

# **NORTH EAST VICTORIA (Dookie College)**

## **Central Test Sire Evaluation**

### **2006 Drop 2nd Evaluation**

Conducted by

**North East Victoria Stud Merino Breeders Inc.**



under the auspices of

**The Australian Merino Sire Evaluation Association**



with support from



**Livestock Breeding Services**



**Allflex Australia**

November 2008

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## Foreword

### North East Victoria (Dookie College) - Central Test Sire Evaluation

The North East Victoria (Dookie College) site is an accredited Central Test Sire Evaluation (CTSE) program. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

A subcommittee of the North East Merinos and other co-opted members run the North East Victoria Sire Evaluation site. They are listed in the table below.

The North East Victoria Sire Evaluation started in 1997. The 2006 drop progeny are the tenth evaluation since 1997, all of which have been conducted at Dookie College. The Dookie College ewes are Toland blood and only ewes which have lambed previously are included in the AI program. Ewes are randomly allocated, ensuring an even number of each age group is allocated to each sire. Fifty ewes were joined per sire, with progeny numbers ranging from 20 to 48. The Dookie College adult ewe flock averages 19 micron, with an average fleece weight of 5.5kg.

Members of the North East Merino group are offered first opportunity to fill the sire positions. If they are not taken up by the North East Merino Breeders, positions are offered to those who have expressed interest or sires of interest are approached to participate.

#### Site Committee

Name	Phone	Position on committee
Phil Toland	03 57981 605	Chairperson
Lyndon Kubeil	03 57611 649	Data Manager
Frank O'Connor	03 58339 200	Site Manager
Murray McKenzie	03 57666 278	
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Date of publication: November 2008

## 2006 drop 2<sup>nd</sup> Evaluation– North East Victoria Sire Evaluation

The information in this site report provides a comprehensive assessment of the North East Victoria, 2006 drop, 2nd evaluation sire's progeny performance, both measured and visually assessed. Three graphs and a table provide a summary of the results and four tables provide the detailed performance information for the standard sire evaluation analysis.

This report provides the results from the 2006 drop progeny, at 21 months of age and 11 months wool growth. This is the final evaluation for this group of progeny.

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## 2006 drop 2<sup>nd</sup> Evaluation– North East Victoria Sire Evaluation

**North East Victoria (Dookie) 2006 drop 2nd Evaluation:  
Age - 21 months, Wool growth - 11 months**

### Sire and owner details

Sire code	Sire name Sire ID <sup>#</sup> , Breed <sup>†</sup>	Contact Name, Address Phone and Fax Number
1	Avington, 03-260 5049022003030260, Merino	Noel & Lindsay Henderson, 504 Sidonia Rd., Sidonia Vic 3444 Ph.(03) 54237 100 Fax (03) 54237 101
2	Cahirblonig, 4069 5042142004044069, Merino	Mathew Ipsen, "Westwood", RMB 2436 Maryborough Vic 3465 Ph. (03) 54612 016 Fax (03) 54612 063
3	Eilan Donan, 123 (Floyd) 5017472002020123, Merino	Jock MacRae, 747 Sutton Grange Rd Elphinstone Vic 3448 Ph. (03) 54733 256 Fax (03) 54733 256
4*	Kilfeera Park, 1.444 5034252001010444, Merino	Murray & Fiona McKenzie, 131 Brock Rd Lurg Vic 3673 Ph. (03) 57666 278 Fax (03) 57 57666 248
5	Kilfeera Park, 3.161 5034252003030161, Merino	Murray & Fiona McKenzie, 131 Brock Rd Lurg Vic 3673 Ph. (03) 57666 278 Fax (03) 57 57666 248
6	Koole Vale Poll, B249 6013302004040249, Merino	Alan Harris, RSD 5020, Costerfield Vic 3523 Ph (03) 54332 625 Fax (03) 54332 625
7	Merinotech VIC, 021530 5046482002021530, Merino	Hugh & Susan Jarvis, 8338 Natimuk-Hamilton Rd Gatum Vic 3407 Ph. (03) 55743 298 Fax (03) 55743299
8*	Nicholson River, The Prophet 5044102004040001, Merino	Doug Pemberton, "The Meadows" Howletts Rd Nicholson Vic 3882 Ph. (03) 51568 952 Fax (03) 51568 953
9	Pendarra, 448 5048682004040448, Merino	Bill McInnes, 452 McInnes Lane Bobinawarra via Milawa Vic 3678 Ph. (03) 57273 281 Fax (03) 57273 281
10	Terrick West Poll, 3.161 6001212003030161, Merino	Ross McGauchie, 2400 Echuca - Serpentine Rd Prairie VIC 3572 Ph 03.54368270 Fax 03.54368470
11	Toland Poll, 040998 6010822004040998, Merino	Phil Toland, RMB 2005 Violet Town Vic 3669 Ph. (03) 57981 605 Fax (03) 57981 404
12	Toland Poll, 050964 6010822005050964, Merino	Phil Toland, RMB 2005 Violet Town Vic 3669 Ph. (03) 57981 605 Fax (03) 57981 404
13	Toland Poll, 051416 6010822005051416, Merino	Phil Toland, RMB 2005 Violet Town Vic 3669 Ph. (03) 57981 605 Fax (03) 57981 404

\* 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*.

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

<sup>#</sup> 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.

<sup>†</sup> Breed of flock in which the sire was born

## Managers Report

### 1. Location

- The Dookie site is run on the University of Melbourne Dookie Campus Farm, located 30 kilometres east of Shepparton off the Midland Highway.
- The Dookie College farm is 2200 hectares of undulating country with sheep and cropping the two main broadacre enterprises.
- The sheep enterprise is predominantly a self replacing merino flock with 3000 merino ewes joined to both merino and terminal sires.
- Pastures range from phalaris/sub clover based to annual grasses/sub clover, with some lucerne also available.
- Soil types vary from river sands to heavy clays, the most predominant soil type being clay/loams, suitable for cropping.

### 2. Selection and joining

- 650 ewes inseminated on the 2<sup>nd</sup> March 2006,
- Ewes are selected to provide a uniform line with good conformation, even wool quality and productivity. Ewes are allocated randomly ensuring that an even balance of age groups are allocated to each sire,
- 13 sires evaluated,
- Ewes condition score 3 at the time of selection and insemination,
- Livestock Breeding Services conducted the insemination,
- 50 ewes were allocated to each sire

### 3. Pregnancy and lambing

- Pregnancy scanning on the 10<sup>th</sup> May 2006,
- 650 ewes were scanned with a conception rate of 67%,
- 202 Singles, 233 Twins with a potential 668 lambs,
- Ewes were managed to maintain condition
- Lambing 30<sup>th</sup> July – 6<sup>th</sup> August
- Lambs tagged 20<sup>th</sup> August and run in one mob

### 4. Weaning and seasonal conditions

- Lambs marked 6<sup>th</sup> September,
- Lambs weaned 15<sup>th</sup> October,
- Lambs weaned onto Lucerne pasture

### 5. Assessments

- The classer's grade and individual trait scoring was conducted by Greg Roberts

### 6. Rainfall

Month	Rainfall (mm per month)				
	2005	2006	2007	2008	Average *
January	32.6	13.2	11.8	69.2	31.7
February	227.6	21.8	16.2	10.6	69.1
March	6.4	11.4	37.6	43.8	24.8
April	8.8	15	25.2	12.2	15.3
May	NA	21.6	80.6	36.2	46.1
June	NA	28.4	33.2	19	26.9
July	NA	43.6	78.6	71.2	64.5
August	NA	19.2	14.4	26.8	20.1
September	NA	16.8	7.4	21	15.1
October	NA	0.4	20.4	0	6.9
November	NA	9	72.6	0	27.2
December	NA	9	85	-	31.3
Totals		209	483		379

\* Dookie College weather station

## Managers Report

### Evaluation and Management Program

Event	Date/s	Age (months)	Wool (months)
<b>Selection of ewes</b>	3rd February 2006		
<b>Joining</b>	2nd March 2006		
<b>Lambing: start – finish</b>	30th July – 6th August 2006		
<b>Tagging/pigment assessment</b>	20th August 2006		
<b>Weaning</b>	15th October 2006	105 days	105 days
<b>Weaning body weight</b>	15th October 2006	105 days	105 days
<b>Crutching</b>	25th May 2007		
<b>Fleece sampling</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation: 7th June 2007</li> <li>• 2nd Evaluation: 9th May 2008</li> </ul>	10 21	10 11
<b>Staple length</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation: 7th June 2007</li> <li>• 2nd Evaluation: 9th May 2008</li> </ul>	10 21	10 11
<b>Assessment shearing</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation: 15th June 2007</li> <li>• 2nd Evaluation: 21st May 2008</li> </ul>	10 21	10 11
<b>Classer's Group</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation: 7th June 2007</li> <li>• 2nd Evaluation: 9th May 2008</li> </ul>	10 21	10 11
<b>Pre shearing scoring</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation: 7th June 2007</li> <li>• 2nd Evaluation: 9th May 2008</li> </ul>	10 21	10 11
<b>Post shearing scoring</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation:</li> <li>• 2nd Evaluation:</li> </ul>		
<b>Body weigh</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation: 15th June 2007</li> <li>• 2nd Evaluation: 21st May 2008</li> </ul>	10 21	0 0
<b>Muscle – fat scanning</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation:</li> <li>• 2nd Evaluation:</li> </ul>		
<b>WEC sampling</b>	<ul style="list-style-type: none"> <li>• 1st Evaluation:</li> <li>• 2nd Evaluation:</li> </ul>		
<b>Progeny Group Evenness assessment</b>	N/A		

### Visual tait assessment

#### 1st Evaluation

Classer's Grade: Mr Greg Roberts

Trait Scores: Mr Greg Roberts

#### 2nd Evaluation

Classer's Grade: Mr Greg Roberts

Trait Scores: Mr Greg Roberts

### Site Breeding Objective used to assess the Classer's Grades

The North East Sire Evaluation Committee asked Greg to base his selection using an equal emphasis on fibre diameter reduction and an increase in fleece weight, also taking into consideration animals that had performed well for growth, structural soundness and wool quality traits such as staple length, colour and character. This objective would allow different sheep types to perform equally without bias against animals sired by a finer type or a stronger heavier type.

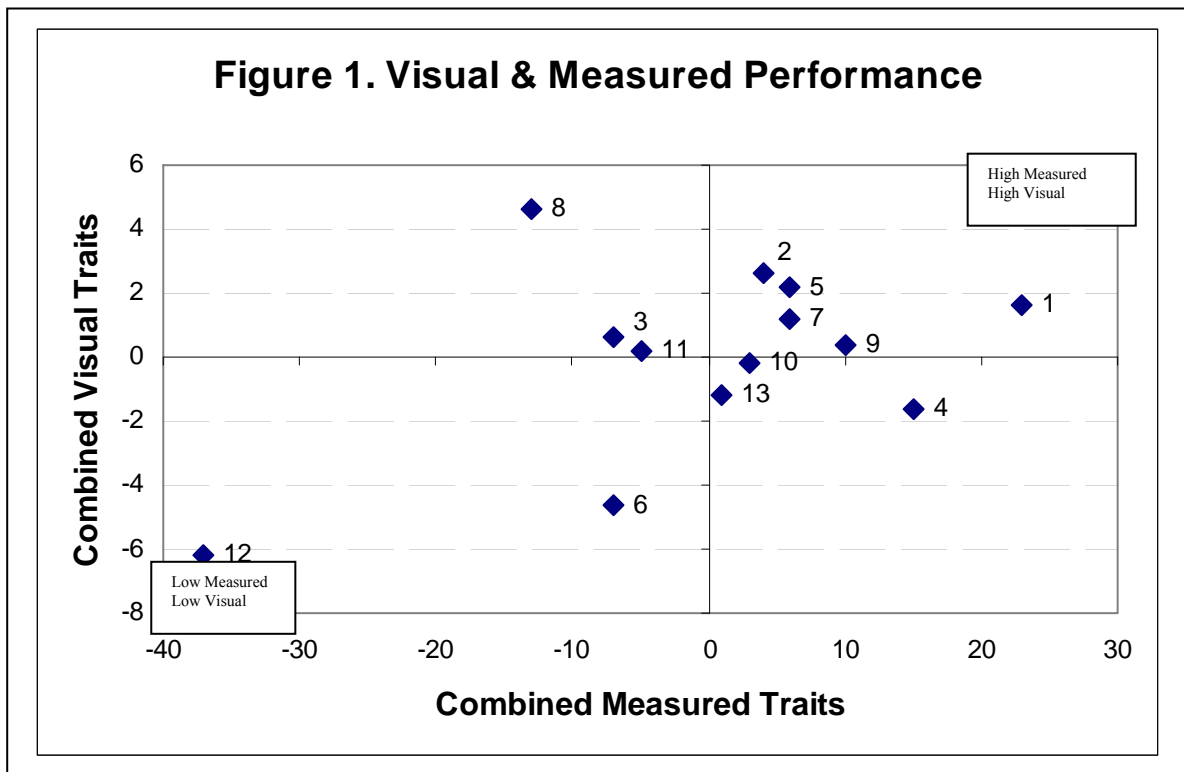
## Figure 1. Combined measured traits and visual trait performance

### Summary graph: visual and measured performance

Each sire that had 15 or more progeny assessed at the 2nd Evaluation 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 a AMSEA Merino 7% index. 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 visual assessment are located in the top right hand quarter.



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

The highest performing sires for each trait in any table is shaded grey to highlight the trait leaders. Each sire is listed for Classer's Grade and the same three indexes at all sites. 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 the NLW (Number of Lambs Weaned) effect where NLW 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 Index values			Classer's Grade			
			Merino 14% +SS	Fine 10% +SS	Dual Purpose 7%	Tops % (dev)		Culls % (dev)	
						Y <sup>^</sup>	A	Y	A
1	Avington, 03-260	33	138	115	123	1	1	1	-7
2	Cahirblonig, 4069	42	110	115	104	8	11	-10	-2
3*	Eilan Donan, 123 (Floyd)	42	112	107	93	7	4	3	1
4	Kilfeera Park, 1.444	26	101	105	115	2	-7	-15	1
5	Kilfeera Park, 3.161	38	95	105	106	5	4	-12	-7
6	Koole Vale Poll, B249	30	60	68	93	-17	-14	16	9
7	Merinotech VIC, 021530	42	116	116	106	-4	6	12	0
8*	Nicholson River, The Prophet	44	111	120	87	-2	15	-3	-8
9	Pendarra, 448	32	113	116	110	20	2	-5	0
10	Terrick West Poll, 3.161	42	97	93	103	-11	1	16	2
11	Toland Poll, 040998	37	97	78	95	1	-3	-9	-4
12	Toland Poll, 050964	32	55	39	63	-11	-12	14	19
13	Toland Poll, 051416	18	96	88	101	1	-9	-9	-3
Average performance			<b>97</b>	<b>96</b>	<b>98</b>	<b>21 %</b>	<b>15 %</b>	<b>15 %</b>	<b>10 %</b>

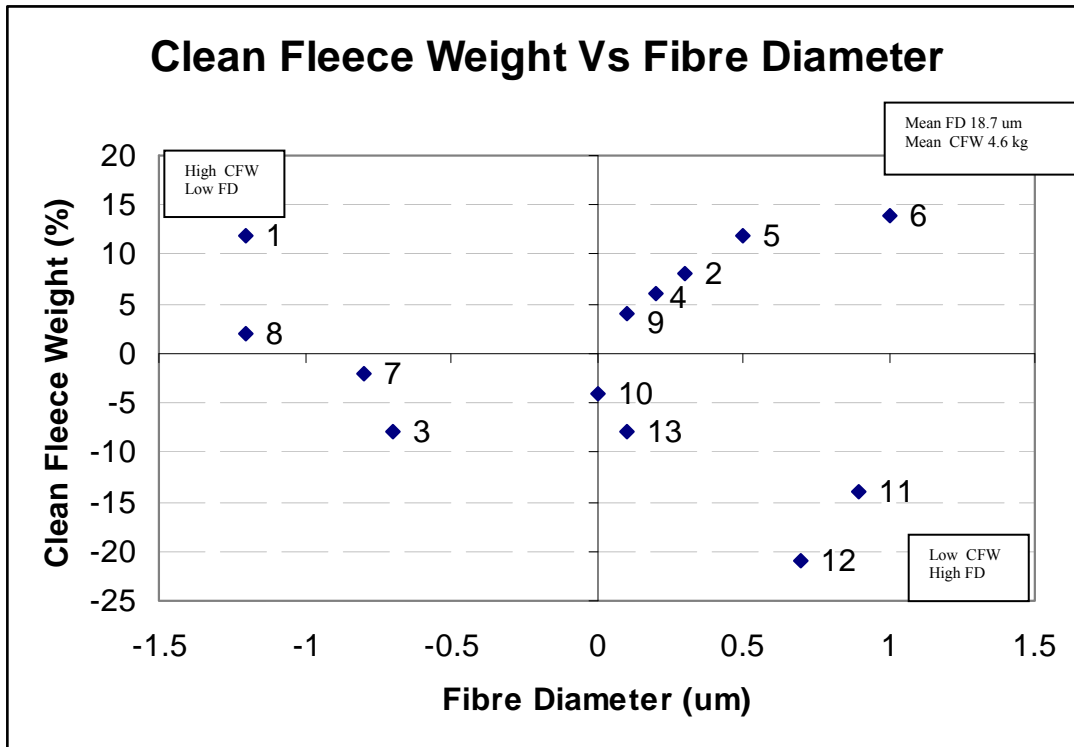
\* Link Sires: Sires evaluated to provide links between years and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires*.

^ 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**

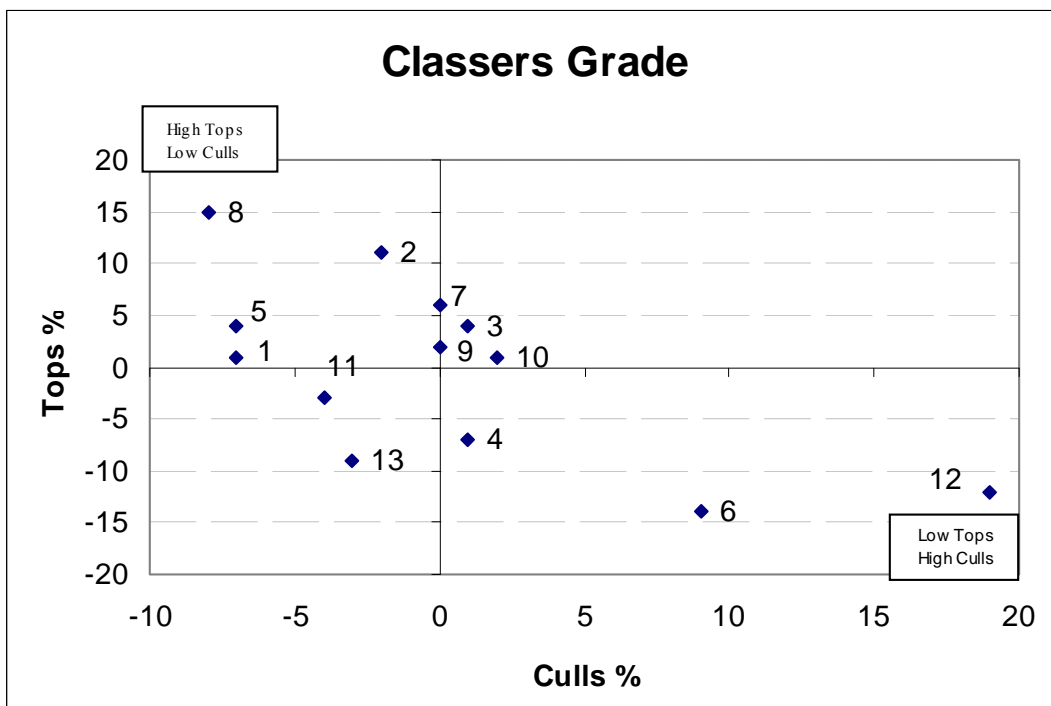
**Figure 2. Fleece weight by fibre diameter**

The graph describes performance for fleece weight on the side axis and fibre diameter on the bottom axis. Sires 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. 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 10 and 11

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<b>Sire code:</b>	Allows a sire to be located on the summary graphs and some tables.
<b>Sire name:</b>	Identity of the breeder's flock and the sire's number or name.
<b>No. of progeny:</b>	The number of progeny a sire 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 sires evaluated in this report. Only data from this evaluation is used in the calculation of these FBVs. FBVs describe the relative breeding value (genetic performance) of the sires (in this case based on the performance of their progeny). A sire's progeny will express half of their Sires FBV. FBVs do not necessarily reflect the sires 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 sire'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 Top, Flock or Cull based on their visual assessment of all traits relative to the site's Breeding Objective (page 5). The percentage deviation from the average of Tops and Culls is presented in this report.

**Table 1 – Major measured traits and Classer's Grades**

Sire Code	Sire name	No. of prog.	Flock Breeding Values (deviations)								Classer's Grade <sup>1</sup>			
			GFW%		CFW%		FD $\mu$ m		WT kg		Tops % (dev)		Culls % (dev)	
			Y <sup>^</sup>	A	Y	A	Y	A	Y	A	Y	A	Y	A
1	Avington, 03-260	33	5	10	9	12	-1.5	-2.2	-1.9	-2.2	1	1	1	-7
2	Cahirblonig, 4069	42	9	6	10	8	-0.2	0.7	-2.7	-2.5	8	11	-10	-2
3	Eilan Donan, 123 (Floyd)	42	-6	-7	-5	-8	-0.7	-1.3	-3.2	-3.5	7	4	3	1
4*	Kilfeera Park, 1.444	26	7	3	12	6	0.5	0.5	3.1	3.7	2	-7	-15	1
5	Kilfeera Park, 3.161	38	10	10	9	12	0.7	0.9	1.3	1.2	5	4	-12	-7
6	Koole Vale Poll, B249	30	4	15	2	14	1.6	1.7	2.3	0.9	-17	-14	16	9
7	Merinotech VIC, 021530	42	-5	-1	-7	-2	-1.5	-1.5	-1.5	-2.0	-4	6	12	0
8*	Nicholson River, The Prophet	44	6	11	-6	2	-1.5	-2.0	-7.4	-6.2	-2	15	-3	-8
9	Pendarra, 448	32	7	2	9	4	-0.6	0.2	-1.0	-0.5	20	2	-5	0
10	Terrick West Poll, 3.161	42	-9	-5	-11	-4	-0.2	-0.1	3.1	1.6	-11	1	16	2
11	Toland Poll, 040998	37	-5	-16	-1	-14	1.5	1.5	2.9	2.9	1	-3	-9	-4
12	Toland Poll, 050964	32	-13	-20	-13	-21	1.8	1.4	1.9	3.9	-11	-12	14	19
13	Toland Poll, 051416	18	-10	-8	-7	-8	0.2	0.2	3.1	2.5	1	-9	-9	-3
Average performance			<b>3.4 kg</b>	<b>6.9 kg</b>	<b>2.2 kg</b>	<b>4.6 kg</b>	<b>16.4 <math>\mu</math>m</b>	<b>18.7 <math>\mu</math>m</b>	<b>30.4 kg</b>	<b>47.4 kg</b>	<b>21 %</b>	<b>15 %</b>	<b>15 %</b>	<b>10 %</b>

\* 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*.

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

<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 9.

**Tables 2 – Other measured traits**

Sire Code	Sire name	No. of progeny.	Flock Breeding Values (deviations)					
			FDCV%		SL mm		SS N/ktex	
			Y <sup>^</sup>	A	Y	A	Y	A
1	Avington, 03-260	33	1.3	0.8	-9.2	-6.2	0.6	-2.5
2	Cahirblonig, 4069	42	-0.7	-1.2	0.7	4.8	1.1	2.8
3	Eilan Donan, 123 (Floyd)	42	0.3	0.8	-2.6	-6.5	3.5	0.7
4*	Kilfeera Park, 1.444	26	0.3	0.4	5.0	5.2	-1.6	-3.1
5	Kilfeera Park, 3.161	38	0.3	0.4	3.2	-0.3	-2.1	-2.6
6	Koole Vale Poll, B249	30	2.6	2.7	-5.6	-3.9	-8.9	-5.6
7	Merinotech VIC, 021530	42	0.6	1.0	-0.9	-0.2	0.4	-2.4
8*	Nicholson River, The Prophet	44	1.8	0.9	-0.1	1.6	-3.4	-1.1
9	Pendarra, 448	32	-0.8	-1.4	3.3	5.2	-0.2	-0.4
10	Terrick West Poll, 3.161	42	-1.1	-0.6	-12.4	-11.6	0.3	1.6
11	Toland Poll, 040998	37	-2.1	-1.5	8.3	3.4	11.2	9.1
12	Toland Poll, 050964	32	-1.5	-1.4	4.5	1.2	-2.7	-0.1
13	Toland Poll, 051416	18	-0.9	-0.8	6	7.3	1.9	3.8
Average performance			<b>19.7 %</b>	<b>17.3 %</b>	<b>75 mm</b>	<b>93 mm</b>	<b>31 N/ktex</b>	<b>30 N/ktex</b>

\* 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*.

<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 9.

## Understanding the results

### Scored trait performance – Tables 3a to 3e – 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 sires 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 along staple) 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 of the staple 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**

Wool quality traits are reported as a deviation from the average trait score for all progeny is reported as well as the percentage of the sires progeny recorded for each trait. For most traits and breeding objectives a negative deviation would be considered favourable.

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	100	0	0	0	0	-0.3	77	23	0	0	0	-0.1	10	55	32	3	0	-0.2	0	23	58	19	0	
2	0	100	0	0	0	0	0.1	43	48	9	0	0	-0.2	9	60	31	0	0	-0.2	0	14	83	3	0	
3	0	100	0	0	0	0	-0.2	66	29	5	0	0	-0.1	11	47	42	0	0	0	0	15	61	24	0	
4*	0	100	0	0	0	0	-0.1	55	41	4	0	0	0.3	0	41	45	9	5	0	0	5	77	18	0	
5	0	100	0	0	0	0	0.1	36	58	6	0	0	0	8	44	44	4	0	0	0	9	72	19	0	
6	0	100	0	0	0	0	0.3	44	32	16	8	0	0.3	0	36	56	8	0	0	0	12	68	20	0	
7	0	100	0	0	0	0	0	54	39	7	0	0	0.1	5	44	46	5	0	-0.1	0	10	73	17	0	
8*	0	100	0	0	0	0	-0.3	75	20	5	0	0	-0.7	40	48	10	2	0	-0.2	0	8	88	4	0	
9	0	100	0	0	0	0	0	55	39	3	3	0	-0.1	0	74	23	3	0	0.1	0	3	71	26	0	
10	0	100	0	0	0	0	0.4	26	52	22	0	0	-0.1	7	52	38	3	0	-0.1	0	16	67	17	0	
11	0	100	0	0	0	0	0	42	55	3	0	0	0	3	52	39	6	0	0.1	0	3	67	30	0	
12	0	100	0	0	0	0	-0.2	72	22	6	0	0	0.6	3	16	53	28	0	0.3	0	0	56	44	0	
13	0	100	0	0	0	0	0.2	29	59	12	0	0	0.1	12	29	53	6	0	0.3	0	0	59	41	0	
Av	0	100	0	0	0	0	1.6	52	40	8	0	0	2.4	8	46	40	6	0	3.1	0	9	69	22	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*.

■ Information on how to use the results in the table above can be found on page 12.

**Table 3b – Visual trait assessments – Wool quality**

Wool quality traits are reported as a deviation from the average trait score for all progeny is reported as well as the percentage of the sires progeny recorded for each trait.

Sire Code	Wool Quality											
	Staple Weathering						Staple Structure					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1	-0.3	0	68	29	3	0	-0.5	13	65	13	9	0
2	-0.1	0	40	57	3	0	0	4	29	60	7	0
3	-0.2	0	50	47	3	0	-0.1	13	32	42	13	0
4*	-0.1	0	41	55	4	0	0.5	4	5	64	27	0
5	0.1	0	36	53	11	0	0.1	9	22	58	11	0
6	0	0	36	56	8	0	0.3	4	32	32	32	0
7	-0.2	0	49	49	2	0	-0.2	10	37	49	4	0
8*	0.1	0	35	52	13	0	-1.1	55	35	8	2	0
9	0.1	0	39	39	22	0	0.1	4	35	48	13	0
10	-0.4	2	62	36	0	0	0	12	29	45	14	0
11	0.2	0	18	73	9	0	0.3	0	27	52	21	0
12	0.2	0	34	47	19	0	0.5	6	12	38	44	0
13	0.4	0	18	53	29	0	0.2	0	29	59	12	0
Av	2.7	0	40	50	10	0	2.7	10	30	44	16	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*.

■ Information on how to use the results in the table above can be found on page 12

**Table 3c – Visual trait assessments – Pigmentation and Conformation**

Pigmentation and conformation traits are reported as a deviation from the average trait score for all progeny is reported as well as the percentage of the sires progeny recorded for each trait.

Four pigmentation traits are reported as described on page 12. These are Fibre pigmentation. Non-fibre pigmentation, Recessive black and Random spot. The first 2 are scored 1 to 5 however the latter 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 (black) and Random spot (spot).

Sire Code	Pigmentation – as scored at 1st Evaluation													Conformation						
	Fibre pigmentation					Non-fibre pigmentation					black	spot	Jaw							
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	5	5	Dev	1	2	3	4	5
1													0		0	100	0	0	0	0
2													0		0	100	0	0	0	0
3													0		0	100	0	0	0	0
4*													0		0	100	0	0	0	0
5													0		0	100	0	0	0	0
6													0	Not	0	100	0	0	0	0
7	Not Scored						Not Scored						Scored	0	100	0	0	0	0	
8*													0		0	100	0	0	0	0
9													0		0	100	0	0	0	0
10													5		0	100	0	0	0	0
11													0		0.1	97	0	0	0	3
12													0		0	100	0	0	0	0
13													0		0	100	0	0	0	0
Av													0		1	100	0	0	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*.
- Information on how to use the results in the table above can be found on page 12.

**Table 3d – Visual trait assessments – Conformation**

Conformation traits are reported as a deviation from the average trait score for all progeny is reported as well as the percentage of the sires progeny recorded for each trait.

Sire Code	Conformation																							
	Legs/Feet						Shoulder/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
1	0	7	77	16	0	0	0.1	90	6	4	0	0	-0.2	0	45	52	3	0	0.2	0	22	55	23	0
2	0	0	93	7	0	0	0	93	5	0	2	0	-0.1	7	26	60	7	0	0	5	31	43	21	0
3	-0.1	2	95	3	0	0	0	89	11	0	0	0	0	2	29	53	16	0	0	3	29	50	18	0
4*	0	9	77	14	0	0	0	91	9	0	0	0	0	0	32	59	9	0	0.3	0	23	41	36	0
5	0.1	9	69	22	0	0	0	92	8	0	0	0	0.1	0	17	78	5	0	0.1	0	28	53	19	0
6	-0.2	12	88	0	0	0	-0.1	100	0	0	0	0	0.2	0	24	56	20	0	0.6	0	12	36	48	4
7	0	7	83	10	0	0	-0.1	100	0	0	0	0	0.1	5	10	80	5	0	-0.2	0	41	54	5	0
8*	0.1	3	82	15	0	0	-0.1	98	2	0	0	0	0.1	0	20	72	8	0	0.4	0	18	40	40	2
9	0.2	0	71	29	0	0	-0.1	100	0	0	0	0	0.2	0	3	94	3	0	-0.1	0	35	52	13	0
10	0	3	90	7	0	0	0	93	5	2	0	0	0.1	0	17	79	4	0	0	0	36	45	19	0
11	0	3	88	9	0	0	-0.1	100	0	0	0	0	-0.3	4	48	48	0	0	-0.6	9	70	15	6	0
12	0	7	81	12	0	0	0	88	12	0	0	0	-0.1	4	31	62	3	0	-0.5	9	50	34	7	0
13	-0.1	6	88	6	0	0	0.2	82	12	6	0	0	0	0	29	59	12	0	-0.3	0	53	41	6	0
Av	2.1	5	83	12	0	0	1.1	93	5	2	0	0	2.8	1	26	66	7	0	2.8	3	34	43	20	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*.

■ Information on how to use the results in the table above can be found on page 12.

**Table 3e – Visual trait assessments – Breech**

Breech traits are reported as a deviation from the average trait score for all progeny is reported as well as the percentage of the sires progeny recorded for each trait.

Sire Code	Breech – as scored at <b>1st Evaluation</b>																							
	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	0	12	58	30	0	0	12	48	33	7	0.2	4	36	39	21	0						
2	0.1	0	2	10	45	43	0.3	0	0	38	62	0	0.3	2	29	43	26	0						
3	0	0	0	9	62	29	-0.2	0	12	57	31	0	0	7	45	31	14	3						
4*	-0.1	0	8	12	42	38	-0.2	0	15	50	35	0	0	15	27	35	23	0						
5	-0.1	0	0	24	50	26	0.1	0	11	42	34	13	0.2	3	39	37	21	0						
6	-0.2	0	0	34	34	32	0	0	6	59	28	7	-0.1	10	45	34	7	4						
7	0.2	0	0	10	49	41	0	0	10	46	44	0	0.2	12	27	39	17	5	Not Scored					
8*	0	0	0	7	69	24	0.2	0	10	36	48	6	0.4	0	33	45	10	12						
9	0.4	0	0	12	23	65	0.3	0	0	45	48	7	0	6	39	42	13	0						
10	-0.1	0	0	22	49	29	-0.2	6	12	41	41	0	-0.1	12	41	34	10	3						
11	-0.4	0	0	39	47	14	-0.3	0	25	50	22	3	-0.2	14	44	33	6	3						
12	0	0	0	19	50	31	-0.1	0	16	47	34	3	-0.5	22	50	22	6	0						
13	0.3	0	0	6	44	50	0.1	0	6	44	44	6	-0.3	11	56	28	5	0						
Av	4.2	0	0	17	48	35	3.4	0	10	46	39	5	2.6	9	39	36	14	2						

\* 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*.

■ Information on how to use the results in the table above can be found on page 12.

**Table 4 – Sire averages for measured traits**

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	No. of prog.	Sire averages for measured traits (deviations)													
			GFW %		CFW %		FD $\mu\text{m}$		WT kg		FDCV %		SL mm		SS N/ktex	
			Y <sup>^</sup>	A	Y	A	Y	A	Y	A	Y	A	Y	A	Y	A
1	Avington, 03-260		0.1	0.5	0.1	0.4	-0.7	-1.2	-0.5	-1.4	0.8	0.5	-5.2	-2.6	0.8	-1.5
2	Cahirblonig, 4069		0.2	0.2	0.1	0.2	-0.1	0.3	-1.0	-1.5	-0.5	-0.8	0.4	3.1	0.7	2.2
3	Eilan Donan, 123 (Floyd)		-0.1	-0.3	0	-0.2	-0.4	-0.7	-1.1	-2.3	0.3	0.4	-1.0	-3.9	2.4	0.6
4*	Kilfeera Park, 1.444		0	-0.1	0.1	0.1	0.3	0.2	1.0	2.6	-0.1	0.2	2.6	3.7	-0.7	-2.3
5	Kilfeera Park, 3.161		0.1	0.4	0.1	0.3	0.3	0.5	0.4	0.9	0.2	0.1	1.9	-0.5	-1.3	-1.6
6	Koole Vale Poll, B249		0.1	0.7	0	0.4	0.8	1.0	1.0	-0.1	1.6	1.8	-3.8	-2.9	-6.6	-3.9
7	Merinotech VIC, 021530		-0.1	0	-0.1	-0.1	-0.8	-0.8	-0.5	-1.3	0.4	0.6	-0.6	-0.3	0.6	-1.8
8*	Nicholson River, The Prophet		0.1	0.5	-0.1	0	-0.7	-1.2	-2.7	-4.1	1.0	0.5	-0.6	0.6	-2.3	-1.0
9	Pendarra, 448		0.1	0.1	0.1	0.1	-0.4	0.1	-0.4	-0.1	-0.5	-1.0	2.3	3.3	0	-0.6
10	Terrick West Poll, 3.161		-0.1	-0.1	-0.1	-0.1	-0.1	0	1.1	0.6	-0.7	-0.2	-7.1	-6.7	0	0.9
11	Toland Poll, 040998		-0.1	-0.7	0	-0.4	0.8	0.9	1.0	2.4	-1.1	-0.8	5.3	1.6	7.9	5.8
12	Toland Poll, 050964		-0.2	-0.8	-0.1	-0.6	1.0	0.7	0.3	2.6	-0.9	-0.6	2.3	0.5	-3.0	-0.2
13	Toland Poll, 051416		-0.2	-0.3	-0.1	-0.3	0.1	0.1	1.2	1.7	-0.6	-0.6	3.5	4.1	1.4	3.5
Average performance			<b>3.1</b>	<b>6.9</b>	<b>2.0</b>	<b>4.6</b>	<b>16.4</b>	<b>18.7</b>	<b>30.2</b>	<b>47.4</b>	<b>19.7</b>	<b>17.3</b>	<b>74.7</b>	<b>92.8</b>	<b>31.3</b>	<b>30.0</b>
			<b>kg</b>	<b>kg</b>	<b>kg</b>	<b>kg</b>	<b><math>\mu\text{m}</math></b>	<b><math>\mu\text{m}</math></b>	<b>kg</b>	<b>kg</b>	<b>%</b>	<b>%</b>	<b>mm</b>	<b>mm</b>	<b>N/ktex</b>	<b>N/ktex</b>

\* 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).

### Index Options – page 7

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 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 in this index.

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 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.

#### AMSEA Fine 10% +SS

Clean fleece weight:	42%
Fibre diameter:	39%
Body weight:	0%
Staple strength	19%
Worm egg count	0%
Number lambs weaned	0%

#### AMSEA Merino 14% +SS

Clean fleece weight:	8%
Fibre diameter:	58%
Body weight:	3%
Staple strength	31%
Worm egg count	0%
Number lambs weaned	0%

#### AMSEA Dual Purpose 7%

Clean fleece weight:	26%
Fibre diameter:	24%
Body weight:	30%
Staple strength	6%
Worm egg count	0%
Number lambs weaned	14%

## Understanding the results – continued

### Accuracy of Flock Breeding Values

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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

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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

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Combined measured trait performance is calculated as (AMSEA 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:
- 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 =  $((25.5 - 17.6)/5) - ((25.1 - 16.4)/5) = 7.9/5 - 8.7/5 = 1.58 - 1.74 = -0.16$

# **North East Victoria Stud Merino Breeders Inc.**

