

Boer Goat Genetic Analysis

SA Stud Book

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CERTIFICATE
OF QUALITY

Valid up to
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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.

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

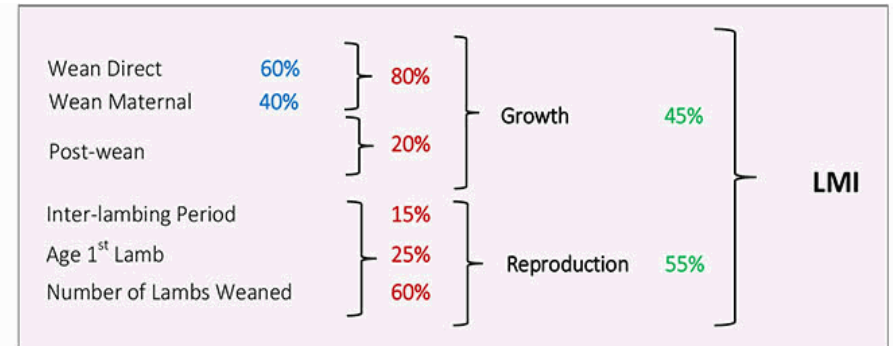
Logix Merit Index (LMI)

This index combines all the traits to select for a balanced, profitable animal that is fertile and delivers a desirable level of production. 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, lambs regularly and give multiple lambs. 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 :

$$LMI = (0.1375 * AFL) + (0.0825 * ILP) + (0.216 * Wean Dir) + (0.144 * Wean Mat) + (0.33 * N_Lambs_Weaned) + (0.09 * Post-Wean Dir)$$

Schematically the LMI can be explained as follows :



Reproduction Index (RI)

This index includes Weaning Maternal, Number of Lambs Weaned, Age at First Lambing and Inter-lambing Period. This is especially an important index to consider in the development of a dam line.

The RI is constructed as follows :

$$(0.2 * AFL) + (0.2 * ILP) + (0.3 * Wean Mat) + (0.3 * N_Lambs_Weaned)$$

Schematically it can be explained as follows :



It is always important to consider the traits that contribute to the index individually when selection of animals is based on indices. It sometimes happen that an animal receives a good index due to its exceptional genetic merit of a specific trait, while some of the other traits of the animal in the index might be at undesirable levels for the specific flock's breeding objective, but masked in the index due to the exceptionality of that trait. A sound procedure is to rank animals based on the relevant selection index and then eliminate animals from the list that do not conform towards the flock's breeding objectives when considering the individual traits. Make use of all the available information.

Active Genetic Levels

Genetic Averages : Breeding Values

Trait	Flock			Breed		
	All	Rams	Ewes	All	Rams	Ewes
Weaning Weight Direct	-0.25	-0.43	-0.17	-0.23	-0.17	-0.26
Weaning Weight Maternal	-0.01	0.00	-0.01	-0.09	-0.10	-0.08
Weaning Weight Combined	-0.13	-0.21	-0.10	-0.20	-0.19	-0.21
Post-wean Weight	-0.02	-0.26	0.09	-0.05	0.04	-0.10
Number Lambs Weaned	-0.42	-0.03	-0.60	-0.17	-0.26	-0.13
Total Weight Weaned	-0.51	-0.44	-0.54	-0.42	-0.43	-0.41
Age at First Lambing	-2.94	-3.18	-2.83	0.50	0.60	0.46
Inter-lambing Period	-0.72	-0.37	-0.88	-0.06	-0.04	-0.07
Selection Indices						
Logix Merit Index	100	100	100	99	99	99
Reproduction Index	103	104	103	100	100	100
Inbreeding						
Inbreeding (%)	4.19	4.33	4.13	4.85	5.29	4.66
Number of Animals						
Number of Animals	13	4	9	38208	11342	26785

** Averages of all active animals in the flock.

Breeding Value Indices

Trait	Flock **		
	All	Rams	Ewes
Weaning Weight Direct	97.9	96.0	98.7
Weaning Weight Maternal	102.2	102.5	102.1
Weaning Weight Comb	99.6	98.3	100.2
Post-wean Weight	98.2	96.5	98.9
Number Lambs Weaned	98.4	100.6	97.4
Total Weight Weaned	98.2	98.7	98.0
Age First Lambing	103.7	104.1	103.6
Interlambing Period	103.4	102.4	103.9
Selection Indices			
Logix Merit Index	100.0	100.3	99.8
Ewe Index	103.0	104.2	102.5
Growth Index	98.3	96.6	99.1
Inbreeding			
Inbreeding (%)	4.19	4.33	4.13
Number of Animals			
Number of Animals	13	4	9

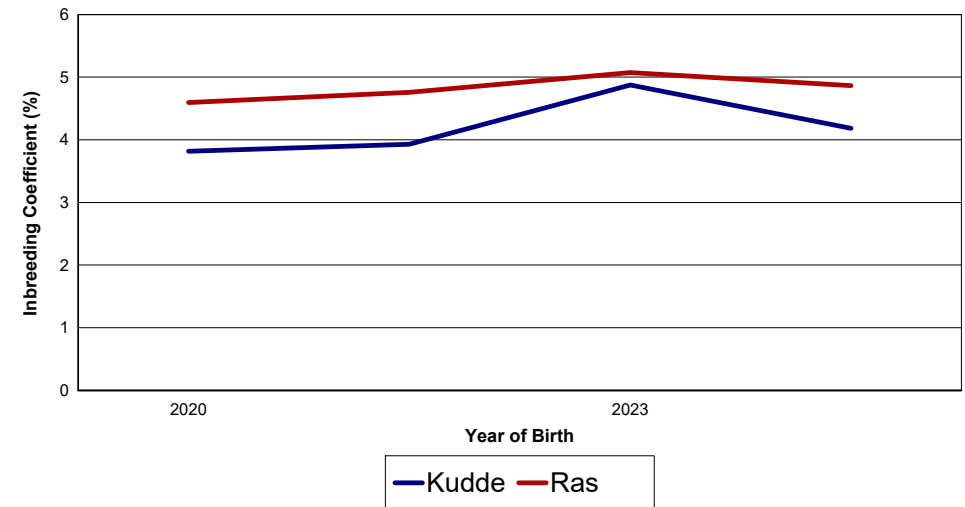
** Averages of all active animals in the flock.

Inbreeding

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.

Average Inbreeding per Year of Birth



Level and Rate of Inbreeding

Year of Birth	Level* (%)	Rate (% / year)
2020 - 2024	4.18	0.09
Recommended:	< 6.25	< 0.1 - 0.2

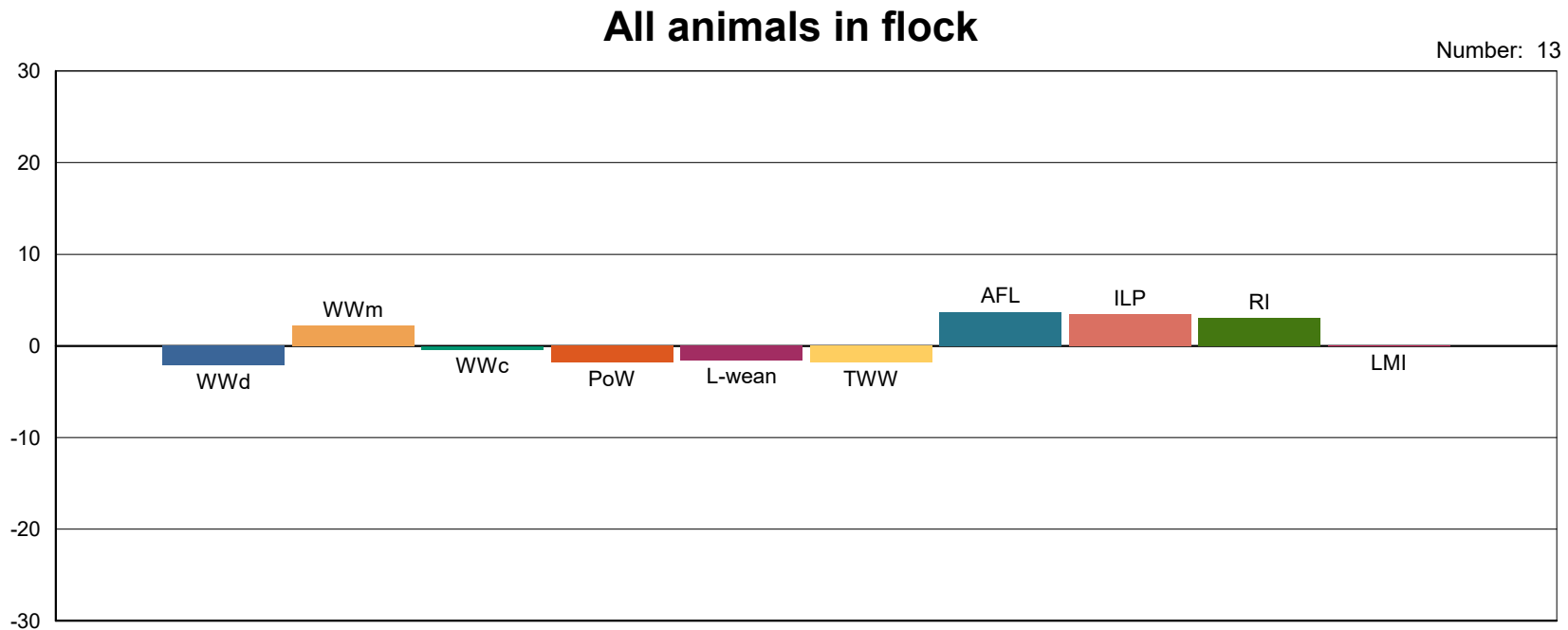
*Of the last year of birth

Pedigree Information

	Number	%
Known Sires	13	100
Known Dams	13	100

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-Wean Weight
L-wean: Number of Lambs Weaned
TWW: Total Weight Weaned
AFL: Age at First Lambing
ILP: Inter-lambing Period
RI: Reproduction Index
LMI: Logix Merit Index

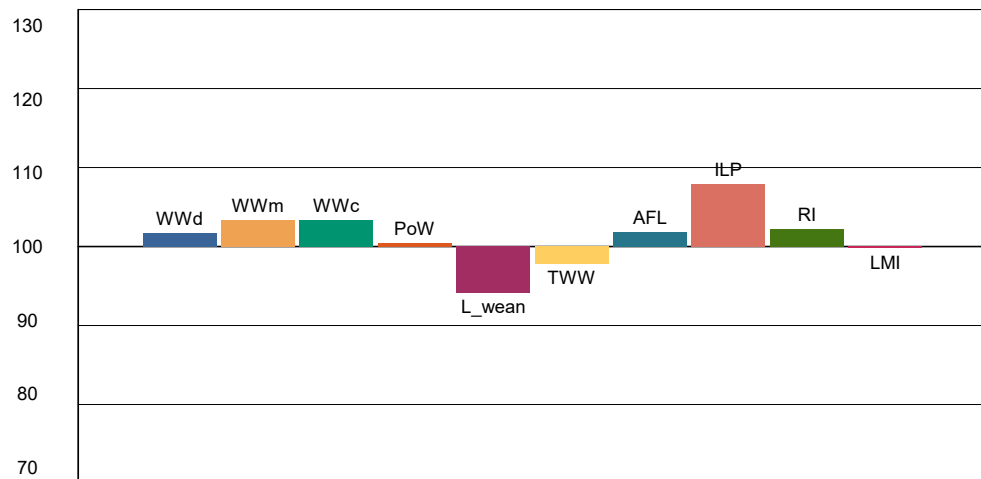
The genetic windows allow a quick overview of the genetic status of the flock compared to the breed. The values presented here are the average EBV indices of all the active animals of the flock, of the dams and sires of the active animals of the flock, as well as of the ewes and rams that are younger 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

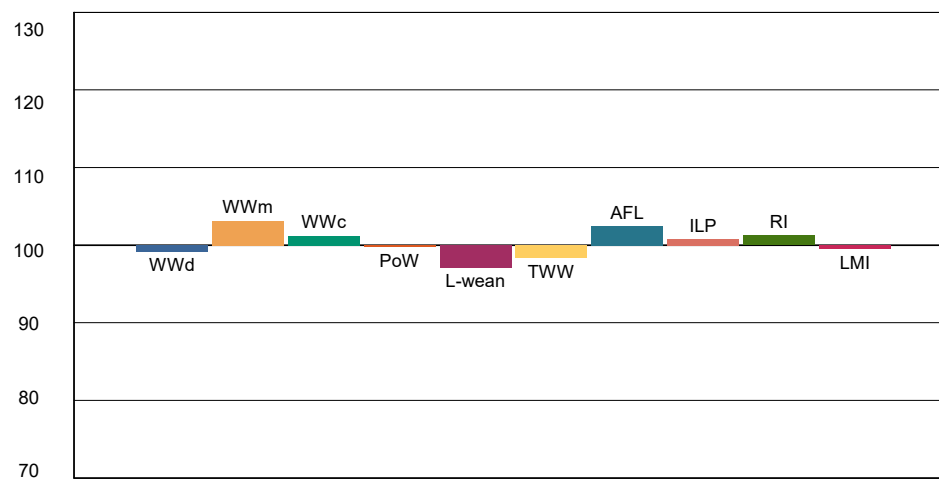
Dams

Number: 7



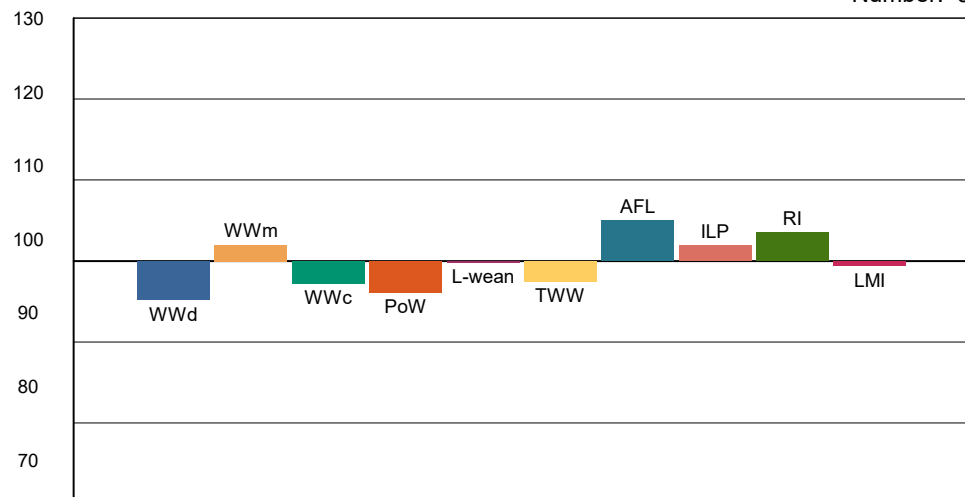
Sires

Number: 6



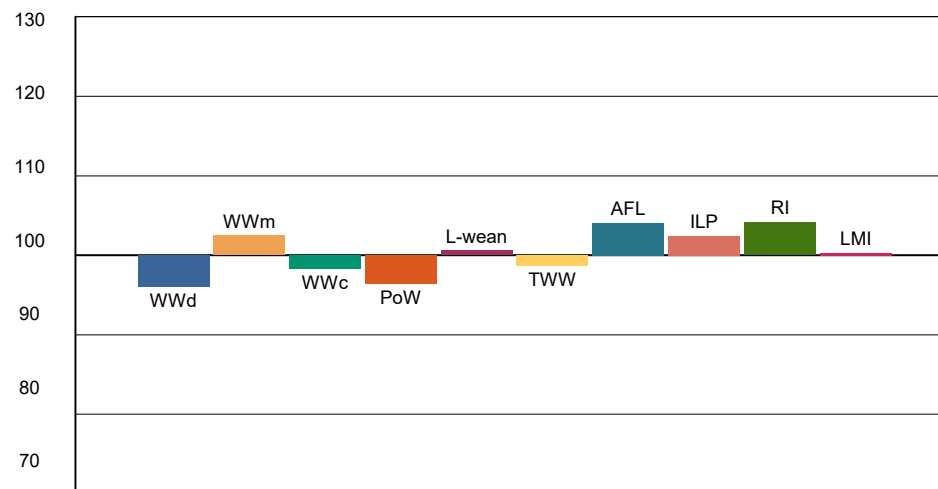
Young Ewes

Number: 5



Young Rams

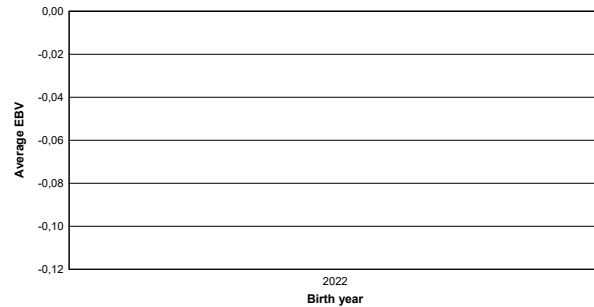
Number: 4



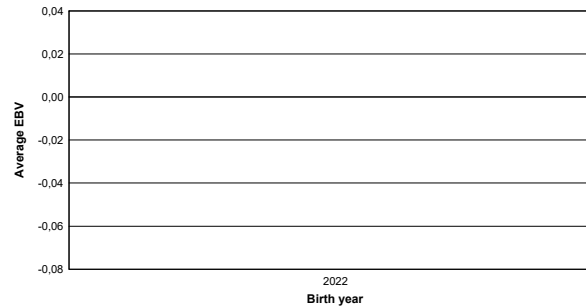
Genetic Trends

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

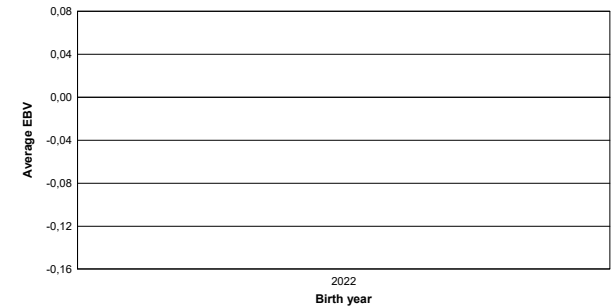
Weaning Weight Direct



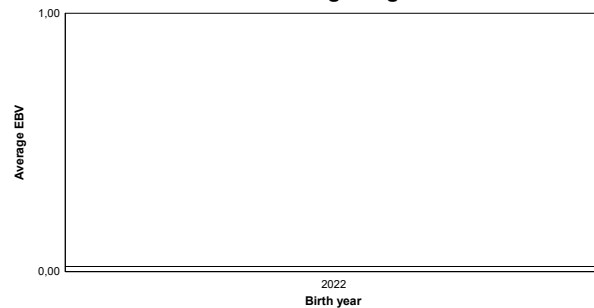
Wean Weight Maternal



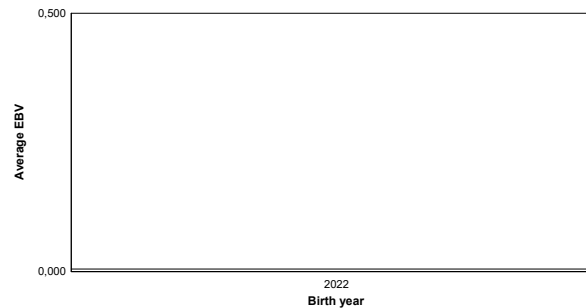
Weaning Weight Combined



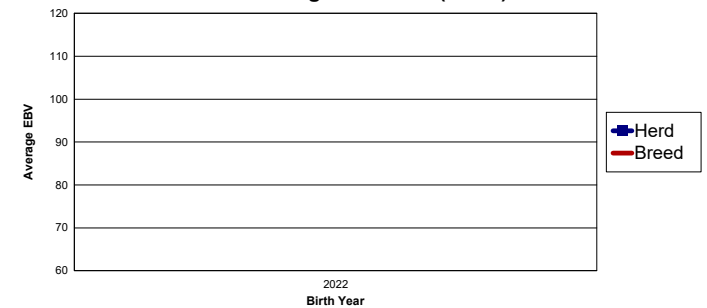
Post-weaning Weight



Number of Lambs Weaned

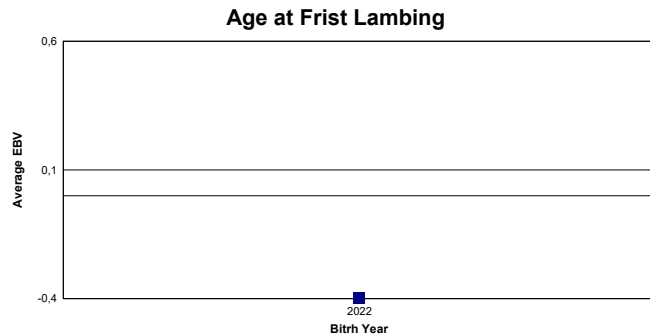


Total Weight Weaned (TWW)

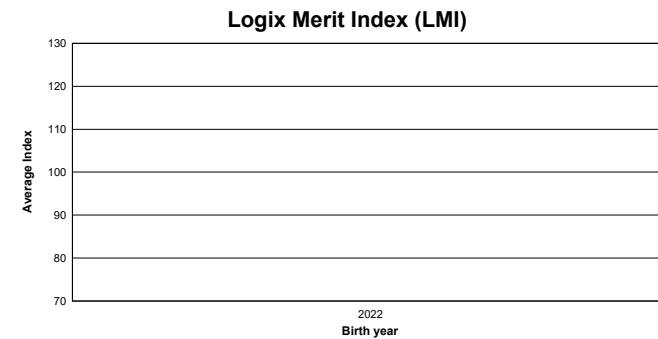
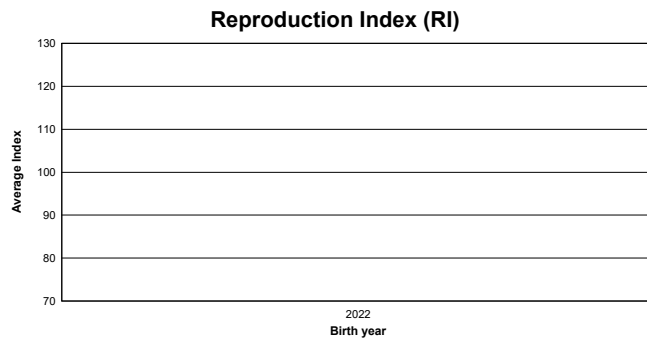
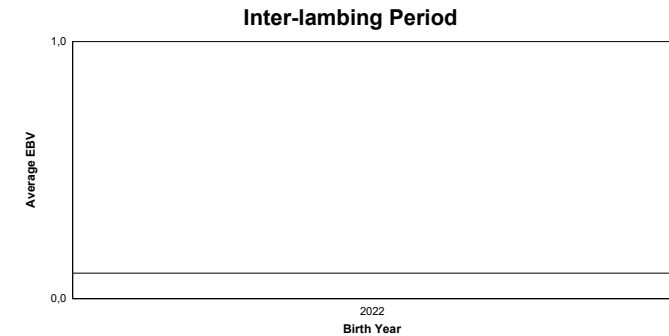


Genetic Trends

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 EBV				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
2012	1431	-0.32	0.01	-0.15	108	0.20	470	-0.06	1431	99	1140	-1.78	663	0.10	1431	102	1431	100
2013	1336	-0.37	-0.01	-0.20	108	0.31	507	-0.10	1336	97	1072	-1.86	650	0.61	1336	101	1336	98
2014	1007	-0.35	-0.10	-0.28	58	-0.14	676	-0.19	1007	96	1063	-0.71	658	0.55	1007	98	1007	96
2015	1626	-0.18	0.03	-0.06	233	0.88	711	0.34	1626	101	1164	-1.37	706	0.17	1626	103	1626	101
2016	1804	-0.24	0.00	-0.12	239	0.54	796	-0.16	1804	99	1273	-0.97	874	-0.06	1804	102	1804	100
2017	2163	-0.30	-0.03	-0.17	313	0.91	824	0.19	2120	98	1371	-0.96	961	0.21	2120	101	2120	99
2018	2547	-0.28	0.06	-0.09	236	0.38	870	0.11	2519	99	1785	0.56	1212	-0.70	2519	102	2519	99
2019	2144	0.00	0.00	0.00	254	0.00	806	0.00	2138	100	2038	0.00	1296	0.00	2138	101	2138	101
2020	2459	-0.10	-0.01	-0.06	436	-0.76	725	0.29	2459	101	2609	0.53	1441	-0.11	2459	101	2459	100
2021	1738	-0.04	-0.13	-0.14	330	-0.19	610	0.14	1738	101	2633	0.94	1127	-0.15	1738	102	1738	102
2022	2514	-0.11	-0.07	-0.13	427	0.12	377	0.03	2514	101	1973	0.12	362	0.52	2514	102	2514	101
2023	2848	-0.19	-0.08	-0.18	460	0.10	39	-0.16	2844	99	513	1.04	2	1.62	2844	100	2844	99

Genetic Trends of Flock

Birth year	Weaning Weight EBV				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
2022											1	-0.40						

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	SA*	Min	Percentiles (%)															Max
				1	5	10	20	25	30	40	50	60	70	75	80	90	95	99	
Weaning Weight Direct	-0.23	0.72	-3.81	-1.85	-1.19	-0.92	-0.72	-0.69	-0.63	-0.47	-0.33	-0.19	0.00	0.11	0.26	0.67	1.09	2.02	5.65
Weaning Weight Maternal	-0.09	0.30	-2.15	-0.90	-0.58	-0.45	-0.29	-0.24	-0.19	-0.13	-0.07	-0.02	0.04	0.05	0.09	0.23	0.38	0.75	2.13
Weaning Weight Combined	-0.20	0.42	-2.48	-1.30	-0.84	-0.63	-0.45	-0.40	-0.36	-0.30	-0.25	-0.17	-0.07	-0.02	0.05	0.27	0.53	1.20	3.03
Post-Wean Weight	-0.05	1.12	-6.96	-2.62	-1.44	-1.10	-0.87	-0.79	-0.69	-0.46	-0.22	0.04	0.33	0.50	0.71	1.35	1.96	3.46	7.93
Number of Lambs Weaned	-0.17	1.52	-8.00	-4.30	-2.90	-2.20	-1.30	-1.10	-0.80	-0.30	0.10	0.40	0.80	0.90	0.90	1.10	1.90	3.80	8.90
Total Weight Weaned	-0.42	1.21	-6.47	-3.44	-2.40	-1.85	-1.25	-1.04	-0.85	-0.56	-0.34	-0.14	-0.02	0.08	0.22	0.73	1.46	3.68	7.71
Age at First Lambing	0.50	-6.75	67.98	18.78	11.00	8.00	4.82	3.70	2.73	1.36	0.15	-0.61	-1.73	-2.48	-3.34	-6.14	-9.49	-20.47	-74.89
Interlambing Period	-0.06	-3.59	23.56	9.66	5.89	4.24	2.51	1.91	1.42	0.58	-0.23	-0.81	-1.66	-2.10	-2.64	-4.26	-5.68	-9.08	-22.00
Reproduction Index	100	9	48	74	84	88	94	95	97	99	102	103	105	106	107	109	112	120	149
Logix Merit Index	99	8	62	79	86	89	93	95	96	98	100	101	102	102	103	106	111	124	144

*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	SA*	Min	Percentiles (%)															Max
				1	5	10	20	25	30	40	50	60	70	75	80	90	95	99	
Weaning Weight Direct	-0.17	0.75	-3.81	-1.96	-1.16	-0.89	-0.69	-0.64	-0.56	-0.41	-0.28	-0.13	0.06	0.19	0.33	0.75	1.16	2.21	5.65
Weaning Weight Maternal	-0.10	0.27	-1.89	-0.83	-0.56	-0.44	-0.30	-0.25	-0.21	-0.14	-0.09	-0.03	0.02	0.04	0.08	0.20	0.32	0.59	1.20
Weaning Weight Combined	-0.19	0.41	-1.80	-1.21	-0.78	-0.60	-0.43	-0.38	-0.35	-0.30	-0.24	-0.17	-0.07	-0.01	0.06	0.27	0.52	1.16	3.03
Post-Wean Weight	0.04	1.13	-6.77	-2.49	-1.37	-1.04	-0.82	-0.70	-0.56	-0.36	-0.12	0.14	0.43	0.62	0.81	1.42	2.05	3.67	7.93
Number of Lambs Weaned	-0.26	1.49	-7.30	-4.20	-2.90	-2.20	-1.50	-1.20	-0.90	-0.40	-0.10	0.30	0.60	0.80	0.90	1.00	1.80	3.70	7.50
Total Weight Weaned	-0.43	1.24	-5.17	-3.28	-2.41	-1.90	-1.31	-1.09	-0.89	-0.60	-0.37	-0.16	-0.03	0.07	0.20	0.70	1.48	3.97	7.71
Age at First Lambing	0.60	-6.24	45.00	17.18	10.46	7.67	4.81	3.74	2.81	1.50	0.33	-0.49	-1.53	-2.25	-3.07	-5.65	-8.73	-19.44	-55.39
Interlambing Period	-0.03	-3.30	20.62	8.83	5.55	4.12	2.45	1.89	1.38	0.57	-0.22	-0.82	-1.65	-2.06	-2.55	-4.03	-5.26	-7.97	-12.85
Reproduction Index	100	9	48	75	84	88	93	95	96	99	101	103	105	106	106	109	111	119	133
Logix Merit Index	99	8	66	80	86	89	93	95	96	98	99	101	102	102	103	106	111	125	143

All Active Ewes

Trait	AVG	SA*	Min	Percentiles (%)															Max
				1	5	10	20	25	30	40	50	60	70	75	80	90	95	99	
Weaning Weight Direct	-0.26	0.70	-3.42	-1.82	-1.20	-0.93	-0.74	-0.69	-0.66	-0.51	-0.36	-0.21	-0.03	0.08	0.22	0.63	1.05	1.89	4.32
Weaning Weight Direct	-0.08	0.31	-2.15	-0.92	-0.59	-0.45	-0.29	-0.23	-0.19	-0.12	-0.06	-0.01	0.04	0.07	0.10	0.25	0.41	0.81	2.13
Weaning Weight Combined	-0.21	0.43	-2.48	-1.34	-0.86	-0.64	-0.46	-0.41	-0.36	-0.30	-0.25	-0.18	-0.08	-0.02	0.05	0.27	0.54	1.22	2.45
Post-Wean Weight	-0.10	1.11	-6.96	-2.70	-1.48	-1.14	-0.87	-0.83	-0.71	-0.51	-0.27	-0.01	0.28	0.45	0.65	1.29	1.91	3.33	7.45
Number of Lambs Weaned	-0.13	1.53	-8.00	-4.40	-2.90	-2.20	-1.30	-1.00	-0.70	-0.20	0.20	0.50	0.80	0.90	0.90	1.10	1.90	3.80	8.90
Total Weight Weaned	-0.41	1.20	-6.47	-3.51	-2.40	-1.82	-1.23	-1.02	-0.84	-0.54	-0.33	-0.13	-0.01	0.09	0.23	0.74	1.46	3.52	6.84
Age at First Lambing	0.46	-6.97	67.98	19.69	11.41	8.11	4.83	3.68	2.69	1.29	0.08	-0.67	-1.84	-2.58	-3.48	-6.35	-9.83	-20.90	-74.89
Interlambing Period	-0.07	-3.71	23.56	9.90	6.08	4.30	2.54	1.93	1.43	0.58	-0.24	-0.80	-1.66	-2.13	-2.68	-4.40	-5.91	-9.74	-22.00
Reproduction Index	100	9	48	74	84	89	94	96	97	100	102	104	105	106	107	109	113	121	149
Logix Merit Index	99	8	62	79	86	90	94	95	96	98	100	101	102	102	103	106	110	123	144

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

Rams

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	Reproduction	Dir		Wean Weight Mat		Comb	Post-Wean	Number Weaned		TWW		AFL		ILP		Dam	
									Acc	EBV Index	Acc	EBV Index	EBV Index	Acc	EBV Index	Acc	EBV Index	Acc	EBV Index	Acc	EBV Index	EPI	Times Lame	
Active Breed Average:							100	100	-0.23	-0.09	-0.20	-0.05	-0.17	-0.42	0.50	-0.06								
9183	24	0001	762	21	0770	5.89	102	107	-0.55	0.19	-0.09	-0.14	0.20	-0.24	-4.76	0.73								
	99805095		959	20	0082				42	95	30	108	14	102	31	100	30	106	17	99	3			
9183	24	0003	762	21	0770	2.59	105	105	0.08	-0.27	-0.23	0.52	0.80	0.28	-3.38	-2.26								
	99805111		1298	20	0489				38	101	28	95	13	102	28	103	33	104	22	108	3			
9183	24	0005	9176	22	0006	3.47	96	98	-0.43	-0.14	-0.36	-0.38	-0.70	-0.99	2.38	-1.57								
	101387199		9183	22	0001				23	96	19	98	9	97	18	95	22	97	14	106	1			
9183	24	0007	762	21	0770	5.38	99	106	-0.81	0.24	-0.17	-1.06	-0.40	-0.81	-6.96	1.64								
	107207979		9110	22	0002				34	92	26	109	15	99	27	96	26	109	15	97	1			
Ram Flock Average: Number of rams in the flock: 4							100	104	-0.43	0.00	-0.21	-0.26	-0.03	-0.44	-3.18	-0.37								

Ewes

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 Comp no.				% In- breeding	Logix Merit Index	Repro- duction Index	Wean Weight		Post-Wean		Number Weaned	TWW		AFL		ILP		Times EPI Lambed	
							Dir	Mat	Comb										
							EBV Acc Index	EBV Acc Index	EBV Index	EBV Acc Index		EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	Phenotype	
Active Breed Average:					100	100	-0.23	-0.09	-0.20	-0.05	-0.17	-0.42	0.50	-0.06					
959 20 0082 89913479	959 18 0089 959 16 0033	5.51		101	105	0.04 57	0.31 41	0.33 108	0.73 21	103	-1.20 14	-0.37 41	99	-1.33 43	102	-0.80 26	104	3	
1298 20 0489 91008466	16 4 60 DL 1398 18 0055	2.12		107	99	1.28 44	-0.61 35	0.03 102	2.06 23	112	0.00 12	0.67 33	105	1.44 51	98	-6.77 37	121	3	
9183 22 0001 97522866	762 17 0488 1298 20 0489	2.22		99	98	0.17 37	-0.14 28	-0.05 101	0.80 14	104	-1.00 11	-0.57 28	98	-0.40 32	100	-0.49 22	103	1	
9110 22 0002 96691449	959 17 0020 9108 19 0023	5.63		95	103	-0.50 29	0.42 28	0.17 105	-1.11 21	91	-2.30 18	-1.46 26	92	-5.72 30	107	1.01 20	99	1	
9110 23 0001 99094583	762 21 0770 9108 19 0023	4.88		97	104	-0.83 35	0.08 27	-0.34 96	-0.82 14	93	-0.60 16	-1.11 28	95	-6.87 27	109	1.13 16	98	0	
9110 23 0002 99094609	762 21 0770 9108 19 0023	4.88		97	104	-0.83 35	0.08 27	-0.34 96	-0.82 14	93	-0.60 16	-1.11 28	95	-6.87 27	109	1.13 16	98	0	
9183 24 0002 99805103	762 21 0770 959 20 0082	5.89		102	107	-0.55 42	0.19 30	-0.09 100	-0.14 12	97	0.20 14	-0.24 31	100	-4.76 30	106	0.73 17	99	0	
9183 24 0004 99805202	762 21 0770 1298 20 0489	2.59		105	105	0.08 38	-0.27 28	-0.23 98	0.52 13	102	0.80 13	0.28 28	103	-3.38 33	104	-2.26 22	108	0	
9183 24 0006 101387207	9176 22 0006 9183 22 0001	3.47		96	98	-0.43 23	-0.14 19	-0.36 96	-0.38 11	96	-0.70 9	-0.99 18	95	2.38 22	97	-1.57 14	106	0	
	Ewe flock average: Total ewes in flock: 9			100	103	-0.17	-0.01	-0.10	0.09		-0.60	-0.54		-2.83	-0.88				

Sires Used in Flock

*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		Parents & Progeny						Selection Indices		EBV - Weights				EBV - Fertility					
Animal ID Computer nr	% In-breedin g	Sire ID Dam ID	1st Generation		2nd Generation		Logix Merit Index	Reprod Index	Weaning Weight		Post-Wean		Number Weaned	TWW	AFL	ILP	Dam		
			Progen y	Number Herds	Progeny Weaned	Number Herds			Dir EBV Acc Index	Mat EBV Acc Index	Comb EBV Index	Post-Wean EBV Acc Index							
		Active Breed Average:						100	100	-0.23	-0.09	-0.20	-0.05	-0.17	-0.42	0.50	-0.06		
1	IMPA 16 460 82909680	3.33	15 9 61 6DJL 12 0 01 8DL	28	1	4	2	107	89	2.51 87 127	-1.05 69 73	0.21 106	3.89 46 125	-0.80 24 96	0.98 66 107	3.12 92 96	-6.68 69 121	1	
2	959 17 0020 80571094	4.06	762 14 0450 959 15 0031					98	109	-0.47 50 96	0.75 47 123	0.52 111	-1.58 33 88	-1.90 28 90	-0.86 44 96	-5.89 50 108	2.01 32 96	97 7	
3	762 17 0488 80895998	4.13	762 15 0380 762 11 0320					91	96	-0.94 58 91	0.34 43 112	-0.13 100	-0.46 14 95	-2.00 18 90	-1.80 43 90	-2.24 39 103	5.81 23 85	99 7	
4	959 18 0089 82393075	3.21	959 16 0108 1370 15 0004	27	1	7	2	106	105	0.34 80 104	0.18 60 107	0.35 108	1.99 39 112	-0.40 24 99	0.28 59 103	-3.71 72 105	0.57 40 100	8	
5	762 21 0770 93676062	6.01	762 19 0246 762 17 0526					103	110	-1.13 62 89	0.07 43 104	-0.50 93	-1.01 13 92	1.60 24 110	-0.10 46 101	-8.20 42 111	2.26 22 95	167 6	
6	9176 22 0006 95405098	2.91	762 17 0091 1805 19 0049					93	99	-1.03 26 90	-0.15 25 98	-0.66 91	-1.56 17 88	-0.40 15 99	-1.42 23 93	5.16 29 93	-2.66 19 109	3	
			Sire Flock Average: Number of sires used in the flock: 6						100	101	-0.12	0.02	-0.04	0.21	-0.65	-0.49	-1.96	0.22	

Ram Selection List: LMI

Animals sorted on LMI

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		Parents & Progeny			Selection Indices		EBV - Weights				EBV - Fertility				
Animal ID Computer nr	% In-breeding	Sire ID Dam ID	1st Generation	2nd Generation	Logix Merit Index	Reproduction Index	Weaning Weight		Post-Wean	Number Weaned	TWW	AFL	ILP	Dam	
			Progeny Number	Progeny Number			Dir	Mat							Comb
			Weaned	Herds			Weaned	Herds	EBV Acc Index	EBV Acc Index	EBV Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index
			Active Breed Average:		100	100	-0.23	-0.09	-0.20	-0.05	-0.17	-0.42	0.50	-0.06	
1	9183 24 0003 99805111	2.59	762 21 0770 298 20 0489		105	105	0.08 38 101	-0.27 28 95	-0.23 98	0.52 13 102	0.80 13 105	0.28 28 103	-3.38 33 104	-2.26 22 108	3
2	9183 24 0001 99805095	5.89	762 21 0770 959 20 0082		102	107	-0.55 42 95	0.19 30 108	-0.09 100	-0.14 12 97	0.20 14 102	-0.24 31 100	-4.76 30 106	0.73 17 99	3
3	9183 24 0007 107207979	5.38	762 21 0770 1110 22 0002		99	106	-0.81 34 92	0.24 26 109	-0.17 99	-1.06 12 91	-0.40 15 99	-0.81 27 96	-6.96 26 109	1.64 15 97	1
4	9183 24 0005 101387199	3.47	1176 22 0006 1183 22 0001		96	98	-0.43 23 96	-0.14 19 98	-0.36 96	-0.38 11 96	-0.70 9 97	-0.99 18 95	2.38 22 97	-1.57 14 106	1

Ewe Selection List: LMI

Animals sorted on LMI

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		Parents	Selection Indices		EBV - Weights				EBV - Fertility						
Animal ID Computer nr	% In-breeding	Sire ID Dam ID	Logix Merit Index	Repro- duction Index	Weaning Weight		Comb	Post-Wean	Number Weaned	TWW	AFL		ILP	EPI	Times Lambco
					Dir	Mat					Acc	Index			
Active Breed Average:			100	100	-0.23	-0.09	-0.20	-0.05	-0.17	-0.42	0.50	-0.06			
1	1298 20 0489 91008466	2.12	16 4 60 DL 1398 18 0055	107	99	1.28 44 114	-0.61 35 85	0.03 102	2.06 23 112	0.00 12 101	0.67 33 105	1.44 51 98	-6.77 37 121	3	
2	9183 24 0004 99805202	2.59	762 21 0770 1298 20 0489	105	105	0.08 38 101	-0.27 28 95	-0.23 98	0.52 13 102	0.80 13 105	0.28 28 103	-3.38 33 104	-2.26 22 108	0	
3	9183 24 0002 99805103	5.89	762 21 0770 959 20 0082	102	107	-0.55 42 95	0.19 30 108	-0.09 100	-0.14 12 97	0.20 14 102	-0.24 31 100	-4.76 30 106	0.73 17 99	0	
4	959 20 0082 89913479	5.51	959 18 0089 959 16 0033	101	105	0.04 57 101	0.31 41 111	0.33 108	0.73 21 103	-1.20 14 94	-0.37 41 99	-1.33 43 102	-0.80 26 104	3	
5	9183 22 0001 97522866	2.22	762 17 0488 1298 20 0489	99	98	0.17 37 102	-0.14 28 99	-0.05 101	0.80 14 104	-1.00 11 95	-0.57 28 98	-0.40 32 100	-0.49 22 103	1	
6	9110 23 0002 99094609	4.88	762 21 0770 9108 19 0023	97	104	-0.83 35 92	0.08 27 105	-0.34 96	-0.82 14 93	-0.60 16 97	-1.11 28 95	-6.87 27 109	1.13 16 98	0	
7	9110 23 0001 99094583	4.88	762 21 0770 9108 19 0023	97	104	-0.83 35 92	0.08 27 105	-0.34 96	-0.82 14 93	-0.60 16 97	-1.11 28 95	-6.87 27 109	1.13 16 98	0	
8	9183 24 0006 101387207	3.47	9176 22 0006 9183 22 0001	96	98	-0.43 23 96	-0.14 19 98	-0.36 96	-0.38 11 96	-0.70 9 97	-0.99 18 95	2.38 22 97	-1.57 14 106	0	
9	9110 22 0002 96691449	5.63	959 17 0020 9108 19 0023	95	103	-0.50 29 95	0.42 28 114	0.17 105	-1.11 21 91	-2.30 18 88	-1.46 26 92	-5.72 30 107	1.01 20 99	1	