

Boer Goat Genetic Analysis

SA Stud Book

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CERTIFICATE
OF QUALITY

Valid up to
October 2029

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 :

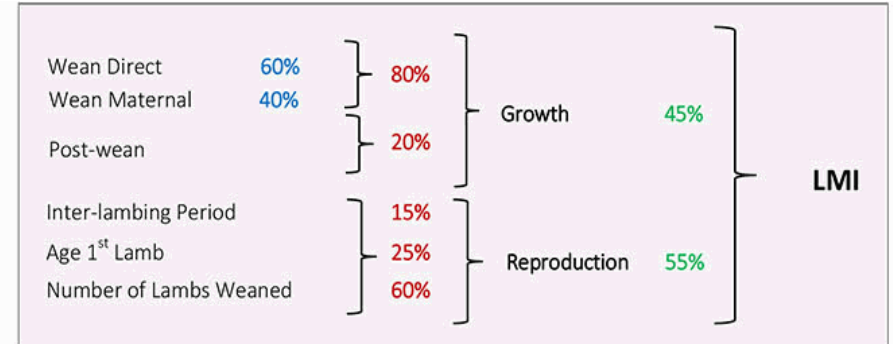
Logix Merit Index (LMI)

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	-0.12	-0.22	-0.11	-0.05	0.01	-0.07
Weaning Weight Maternal	-0.05	0.02	-0.06	-0.09	-0.09	-0.09
Weaning Weight Combined	-0.11	-0.09	-0.12	-0.11	-0.09	-0.13
Post-wean Weight	0.77	0.54	0.79	0.77	0.85	0.73
Number Lambs Weaned	-0.31	0.20	-0.37	-0.50	-0.63	-0.44
Total Weight Weaned	-0.36	-0.08	-0.39	-0.44	-0.46	-0.43
Age at First Lambing	0.30	2.56	0.07	-0.06	0.04	-0.11
Inter-lambing Period	0.37	-1.80	0.60	0.14	0.11	0.16
Selection Indices						
Logix Merit Index	99	101	99	99	99	99
Reproduction Index	100	104	100	100	100	100
Inbreeding						
Inbreeding (%)	3.72	2.82	3.81	5.15	5.52	4.97
Number of Animals						
Number of Animals	22	2	20	45830	14753	30953

** Averages of all active animals in the flock.

Breeding Value Indices

Trait	Flock **		
	All	Rams	Ewes
Weaning Weight Direct	97.1	96.0	97.2
Weaning Weight Maternal	100.7	102.9	100.4
Weaning Weight Comb	98.1	98.5	98.0
Post-wean Weight	98.4	96.9	98.6
Number Lambs Weaned	101.0	103.5	100.7
Total Weight Weaned	99.3	100.9	99.1
Age First Lambing	99.2	96.0	99.5
Interlambing Period	99.9	105.9	99.3
Selection Indices			
Logix Merit Index	99.0	100.7	98.8
Ewe Index	100.4	104.3	99.9
Growth Index	98.0	96.9	98.1
Inbreeding			
Inbreeding (%)	3.72	2.82	3.81
Number of Animals			
Number of Animals	22	2	20

** 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.

Inbreeding Levels for Specific Matings

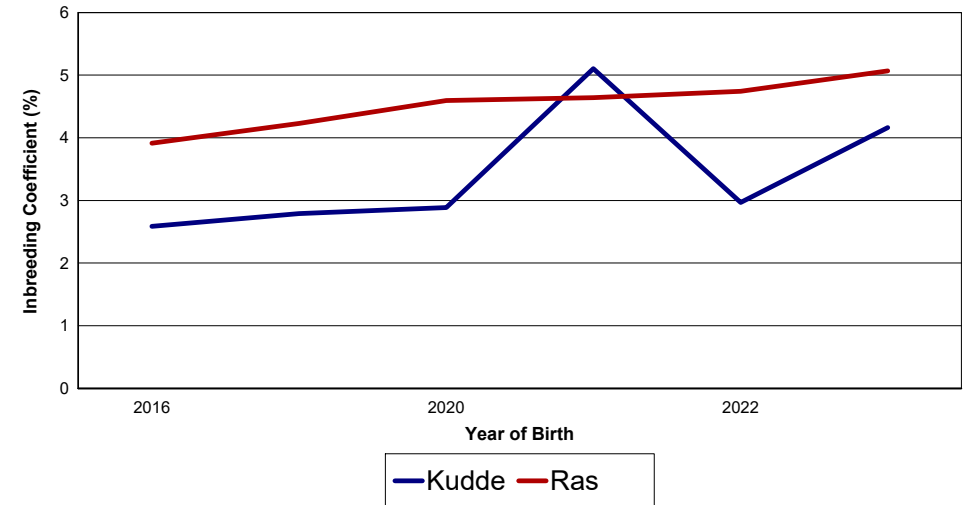
Progeny with Parents :	25%
Full Brother x Full Sister :	25%
Half Brother x Half Sister :	12.5%
One Common Grandparent :	6.25%
One Common Great-Grandparent :	3.125%

Level and Rate of Inbreeding

Year of Birth	Level* (%)	Rate (% / year)
2016 - 2023	4.16	0.23
Recommended:	< 6.25	< 0.1 - 0.2

*Of the last year of birth

Average Inbreeding per Year of Birth

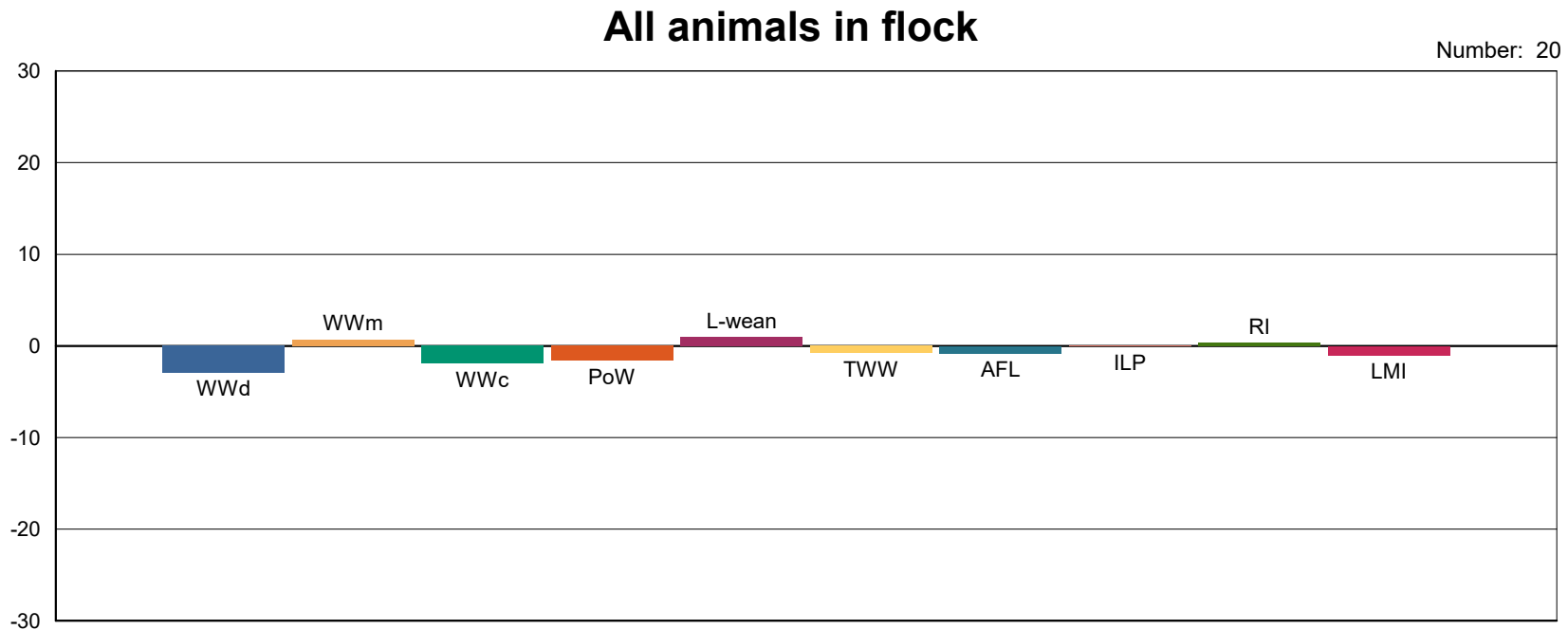


Pedigree Information

	Number	%
Known Sires	20	91
Known Dams	20	91

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

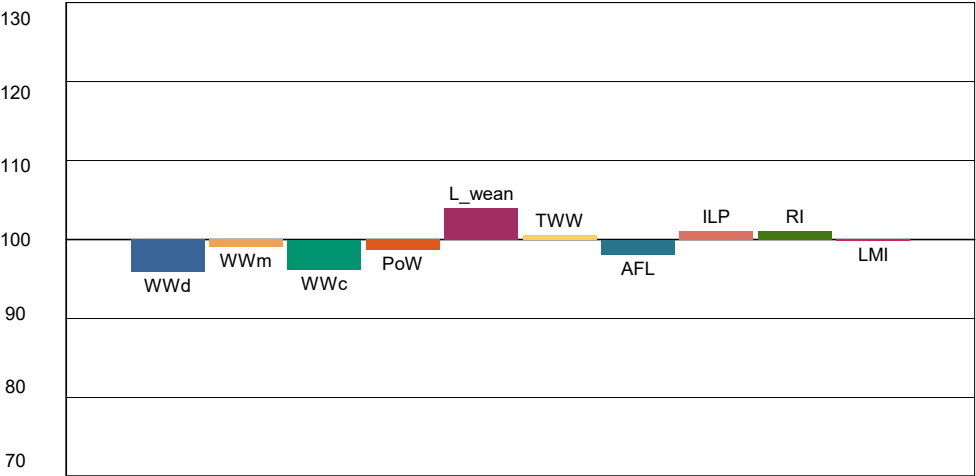
The genetic windows allow a quick overview of the genetic status of the flock compared to the breed. The values presented here are the average EBV indices of all the active animals of the flock, of the dams and sires of the active animals of the flock, as well as of the ewes and rams that are younger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

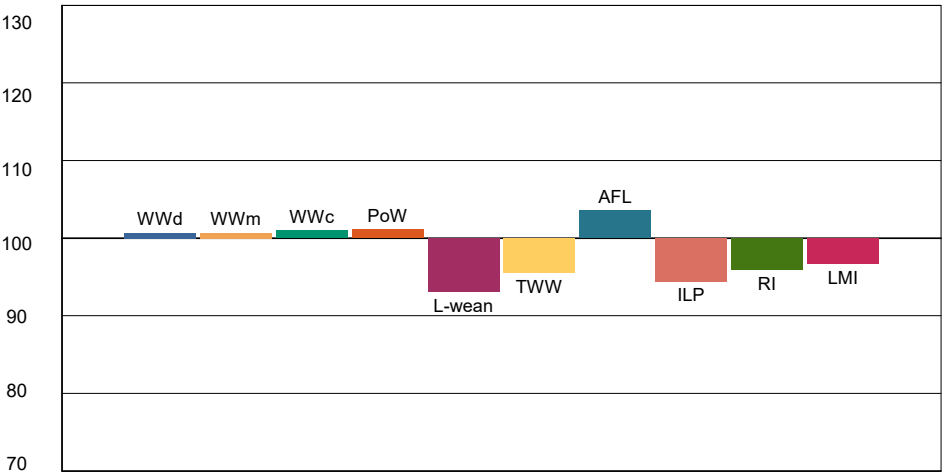
Dams

Number: 15



Sires

Number: 12

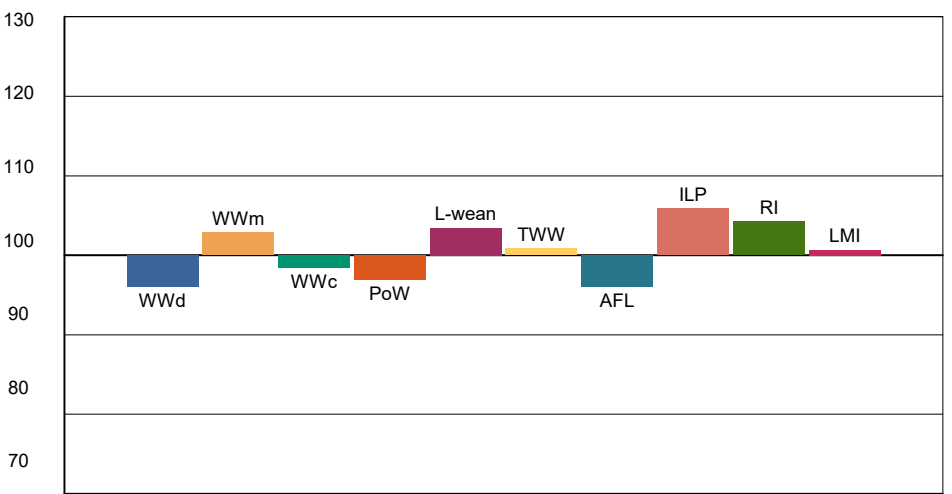


Number:

Young Rams

Number: 2

130
120
110
100
90
80
70



Genetic Trends

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

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
2013	1336	-0.26	-0.05	-0.18	108	1.06	508	-0.17	1336	98	1077	-1.77	654	0.75	1336	100	1336	98
2014	1007	-0.25	-0.14	-0.27	58	0.63	676	-0.26	1007	96	1072	-0.90	661	0.61	1007	97	1007	95
2015	1626	-0.09	0.01	-0.04	233	1.74	711	0.31	1626	101	1170	-1.40	708	0.29	1626	103	1626	101
2016	1804	-0.14	-0.02	-0.09	239	1.32	803	-0.17	1804	100	1284	-1.14	882	0.08	1804	102	1804	100
2017	2163	-0.18	-0.05	-0.14	313	1.55	832	0.03	2120	98	1392	-1.17	981	0.19	2120	101	2120	98
2018	2547	-0.18	0.03	-0.06	236	1.05	914	-0.02	2519	99	1829	0.34	1258	-0.78	2519	102	2519	99
2019	2144	0.11	0.00	0.05	254	0.66	888	-0.16	2138	100	2081	-0.41	1358	0.11	2138	101	2138	100
2020	2459	0.00	0.00	0.00	436	0.00	833	-0.01	2459	100	2710	0.00	1667	0.00	2459	101	2459	100
2021	1759	0.07	-0.07	-0.03	330	0.46	743	-0.15	1759	101	3004	0.16	1689	0.10	1759	103	1759	102
2022	2519	0.02	-0.04	-0.03	427	0.98	638	-0.36	2519	100	3058	-0.62	1169	0.75	2519	101	2519	100
2023	2882	-0.05	-0.05	-0.07	465	0.87	321	-0.36	2880	99	2040	-0.24	327	0.35	2880	101	2880	99
2024	2516	0.14	-0.12	-0.05	399	1.60	26	0.05	2515	100	330	-1.29	2	-1.39	2515	99	2515	100
2025	770	0.29	-0.11	0.03					770	102					770	100	770	102

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

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	-0.05	0.72	-3.92	-1.65	-0.97	-0.77	-0.57	-0.53	-0.45	-0.30	-0.16	0.01	0.20	0.32	0.46	0.90	1.31	2.14	4.84
Weaning Weight Maternal	-0.09	0.29	-2.31	-0.86	-0.56	-0.43	-0.29	-0.25	-0.20	-0.14	-0.08	-0.02	0.02	0.05	0.10	0.24	0.38	0.73	2.20
Weaning Weight Combined	-0.11	0.46	-2.66	-1.22	-0.77	-0.61	-0.42	-0.36	-0.31	-0.26	-0.18	-0.08	0.04	0.11	0.21	0.47	0.72	1.24	2.86
Post-Wean Weight	0.77	1.14	-6.56	-1.87	-0.63	-0.29	-0.02	0.05	0.14	0.33	0.56	0.83	1.15	1.34	1.57	2.24	2.87	4.23	8.36
Number of Lambs Weaned	-0.50	1.86	-11.80	-5.60	-4.00	-3.10	-2.10	-1.70	-1.30	-0.60	0.00	0.40	0.70	0.90	1.00	1.20	1.60	3.60	9.40
Total Weight Weaned	-0.44	1.37	-8.51	-3.92	-2.79	-2.20	-1.49	-1.21	-0.97	-0.58	-0.28	-0.04	0.12	0.24	0.41	1.03	1.64	3.42	8.12
Age at First Lambing	-0.07	-6.66	64.28	17.63	10.22	7.44	4.42	3.30	2.43	1.05	-0.02	-1.22	-2.64	-3.44	-4.43	-7.44	-10.50	-18.22	-73.64
Interlambing Period	0.15	-3.57	22.99	9.47	6.02	4.49	2.85	2.28	1.72	0.79	0.03	-0.67	-1.46	-1.96	-2.50	-4.12	-5.53	-8.86	-21.57
Reproduction Index	100	9	47	74	83	87	93	95	96	99	101	103	105	106	107	110	113	121	146
Logix Merit Index	99	8	59	78	84	88	93	94	96	98	100	101	102	103	104	108	112	122	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	0.01	0.74	-3.92	-1.68	-0.92	-0.73	-0.55	-0.48	-0.39	-0.25	-0.10	0.06	0.26	0.39	0.53	0.98	1.37	2.22	4.23
Weaning Weight Maternal	-0.09	0.26	-1.68	-0.78	-0.52	-0.41	-0.28	-0.24	-0.20	-0.14	-0.08	-0.03	0.01	0.04	0.09	0.22	0.35	0.64	1.07
Weaning Weight Combined	-0.09	0.44	-2.39	-1.04	-0.69	-0.54	-0.39	-0.34	-0.30	-0.24	-0.16	-0.06	0.06	0.13	0.23	0.49	0.73	1.20	2.15
Post-Wean Weight	0.85	1.15	-6.00	-1.88	-0.56	-0.23	0.00	0.11	0.22	0.42	0.66	0.92	1.25	1.43	1.68	2.34	2.92	4.33	7.71
Number of Lambs Weaned	-0.63	1.86	-8.90	-5.50	-4.10	-3.30	-2.30	-1.80	-1.50	-0.80	-0.20	0.20	0.60	0.70	0.90	1.20	1.50	3.50	7.60
Total Weight Weaned	-0.46	1.39	-6.13	-3.81	-2.81	-2.27	-1.56	-1.28	-1.03	-0.62	-0.31	-0.07	0.10	0.23	0.42	1.03	1.69	3.56	7.90
Age at First Lambing	0.04	-6.06	42.65	16.00	9.65	7.30	4.42	3.35	2.56	1.21	0.05	-1.16	-2.53	-3.30	-4.18	-6.98	-9.77	-16.37	-31.71
Interlambing Period	0.11	-3.30	16.54	8.59	5.61	4.17	2.67	2.17	1.62	0.74	0.03	-0.66	-1.41	-1.92	-2.43	-3.90	-5.24	-8.12	-14.06
Reproduction Index	100	9	50	75	83	87	92	94	96	99	101	103	105	106	106	109	112	120	137
Logix Merit Index	99	8	65	78	84	88	92	94	95	98	99	101	102	103	104	108	113	122	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	-0.07	0.72	-3.62	-1.63	-1.00	-0.78	-0.59	-0.55	-0.48	-0.33	-0.18	-0.03	0.17	0.29	0.43	0.86	1.27	2.07	4.84
Weaning Weight Direct	-0.09	0.31	-2.31	-0.92	-0.58	-0.45	-0.30	-0.25	-0.21	-0.14	-0.08	-0.02	0.02	0.06	0.10	0.25	0.40	0.78	2.20
Weaning Weight Combined	-0.13	0.47	-2.66	-1.29	-0.82	-0.64	-0.44	-0.38	-0.32	-0.26	-0.18	-0.09	0.03	0.10	0.20	0.47	0.72	1.26	2.86
Post-Wean Weight	0.73	1.13	-6.56	-1.86	-0.66	-0.31	-0.02	0.02	0.12	0.30	0.51	0.78	1.10	1.29	1.52	2.19	2.84	4.21	8.36
Number of Lambs Weaned	-0.43	1.86	-11.80	-5.60	-4.00	-3.00	-2.00	-1.60	-1.20	-0.50	0.00	0.50	0.80	0.90	1.10	1.20	1.60	3.60	9.40
Total Weight Weaned	-0.42	1.36	-8.51	-3.95	-2.77	-2.15	-1.45	-1.17	-0.95	-0.55	-0.26	-0.03	0.12	0.25	0.41	1.02	1.62	3.37	8.12
Age at First Lambing	-0.12	-6.94	64.28	18.71	10.65	7.51	4.42	3.26	2.37	0.98	-0.06	-1.25	-2.72	-3.52	-4.56	-7.60	-10.88	-19.50	-73.64
Interlambing Period	0.16	-3.70	22.99	9.91	6.25	4.63	2.94	2.35	1.77	0.82	0.04	-0.67	-1.48	-1.99	-2.54	-4.23	-5.71	-9.10	-21.57
Reproduction Index	100	9	47	74	83	88	93	95	97	99	101	103	105	106	107	110	113	122	146
Logix Merit Index	99	8	59	78	85	88	93	94	96	98	100	101	102	103	104	108	112	122	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	Wean Weight		Post-Wean	Number Weaned	TWW	AFL	ILP	Dam						
									Dir	Mat							Comb					
								Acc	Index	Acc	Index	Acc	Index	Acc	Index	EPI	Times Lamed					
Active Breed Average:						100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14							
1888	23	0035	1888	20	0074	2.90	102	105	-0.01	0.09	0.09	0.80	-0.40	-0.16	-2.49	-0.11	2					
	97608624		1888	21	0037				26	98	23	105	102	13	99	9		101	21	100	39	103
1888	23	0188	1740	21	0004	2.73	100	104	-0.44	-0.04	-0.26	0.27	0.80	0.00	7.60	-3.50	3					
	98484850		1888	16	0001				26	94	15	101	96	7	95	5		106	17	101	25	89
Ram Flock Average: Number of rams in the flock: 2						101	104	-0.22	0.02	-0.09	0.54	0.20	-0.08	2.56	-1.80							

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 Lamberd			
							Dir		Mat		Comb											
							Acc	Index	Acc	Index	EBV Index	EBV Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index
Active Breed Average:				100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14									
1888 20 0002 93202117	1888 17 0016 1888 16 0139	2.90	100	105	-0.59 7 92	-0.03 9 101	-0.33 94	-0.03 5 93	1.10 5 108	0.04 6 102	4.19 36 94	-1.64 25 106	2									
1888 20 0026 93201804	1888 17 0016 1888 19 0033	2.88	100	104	-0.59 7 92	-0.03 9 101	-0.33 94	-0.03 5 93	1.10 5 108	0.04 6 102	3.52 36 95	-0.49 20 102	0									
1888 20 0059 93202059	1888 17 0016 1888 19 0025	2.88	99	103	-0.59 7 92	-0.03 9 101	-0.33 94	-0.03 5 93	1.10 5 108	0.04 6 102	6.83 51 90	-1.34 26 105	2									
1888 21 0014 96703236	1888 17 0016 1888 18 0055	2.79	102	106	-0.59 7 92	-0.03 9 101	-0.33 94	-0.03 5 93	1.10 5 108	0.04 6 102	-1.47 38 102	-0.13 23 101	2									
1563 21 0523 92941327	1590 19 0224 1563 19 0431	7.42	94	94	0.41 30 103	0.12 25 106	0.33 106	1.07 18 100	-3.20 16 87	-1.38 25 93	-2.30 41 103	3.03 27 93	2									
1888 22 0084 97608681	1888 20 0074 1888 20 0051	2.90	101	105	-0.01 26 98	0.09 23 105	0.09 102	0.80 13 99	-0.40 9 101	-0.16 21 100	3.09 48 95	-3.33 24 110	1									
1888 22 0109 96843271	430 19 0152 1688 19 0029	2.32	110	109	0.57 33 104	-0.02 28 102	0.26 105	1.86 18 106	1.00 7 107	1.15 25 108	-7.30 48 110	0.29 23 100	1									
1888 22 0189 96859616	762 19 0339 1815 19 0066	2.36	102	99	0.62 34 105	-0.11 28 99	0.20 104	1.37 21 102	-0.90 11 98	-0.03 26 101	-9.85 32 113	5.04 16 87	0									
1563 22 0255 95100715	1590 19 0187 1563 15 0052	4.29	87	85	-0.03 24 98	-0.26 20 95	-0.27 95	1.08 14 101	-3.40 13 86	-2.33 20 88	6.04 43 91	0.90 19 99	1									
1889 23 0016 99013047	1318 21 0027 1889 21 0954	2.74	101	93	0.35 57 102	-0.81 32 80	-0.63 89	1.65 8 104	0.70 5 106	-0.04 35 101	-6.75 37 109	2.81 15 93	0									
1146 23 0025 98088867	762 19 0666 1146 20 0039	5.05	101	109	-0.09 66 97	0.72 50 123	0.68 112	0.88 55 99	-1.20 28 97	-0.09 51 101	8.36 38 88	-2.48 23 108	0									
1888 23 0031 96866900	762 19 0339 1888 20 0106	4.91	98	93	0.68 37 106	-0.16 30 98	0.18 103	1.76 21 105	-2.00 12 93	-0.69 29 97	-6.48 33 109	4.75 19 88	0									
1720 23 0045 99268062	1318 19 0108 1720 21 0057	2.92	106	98	1.03 45 109	-0.26 31 95	0.25 104	2.72 19 111	-0.50 11 100	0.47 32 104	-9.96 44 114	4.04 28 90	0									
1888 23 0111 97744544	1740 21 0004 1502 20 0058	3.61	97	106	-1.42 42 83	-0.22 32 96	-0.93 84	0.19 25 95	1.40 15 109	-0.80 32 97	6.52 32 91	-5.81 17 117	0									
1888 23 0118 97994933	1740 21 0004 1888 21 0044	2.89	99	102	-0.45 27 94	-0.06 16 101	-0.28 95	0.26 7 95	0.80 5 106	-0.03 17 101	8.36 32 88	-2.55 16 108	0									

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	Dir		Wean Weight		Comb	Post-Wean		Number Weaned	TWW		AFL		ILP	EPI	Times Lambd
							EBV	EBV	EBV	EBV		EBV	EBV		EBV	EBV	EBV	EBV			
							Acc	Index	Acc	Index	Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index
Active Breed Average:					100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14							
1888 23 0149 98484645	762 21 0129 762 19 0251	12.56	83	80	-0.25 42 96	-0.45 37 90	-0.58 90	0.46 24 96	-3.40 23 86	-2.74 36 85	3.07 40 95	4.83 28 88	0								
2006 23 0155 97610471	1054 20 0004 1450 20 0012	3.12	95	102	-0.73 29 91	0.29 28 110	-0.08 99	-0.25 16 92	-0.70 9 99	-0.86 24 96	2.09 31 97	2.34 15 95	0								
1574 23 0158 97430284	1673 21 0131 1574 18 0142	2.37	102	106	-0.26 64 96	0.13 43 106	0.00 100	0.53 57 97	0.80 24 106	0.35 47 103	3.56 37 95	-0.47 21 102	0								
	Ewe flock average: Total ewes in flock: 18				99	100	-0.11	-0.06	-0.12	0.79	-0.37	-0.39	0.07	0.60							

Sires Used in Flock

*Inbreeding in red is high

EBV - Estimated Breeding Value

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-breeding	Sire ID Dam ID	1st Generation		2nd Generation		Logix Merit Index	Reprod Index	Weaning Weight		Post-Wean		Number Weaned	TWW	AFL	ILP	Dam	
			Progeny Number y	Herds	Progeny Number Weaned	Herds			Dir EBV Acc Index	Mat EBV Acc Index	Comb EBV Index	EBV Acc Index						
		Active Breed Average:					100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14		
1 1888 17 0016 94040789	2.90				2	1									6.73 72	-0.47 90	-0.47 40	102
2 1318 19 0108 93036432	2.57	16 4 60 DL 1318 18 0001	19	1			113	96	2.03 79	-0.59 51	0.43 108	4.37 31	0.40 15	1.69 54	-12.93 78	5.48 47	86	1
3 430 19 0152 88351382	2.89	430 18 0109 430 15 0025			1	1	119	111	1.53 57	0.14 45	0.91 106	3.45 31	0.40 10	1.91 42	-24.29 67	7.59 41	80	5
4 1590 19 0187 90366287	8.03	762 18 0201 1590 18 0087	1	1			81	81	-0.13 42	-0.36 33	-0.42 93	0.65 19	-4.70 23	-3.31 34	6.53 57	-0.01 32	101	6
5 1590 19 0224 91114413	6.05	1590 18 0057 1590 17 0013			1	1	92	97	-0.18 43	0.42 38	0.33 106	0.16 29	-3.10 24	-1.62 37	-3.82 50	6.11 33	84	5
6 762 19 0339 86281706	6.62	762 17 0222 762 17 0201			5	2	102	91	1.53 66	-0.18 55	0.58 110	2.92 41	-2.80 21	-0.33 51	-15.57 62	9.08 30	76	86 4
7 762 19 0666 86281565	11.64	762 17 0270 762 17 0126	148	3	12	2	69	86	-1.99 95	-0.06 75	-1.06 82	-3.08 87	-6.80 41	-6.13 75	-1.46 62	-2.41 38	108	95 7
8 1054 20 0004 91100552	2.04	1450 16 0053 1054 16 0002			10	2	102	109	-0.60 48	0.39 46	0.09 102	-0.38 27	0.10 5	-0.15 37	-11.17 51	5.78 21	85	1
9 1888 20 0074 97596647	3.24	430 18 0050 762 19 0251					104	106	0.58 51	0.21 45	0.50 109	1.64 26	-1.80 19	-0.29 41	-6.95 61	-1.13 40	104	4
10 1740 21 0004 91800722	2.88	1298 19 0128 1298 19 0123	1	1			98	102	-0.31 53	-0.08 30	-0.23 96	0.55 14	0.40 8	-0.15 34	14.89 49	-6.49 20	119	101 6
11 1318 21 0027 95618625	8.75	1318 19 0108 1318 19 0030	48	1			112	97	2.00 84	-0.49 44	0.52 109	3.71 16	0.30 9	1.69 51	-9.78 62	3.72 25	91	1
12 762 21 0129 93553071	10.17	762 19 0382 762 18 0742	3	1	1	1	79	78	-0.73 62	-0.32 53	-0.69 88	-0.07 31	-3.60 31	-3.21 51	6.61 59	5.85 38	85	96 6
13 1673 21 0131 92643873	7.42	762 18 0307 1673 20 0005	42	2	1	1	88	98	-1.18 84	0.29 51	-0.30 95	0.18 74	-1.80 21	-1.97 57	13.99 51	-2.54 30	108	6

		Sire Flock Average: Number of sires used in the flock: 13	97	96	0.21	-0.05	0.05	1.18	-1.92	-0.99	-2.86	2.35
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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
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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-breeding	Sire ID Dam ID	1st Generation	2nd Generation	Logix Merit Index	Repro-duction Index	Weaning Weight		Comb	Post-Wean	Number Weaned	TWW	AFL	ILP	Dam		
			Progeny Number	Progeny Number			Dir	Mat								EBV	EBV
			Weaned	Herds			Weaned	Herds	Acc Index	Acc Index	Index	Index	Index	Index	Index	Index	Index
			Active Breed Average:		100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14			
1	1888 23 0035 97608624	2.90	888 20 0074 888 21 0037		102	105	-0.01 26 98	0.09 23 105	0.09 102	0.80 13 99	-0.40 9 101	-0.16 21 100	-2.49 39 103	-0.11 23 101	2		
2	1888 23 0188 98484850	2.73	740 21 0004 888 16 0001		100	104	-0.44 26 94	-0.04 15 101	-0.26 96	0.27 7 95	0.80 5 106	0.00 17 101	7.60 25 89	-3.50 10 111	3		

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
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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	Logix Merit Index	Reproduction Index	Weaning Weight		Comb	Post-Wean	Number Weaned	TWW	AFL	ILP	EPI	Times Lambded				
					Dir	Mat									EBV	EBV	EBV	EBV
					Acc	Index	Acc	Index	Acc	Index	Acc	Index	Phenotype					
Active Breed Average:			100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14						
1	1888 22 0109 96843271	2.32	430 19 0152 1688 19 0029	110	109	0.57 33	-0.02 104	28	0.26 105	18	1.86 106	1.00 7	1.15 107	-7.30 48	0.29 110	23	100	1
2	1720 23 0045 99268062	2.92	1318 19 0108 1720 21 0057	106	98	1.03 45	-0.26 109	31	0.25 104	19	2.72 111	-0.50 11	0.47 100	-9.96 44	4.04 114	28	90	0
3	1888 22 0189 96859616	2.36	762 19 0339 1815 19 0066	102	99	0.62 34	-0.11 105	28	0.20 104	21	1.37 102	-0.90 11	-0.03 98	-9.85 26	5.04 101	32	87	0
4	1574 23 0158 97430284	2.37	1673 21 0131 1574 18 0142	102	106	-0.26 64	0.13 96	43	0.00 106	57	0.53 97	0.80 24	0.35 106	3.56 47	-0.47 103	37	95	0
5	1888 21 0014 96703236	2.79	1888 17 0016 1888 18 0055	102	106	-0.59 7	-0.03 92	9	-0.33 101	5	-0.03 93	1.10 5	0.04 108	-1.47 6	-0.13 102	38	102	2
6	1888 22 0084 97608681	2.90	1888 20 0074 1888 20 0051	101	105	-0.01 26	0.09 98	23	0.09 105	102	0.80 13	-0.40 9	-0.16 101	3.09 21	-3.33 95	24	110	1
7	1889 23 0016 99013047	2.74	1318 21 0027 1889 21 0954	101	93	0.35 57	-0.81 102	32	-0.63 80	-0.63 89	1.65 8	0.70 5	-0.04 106	-6.75 35	2.81 101	37	93	0
8	1146 23 0025 98088867	5.05	762 19 0666 1146 20 0039	101	109	-0.09 66	0.72 97	50	0.68 123	112	0.88 55	-1.20 28	-0.09 97	8.36 51	-2.48 101	38	88	0
9	1888 20 0002 93202117	2.90	1888 17 0016 1888 16 0139	100	105	-0.59 7	-0.03 92	9	-0.33 101	94	-0.03 5	1.10 5	0.04 108	4.19 6	-1.64 102	36	94	2
10	1888 20 0026 93201804	2.88	1888 17 0016 1888 19 0033	100	104	-0.59 7	-0.03 92	9	-0.33 101	94	-0.03 5	1.10 5	0.04 108	3.52 6	-0.49 102	36	95	0
11	1888 20 0059 93202059	2.88	1888 17 0016 1888 19 0025	99	103	-0.59 7	-0.03 92	9	-0.33 101	94	-0.03 5	1.10 5	0.04 108	6.83 51	-1.34 90	26	105	2
12	1888 23 0118 97994933	2.89	1740 21 0004 1888 21 0044	99	102	-0.45 27	-0.06 94	16	-0.28 101	95	0.26 7	0.80 5	-0.03 106	8.36 17	-2.55 101	32	88	0
13	1888 23 0031 96866900	4.91	762 19 0339 1888 20 0106	98	93	0.68 37	-0.16 106	30	0.18 98	103	1.76 21	-2.00 12	-0.69 93	-6.48 29	4.75 97	33	109	0
14	1888 23 0111 97744544	3.61	1740 21 0004 1502 20 0058	97	106	-1.42 42	-0.22 83	32	-0.93 96	-0.93 84	0.19 25	1.40 15	-0.80 109	6.52 32	-5.81 91	17	117	0
15	2006 23 0155 97610471	3.12	1054 20 0004 1450 20 0012	95	102	-0.73 29	0.29 91	28	-0.08 110	-0.08 99	-0.25 16	-0.70 9	-0.86 99	2.09 31	2.34 97	15	95	0

Ewe 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	Selection Indices		EBV - Weights				EBV - Fertility								
Animal ID Computer nr	% In-breeding	Sire ID Dam ID	Logix Merit Index	Reproduction Index	Weaning Weight		Comb	Post-Wean		Number Weaned	TWW		AFL		ILP	EPI	Times Lambded
					Dir EBV Acc Index	Mat EBV Acc Index		Acc	EBV Index		Acc	EBV Index	Acc	EBV Index			
Active Breed Average:			100	100	-0.05	-0.09	-0.11	0.77	-0.50	-0.44	-0.06	0.14					
16	1563 21 0523 92941327	7.42	1590 19 0224 1563 19 0431	94	94	0.41 30	0.12 25	0.33 106	1.07 18	-3.20 16	-1.38 25	-2.30 41	3.03 27	2			
17	1563 22 0255 95100715	4.29	1590 19 0187 1563 15 0052	87	85	-0.03 24	-0.26 20	-0.27 95	1.08 14	-3.40 13	-2.33 20	6.04 43	0.90 19	1			
18	1888 23 0149 98484645	12.56	762 21 0129 762 19 0251	83	80	-0.25 42	-0.45 37	-0.58 90	0.46 24	-3.40 23	-2.74 36	3.07 40	4.83 28	0			