

# YARDSTICK

## Central Test Sire Evaluation

2006 Drop

Conducted by

**The Federation of Performance Sheep Breeders  
(WA Branch)  
Stud Merino Breeders Association of WA**

under the auspices of

**The Australian Merino Sire Evaluation Association**



with support from



Wool Agency

May 2008

**Disclaimer**

The information contained in this publication is based on knowledge and understanding at the time of writing (May 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.

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product name does not imply endorsement by the site over any equivalent product from another manufacturer.

Recognising that some of the information in this document is provided by third parties, the author and the publisher take no responsibility for the accuracy, currency, reliability and correctness of any information included in the document provided by third parties.

**YARDSTICK - Central Test Sire Evaluation**

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

The Federation of Performance Sheep Breeders (WA branch) runs the YARDSTICK Sire Evaluation site. They are listed in the table below.

- A total of 14 evaluations have been run by YARDSTICK (1993-2006 drop)
- These evaluations have taken place at Romilly Hills, Dale River WA (1993-2005 drop) and the Great Southern Agricultural Research Institute (GSARI), Department of Agriculture and Food, Katanning (2006 drop).
- Thanks must go to Lorraine Hewitt of Australian Fibre testing for assistance with wool testing and to the staff of GSARI for the management of the trial.

**Site Committee**

Name	Phone	Position on committee
Bill Sandilands .....	08 9851 4030	Chairperson
Bob Hall .....	08 9736 1055	Secretary
Roger Bilney .....	08 9834 1012	Committee member
Brooks Evans.....	08 9833 7528	Committee member
Max Ewen .....	08 9736 1176	Committee member
Johan Greeff.....	08 9821 3215	Committee member
Russell Meaton.....	08 9834 1030	Committee member

**For further information on this report please contact**

Bill Sandilands, phone: 08 9851 4030, [billandri@onaustralia.com.au](mailto:billandri@onaustralia.com.au)

Bob Hall, phone: 08 9736 1055, e-mail: [bobh@hallandco.com.au](mailto:bobh@hallandco.com.au)

**Report authors**

Bill Sandilands<sup>1</sup>, Bob Hall<sup>2</sup>, Bronwyn Clarke<sup>3</sup>, Andrew Swan<sup>4</sup>, Allan Casey<sup>5</sup>

<sup>1</sup> Billandri, Kendenup WA 6323

<sup>2</sup> Hall & Co, Darkan WA 6392

<sup>2</sup> PO Box 7076, Shenton Park, WA 6008

<sup>3</sup> Animal Genetics and Breeding Unit, UNE, Armidale, NSW 2351

<sup>4</sup> NSW DPI, Forest Road, Orange 2800

## 2006 Drop Hogget Evaluation –YARDSTICK Sire Evaluation

The information in this site report provides a comprehensive assessment of the YARDTSICK hogget evaluation of the 2006 drop sire's progeny performance, both measured and visually assessed. Additional measurements have been taken to give an average production value.

This report provides the results from the 2006 drop, hogget evaluation, 16 month old progeny and 12 months of wool growth.

### Contents

	Page
<b>Sire and owner details</b> .....	3
<b>Managers report</b> .....	4
<b>Understanding the graphs and tables of results</b> .....	7
<b>Results – Hogget Evaluation</b>	
<u>Summary</u> Figure 1:    Combined measured and visual assessed performance .....	12
Table A:    Indexes and Classer's Grades .....	13
Figure 2:    Fleece Weight and Fibre Diameter .....	14
Figure 3:    Classer's Grade: Tops and Culls .....	14
<u>Detail</u> Table 1:    Major measured trait and Classer's Grade performance .....	15
Table 2:    Other measured trait breeding values .....	16
Table 3a:    Visual trait performance – wool quality .....	17
Table 3b:    Visual trait performance – conformation & pigmentation .....	18
Table 4:    Sire averages for measured traits .....	19
Table 5:    Sire averages for traits scored at mulesing .....	20
<b>Production analysis results</b>	
Table 6:    Wool quality, fleece and carcase value summary .....	21

## 2006 Drop Hogget Evaluation

### YARDSTICK 2006 drop Hogget Evaluation: Age – 16 months, Wool growth – 12 month

#### Sire and owner details

Sire code	Sire name Sire ID #	Contact Name, Address Phone and Fax Number
1*	Ag WA Baseflock, 20002058 5090122000002058	Johan Greeff, DAFWA, 10 Dore St Katanning WA 6317 ph 08 9921 3215 fax 08 9821 3333
2	Billandri, 010564 6005712001010564	Bill Sandilands, Billandri Kendenup WA 6323 ph 08 9851 4030 fax 08 9851 4264
3	Boolading Blue Poll, Orange 1249 6090392002021249	Lachlan Ewen, PO Box 53 Darkan WA 6392 ph 08 9736 1389 fax 08 9736 1390
4	Cathair Donall, John 5049702004040226	James, Paul & Lara Skerritt, PO Box 584 Narrogin WA 6312 ph 08 9881 6287 fax 08 9881 6287
5	Centre Plus Poll, 107351 6012502001107351	William Harvey, Centre Pls WA, RMB 156 Kojonup WA 6395 ph 08 9832 3017 fax 08 9832 3037
6	Coromandel Poll, 1-69 6005532004040069	Michael Campbell, Coromandel 2040 Swamp Rd Gairdner WA 6337 ph 08 9836 6044 fax 08 9836 6099
7	Hazeldean, 1-10014 5003832001010014	Jim Litchfield, Hazeldean Pty Ltd Cooma NSW 2630 ph 02 6453 5555 fax 02 6453 5526
8	Kooranooking Park, 021473 5092332002021473	Bruce Taylor, Taylor Holdings, Taylor Rd Darkan WA 6392 ph 08 9736 1157
9	Majuba, GN 415 6092222003000415	John Karlsson, RMB 314 Bridgetown WA 6255 ph 08 9761 1609 Robert O'Halloran, RMB 219 Kojonup WA 6395 ph 08 9821 0060 fax 08 9821 0008
10*	Merinotech WA Poll, 011218 6090402001011218	Ian Robertson, Merinotech (WA) Ltd, RMB 311 Kojonup WA 6395 ph 08 9833 6251 fax 08 9833 6255
11	Misty Hills, Y99 50446920044Y0099	Russell & Heather Meaton, RMB 446 Kojounp WA 6395 ph 08 9834 1030 fax 08 9834 1030
12	Nerstane, 020409 5032982002020409	John McLaren, Nerstane Woolbrook NSW 2354 ph 02 6777 5881 fax 2 6777 5922
13	Rylington Park, 00.699 5091612000000699	John Karlsson, Dept Agric & Food, 10 Dore St Katanning WA 6317 ph 08 9821 3333 fax 08 9821 3336
14	Sunny Valley, 3-91 5019432003000091	DJ & ND Jackson & Co, PO Box 198 Kojonup WA 6395 ph 08 9831 0331 fax 08 9831 0306

\* Sires evaluated to provide links between other Central Test Sire Evaluation sites.

# 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).
- 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.

### 1. Location & Managers

After many years at Dale River, Yardstick was moved to Katanning at the Department research station known as The Great Southern Agricultural Research Institute (GSARI)

Being a research farm this property is well set up for the task having excellent handling facilities, many small paddocks for sheep identification, appropriate sheep to be used access to RFID tags and equipment, and an experienced staff.

The land is mostly duplex soil types with light soils over clay at 400-600mm depth. Base fertiliser dressings for pastures are 100kg/ha of either plain superphosphate or 3:1 super potash on the lighter land.

Staff comprise.

Steve Bell	Farm Manager.
Geoff Cox	Technical officer
Deon Pickett	Technical officer
Rob Gairen	
Vince Lambert	
Russell Quartermaine.	

The requirement of a sire reference site were carefully explained to the staff who have taken the task very seriously and to the best of their ability.

### 2. Entrants

There were 14 rams under test this year.

### 3. Selection and joining

Research station ewes were selected from the station flock in late December/early January 06 to be allocated to rams at random. They were fed a wheat/barley grain mix at 200 g/hd/day plus oaten hay fodder rolls up to the time of insemination.

### 4. Management, Season and Feeding

Sponges inserted	25/1/06
Sponges removed	6 & 7 Feb 06
AI by Genstock operatives	8/9 Feb 06

626 ewes were inseminated to the 14 sires. A range of 42-47 ewes per sire averaging 45.

Ewes crutched 13/4/06

Summer feeding.

- Ewes fed mixed grain until late March
- Then 300g/hd/day of a 70% oats 30% lupin mix until early May.
- Increased until late May to 400g/hd/day
- Increased to 600g/hd/day plus fodder rolls of oaten hay until late July.
- Then 800g of Lupin/barley mix until Mid September when paddock feed was OK.
- It has to be understood that this was a particularly bad season because of light rain and a very late break to the season. The level of hand feeding was unprecedented.

## Managers Report – 2006 drop - Continued

### Lambing.

- Lambing started 10 July and finished 22 July (most born around 17 July 2006)
- Prior to lambing ewes put into groups and allocated to lambing paddocks. Remained there until tagging when all the sheep were again grouped together.
- 550 ewes lambed (88% of those mated) and lambs were 130% or 715
- 7 ewes died over lambing
- Lambs were tagged 27/7 and sheep grouped together. 607 lambs tagged. Note that many of the lambs were from multiples brought about by the use of PMS.

### Marking.

- Lambs marked/mulesed. 21/8/06 PKTet vaccine
- Lambs scored by Messrs Sandilands and Hall for bare breech, Hairy birth coat and wrinkle. 592 marked.
- Lambs weaned 12/10/06
- Lambs shorn 13/10/06
- Lambs crutched 23/4/07 PK tet booster given

### Summer feeding of lambs.

- Fed oaten fodder rolls at weaning until moved to a standing oat crop (fodder) on 20/10/06. until mid December.
- Lupin stubble until Mid January.
- Then to Barley stubble and fed 200g/hd/day wheat/barley plus oat fodder rolls.
- Early Feb to pasture plus 400g/hd/day barley plus oaten fodder rolls.
- 1/6/07 feeding ceased. Sufficient feed on stubbles/pastures. (better season)

### Main measurement and testing day 27/8/07

- Prior to the day the WEC had been taken. 15 Aug average 200 ST and 70 Nem. Thought to be sufficient for a WEC to be taken.
- It rained the two days before the measurement day so the sheep were placed under cover (much available at the station) this enhanced the WEC which was all to the good.

Apart from the staff there was a good team of entrants and committee to assist with the work.

### Tasks undertaken

- Bare breech scoring
- Fleece rot noted
- WEC and Fecal consistency recorded. (Only 20 "empty ewes"-skilled operator R.Coole)
- Fleece sampled –mid side on a "V" machine by experienced operator of electric handpiece.
- Body weighed (electronic ID)
- Classed by 2 Landmark classers with recorders provided. Individuals classed and then groups considerably assisted by RFID and automatic drafting.
- Sheep shorn soon after the measurement day.
- Off shears meat traits measured by professional operative.
- Wethers sold. Ewes to general flock including information nucleus.

## 5. Rainfall

Long term average annual rainfall for Katanning is 482 mm. Average monthly mean rainfall is shown below (in mm):

Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
2006	76	0	1	41	17	18	60	62	26	18	8	3	330
2007	21	0	7	55	20	41	96	65	60	55	2	40	463
Long Term	13	17	22	31	61	79	76	63	46	37	21	16	482

## Evaluation Program

### Evaluation and Management Program

<b>Event</b>	<b>Date/s</b>	<b>Age (months)</b>	<b>Wool (months)</b>
<b>Selection of ewes</b>	Late Dec/early Jan 2006		
<b>Joining</b>	8-9/02/06		
<b>Lambing: start – finish</b>	10-22 July 2006		
<b>Tagging &amp; pigment recording</b>	27/07/06		
<b>Weaning</b>	12/10/06	4	
<b>Even-up shearing</b>	13/10/06	4	
<b>Crutching</b>	23/04/07	10	
<b>Fleece sampling</b>	27/08/07	14	10
<b>Staple length</b>	27/08/07	14	10
<b>Assessment shearing</b>	14/09/07	15	11
<b>Classer's Group</b>	27/08/07	14	10
<b>Visual trait scoring</b>	27/08/07	14	10
<b>Body weigh</b>	19/09/07	15	0
<b>Muscle - fat scanning</b>	19/09/07	15	0
<b>WEC sampling</b>	27/08/07	14	10

#### **Visual tait assessment**

##### Hogget Evaluation Classers:

Preston Clarke, Landmark

Ryan Odea, Landmark

## Understanding the results

### Summary graphs and table - page 12

---

<b>Summary graph: Visual and measured performance.</b> (Figures 1A and B)	Each sire that has 20 or more progeny evaluated is located on the graph. The graph describes performance for combined measured traits and visual assessment. Two graphs are presented Figure 1A is combined measured traits based on a “Fine 10% +SS +WEC” index and 1B is based on a “Dual Purpose 7%” index. Visual trait performance is a combination of Classer’s Grade performance (Tops and Culls) - see page 12. Sires that are above average performers for these traits are located toward the <u>top right hand quarter</u> .
<b>Summary table: Indexes and Tops and Culls.</b> (Table A)	Each sire is listed for four 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’- page 9 for a more detailed description of indexes used).
<b>Fleece weight by fibre diameter.</b> (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 <u>top left hand quarter</u> .
<b>Classers Tops by Cull Grade.</b> (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 <u>top left hand quarter</u> .

### Tables – page 15

---

<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 from a Sheep Genetics contemporary group site analysis. FBVs describe the relative breeding value (genetic performance) of the sires. A sire’s progeny will express half of their Sires 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.
<b>Traits:</b>  Abbreviation, trait and the units reported	<p>GFW: Greasy fleece weight (percentage).</p> <p>CFW: Clean fleece weight (percentage).</p> <p>FD: Average fibre diameter (micron).</p> <p>WT: Body weight (kilograms).</p> <p>FDCV: Fibre diameter coefficient of variation (percentage).</p> <p>SL: Staple length (mm) at the mid-side.</p> <p>SS: Staple strength (N/ktex) at the mid-side.</p> <p>EMD: Eye muscle depth (mm) at the ‘C’ site.</p> <p>FAT: Fat depth (mm) at the ‘C’ site.</p> <p>CURV: Fibre curvature (degrees)</p> <p>WEC: Worm egg count (% deviation in worm burden of sire’s progeny)</p>
<b>Age at assessment:</b>	<p>Y = Yearling - 300 to 400 days (10 to 13 months of age).</p> <p>H = Hogget - 400 to 540 days (13 to 18 months of age).</p> <p>A = Adult - 540 days or older (18 months and older).</p>
<b>Sire averages:</b>	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.

## Understanding the results – continued

- Classer's Grade:** A classer grades all progeny as either Tops, Flocks or Culls based on their visual assessment of all traits. The percentage deviation from the average of Tops and Culls is presented.
- Scored Traits:** The average score for each trait and percentage of progeny given each score.
- Wool colour: Greasy wool colour scored from 1 (whitest) to 5 (yellow).
  - Wool character: Crimp definition scored from 1 (very well defined) to 5 (undefined).
  - Staple weathering: The deterioration of the staple due to dust, light and/or water (not including fleece rot). Scores from 1 (least) to 5 (most) reflect the depth and degree of deterioration across the fleece. A 1 score is equivalent to a coated fleece in a shed environment and a 5 score is full length and high degree of weathering.
  - Fleece rot: The severity of fleece rot in a progeny group, based on a 0 to 5 score. A score of zero is given to progeny with no fleece rot, while scores of 1 and 2 are given to bands of minor fleece rot (bacterial staining but no crusting), with 3, 4 and 5 being given to bands of crusty fleece rot. For more information on scoring sheep for fleece rot, see NSW DPI, Agfact A3.3.41.
  - Face cover: Wool cover on the face scored from 1 (bare head) to 5 (fully covered face).
  - Feet/Legs: Conformation of feet and legs scored from 1 (sound) to 5 (most deformed).
  - Body/Neck wrinkle: The degree of wrinkling on the neck and body scored from 1 (no wrinkle) to 5 (very heavy wrinkle).
  - Jaw: Under- or over-shot jaw. The percentage of progeny with a significant negative expression is reported as Neg(ative).
  - Back/Shoulder: Conformation of the back and shoulder. The percentage of progeny with a significant negative expression is reported as Neg(ative).
  - Pigmentation: The percentage of progeny in each of the following categories of pigmentation is reported as Neg(ative) if recorded as a 5 score:
    - Black Lamb: recessive coloured sheep (largely pigmented wool or if extensively white, is pigmented around the eyes with more or less symmetrical pigmentation on the rest of the body). If the Black Lamb form of pigmentation is identified it is recorded as a score 5. Other expressions are recorded as score 1.
    - Pigmented wool: pigmentation as random spots or isolated pigmented fibre or pigmented birth-coat halo-hair or pigmented leg hair or Black Lamb. If the quantity of 'pigmented wool' is at a level that would result in a breeding ewe being culled in a high standard commercial Merino flock it is recorded as score 5. Other levels of pigmented wool are recorded as score 1.
    - Pigmented skin: a significant degree of pigmented skin on the sheep's non-wool producing areas not including those defined by pigmented wool. If the degree of 'pigmented skin' is at a level that would result in a breeding ewe being culled in a high standard commercial Merino flock it is recorded as a score 5. Other levels of pigmented skin are recorded as score 1.
  - Traits scored at mulesing:
    - Breech bare area: 1 = most bare area, 5 = least no bare area in the breech region
    - Birth coat: hairy birth coat scores, 1 = no hairy birth coat, 5 = most hairy
    - Wrinkle: body wrinkle, 1 = least wrinkle, 5 = most wrinkle

Index Options – page 13

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 Fine 10% +SS; Merino 14% +SS; and Dual Purpose 7%. These indexes are similar to the MERINOSELECT indexes of the same name however the do not include Reproduction (NLW). Sites may report additional index. This report has included the Fine 10% + SS + WEC. Each of these indexes is described in more detail below.

**Index production system and Breeding Objectives**

**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.*

**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.*

**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.*

**Fine 10% + SS + WEC** Similar to F10 + SS but with a high gain in WEC

**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.

<b><u>Dual Purpose 7%</u></b>		<b><u>Fine 10% +SS +WEC</u></b>	
Clean fleece weight:	26%	Clean fleece weight:	32%
Fibre diameter:	24%	Fibre diameter:	28%
Body weight:	30%	Body weight:	1%
Staple strength:	6%	Staple strength:	17%
Worm egg count:	0%	Worm egg count:	21%
Number lambs weaned:	14%	Number lambs weaned:	1%

<b><u>Fine 10% +SS</u></b>		<b><u>Merino 14% +SS</u></b>	
Clean fleece weight:	42%	Clean fleece weight:	8%
Fibre diameter:	39%	Fibre diameter:	59%
Body weight:	1%	Body weight:	3%
Staple strength:	19%	Staple strength:	31%
Worm egg count:	0%	Worm egg count:	0%
Number lambs weaned:	0%	Number lambs weaned:	0%

### Fleece and carcass value

---

#### **Fleece Value (\$/head) – page 21**

The combination of measured staple length and strength is used to value each fleece, according to its fibre diameter. Estimates of clean price (c/kg) were provided by an industry fleece valuer using sire progeny group averages for fibre diameter, staple strength, staple length, and yield. The prices were estimated for a progeny group. This average price was then multiplied by the average clean fleece weight of the progeny group to arrive at the \$/fleece (fleece value). Table 6 shows the average fleece values for each progeny group. The estimated price given was based on a three year average as suggested by AMSEA (2004/2005 Q2 to 2007/2008 Q2).

#### **Carcass Value (\$/head) – page 21**

Carcass values were calculated based on hogget weights and a 42% dressing percentage. The prices used were current meat prices (May 2008).

Table 6 shows the average carcass values for each progeny group.

### Accuracy of Flock Breeding Values

---

Flock Breeding Values (FBVs) are reported by Sheep Genetics. 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. A sire's progeny will express half of their sires FBV.

### 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

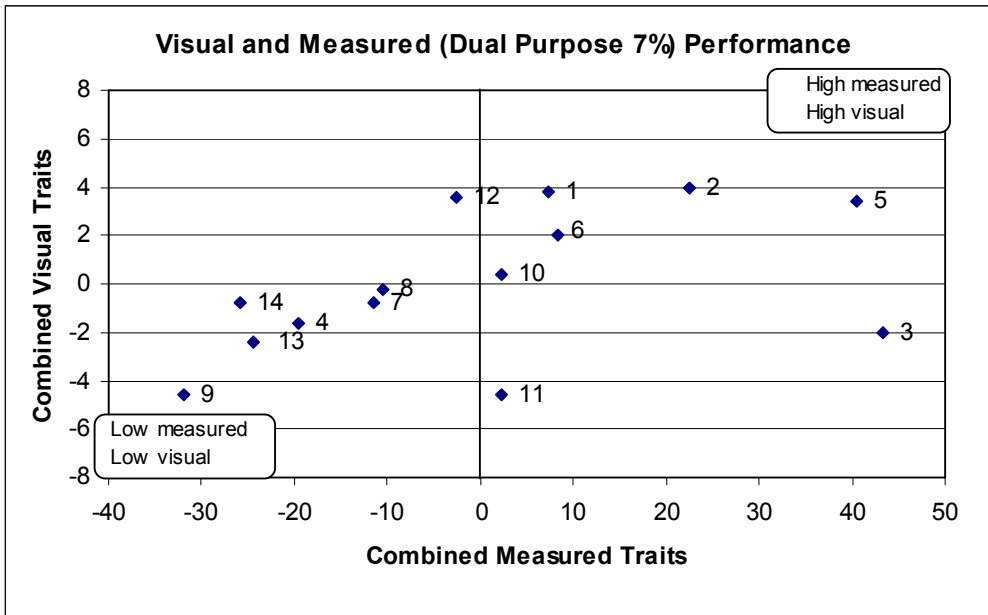
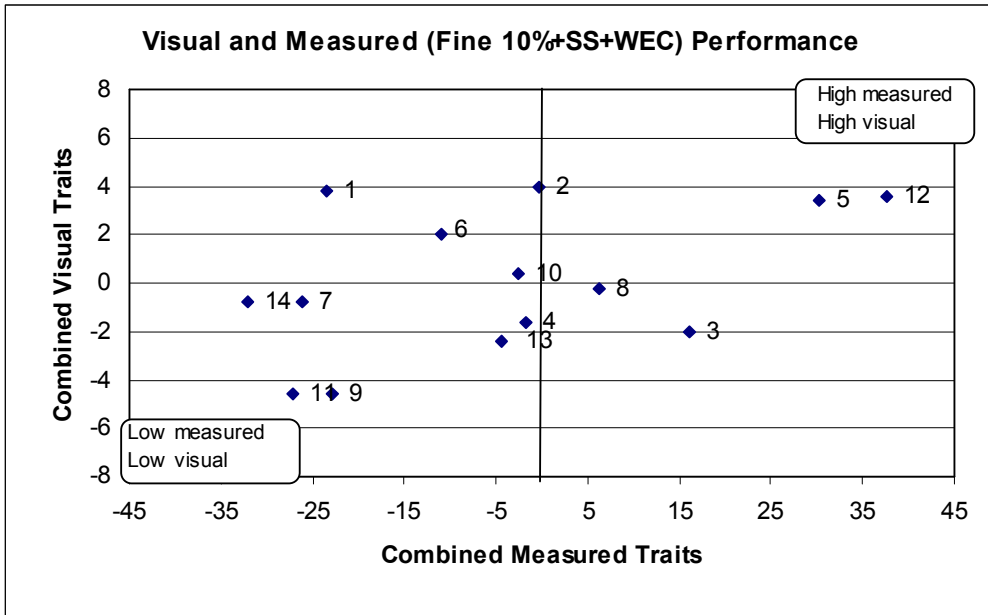
---

Combined measured trait performance is calculated as (appropriate Index value - 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:
- 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

Summary Graphs – Figure 1A & B - Combined measured traits and visual trait performance

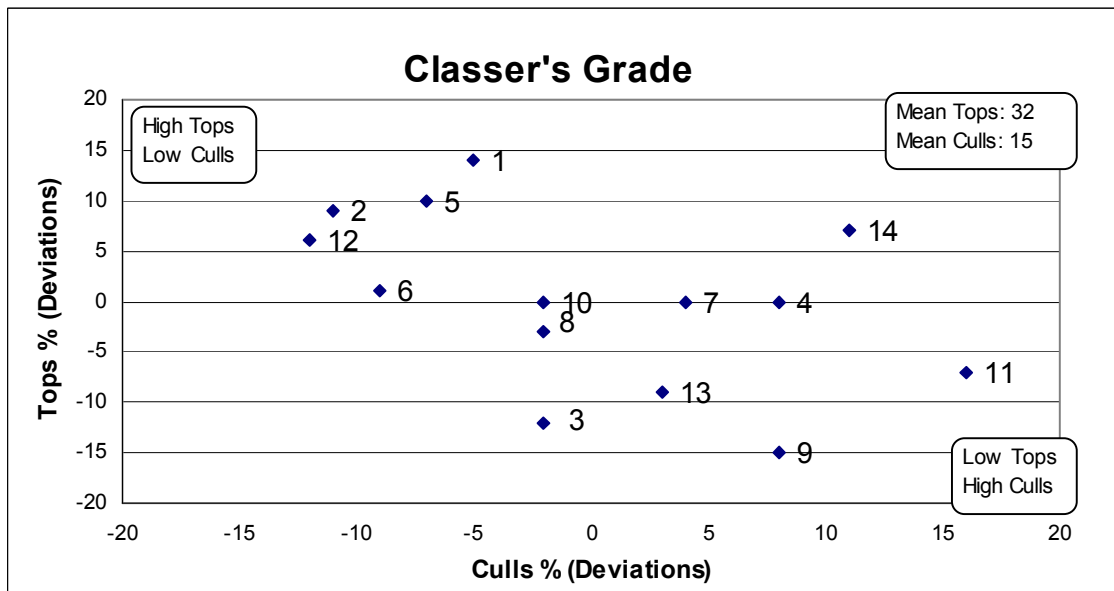
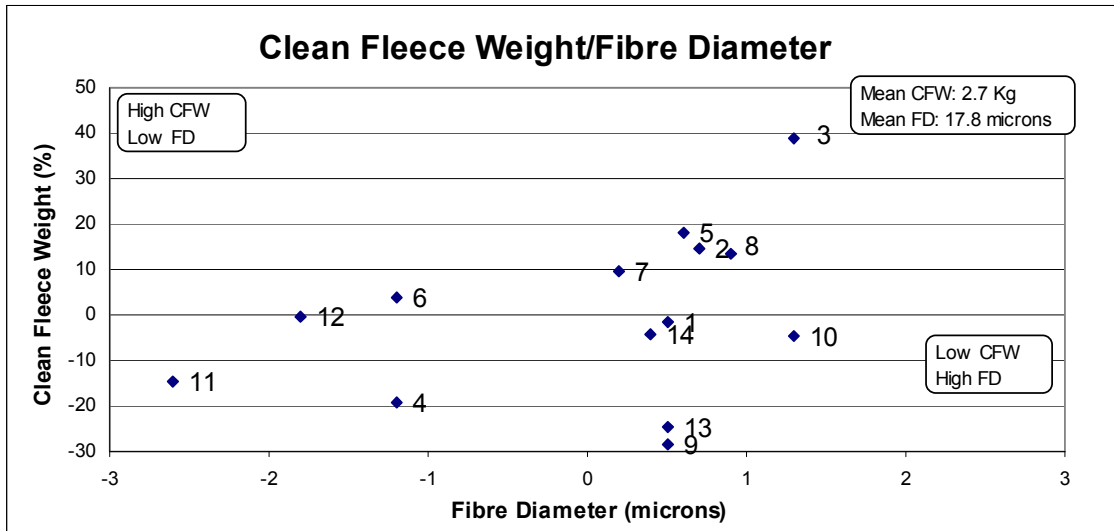


**Table A – Indexes and Classer's Grade**

Sire Code	Sire name	Indexes				Classer's Grade	
		Dual Purpose 7%	Merino 14% +SS	Fine 10% +SS	Fine 10% +SS +WEC	Tops % (dev) H^	Culls % (dev) H
1*	Ag WA Baseflock, 20002058	107.3	92.7	90.2	76.6	14	-5
2	Billandri, 010564	122.5	103.8	106.8	99.7	9	-11
3	Boolading Blue Poll, Orange 1249	143.3	114.8	131.0	116.1	-12	-2
4	Cathair Donall, John	80.5	91.4	86.1	98.3	0	8
5	Centre Plus Poll, 107351	140.4	121.0	125.7	130.2	10	-7
6	Coromandel Poll, 1-69	108.3	104.4	109.9	89.0	1	-9
7	Hazeldean, 1.10014	88.5	95.7	102.0	73.9	0	4
8	Kooranooking Park, 021473	89.5	106.2	110.1	106.3	-3	-2
9	Majuba, GN 415	68.1	80.5	66.4	77.1	-15	8
10	Merinotech WA Poll, 011218	102.2	94.8	85.9	97.4	0	-2
11	Misty Hills, Y99	102.2	107.7	106.3	72.8	-7	16
12*	Nerstane, 020409	97.4	122.2	127.1	137.6	6	-12
13	Rylington Park, 00.699	75.6	87.1	72.9	95.5	-9	3
14	Sunny Valley, 3-91	74.2	77.4	79.1	67.9	7	11
Average performance						32	15

\* 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*

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



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

Sire Code	Sire name	Number of progeny	Flock Breeding Values (deviations)				Classer's Grade <sup>1</sup>	
			H^GFW %	HCFW %	HFD $\mu$ m	HWT kg	Tops % (dev) H^	Culls % (dev) H
1*	Ag WA Baseflock, 20002058	39	-3.8	-1.6	0.5	0.7	14	-5
2	Billandri, 010564	43	10.8	14.6	0.7	2.0	9	-11
3	Boolading Blue Poll, Orange 1249	29	35.4	38.7	1.3	6.0	-12	-2
4	Cathair Donall, John	33	-10.1	-19.3	-1.2	-5.1	0	8
5	Centre Plus Poll, 107351	38	19.4	18.0	0.6	6.5	10	-7
6	Coromandel Poll, 1-69	35	-4.2	4.0	-1.2	0.1	1	-9
7	Hazeldean, 1.10014	45	8.7	9.5	0.2	-3.2	0	4
8	Kooranooking Park, 021473	45	11.1	13.4	0.9	-3.6	-3	-2
9	Majuba, GN 415	41	-24.2	-28.4	0.5	1.2	-15	8
10*	Merinotech WA Poll, 011218	51	-1.6	-4.8	1.3	2.1	0	-2
11	Misty Hills, Y99	35	-11.1	-14.6	-2.6	-2.2	-7	16
12	Nerstane, 020409	38	-0.7	-0.4	-1.8	-3.3	6	-12
13	Rylington Park, 00.699	43	-28.0	-24.6	0.5	-1.8	-9	3
14	Sunny Valley, 3-91	36	-1.5	-4.4	0.4	0.5	7	11
<b>Average performance</b>			<b>3.9</b>	<b>2.7</b>	<b>17.8</b>	<b>45.3</b>	<b>32 %</b>	<b>15 %</b>

\* 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*.

^ 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%

Note: Information on how to use the results in the table above can be found on page 7.

Tables 2 – Other measured traits

Sire Code	Sire name	Number of progeny	Flock Breeding Values (deviations)						
			H <sup>^</sup> FDCV %	HSL mm	HSS N/ktex	HFAT mm	HEMD mm	HCURV deg	HWEC %
1*	Ag WA Baseflock, 20002058	39	0.8	0.2	0.1	0.0	1.5	-4.9	124.2
2	Billandri, 010564	43	0.3	4.1	0.6	1.5	2.0	-4.7	19.7
3	Boolading Blue Poll, Orange 1249	29	2.8	11.9	-1.6	0.1	-0.1	-7.1	66.8
4	Cathair Donall, John	33	0.3	-5.1	-2.6	-0.1	0.5	11.5	-70.6
5	Centre Plus Poll, 107351	38	-1.4	12.8	5.2	0.0	1.1	-6.3	-56.9
6	Coromandel Poll, 1-69	35	1.7	0.5	-5.5	-0.8	-0.2	-4.2	175.3
7	Hazeldean, 1.10014	45	0.5	2.0	-5.7	0.7	-1.1	-6.2	248.8
8	Kooranooking Park, 021473	45	0.6	-0.4	4.8	1.7	-1.0	-10.0	8.7
9	Majuba, GN 415	41	-1.6	-12.9	4.8	-1.6	-1.2	15.7	-28.6
10*	Merinotech WA Poll, 011218	51	-1.0	-2.4	10.3	1.3	2.1	6.4	-73.4
11	Misty Hills, Y99	35	-0.8	-17.4	-5.7	-0.3	0.7	11.6	320.1
12	Nerstane, 020409	38	-0.4	4.9	-0.4	-1.4	-2.2	-0.4	-81.9
13	Rylington Park, 00.699	43	-2.4	1.5	4.2	-0.6	0.1	-2.5	-100.0
14	Sunny Valley, 3-91	36	0.6	0.5	-8.4	-0.6	-2.0	0.8	155.8
<b>Average performance</b>			<b>20.3</b>	<b>99.2</b>	<b>17.7</b>	<b>3.0</b>	<b>23.5</b>	<b>96.7</b>	<b>1402</b>

\* 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*

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

Note: Information on how to use the results in the table above can be found on page 7.

**Table 3a – Visual trait assessments – Wool Quality**

Wool Quality trait scores are reported as the sire's average (Av) score and the percentage of a sire's progeny for each score.

Sire Code	Wool Quality																	
	Colour						Wool Character						Staple Weathering					
	Av	1	2	3	4	5	Av	1	2	3	4	5	Av	1	2	3	4	5
1*	2.2	19	44	35	1	0	2.4	13	46	28	14	0	1.9	36	43	19	1	0
2	2.2	16	46	39	0	0	2.2	22	43	29	6	0	1.6	43	52	4	1	0
3	2.5	6	42	53	0	0	2.6	6	40	47	6	2	1.9	36	36	28	0	0
4	1.9	29	48	23	0	0	2.4	24	29	30	17	0	1.9	35	42	21	2	0
5	2.1	25	39	34	1	0	2.2	25	37	33	5	0	1.6	49	43	8	0	0
6	2.2	13	50	37	0	0	2.1	27	37	33	3	0	1.9	39	40	16	6	0
7	2.3	17	39	42	2	0	2.2	21	42	29	8	0	1.8	39	47	12	1	0
8	2.5	9	39	49	3	0	2.4	16	40	37	8	0	1.9	37	43	18	1	1
9	2.5	6	43	50	1	0	2.6	7	40	41	10	1	2.3	15	48	28	10	0
10*	2.2	22	40	36	1	0	2.4	16	39	33	10	1	1.8	36	48	14	1	0
11	2	25	49	26	0	0	2	35	35	26	3	0	2	26	53	19	0	1
12	1.9	32	45	22	1	0	1.9	36	36	29	0	0	1.8	38	47	12	3	0
13	2.2	19	48	34	0	0	2.5	9	42	42	7	0	2	29	42	26	3	0
14	2	28	42	28	1	0	2.3	20	41	31	7	1	1.9	37	40	19	4	0
<b>Av</b>	<b>2.2</b>	<b>19.0</b>	<b>43.9</b>	<b>36.3</b>	<b>0.8</b>	<b>0.0</b>	<b>2.3</b>	<b>19.8</b>	<b>39.1</b>	<b>33.4</b>	<b>7.4</b>	<b>0.4</b>	<b>1.9</b>	<b>35.4</b>	<b>44.6</b>	<b>17.4</b>	<b>2.4</b>	<b>0.1</b>

\* 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*.

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

Note: Information on how to use the results in the table above can be found on page 8.

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

Conformation trait scores are reported as the sire’s average (Av) score and the percentage of a sire’s progeny for each score. Jaw, back/shoulders and pigmented traits are reported as the number of progeny with a negative (Neg) expression of the trait.

Sire Code	Conformation																			Pigmentation			
	Face Cover						Neck and Body Development						Feet and Legs						Jaw	Back/Shoulder	Black Lamb	Wool	Skin
	Av	1	2	3	4	5	Av	1	2	3	4	5	Av	1	2	3	4	5	Neg	Neg	Neg	Neg	Neg
1*	1.9	31	46	24	0	0	1.8	31	61	8	0	0	1.9	19	71	6	4	0	0	0	0	0	1
2	2	24	49	27	0	0	1.9	22	65	13	0	0	1.8	29	59	11	1	0	0	0	0	0	4
3	1.8	30	58	11	0	0	1.8	26	70	4	0	0	1.8	28	60	11	0	0	2	0	0	0	0
4	2.1	24	50	23	2	2	2	20	61	17	3	0	2.1	8	77	15	0	0	0	0	0	0	0
5	2.1	17	60	23	0	0	2	20	64	16	0	0	1.9	27	59	13	1	0	0	0	0	0	3
6	1.8	39	40	20	1	0	1.8	30	63	7	0	0	1.7	30	66	4	0	0	0	0	0	0	1
7	2.5	11	38	42	9	0	2.1	24	47	27	2	0	2.2	13	51	35	1	0	0	0	0	0	4
8	1.7	40	47	12	0	0	1.9	21	63	16	0	0	2	18	63	18	1	0	0	0	0	0	1
9	1.5	57	39	4	0	0	1.5	56	37	7	0	0	1.8	33	57	9	1	0	1	0	0	0	1
10*	1.8	33	51	16	0	0	2	21	60	18	1	0	1.8	30	62	7	1	0	0	0	0	0	10
11	3.1	1	18	56	18	7	2.5	18	26	47	9	0	2.3	13	49	35	1	1	0	1	0	0	2
12	2.1	17	54	29	0	0	2.1	14	58	28	0	0	1.9	24	63	13	0	0	0	0	0	0	0
13	2	22	57	20	1	0	1.8	26	66	8	0	0	2	20	60	20	0	0	0	0	0	0	5
14	2.6	4	45	41	6	4	2.2	15	49	32	3	0	2.1	13	69	17	1	0	3	0	0	0	0
<b>Av</b>	<b>2.1</b>	<b>25.0</b>	<b>46.6</b>	<b>24.9</b>	<b>2.6</b>	<b>0.9</b>	<b>2.0</b>	<b>24.6</b>	<b>56.4</b>	<b>17.7</b>	<b>1.3</b>	<b>0.0</b>	<b>2.0</b>	<b>21.8</b>	<b>61.9</b>	<b>15.3</b>	<b>0.9</b>	<b>0.1</b>	<b>0.4</b>	<b>0.1</b>	<b>0</b>	<b>0</b>	<b>2.3</b>

\* 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*.

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

Note: Information on how to use the results in the table above can be found on page 8.

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

Sire code	Sire name	Number of progeny	Sire averages for measured traits (deviations)									
			H <sup>^</sup> GFW	HCFW	HFD	HWT	HFDCV	HSL	HSS	HCURV	HFAT	HEMD
			kg	kg	µm	kg	%	mm	N/ktex	deg	mm	mm
1*	Ag WA Baseflock, 20002058	39	-0.1	0.0	0.2	0.2	0.5	0.1	0.2	-2.9	0.0	0.9
2	Billandri, 010564	43	0.2	0.3	0.4	0.8	0.1	2.5	0.6	-2.7	0.3	1.0
3	Boolading Blue Poll, Orange 1249	29	0.9	0.7	0.8	4.3	1.7	7.4	-0.1	-3.9	0.0	-0.1
4	Cathair Donall, John	33	-0.2	-0.4	-0.7	-3.4	0.2	-3.1	-2.5	7.0	0.0	0.4
5	Centre Plus Poll, 107351	38	0.5	0.3	0.4	3.9	-0.9	7.4	3.7	-3.8	0.0	0.6
6	Coromandel Poll, 1-69	35	-0.1	0.1	-0.7	0.2	1.1	0.2	-3.1	-2.7	-0.2	-0.2
7	Hazeldean, 1.10014	45	0.2	0.2	0.1	-1.8	0.2	1.2	-3.6	-3.4	0.2	-0.6
8	Kooranooking Park, 021473	45	0.2	0.2	0.5	-2.0	0.3	0.0	3.3	-5.7	0.4	-0.6
9	Majuba, GN 415	41	-0.6	-0.5	0.2	0.9	-0.8	-7.7	2.9	8.9	-0.4	-0.7
10*	Merinotech WA Poll, 011218	51	0.0	-0.1	0.7	0.9	-0.6	-1.3	6.5	3.4	0.2	1.0
11	Misty Hills, Y99	35	-0.2	-0.3	-1.4	-1.2	-0.6	-10.6	-4.5	6.9	-0.1	0.5
12	Nerstane, 020409	38	0.0	0.0	-1.0	-1.7	-0.2	2.9	-0.1	-0.1	-0.2	-1.2
13	Rylington Park, 00.699	43	-0.7	-0.4	0.2	-1.3	-1.4	0.9	2.5	-1.5	-0.1	0.1
14	Sunny Valley, 3-91	36	0.0	-0.1	0.2	0.3	0.4	0.1	-5.9	0.5	-0.1	-1.2
<b>Average performance</b>			<b>3.9</b>	<b>2.7</b>	<b>17.8</b>	<b>45.3</b>	<b>20.3</b>	<b>99.2</b>	<b>17.7</b>	<b>96.7</b>	<b>3.0</b>	<b>23.5</b>

\* 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*.

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

Note: Information on how to use the results in the table above can be found on the bottom of page 7.

**Table 5 – Sire averages for traits scored at mulesing**

Sire Code	Sire name	Breech Bare Area	Birth Coat	Wrinkle
1*	Ag WA Baseflock, 20002058	4.5	2.2	2.4
2	Billandri, 010564	4.6	2.1	2.4
3	Boolading Blue Poll, Orange 1249	4.5	2.9	2.4
4	Cathair Donall, John	4.7	2.1	2.7
5	Centre Plus Poll, 107351	4.5	2.1	2.4
6	Coromandel Poll, 1-69	4.5	2.6	2.4
7	Hazeldean, 1.10014	4.8	2.1	2.6
8	Kooranooking Park, 021473	4.6	2.4	2.7
9	Majuba, GN 415	4.4	2.2	2.0
10*	Merinotech WA Poll, 011218	4.6	2.3	2.4
11	Misty Hills, Y99	4.7	2.3	2.8
12	Nerstane, 020409	4.6	2.4	2.6
13	Rylington Park, 00.699	4.4	1.9	1.8
14	Sunny Valley, 3-91	4.7	2.3	2.9
<b>Average</b>		<b>4.6</b>	<b>2.3</b>	<b>2.5</b>

\* 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*.

Note: Information on how to use the results in the table above can be found on the bottom of page 8.

**Table 6 – Wool quality, fleece and carcase value summary**

Valuations were provided by Sally Martin from NSW Department of Primary Industries.  
N.B Rounding errors will cause some differences in calculations.

Sire Code	Sire name	Price cents/kg (clean)	Wool Value (\$/head)	Carcase value (\$/head)
1*	Ag WA Baseflock, 20002058	988	\$25.61	\$24.43
2	Billandri, 010564	948	\$26.95	\$24.69
3	Boolading Blue Poll, Orange 1249	914	\$30.87	\$28.88
4	Cathair Donall, John	1126	\$25.28	\$22.12
5	Centre Plus Poll, 107351	977	\$28.25	\$27.51
6	Coromandel Poll, 1-69	1073	\$28.64	\$25.52
7	Hazeldean, 1.10014	991	\$27.67	\$23.54
8	Kooranooking Park, 021473	972	\$27.30	\$22.93
9	Majuba, GN 415	996	\$21.25	\$26.50
10*	Merinotech WA Poll, 011218	983	\$24.69	\$25.87
11	Misty Hills, Y99	1167	\$26.99	\$23.80
12	Nerstane, 020409	1133	\$28.99	\$23.17
13	Rylington Park, 00.699	981	\$21.53	\$23.89
14	Sunny Valley, 3-91	983	\$25.62	\$24.92
<b>Average</b>		<b>1017</b>	<b>\$26.40</b>	<b>\$24.84</b>

\* 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*.  
Note: Information on how to use the results in the table above can be found on page 10.

**YARDSTICK**  
**2006 Drop**