

YARDSTICK

Central Test Sire Evaluation

2008 Drop

Conducted by

**The Federation of Performance Sheep Breeders
(WA Branch)**

under the auspices of

The Australian Merino Sire Evaluation Association



with support from



Wool Agency

April 2010

Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (April, 2010). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with an appropriate adviser.

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YARDSTICK Central Test Sire Evaluation

YARDSTICK is an accredited Central Test Sire Evaluation (CTSE) site evaluation. 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. The site committee are listed in the table below.

YARDSTICK has the following background.

- A total of 16 evaluations have been run by YARDSTICK (1993-2008 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 (2006-2008 drop).
- Thanks must go to the staff of GSARI for the management of the trial.

December, 2009

Current members of the 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
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YARDSTICK 2008 Drop

The information in this site evaluation report provides a comprehensive assessment of the YARDSTICK 2008 drop sire's progeny performance, both measured and visually assessed. Three graphs and a table provide a summary of the results and eight tables provide the detailed performance information for the standard sire evaluation analysis. Additional measurements have been taken to give an average production value.

This report provides the results from the 2008 drop hogget evaluation, 15 months of age with 12 months wool growth.

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Sire and owner details

YARDSTICK 2008 drop hogget evaluation, 15 months of age with 12 months wool growth.

Sire and owner details

Ram code	Breeders flock, Ram number Ram ID #, Breed †	Contact name, Address Phone, Fax and email
1 * UR	Ag WA Baseflock, 20002058 509012-2000-002058, Merino	Johan Greeff, DAFWA, 10 Dore St, Katanning WA 6317 Ph 08 9921 3215 Fax 08 9821 3333
2*	Billandri Poll, 010564 600571-2001-010564, Poll Merino	Bill Sandilands, Billandri, Kendenup WA 6323 Ph 08 9851 4030 Fax 08 9851 4264
3	Billandri Poll, 050146 600571-2005-050146, Poll Merino	Bill Sandilands, Billandri, Kendenup WA 6323 Ph 08 9851 4030 Fax 08 9851 4264
4 UR	Boolading Blue Poll, 707/2 609039-2005-057072	Lachlan Ewen, PO Box 53, Darkan WA 6392 Ph 08 9736 1389 Fax 08 9736 1390
5	Centre Plus Poll, 407112 601250-2004-407112, Poll Merino	Simon Bell, lot 2 Ashe Road, Kojonup WA 6395 Ph 08 9833 6212 Fax 08 9833 6306
6	Centre Plus Poll, 601311 601250-2006-601311, Poll Merino	Richard Sounness, 5350 Salt River Road, Amelup WA 6338 Ph 08 9827 9277 Fax 08 9827 9215
7	Coromandel Poll, ET7 600553-2006-060007, Poll Merino	Michael Campbell, Coromandel 2040 Swamp Road, Gairdner WA 6337 Ph 08 9836 6044 Fax 08 9836 6099
8	Cranmore Park, 4.1 500153-2004-000997, Merino	Bruce Lefroy, Cranmore Park RSM 427, Moora WA 6510 Ph 08 9654 9066 Fax 08 9654 9067
9	Grindon, 369 504455-2003-030369, Merino	Roland Ritson, Grindon RMB 150, Boyup Brook WA 6244 Ph 08 9765 4053 Fax 08 9765 3006
10	Merinotech WA Poll, 4290 609040-2004-044290, Poll Merino	Ian Robertson Merinotech (WA) Ltd, RMB 311 Kojonup WA 6395 Ph 08 9833 6251 Fax 08 9833 6255
11	SARDI, 04D0954 509166-2004-050964, Merino	Darryl Smith, SARDI Roseworthy Campus Adelaide University, Roseworthy SA 5371 Ph 08 8303 7635 Fax 08 8303 7975
12	Terrick West Poll, 6.7 600121-2006-060007, Poll Merino	Kevin Keatley, Hyfield RMB 619, Kojonup WA 6395 Ph 08 9831 1760 Fax 08 9831 1763
13	Wallinar, 06390G 500219-2006-06390G, Merino	Jerome Hardie, PO Box 29, Broomehill WA 6318 Ph 08 9824 1239 Fax 08 9824 1339
14 *	Windarra, 04/0236 504338-2004-040236, Merino	Tom Hanson 3 Rutland Avenue, Unley Park SA 5061 Ph 08 8271 2656 Fax 08 8272 2145
15	Woodyarrup, 5.57 500412-2005-252657, Merino	Craig Dewar PO Box 61, Broomehill WA 6318 Ph 08 9824 1257 Fax 08 9824 1272

* 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*.

** Common rams (in addition to Link Rams) between this CTSE site and other sites.

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

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

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

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

- 4 for year of drop.

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

† Breed of flock in which the sire was born.

Managers Report

1. Location

Yardstick is located at 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 comprises:

Steve Bell	Farm Manager	<u>Farm Staff</u>
Geoff Cox	Technical officer	Rob Gairen
Deon Pickett	Technical officer	Vince Lambert
Ken Hart	Research Officer	Darren Schliothe
		Russell Quartermaine.

2. Selection and mating

- Research station ewes were selected from the station flock on the 16th of November 2007 to be allocated to rams at random.
- Mating took place on the 8-9 Feb 2008. 18 sires were mated to 850 ewes (average 47 per sire group). This was carried out by the GENSTOCK A.I. team.

3. Pregnancy and lambing

- Pregnancy scanning took place 26/3/2008
- Ewes put on plots in mating groups 09-06-08
- Lambing average 04-07-08 range 01-07-08 to 07-07-08

4. Weaning and seasonal conditions

- Lambs were marked on the 14th of August 2008
- Lambs were weaned on the 1st of October 2008
- General conditions were good with good average rainfall.

5. Assessments

- AI was conducted by Genstock
- Wool testing was performed by Wayne Marshall – The Micron-Man
- Tamesha Gardner of Stocksmart conducted the scanning (pregnancy scanning, fat and eye muscle depth scanning)
- The Department of Agriculture and Food WA Parasitology laboratory did the worm egg counting.
- Visual assessment was carried out by Preston Clarke from Landmark.

6. Rainfall

Month	Katanning Research Station Rainfall (mm per month) *					Average
	2004	2005	2006	2008	2008	
January	24.5	0.0	76.2	20.8	0.0	20.3
February	8.5	0.8	0.0	0.0	0.0	3.0
March	4.0	36.5	1.0	7.4	4.8	15.0
April	16.0	102.6	41.0	55.4	68.8	53.8
May	39.0	178.0	16.6	20.2	60.4	60.1
June	106.5	70.2	18.4	41.0	70.6	59.9
July	54.0	29.2	60.4	96.2	105.2	65.3
August	73.5	54.4	62.1	64.8	7.8	54.8
September	16.5	54.8	26.0	60.4	47.2	45.2
October	27.0	34.4	18.2	54.8	59.8	37.0
November	33.3	35.0	7.6	2.0	27.6	19.8
December	9.0	13.4	2.6	40.1	24.2	15.4
Total	411.8	609.3	330.1	463.1	476.4	449.4

* Source: Katanning Research Station

6. Feeding

- All feeding was mixed grain 5 barley: 1 lupin.
- Ewes.
 - Dec-March 08 400g/hd/day mixed grain (barley/lupin)
 - April-June 08 600 g/hd/day
 - July-Aug 08 800 g /hd/day
- Lambs
 - January 09 200g/hd/day
 - Feb-July 08 600g/hd/day

Assessment and management program

Activity	Date/s	Age (months)	Wool (months)
Selection of ewes	16/11/2007		
Allocation of ewes for mating and mating	8-9/2/2008		
Pregnancy scanning	26/3/2008		
Lambing: start – finish	23/6 - 7/7/2008		
Tagging/pigment scores (age in days)	14/8/2008	43 days	
Weaning (age in days)	1/10/2008	90 days	
Weaning body weight (age in days)	29/9/2008	90 days	
Pre evaluation (even-up) shearing	3/10/2008	3	3
Crutching	23/4/2009	10	7
Fat and eye muscle scanning and body weight	13/10/2009	15	
Fleece sampling	25/8/2009	14	11
Staple length assessment	25/8/2009	14	11
Classer's Grade	25/8/2009	14	11
Pre shearing scoring	25/8/2009	14	11
Assessment shearing	24/9/2009	15	12
Post shearing scoring	29/9/2009	15	12
Body weigh	23/9/2009	15	
Worm egg count sampling	11/9/2009	15	
Sire's Progeny Group Evenness assessment	25/8/2009	14	11
Vaccination Glanvac 3:1 + S; scabiguard; Gudair	14/8/2008		
Booster vaccination	1/10/2008		
Drench	1/10/2008		
Planned public display of sheep	10/2/2010	19	4

Visual tait assessment and site Breeding Objective

Visual tait assessment

1st Assessment

Classer's Grade: Mr Preston Clarke, Landmark

Trait Scores: Bob Hall, Bill Sandilands and Ed Riggall

Site Breeding Objective used to assess the Classer's Grades

The Breeding Objective used by the classer when selecting the Classers Tops, Flock and Cull Grades is the equivalent of a 7% Dual Purpose index with attention to body wrinkle. This objective for both measured and visual assessed traits was developed by the site committee in consultation with the classer prior to the grading.

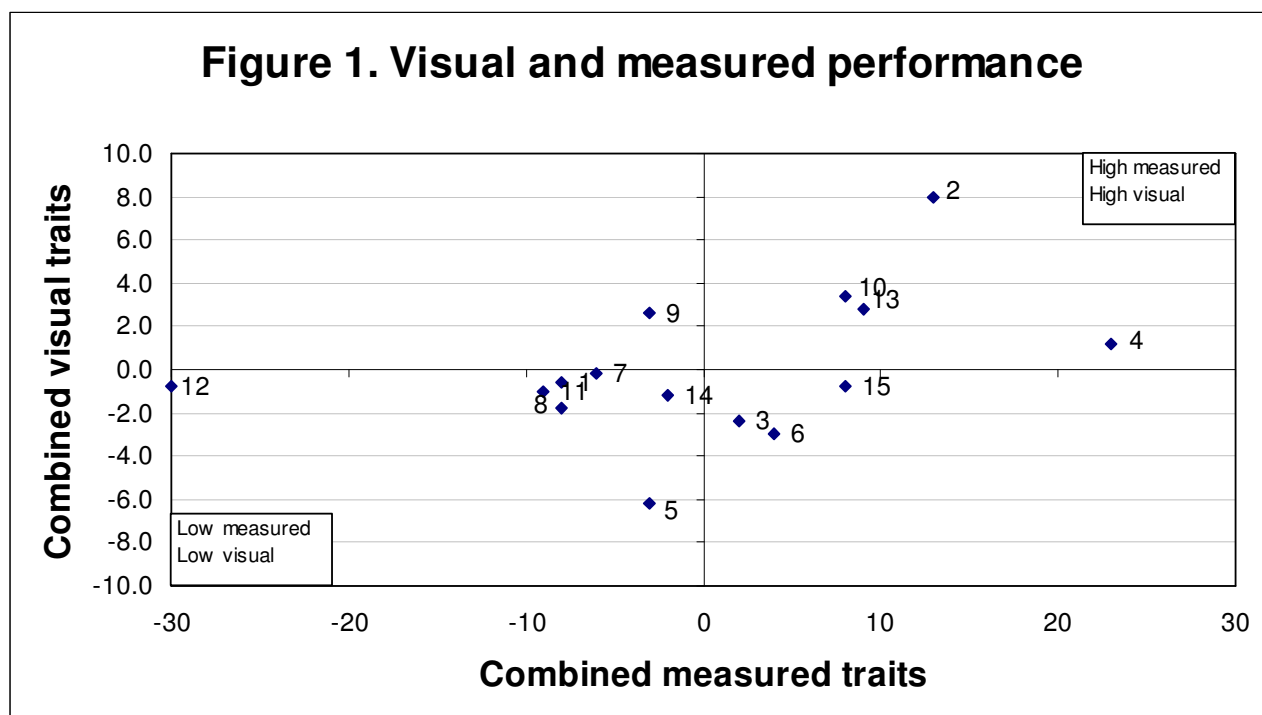
Figure 1. Combined measured traits and visual trait performance

Summary graph: visual and measured performance

Each sire that had 20 or more progeny assessed 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 code	Ram name
1*	Ag WA Baseflock, 20002058
2*	Billandri Poll, 010564
3	Billandri Poll, 050146
4	Boolading Blues Poll, 707/2
5	Centre Plus Poll, 407112
6	Centre Plus Poll, 601311
7	Coromandel Poll, ET7
8	Cranmore Park, 4.1
9	Grindon, 369
10	Merinotech WA Poll, 4290
11	SARDI, 04D0954
12	Terrick West Poll, 6.7
13	Wallinar, 06390G
14*	Windarra, 04/0236
15*	Woodyarrup, 5.57

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, e.g., in the table below see Sire 10 for Classers Grade – Tops%. Each sire is listed for Classer's Grade and the same three indexes at all site evaluations. An additional index (Fine 10% +SS +WEC) is also reported. 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 of Lambs Weaned) is given a zero FBV value in AMSEA calculations.

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

Ram code Ram name		AMSEA Indexes Values				Classer's Grade	
		Merino 14% SS	Fine 10% SS	Dual Purpose 7%	Fine 10% SS WEC	Tops % (dev) H^	Culls % (dev) H
1*	Ag WA Baseflock, 20002058	99	94	91	83	-9	-6
2*	Billandri Poll, 010564	108	114	109	98	32	-8
3	Billandri Poll, 050146	92	99	104	89	-12	0
4	Boolading Blues Poll, 707/2	100	114	126	100	-1	-7
5	Centre Plus Poll, 407112	100	97	97	111	-14	17
6	Centre Plus Poll, 601311	102	99	121	106	-13	2
7	Coromandel Poll, ET7	94	97	81	97	3	4
8	Cranmore Park, 4.1	100	95	93	101	-8	1
9	Grindon, 369	108	103	101	103	9	-4
10	Merinotech WA Poll, 4290	94	98	127	108	10	-7
11	SARDI, 04D0954	85	83	100	84	-7	-2
12	Terrick West Poll, 6.7	91	79	66	77	0	4
13	Wallinar, 06390G	108	109	111	106	7	-7
14*	Windarra, 04/0236	107	108	68	113	1	7
15*	Woodyarrup, 5.57	113	111	103	110	1	5
Average performance		100	100	100	100	18	8

* 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

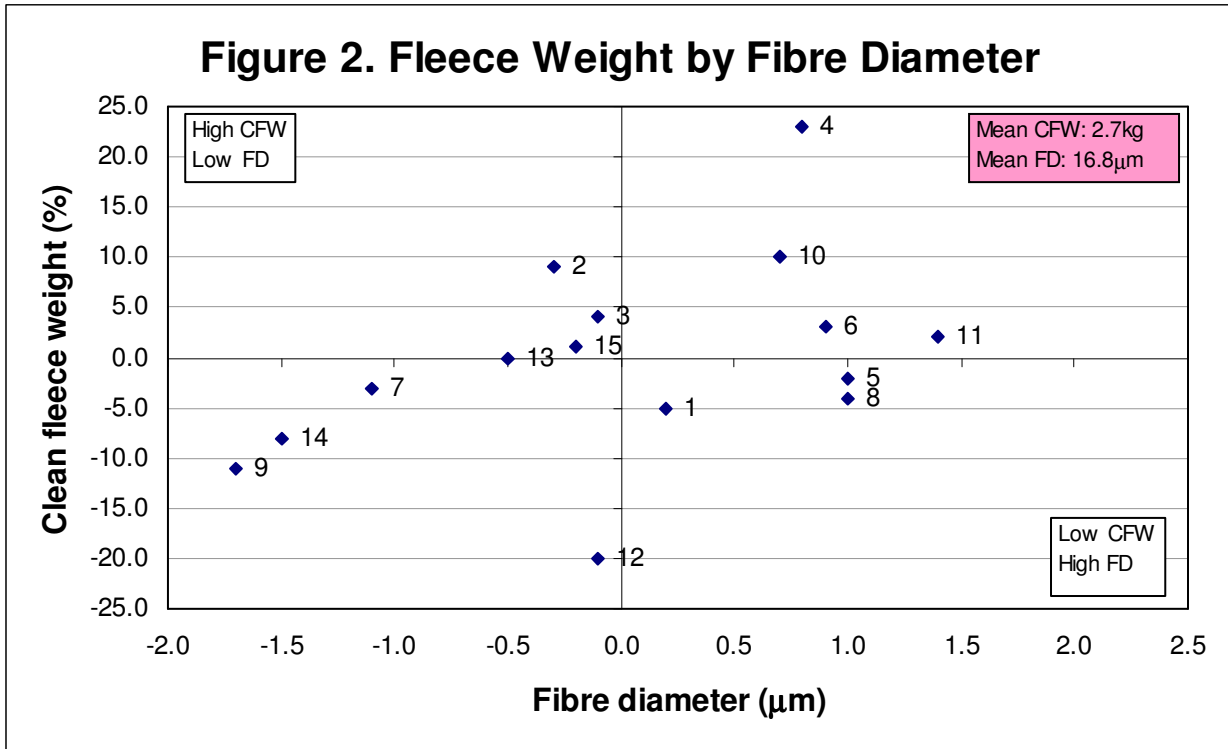
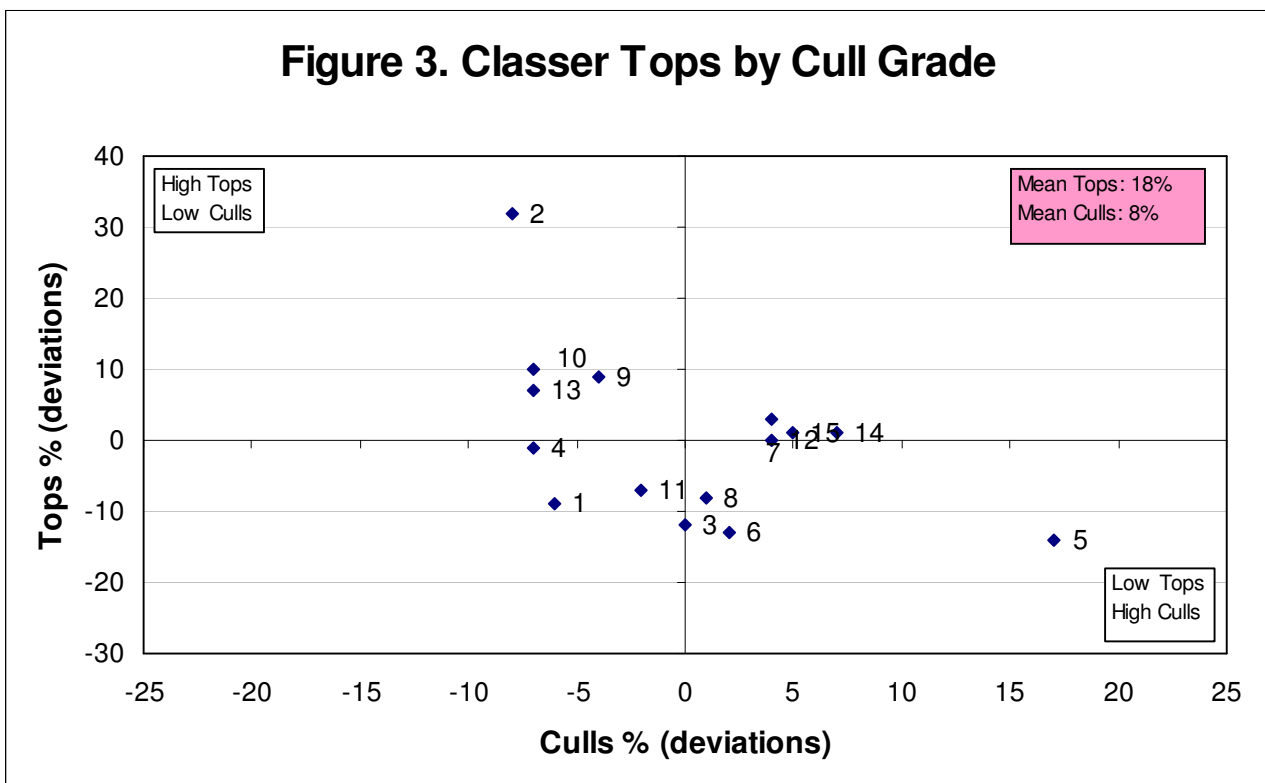


Figure 3. Classers Tops by Cull Grade

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

Ram code:	Allows a ram to be located on the summary graphs and some tables.
Ram name:	Identity of the breeder's flock and the ram's number or name.
No. of progeny:	The number of progeny a ram had at the most recent measured analysis.
Flock Breeding Values:	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.
Traits:	GFW: Greasy fleece weight (percentage). CFW: Clean fleece weight (percentage). FD: Average fibre diameter (micron). WT: Body weight (kilograms). FDCV: Fibre diameter coefficient of variation (percentage). SL: Staple length (mm) at the mid-side. SS: Staple strength (N/ktex) at the mid-side. EMD: Eye muscle depth (mm) at the 'C' site. FAT: Fat depth (mm) at the 'C' site. CURV: Fibre curvature (degrees) WEC: Worm egg count (% deviation in worm burden of ram's progeny)
Abbreviation, trait and the (units reported)	
Age at assessment:	Y = Yearling - 300 to 400 days (10 to 13 months of age). H = Hogget - 400 to 540 days (13 to 18 months of age). A = Adult - 540 days or older (18 months and older).
Classer's Grade:	A classer grades all progeny as 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	Ram name	Number of progeny	Flock Breeding Values (deviations)				Classer's Grade ¹	
			GFW % H	CFW % H	FD μ m H	WT kg H	Tops % (dev) H	Culls % (dev) H
1*	Ag WA Baseflock, 20002058	46	-6	-5	0.2	-1.4	-9	-6
2*	Billandri Poll, 010564	62	9	9	-0.3	-0.3	32	-8
3	Billandri Poll, 050146	52	2	4	-0.1	-1.7	-12	0
4	Boolading Blues Poll, 707/2	55	21	23	0.8	1.6	-1	-7
5	Centre Plus Poll, 407112	44	-2	-2	1	0.3	-14	17
6	Centre Plus Poll, 601311	59	4	3	0.9	6.7	-13	2
7	Coromandel Poll, ET7	66	-3	-3	-1.1	-5.5	3	4
8	Cranmore Park, 4.1	53	-3	-4	1	-1.4	-8	1
9	Grindon, 369	56	-8	-11	-1.7	1	9	-4
10	Merinotech WA Poll, 4290	55	12	10	0.7	5.9	10	-7
11	SARDI, 04D0954	47	4	2	1.4	3.3	-7	-2
12	Terrick West Poll, 6.7	39	-20	-20	-0.1	-5.5	0	4
13	Wallinar, 06390G	52	-4	0	-0.5	2.6	7	-7
14*	Windarra, 04/0236	55	-6	-8	-1.5	-7.7	1	7
15*	Woodyarrup, 5.57	38	-1	1	-0.2	0.6	1	5
Average performance		52	3.9	2.7	16.8	44.1	18	8
			kg	kg	μ m	kg	%	%

* 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).

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

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

Table 2 – Other measured traits

Ram code	Ram name	Number of progeny	Flock Breeding Values (deviations)						
			FDCV % H^	Curv deg/mm H	SL mm H	SS N/ktex H	Fat mm H	EMD mm H	WEC % H
1*	Ag WA Baseflock, 20002058	46	-0.9	-2.2	-1.1	3.6	-0.3	-0.1	91
2*	Billandri Poll, 010564	62	0.9	-1.4	-2.7	-0.9	1.7	0.5	102
3	Billandri Poll, 050146	52	2.5	-6	0.3	-5.2	-0.3	0.6	73
4	Boolading Blues Poll, 707/2	55	2.6	-12.9	4.6	-4.1	0.5	0.7	80
5	Centre Plus Poll, 407112	44	-2.9	-3.9	17.3	2.9	0.2	0.1	-78
6	Centre Plus Poll, 601311	59	-1.8	0.4	9.6	3.4	-0.3	0.8	-43
7	Coromandel Poll, ET7	66	2.4	1.6	-5.6	-5.5	0	-0.9	2
8	Cranmore Park, 4.1	53	-2.5	-0.2	9.9	5.7	0.8	0.5	-25
9	Grindon, 369	56	-0.6	19.8	-7.3	-0.4	0.9	0.6	-9
10	Merinotech WA Poll, 4290	55	1.3	2.3	3.9	-3.7	0.5	1.4	-66
11	SARDI, 04D0954	47	0.5	-0.9	-2.2	-0.5	-0.3	0.1	-5
12	Terrick West Poll, 6.7	39	-1.8	8.1	-8.1	4.1	0.9	0.2	43
13	Wallinar, 06390G	52	-0.2	-7.9	-4.2	-0.9	-1.4	-0.6	14
14*	Windarra, 04/0236	55	0.3	8	-6.7	-0.6	-1.3	-2.7	-41
15*	Woodyarrup, 5.57	38	-1	-3.5	-6.6	4.6	-0.9	-0.9	-2
Average performance		52	21.2 %	93.6 deg/mm	86.1 mm	24.3 N/ktex	2 mm	23 mm	823 EPG

* 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*.

^ 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 13 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 1 (no fleece rot), 2 and 3 (bands of bacterial staining but no crusting), and 4 and 5 (bands of crusty fleece rot).
■ Wool colour:	Greasy wool colour scored from 1 (whitest) to 5 (yellow).
■ Wool character:	Definition and variation of crimp between and along the staple scored from 1 (well defined and regular) to 5 (undefined and large variation).
■ Dust penetration:	Degree of dust penetration from 1 (only tip <5%) to 5 (80 to 100% of staple).
■ Staple weathering:	The deterioration due to light and water from 1 (least, <5% of staple) to 5 (most, 30 to 50%) reflect the depth and degree of deterioration.
■ Staple structure:	The size and diameter of each staple from 1 (<5mm) to 5 (30 to 50 mm)
■ Face cover:	Wool cover on the face scored from 1 (open face) to 5 (fully covered face).
■ Feet/Legs:	Conformation of feet and legs scored from 1 (very good) to 5 (very poor).
■ Body wrinkle:	The degree of body wrinkle from 1 (no wrinkle) to 5 (extensive wrinkle).
■ Jaw:	Under- or over-shot lower jaw (and teeth) relative to the top jaw. Three scores 1 (very well aligned), 3 (marginally under or over) and 5 (heavily under or over).
■ Back/Shoulder:	Conformation of the back and shoulder from 1 (very good) to 5 (very poor).
■ Fibre pigmentation:	The percentage of dark fibres on any part of the sheep from 1 (0 pigmented fibres at any site) to 5 (76 to 100% pigmented fibres at one or more sites). This trait does not include random spot or recessive black.
■ Non-fibre pigmentation:	The percentage of pigmentation on the areas not shorn from 1 (0 pigmentation at any site) to 5 (76 to 100% pigmented area on one or more bare skin sites, and/or 76 to 100% of the total hoof area).
■ Recessive black (black)	Recessive black (black) is identified by relatively symmetrical markings on both sides of the face. There are two scores 1 (no recessive markings) and 5 (recessive markings). This trait does not include random spot or fibre pigmentation.
■ Random spot (spot)	Random spot (spot) is identified by rounded wool or hair spot/s, not symmetrical. There are two scores 1 (no spot/s) and 5 (spot/s). If both sides of the face or body are spotted the sheep should be scored as a recessive black.
■ Breech cover	Size of natural bare area around the breech from 1 (large) to 5 (no bare).
■ Crutch cover	Size of natural bare area in the pubic and groin from 1 (large) to 5 (no bare).
■ Breech wrinkle	Degree of wrinkle at the tail set and kind legs from 1 (nil) to 5 (extensive).
■ Dag	Degree of dag adhering to the breech and legs from 1 (nil) to 5 (extensive).
■ Injury/Disease:	Non-genetic effects due to injury, misadventure or infection – Yes or No.

Table 3a – Visual trait assessments – Wool quality

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	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*	0.0	89	11	0	0	0	0.0	11	38	49	2	0	0.0	18	22	51	7	2	-0.2	24	67	9	0	0
2*	0.0	90	10	0	0	0	-0.1	10	43	47	0	0	-0.4	28	32	37	3	0	-0.2	23	68	9	0	0
3	0.0	86	14	0	0	0	0.3	8	18	66	8	0	0.2	6	20	68	6	0	0.1	8	74	18	0	0
4	0.1	81	17	2	0	0	0.4	2	19	72	7	0	0.2	11	20	59	10	0	0.2	4	72	24	0	0
5	-0.1	98	2	0	0	0	0.1	8	36	45	11	0	0.9	2	14	34	41	9	0.7	0	50	27	23	0
6	0.1	82	16	2	0	0	0.4	3	25	58	14	0	0.4	5	12	65	18	0	0.2	5	68	23	4	0
7	0.0	87	11	2	0	0	-0.4	27	40	31	2	0	-0.6	42	29	29	0	0	-0.3	31	66	3	0	0
8	-0.1	96	4	0	0	0	0.1	2	45	47	6	0	0.4	3	24	55	18	0	0.1	10	67	22	1	0
9	0.0	90	10	0	0	0	-0.2	14	53	31	2	0	-0.3	27	27	39	7	0	-0.2	27	65	8	0	0
10	0.1	81	17	2	0	0	0.0	6	45	47	2	0	0.2	7	19	66	8	0	-0.2	21	70	9	0	0
11	0.1	75	25	0	0	0	0.5	4	14	66	16	0	0.2	3	25	70	2	0	0.1	5	77	16	2	0
12	0.0	82	18	0	0	0	0.0	3	46	51	0	0	-0.1	15	31	49	5	0	-0.1	13	77	10	0	0
13	-0.1	98	2	0	0	0	-0.6	29	53	18	0	0	-0.5	37	29	31	3	0	0.0	12	73	12	3	0
14*	0.1	79	21	0	0	0	-0.1	21	32	42	5	0	-0.3	26	30	38	6	0	0.1	19	55	23	3	0
15*	0.1	78	22	0	0	0	-0.2	25	36	31	8	0	-0.5	36	36	22	3	3	-0.3	36	50	14	0	0
Av.	1.1	86	14	0	0	0	2.5	11	36	47	6	0	2.5	18	25	48	9	0	2.0	16	67	15	2	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

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	Wool Quality											
	Staple Weathering						Staple Structure					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1*	-0.2	24	53	20	3	0	0.2	2	20	42	36	0
2*	0.0	15	55	28	2	0	-0.3	12	33	33	22	0
3	0.1	8	58	30	4	0	0.2	2	8	60	30	0
4	0.1	24	31	35	10	0	0.4	2	9	39	48	2
5	0.0	20	48	30	2	0	0.3	5	11	43	41	0
6	0.5	12	25	47	16	0	0.2	5	11	49	35	0
7	-0.2	31	40	26	3	0	-0.5	16	32	39	13	0
8	0.1	14	47	35	4	0	0.2	0	11	65	24	0
9	-0.2	25	51	20	4	0	-0.5	12	41	33	14	0
10	-0.4	36	53	8	3	0	0.6	2	6	36	45	11
11	0.2	14	43	34	9	0	0.4	5	2	48	45	0
12	-0.1	18	51	31	0	0	-0.3	8	33	46	13	0
13	-0.1	25	43	29	3	0	-0.2	8	22	57	12	1
14*	0.1	19	43	30	8	0	-0.5	23	25	45	6	1
15*	0.1	22	42	25	11	0	-0.3	17	22	39	22	0
Avg.	2.2	21	46	29	4	0	2.9	8	19	45	27	1

* 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 – Pigmentation and 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.

Four pigmentation traits are reported as described on page 12. 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	Pigmentation													
	Fibre pigmentation						Non-fibre pigmentation						Black	Spot
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	5	5
1*	0	0	0	0	0	0	0	33	56	11	0	0	0	0
2*	0	0	0	0	0	0	-0.2	53	37	10	0	0	0	0
3	0	0	0	0	0	0	0.3	20	52	26	2	0	0	0
4	0	0	0	0	0	0	-0.3	59	35	6	0	0	0	2
5	0	0	0	0	0	0	0.6	7	50	39	4	0	0	0
6	0	0	0	0	0	0	0	42	35	23	0	0	0	0
7	0	0	0	0	0	0	-0.2	55	32	11	2	0	0	0
8	0	0	0	0	0	0	0.2	33	41	26	0	0	0	0
9	0	0	0	0	0	0	0	41	43	12	4	0	0	0
10	0	0	0	0	0	0	-0.3	55	40	5	0	0	0	0
11	0	0	0	0	0	0	0	45	34	21	0	0	0	0
12	0	0	0	0	0	0	-0.3	54	46	0	0	0	0	0
13	0	0	0	0	0	0	0.1	31	51	18	0	0	0	0
14*	0	0	0	0	0	0	0.3	23	55	17	5	0	0	2
15*	0	0	0	0	0	0	-0.3	58	33	9	0	0	0	0
Av	0.0	0	0	0	0	0	1.8	41.0	43.0	15	1.0	0.0	0	0

Conformation						
Jaw						
Dev	1	2	3	4	5	5
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0.1	98	0	0	0	0	2
0.1	95	0	0	3	0	2
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	98	2	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
0	100	0	0	0	0	0
1	100	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 12.

Table 3d – 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																							
	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
1*	0	60	2	38	0	0	0	4	89	4	3	0	-0.2	27	22	49	2	0	0	29	56	11	4	0
2*	-0.2	65	5	30	0	0	-0.1	12	83	5	0	0	0	12	35	52	1	0	0.1	37	27	30	6	0
3	0.2	50	6	42	2	0	0.1	10	62	26	2	0	-0.4	28	40	30	2	0	-0.3	50	34	14	2	0
4	-0.4	76	5	19	0	0	0	11	74	15	0	0	0.3	4	24	63	7	2	0.9	9	28	33	28	2
5	0.3	43	11	41	5	0	0.1	5	77	18	0	0	-0.1	16	41	39	2	2	-0.4	61	27	12	0	0
6	0.3	44	5	49	2	0	0	8	81	11	0	0	0.3	7	21	60	11	1	0.1	39	25	30	6	0
7	-0.1	60	8	32	0	0	0.1	7	74	19	0	0	0.4	4	24	56	10	6	0.6	16	33	38	11	2
8	0.2	45	6	49	0	0	0	6	82	10	2	0	-0.7	37	43	20	0	0	-0.4	58	31	11	0	0
9	0	55	12	31	2	0	-0.1	8	84	8	0	0	0.3	6	29	49	14	2	0.4	15	38	40	7	0
10	-0.3	72	9	17	2	0	-0.2	19	74	7	0	0	-0.3	24	36	40	0	0	-0.1	40	43	11	6	0
11	-0.3	73	4	23	0	0	-0.1	14	77	9	0	0	0.3	5	20	64	11	0	-0.5	64	27	7	2	0
12	0.3	44	10	36	10	0	0	3	87	10	0	0	0.2	10	26	49	15	0	-0.2	41	44	13	2	0
13	-0.4	76	8	16	0	0	-0.1	14	76	10	0	0	-0.7	41	39	18	2	0	-0.3	61	18	20	1	0
14*	0.2	53	6	34	6	1	0.2	4	66	26	4	0	0.1	21	13	53	13	0	0.2	15	58	25	2	0
15*	0.2	50	3	47	0	0	0.2	3	69	28	0	0	0.5	11	17	44	22	6	-0.2	47	31	19	3	0
Av.	1.8	58	7	34	1	0	2.1	8	77	14	1	0	2.5	17	29	46	8	0	1.9	39	35	21	5	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 3e – 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																								
	Hogget Breech Cover						Hogget Crutch Cover						Hogget Breech Wrinkle						Hogget 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	5	25	53	17	-0.2	2	16	32	48	2	0	14	45	36	5	0	-0.3	11	44	24	18	3	
2*	-0.4	2	9	37	43	9	0.1	0	1	36	61	2	0.2	10	44	39	7	0	-0.3	8	47	33	8	4	
3	-0.2	0	5	33	53	9	-0.2	0	20	30	46	4	-0.2	20	54	26	0	0	-0.2	6	46	28	18	2	
4	-0.3	3	0	42	45	10	-0.3	2	11	47	38	2	0.2	9	42	43	6	0	0.4	0	31	26	31	12	
5	-0.1	4	4	28	40	24	-0.1	0	9	33	58	0	-0.2	25	40	35	0	0	0.4	7	18	34	27	14	
6	0	0	0	29	54	17	-0.5	0	25	49	26	0	-0.3	23	56	21	0	0	0.6	2	16	35	28	19	
7	0	0	4	28	47	21	0.1	0	4	35	53	8	0	16	40	42	2	0	-0.2	6	44	32	14	4	
8	0.2	0	2	25	38	35	0.2	0	2	25	67	6	-0.1	19	44	37	0	0	-0.2	8	47	25	16	4	
9	0.2	5	0	16	47	32	0.4	0	0	16	76	8	0.2	12	39	43	4	2	-0.3	8	41	41	8	2	
10	0.1	0	0	27	49	24	0	0	10	28	62	0	0.2	12	45	32	11	0	0.2	3	26	42	21	8	
11	-0.3	0	13	30	45	12	-0.2	0	16	41	41	2	0	23	34	41	2	0	0.1	0	30	50	14	6	
12	-0.1	0	0	50	27	23	-0.1	3	5	38	51	3	-0.1	21	49	26	4	0	0	5	42	29	16	8	
13	0.4	0	0	9	53	38	0	0	10	27	61	2	-0.1	22	45	31	2	0	0.3	6	24	32	30	8	
14*	0	5	2	24	40	29	0.4	0	3	15	69	13	0.2	11	39	44	6	0	-0.5	9	57	23	11	0	
15*	0.2	0	3	17	53	27	0.4	0	0	17	72	11	0.1	11	47	33	6	3	0	6	36	33	22	3	
Av.	3.8	1	3	28	46	22	3.5	0	9	31	55	5	2.3	17	44	35	4	0	2.8	5	37	33	19	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 12.

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	Ram name	Number of progeny	Ram averages for measured traits (deviations)							
			GFW % H [^]	CFW % H	FD μm H	WT kg H	FDCV % H	Curv deg/mm H	SL mm H	SS N/ktex H
1*	Ag WA Baseflock, 20002058	46	-0.2	-0.1	0.1	-1	-0.6	-2.1	-0.9	2.7
2*	Billandri Poll, 010564	62	0.3	0.2	-0.3	-1	0.6	-0.2	-1.9	0.1
3	Billandri Poll, 050146	52	0	0.1	-0.1	-0.2	1.8	-4.7	-0.1	-3.1
4	Boolading Blues Poll, 707/2	55	0.6	0.4	0.4	0.5	1.7	-8	2.2	-2.4
5	Centre Plus Poll, 407112	44	-0.1	-0.1	0.5	1	-1.9	-2.7	12.5	0.5
6	Centre Plus Poll, 601311	59	0.1	0	0.5	3.9	-1.1	0.7	6.7	1.7
7	Coromandel Poll, ET7	66	-0.1	-0.1	-0.7	-3.6	1.7	1	-3.3	-3.2
8	Cranmore Park, 4.1	53	-0.1	-0.1	0.6	-0.7	-1.6	0.3	7.3	3.5
9	Grindon, 369	56	-0.1	-0.1	-1.0	0	-0.3	14.9	-3.2	0
10	Merinotech WA Poll, 4290	55	0.4	0.2	0.4	2.9	1	2.7	2.9	-3
11	SARDI, 04D0954	47	0.1	0	1	2.1	0.5	-0.8	-2.4	-1.2
12	Terrick West Poll, 6.7	39	-0.5	-0.4	0.1	-2.7	-1.2	4.8	-5.5	2.5
13	Wallinar, 06390G	52	-0.2	0	-0.4	2.1	-0.2	-7.6	-4.4	-1.3
14*	Windarra, 04/0236	55	-0.1	-0.1	-0.9	-3.8	0.2	5.5	-4.1	-0.3
15*	Woodyarrup, 5.57	38	-0.1	0	-0.2	0.5	-0.7	-3.7	-5.9	3.5
Average performance		52	3.9	2.7	16.8	44.1	21.2	93.6	86.1	24.3
			kg	kg	mm	kg	%	deg/mm	mm	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*.

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

Understanding the results

Index Options – page 7

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 Fine 10% + SS + WEC

Index production system and breeding objectives

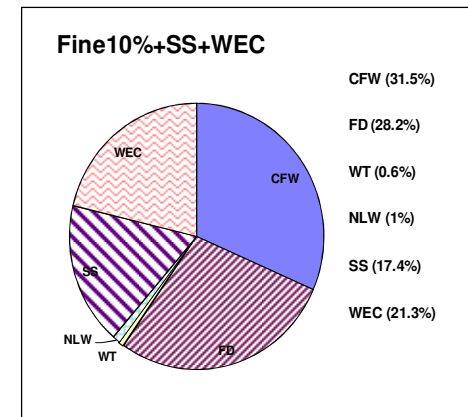
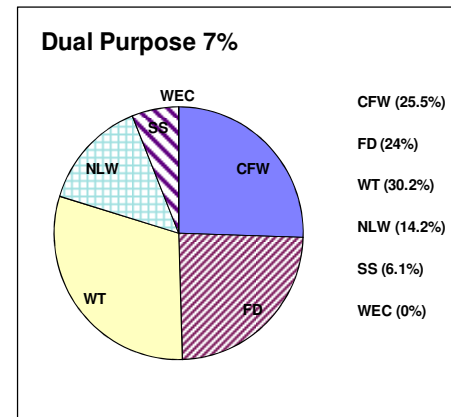
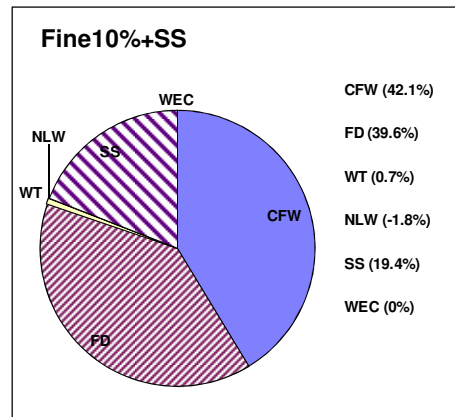
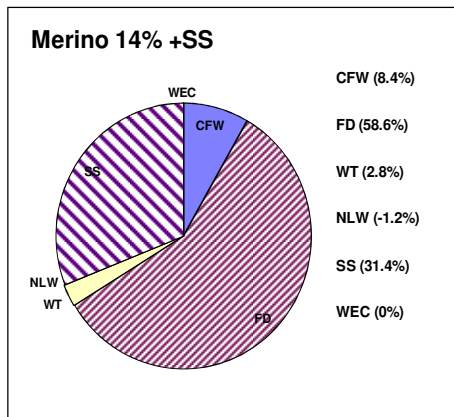
AMSEA Fine 10% +SS (F10% +SS) *Fine wool Merino self-replacing production system with moderate emphasis on fleece weight and fibre diameter (10% Micron Premium) plus moderate emphasis on staple strength and maintain performance on other traits.*

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

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.



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% 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

- 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

YARDSTICK
2008 Drop