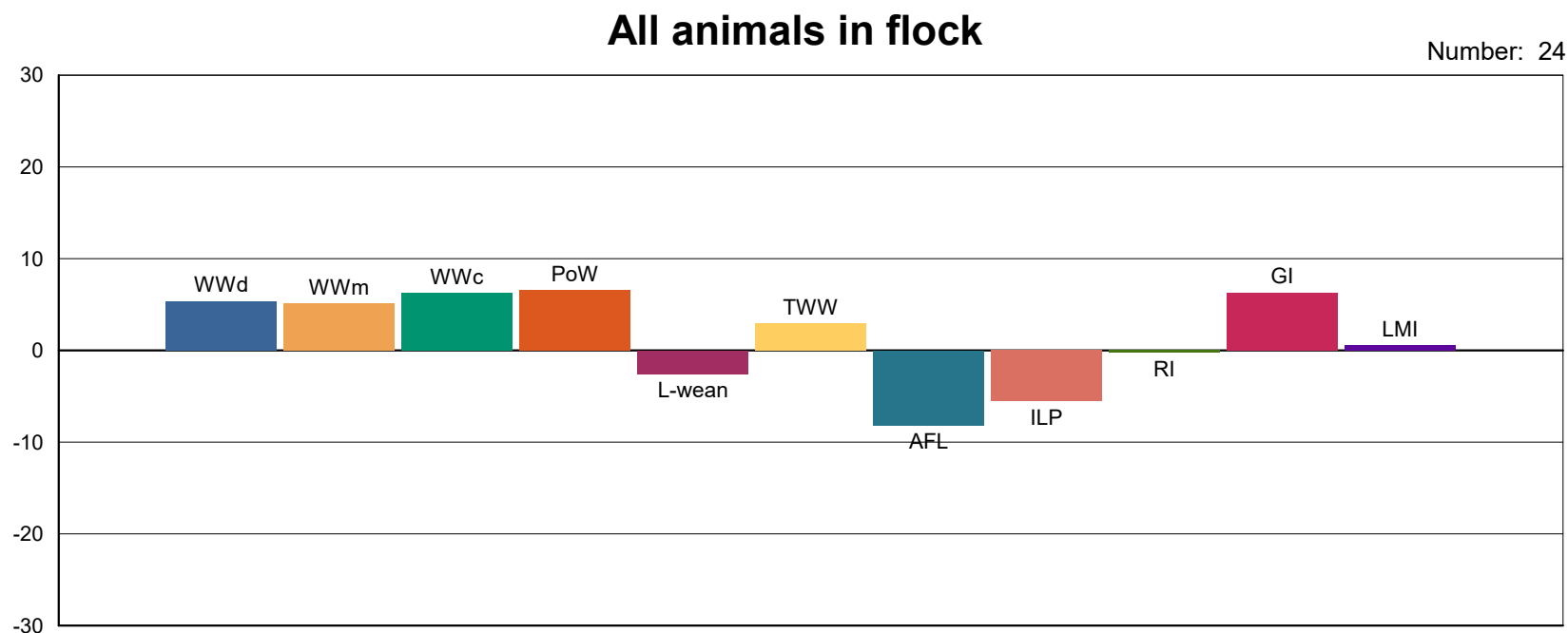
*Of the last year of birth

Pedigree Information

	Number	%
Known Sires	24	96
Known Dams	24	96

Note: Inbreeding can be under-estimated if pedigree information is incomplete or incorrect

Genetic Windows



WWd: Weaning Weight Direct
WWm: Weaning Weight Maternal
WWc: Weaning Weight Combined
PoW: Post-Weaning Weight
L-wean: Number of Lambs Weaned
TWW: Total Weight Weaned
AFL: Age at First Lambing
ILP: Interlambing Period
RI: Reproduction Index
GI: Growth Index

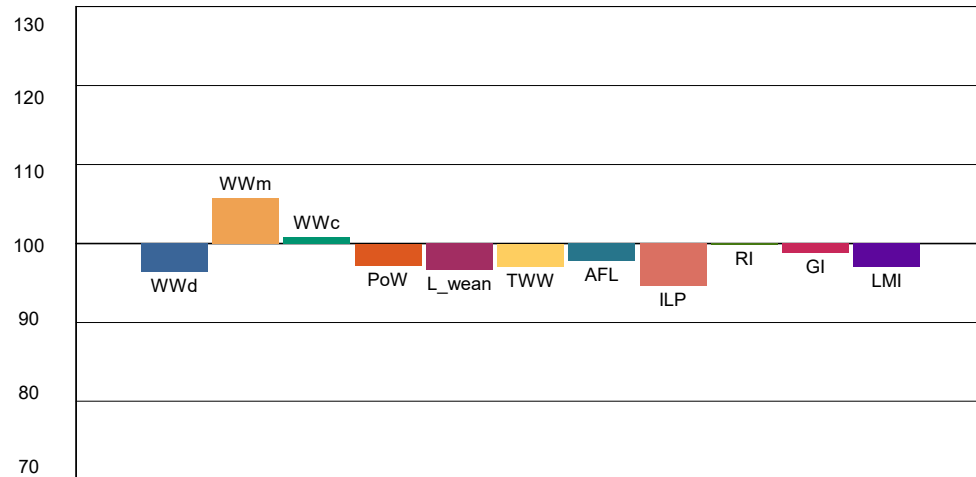
The genetic windows allow a quick overview of the genetic status of the flock compared to the breed. The values presented here are the average EBV indices of all the active animals of the flock, of the dams and sires of the active animals of the flock, as well as of the active ewes and rams that are younger than 2-years old. An index of 100 is equal to the average of the active measured population. Due to the higher selection intensity on rams (selection is more strict since a much smaller percentage of young animals are retained in the flock), the expectation is for the average index of the sires to be higher than that of the dams.

Remember that the EBV index for AFL and ILP are presented in such a way that an index above 100 indicates animals that have a lower EBV for these traits.

Genetic Windows

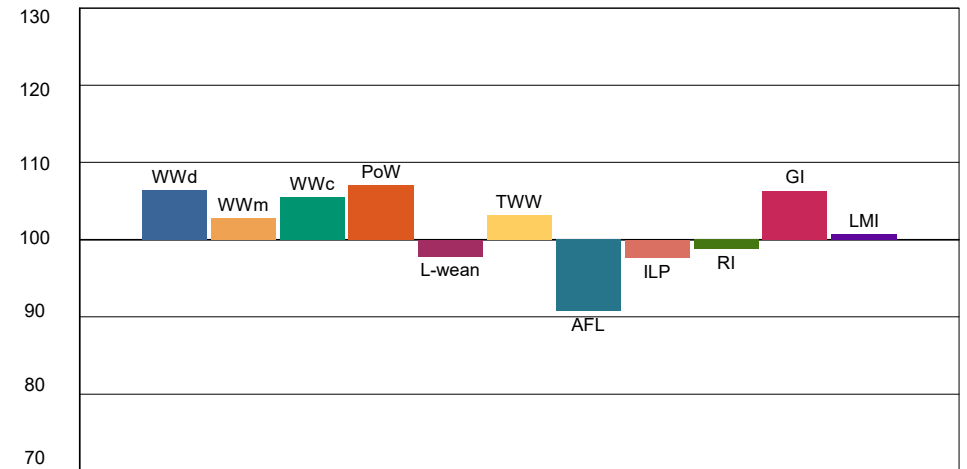
Dams

Number: 22



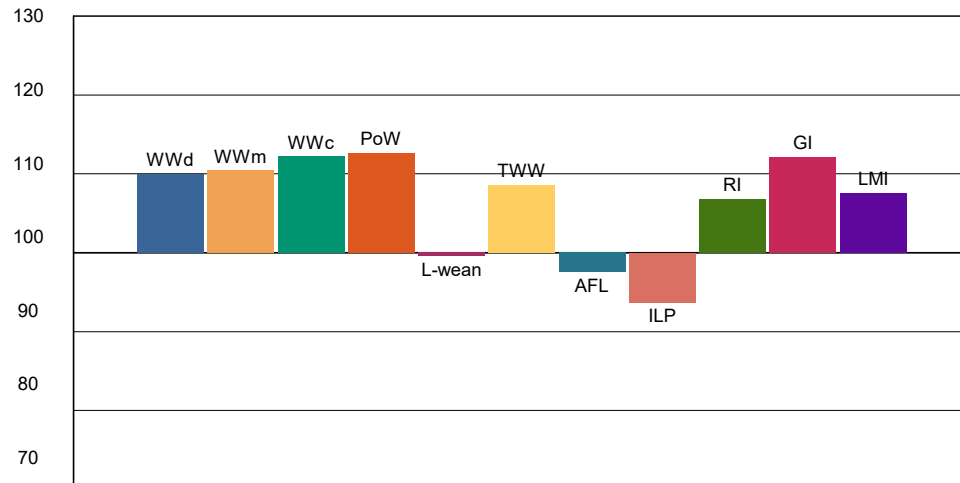
Sires

Number: 12



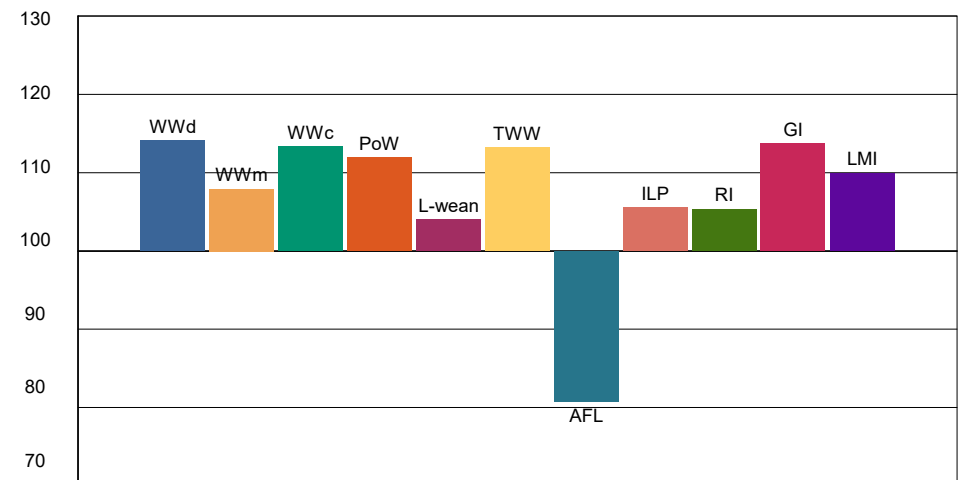
Young Ewes

Number: 5



Young Rams

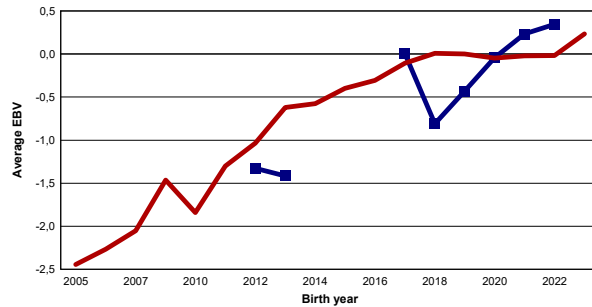
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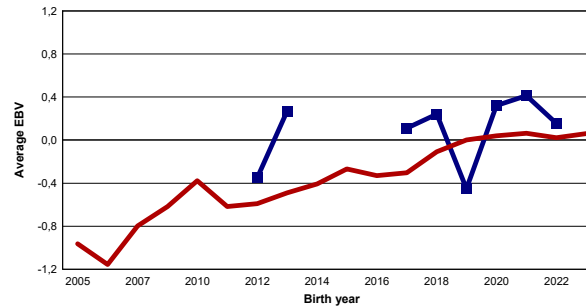
Genetic Trends

Genetic trends are based on measured animals that were bred by the specific breeder.

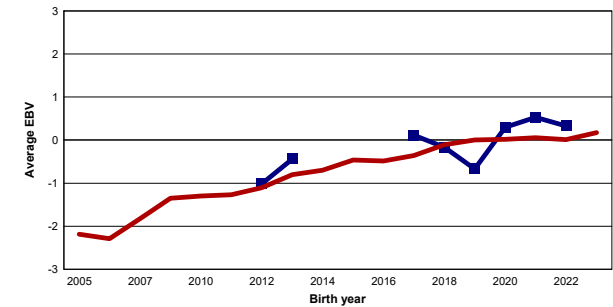
Weaning Weight Direct



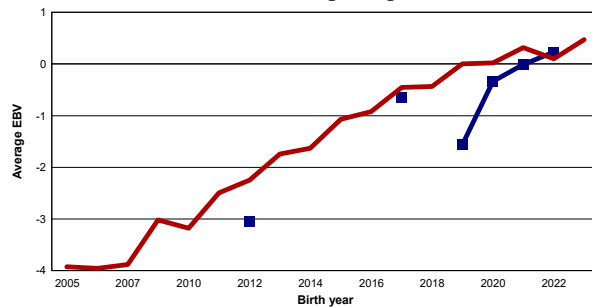
Weaning Weight Maternal



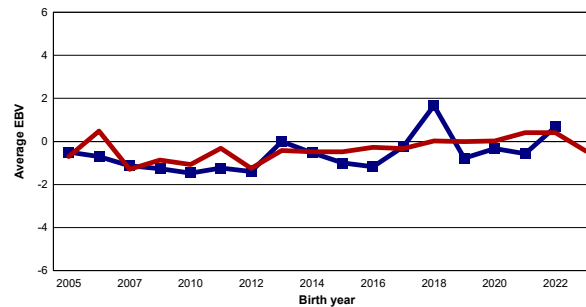
Weaning Weight Combined



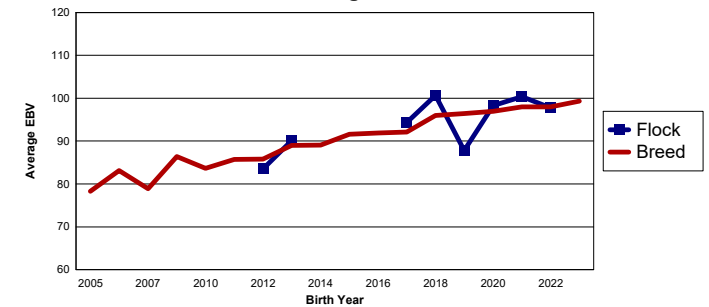
Post-weaning Weight



Number of Lambs Weaned

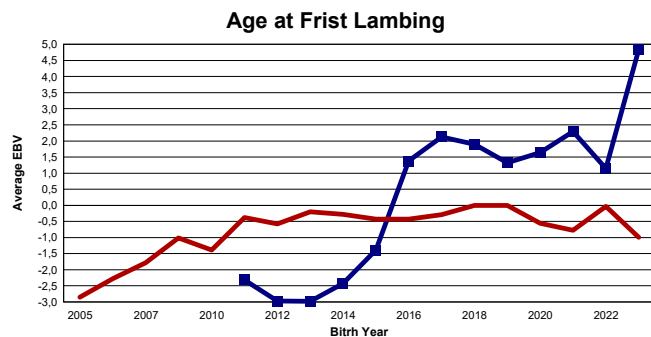


Total Weight Weaned

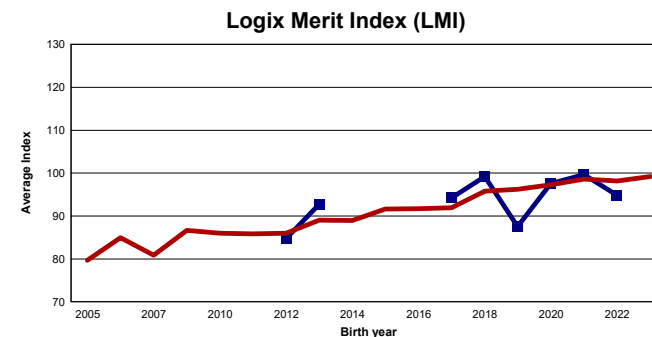
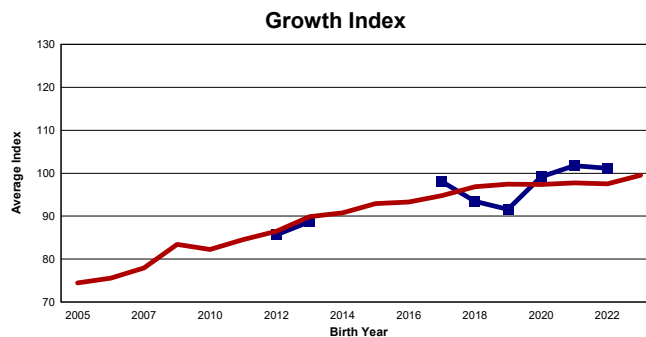
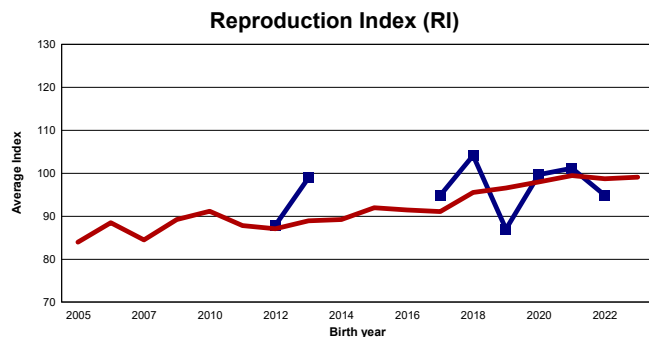
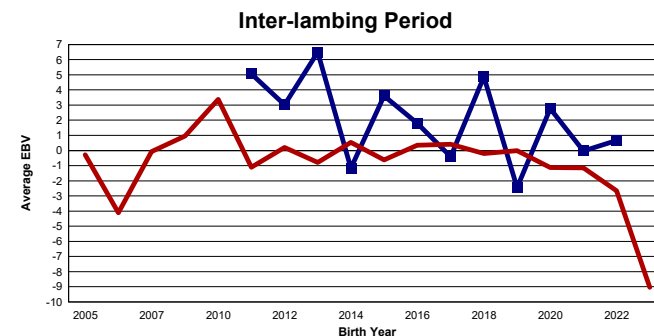


Genetic Trends

Genetic trends are based on measured animals that were bred by the specific breeder.



For AFL and ILP flock genetic trends below breed averages are desirable.



Genetic Trends of Breed

Birth year	Weaning Weight				Post-Wean		Lambs Weaned		TWW		AFL		ILP		RI		LMI	
	Number	Dir	Mat	Comb	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV
2011	2720	-1.30	-0.62	-1.27	1018	-2.50	957	-0.31	2720	86	1025	-0.38	779	-1.10	2720	88	2720	86
2012	2027	-1.04	-0.59	-1.11	1175	-2.25	800	-1.24	2027	86	974	-0.57	698	0.19	2027	87	2027	86
2013	2551	-0.62	-0.49	-0.80	1364	-1.75	939	-0.41	2551	89	1204	-0.20	935	-0.80	2551	89	2551	89
2014	2768	-0.58	-0.41	-0.70	1344	-1.63	1129	-0.48	2768	89	1363	-0.28	1019	0.55	2768	89	2768	89
2015	3223	-0.40	-0.27	-0.47	1475	-1.07	1064	-0.48	3223	92	1297	-0.43	881	-0.62	3223	92	3223	92
2016	2993	-0.31	-0.33	-0.48	1673	-0.92	1252	-0.28	2993	92	1656	-0.43	1234	0.34	2993	91	2993	92
2017	2934	-0.11	-0.30	-0.36	1489	-0.45	1317	-0.33	2934	92	1935	-0.29	1442	0.41	2934	91	2934	92
2018	3788	0.01	-0.11	-0.11	2171	-0.44	1392	0.03	3788	96	1820	0.00	1203	-0.20	3788	96	3788	96
2019	4278	0.00	0.00	0.00	1996	0.00	1184	-0.01	4278	96	1660	0.00	1272	0.00	4278	97	4278	96
2020	3441	-0.05	0.04	0.02	2060	0.02	1624	0.03	3441	97	1994	-0.56	1483	-1.13	3441	98	3441	97
2021	4472	-0.02	0.06	0.05	2118	0.32	1391	0.40	4472	98	2028	-0.78	1278	-1.16	4472	99	4472	99
2022	5191	-0.02	0.02	0.01	2463	0.10	1648	0.41	5191	98	1690	-0.03	555	-2.66	5191	99	5191	98
2023	5706	0.23	0.06	0.18	2026	0.47	320	-0.45	5706	99	430	-0.99	3	-9.03	5706	99	5706	99

Genetic Trends of Flock

Birth year	Weaning Weight				Post-Wean		Lambs Weaned		TWW		AFL		ILP		RI		LMI	
	Number	Dir	Mat	Comb	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV
2011							13	-1.23			13	-2.32	9	5.07				
2012	33	-1.33	-0.35	-1.02	12	-3.05	2	-1.40	33	83	16	-2.98	10	3.02	33	88	33	85
2013	5	-1.42	0.27	-0.44			5	0.00	5	90	26	-2.98	17	6.49	5	99	5	93
2014							4	-0.53			13	-2.43	6	-1.16				
2015							8	-1.00			16	-1.39	6	3.61				
2016							5	-1.18			5	1.38	4	1.81				
2017	13	0.01	0.11	0.12	1	-0.65	5	-0.24	13	94	3	2.13	3	-0.40	13	95	13	94
2018	8	-0.81	0.24	-0.17			24	1.66	8	101	18	1.89	14	4.87	8	104	8	99
2019	36	-0.43	-0.45	-0.67	10	-1.57	20	-0.78	36	88	16	1.33	12	-2.45	36	87	36	88
2020	138	-0.05	0.32	0.30	116	-0.34	37	-0.33	138	98	34	1.64	23	2.76	138	100	138	98
2021	131	0.23	0.41	0.53	65	-0.01	3	-0.57	131	100	41	2.29	12	-0.02	131	101	131	100
2022	78	0.35	0.16	0.33	57	0.23	5	0.68	78	98	7	1.14	2	0.67	78	95	78	95
2023											1	4.84						

Breeding Value & Selection Index Percentiles

The percentiles indicate the ranking of the animals' EBVs and Selection Indices within the active population.

For example, if an animal's EBV for a specific trait falls between the maximum and 99% percentile of the trait, it means that this animal ranks in the top 1% of the active population, or this animal's genetic merit for the trait is better than 99% of that of the active population.

Should the EBV for a specific trait falls between the 5% and 10% percentile, it means that the animal ranks in the bottom 10% of the active population for the specific trait, or the animal's genetic merit is worse than 90% of the active population.

Note that the percentiles for Age at First Lambing and Inter-lambing Period EBVs work on the reverse scale.

All Active Animals

Trait	Avg	SD*	Min	Percentiles (%)															Max
				1	5	10	20	25	30	40	50	60	70	75	80	90	95	99	
Weaning Weight Direct	-0.34	1.27	-4.28	-2.69	-2.08	-1.76	-1.45	-1.28	-1.12	-0.86	-0.59	-0.21	0.26	0.53	0.79	1.48	2.01	2.87	4.88
Weaning Weight Maternal	-0.06	0.55	-2.68	-1.27	-0.89	-0.71	-0.49	-0.42	-0.35	-0.22	-0.09	0.03	0.16	0.25	0.36	0.68	0.95	1.46	2.66
Weaning Weight Combined	-0.22	0.98	-4.74	-2.21	-1.53	-1.27	-0.94	-0.85	-0.78	-0.68	-0.45	-0.18	0.16	0.37	0.59	1.17	1.65	2.47	4.29
Post-Wean Weight	-1.02	2.10	-7.53	-4.98	-3.85	-3.33	-2.76	-2.56	-2.33	-1.91	-1.42	-0.88	-0.08	0.32	0.79	1.95	2.91	4.58	8.34
Number of Lambs Weaned	0.27	1.96	-10.60	-4.90	-2.60	-1.80	-1.10	-0.80	-0.50	-0.10	0.00	0.50	1.00	1.20	1.60	2.50	3.60	6.00	14.90
Total Weight Weaned	-0.23	1.95	-7.97	-3.95	-2.81	-2.28	-1.71	-1.56	-1.37	-1.00	-0.57	-0.18	0.38	0.71	1.16	2.57	3.65	5.56	10.74
Age at First Lambing	0.05	-4.49	55.19	11.12	6.58	5.33	3.07	2.36	1.85	0.92	0.38	-0.57	-1.57	-2.21	-2.96	-5.14	-7.14	-11.45	-55.82
Interlambing Period	-0.95	-8.40	60.69	19.41	12.52	9.29	5.68	4.68	3.51	1.01	-1.13	-2.53	-4.76	-6.24	-7.89	-11.53	-14.77	-20.89	-39.93
Growth Index	95	11	59	74	81	83	86	87	88	90	92	96	99	102	104	110	115	124	137
Reproduction Index	97	10	57	76	83	86	89	91	92	94	96	99	101	103	105	111	116	125	144
Logix Merit Index	96	10	54	76	82	85	88	89	90	92	95	97	100	102	104	111	116	126	142

*SD : Standard Deviation. An indicator of how far breeding values/selection indices are distributed around the average.

Breeding Value & Selection Index Percentiles

All Active Rams

Trait	Avg	SD*	Min	Percentiles (%)															Max
				1	5	10	20	25	30	40	50	60	70	75	80	90	95	99	
Weaning Weight Direct	-0.18	1.29	-3.77	-2.52	-1.91	-1.61	-1.31	-1.13	-1.00	-0.76	-0.47	-0.04	0.50	0.75	1.04	1.67	2.14	2.93	4.50
Weaning Weight Maternal	-0.03	0.50	-1.68	-1.09	-0.79	-0.61	-0.44	-0.37	-0.30	-0.19	-0.06	0.03	0.16	0.24	0.35	0.65	0.90	1.35	2.61
Weaning Weight Combined	-0.12	0.96	-2.77	-1.80	-1.35	-1.08	-0.85	-0.79	-0.77	-0.64	-0.41	-0.08	0.30	0.52	0.74	1.28	1.70	2.43	3.59
Post-Wean Weight	-0.77	2.12	-6.33	-4.59	-3.59	-3.00	-2.59	-2.36	-2.13	-1.75	-1.24	-0.58	0.27	0.77	1.23	2.27	3.14	4.58	7.11
Number of Lambs Weaned	0.34	1.77	-8.10	-3.90	-2.30	-1.60	-0.90	-0.70	-0.50	-0.10	0.10	0.50	1.00	1.30	1.60	2.50	3.50	5.40	10.30
Total Weight Weaned	-0.01	1.92	-6.36	-3.26	-2.37	-1.95	-1.58	-1.44	-1.25	-0.87	-0.50	0.06	0.67	1.09	1.54	2.88	3.80	5.33	8.65
Age at First Lambing	0.20	-3.86	55.19	9.72	6.48	4.54	2.81	2.18	1.72	0.94	0.51	-0.28	-1.24	-1.73	-2.41	-4.34	-6.34	-9.47	-55.82
Interlambing Period	-0.76	-7.76	30.72	17.31	11.73	8.92	5.74	4.68	3.51	1.09	-0.89	-2.53	-4.17	-5.67	-7.18	-10.76	-13.95	-18.94	-39.93
Growth Index	96	11	66	77	82	85	87	88	89	90	93	97	101	104	106	112	116	124	137
Reproduction Index	98	9	70	80	85	87	90	91	93	95	96	99	102	104	106	111	115	124	139
Logix Merit Index	97	10	66	79	84	86	89	90	90	93	95	98	101	103	105	112	117	125	140

All Active Ewes

Trait	Avg	SD*	Min	Percentiles (%)															Max
				1	5	10	20	25	30	40	50	60	70	75	80	90	95	99	
Weaning Weight Direct	-0.39	1.26	-4.28	-2.74	-2.14	-1.81	-1.47	-1.34	-1.18	-0.90	-0.63	-0.26	0.18	0.44	0.70	1.40	1.95	2.86	4.88
Weaning Weight Maternal	-0.07	0.57	-2.68	-1.33	-0.92	-0.74	-0.52	-0.44	-0.37	-0.24	-0.10	0.02	0.16	0.25	0.37	0.69	0.97	1.49	2.66
Weaning Weight Combined	-0.26	0.99	-4.74	-2.28	-1.61	-1.33	-0.99	-0.88	-0.80	-0.69	-0.47	-0.20	0.12	0.30	0.53	1.12	1.62	2.48	4.29
Post-Wean Weight	-1.12	2.08	-7.53	-5.06	-3.97	-3.41	-2.85	-2.64	-2.42	-1.96	-1.49	-0.97	-0.23	0.19	0.62	1.80	2.82	4.58	8.34
Number of Lambs Weaned	0.24	2.03	-10.60	-5.20	-2.80	-1.90	-1.20	-0.80	-0.60	-0.10	0.00	0.40	0.90	1.20	1.60	2.50	3.70	6.20	14.90
Total Weight Weaned	-0.32	1.96	-7.97	-4.08	-2.95	-2.40	-1.79	-1.58	-1.42	-1.03	-0.63	-0.26	0.25	0.60	1.00	2.42	3.56	5.71	10.74
Age at First Lambing	-0.01	-4.72	29.82	11.72	6.68	5.74	3.18	2.41	1.85	0.91	0.30	-0.71	-1.72	-2.41	-3.23	-5.43	-7.45	-12.12	-33.00
Interlambing Period	-1.03	-8.65	60.69	20.52	12.96	9.46	5.63	4.68	3.51	0.97	-1.20	-2.73	-4.97	-6.49	-8.16	-11.91	-15.07	-21.71	-34.99
Growth Index	94	11	59	73	80	83	86	87	88	90	92	95	99	101	103	110	115	124	137
Reproduction Index	97	10	57	75	82	85	89	90	92	94	96	98	101	103	105	111	116	126	144
Logix Merit Index	96	10	54	75	82	85	88	89	90	92	94	97	99	101	103	110	116	126	142

*SD : Standard Deviation. An indicator of how far breeding values/selection indices are distributed around the average.

Rams



Genotyped

Inbreeding in red is high

EBV - Estimated Breeding Value

Indices >=124
Above breed average
Indices <= 76

Acc: Accuracy of the breeding value
EBVs with an accuracy below 5% are not printed

Index: Expresses the EBV around 100 where 100 is set as the average EBV of active animals

Animal Information					Selection Indices			EBV - Weights					EBV - Fertility					
Animal ID Comp no.		Parents			% In-breeding	Logix Merit Index	Growth Index	Reproduction Index	Wean Weight				Number Weaned	TWW	AFL	ILP	Dam	
		Sire	Dam						Dir	Mat	Comb	Post-Wean						
									EBV Acc Index	EBV Acc Index	EBV Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EPI Times Lambd	
Active Breed Average:					100	100	100		-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95		
JR 21 0171 92446624		JR	20	0078	3.43	110	114	105	1.90	0.51	1.46	2.28	1.30	3.19	7.58	-4.69	107 6	
		JR	18	0005					66 114	41 108	113	57 112	25 104	47 113	28 81	30 106		
Ram Flock Average:					110	114	105		1.90	0.51	1.46	2.28	1.30	3.19	7.58	-4.69		
Number of rams in the flock: 1																		

Ewes



Genotyped

Inbreeding in red is high

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Index: Expresses the EBV around 100 where 100 is set as the average EBV of active animals

Animal Information					Selection Indices			EBV - Weights				EBV - Fertility									
Animal ID		Parents		% In-breeding	Logix Merit Index	Growth Index	Reproduction	Wean Weight		Comb	Post-Wean	Number Weaned		TWW		AFL		ILP		EPI	Times
Comp no.		Sire	Dam					Dir	Mat			EBV	EBV	EBV	EBV	Acc	Acc	Acc	Acc		Acc
Active Breed Average:								100	100	100	-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95			
JR 17 0073 86363280		JR 15 0059 JR 13 0073	0.63	106	114	108	1.20 60	1.30 108	1.90 118	1.93 56	110	-1.40 21	1.65 52	0.66 27	14.23 36	104	7				
JR 18 0005 84254911		CC 14 0303 JR 14 0034	0.63	104	100	107	-0.18 69	0.68 111	0.59 104	-0.85 60	96	1.20 36	1.22 61	2.02 38	0.98 44	107	6				
JR 19 0037 86398419		JR 17 0017 JR 18 0034	1.04	85	84	82	-0.78 60	-1.32 57	-1.71 79	-2.36 57	88	0.90 28	-1.56 51	1.36 33	3.63 39	102	3				
JR 20 0213 91102194		MM 18 0001 JR 18 0053	1.55	104	108	103	1.03 59	0.52 49	1.03 109	1.19 49	106	-0.50 35	1.25 50	1.16 37	-0.96 41	97	2				
JR 21 0131 91907006		JR 20 0043 JR 18 0007	2.74	100	100	104	-0.19 56	0.73 39	0.64 104	-0.74 57	96	0.40 25	0.79 42	2.76 34	5.24 29		1				
JR 21 0167 92446608		JR 20 0065 JR 18 0053	2.60	104	106	109	0.31 58	0.95 37	1.10 109	1.04 46	105	0.70 22	1.67 42	2.95 32	4.64 28		1				
JR 21 0183 92446749		JR 20 0078 WS 17 1685	2.10	105	116	99	2.12 60	0.58 37	1.64 115	2.85 45	115	0.10 19	2.75 42	14.84 33	-12.08 26		1				
JR 21 0208 92446921		JR 20 0065 KERN 17 0173	1.21	103	107	111	-0.03 58	1.51 36	1.50 114	0.56 43	103	-0.90 19	0.95 41	0.89 33	6.04 30		1				
JR 21 0232 92447101		JR 20 0078 KERN 17 0174	1.64	106	116	105	1.62 58	1.17 36	1.98 119	2.37 41	112	0.00 20	2.79 41	14.86 35	-8.66 31		1				
JR 22 0032 93664928		CC 17 0756 JR 17 0015	1.90	98	109	90	1.84 66	-0.33 54	0.59 104	2.14 64	111	-0.10 43	1.45 56	8.78 39	-0.10 41		0				
JR 22 0060 93665289		CC 17 0756 CC 18 0256	7.02	82	94	73	0.67 67	-1.39 56	-1.05 86	0.01 68	100	-1.50 48	-1.62 58	4.48 44	9.00 44		0				
JR 22 0084 93665248		CC 17 0756 JR 15 0088	0.93	95	111	91	1.69 66	0.19 55	1.03 109	2.69 65	114	-2.40 41	0.44 56	4.24 39	10.13 40		0				
JR 22 0112 95932968		JR 20 0065 JR 19 0025	4.80	94	100	97	-0.08 59	0.31 36	0.28 101	0.23 45	101	-1.90 23	-0.90 42	-1.27 22	0.77 25		0				
JR 22 0116 93665529		JR 20 0176 JR 18 0002	3.61	98	99	101	-0.14 57	0.28 43	0.21 100	-0.01 46	100	1.50 32	1.04 46	4.89 32	5.61 34		0				
JR 22 0119 93665263		CC 17 0756 JR 18 0079	3.62	90	101	88	0.63 58	-0.25 54	0.06 98	0.58 57	103	-0.10 43	0.32 53	8.42 41	11.70 42		0				



Ewes



Genotyped

Inbreeding in red is high

EBV - Estimated Breeding Value

Indices >=124
Above breed average
Indices <= 76

Acc: Accuracy of the breeding value
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Index: Expresses the EBV around 100 where 100 is set as the average EBV of active animals

Animal Information					Selection Indices			EBV - Weights				EBV - Fertility							
Animal ID	Parents			% In-breeding	Logix Merit Index	Growth Index	Reproduction	Wean Weight		Comb	Post-Wean	Number Weaned	TWW		AFL		ILP	EPI	Times Lamberd
Comp no.	Sire	Dam	Dir					Mat	EBV				EBV	EBV	EBV	EBV			
								Acc Index	Acc Index	Index	Index	Index	Index	Index	Index	Acc Index	Acc Index	Acc Index	Acc Index
Active Breed Average:					100	100	100	-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95				
JR 22 0122 95835393	CC 17 0756 JR 19 0023		2.33	89	107	82	1.53 64 111	-0.25 52 93	0.52 103	1.60 63 108	-3.10 43 83	-0.57 55 94	7.75 40 80	2.99 41 95			0		
JR 22 0136 95850046	CC 19 0610 JR 19 0031		1.12	103	106	102	0.99 55 106	0.14 43 101	0.64 104	1.94 53 110	1.00 32 103	1.73 45 106	0.79 31 100	7.04 32 89			0		
JR 22 0173 95865564	CC 19 0610 JR 18 0051		1.74	101	101	103	0.14 49 99	0.22 41 102	0.28 101	0.77 48 104	1.20 29 104	1.07 41 102	0.15 28 102	3.48 27 94			0		
JR 23 0017 96715511	JR 21 0161 JR 20 0196		2.25	104	109	99	1.58 41 111	0.16 30 101	0.95 108	1.68 38 109	-1.30 23 92	0.96 33 102	-1.56 25 107	-0.48 27 100			0		
JR 23 0064 96715271	JR 21 0182 JR 20 0213		2.26	105	111	103	1.35 43 109	0.58 30 109	1.26 111	1.76 35 109	-0.20 20 97	1.81 33 106	4.81 23 89	-4.62 24 105			0		
JR 23 0078 96715438	CC 19 0610 JR 20 0094		3.55	111	117	111	1.75 56 113	0.96 43 116	1.83 117	3.63 54 119	0.90 34 102	3.25 46 114	2.68 33 95	9.10 33 86			0		
JR 23 0110 100038439	CC 19 0610 JR 18 0005		4.47	109	108	110	0.87 58 105	0.61 48 110	1.05 109	1.82 53 110	1.90 34 107	2.62 49 110	1.65 34 98	3.88 34 93			0		
JR 23 0114 100038454	CC 19 0610 JR 17 0073		1.22	110	115	111	1.56 55 111	0.92 47 116	1.70 116	3.21 52 117	0.60 31 101	2.84 46 111	0.98 31 100	10.50 32 84			0		
Ewe flock average: Total ewes in flock: 23					100	106	100	0.85	0.36	0.78	1.22	-0.13	1.13	3.69	3.46				

Sires Used in Flock



Genotyped

*Inbreeding in red is high

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Indices >=124
Above breed average
Indices <= 76

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Animal Information		Parents & Progeny						Selection Indices			EBV - Weights				EBV - Fertility					
Animal ID Computer nr	% In- breedin	Sire ID Dam ID		1st Generation		2nd Generation		LMI	GI	RI	Weaning Weight		Comb	Post-Wean	Number Weaned	TWW	AFL	ILP	Dam	
				Prog	Nr	Prog	Nr				Dir	Mat								EBV
		Acc	Index	Acc	Index	EBV	Index				EBV	Index	EBV	Index	Acc	Index	Acc	Index		Acc
		Active Breed Average:						100	100	100	-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95		
CC 14 0303 74386053	1.51	CRC 10 0560 CRC 09 0364	31	2	20	2	105	95	107	-0.43 87	-0.02 94	-0.24 95	-0.67 85	5.20 58	2.67 123	5.55 78	4.59 111	144	6	
JR 15 0059 75636852	0.73	KI 12 0524 JR 11 0038	13	1	3	1	94	102	91	0.67 71	-0.03 104	0.30 98	0.29 101	-1.60 34	-0.32 90	3.50 57	0.20 95	104	4	
JR 17 0017 82257890	1.30	JR 15 0059 JR 15 0116	34	2	16	1	81	89	75	-0.09 83	-1.17 97	-1.22 67	-1.44 76	-2.60 39	-2.82 85	2.54 67	-7.27 82	77	4	
CC 17 0756 80198427	2.67	CC 15 0310 CC 16 0504	1633	11	189	3	85	111	75	2.32 99	-0.50 118	0.66 89	3.02 89	-3.20 79	-0.10 83	12.60 91	11.89 96	131	6	
MM 18 0001 81062689	2.82	CC 15 0407 MM 14 0031	28	1	8	1	98	105	90	1.50 82	-0.31 111	0.44 65	0.89 92	-2.30 55	-0.19 87	-0.77 96	-2.81 52	142	8	
CC 19 0610 86056579	3.12	CC 17 0528 CC 15 0004	105	5	14	2	114	117	113	1.93 92	0.54 114	1.50 70	4.49 108	2.60 58	4.03 110	1.29 76	6.77 118	153	7	
JR 20 0043 86557519	0.63	CC 17 0674 JR 14 0034	8	1			91	93	99	-1.34 70	0.87 86	0.21 47	-2.64 115	-1.60 35	-1.42 90	2.65 53	0.43 89	140	10	
JR 20 0065 89233506	0.97	CC 17 0674 JR 15 0088	30	1			101	106	109	-0.13 81	1.27 97	1.20 47	0.98 122	-0.90 31	0.60 94	-0.18 56	7.01 100	140	8	
JR 20 0078 89233555	1.33	CC 17 0674 JR 17 0015	31	1	1	1	114	124	105	3.27 83	0.55 126	2.18 46	4.73 109	1.40 34	4.66 104	13.14 57	-10.37 121	119	5	
JR 20 0176 91126490	2.91	CC 16 0164 CC 16 0352	7	1			106	102	109	0.17 73	0.31 99	0.40 58	1.02 104	3.40 53	2.53 114	3.63 63	1.59 110	133	7	
JR 21 0161 92446566	2.57	KERN 18 0437 CC 18 0305					115	119	111	2.47 57	0.73 119	1.96 37	3.18 112	-0.30 32	3.02 96	-3.04 44	6.78 112	91	6	
JR 21 0182 92446731	2.10	JR 20 0078 WS 17 1685	1	1			106	113	103	1.68 62	0.64 112	1.48 37	2.33 110	0.10 19	2.38 98	8.45 42	-8.29 109	122	5	
		Sire Flock Average: Nr of sires used in the flock: 12						101	106	99	1.00	0.24	0.74	1.35	0.02	1.25	4.11	0.88		

Ram Selection List: LMI

Animals sorted on LMI

Inbreeding in red is high

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Indices >=124
Above breed average
Indices <= 76

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Index: Expresses the EBV around 100 where 100 is set as the average EBV of active animals

Animal Information		Parents & Progeny				Selection Indices			EBV - Weights				EBV - Fertility					
Animal ID Computer nr	% In- bding	Sire ID Dam ID	1st Generation		2nd Generation		LMI	GI	RI	Weaning Weight		Comb	Post-Wean	Number Weaned	TWW	AFL	ILP	Dam
			Prog	Nr	Prog	Nr				Dir	Mat							
			Weaned	Herds	Weaned	Herds				EBV Acc Index	EBV Acc Index							
Active Breed Average:			100	100	100	-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95					
1 JR 21 0171 92446624	3.43	JR 20 0078 JR 18 0005	4	1		110	114	105	1.90 66	0.51 41	1.46 113	2.28 57	1.30 25	3.19 47	7.58 28	-4.69 30	107	6

Ewe Selection List: LMI

Animals sorted on LMI

Inbreeding in red is high

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Index: Expresses the EBV around 100 where 100 is set as the average EBV of active animals

Animal Information			Parents	Selection Indices			EBV - Weights							EBV - Fertility									
Animal ID Computer nr			% In-breeding	Sire ID Dam ID		LMI	GI	RI	Weaning Weight		Comb	Post-Wean		Number Weaned		TWW		AFL		ILP		EPI	Times Lambd
									Dir	Mat		EBV	EBV	EBV	EBV	Acc	Index	Acc	Index	EBV	EBV		
									Acc	Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index	Phenotype		
Active Breed Average:				100	100	100				-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95						
1	JR	23 0078 96715438	3.55	CC JR	19 0610 20 0094	111	117	111	1.75 56	0.96 43	1.83 117	3.63 54	0.90 34	3.25 46	2.68 33	9.10 86						0	
2	JR	23 0114 100038454	1.22	CC JR	19 0610 17 0073	110	115	111	1.56 55	0.92 47	1.70 116	3.21 52	0.60 31	2.84 46	0.98 31	10.50 84						0	
3	JR	23 0110 100038439	4.47	CC JR	19 0610 18 0005	109	108	110	0.87 58	0.61 48	1.05 109	1.82 53	1.90 34	2.62 49	1.65 34	3.88 93						0	
4	JR	21 0232 92447101	1.64	JR KERN	20 0078 17 0174	106	116	105	1.62 58	1.17 36	1.98 119	2.37 41	0.00 20	2.79 41	14.86 35	-8.66 111						1	
5	JR	17 0073 86363280	0.63	JR JR	15 0059 13 0073	106	114	108	1.20 60	1.30 62	1.90 118	1.93 56	-1.40 21	1.65 52	0.66 27	14.23 79	104				7		
6	JR	21 0183 92446749	2.10	JR WS	20 0078 17 1685	105	116	99	2.12 60	0.58 37	1.64 115	2.85 45	0.10 19	2.75 42	14.84 33	-12.08 116						1	
7	JR	23 0064 96715271	2.26	JR JR	21 0182 20 0213	105	111	103	1.35 43	0.58 30	1.26 111	1.76 35	-0.20 20	1.81 33	4.81 23	-4.62 105						0	
8	JR	20 0213 91102194	1.55	MM JR	18 0001 18 0053	104	108	103	1.03 59	0.52 49	1.03 109	1.19 49	-0.50 35	1.25 50	1.16 37	-0.96 100	97				2		
9	JR	23 0017 96715511	2.25	JR JR	21 0161 20 0196	104	109	99	1.58 41	0.16 30	0.95 108	1.68 38	-1.30 23	0.96 33	-1.56 25	-0.48 100						0	
10	JR	21 0167 92446608	2.60	JR JR	20 0065 18 0053	104	106	109	0.31 58	0.95 37	1.10 109	1.04 46	0.70 22	1.67 42	2.95 32	4.64 92						1	
11	JR	18 0005 84254911	0.63	CC JR	14 0303 14 0034	104	100	107	-0.18 69	0.68 67	0.59 104	-0.85 60	1.20 36	1.22 61	2.02 38	0.98 98	107				6		
12	JR	21 0208 92446921	1.21	JR KERN	20 0065 17 0173	103	107	111	-0.03 58	1.51 36	1.50 114	0.56 43	-0.90 19	0.95 41	0.89 33	6.04 90						1	
13	JR	22 0136 95850046	1.12	CC JR	19 0610 19 0031	103	106	102	0.99 55	0.14 43	0.64 104	1.94 53	1.00 32	1.73 45	0.79 31	7.04 89						0	
14	JR	22 0173 95865564	1.74	CC JR	19 0610 18 0051	101	101	103	0.14 49	0.22 41	0.28 101	0.77 48	1.20 29	1.07 41	0.15 28	3.48 94						0	

Ewe Selection List: LMI

Animals sorted on LMI

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Animal Information				Parents		Selection Indices			EBV - Weights						EBV - Fertility							
Animal ID Computer nr				% In-breeding	Sire ID Dam ID		LMI	GI	RI	Weaning Weight				Number Weaned	TWW	AFL	ILP	EPI	Times Lambded			
										Dir	Mat	Comb	Post-Wean							EBV	EBV	EBV
										Acc	Index	Acc	Index	Acc	Index	Acc	Index	Phenotype				
Active Breed Average:							100	100	100	-0.34	-0.06	-0.23	-1.02	0.27	-0.23	0.04	-0.95					
15	JR	21	0131	2.74	JR	20 0043	100	100	104	-0.19	0.73	0.64	-0.74	0.40	0.79	2.76	5.24	1				
91907006					JR	18 0007				56	96	39	112	104	57	96	25		100	42	101	34
16	JR	22	0032	1.90	CC	17 0756	98	109	90	1.84	-0.33	0.59	2.14	-0.10	1.45	8.78	-0.10	0				
93664928					JR	17 0015				66	114	54	92	104	64	111	43		97	56	104	39
17	JR	22	0116	3.61	JR	20 0176	98	99	101	-0.14	0.28	0.21	-0.01	1.50	1.04	4.89	5.61	0				
93665529					JR	18 0002				57	97	43	104	100	46	100	32		105	46	102	32
18	JR	22	0084	0.93	CC	17 0756	95	111	91	1.69	0.19	1.03	2.69	-2.40	0.44	4.24	10.13	0				
93665248					JR	15 0088				66	112	55	102	109	65	114	41		86	56	99	39
19	JR	22	0112	4.80	JR	20 0065	94	100	97	-0.08	0.31	0.28	0.23	-1.90	-0.90	-1.27	0.77	0				
95932968					JR	19 0025				59	97	36	104	101	45	101	23		89	42	92	22
20	JR	22	0119	3.62	CC	17 0756	90	101	88	0.63	-0.25	0.06	0.58	-0.10	0.32	8.42	11.70	0				
93665263					JR	18 0079				58	103	54	93	98	57	103	43		97	53	98	41
21	JR	22	0122	2.33	CC	17 0756	89	107	82	1.53	-0.25	0.52	1.60	-3.10	-0.57	7.75	2.99	0				
95835393					JR	19 0023				64	111	52	93	103	63	108	43		83	55	94	40
22	JR	19	0037	1.04	JR	17 0017	85	84	82	-0.78	-1.32	-1.71	-2.36	0.90	-1.56	1.36	3.63	102	3			
86398419					JR	18 0034				60	91	57	73	79	57	88	28			102	51	89
23	JR	22	0060	7.02	CC	17 0756	82	94	73	0.67	-1.39	-1.05	0.01	-1.50	-1.62	4.48	9.00	0				
93665289					CC	18 0256				67	104	56	72	86	68	100	48			91	58	88