

Kalahari Red Genetic Analysis

SA Stud Book
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TUTIMOMO AGRICULTURAL ENT

134 A DINKWE FARM
MOHADI GA MANTHATA
DENDRON
0788



Kalahari Red Club



FDM: 261



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 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 Kalahari Red 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 :

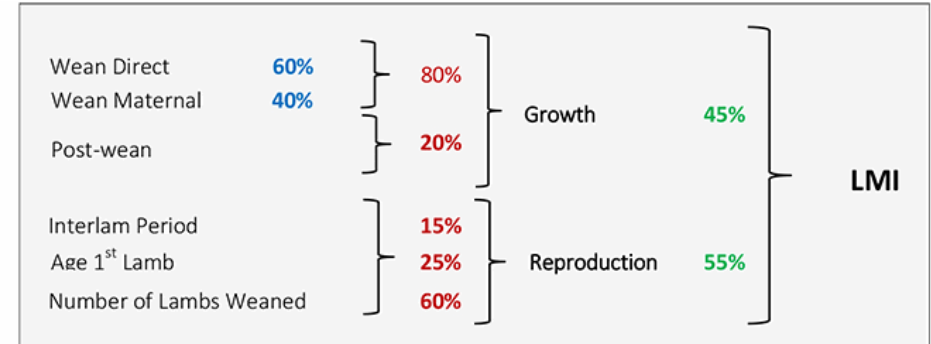
Logix Merit Index (LMI)

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

$$LMI = (0.0675 * AFL) + (0.1125 * ILP) + (0.264 * Wean Dir) + (0.176 * Wean Mat) + (0.27 * N_Lambs_Weaned) + (0.11 * Post-Wean Dir)$$

Schematically the LMI can be explained as follows :



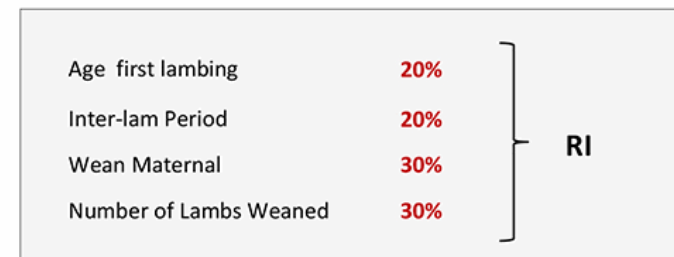
Reproduction Index (RI)

This index includes Weaning Maternal), Number of Lambs Weaned, Age at First Lambing and Inter-lambing. 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.

Genetic Levels

Breeding Values

Eienskap	Flock**			Breed		
	All	Rams	Ewes	All	Rams	Ewes
Weaning Weight Direct	-0.16	-0.29	-0.15	-0.08	-0.03	-0.10
Weaning Weight Maternal	-0.08	-0.40	-0.05	-0.05	-0.03	-0.06
Weaning Weight Combined	-0.16	-0.54	-0.12	-0.09	-0.04	-0.11
Post-wean Weight	-0.32	-1.17	-0.24	-0.14	-0.04	-0.18
Number Lambs Weaned	-0.50	-0.50	-0.51	-0.07	-0.09	-0.06
Total Weight Weaned	-0.54	-0.99	-0.50	-0.17	-0.12	-0.19
Age at First Lambing	-2.03	-14.18	-0.93	0.33	0.53	0.23
Inter-lambing Period	0.55	7.04	-0.07	-0.83	-1.11	-0.70
Selection Indices						
Logix Merit Index	96	94	96	99	99	98
Reproduction Index	95	92	95	97	98	97
Inbreeding						
Inbreeding (%)	5.04	3.24	5.18	5.60	5.94	5.45
Number of Animals						
Number of Animals	27	2	25	12329	3743	8567

** Averages of all active animals in the flock.

Breeding Value Indices

Trait	Flock **		
	All	Rams	Ewes
Weaning Weight Direct	99.2	97.5	99.3
Weaning Weight Maternal	97.0	90.2	97.6
Weaning Weight Comb	96.8	89.8	97.5
Post-wean Weight	99.2	92.6	99.8
Number Lambs Weaned	95.4	95.5	95.4
Total Weight Weaned	95.2	91.4	95.5
Age at First Lambing	104.8	123.6	103.1
Interlambing Period	95.4	80.4	96.8
Selection Indices			
Logix Merit Index	95.7	94.4	95.9
Reproduction Index	94.9	92.0	95.2
Inbreeding			
Inbreeding (%)	5.04	3.24	5.18
Number of Animals			
Number of Animals	27	2	25

** 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.

Inbreeding Levels for Specific Matings

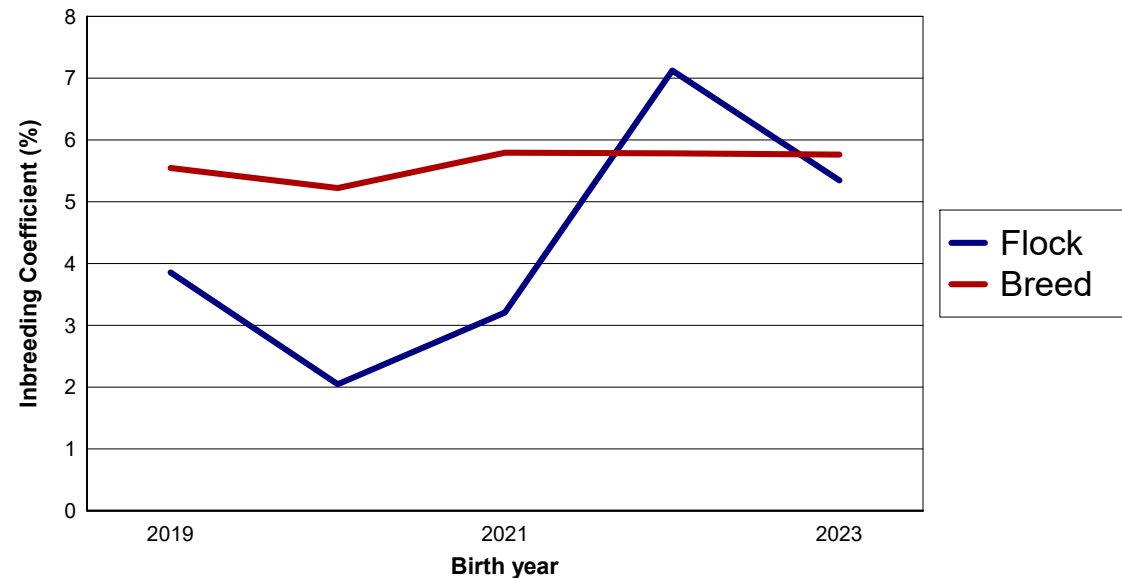
Progeny with Parents :	25%
Full Brother x Full Sister :	25%
Half Brother x Half Sister :	12.5%
One Common Grandparent :	6.25%
One Common Great-Grandparent :	3.125%

Level and Rate of Inbreeding

Year of Birth	Level* (%)	Rate (% / year)
2019 - 2023	5.34	0.37
Recommended:	< 6.25	< 0.1 - 0.2

*Of the last year of birth

Inbreeding

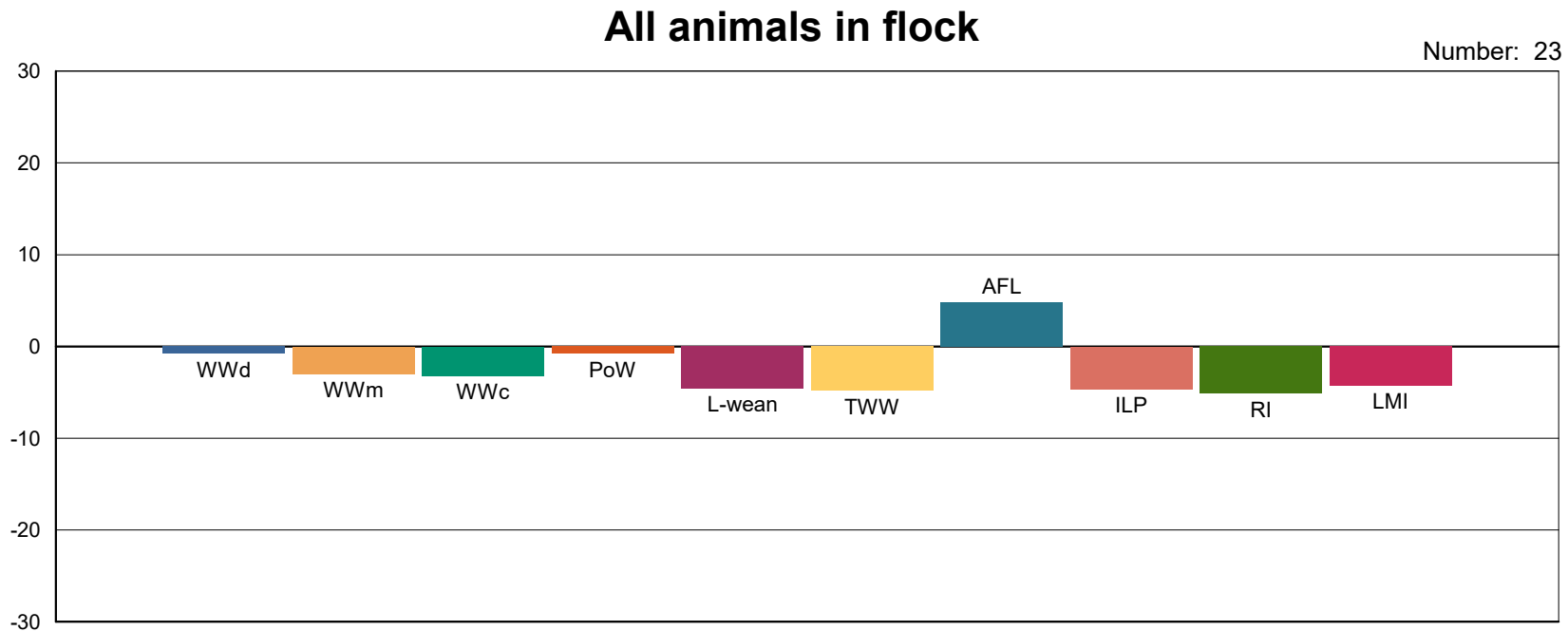


Pedigree Information

	Number	%
Known Sires	23	85
Known Dams	23	85

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

Genetic Windows



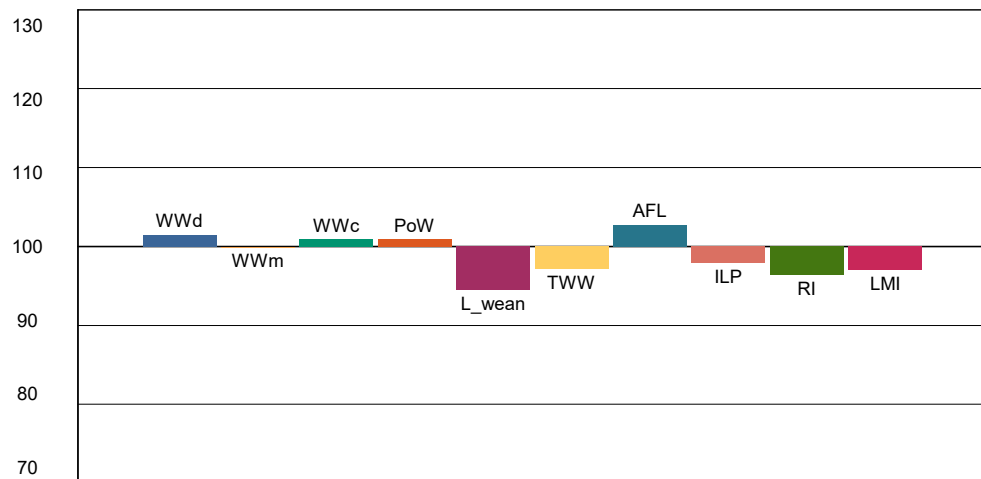
WWd: Weaning Weight Direct
WWm: Weaning Weight Maternal
WWc: Weaning Weight Combined
PoW: Post-Wean Weight
L-wean: Number of Lambs Weaned
TWW: Total Weight Weaned
AFL: Age at First Lambing
ILP: Inter-lambing Period
RI: Reproduction Index
LMI: Logix Merit Index

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 active ewes and rams 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

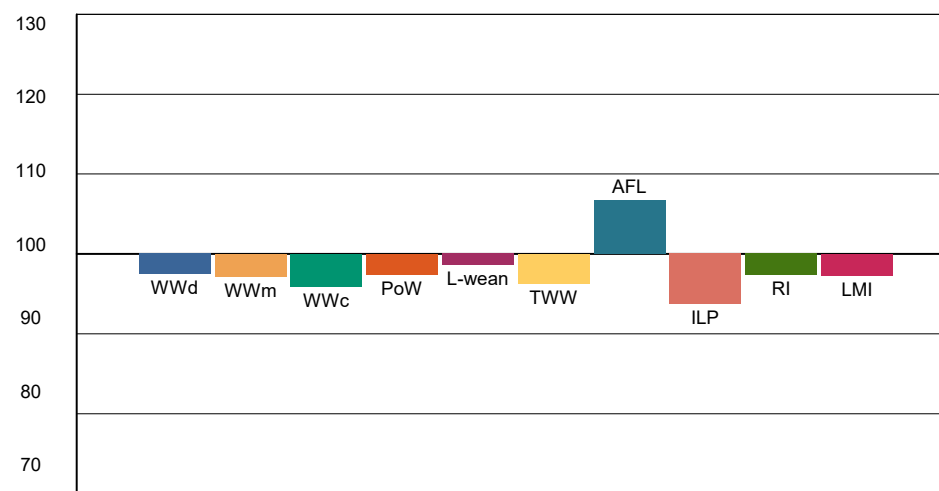
Dams

Number: 18



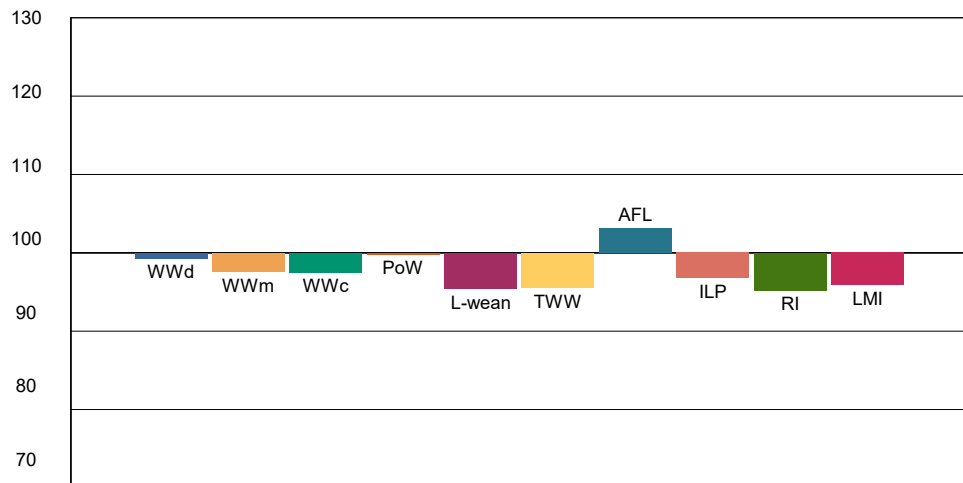
Sires

Number: 16



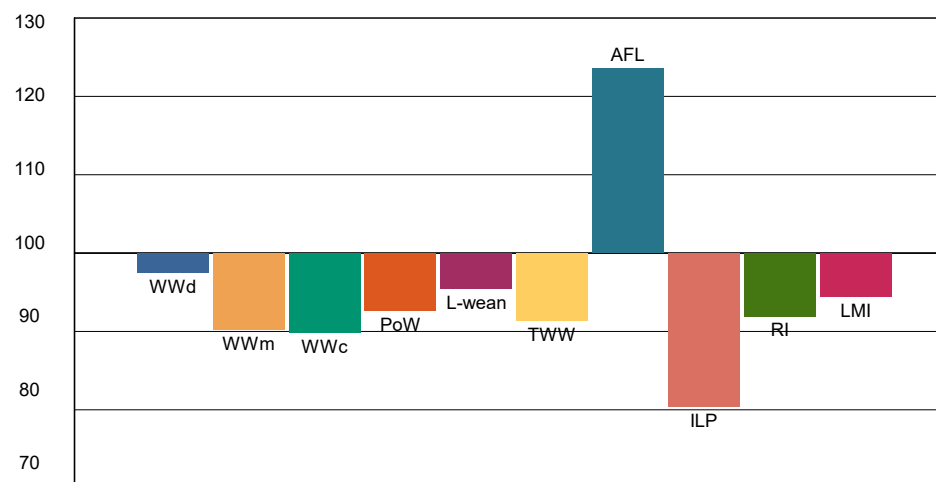
Young Ewes

Number: 21



Young Rams

Number: 2



Genetic Trends

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

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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	
	EBV					EBV		EBV		EBV		EBV		EBV		EBV	
	Number	Dir	Mat	Comb		Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV	Number	EBV
2013	184	0.65	-0.41	-0.09	68 -0.23 102 -0.69		103 0.29	184 107	186 2.85	94 -3.07	184 97	184 108					
2014	75	-0.25	-0.22	-0.34			70 0.16	75 98	115 0.57	45 -1.55	75 96	75 99					
2015	144	-0.26	-0.24	-0.37			98 -0.02	144 97	137 -0.13	74 -1.86	144 96	144 98					
2016	108	-0.39	-0.12	-0.32			87 -0.12	108 97	139 3.53	94 -5.35	108 99	108 98					
2017	271	-0.16	0.07	-0.01			104 -0.09	271 98	176 1.54	127 -1.69	271 99	271 97					
2018	168	-0.69	0.21	-0.14		201 -0.05	168 96	268 1.91	208 -2.58	168 106	168 96						
2019	293	-0.45	0.08	-0.14		256 0.00	293 98	357 -0.23	269 -0.01	293 101	293 98						
2020	637	0.00	0.00	0.00		279 -0.01	637 101	627 0.00	440 0.00	637 100	637 100						
2021	562	-0.15	0.01	-0.07	14 -3.65	266 -0.29	562 97	730 0.13	450 -0.76	562 98	562 97						
2022	1120	-0.39	0.06	-0.14	377 -0.71	292 -0.27	1114 97	817 -0.04	423 -0.36	1114 99	1114 97						
2023	1342	-0.11	-0.03	-0.08	209 -0.21	162 -0.05	1342 99	581 -0.36	118 -0.48	1342 99	1342 99						
2024	1472	-0.01	0.05	0.05	164 0.21	13 -0.55	1471 101	93 0.85		1471 101	1471 102						
2025	373	-0.05	0.04	0.02			373 99			373 98	373 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

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	-0.08	0.63	-2.97	-1.64	-1.11	-0.81	-0.54	-0.43	-0.33	-0.19	-0.11	-0.01	0.16	0.26	0.39	0.72	1.04	1.59	3.22
Weaning Weight Maternal	-0.05	0.46	-1.89	-0.99	-0.66	-0.53	-0.40	-0.35	-0.31	-0.22	-0.13	0.00	0.12	0.20	0.31	0.57	0.79	1.25	2.15
Weaning Weight Combined	-0.09	0.53	-2.50	-1.30	-0.90	-0.71	-0.51	-0.43	-0.37	-0.24	-0.11	0.01	0.14	0.21	0.31	0.59	0.86	1.32	2.40
Post-Wean Weight	-0.13	1.04	-6.92	-3.09	-1.84	-1.39	-0.85	-0.70	-0.56	-0.32	-0.10	0.05	0.31	0.45	0.64	1.14	1.54	2.32	6.82
Number of Lambs Weaned	-0.07	1.13	-7.70	-2.50	-1.80	-1.30	-0.90	-0.70	-0.60	-0.30	-0.10	0.10	0.20	0.30	0.60	1.30	1.80	3.20	9.00
Total Weight Weaned	-0.17	1.06	-5.69	-2.78	-1.90	-1.42	-0.93	-0.79	-0.63	-0.39	-0.17	0.03	0.28	0.44	0.63	1.11	1.64	2.57	7.26
Age at First Lambing	0.32	-6.92	53.20	17.72	11.21	8.35	5.53	4.28	3.34	1.58	0.15	-0.93	-2.49	-3.36	-4.53	-7.89	-10.69	-17.74	-56.27
Interlambing Period	-0.83	-5.05	20.97	10.70	7.02	4.87	3.09	2.43	1.82	0.85	-0.15	-1.47	-3.13	-4.13	-5.28	-7.64	-9.60	-13.45	-25.01
Reproduction Index	97	9	53	77	84	87	90	92	93	94	96	98	101	103	105	110	114	124	147
Logix Merit Index	99	9	53	77	84	88	92	93	95	97	98	100	103	104	106	110	114	123	141

*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	-0.03	0.64	-2.97	-1.55	-1.09	-0.81	-0.48	-0.40	-0.31	-0.18	-0.09	0.04	0.22	0.33	0.44	0.79	1.09	1.69	3.22
Weaning Weight Maternal	-0.03	0.44	-1.36	-0.85	-0.63	-0.51	-0.40	-0.34	-0.29	-0.21	-0.10	0.03	0.16	0.24	0.33	0.58	0.77	1.21	2.08
Weaning Weight Combined	-0.04	0.51	-1.46	-1.15	-0.80	-0.66	-0.48	-0.40	-0.33	-0.19	-0.07	0.06	0.18	0.26	0.36	0.62	0.86	1.30	2.39
Post-Wean Weight	-0.04	1.01	-6.20	-2.67	-1.67	-1.32	-0.74	-0.58	-0.45	-0.25	-0.03	0.16	0.40	0.55	0.73	1.21	1.62	2.42	6.82
Number of Lambs Weaned	-0.09	1.05	-4.50	-2.40	-1.60	-1.30	-0.90	-0.70	-0.60	-0.40	-0.10	0.00	0.20	0.40	0.60	1.30	1.70	2.90	5.80
Total Weight Weaned	-0.12	0.99	-3.63	-2.51	-1.75	-1.32	-0.91	-0.72	-0.59	-0.36	-0.12	0.09	0.36	0.50	0.66	1.10	1.55	2.37	3.97
Age at First Lambing	0.53	-6.06	29.87	15.30	10.19	7.86	5.42	4.28	3.47	1.75	0.15	-0.80	-2.20	-2.94	-3.82	-6.51	-9.35	-16.06	-27.49
Interlambing Period	-1.11	-4.75	17.28	10.38	5.86	4.21	2.63	1.89	1.42	0.47	-0.49	-1.69	-3.30	-4.27	-5.30	-7.57	-9.47	-12.70	-19.64
Reproduction Index	98	9	62	79	85	87	91	92	93	95	97	99	102	103	105	109	114	122	141
Logix Merit Index	99	8	70	79	85	89	93	94	95	97	99	101	103	104	106	109	114	121	135

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	-0.10	0.62	-2.92	-1.70	-1.12	-0.82	-0.55	-0.44	-0.34	-0.20	-0.11	-0.02	0.13	0.22	0.35	0.67	1.00	1.56	3.01
Weaning Weight Maternal	-0.06	0.46	-1.89	-1.03	-0.69	-0.54	-0.40	-0.36	-0.32	-0.24	-0.14	-0.03	0.11	0.18	0.29	0.56	0.79	1.30	2.15
Weaning Weight Combined	-0.11	0.54	-2.50	-1.36	-0.95	-0.74	-0.53	-0.45	-0.39	-0.26	-0.14	-0.01	0.12	0.19	0.29	0.58	0.85	1.37	2.40
Post-Wean Weight	-0.18	1.05	-6.92	-3.23	-1.94	-1.43	-0.87	-0.72	-0.59	-0.37	-0.13	0.04	0.25	0.40	0.58	1.13	1.53	2.31	4.84
Number of Lambs Weaned	-0.06	1.16	-7.70	-2.70	-1.80	-1.30	-0.90	-0.70	-0.60	-0.30	-0.10	0.20	0.20	0.30	0.60	1.30	2.00	3.40	9.00
Total Weight Weaned	-0.19	1.09	-5.69	-2.86	-1.94	-1.45	-0.98	-0.83	-0.65	-0.40	-0.19	0.01	0.24	0.40	0.61	1.11	1.68	2.76	7.26
Age at First Lambing	0.22	-7.28	53.20	18.85	11.86	8.57	5.65	4.28	3.25	1.48	0.15	-1.02	-2.68	-3.66	-4.96	-8.48	-11.29	-18.27	-56.27
Interlambing Period	-0.69	-5.19	20.97	10.90	7.11	5.38	3.40	2.63	2.03	0.95	-0.02	-1.33	-3.03	-4.06	-5.24	-7.68	-9.66	-13.93	-25.01
Reproduction Index	97	10	53	76	83	87	90	92	92	94	96	98	101	103	105	110	115	125	147
Logix Merit Index	98	9	53	75	83	88	92	93	94	97	98	100	102	104	105	110	114	124	141

*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 Comp no.			Parents Sire Dam			% In- breeding	Logix Merit Index	Reproduction Index	Wean Weight		Post-Wean	Number Weaned	TWW		AFL		ILP		Dam	
									Dir	Mat			Comb	EBV	EBV	EBV	EBV	EBV	EBV	EPI
							Acc	Index	Acc	Index	Index	Acc	Index	Acc	Index	Acc	Index		Lambd	
Active Breed Average:							100	100	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83				
KR62 19 0221 91031963	KR62 17 0777 KR9 15 0222	3.86	82	80	-0.57 56 94	-0.79 51 82	-1.08 80	-1.64 38 89	-2.20 31 82	-2.68 48 77	-22.25 48 136	9.57 36 75					6			
300 23 0035 107324246	AH 20 0034 300 22 0924	2.63	107	104	-0.01 24 101	0.00 18 99	-0.01 100	-0.71 20 96	1.20 6 109	0.71 18 106	-6.10 18 111	4.51 9 86					2			
Ram Flock Average: Number of rams in the flock: 2							94	92	-0.29	-0.40	-0.54	-1.17	-0.50	-0.99	-14.18	7.04				

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.			Parents Sire Dam			% In- breedin	Logix Merit Index	Reproduction Index	Dir		Wean Weight		Post-Wean		Number Weaned		TWW		AFL		ILP		Phenotype	
									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	EPI	Times Lambd				
			Active Breed Average:				100	100	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83								
104 21 0205 93337053	100 16 0131 3 13 0762	4.20	100	108	-0.54 59 94	0.03 54 99	-0.24 95	-2.49 44 82	0.60 30 104	-0.15 50 99	-4.47 39 109	-3.41 27 104	0											
55 22 0021 94617065	55 20 0053 100 18 0315	12.82	94	104	-0.48 54 95	0.70 46 114	0.46 108	-0.34 43 99	-0.90 18 92	-0.32 43 97	12.39 36 82	-8.81 24 117	0											
201 22 0040 96471545	49 19 0148 201 19 0278	3.12	100	96	0.10 13 103	-0.21 13 94	-0.17 97	-0.45 9 98	0.30 5 102	0.06 10 100	-2.09 15 105	1.64 8 93	0											
187 22 0045 98645880	100 21 0031 133 20 0058	9.33	97	107	-0.06 38 101	1.16 32 123	1.13 121	0.51 16 106	-1.90 16 85	-0.04 31 100	6.13 31 92	-6.27 19 111	0											
173 22 0070 96102280	AH 17 0079 100 18 0001	2.80	101	92	-0.02 55 101	-0.75 46 83	-0.76 86	-0.01 23 102	0.90 21 106	-0.22 44 98	-3.91 37 108	2.81 23 90	0											
173 22 0073 96064795	100 20 0092 100 18 0058	7.03	102	103	0.05 51 102	0.40 43 107	0.42 108	0.70 22 107	-0.50 19 95	0.15 41 101	-1.52 33 104	-1.17 22 99	0											
230 22 1001 96121439	55 21 0022 55 21 0308	2.70	104	98	0.01 29 101	-0.12 26 96	-0.11 98	0.59 20 106	0.70 9 105	0.31 23 103	-1.92 22 105	3.03 13 90	0											
218 23 0003 97411003	218 20 0401 218 21 0406	2.70	97	92	-0.02 5 101	-0.36 5 91	-0.37 93	0.18 5 103	0.20 5 101		4.42 15 95	-1.28 5 100	0											
100 23 0003 96705835	173 20 0073 100 20 0040	4.92	93	78	1.19 58 117	-0.53 37 87	0.06 101	1.31 14 112	-2.00 17 84	-0.55 40 95	4.60 26 94	-1.84 17 101	0											
100 23 0005 96705850	159 19 0092 100 19 0277	3.28	90	98	-1.49 62 82	-0.33 49 92	-1.08 80	-3.83 41 72	1.10 27 108	-1.16 49 90	-11.32 39 119	8.61 23 77	0											
156 23 0005 97597066	KR62 19 0163 156 19 0031	4.52	94	91	-0.28 26 98	-0.27 25 93	-0.41 92	-0.78 20 96	-0.50 16 95	-0.85 23 93	-9.07 39 116	6.45 23 82	0											
218 23 0008 97411045	218 20 0401 218 21 1203	2.70	97	92	-0.02 5 101	-0.36 5 91	-0.37 93	0.18 5 103	0.20 5 101		4.43 15 95	-1.28 5 100	0											
100 23 0013 96705926	173 20 0073 100 20 0255	6.28	95	96	-0.02 58 101	0.12 38 101	0.11 102	0.22 19 103	-1.00 15 92	-0.50 40 96	5.70 27 93	-5.08 20 108	0											
156 23 0018 97596720	KR62 19 0163 156 19 0013	3.71	94	91	-0.28 26 98	-0.27 25 93	-0.41 92	-0.78 20 96	-0.50 16 95	-0.85 23 93	-9.35 39 116	6.26 23 82	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.			Parents Sire Dam			% In- breedin	Logix Merit Index	Reproduction Index	Wean Weight		Post-Wean	Number Weaned	TWW	AFL	ILP	Phenotype				
									Dir	Mat								Comb	EBV	
								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	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83				
147 23 0021 98933997	147 19 0144 147 20 0125		27.24	96	91	0.65 50 110	0.01 37 99	0.33 106	0.72 7 107	-1.70 12 86	-0.37 36 97	2.40 33 98	-4.04 23 106		0					
156 23 0022 97597165	KR62 19 0163 156 19 0027	4.75	94	91	-0.28 26 98	-0.27 25 93	-0.41 92	-0.78 20 96	-0.50 16 95	-0.85 23 93	-10.70 40 118	7.15 24 80		0						
156 23 0030 97597009	KR62 19 0163 156 20 0020	4.21	94	91	-0.28 26 98	-0.27 25 93	-0.41 92	-0.78 20 96	-0.50 16 95	-0.85 23 93	-8.87 40 116	5.81 24 83		0						
100 23 0040 96706056	173 20 0073 100 17 0109	5.24	93	97	-0.39 60 96	0.20 42 103	0.00 100	0.17 19 103	-1.00 20 92	-0.79 44 93	4.01 30 95	-4.00 21 106		0						
100 23 0045 96706106	100 20 0225 173 19 0104	2.63	101	95	0.03 59 102	-0.37 40 91	-0.36 93	0.11 13 103	0.60 15 104	0.02 42 100	-3.10 28 107	3.03 16 90		0						
173 23 0045 97345540	173 21 0122 100 19 0269	2.67	89	95	-0.48 47 95	0.26 36 104	0.02 100	0.24 22 104	-2.10 16 83	-1.48 36 87	0.80 30 100	-4.51 19 107		0						
173 23 0046 97345581	173 21 0122 100 19 0269	2.67	89	95	-0.48 47 95	0.26 36 104	0.02 100	0.24 22 104	-2.10 16 83	-1.48 36 87	0.80 30 100	-4.51 19 107		0						
Ewe flock average: Total ewes in flock: 21							96	95	-0.15	-0.05	-0.12	-0.24	-0.51	-0.50	-0.93	-0.07				

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	Sire ID Dam ID	1st Generation		2nd Generation		Logix Merit Index	Reproducti on Index	Weaning Weight		Comb EBV Index	Post-Wean EBV Acc Index	Number Weaned EBV Acc Index	TWW EBV Acc Index	AFL EBV Acc Index	ILP EBV Acc Index	DAM EPI Times Lambe		
			Progeny Number Weaned	Herds	Progeny Number Weaned	Herds			Dir EBV Acc Index	Mat EBV Acc Index									
		Active Breed Average:						100	100	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83		
1	100 16 0131 77522068	4.20	3 12 0270 3 13 0770	139	2	31	2	104	124	-0.74 95	0.60 87	0.23 111	-5.07 104	84 64	0.90 60	0.40 84	-8.16 77	-6.20 54	100 3
2	AH 17 0079 81860751	2.80		81	3	15	1	122	105	0.79 90	-1.02 69	-0.62 77	1.34 40	112	3.40 33	1.81 69	-3.07 59	-1.99 33	
3	KR62 17 0777 89763742	4.20	KR62 11 0512 KR62 13 0168	92	2	53	3	58	64	-1.47 95	-0.90 90	-1.64 79	-3.62 74	73	-4.60 63	-5.13 86	-19.73 86	10.05 68	1
4	159 19 0092 90638198	2.80	KR62 17 0056 159 17 0015	96	3	16	2	95	112	-2.23 92	0.17 79	-0.95 102	-6.20 80	64	2.80 49	-0.38 77	-7.98 61	8.83 36	83 3
5	147 19 0144 89677900	2.80	AH 17 0047 100 16 0325	23	1	1	1	93	93	0.16 78	0.10 54	0.18 101	0.07 10	102	-1.70 17	-0.76 55	1.84 44	-3.86 33	100 5
6	49 19 0148 92218411	2.80	49 17 9142 49 15 0520			2	1	102	98	0.30 27	-0.09 105	0.06 97	-0.90 101	19	0.30 5	0.40 21	-4.41 103	3.18 17	5
7	KR62 19 0163 91262469	5.05	KR62 17 0777 KR62 17 0782					79	81	-0.81 49	-0.38 91	-0.79 91	-1.70 85	38	-2.20 32	-2.51 44	-10.22 62	6.78 39	3
8	AH 20 0034 93118495	12.13	AH 18 0004 AH 15 0007					115	114	0.09 47	0.34 102	0.38 36	-1.42 106	39	2.20 13	1.75 35	-12.42 36	8.92 17	2
9	55 20 0053 91069617	4.82	55 18 0017 100 18 0073	36	2	8	3	94	112	-1.43 85	1.32 83	0.60 63	1.13 127	111	-1.00 25	-0.72 63	8.60 47	-5.75 28	1
10	173 20 0073 92011501	2.67	173 18 0001 133 19 0035	17	1	1	1	96	83	0.62 72	-0.66 109	-0.35 46	1.11 85	93	-0.90 13	-0.58 92	0.75 34	0.03 23	1
11	100 20 0092 89653836	2.67	173 18 0001 100 15 0333	21	1	3	1	100	86	0.57 78	-0.66 109	-0.38 54	2.11 84	93	-0.50 12	-0.40 95	-1.49 39	0.32 24	151 6
12	100 20 0225 90937483	4.05	KR65 15 0027 144 18 0042	81	1	10	1	107	93	0.64 91	-0.59 110	-0.27 68	0.86 86	95	0.90 28	0.59 68	-6.52 56	5.63 32	100 3
13	218 20 0401 94889284	2.04	139 17 0311 - - -					96	90	0.07 9	-0.39 102	-0.35 5	0.35 90	93	0.20 5	-0.20 5	8.63 30	-2.66 8	
14	55 21 0022 94612314	17.02	100 18 0248 100 18 0291	2	1	1	1	109	101	0.14 57	0.10 103	0.17 52	1.18 101	103	1.20 19	0.96 46	-1.59 39	5.13 27	134 7
15	100 21 0031 91434530	21.44	100 19 0052 100 18 0147					97	114	-0.57 65	1.54 94	1.25 52	0.56 132	123	-1.70 28	-0.05 51	9.13 47	-8.69 29	129 7

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	Sire ID Dam ID	1st Generation		2nd Generation		Logix Merit Index	Reproducti on Index	Weaning Weight				Number Weaned EBV Acc Index	TWW EBV Acc Index	AFL EBV Acc Index	ILP EBV Acc Index	DAM EPI Times Lambe	
			Progeny Number Weaned	Herds	Progeny Number Weaned	Herds			Dir EBV Acc Index	Mat EBV Acc Index	Comb EBV Index	Post-Wean EBV Acc Index						
			Active Breed Average:				100	100	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83		
16	173 21 0122 93180412	2.67	173 18 0001 173 18 0151	15	2		89	89	-0.71 69 92	-0.50 45 88	-0.86 84	-0.24 31 100	-0.80 8 93	-1.69 46 85	-5.01 35 109	0.28 19 96	113	4
			Sire Flock Average: Number of sires used in the flock: 16				97	97	-0.29	-0.06	-0.21	-0.65	-0.09	-0.41	-3.23	1.25		

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-breedi	Sire ID Dam ID	1st Generation	2nd Generation	Logix Merit Index	Reproducti on Index	Weaning Weight		Comb EBV Index	Post-Wean EBV Acc Index	Number Weaned EBV Acc Index	TWW EBV Acc Index	AFL EBV Acc Index	ILP EBV Acc Index
			Progeny Number Weaned Herds	Progeny Number Weaned Herds			Dir EBV Acc ndex	Mat EBV Acc Index						
			Active Breed Average:		100	100	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83
1	300 23 0035 107324246	2.63	AH 20 0034 300 22 0924		107	104	-0.01 24 101	0.00 18 99	-0.01 100	-0.71 20 96	1.20 6 109	0.71 18 106	-6.10 18 111	4.51 9 86
2	KR62 19 0221 91031963	3.86	KR62 17 0777 KR9 15 0222		82	80	-0.57 56 94	-0.79 51 82	-1.08 80	-1.64 38 89	-2.20 31 82	-2.68 48 77	-22.25 48 136	9.57 36 75

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-breedin	Sire ID Dam ID		Logix Merit Index	Reproducti on Index	Weaning Weight		Comb	Post-Wean	Number Weaned	TWW	AFL	ILP	Phenotype	
							Dir	Mat								
					Acc Index	Acc Index	EBV Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EBV Acc Index	EPI	Times Lambd	
Active Breed Average:					100	100	-0.08	-0.05	-0.09	-0.14	-0.07	-0.17	0.33	-0.83		
1	300 23 0035 107324246	2.63	AH 20 0034 300 22 0924	107	104	-0.01	0.00	-0.01	-0.71	1.20	0.71	-6.10	4.51			
						24 101	18 99	100	20 96	6 109	18 106	18 111	9 86			
2	KR62 19 0221 91031963	3.86	KR62 17 0777 KR9 15 0222	82	80	-0.57	-0.79	-1.08	-1.64	-2.20	-2.68	-22.25	9.57			
						56 94	51 82	80	38 89	31 82	48 77	48 136	36 75			