

Badgingarra

Central Test Sire Evaluation

2007 Drop

Conducted by

Badgingarra Central Sire Test Group

under the auspices of

The Australian Merino Sire Evaluation Association



with support from

Stud Merino Breeders of W.A



November 2008

Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (November, 2008). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with an appropriate adviser.

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Foreword

Badgingarra - Central Test Sire Evaluation

The Badgingarra CTSE is an accredited Central Test Sire Evaluation (CTSE) site. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

A committee with the support of the SMBA of WA run the Badgingarra site. They are listed in the table below.

- This is the fifth evaluation carried out by the group
- Evaluations are held at the Dept of Ag WA Badgingarra research station
- Ewes were originally based on Dept of Ag stock. Ewes now include some of the progeny of previous evaluations. Ewes are randomly allocated to sires according to age and pedigree.
- Each sire is allocated 60 ewes.
- Landmark provide support with subjective appraisal thanks to Preston Clarke and Nathan King
- The Stud Merino Breeders Association (SMBA) of WA provide secretarial support
- Rob Shepherd has supplied technical support with electronic data collection and drafting

Site Committee

Name	Phone	Position on committee
Brett Jones	0896323012	Chairperson
Tony Gray.....	0896529072	Technical Coordinator/Manager
Tamara Hooper.....	0893846466	Secretary/Treasurer

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2007 Drop - Badgingarra Sire Evaluation

The information in this site report provides a comprehensive assessment of the Badgingarra 2007 Drop evaluation of sire's progeny performance, both measured and visually assessed. Four graphs and a table provide a summary of the results and five tables provide the detailed performance information for the standard sire evaluation analysis. Additional measurements have been taken to give an average production value.

This report provides the results from the 2006 drop Evaluation. Progeny were 16 months of age and had 12 months of wool growth.

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2007 Drop Badgingarra

Badgingarra 2006 Drop Evaluation: Age - 16 months, Wool growth - 12 months

Sire and owner details

Sire code	Sire name Sire ID [#] , Breed [†]	Contact Name, Address Phone and Fax Number
1*	Ag WA Baseflock, 20002058 50-9012-2000-002058, Merino	Dr Johan Greeff Agriculture WA GSARI 10Dore St Katanning WA 6317 Phone 08 9821 3215 Fax 08 9821 3334
2	Cranmore Park, 4.3 50-0153-2004-000579, Merino	Bruce Lefroy Cranmore Park RSM 427 Moora WA 6510 Phone 08 9654 9066 Fax 08 9654 9067
3	Edale, 03K071 50-4358-2003-03K071, Merino	Philip Gardiner Edale Moora WA 6510 Phone 08 9651 1700 Fax 08 9651 1766
4	Ejanding Poll, 015077 60-0443-2001-015077, Poll Merino	B Jones RMB 2000 Dowerin 6461 WA Phone 08 9632 3012 Fax 08 9632 3008
5	Ejanding Poll, 05763 50-0642-2005-050763, Merino	B Jones RMB 2000 Dowerin 6461 WA Phone 08 9632 3012 Fax 08 9632 3008
6	Nepowie Poll, AW107 60-0059-2004-AW0107, Poll Merino	Cameron White Box 317 Narrogin WA 6312 Phone 08 9882 7013 Fax 08 9882 7020
7	North Ashrose Poll, MZ17-112 60-1226-2004-040112, Poll Merino	Tom Ashby PO Box 17 Gulnare SA 5471 Phone 08 8845 2155 Fax 08 8845 2107
8*	Roseville Park, 4.2536 50-4166-2004-042536, Merino	Matthew and Cherie Coddington Glenwood, 39R Dilladerry Rd MS3 Dubbo NSW 2830 Phone 02 6887 7286 Fax 02 6887 7103
9	Toland Poll, 339 60-1082-2001-010339, Poll Merino	Phil Toland RMB 2005, 1888 Feltrim Rd Violet Town VIC 3669 Phone 03 5798 1605 Fax 03 5798 1404

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^{UR} Unregistered Flock. Sires bred in an unregistered flock are identified in the table by a UR following the sire's code.

Sire ID provides a unique number for all sheep. A sire ID has 16 digits.

- 2 for the breed of the flock, e.g., Merino (50), Poll Merino (60), Dohne (51), SAMM (48), Afrino (AF)

- 4 for flock code, AASMB Registered flock code or unregistered code.

- 4 for year of drop.

- 6 for tag number used in the breeder's records.

[†] Breed of flock in which the sire was born

Managers Report – 2007 Drop Badgingarra

1. Location

- Badgingarra Research Station is situated in the Dandaragan Shire, Western Australia, latitude 30 degrees South, Longitude 115 degrees 31 minutes East. This is 60 kms from the west coast.
- Soils are variable and range from gravel ridges to deep white (infertile) sands.
- Pastures vary according to soil type with subclovers and capeweed being the main pasture species on gravel soils. Silvergrass, spear grass and erodium are well adapted on the deeper sands. A pasture improvement program on the property is establishing subtropical perennial pastures and Serradella legumes on deeper sands.

2. Selection and joining

Ewes were prepared for insemination in January by introducing the ewes to lupin stubble and giving ewes access to lupin grain.

- 630 ewes were prepared for AI (60 ewes per sire)
- The ewes were selected from the Badgingarra Research Station ewe flock. The age varied from 3 to 6 years old.
- The ewes were separated into their genetic and age groups and allocated randomly to each sire so each sire had equal numbers of ewes according to genetic group and age. Average body weight of the ewes at mating was 50 kg
- Ewes cut 3.65 kg of 19.7 micron wool (skirted fleece wt).
- AI was performed by Allstock

3. Pregnancy and lambing

SIRE	Dry	Multiple	Single
Ag WA Baseflock, 20002058	11	22	28
Cranmore Park, 4.3	17	20	23
Edale, 03K071	21	22	17
Ejanding Poll, 015077G	23	18	18
Ejanding, 05763	40	7	13
Nepowie Poll, AW107	17	20	23
North Ashrose Poll, MZ17-112	12	19	27
Roseville Park, 4.2536	22	16	20
Toland Poll, 339	15	22	23
Total	178	166	192

- Ewes were scanned for pregnancy status on 11 May 2007 and results are shown in the table above. Ewes scanned as dry were drafted off from wet ewes at this time.
- Ewes were run as one mob from AI until they entered the lambing pens.
- Ewes were put into lambing paddocks on 26 June 2007 and remained in these pens until the lambs were tagged on 27 July 2007.

4. Weaning and seasonal conditions

- Lambs were marked and tagged 27 July 2007
- Weaned on the 19th of November 2007.
- With below average rainfall in May and June, pasture growth was below normal for Badgingarra for the early part of winter. Good rains in July and August gave improved pasture and sheep growth in the early part of spring.
- Lambs were weaned onto a pasture paddock and moved to lupin stubble in January.

5. Visual trait assessment

- Visual assessments were carried out by Nathan King from Landmark.

6. Rainfall Records for Badgingarra Research Station

	2002	2003	2004	2005	2006	2007	2008	Average*
JAN	0	0	24	0	47	8.7	0	10
FEB	0	0	0	0	22	0	36.6	16
MAR	12	56	0	13	0	0	13.8	17
APR	40	17	0	17	7	24	30.6	28
MAY	23	92	72	116	18	16	19.0	79
JUN	77	110	95	144	25	37.8	68.6	114
JUL	81	72	50	16	54	83.8	172.8	104
AUG	87	107	79	80	60	71.2	17.8	86
SEP	23	67	39	61	62	44.4	66.4	50
OCT	34	0	12	15	22	14	37.2	30
NOV	0	15	21	0	19	0		19
DEC	0	0	9	0	9	35.4		9
TOTAL	377	536	400	461	345	335.3		562
MAY-OCT	325	448	347	432	241	267.2		463

* Badgingarra Research Station Records from 1962

7. General

Over summer the sheep grazed cereal and lupin stubbles as well as requiring grain supplements. Grain supplements for the ewes varied from 500 - 1000 grams per head per day, whereas the weaners grain supplements varied from 100 – 500 grams per head per day. Hay supplements of up to 500 grams per day were also provided between March and May.

High rates of lupins were provided for the ewes for short periods at critical times of the trial. These were 2 weeks prior to mating and lambing.

Lambs were drenched in November 2007 and WEC monitored during the growing season by collecting faecal samples from 15 sheep. Collection dates were 19 June and 19 August 2008. Results are shown in the table below. The management committee considered these WEC to be too low to provide reliable data on worm resistance and therefore individual faecal samples of the progeny were not collected for this progeny drop.

Date	Strongyle (egg/gm)	Nematodirus (egg/gm)	Range
19 June 2008	195	10	0 - 400
19 August 2008	10	25	0 - 250

Managers Report – 2007 Drop Badgingarra

Evaluation and Management Program

Event	Date/s	Age (months)	Wool (months)
Selection of ewes	24 January 2007		
Joining	14-15 February 2007		
Lambing: start – finish	7-21 July 2007		
Tagging and pigment assessment	27 July 2007	2 weeks	2 weeks
Weaning	19 November 2007	4	4
Weaning body weight	19 November 2007	4	4
Even-up shearing	7 November 2007	4	4
Crutching			
Fleece sampling	19 June 2008	11	7
Staple length	19 June 2008	11	7
Assessment shearing	10 July 2008	12	8
Classer's Grade	19 June 2008	11	7
Visual trait scoring	19 June 2008	11	7
Body weigh	19 June 2008	11	7
Muscle – fat scanning	15-Sep-08	14	2
WEC sampling	N/A		
Sire's Progeny Group Evenness	1 July 2008	12	8
Drench	19 Nov 2007 (abamectin)		
Vaccination	27 July 2007 19 Nov 2007 28 Jan 2008 All Vaccinations 3 in 1 plus B12 plus Se Scabbiguard applied 27 July 2007		

Visual tait assessment

1st Evaluation

Classer's Grade: Nathan King

Trait Scores: Nathan King

Site Breeding Objective used to assess the Classer's Grades

The Breeding Objective used by the classer/s when selecting the Classers Tops, Flock and Cull grades is equivalent to a MERINO 7% Index. This involves moderate reduction in fibre diameter with a small increase in fleece weight and body weight. This Breeding Objective was developed by the site committee.

Figure 1A and B. Combined measured traits and visual trait performance

Summary graph: visual and measured performance

Each sire that 20 or more progeny evaluated is located on the graph. The graph describes performance for combined measured traits and visual assessment.

Figure 1A and B are combined measured traits based on AMSEA Dual Purpose 7% and Fine 10%+SS indexes. Visual trait performance is a combination of Classer's Grade performance (Tops and Culls). More information is found in "Calculation of combined information" page 23.

Sires that are above average performers for combined measured traits and visual assessment are located in the top right hand quarter.

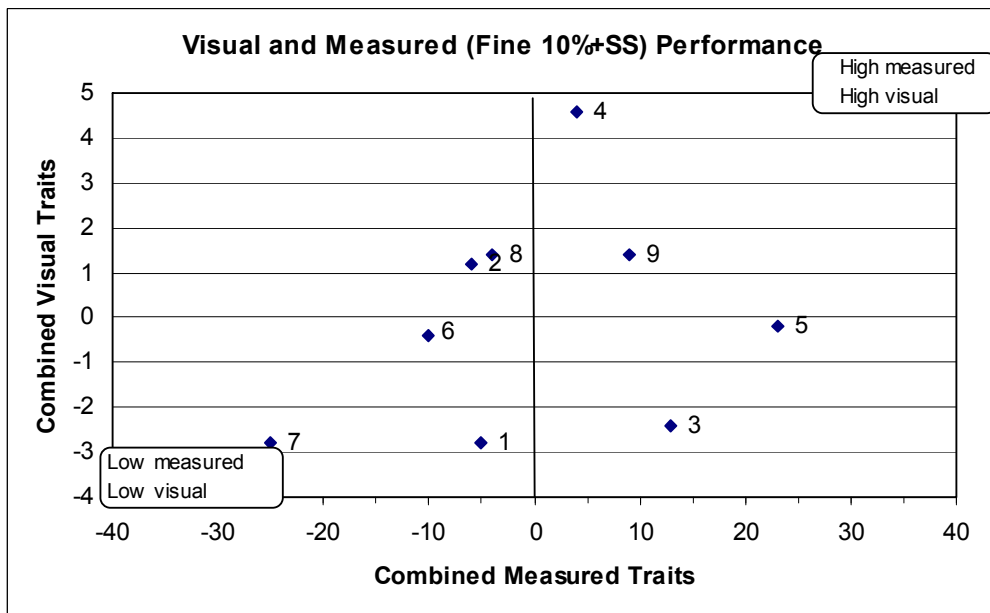
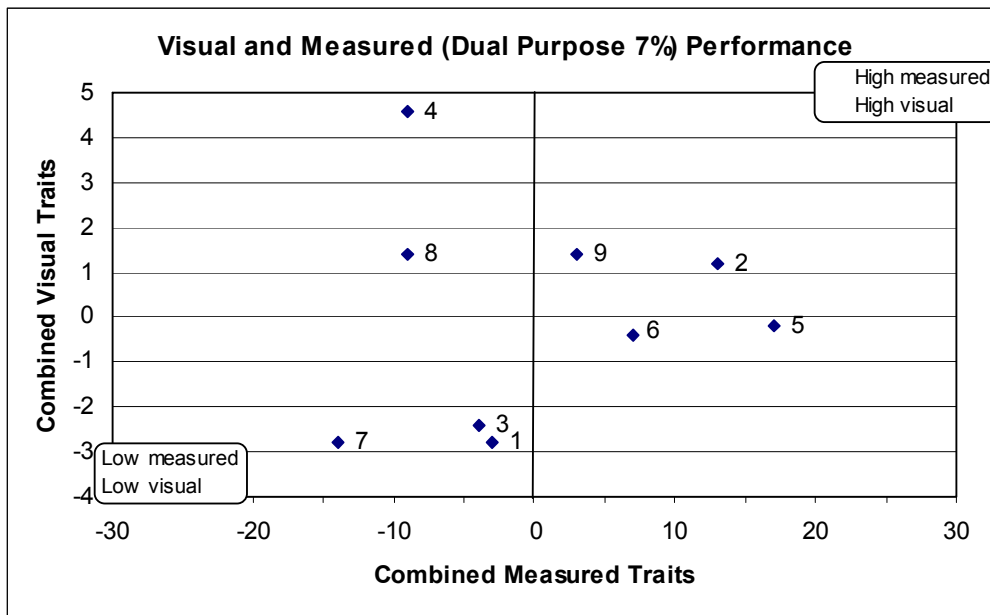


Table A. AMSEA Indexes and Classer's Grade

Each sire is listed for three index performance options and Classer's Grade (Tops and Culls). The index options are based on measured traits and they vary the emphasis on fleece weight, fibre diameter, body weight, staple strength and reproduction. See 'Index Options' on page 22 for more detail on the indexes used.

AMSEA Indexes are the same as MERINOSELECT apart from the calculation of NLW (Number of Lambs Weaned) that is given a zero FBV value.

- **Merino 14% +SS** High emphasis on fibre diameter and low emphasis on fleece weight plus moderate emphasis on live weight and staple strength.
- **Fine 10% +SS** Moderate emphasis on fleece weight and fibre diameter plus moderate emphasis on staple strength.
- **Dual Purpose 7%** Moderate emphasis on fleece weight and fibre diameter plus high emphasis on live weight and reproduction.

Sire Code	Sire name	No. of prog.	AMSEA Indexes			Classer's Grade	
			Merino 14% +SS	Fine 10% +SS	Dual Purpose 7%	Tops % (dev)	Culls % (dev)
						Y^	Y
1*	Ag WA Baseflock, 20002058	55	100	95	97	-10	4
2	Cranmore Park, 4.3	39	100	94	113	1	-5
3	Edale, 03K071	44	110	113	96	-4	8
4	Ejanding Poll, 015077G	31	101	104	91	10	-13
5	Ejanding, 05763	20	120	123	117	2	3
6	Nepowie Poll, AW107	47	93	90	107	-1	1
7	North Ashrose Poll, MZ17-112	43	80	75	86	-9	5
8*	Roseville Park, 4.2536	34	91	96	91	7	0
9	Toland Poll, 339	49	106	109	103	4	-3
Average performance						28	23

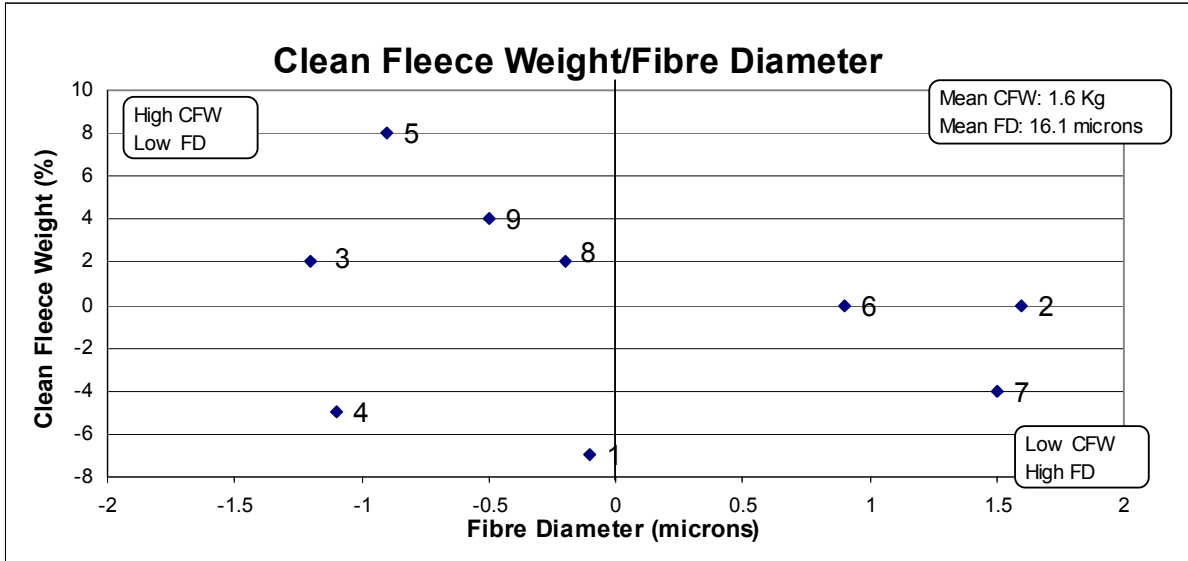
* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Figures 2 and 3 – Summary Graphs – FW and FD, Tops and Culls

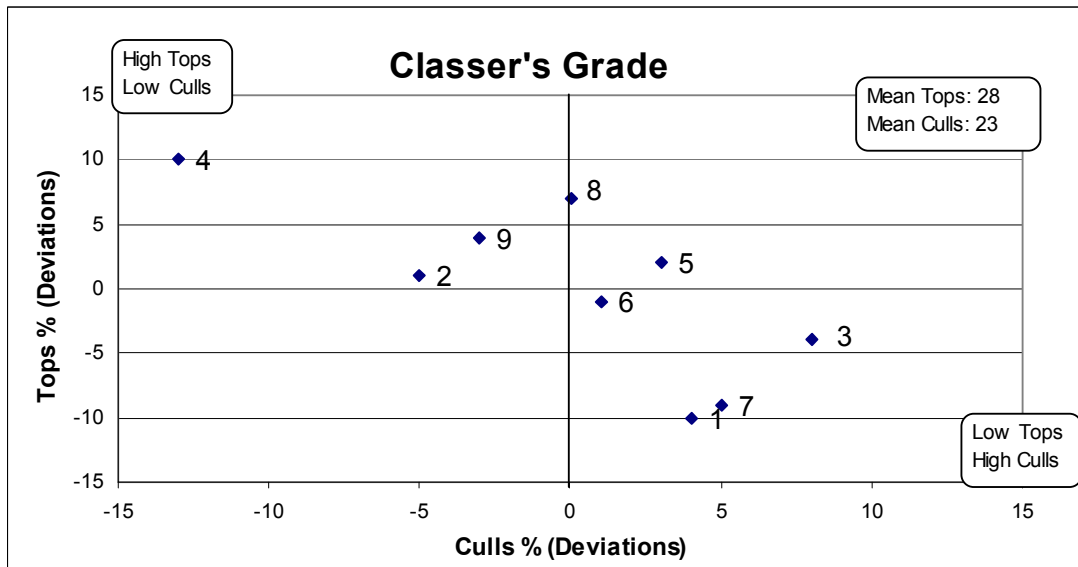
Fleece weight by fibre diameter (Figure 2)

The graph describes performance for fleece weight on the side axis and fibre diameter on the bottom axis. Sires that are above average for fleece weight and below average fibre diameter are located in the top left hand quarter



Classers Tops by Cull Grade (Figure 3)

The graph describes performance for Classer's Tops Grade on the side axis and Cull Grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left hand quarter.



Understanding the results

Measured trait performance and Classer's Grade – Tables 1 and 2 – pages 11 and 12

Sire code:	Allows a sire to be located on the summary graphs and some tables.
Sire name:	Identity of the breeder's flock and the sire's number or name.
No. of progeny:	The number of progeny a sire had at the most recent measured analysis.
Flock Breeding Values:	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated from a SGA contemporary group site analysis. FBVs describe the relative breeding value (genetic performance) of the sires. A sire's progeny will express half of their Sire's FBV. FBVs do not necessarily reflect the animals observed performance, which is a combination of both genetic and environmental influences. FBVs are an estimate of the genetic component of the observed performance.
Traits:	GFW: Greasy fleece weight (percentage). CFW: Clean fleece weight (percentage). FD: Average fibre diameter (micron). WT: Body weight (kilograms). FDCV: Fibre diameter coefficient of variation (percentage). SL: Staple length (mm) at the mid-side. SS: Staple strength (N/ktex) at the mid-side. EMD: Eye muscle depth (mm) at the 'C' site. FAT: Fat depth (mm) at the 'C' site. CURV: Fibre curvature (degrees) WEC: Worm egg count (% deviation in worm burden of sire's progeny)
Age at assessment:	Y = Yearling - 300 to 400 days (10 to 13 months of age). H = Hogget - 400 to 540 days (13 to 18 months of age). A = Adult - 540 days or older (18 months and older).
Classer's Grade:	A classer grades all progeny as either Tops, Flocks or Culls based on their visual assessment of all traits relative to the site's Breeding Objective (page 8). The percentage deviation from the average of Tops and Culls is presented.

Table 1 – Major measured traits and Classer’s Grades

Sire Code	Sire name	Number of progeny	Flock Breeding Values (deviations)				Classer's Grade ¹	
			Y [^] GFW %	YCFW %	YFD μ m	YWT kg	Tops % (dev) Y [^]	Culls % (dev) Y
1*	Ag WA Baseflock, 20002058	55	-9	-7	-0.1	-1.8	-10	4
2	Cranmore Park, 4.3	39	2	0	1.6	7.1	1	-5
3	Edale, 03K071	44	-2	2	-1.2	-6.7	-4	8
4	Ejanding Poll, 015077G	31	-2	-5	-1.1	-2.8	10	-13
5	Ejanding, 05763	20	13	8	-0.9	1.8	2	3
6	Nepowie Poll, AW107	47	-6	0	0.9	3.4	-1	1
7	North Ashrose Poll, MZ17-112	43	1	-4	1.5	-0.2	-9	5
8*	Roseville Park, 4.2536	34	4	2	-0.2	-0.7	7	0
9	Toland Poll, 339	49	-1	4	-0.5	0	4	-3
Average performance			2.3	1.6	16.1	46.7	28	23

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

[^] Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older)

¹ Classer’s Grade is expressed as the percentage deviation of average Tops% and Culls%

■ Information on how to use the results in the table above can be found on page 10.

Tables 2 – Other measured traits

Sire Code	Sire name	Number of progeny	Flock Breeding Values (deviations)					YCURV Deg/mm
			Y [^] FDCV %	YSL mm	YSS N/ktex	YFAT mm	YEMD mm	
1*	Ag WA Baseflock, 20002058	55	-0.9	-1.9	2.3	0.3	0.7	-0.9
2	Cranmore Park, 4.3	39	-2.5	6.8	4.8	1.6	1.1	2.1
3	Edale, 03K071	44	-0.1	3.1	-1.1	-0.7	-0.3	-0.7
4	Ejanding Poll, 015077G	31	2.2	-6.1	-1.9	-1.4	-1	4.1
5	Ejanding, 05763	20	0.4	-0.9	-0.2	0.5	-0.1	8.2
6	Nepowie Poll, AW107	47	-0.8	1.6	2.2	0.2	0.7	-13.2
7	North Ashrose Poll, MZ17-112	43	0.7	-3.1	3.4	-0.2	0.2	-0.4
8*	Roseville Park, 4.2536	34	1.9	1.5	-5.7	0	-0.7	-3.6
9	Toland Poll, 339	49	-0.8	-0.9	-3.6	-0.2	-0.5	4.3
Average performance			21.4	71.5	22.5	3	24.5	86.3

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older)

■ Information on how to use the results in the table above can be found on page 10.

Understanding the results

Scored trait performance – Tables 3a, 3b, 3c, 3d, 3e and 3f – pages 14 to 19.

■ Fleece rot:	The severity of fleece rot from 1 (no fleece rot), 2 and 3 (bands of bacterial staining but no crusting), and 4 and 5 (bands of crusty fleece rot).
■ Wool colour:	Greasy wool colour scored from 1 (whitest) to 5 (yellow).
■ Wool character:	Definition and variation of crimp between and along the staple scored from 1 (well defined and regular along staple) to 5 (undefined and large variation).
■ Dust penetration:	Degree of dust penetration from 1 (only tip <5%) to 5 (80 to 100% of staple).
■ Staple weathering:	The deterioration of the staple due to light and water from 1 (least, <5% of staple) to 5 (most, 30 to 50%) reflect the depth and degree of deterioration.
■ Staple structure:	The size and diameter of each staple from 1 (<5mm) to 5 (30 to 50 mm)
■ Face cover:	Wool cover on the face scored from 1 (open face) to 5 (fully covered face).
■ Feet/Legs:	Conformation of feet and legs scored from 1 (very good) to 5 (very poor).
■ Body wrinkle:	The degree of body wrinkle from 1 (no wrinkle) to 5 (extensive wrinkle).
■ Jaw:	Under- or over-shot lower jaw (and teeth) relative to the top jaw. Three scores 1 (very well aligned), 3 (marginally under or over) and 5 (heavily under or over).
■ Back/Shoulder:	Conformation of the back and shoulder from 1 (very good) to 5 (very poor).
■ Fibre pigmentation:	The percentage of dark fibres on any part of the sheep from 1 (0 pigmented fibres at any site) to 5 (76 to 100% pigmented fibres at one or more sites). This trait does not include random spot or recessive black.
■ Non-fibre pigmentation:	The percentage of pigmentation on the areas not shorn from 1 (0 pigmentation at any site) to 5 (76 to 100% pigmented area on one or more bare skin sites, and/or 76 to 100% of the total hoof area).
■ Recessive black:	Recessive black is identified by relatively symmetrical markings on both sides of the face. There are two scores 1 (no recessive markings) and 5 (recessive markings). This trait does not include random spot or fibre pigmentation.
■ Random spot:	Random spot is identified by rounded wool or hair spot/s, not symmetrical. There are two scores 1 (no spot/s) and 5 (spot/s). If both sides of the face or body are spotted the sheep should be scored as a recessive black.
■ Breech cover	Size of natural bare area around the breech from 1 (large) to 5 (no bare).
■ Crutch cover	Size of natural bare area in the pubic and groin from 1 (large) to 5 (no bare).
■ Breech wrinkle	Degree of wrinkle at the tail set and kind legs from 1 (nil) to 5 (extensive).
■ Dag	Degree of dag adhering to the breech and legs from 1 (nil) to 5 (extensive).
■ Injury/Disease:	Non-genetic effects due to injury, misadventure or infection – Yes or No.

Table 3a – Visual trait assessments – Wool Quality Scores

Wool Quality trait scores are reported as the sire’s deviation (Dev) from the average (Av) score and the percentage of a sire’s progeny for each score. In general a minus deviation is an improvement in performance.

Sire Code	Wool Quality																								
	Fleece Rot						Wool Colour						Wool Character						Dust Penetration						
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	
1*	0	96	2	2	0	0	0	16	63	21	0	0	0.3	15	31	46	8	0	0.1	0	8	69	23	0	
2	-0.1	100	0	0	0	0	0	18	63	16	3	0	0	29	29	34	8	0	0	0	11	76	13	0	
3	0.1	91	7	0	0	2	0	26	44	28	2	0	0	21	44	30	5	0	0	0	14	70	16	0	
4	-0.1	100	0	0	0	0	0	17	62	21	0	0	0.1	10	59	28	3	0	0	0	14	69	17	0	
5	-0.1	100	0	0	0	0	-0.1	15	70	15	0	0	-0.2	35	35	25	5	0	-0.1	0	25	55	20	0	
6	0.1	91	6	3	0	0	0.1	16	54	30	0	0	-0.1	28	43	22	7	0	0	0	19	57	24	0	
7	0	98	0	2	0	0	0	17	64	19	0	0	0.2	17	36	40	7	0	0.1	0	9	67	24	0	
8*	0.1	91	6	3	0	0	0	14	65	21	0	0	-0.3	38	44	12	6	0	-0.1	0	29	50	21	0	
9	0	98	2	0	0	0	0.1	17	57	23	0	3	0	28	32	34	6	0	0	0	13	72	15	0	
Av	1.1	96	3	1	0	0	2.1	17	60	22	1	0	2.2	25	39	30	6	0	3	0	16	65	19	0	

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Information on how to use the results in the table above can be found on page 13.

Table 3b – Visual trait assessments – Wool Quality Scores

Wool Quality trait scores are reported as the sire’s deviation (Dev) from the average (Av) score and the percentage of a sire’s progeny for each score. In general a minus deviation is an improvement in performance.

Sire Code	Wool Quality											
	Staple Weathering						Staple Structure					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1*	0.1	1	62	31	6	0	0.1	17	38	40	5	0
2	0	6	68	21	5	0	0	24	39	29	8	0
3	0	12	56	30	2	0	0.1	12	49	37	2	0
4	0.1	0	72	21	7	0	0.1	7	55	34	4	0
5	0	10	60	25	5	0	-0.3	35	40	20	5	0
6	-0.1	9	76	9	6	0	0	17	48	33	2	0
7	0.2	2	55	33	10	0	0.2	7	45	45	3	0
8*	-0.2	21	56	21	2	0	-0.3	29	53	15	3	0
9	-0.1	9	74	13	2	2	0.2	17	36	40	4	3
Av	2.3	8	64	23	5	0	2.2	18	45	33	4	0

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Information on how to use the results in the table above can be found on page 13.

Table 3c – Visual trait assessments – Pigmentation Scores

Wool Quality trait scores are reported as the sire’s deviation (Dev) from the average (Av) score and the percentage of a sire’s progeny for each score. In general a minus deviation is an improvement in performance.

Sire Code	Wool Quality																	
	Fibre pigmentation					Non-fibre pigmentation					Recessive black			Random spot				
	Av	1	2	3	4	5	Dev	1	2	3	4	5	Av	1	5	%	1	5
1*							0	29	62	8	1	0				0		
2							0.1	34	50	11	2	3				0		
3							0.1	30	56	7	5	2				0		
4							0.1	24	62	10	4	0				0		
5							-0.2	40	55	5	0	0				0		
6							0.1	33	54	7	4	2				0		
7							0.1	24	64	10	2	0				0		
8*							-0.2	38	56	6	0	0				3		
9							0	32	55	9	4	0				0		
Av							1.8	32	57	8	3	0				0		

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Information on how to use the results in the table above can be found on page 13.

Table 3d – Visual trait assessments – Conformation Scores

Conformation trait scores are reported as the sire’s deviation (Dev) from the average progeny (Av) score and the percentage of a sire’s progeny for each score. In general a minus deviation is an improvement in performance.

Sire Code	Conformation																								
	Jaw						Legs/Feet						Shoulder/Back						Face Cover						
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	
1*	0	100	0	0	0	0	0.2	83	1	10	0	6	0.2	79	2	19	0	0	0.1	12	63	17	8	0	
2	0	100	0	0	0	0	-0.2	97	0	0	0	3	-0.2	100	0	0	0	0	-0.1	11	76	11	2	0	
3	0	100	0	0	0	0	0	88	3	7	0	2	0	84	7	9	0	0	0.2	5	65	23	2	5	
4	0	100	0	0	0	0	-0.1	90	3	7	0	0	0	86	4	10	0	0	-0.2	10	83	7	0	0	
5	0	100	0	0	0	0	-0.1	90	0	10	0	0	0.1	85	0	15	0	0	0.1	20	50	20	5	5	
6	0	100	0	0	0	0	0	85	0	15	0	0	0	85	2	13	0	0	0	7	78	11	4	0	
7	0	100	0	0	0	0	0	90	0	5	0	5	0	88	0	12	0	0	0	7	74	12	7	0	
8*	0.1	97	0	0	0	3	0.1	85	0	9	0	6	0	85	3	12	0	0	-0.1	12	79	6	3	0	
9	0.1	98	0	0	0	2	0	89	3	6	0	2	-0.1	91	3	6	0	0	0	11	68	21	0	0	
Av	1	99	0	0	0	1	1.3	89	0	8	0	3	1.2	87	2	11	0	0	2.1	10	71	14	4	1	

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Information on how to use the results in the table above can be found on page 13.

Table 3e – Visual trait assessments – Conformation Scores

Conformation trait scores are reported as the sire's deviation (Dev) from the average progeny (Av) score and the percentage of a sire's progeny for each score. In general a minus deviation is an improvement in performance.

Sire Code	Conformation					
	Dev	Body Wrinkle				
		1	2	3	4	5
1*	-0.1	9	0	91	0	0
2	-0.1	8	0	92	0	0
3	0	2	0	98	0	0
4	0.1	0	0	100	0	0
5	0	5	0	90	5	0
6	0.1	2	0	96	0	2
7	0	2	0	98	0	0
8*	-0.1	6	3	91	0	0
9	0	4	0	96	0	0
Av	2.9	4	0	95	1	0

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Information on how to use the results in the table above can be found on page 13.

Table 3f – Visual trait assessments – Breech Scores

Breech trait scores are reported as the sire’s deviation (Dev) from the average progeny (Av) score and the percentage of a sire’s progeny for each score. In general a minus deviation is an improvement in performance.

Sire Code	Breech																							
	Breech cover						Crutch cover						Breech Wrinkle						Dag					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1*	0	0	2	4	48	46	-0.1	2	7	48	41	2	0.2	7	42	15	31	5	0	56	33	11	0	0
2	-0.1	0	0	5	58	37	-0.6	0	23	69	8	0	-0.6	29	45	18	8	0	-0.1	62	36	2	0	0
3	0.2	0	0	2	42	56	0	0	1	64	30	5	0.3	11	23	32	23	11	-0.1	68	25	7	0	0
4	-0.1	0	0	18	34	48	0.1	0	13	35	42	10	0.4	23	16	19	13	29	-0.2	71	26	3	0	0
5	0	0	0	15	30	55	0.2	0	5	40	40	15	0.2	5	35	30	25	5	0.2	40	45	15	0	0
6	0.1	0	3	4	41	52	-0.3	0	15	57	28	0	-0.6	32	43	13	3	9	0	57	34	9	0	0
7	0.1	0	2	5	38	55	0.2	0	2	42	51	5	0.4	12	14	31	36	7	0	51	42	7	0	0
8*	-0.3	0	3	18	47	32	0.3	0	0	32	68	0	-0.1	24	24	24	24	4	0	59	32	9	0	0
9	0.1	0	0	7	40	53	0.2	0	4	49	34	13	-0.2	22	35	22	15	6	0.2	49	30	21	0	0
Av	4.4	0	1	9	42	48	3.4	0	8	49	38	5	2.7	18	31	23	20	8	1.5	57	34	9	0	0

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Information on how to use the results in the table above can be found on page 13.

Table 4 – Sire averages for measured traits

Sire averages

Sire averages are the average performance of all the progeny of a sire. No account is made for factors that can improve the breeding value accuracy.

Sire code	Sire name	Number of progeny	Sire averages for measured traits (deviations)									
			Y [^] GFW	YCFW	YFD	YWT	YFDCV	SL	YSS	YCURV	YFAT	YEMD
			%	%	µm	kg	%	mm	N/ktex	deg	mm	mm
1*	Ag WA Baseflock, 20002058	55	-0.1	-0.1	0	-1.2	-0.6	-1	1.5	-0.8	0.1	0.4
2	Cranmore Park, 4.3	39	0	0	0.8	4.4	-1.5	4	2.4	1.4	0.4	0.6
3	Edale, 03K071	44	0	0	-0.6	-4.5	-0.1	1.9	-0.5	-0.6	-0.1	0
4	Ejanding Poll, 015077G	31	0	-0.1	-0.6	-1.6	1.5	-3.8	-0.6	2.3	-0.4	-0.6
5	Ejanding, 05763	20	0.2	0.1	-0.5	1.4	0.2	-0.8	-0.3	6.1	0.1	0
6	Nepowie Poll, AW107	47	-0.1	0	0.5	2.2	-0.6	1	1.1	-7.9	0	0.4
7	North Ashrose Poll, MZ17-112	43	0	0	0.8	0	0.4	-1.8	2.4	-0.4	-0.1	0.1
8	Roseville Park, 4.2536	34	0	0	-0.1	-0.5	1.2	0.8	-3.5	-2.4	0	-0.5
9*	Toland Poll, 339	49	0	0	-0.3	-0.2	-0.6	-0.4	-2.5	2.3	0	-0.3
Average performance			2.3	1.6	16.1	46.7	21.4	71.5	22.5	86.3	3	24.5

* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older)

Table 5 – Sire’s Progeny Group Evenness

Sire Progeny Group Evenness

The assessment of evenness of sire progeny groups was carried out at 12 months of age with 8 months wool growth.

Classers assess the progeny for evenness to type based on visually assessed traits that are significantly above or below industry standards – 1 (very even) and 5 (very uneven).

Sire Code	Sire name	Evenness score	Evenness comment
1*	Ag WA Baseflock, 20002058	3	Good medium frame type. Few extra small ones which tended to have a little more neck wrinkle (4 – 5). Some larger plainer ones also.
2	Cranmore Park, 4.3	2	Fairly even group. Odd smaller one but a good medium – large frame group. Very plain in appearance.
3	Edale, 03K071	2	Even group but smaller framed with some medium frame. Little thicker in appearance for wrinkle.
4	Ejanding Poll, 015077G	1	Largest and most even framed group. One smaller animal. Animals very good for body size. Good spring of rib and body size.
5	Ejanding, 05763	2	Smaller group in numbers. Very even good medium frames. 2-3 smaller ones rest very even. Smaller numbers in the group probably help with evenness.
6	Nepowie Poll, AW107	2	Good even group. Only one or 2 smaller ones. Medium frame. Fairly plain with 2 -3 larger animals.
7	North Ashrose Poll, MZ17-112	2	Odd smaller one. Generally fairly plain. Good medium frame group.
8*	Roseville Park, 4.2536	3	Small-large frame with half and half making them a little more mixed. A couple of very poor doers in the group. Appearance of some extra wool cut, especially as they mature a bit more.
9	Toland Poll, 339	4	Some large, medium and small framed animals. Most mixed group. Smaller frames but also less constitution. Overall a medium frame group with more variation.
Average performance		2.3	

* Link Sires: Sires evaluated by the site to provide links between years and sites so that the all site results can be combined into a single report – *Merino Superior Sires*.

Understanding the results

Index Options – page 8

Breeding Objective index options provide the relative value of sires based on a combination of the measured traits' genetic performance. The indexes used in this report are only some of the many indexes that can be used to describe an individual breeder's objective for measured traits.

If a breeder is considering using a sire in this report it is critical to consider the performance of the breeder's flock relative to the performance standard in this report. The relative performance must be considered to establish the result that can be expected when a sire is used in a breeder's flock.

All AMSEA site reports present 3 standard indexes to provide combined measured trait performance. These 3 indexes are AMSEA Fine 10% +SS; AMSEA Merino 14% +SS; and AMSEA Dual Purpose 7%. These indexes are similar to MERINOSELECT indexes of the same name however the do not include a Reproduction FBV (NLW) in the calculation. Each of these indexes is described in more detail below.

Index production system and Breeding Objectives

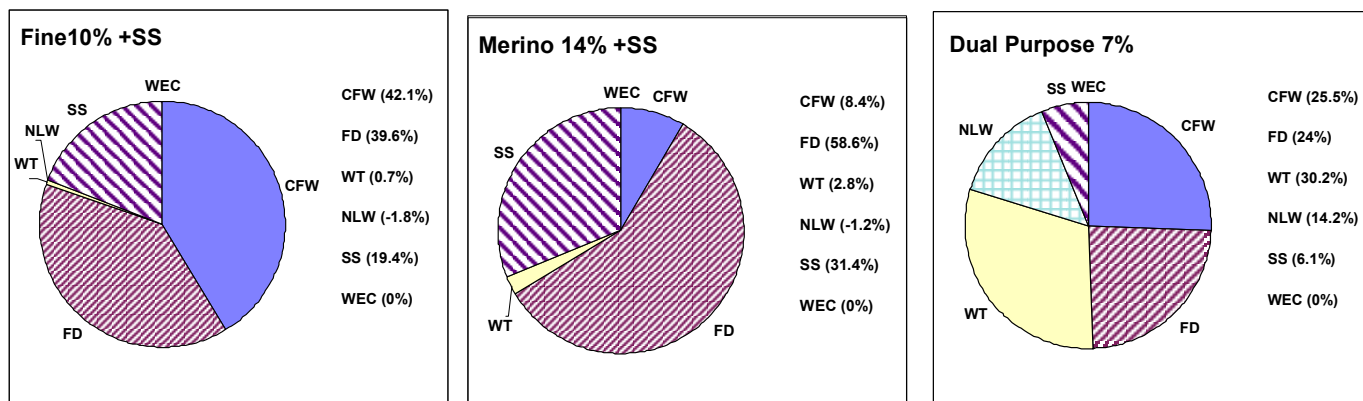
AMSEA Fine 10% +SS (F10% +SS) *Fine wool Merino self-replacing production system with moderate emphasis on fleece weight and fibre diameter (10% Micron Premium) plus moderate emphasis on staple strength and maintain performance on other traits.*

AMSEA Merino 14% +SS (M14% +SS) *Medium wool Merino self-replacing production system with high emphasis on fibre diameter and low emphasis on fleece weight (14% Micron Premium) plus moderate emphasis on live weight and staple strength with maintain performance on other traits.*

AMSEA Dual Purpose 7% (DP7%) *Medium wool Merino self-replacing production system (in conjunction with 25% of ewes in terminal lamb production) with moderate emphasis on fleece weight and fibre diameter (7% Micron Premium) plus high emphasis on live weight and reproduction and maintain performance on other traits.*

Index percentage contribution to economic gain

The percentage contribution to economic gain to a commercial merino flock that joins rams selected using an index shown below.



Understanding the results – continued

Accuracy of Flock Breeding Values

Flock Breeding Values (FBVs) are reported by Sheep Genetics Australia (SGA). FBVs express the expected performance of progeny of a sire relative to another sire in the evaluation when mated to the same standard of ewes. FBVs improve the accuracy of sire results because they account for the association between traits, adjustment for birth effects and the number of progeny a sire has in the analysis.

True Breeding Values would be achieved if the number of progeny evaluated for each sire was infinite. Because the number of progeny in the evaluation is not infinite, performance shown in this report is described as *Flock* Breeding Values.

Without progeny test information the correlation between the *Flock* and *True* Breeding Value of sires from different sources would be zero (0.0%). The correlation between *Flock* and *True* Breeding Value improves rapidly from 0.0% with no progeny to 77% with 10 progeny. The rate of improvement in correlation slows from 86% with 20 progeny, to 90% with 30 progeny and 92% with 40 progeny. With an infinite population the correlation is 100%. Note that the correlation used in the above example is for a trait such as fibre diameter with a high heritability (0.5).

A heritability of 0.5 indicates that half or 50% of the measured performance is passed onto offspring. A heritability of 0.35 indicates 35% is passed on. The FBVs that are shown in this report have already accounted for heritability and therefore describe the performance that can be expected from a sire's progeny.

Link Sires

Link sires provide the 'genetic link' between CTSE sites located across Australia to allow all sires entered in these sites to have their performance reported relative to each other in *Merino Superior Sires*. *Merino Superior Sires* reports sires from across all effectively linked CTSE sites and across all years at these sites. Link sires are therefore a vital component of the Central Test Sire Evaluation. To be used as link sire a ram must have at least 25 progeny assessed at 1st Evaluation at one accredited site. Site reports provide valuable information not reported in *Merino Superior Sires* however *Merino Superior Sires* reports the performance of a large number of sires which can provide a wider perspective of the elite rams available across many flocks in Australia and New Zealand.

Calculation of combined measured trait and combined visual trait performance

Combined measured trait performance is calculated as (MERINOSELECT 7% MP Index - 100).
Combined visual trait performance is calculated as (Classer's Grade Tops% - Culls%)/5, expressed as a deviation from (average Tops% - average Culls%)/5.

Example

- Sire's performance:
- 7% MP Index value = 119.7
 - Tops% = 25.5 (average Tops% = 25.1)
 - Culls% = 17.6 (average Culls% = 16.4)
- Combined Measured = 119.7 - 100 = 19.7
 - Combined Visual = ((25.5 - 17.6)/5) - ((25.1 - 16.4)/5) = 7.9/5 - 8.7/5 = 1.58 - 1.74 = -0.16

Badgingarra 2007 Drop