

# South West Slopes

## Central Test Sire Evaluation

### 2008 drop 1st Assessment Yearling & Hogget Report Update

Conducted by

**South West Slopes Stud Merino Breeders Inc.**



under the auspices of

**The Australian Merino Sire Evaluation Association**



with support from



**NSW DEPARTMENT OF PRIMARY INDUSTRIES**

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## Foreword

### South West Slopes Central Test Sire Evaluation

The South West Slopes 2008 drop 1st Assessment is an accredited Central Test Sire Evaluation (CTSE) site evaluation. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

A sub committee of the South West Slopes Merino Breeders run the South West Slopes Sire Evaluation site. The site committee are listed in the table below.

#### **Background**

- This is the third sire evaluation run by the SWS Merino Breeders. Previous evaluations were conducted in 2003 and 2005.
- The 2008 Sire Evaluation is being conducted at “Landgrove” Wallendbeen, owned and managed by Charlie and Rebecca Bragg.
- 1000 Avenel/Koonwarra blood ewes were selected. Ewes were aged between 3 and 4 years. Ewes were randomly allocated to sires. The “Landgrove” flock average fibre diameter and greasy fleece weight are 20 and 5.8kg/head.
- There was an average of 35 progeny per sire group at weaning.

Classing was conducted by Craig Wilson and Jason Southwell.

Thanks must also go to all the entrants who travelled to help during insemination, tagging, weaning, classing, sampling and shearing.

A special mention must also go to Charlie Bragg and Hugh Thackeray for all their help during the course of the evaluation and Sally Martin for the enormous effort and attention to detail for all aspects of this program, Sally is a tremendous asset to the Southwest Slopes region.

Moses and Son Wool Brokers of Temora are our major sponsor contributing both cash and in-kind assistance, thank you to Marty Moses and Andrew Miller.

I hope that everyone has achieved something out of this exercises and I'm sure that participants in sire evaluations all benefit in some way.

**Rick Baldwin**, Chair

#### **Current members of the Site Committee**

Name	Phone	Position on committee
Rick Baldwin	02-6383 3802	Chair
Andrew Miller	042 743 2650	Major Sponsor
Ralph Diprose	02-6343 6331	
Malcolm Peake	0408 426 103	
Oliver Wythes	02-6344 1153	
Pat Davis	02-6386 3596	
Andrew Davis	02-6386 3596	
Sally Martin	02-6380 1705	

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## 2008 Drop – 1st Assessment

The information in this site evaluation report provides a comprehensive assessment of the 2008 1st Assessment of the sire's progeny performance, both measured and visually assessed traits. The 1st Assessment was made at 10 months of age with 10 months of wool growth.

Three graphs and a table provide a summary of the results. Eight tables provide the detailed performance information.

The 2nd Assessment will take place at 22 months of age with 12 months wool growth in 2010.

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## Sire and owner details

SWS 2008 drop 1st Assessment, 10 months of age with 10 months wool growth.

### Sire and owner details

Ram code	Breeders flock, Ram number Ram ID #, Breed †	Contact name, address Phone, fax, email
1	One Oak BR5023 502251-2005-005023; Merino	Graham Wells, One Oak, Jerilderie NSW 2716 P 03 5886 1269 F 03 5886 1792 E <a href="mailto:oneoak@bigpond.com">oneoak@bigpond.com</a>
2	Uniform 5254 503994-2005-050254; Merino	Pat Davis, Demondrille, Fairview, Murrumburrah NSW 2587 P 02 6386 2723 F 02 6386 3596 E <a href="mailto:dmerino@bigpond.net.au">dmerino@bigpond.net.au</a>
3	Rockdale 040465 503554-2004-040465; Merino	Oliver Wythes, Rockdale, Canowindra NSW 2804 P 02 6344 2969 F 02 6344 1989 E <a href="mailto:rockwythes@bigpond.com">rockwythes@bigpond.com</a>
4 <sup>UR</sup>	Congou 05-LP124 509239-2005-050124; Merino	Jim Gibb, Congou, Cootamundra NSW 2590 P6943 2219 F6943 2231
5*	Bogo 0-18 504792-2000-000018; Merino	Malcolm Peake, Bogo, PO BOX 501 Yass NSW 2582 P 0408 426 103 F 6227 7153 E <a href="mailto:agriman@bigpond.com">agriman@bigpond.com</a>
6	Langdene 3585 503863-2003-033585; Merino	Garry Cox, Langdene, Dunedoo NSW 2844 P 02 6375 1340 F 02 6375 1472 E <a href="mailto:langdene@bigpond.com">langdene@bigpond.com</a>
7	Nerstane N4615 503298-2005-054615; Merino	Bruce Angel, Broula, Tarcutta NSW 2652 P 02 6928 7267 F 02 6928 7371 E <a href="mailto:bruceangel@exemail.com.au">bruceangel@exemail.com.au</a>
8 <sup>UR</sup>	Greendale Red 324 509238-2006-060324; Merino	Allan & Mark McGufficke, Greendale, Willarney, Cooma NSW 2630 P 02 6452 3065 F 02 6452 3686 E <a href="mailto:milliefarming@hotmail.net.au">milliefarming@hotmail.net.au</a>
9	Bundilla 060118 504081-2006-060118; Merino	Rick, Jill & Ross Baldwin, Bundilla, Tubbul Rd, Young NSW 2594 P 02 6383 3802 F 02 6383 3805 E <a href="mailto:bundillamerinos@bigpond.com">bundillamerinos@bigpond.com</a>
10	Avenel 1.147 503417-2001-010147; Merino	Ken McCrabb, Avenel, Wanganella NSW 2710 P 03 5884 7548 F 03 5884 7544 E <a href="mailto:kmmccrabb@bigpond.com">kmmccrabb@bigpond.com</a>
11	GRASS 05-1615 503884-2005-001615; Merino	Graham Peart, Grass Merinos, PO BOX 2104, Dubbo NSW 2830 P 02 6884 3204 F 02 6884 5542 E <a href="mailto:gpeart@rmsaccountants.com.au">gpeart@rmsaccountants.com.au</a>
12*	Hyfield Poll 3723 600717-2004-043723; Poll Merino	Kevin Keatley, Hyfield, RMB 619, Kojonup WA 6395 P 08 9831 1760 F 08 9831 1763 E <a href="mailto:hyfieldjaloran@bigpond.com">hyfieldjaloran@bigpond.com</a>
13	Rocklyn Joey 501039-2005-050569; Merino	Ralph Diprose, Rocklyn, Elon, Cowra Road, Grenfell NSW 2810 P 02 6343 6331 F 6343 6331 E <a href="mailto:elon@allstate.net.au">elon@allstate.net.au</a>
14	Yarrowonga 10 503534-2005-050010; Merino	Steven Phillips, Yarrowonga, Cunningham Plains, Harden NSW 2587 P 02 6386 3128 F 6386 5128 E <a href="mailto:yarrowongamerino@bigpond.com">yarrowongamerino@bigpond.com</a>

\* Link ram: Ram 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*.

<sup>UR</sup> 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

## Management Report

### 1. Location

- The SWS 2008 Sire Evaluation is being conducted at “Landgrove” Wallendbeen. “Landgrove” is situated between Young, Cootamundra and Harden. Progeny are run on a mix of native and introduced pasture species.

### 2. Selection and mating

- 1000 ewes were selected from a total of 1250 3 to 4 year old ewes and were randomly drafted to sire groups.
- The ewe bloodline is Koonwarra base with Avenel rams being purchased for the past 12 years. Average GFW of 5.5 - 6.0 kgs and 20 micron for the mature ewe flock.
- The ewes were artificially inseminated on the 12 and 13 March 2008.
- There are 14 sires being evaluated including 2 link sires.
- The semen quality (activity) averaged 73 percent and ranged from 65 to 90 percent. The ewes were an average 3 fat score at insemination.
- Allstock, Dubbo conducted the artificial insemination program
- There were 70 ewes allocated to each ram.

### 3. Pregnancy and lambing

- Pregnancy scanning was conducted on the 15<sup>th</sup> May 2008. The conception rate was only 74% (number of foetus/number of ewes joined). There were 45% dry ewes; 30% singles and 24% twin bearing ewes. Very hot dry weather following the artificial insemination program was considered to have contributed to the high percentage of dry ewes.
- The ewes were depastured together up to two weeks prior to lambing, when they were allocated to individual lambing paddocks. Lambing paddock selection was done at random except two teams with low conception rates which were allocated to more sheltered paddocks.
- The lambs were tagged (EID and Visual) on 27<sup>th</sup> August 2008.
- Pedigree Match Maker was set up to record ewe pedigree and generate information on birth and rearing type.

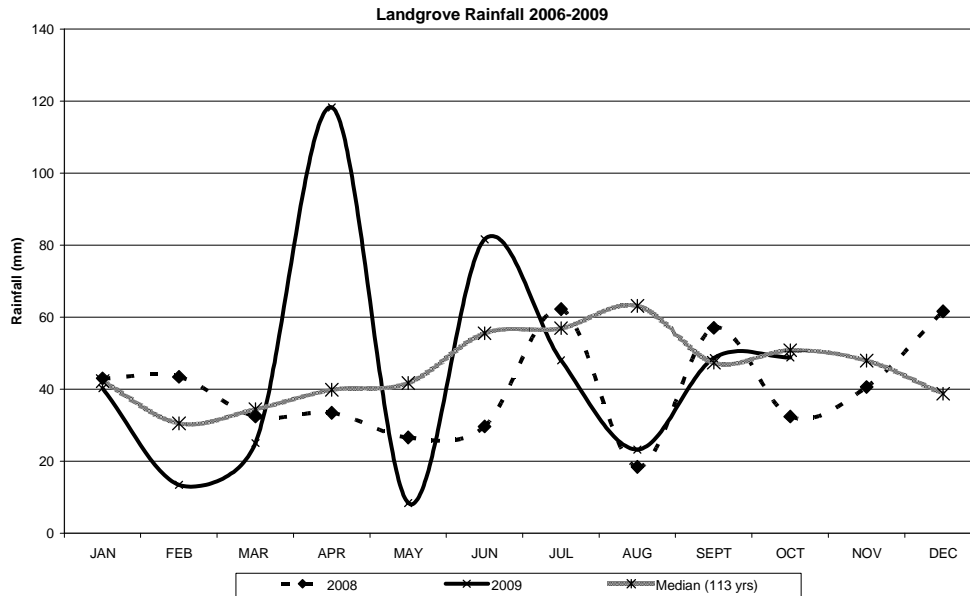
### 4. Weaning and seasonal conditions

- The lambs were marked on the 7<sup>th</sup> October and weaned on the 18<sup>th</sup> November 2008.
- Good seasonal conditions up to two weeks before weaning. Pasture conditions dried off and lambs were weaned onto lucerne pastures. Weaners were depastured on lucerne and stubble paddocks over summer.

### 5. Rainfall

Month	Landgrove, Wallendbeen - Rainfall (mm per month) *					
	2006	2007	2008	2009	Median*	Average*
January	56.4	12.4	43	40.2	42.2	54
February	7	71.2	43.4	13.4	30.5	40.3
March	11.2	29.8	32.4	25	34.4	44.5
April	17.4	72.6	33.4	118.2	39.8	52.7
May	6.2	58.4	26.6	8.4	41.7	50.3
June	44.4	37	29.6	81.6	55.5	62.6
July	60.6	52	62.2	48	56.9	62.7
August	8	16.8	18.4	23.2	63.1	61.5
September	24	12.8	57	48.6	47.3	55
October	0	15.4	32.4	48.8	50.8	60.6
November	13.4	106.8	40.6		47.9	52.7
December	6.6	111.7	61.6		38.7	50
<b>Total</b>	<b>255.2</b>	<b>596.9</b>	<b>480.6</b>	<b>455.4</b>	<b>646.5</b>	<b>653.3</b>

\* Source: BOM – 1891 to 2009 (113 years)



### Assessment and management program

Activity	Date/s	Age (months)	Wool (months)
Selection of ewes	26/02/2008		
Allocation of ewes for mating and mating	26/02/2008		
Pregnancy scanning	15/05/2008		
Separated into sire lambing groups	29/07/2008		
Lambing: start – finish	8/08 to 18/08/2008		
Lambing mobs boxed	27/08/2008	14 days	
Tagging/pigment scores (age in days)	27/08/2008	14 days	
Pedigree Match Maker	11/9 to 31/10/2008		
Marked/mulesed and scored for breech traits	07/10/2008	55 days	
Weaning (age in days)	31/10/2008	79 days	
Pre assessment (even-up) shearing	Not applicable		
Crutching	1/03/2009	7 mths	
Fat and eye muscle scanning and body weight	16/10/2009	14 mths	
Fleece sampling	01/06/2009	10 mths	10 mths
Staple length assessment	01/06/2009	10 mths	10 mths
Classer's Grade	01/06/2009	10 mths	10 mths
Pre shearing scoring	01/06/2009		
Assessment shearing	15/06/2009	10 mths	10 mths
Post shearing scoring	03/08/2009		
Body weigh	<ul style="list-style-type: none"> <li>• weaning 31/10/2008 4 mths</li> <li>• yearling 03/08/2009 12 mths</li> <li>• hogget 16/11/2009 14 mths</li> </ul>		
Worm egg count sampling	30/09/2009	14 mths	
Sire's Progeny Group Evenness assessment	Not applicable		
Vaccination	Marking and weaning		
Drench	Weaning, February '09, shearing '09		
Supplementary feeding: start - finish			
Field day or public display of sheep	■ Planning for October 2009		

## Pedigree Match Maker (PMM)

The SWS Sire Evaluation site embarked on using electronic technology to determine ewe lamb pedigree and identify birth and rearing type. Based on work within the Sheep CRC the PMM costs approximately \$3-4/head compared to at least \$10/head for yard mothering or \$30+ for DNA pedigree. The accuracy is between 89-96%.

PMM requires the animals to walk through a race system, approximately 500mm wide. This is achieved by integrating the system into the sheep's environment in a non-threatening way, usually around a watering point, see photos. PMM uses the natural tendency for the lamb to follow its dam.

### Statistics from the SWS Sire Evaluation site – 2008 lambing

Number of ewes in mob	522
Number of lambs in mob	512
Total number in mob	1034
System/equipment used	Tru-test indicator box, solar panels, batteries, panel reader, portable sheep yards
Down loading data	Weekly
Training time	Recommended 2 to 3 weeks prior to the start of data collection
Number of records per week	Varied from 1,500 (start of recording) to 26,000 (this was a very hot dry week – sheep accessing water)

The table below shows the progress of the PMM system over the 8 week period. At the end of week one (with limited training) there were 225 lambs pedigreed or 44% of the lambs. By week 6 93% were matched. The reliability score 1 to 3 indicates the number of matches. A 1 score means the lamb and ewe have been match more than three times. At the conclusion of the PMM 8 week period there were still 6% of lambs that where unable to be matched.

### Percentage of lambs matched by weaning

Week	# Records	Ewe/Lamb Unit Match	unmatched	Reliability Score of matched lambs*			% matched	% unmatched
				1	2	3		
1	3205	225	287	18	112	95	44%	56%
2	11857	313	199	154	90	69	61%	39%
3	21678	347	165	225	90	32	68%	32%
4	24311	373	139	246	98	29	73%	27%
5	25290	383	129	251	104	28	75%	25%
6	50942	475	37	406	63	6	93%	7%
7	60917	479	33	416	58	5	94%	6%
8	67039	479	33	417	58	4	94%	6%

\*Reliability score 1=>3 matches; 2=<=3 matches; 3 = unreliable matches

### Lessons for future PMM

Even though we where unable to undertake the advised training period we where able to achieve reasonable pedigree results (94% pedigreed). If studs are wishing to embrace the PMM as a system to pedigree, the training period prior to lambing would reduce the amount of time required for the PMM to be in place, 5 to 6 weeks duration. Checking the equipment regularly helps to prevent major gaps in data collection. The photo below shows the PMM system set up around a watering point.



## Visual tait assessment and site Breeding Objective

### Visual tait assessment

#### 1st Assessment

Classer's Grade: Craig Wilson and Jason Southwell

Trait Scores: Sally Martin (breach traits), Craig Wilson and Jason Southwell (all other traits).

#### **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 described below. The Breeding Objective for both measured and visual assessed traits that is described below was developed by the site committee in consultation with the classers prior to the grading.

#### 1st Assessment – Breeding Objective

Classing selections were based on a Merino 7% Index and sheep had performed well for growth, structurally sound and good wool quality traits.



Steve Semple – automatic drafter Feb 2008



Jane Mason, Charlie Bragg and Bruce Angel – marking 2008



Andrew Miller and Rick Baldwin – Shearing 2009



SWS 2008 drop progeny – off shears June 2009



Classing, mid side sampling June 2009

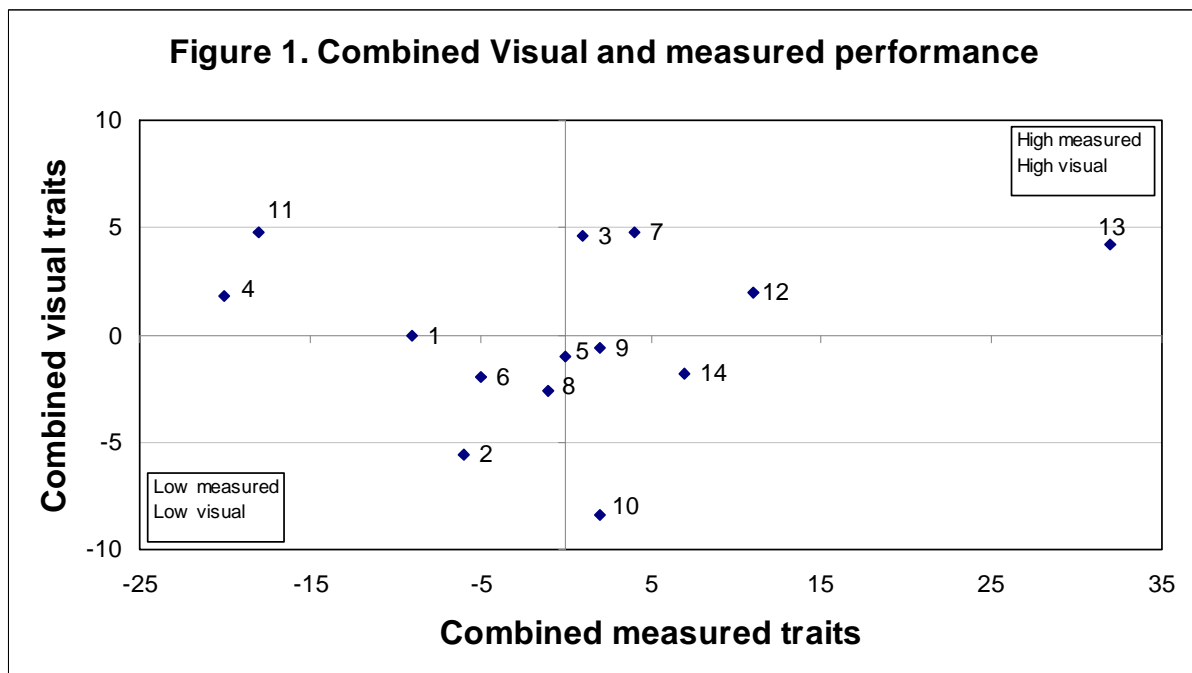
## Figure 1. Combined measured traits and visual trait performance

### Summary graph: visual and measured performance

Each sire that had 24 or more progeny assessed at 1st Assessment is located on the graph. The graph describes performance for combined measured traits and combined visual assessment.

Figure 1 is combined measured traits based on an AMSEA Merino 7% index (that is equal emphasis on fleece weight and fibre diameter with enough emphasis on body weight to provide a moderate increase in this trait). Visual trait performance is a combination of Classer's Grade performance (Tops and Culls). More information is found in "Calculation of combined performance" (page 20).

Sires that are above average performers for combined measured traits and Classer's Grade are located in the top right hand quarter.



Ram reported in Figure 1 above	
Ram code	Breeders flock, Ram number
1	One Oak, BR5023
2	Demondrille, Purple Uniform 5254
3	Rockdale, 040465
4 <sup>UR</sup>	Congou, 05-LP124
5*	Bogo, 0-18
6	Langdene, 3585
7	Nerstane, N4615
8 <sup>UR</sup>	Greendale, Red 324
9	Bundilla, 060118
10	Avenel, 1.147
11	GRASS, 05-1615
12*	Hyfield Poll, 3723
13	Rocklyn, Joey
14	Yarrowonga, 10

**Table A. AMSEA Index values and Classer's Grade**

The highest performing 3 sires for each trait (i.e., trait leaders) are highlight by shading. Each sire is listed for Classer's Grade and the same three indexes at all site evaluations. The index values reported are based on measured traits FBV performance with varying the emphasis on fleece weight, fibre diameter, body weight, staple strength and worm egg count. See 'Index Options' on page 19 for more information on the indexes presented in the table below.

AMSEA Indexes are the same as MERINOSELECT Indexes apart from NLW (Number Lambs Weaned) are given a zero FBV value in AMSEA calculations. Measured traits not included in the following brief descriptions are included with an emphasis to maintain that traits performance.

- **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.
- **Merino 7%** Moderate and equal emphasis on fleece weight and fibre diameter plus small emphasis on live weight.

Ram code	Breeders flock, Ram number	No of Progeny	AMSEA Indexes values				Classer's Grade	
			Merino 14% SS	Fine 10% SS	Dual Purpose 7%	Dual Purpose 14%	Tops % (dev) Y^	Culls % (dev) Y
			1	One Oak, BR5023	36	100	95	88
2	Demondrille, 5254	48	96	96	85	89	-9	19
3	Rockdale, 040465	49	99	100	107	106	7	-16
4 <sup>UR</sup>	Congou, 05-LP124	48	73	69	108	93	7	-2
5*	Bogo, 0-18	54	104	104	90	95	-6	-1
6	Langdene, 3585	29	91	93	91	92	1	11
7	Nerstane, N4615	34	110	108	99	105	11	-13
8 <sup>UR</sup>	Greendale, Red 324	41	99	101	94	96	-7	6
9	Bundilla, 060118	46	105	102	120	115	-2	1
10	Avenel, 1.147	45	96	100	96	94	-20	22
11	GRASS, 05-1615	33	76	73	99	88	4	-20
12*	Hyfield Poll, 3723	28	108	110	112	110	6	-4
13	Rocklyn, Joey	48	129	136	119	119	11	-10
14	Yarrowonga, 10	31	113	113	89	100	1	10
Average performance		41	100	100	100	100	21	30

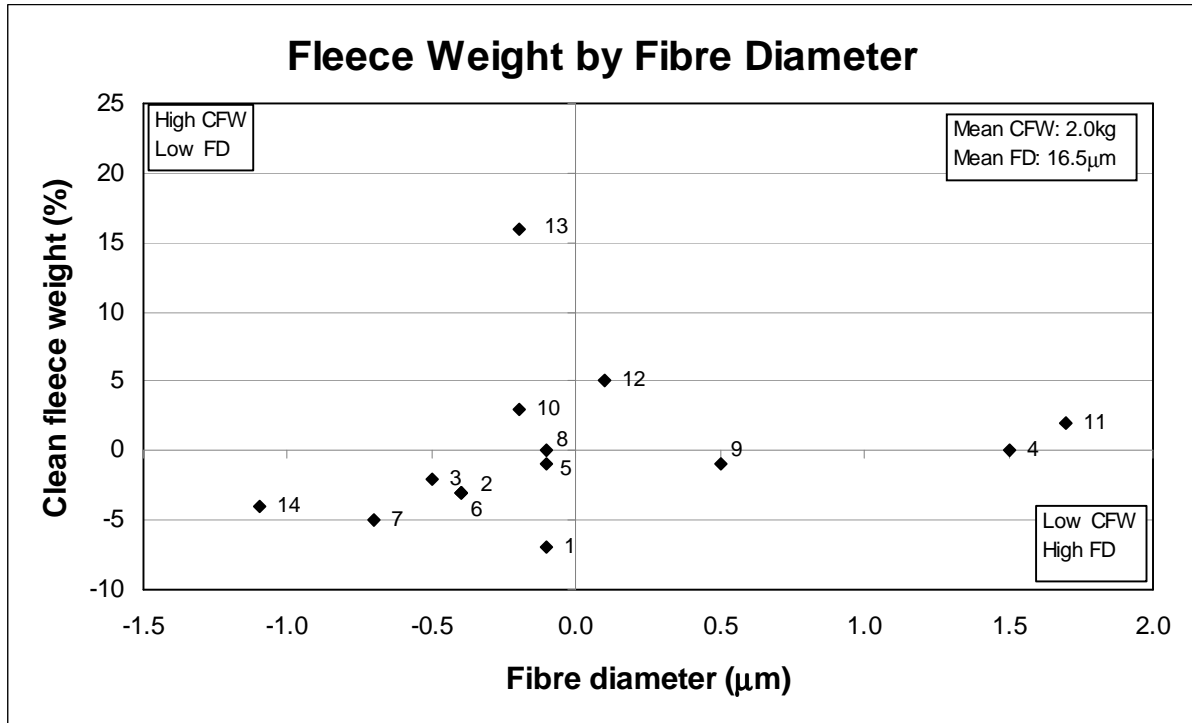
\* Link ram: Ram evaluated to provide links between site evaluations and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ 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**

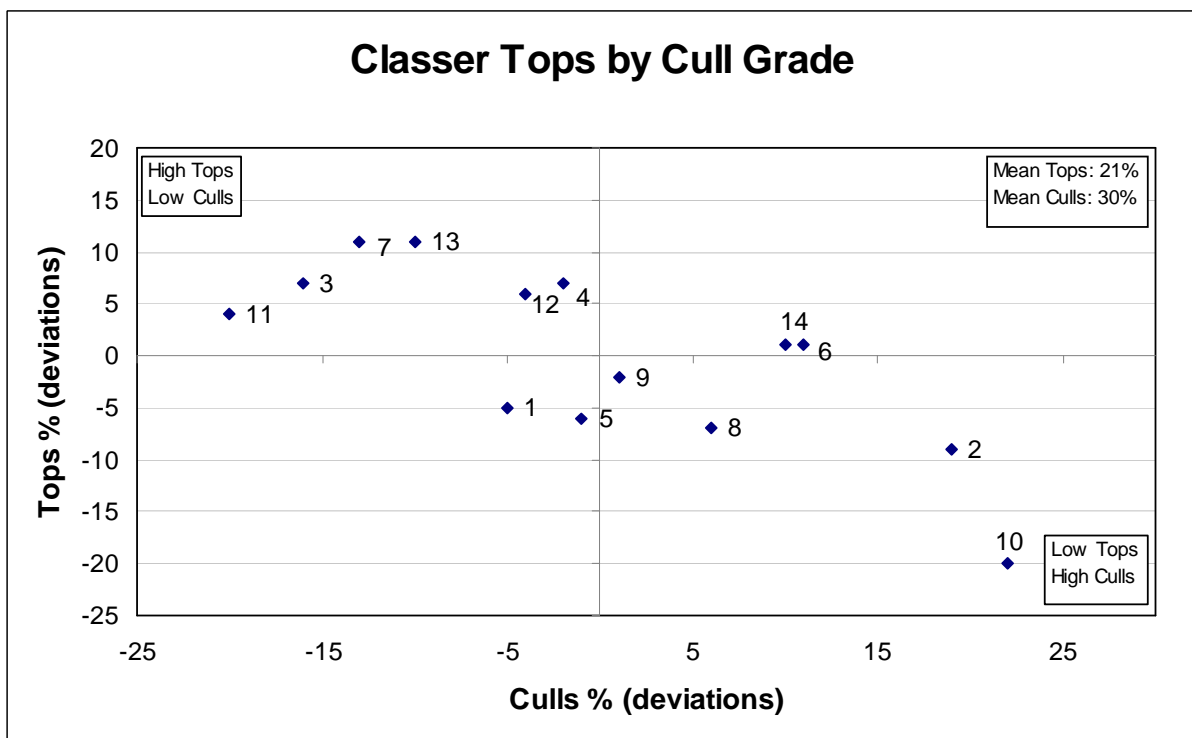
**Figure 2. Fleece weight by fibre diameter**

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



**Figure 3. Classers Tops by Cull Grade**

The graph describes performance for Classer's Tops Grade on the side axis and Cull Grade on the bottom axis. Rams 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

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<b>Ram code:</b>	Allows a ram to be located on the summary graphs and some tables.
<b>Ram name:</b>	Identity of the breeder's flock and the ram's number or name.
<b>No. of progeny:</b>	The number of progeny a ram had at the most recent measured analysis.
<b>Flock Breeding Values:</b>	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated by Sheep Genetics for the ram's evaluated in this report. Only data from this site evaluation is used in the calculation of these FBVs. FBVs describe the relative breeding value (genetic performance) of the rams (in this case based on the performance of their progeny). A ram's progeny will express half of their ram's FBV. FBVs do not necessarily reflect the rams observed performance, which is a combination of both genetic and environmental influences. FBVs are an estimate of the genetic component of the sheep's performance.
<b>Traits:</b>	GFW: Greasy fleece weight (percentage).
Abbreviation, trait and the (units reported)	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 ram's progeny).
<b>Age at assessment:</b>	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).
<b>Classer's Grade:</b>	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 6). The percentage deviation from the average of Tops and Culls is presented in this report.

Table 1. Major measured traits and Classer's Grades

Ram code	Breeders flock, Ram number	No. of prog.	Flock Breeding Values (deviations)					Classer's Grade <sup>1</sup>	
			GFW % Y <sup>^</sup>	CFW % Y	FD □m Y	WT kg Y	WT kg H	Tops % (dev) Y	Culls % (dev) Y
1	One Oak, BR5023	36	-8	-7	-0.1	-1.5	-1.4	-5	-5
2	Demondrille, 5254	48	-2	-3	-0.4	-3.5	-3.6	-9	19
3	Rockdale, 040465	49	0	-2	-0.5	2.5	2.9	7	-16
4 <sup>UR</sup>	Congou, 05-LP124	48	0	0	1.5	3.6	3.3	7	-2
5*	Bogo, 0-18	54	-1	-1	-0.1	-3	-3.0	-6	-1
6	Langdene, 3585	29	-3	-3	-0.4	0.8	1.0	1	11
7	Nerstane, N4615	34	-2	-5	-0.7	1.8	1.8	11	-13
8 <sup>UR</sup>	Greendale, Red 324	41	0	0	-0.1	-3.4	-3.6	-7	6
9	Bundilla, 060118	46	1	-1	0.5	3.1	3.7	-2	1
10	Avenel, 1.147	45	3	3	-0.2	-1.4	-1.7	-20	22
11	GRASS, 05-1615	33	0	2	1.7	3	3.4	4	-20
12*	Hyfield Poll, 3723	28	2	5	0.1	2.4	3.0	6	-4
13	Rocklyn, Joey	48	13	16	-0.2	-2.5	-3.2	11	-10
14	Yarrowonga, 10	31	-2	-4	-1.1	-2.1	-2.6	1	10
Average performance		41	3.1 kg	2.0 kg	16.5 □m	37.1 kg	48.0 kg	21 %	30 %

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

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

<sup>UR</sup> Unregistered Flock. Rams bred in an unregistered flock are identified in the table by a UR following the ram's code

<sup>1</sup> 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.

Table 2. Other measured traits

Ram code	Breeders flock, Ram number	No. of prog.	Flock Breeding Values (deviations)						
			FDCV % Y <sup>^</sup>	SL mm Y	SS <i>N/ktex</i> Y	Curv deg/mm Y	Fat mm H	EMD mm H	WEC% Y
1	One Oak, BR5023	36	-0.6	-2.9	2.1	3.7	0.5	-0.2	-24
2	Demondrille, 5254	48	1.3	-8.2	-0.9	1.8	-0.3	-0.7	10
3	Rockdale, 040465	49	0.0	1.9	-4.2	2.8	2.0	1.0	1
4 <sup>UR</sup>	Congou, 05-LP124	48	0.7	2.3	-2.1	0.1	-0.1	2.0	38
5*	Bogo, 0-18	54	0.2	3.5	1.6	-4.7	0.7	-0.4	-23
6	Langdene, 3585	29	1.5	-4.0	-4.6	1.0	-1.2	-1.3	8
7	Nerstane, N4615	34	-0.9	-0.6	0.5	4.8	-0.5	-1.1	24
8 <sup>UR</sup>	Greendale, Red 324	41	-0.5	0.5	-0.7	-2.3	0.0	0.1	-19
9	Bundilla, 060118	46	-1.5	2.3	3.9	1.9	0.7	1.9	-64
10	Avenel, 1.147	45	1.5	-4.1	-2.5	-1.0	-0.5	-0.5	66
11	GRASS, 05-1615	33	0.4	6.8	-0.5	-3.9	0.7	1.2	-5
12*	Hyfield Poll, 3723	28	-0.9	1.1	0.1	-2.5	-0.2	-0.1	-26
13	Rocklyn, Joey	48	-0.6	6.4	5.5	-8.5	-0.7	-0.4	72
14	Yarrowonga, 10	31	-0.4	-7.3	0.5	7.6	-1.4	-2.0	6
Average performance		41	18.7	65.6	22.7	96.3	2.8	24.9	

\* Link ram: Ram evaluated to provide links between site evaluations and sites so that the all evaluations can be combined into one report, e.g., *Merino Superior Sires*.

<sup>^</sup> 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 to 3d – pages 14 to 17

The following description of trait scores is a summary of the detailed word and diagrammatical description of these scores in the Visual Sheep Scores booklet (free on application to AWI 02 92995155).

A deviation from the average trait score for all progeny is reported as well as the percentage of the ram's progeny recorded for each trait.

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

**Table 3a. Visual trait assessments – Wool quality**

Visually assessed traits reported in Tables 3a, b, c and d were scored at their 2nd Assessment apart from pigmentation that was scored at tagging and breech traits scored for 1st Assessment.

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram's progeny assessed for each score is also reported. For the majority of breeder's objectives a negative deviation would be considered favourable and the larger the deviation the better.

Ram 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	-0.2	100	0	0	0	0	-0.2	0	28	72	0	0	0.2	0	28	50	22	0	0.0	0	0	53	47	0
2	0.1	86	2	5	2	5	0.0	0	19	70	11	0	-0.2	2	42	49	7	0	-0.1	0	7	42	51	0
3	-0.1	89	9	2	0	0	-0.1	0	23	75	2	0	-0.1	4	34	55	7	0	-0.1	0	2	55	43	0
4 <sup>UR</sup>	-0.2	96	2	2	0	0	0.2	0	13	63	24	0	0.4	0	17	50	30	3	0.2	0	0	35	59	6
5*	-0.1	93	5	0	0	2	-0.1	0	27	68	5	0	0.1	2	23	59	16	0	0.1	0	0	45	55	0
6	-0.2	96	4	0	0	0	-0.1	4	22	63	11	0	-0.2	5	44	44	7	0	-0.3	0	15	48	37	0
7	-0.1	93	4	3	0	0	-0.3	0	38	59	3	0	-0.3	0	55	38	7	0	0.0	0	0	48	52	0
8 <sup>UR</sup>	0.3	70	15	9	3	3	0.1	0	15	73	12	0	-0.3	6	42	48	4	0	0.0	0	4	48	48	0
9	0.5	68	11	8	5	8	0.1	0	16	66	18	0	0.3	0	24	50	26	0	0.0	0	0	47	53	0
10	0.4	71	10	6	10	3	0.3	0	6	71	23	0	0.4	0	16	52	32	0	0.3	0	0	23	77	0
11	-0.2	97	3	0	0	0	0.1	0	10	77	13	0	0.6	0	4	60	33	3	-0.2	0	7	60	33	0
12*	0.2	74	17	5	4	0	0.3	0	0	83	17	0	0.1	0	30	57	13	0	0.1	0	9	30	57	4
13	-0.2	95	5	0	0	0	-0.2	0	33	67	0	0	-0.4	7	55	36	2	0	-0.1	0	12	34	54	0
14	-0.2	91	9	0	0	0	0.0	0	13	87	0	0	-0.4	17	35	43	5	0	0.1	0	0	41	59	0
Avg.	1.2	87	7	3	1	2	2.9	0	19	71	10	0	2.8	4	32	49	15	0	3.5	0	4	44	52	0

\* Link ram: Ram 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*.

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

**Table 3b. Visual trait assessments – Wool quality and Pigmentation**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram’s progeny assessed for each score is also reported. For the majority of breeder’s objectives a negative deviation would be considered favorable and the larger the deviation the better.

Four pigmentation traits are reported as described on page 13. These are Fibre pigmentation, Non-fibre pigmentation, Recessive “black” and Random “spot”. Fibre pigmentation and Non-fibre pigmentation are scored **1** to **5** however Recessive black and Random spot are scored **1** (no pigmentation of this type) or **5** (when the trait is expressed). Only the percentage scored 5 are reported for Recessive black and Random spot.

Ram code	Wool Quality												Pigmentation														
	Staple Weathering						Staple Structure						Fibre pigmentation						Non-fibre pigmentation					Black	Spot		
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	5	5	
1	-0.1	0	16	72	12	0	0.0	0	25	69	6	0	-0.1	100	0	0	0	0	0.1	22	78	0	0	0	0	0	0
2	-0.1	0	16	79	5	0	0.3	3	23	37	37	0	0.2	74	23	0	3	0	-0.2	51	49	0	0	0	0	0	0
3	0.0	0	16	70	14	0	0.0	0	25	68	7	0	0	96	4	0	0	0	-0.2	53	47	0	0	0	0	0	0
4 <sup>UR</sup>	0.2	0	7	63	30	0	0.2	0	11	78	11	0	0	94	6	0	0	0	0.1	21	79	0	0	0	0	0	0
5*	0.1	0	9	68	23	0	0.0	0	30	59	11	0	0	89	11	0	0	0	0.2	15	83	2	0	0	0	0	0
6	-0.2	0	22	70	8	0	-0.2	0	48	48	4	0	-0.1	100	0	0	0	0	0.2	18	82	0	0	0	0	0	0
7	0.0	0	17	62	21	0	-0.3	0	55	45	0	0	0.2	71	29	0	0	0	0	29	71	0	0	0	0	0	0
8 <sup>UR</sup>	-0.1	0	18	70	12	0	-0.2	0	39	58	3	0	-0.1	100	0	0	0	0	-0.3	60	40	0	0	0	0	0	0
9	0.1	0	5	82	13	0	0.2	0	19	63	18	0	-0.1	98	2	0	0	0	0.1	27	73	0	0	0	0	0	0
10	0.1	0	3	84	13	0	0.4	0	13	58	23	6	-0.1	100	0	0	0	0	-0.3	61	39	0	0	0	0	0	0
11	0.3	0	0	70	30	0	0.2	0	7	83	10	0	0.2	76	21	3	0	0	-0.1	42	58	0	0	0	0	0	0
12*	0.0	0	21	57	22	0	0.0	0	30	61	9	0	-0.1	100	0	0	0	0	0.3	18	71	11	0	0	0	0	0
13	-0.1	0	21	64	15	0	-0.4	0	62	36	2	0	-0.1	98	2	0	0	0	0	33	67	0	0	0	0	0	0
14	-0.2	0	17	78	5	0	-0.4	0	65	26	9	0	-0.1	100	0	0	0	0	0	34	66	0	0	0	0	0	0
Avg.	3.0	0	13	71	16	0	2.8	0	32	56	12	0	1.1	92	8	0	0	0	1.7	35	64	1	0	0	0	0	0

\* Link ram: Ram 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*.

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

**Table 3c. Visual trait assessments – Conformation**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram’s progeny assessed for each score is also reported. For the majority of breeder’s objectives a negative deviation would be considered favorable and the larger the deviation the better. Face cover and body wrinkle are possible exceptions when for many breeders the optimum score is in the middle of the range therefore trait leaders have not been highlighted.

Ram code	Conformation																													
	Jaw					Legs and Feet					Shoulder and Back					Face Cover					Body Wrinkle									
	Dev	1	2	3	4	5	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	0	25	53	22	0	-0.2	0	28	59	13	0	-0.1	3	22	66	9	0	-0.1	0	38	38	19	5
2	0	100	0	0	0	0	0.1	0	12	63	19	6	0.2	0	9	56	33	2	-0.1	0	35	51	14	0	0.2	0	23	40	28	9
3	0	100	0	0	0	0	-0.2	0	25	55	20	0	-0.2	0	27	57	14	2	0.1	0	14	70	14	2	-0.3	2	34	54	10	0
4 <sup>UR</sup>	0	100	0	0	0	0	-0.2	1	22	57	20	0	-0.2	0	30	54	16	0	-0.3	0	43	54	3	0	-0.3	2	48	35	13	2
5*	0	100	0	0	0	0	0.4	0	4	48	41	7	0	0	18	61	18	3	0.3	0	4	73	23	0	-0.2	3	40	38	19	0
6	0	100	0	0	0	0	0.3	0	4	52	37	7	0.3	0	11	48	33	8	-0.1	3	26	63	4	4	-0.2	0	46	38	8	8
7	0	100	0	0	0	0	-0.2	0	31	48	17	4	0	0	20	52	28	0	-0.3	10	28	59	3	0	-0.1	3	14	69	14	0
8 <sup>UR</sup>	0	100	0	0	0	0	0	0	12	64	24	0	0.2	0	16	39	45	0	0.1	0	18	67	15	0	0.6	0	14	35	35	16
9	0	100	0	0	0	0	0	0	28	40	28	4	0	0	25	45	25	5	-0.1	2	22	68	8	0	0	0	36	41	15	8
10	0	100	0	0	0	0	0	0	9	65	26	0	0.2	0	10	48	42	0	0.5	0	7	58	29	6	0.6	0	6	44	38	12
11	0	100	0	0	0	0	-0.3	0	26	68	6	0	-0.3	0	35	55	10	0	-0.3	0	35	65	0	0	-0.5	4	48	48	0	0
12*	0	100	0	0	0	0	-0.2	0	21	67	12	0	0.2	0	17	42	38	3	0	0	29	54	12	5	-0.1	4	43	22	22	9
13	0	100	0	0	0	0	0.1	0	10	57	31	2	0	0	12	64	24	0	0.2	0	8	71	21	0	0	0	27	54	12	7
14	0	100	0	0	0	0	0.4	0	9	32	55	4	-0.1	5	22	43	30	0	0.1	0	13	74	13	0	0.5	0	13	35	43	9
Avg.	1.0	100	0	0	0	0	3.1	0	17	55	26	2	3.1	0	20	52	26	2	2.9	1	22	64	12	1	3.0	1	31	42	20	6

\* Link ram: Ram 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*.

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

**Table 3d. Visual trait assessments – Breech**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram’s progeny assessed for each score is also reported. For the majority of breeder’s objectives a negative deviation would be considered favorable and the larger the deviation the better.

Ram code	Breech																							
	Breech Cover (marking)						Crutch Cover					Breech Wrinkle (marking)					Dag (yearling)							
	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	0.2	0	0	5	31	64							-0.1	11	31	33	14	11	-0.7	41	47	12	0	0
2	0.1	0	0	4	43	53							0.4	0	19	45	28	8	-0.3	23	49	23	3	2
3	0.0	0	2	14	33	51							-0.4	12	39	35	14	0	0.3	11	43	18	23	5
4 <sup>UR</sup>	0.0	0	0	21	29	50							-0.7	21	44	29	4	2	0.7	11	30	20	22	17
5*	-0.1	0	2	14	47	37							-0.2	10	29	41	18	2	-0.2	18	50	25	7	0
6	-0.3	0	4	18	46	32							-0.1	14	29	29	25	3	0.2	22	30	19	26	3
7	-0.2	0	2	16	41	41							-0.4	12	38	38	12	0	-0.6	31	59	10	0	0
8 <sup>UR</sup>	0.1	0	0	5	42	53							0.2	8	16	41	24	11	0.3	21	24	33	7	15
9	0.2	0	0	9	27	64							0.1	4	29	31	33	3	0.2	28	22	25	13	12
10	0.2	0	0	5	40	55							0.2	2	33	24	29	12	0.3	13	29	39	16	3
11	-0.2	0	3	16	42	39							-0.6	22	34	34	10	0	-0.3	32	32	26	10	0
12*	0.2	0	0	3	41	56							0.4	0	30	22	33	15	0.2	21	38	17	12	12
13	-0.1	0	0	18	41	41							0.0	9	26	39	20	6	-0.1	26	38	21	10	5
14	-0.2	0	0	20	43	37							1.0	0	14	13	43	30	0.0	26	35	13	26	0
Avg.	4.3	0	1	12	39	48							2.9	9	29	32	22	8	2.4	23	38	22	12	5

\* Link ram: Ram 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*.

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

**Table 4. Ram averages for measured traits**

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

Ram code	Breeders flock, Ram number	No. of prog.	Ram averages for measured traits (deviations)								
			GFW % Y <sup>^</sup>	CFW % Y	FD mm Y	WT kg Y	WT kg H	FDCV % Y	Curv deg/mm Y	SL mm Y	SS N/ktex Y
1	One Oak, BR5023	36	-0.2	0	0	-1.3	-0.5	-0.2	2.6	-1.6	1.9
2	Demondrille, 5254	48	0	0	-0.2	-2.4	-2.3	1.1	0.9	-6.2	0
3	Rockdale, 040465	49	0	0	-0.3	1.3	1.9	0.1	2.5	2.2	-3.6
4 <sup>UR</sup>	Congou, 05-LP124	48	0	0	1.1	2	1.2	0.6	0.4	1.8	-2.4
5*	Bogo, 0-18	54	-0.1	0	-0.1	-1.7	-1.9	0.4	-3.4	3.2	2.5
6	Langdene, 3585	29	-0.1	-0.1	-0.3	1.1	1.0	1.2	-0.2	-3.1	-3.5
7	Nerstane, N4615	34	0	-0.1	-0.5	1.1	1.3	-0.7	3.4	0.4	0.1
8 <sup>UR</sup>	Greendale, Red 324	41	0	0	0	-2.2	-2.2	-0.8	-1.8	-0.1	-1.5
9	Bundilla, 060118	46	0.1	0	0.3	1.6	2.1	-0.8	0.9	1.5	2.8
10	Avenel, 1.147	45	0.1	0	-0.1	-0.5	-1.5	1	-0.8	-3.4	-1.4
11	GRASS, 05-1615	33	-0.1	0	1.2	1.8	1.8	0.5	-2.5	5.6	-0.4
12*	Hyfield Poll, 3723	28	0	0.1	0	1.8	2.7	-1.1	-2.8	0.2	-0.5
13	Rocklyn, Joey	48	0.3	0.3	-0.3	-1.7	-2.4	-0.6	-5.2	4.9	5.4
14	Yarrowonga, 10	31	0	0	-0.8	-1.1	-1.5	-0.8	6.1	-5.4	0.5
Average performance		41	3.1 kg	2.0 kg	16.5 mm	37.1 kg	48.0 kg	18.7 %	96.3 deg/mm	65.6 mm	22.7 N/ktex

\* Link ram: Ram 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*.

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

## Understanding the results

### Index Options – indexes reported on page 8

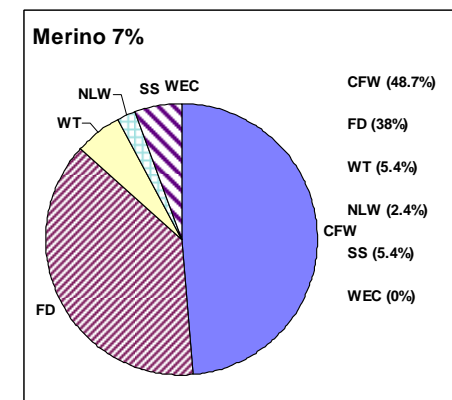
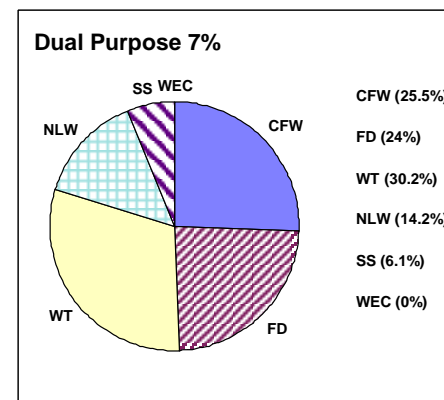
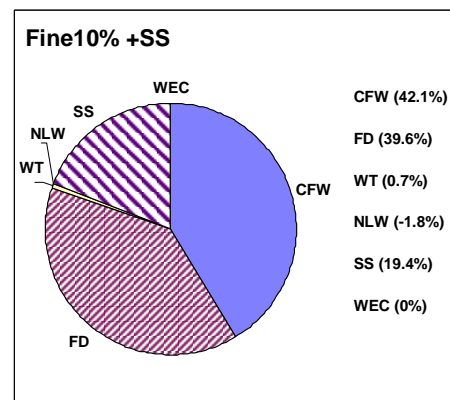
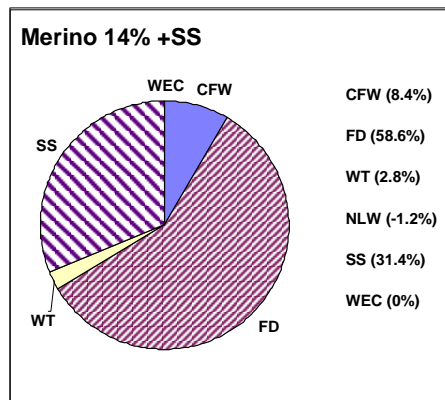
Breeding Objective index options provide the relative value of rams based on a combination of the measured traits' genetic performance. The indexes used in this report are only some of the many indexes that can be used to describe an individual breeder's objective for measured traits.

**If a breeder is considering using a ram 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 ram is used in a breeder's flock.**

All AMSEA site evaluation reports present 3 standard indexes to provide combined measured trait performance. These 3 AMSEA indexes are Fine 10% +SS; Merino 14% +SS; and Dual Purpose 7%. These indexes are the same as MERINOSELECT indexes of that name however as there is no direct reproduction records captured by sire evaluation AMSEA do not include a Reproduction (NLW) FBV in their index calculations. As a result the 14% contribution by NLW in the Dual Purpose 7% index is not effectively applied by the index calculation.

This report has added an additional index – the AMSEA **Dual Purpose 7%**.

**Traits contribution to economic gain:** The percentage contribution of the traits listed to economic gain in a commercial flock that selects rams using the index.



### 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 maintain performance on other traits.*

AMSEA  
**Merino 7%**  
(M7)

*Medium wool Merino self-replacing production system with moderate emphasis on fleece weight and fibre diameter (7% Micron Premium) plus small emphasis on live weight and maintenance emphasis on other traits.*

## 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 ram relative to another ram in the evaluation when mated to the same standard of ewes. FBVs improve the accuracy of ram results because they account for the association between traits, adjustment for birth effects and the number of progeny a ram has in the analysis.

*True Breeding Values* would be achieved if the number of progeny evaluated for each ram were 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 rams 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 ram's progeny.

### Link rams

Link rams provide the 'genetic link' between CTSE sites located across Australia to allow all rams entered in these site evaluations to have their performance reported relative to each other in *Merino Superior Sires*. *Merino Superior Sires* reports rams from across all effectively linked CTSE sites and across all evaluations at these sites. Link rams are therefore a vital component of the Central Test Sire Evaluation.

To be used as a link a ram must have at least 25 progeny assessed at 1st Assessment 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 rams which can provide a wider perspective of the elite rams available across many flocks in Australia and New Zealand.

### Combined measured trait and combined visual trait performance

Combined measured trait performance is calculated as  $(7\% \text{ MP Index} - 100)$ .

Combined visual trait performance is calculated as:

$(\text{Classer's Grade Tops\%} - \text{Culls\%})/5$ , expressed as a deviation from  $(\text{average Tops\%} - \text{average Culls\%})/5$ .

### **Example**

- Ram's performance:
- AMSEA 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 =  $((25.5 - 17.6)/5) - ((25.1 - 16.4)/5)$   
 $= 7.9/5 - 8.7/5 = 1.58 - 1.74$   
 $= -0.16$

# South West Slopes Sire Evaluation Site

