

Dohne Merino Genetic Analysis

SA Stud Book
12 February 2025

FAIRBRIDGE AGRI (PTY) LTD
FAIRBRIDGE FARM
MACLEAR
5480



FDM : FA



CERTIFICATE
OF QUALITY
Valid up to
October 2029



Information

This Report gives a summary of the genetic levels of the flock with regards to production and fertility. Breeders can easily see if genetic progress occurred in their flocks.

EBV (Estimated Breeding Value)

The breeding value indicates an animal's genetic ability for a specific trait. It is indicated in the unit of measurement and relative to that of an average animal born in the base year, i.e. five years ago. A higher breeding value is desirable for all traits, except Fibre Diameter (thinner fibres are better), AFL (early sexual maturity) and ILP (easy conceptions – shorter Interlambing Periods).

EBVi (EBVindex)

The base of a breeding value index is 100, where 100 is the average of the active animals in the breed. Values above 100 are always in the more desirable direction, also for AFL (early sexual maturity) and ILP (shorter intervals). However, for FD values below 100 indicate thinner (more desirable) fibres.

Selection Indices

This is the combination of breeding values into a single value. It indicates of the genetic value of the combined traits of the animal with regards to the breed. Traits cannot simply be summed, as they are expressed in different units, their genetic variation differ and because negative values are more desirable for certain traits. Traits are also weighted differently according to economic importance. All these factors are taken into account when selection indices are constructed. The selection indices currently available for the Dohne Merino breed, is the General Merit (GM) and the within-test-group selection index (SIP). The GM and SIP indices are only published for animals with wean and wool measurements.

General Merit (GM)

$$GM = (EBV \text{ BWeight} * 2.30) + (EBV \text{ CFW} * 22.0) + (EBV \text{ FD} * -5.0) + (EBV \text{ TWW} * 5.0)$$

Within-Test-Group Selection Index (SIP)

$$SIP = (GM_{dier} / \text{Average GM of wool contemporary group}) * 100$$

This is a lifetime value for the animal, allocated on the basis of the animal's own measurements. This value is not updated when the animal's EBVs are estimated more accurately due to the inclusion of progeny and other relatives' information in the Genetic Evaluation.

Genetic Windows and Averages

The flock's average genetic levels are compared to the active breed average, where active breed average is set to 100.

Genetic Trends

The Genetic Trends indicate the genetic changes that occurred in the flock over time in comparison to that of the breed. This is based only on the animals that were measured for the relevant trait.

Inbreeding

The average inbreeding of the flock per year of birth is compared to that of the breed. Inbreeding levels should stay below 6.25% and rate of inbreeding less than 0.1-0.2% per year to maintain genetic diversity.

The active population is defined as the lambs born in the last 36 months and their parents, regardless if they were measured for the trait or not, excluding the animals that are already cancelled on Logix.

Abbreviations

WnD:	Weaning Weight Direct
WnM	Weaning Weight Maternal
BW:	Body Weight
CFW:	Clean Fleece Weight
FD:	Fibre Diameter
SL:	Staple Length
AFL:	Age First Lambing
ILP:	Interlambing Period
NLW:	Number of Lambs Weaned
TWW:	Total Weight of Lambs Weaned

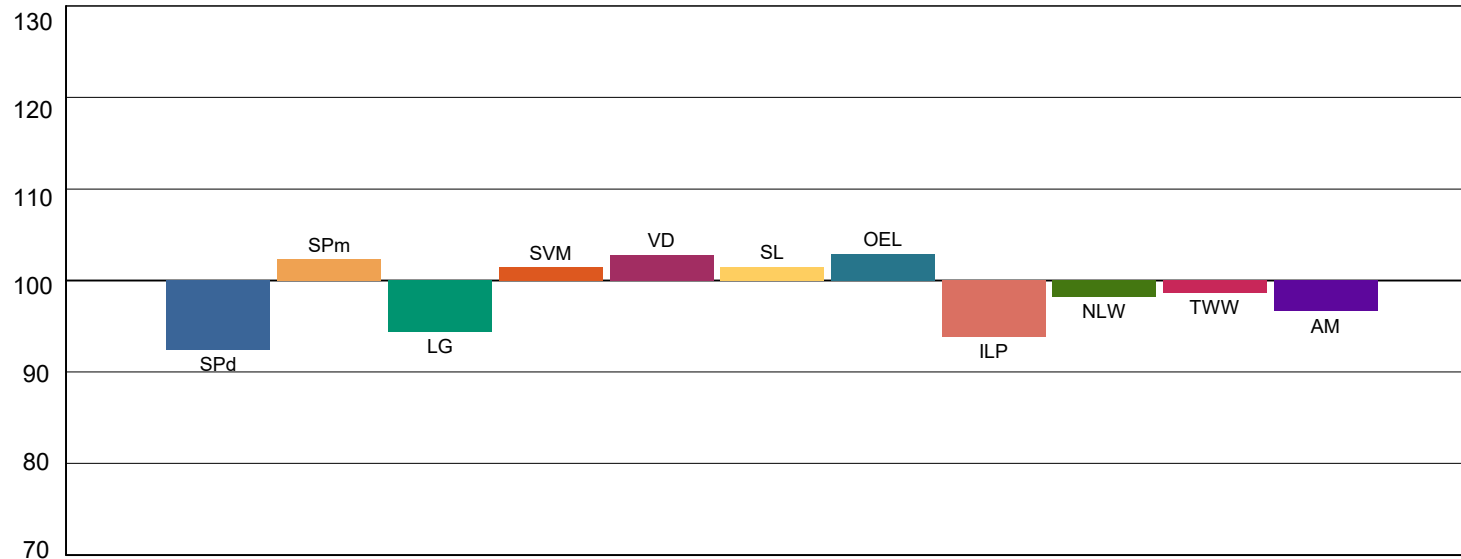
The data used in this evaluation has been obtained from LOGIX, as supplied by breeders. Everything possible had been done to present the information correctly. SA Stud Book does not take any responsibility for the use and interpretation of the information from this publication.

Genetic Windows

Average Breeding Value Indices (EBVi)

(Lambs born in the last 36 months and their parents)

Number: 127



Abbr.	Trait	Interpretation of Index	
		<100 (Worse)	>100 (Better)
WnD	Weaning Weight Direct	Lighter	Heavier
WnM	Weaning Weight Maternal	Less	More
BW	Body Weight	Lighter	Heavier
CFW	Clean Fleece Weight	Less	More
FD	Fibre Diameter	Thinner	Thicker
SL	Staple Length	Shorter	Longer
AFL	Age at First Lambing	Later	Earlier
ILP	Interlambing Period	Longer	Shorter
NLW	Number of Lambs Weaned	Less	More
TWW	Total Weight of Lambs Weaned	Lighter	Heavier
AM	General Merit	Poor	Good
SIP	Within-Test Group Selection Index	Poor	Good

* The Genetic Windows provide a quick overview of the flock's genetic status compared to the breed.

* The values presented here are the average breeding value indices and selection indices of all the lambs born in the past 36 months and their parents in the flock compared to the breed.

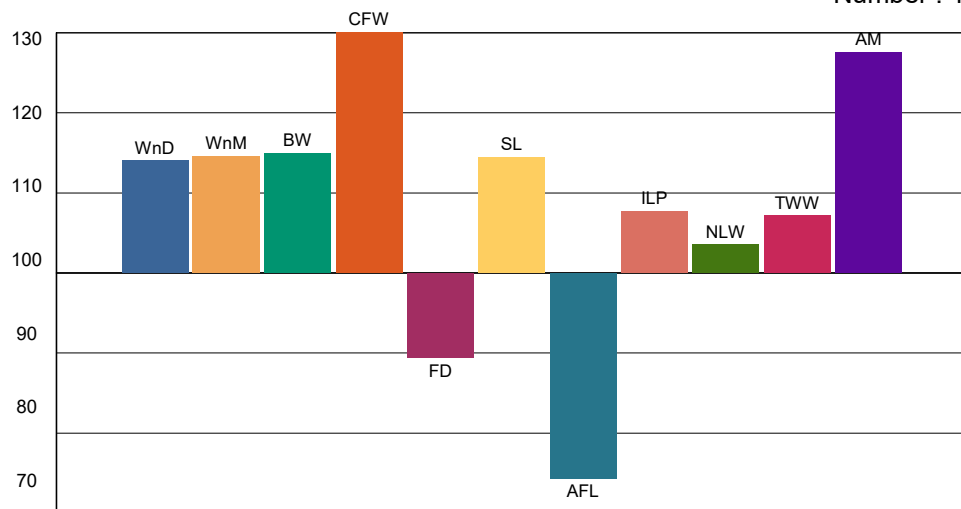
* An index of 100 equals the average of the lambs born in the past 36 months and their parents in the breed.

* The breeding value indices for AFL and ILP are expressed in such a way that an index above 100 indicates the better animals, thus the animals with a genetic ability for a short AFL and ILP. See accompanying table for interpretation of other Indices.

Genetic Windows

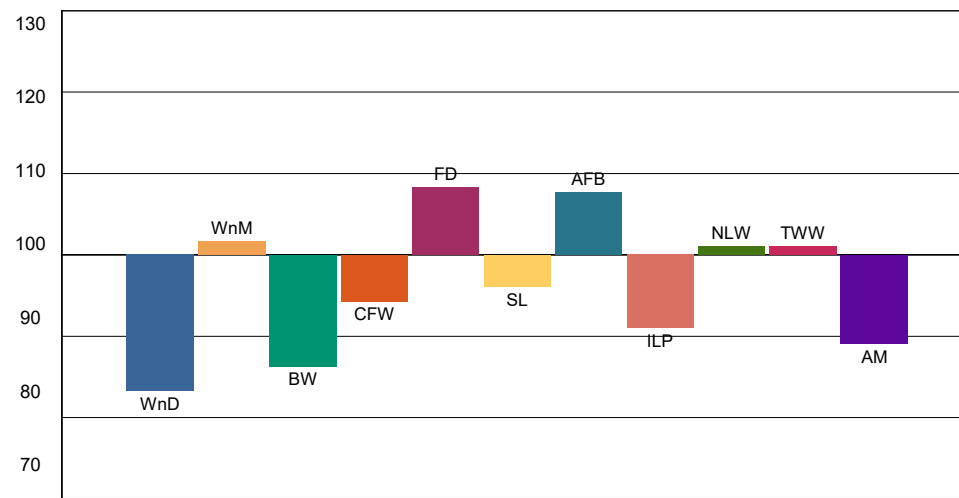
Sires of lambs born in the last 36 months

Number : 1



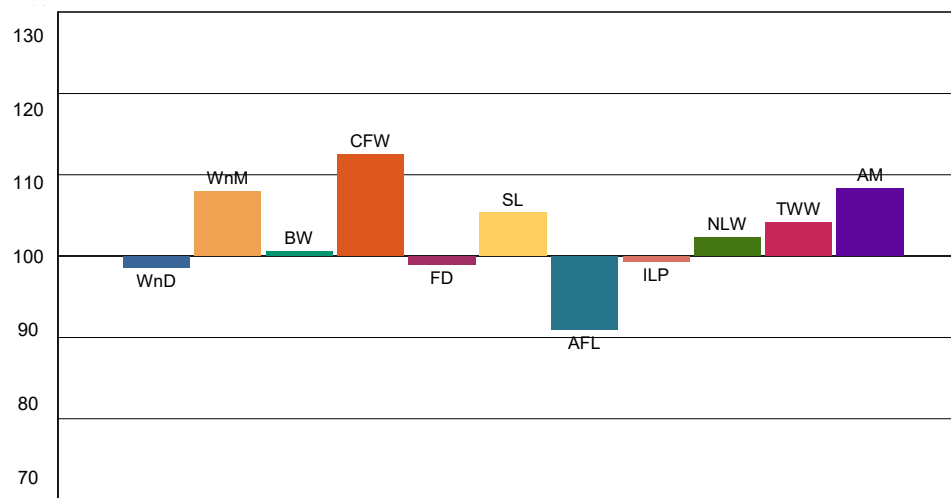
Dams of lambs born in the last 36 months

Number : 1



Lambs born in the last 36 months

Number : 1



Average Genetic Levels

Average Breeding Values

Averages of all lambs born in the last 36 months and their parents

Trait	Flock			Breed		
	All	Rams	Ewes	All	Rams	Ewe
Breeding Values for Production Traits						
Weaning Weight Direct	-0.09	0.71	-0.36	0.73	0.88	0.63
Weaning Weight Mat	0.10	0.17	0.07	-0.02	-0.03	-0.02
Body Weight	0.00	1.04	-0.36	0.87	1.28	0.69
Clean Fleece Weight	0.09	0.20	0.05	0.07	0.10	0.05
Fibre Diameter	0.06	-0.24	0.16	-0.12	-0.19	-0.09
Staple Length	1.42	3.13	0.82	0.83	1.16	0.69
Breeding Values for Fertility						
Age First Lambing	-0.44	4.56	-2.20	2.27	2.96	1.83
Interlambing Period	2.61	1.67	2.94	0.64	0.85	0.51
Lambs Weaned	-0.17	-0.52	-0.05	0.30	0.39	0.25
Total Weight Weaned	0.05	-0.01	0.07	0.16	0.20	0.14
Selection Indices						
General Merit Index	1.54	5.87	0.01	3.55	5.25	2.78
SIP				100.6	100.3	100.7
Inbreeding						
Inbreeding (%)	2.21	2.21	2.21	2.90	3.05	2.81
Number of Animals						
Number of Animals	127	33	94	136027	51903	84124

Average Breeding Value Indices

Average EBVi of all active measured animals, where breed average of active measured animals = 100.

Trait	Flock		
	All	Rams	Ewes
Breeding value Indices for Production Traits			
Weaning Weight Direct	92.4	99.8	89.8
Weaning Weight Mat	102.3	103.8	101.8
Body Weight	94.4	101.1	92.0
Clean Fleece Weight	101.5	108.4	99.0
Fibre Diameter	102.8	98.2	104.3
Staple Length	101.5	105.9	99.9
Breeding Value Indices for Fertility			
Age First Lambing	102.9	97.5	104.8
Interlambing Period	93.8	96.8	92.8
Lambs Weaned	98.2	96.9	98.7
Total Weight Weaned	98.6	97.9	98.9
Selectopn Indices			
General Merit Index	96.6	103.9	94.1
SIP			
Inbreeding			
Inbreeding (%)	2.21	2.21	2.21
Number of Animals			
Number of Animals	127	33	94

Genetic Trends

Average breeding value per year of birth for animals in the breed and flock. Genetic trends are based on measured animals that were bred by the relevant breeder.

For FD, AFL and ILP, flock trends below breed averages are desirable

Genetic Trends: Fertility Traits

Average breeding value per year of birth in the breed and flock. Genetic trends are based on measured animals that were bred by the relevant breeder.

Genetic Trends: Breed and Flock

Average breeding value per year of birth for animals in the breed and flock. Genetic trends are based on measured animals that were bred by the relevant breeder.

Genetic Trends of Breed

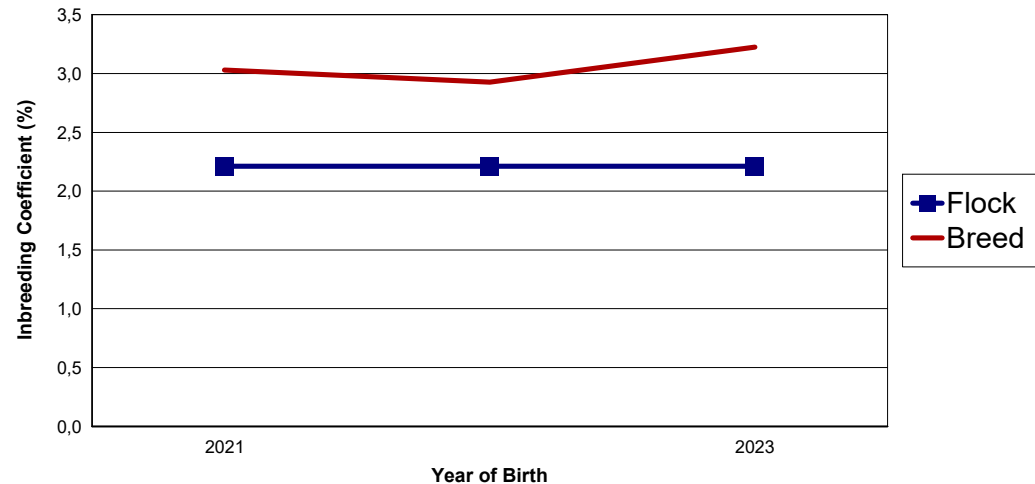
Birth Year	Weaning Weight			Body Weight		CFW		FD		SL		AFL		ILP		NLW		TWW		General Merit	
	Nr	Dir	Mat	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	Ind
2012	33461	-1.62	-0.11	24947	-2.44	24791	-0.20	24877	0.30	23940	-1.85	7442	-4.67	5778	-2.24	9003	-0.34	7417	-0.36	25390	-9.50
2013	34100	-1.37	-0.12	24445	-2.07	24352	-0.17	24384	0.27	24249	-1.59	7158	-4.31	5526	-1.93	8760	-0.33	7242	-0.34	25478	-8.25
2014	34600	-1.19	-0.10	23613	-1.73	23477	-0.14	23511	0.26	23404	-1.07	6513	-3.71	4764	-1.86	8150	-0.40	6758	-0.32	25195	-7.13
2015	36007	-1.00	-0.07	25062	-1.41	24975	-0.12	24990	0.21	24511	-0.92	6856	-3.54	5313	-1.60	8632	-0.40	7109	-0.31	26207	-5.93
2016	33762	-0.73	-0.04	24799	-1.02	24614	-0.09	24664	0.15	24080	-0.47	7054	-3.17	5449	-1.57	8705	-0.17	7290	-0.20	25836	-4.13
2017	33408	-0.49	-0.02	24007	-0.65	23924	-0.07	23948	0.11	23487	-0.61	7125	-1.72	5500	-0.82	9183	0.02	7019	-0.09	24328	-2.71
2018	34871	-0.21	-0.03	24937	-0.22	24790	-0.03	24808	0.10	24088	-0.11	7421	-1.42	5761	-0.63	8659	0.39	7394	0.12	25402	-0.68
2019	34833	0.00	0.00	25157	0.00	25034	0.00	25045	0.00	24985	0.00	7016	0.00	5305	0.00	8332	0.00	6935	0.00	25370	0.00
2020	35033	0.20	0.01	24235	0.40	24299	0.03	24311	-0.03	24213	0.43	6546	0.84	4616	0.32	8460	0.35	6388	0.16	24154	1.71
2021	33755	0.46	-0.04	23313	0.74	23202	0.07	23219	-0.06	23158	0.69	6149	2.29	3548	0.78	7613	0.06	5705	0.01	23178	2.52
2022	32968	0.66	-0.04	22211	1.11	22119	0.09	22140	-0.12	22045	1.07	4616	3.37	405	0.92	4968	0.73	3635	0.36	22075	4.51
2023	32462	0.92	-0.08	18900	1.43	18829	0.11	18839	-0.26	18805	1.21	519	6.86			562	0.77	515	0.30	18818	5.83

Genetic Trends of Flock

Birth Year	Weaning Weight			Body Weight		CFW		FD		SL		AFL		ILP		NLW		TWW		General Merit	
	Nr	Dir	Mat	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Nr	EBV	Aantal	EBV	Nr	EBV

Inbreeding

Inbreeding in Flock and Breed



Pedigree Information

	Number	%
Known Sires	69	54
Known Dams	69	54

Please Note : When pedigree information is incomplete, inbreeding is under-estimated.

The effects of inbreeding can be observed from 6.25% onwards. Inbreeding primarily leads to decreased fertility and low survivability of lambs.

Inbreeding % is dependent on the accuracy of pedigree information. It is therefore highly recommended to record pedigrees as accurately and completely as possible and not to mate related animals.

Incomplete and incorrect pedigree information can be reported to SA Stud Book

Inbreeding Level and Rate

Year of Birth	Level* (%)	Rate (% / year)
2021 - 2023	2.21	0.00
Recommendations	< 6.25	< 0.1 - 0.2

*Of last birth year

Percentiles of Breeding Values : All Active Animals

Percentile	Wean Dir	Wean Mat	Body Weight	CFW	FD	SL	NLW	TWW	AFL	ILP	Gen. Merit
Gemid/Avg	0.61	-0.03	0.85	0.08	-0.13	0.99	0.31	0.16	1.87	0.88	3.06
SA/SD	1.28	0.61	1.80	0.17	0.70	3.94	3.03	0.94	-10.53	-3.69	6.82
MIN	-4.73	-3.28	-6.86	-0.72	3.15	-18.66	-18.94	-5.55	72.42	24.28	-26.97
1%	-2.17	-1.66	-3.15	-0.36	1.50	-8.79	-7.33	-2.19	30.75	9.60	-12.85
5%	-1.39	-1.07	-1.96	-0.21	0.96	-5.58	-4.63	-1.40	18.29	6.37	-7.32
10%	-1.05	-0.78	-1.38	-0.14	0.69	-3.94	-3.35	-1.00	14.34	4.93	-4.83
20%	-0.50	-0.49	-0.72	-0.05	0.42	-2.03	-1.97	-0.55	9.84	3.52	-2.83
30%	-0.10	-0.30	-0.16	-0.01	0.26	-0.78	-1.02	-0.24	6.38	2.87	-1.03
40%	0.24	-0.15	0.33	0.04	0.07	-0.03	-0.21	0.00	3.58	1.99	0.96
50%	0.57	-0.01	0.81	0.09	-0.11	0.96	0.48	0.21	1.34	1.21	2.75
60%	0.91	0.11	1.29	0.13	-0.28	2.01	0.70	0.31	-0.97	0.30	4.54
70%	1.27	0.26	1.80	0.17	-0.47	2.95	1.50	0.51	-3.67	-0.69	6.51
80%	1.69	0.43	2.38	0.22	-0.71	4.07	2.50	0.83	-4.92	-1.85	8.87
90%	2.27	0.70	3.19	0.29	-1.04	5.87	4.07	1.30	-8.88	-3.65	12.09
95%	2.76	0.93	3.88	0.36	-1.32	7.48	5.39	1.72	-13.54	-5.34	14.63
99%	3.72	1.45	5.15	0.47	-1.87	10.70	8.20	2.62	-27.19	-9.54	19.42
MAX	6.11	2.59	8.69	0.80	-3.24	20.55	16.50	5.16	-44.47	-18.69	33.52

SD = Standard Deviation = Indicates the spread around the average

Percentiles of Indices : All Active Animals

Percentile	Wean Dir	Wean Mat	Body Weight	CFW	FD	SL	NLW	TWW	AFB	ILP	Gen. Merit
Gemid/Avg	100	100	100	100	100	100	100	100	100	100	100
SA/SD	12	12	12	12	12	12	12	12	12	12	12
MIN	49	37	50	52	150	50	28	31	24	26	49
1%	73	68	72	72	128	73	71	71	68	71	71
5%	81	80	81	80	120	80	81	80	82	81	80
10%	85	85	85	85	115	85	86	85	86	86	85
20%	90	91	90	90	110	90	91	91	91	91	90
30%	93	95	94	94	106	94	94	94	95	94	94
40%	97	98	97	97	103	97	97	97	98	97	97
50%	100	100	100	100	100	100	100	100	100	99	100
60%	103	103	103	103	97	103	102	103	103	102	103
70%	106	106	106	106	94	106	105	105	105	105	106
80%	110	109	110	110	90	110	109	109	108	109	110
90%	116	114	115	115	85	115	115	115	113	114	116
95%	120	119	120	120	80	120	120	120	118	120	120
99%	129	129	129	127	72	128	131	131	134	133	128
MAX	150	150	150	145	52	150	160	160	150	160	150

Rams with Progeny

*Inbreeding in red is high

EBV - Estimated Breeding Value

Indices in top 10%
Above breed average
Indices in bottom 10%

Acc: Accuracy of the breeding values
Breeding values with accuracy below 5% are not printed

Index: Expresses the EBV around 100 where 100 is set as the average EBV of lambs born in the past 36 months and their parents in the breed

Animal Information		Parents & Progeny						Selection Indices			EBV - Weights			EBV - Wool			EBV - Fertility				Rank
Animal ID Regnr	% In- breeding	Sire ID Dam ID	Wean		Wool test		SIP	GM		Weaning Dir	Weight Mat	Body Weight	CFW	FD	SL	NLW	TWW	DAM			
			Progeny	Nr	Progeny	Nr		EBV	Index									EBV	Index		EBV
			Progeny weaned	Nr flocks	Progeny tested	Nr flocks															
		Active Breed Average :						101	3.5	100	0.73	-0.02	0.87	0.07	-0.12	0.83	0.30	0.16			
1	CR 20 0103 89490775	2.39	CR 18 0157 CR 17 0175	85	1	59	1	107	6.56	105	2.87 94 120	-0.38 75 93	3.56 92 117	0.23 91 110	-1.03 95 86	7.65 93 117	-6.07 56 76	-1.86 56 76	121	5	4
2	SD 17 0272 80506033	1.01	SD 15 0015 SD 12 0182	3208	16	2281	12	112	19.99	128	2.23 99 114	0.73 98 115	3.19 99 115	0.57 99 131	-0.81 99 89	6.47 99 114	1.23 92 104	0.75 91 107	106	4	3
Rams with Progeny Average :								110	13.3	116	2.55	0.17	3.37	0.40	-0.92	7.06	-2.42	-0.55			

Young Rams

*Inbreeding in red is high

EBV - Estimated Breeding Value

Indices in top 10%
Above breed average
Indices in bottom 10%

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

Young rams, born since 2020 with a weaning weight, and wool test, but no progeny, both parents known.

Animal Information		Parents		Rank	Selection Indices		EBV - Weights			EBV - Wool			EBV - Fertility			
Animal ID Regnr	% In- brding	Sire ID	Dam ID		SIP	GM	Weaning Weight		Body Weight	CFW	FD	SL	NLW	TWW	EPI	DAM
							Dir	Mat								Lambd
												EBV	EBV	EBV	EBV	EBV
							Acc	Index	Acc	Index	Acc	Index	Acc	Index	Acc	Index
		Active Breed Average :				100										
1																
Young rams (with known parents) average :																

Ewes with Progeny

*Inbreeding in red is high

EBV - Estimated Breeding Value

- Indices in top 10%
- Above breed average
- Indices in bottom 10%

Acc: Accuracy of the breeding values
Breeding values with an accuracy of less than 5% are not printed

Ewes with progeny and measured at weaning, with both parents known.

Animal Information		Parents		Progeny		Selection Indices		EBV - Weights			EBV - Wool			EBV - Fertility				Rank	
Animal ID Regnr	% In- brding	Sire ID Dam ID	DAM : EPI Times lambd		Generation Progeny Weaned		SIP	GM	Weaning Weight		Body Weight	SVG	VD	SL	Lammers gespeen	TWW	EPI	Times lambd	
			1st	2nd	Dir	Mat			Acc	Index									
			EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV	Index	
		Active Breed Average :				100													
1																			
Ewes with progeny average :																			

Young Ewes

*Inbreeding in red is high

EBV - Estimated Breeding Value

Indices in top 10%
Above breed average
Indices in bottom 10%

Acc: Accuracy of the breeding values
Breeding values with an accuracy of less than 5% are not

Ewes born since 2020 with a weaning weight and wool test, no progeny, with both parents known.

Animal Information		Parents		Selection Indices		EBV - Weights				EBV - Wol				EBV - Fertility				Rank
Animal ID Regnr	% In- brding	Sire ID Dam ID	DAM REPROD :		SIP	GM	Weaning Weight		Body Weight		CFW	FD	SL	NLW	TWW			
			EPI	Times lambed			Dir	Mat										
			EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV	Index	EBV		Index	
Active Breed Average :			100															
1																		
Young Ewes (with known parents) average :																		