Elders Victoria Sire Evaluation Group

Central Test Sire Evaluation

2011 Drop First & Final Assessment

Conducted by
Elders Victoria Sire Evaluation Group

under the auspices of
The Australian Merino Sire Evaluation Association

MERINO Superior Sires

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May 2013

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The Australian Merino Sire Evaluation Association has approved the format used in this report.

Australian Sheep Breeding Values reported here are based on analyses conducted by Sheep Genetics.

Foreword

Elders Balmoral Victoria Sire Evaluation Group Central Test Sire Evaluation

The Elders Victoria Sire Evaluation 2011 drop first and final assessment is an accredited Central Test Sire Evaluation (CTSE) site evaluation. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

The Elders Victoria Sire Evaluation Trials aim to evaluate and promote leading sires suited to fine wool production in Western Victoria.

This goal is achieved by informing participants, their clients and interested woolgrowers on events surrounding the trials, and in addition to this; produce and distribute annual reports and periodic newsletters. To further promote the evaluation, displays of progeny, data and their fleeces have been on show at the Australian Sheep & Wool Show now held in Bendigo (1998-2012), Balmoral Show and Hamilton Sheepvention.

Since April 2000 successful annual Open Days have been held at "The Mountain Dam", "Kerrsville", "White Oaks", "Arundale", "Tuloona" ,"Mokanger", "Yiddinga" and "Wando Estate" to inspect progeny and to discuss the sire evaluation program with interested woolgrowers.

In 1998 a small group of stud breeders met to form what is now known as the Elders Balmoral Victoria Sire Evaluation Group. The Sire Evaluation Trials commenced in 1998 and as of this year there will be 16 progeny drops: 1998 -2013. All trials are run for a minimum of 2 years.

At the commencement of the 2008 progeny trial, the committee decided as a means of continuing the trials and to lessen the increasing burden, that future trials would continue as usual over the 2 year period, but would have only one major classing and fleece assessment, to be taken at the usual time of the 2nd assessment. The cost and time benefits have been significant whilst still providing all involved with invaluable information on the progeny in the trial. It has however, highlighted the importance of collecting base data during the trial, since the 2009 drop were impacted by deaths from flooding in 2010 prior to full classing and measurement collection.

We currently take micron and greasy fleece weight at the 1st shearing and the full range of measurements at the 2nd shearing.

Planning and direction is developed by the Elders Victoria Sire Evaluation Management Committee.

Over recent years we are utilizing the base trial to run additional trials in conjunction. An example is we will have results shortly on fertility analysis of sires, from progeny in the 2010 drop.

Host Properties

The 2010 & 2011 drop evaluation was hosted at "Yiddinga", Edenhope. (See page 5 for more detail)

Evaluations have been held on privately owned host properties around the Balmoral district progressing to a new property every two years. Host properties run Australian Merino fine wool ewes with genetics suitable for the district's environment.

- 1998 & 1999 drop – Host property "The Mountain Dam" Balmoral
- 2000 & 2002 drop - Host property "Kerrsville", situated between Balmoral and Coleraine
- 2002 & 2003 drop – Host property "White Oaks", Gringegalgona Merino Stud at Balmoral.
- 2004 & 2005 drop – Host property "Arundale", Balmoral
- 2006 & 2007 drop – Host property "Tuloona", Harrow
- 2008 & 2009 drop – Host property "Mokanger, Cavendish
- 2010 & 2011 drop – Host property "Yiddinga", Edenhope
- 2012 & 2013 drop – Host property "Wando Estate" , Casterton

Thank you to our hosts, sponsors, committee and participants for enabling this valuable assessment of Merino genetics.

Tom Silcock
Chairman
Elders Victoria Sire Evaluation Group

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May 2013

2011 drop First & Final Assessment

The information in this site evaluation report provides a comprehensive assessment of the 2011 drop, a single and final assessment of the sire's progeny performance, both measured and visually assessed traits. The fleece assessment was made at 18 months of age with 12 months of wool growth.

Contents

Sire and Owner Details

Breeders flock, Sire name Sire ID #, Breed †	Owner Details
Billandri Poll, 070380 (Link) 600571-2007-070380, Poll Merino	**Bill Sandilands,** Billandri, Kendenup WA 6323 P: (08) 9851 4030, F: (08) 9851 4264, E: csandilands@bordernet.com.au
Connewarran, 7001 504704-2007-007001, Merino	**Richard Weatherly,** Connewarran, PO Box 21, Mortlake VIC 3272 P: (03) 5599 7276, F: (03) 5599 7227, E: connewarran@westvic.com.au
Curlew, Red 11 (Unreg) 509262-2009-090011, Merino	**Tony Kealy,** 1583 Patyah Road, Edenhope VIC 3318 E: kealy6@bigpond.com
Future Park Poll, 099268 (Unreg) 609254-2009-099268, Poll Merino	**Mark Ferguson,** 3 Baron Hay Court, South Perth WA 6151 P: (08) 9368 3524, E: mark.ferguson@agric.wa.gov.au
Glendemar, 080121 503070-2008-080121, Merino	**Ben Duxson,** 336 Glendemar Rd, Marnoo VIC 3387 P: (03) 5359 2292, F: (03) 5359 2342
Gringegalgona Poll, 071233 601321-2007-071233, Poll Merino	**Stephen Silcock,** 279 Melville Forest - Vasey Rd, Vasey VIC 3407 P: (03) 5574 3202, F: (03) 5574 3239, E: ssilcock8@bigpond.com
Jigsaw Farms, 080378 (Unreg) 509263-2008-080378, Merino	**Mark Wootton,** 1874 Hensley Park Road, Hensley Park VIC 3315 P: 03.5574 8246, F: 03.5574 8262, E: office@jigsawfarms.com.au
Kooringal, 081100 504170-2008-081100, Merino	**Mark Bunge,** 2115 Coleraine-Edenhope Rd, Coleraine VIC 3315 P: (03) 5579 7224, F: (03) 5579 7225, E: bunge5@bigpond.com
Kurra-Wirra, B39 504173-2009-KWB039, Merino	**Robert Close,** Kurra Wirra, 770 Moree-Culla Rd, Coleraine VIC 3315 P: (03) 5570 4238, F: (03) 5570 4234, E: kurrawirra@skymesh.com.au
Merinotech VIC, 081564 504648-2008-081564, Merino	**Hugh and Susan Jarvis,** 891 Harrow-Goroke Road, Womberlano VIC 3409 P: (03) 5588 6356, E: suejarvis@bigpond.com
Mokanger, 04 504888-2008-000004, Merino	**Shane Arnold,** Mokanger Past Co, Cavendish VIC 3314 P: (03) 5574 2367, F: (03) 5574 2328, E: mokanger2@bigpond.com
Moojepin, 090781 504637-2009-090781, Merino	**David Thompson,** PO Box 625, Katanning WA 6317 P: (08) 9821 1083, F: (08) 9821 1083, E: moojepin@westnet.com.au
Nerstane, 040222 (Link) 503298-2004-040222, Merino	**John, Hamish and Jock McLaren,** Nerstane, Woolbrook NSW 2354 P: (02) 6777 5881, F: (02) 6777 5922, E: jock@nerstane.com.au
Nerstane, 090910 503298-2009-090910, Merino	**John, Hamish and Jock McLaren,** Nerstane, Woolbrook NSW 2354 P: (02) 6777 5881, F: (02) 6777 5922, E: jock@nerstane.com.au
Pooginook, Ranger (Link) 500788-2008-082065, Merino	**John Sutherland,** Pooginook , Jerilderie NSW 2716 P: (02) 6954 6145, F: (02) 6954 6168, E: pooginook@parawaypastoral.com
The Mountain Dam, 08/YA077 504572-2007-8YA077, Merino	**Tom and Alison Silcock,** 429 Silcocks Road, Telangatuk East VIC 3401 P: (03) 5388 2238, F: (03) 5388 2235, E: themountaindam@bigpond.com
Tuckwood Poll, W26 601053-2009-091026, Poll Merino	**Geoff Tucker,** PMB 21, Millicent SA 5280 P: (08) 8734 2050, F: (08) 8734 2052, E: geomag@activ8.net.au
Yiddinga, WHITE 243 (Unreg) 509242-2009-090243, Merino	**James Farran,** PO Box 222, Edenhope VIC 3318 P: (03) 5585 1888, F: (03) 5586 6214, E: j.farran@bigpond.com

(Link) Sire 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.*

(Unreg) Sire bred in an unregistered flock.

\# 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

Manager's Report

Host Property for 2011 drop progeny and location

The property of "Yiddinga" is owned Yiddinga Holdings Pty Ltd with its principle being Andrew Farran and managed by Jim Farran. Located 7 kilometres south west of the Edenhope township, the soil type is varied ranging from sandy to clay loams. It is typically Western Victorian Red Gum country, with areas of wetlands. Management emphasis is placed on improved pastures with use of Phalaris, Balansa clover and sub clover.
Longterm average annual rainfall is approximately 575mm.

■ Selection and mating

- The Yiddinga ewes are selected by visual assessment first, then laser scanning and 14% index are used. Sheep are a Merryville type with AI sires from various studs used.
- The average adult flock micron at "Yiddinga" in 2011 was 18.4 micron.
- Laparoscopic insemination of 981 ewes was conducted by David Kennett from Genstock Breeding Services on 10th,11th and 12th April 2011 with 55 ewes allocated to each sire.
- 18 sires participated in the sire evaluation trial.
- All ewes were in condition score 2.7-3.1 at the time of insemination.

■ Pregnancy and lambing

- Ultrasound scanning of ewes on 4th June 2011 was carried out by Mark Jenkins of "SheepPro" livestock services identifying a total of 1178 possible lambs. Over 100 triplet bearing ewes were removed from the trial.
- Single and twin bearing ewes were run in two separate mobs and then drafted into 36 sire paddocks on 31st of August 2011 ready for lambing.
- The lambs were double tagged (RFID tag and a numbered coloured sire tag) on 21st and 22nd of September and recorded for birth type, sex, skin and fibre pigmentation, black spots, hairy birth coat and entropian. The ewes were then run in two separate management groups being twin lambs and single lambs until weaning, when they were run as one mob for the rest of the trial.
- The lambs were scored for breech cover and breech wrinkle at marking time.
- Single bearing ewes were run on 1500kg/ha DM whilst the twin bearing ewes were run on 2100 kg/ha DM, with ewe condition scores ranging from 2.5 to 3.0.

■ Weaning and seasonal conditions

- Lambs were marked, mulesed, treated CLIX, vaccinated OJD and 6 in 1 on 13th October 2011.
- The lambs were imprint fed on a ration of oats and beans prior to weaning.
- A total of 716 lambs were weaned on 23rd of November 2011 with an average weaning weight of 21.8kgs.
- Lambs were weaned onto short seed free pastures comprising phalaris and sub clover. Hand feeding was commenced within a few days of weaning. It was a dry Summer Autumn period, so supplementary feeding was required through to the late Autumn break.
- The weaners were shorn on the 23th of April 2012 with fleece weights recorded and mid side samples collected.
- The seasonal conditions in the summer and autumn of 2012/2013 were dry again requiring hand feeding of barley from early February to the end of May.

■ Assessments

- Yearling body weights were taken by the committee in October 2012 and adult body weights and body wrinkle scores were taken on the 29th April 2013 off shears.
- WECs were collected by the committee in July 2012 and processed by Dr David Rendell.
- Visual classing was undertaken by Andrew Howells and Elliot Lindley of Elders.
- Fleece mid side samples were processed by Paul Cocking of Riverina Wool Testers.
- Fleece weights were collected at shearing on 29rd April 2013, with wool types provided by Roly Coutts of Elders.
- Muscle scanning was carried out by Stephen Spiker on the 31st October 2012.

■ Rainfall

The following rainfall records have been kept and maintained by Yiddinga.

	"Yiddinga" Edenhope, Victoria Rainfall (mm per month) *						
Month	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Average**
January	92.5	14	1.5	8.5	115	7	40
February	2	6	0	54.5	70	3	22.6
March	11.5	16.5	25.5	27.5	73	50	34
April	41.5	25	14.5	37.5	36	19	28.9
May	105.5	51.5	22.5	43	38	24	47.4
June	21	32.5	43	60	47	69	45.4
July	70.5	67	87.5	38	77.5	61	66.9
August	37	58.5	106	122.5	92.5	68	81
September	46.5	57.5	72	61	32.5	29	50
October	22.5	12.5	34	34.5	39.5	33	29.3
November	44	26.5	33	61.5	20.5	12	32.9
December	36.5	100.5	22	177.5	22	20	63.1
Total	**531**	**468**	**455.5**	**726**	**663.5**	**395**	**539.8**

* Source: J. Farran "Yiddinga"

Reported by: Jim Farran

Assessment and management program

Activity	Date/s	Age	Wool
Selection of ewes	February		
Allocation of ewes for mating	April 2011		
Pregnancy scanning	4 June 2011		
Separated into sire lambing groups	31st August 2011		
Lambing: start – finish	7-14 September 2011		
Lambing mobs boxed to one management group	21 September 2011	15 days	
Tagging, pigmentation and breech scoring	21 September 2011	15 days	
Marking and mulesing	13 October 2011	36 days	
Weaning	23 November 2011	78 days	
Pre assessment (even-up) shearing	23 April 2012	7.5 months	7.5 months
Crutching	28th November 2012	14 months	7 months
Mid side fleece sampling Assessment: • 1st	25 February 2013	18 months	11 months
Visual trait scoring • 1st Assessment:	25 February 2013	18 months	11 months
Classer's Grade • 1st Assessment:	25 February 2013	18 months	11 months
Assessment shearing • 1st Assessment:	29April 2013	19 months	12 months
Fat and eye muscle scanning Assessment: • 1st	31 October 2012	13 months	6.5 months
Body weighing • Weaning:	23 November 2011	78 days	
• Hogget:	22 October 2012	13 months	
• Adult:	29 April 2012	19 months	
Worm egg count sampling Assessment: • 1st	3 July 2012	9 months	
Vaccination	6:1 & OJD at marking 13th October 2011, booster 6:1 at weaning		
Drench	Worm burdens monitored and progeny drenched when egg counts reached >300. (Drenched approx 4 times during trial, including a summer drenching program)		
Jetting	treated with CLIX marking 2011, jetted on crutch October 2012 prior to crutching (see report above)		
Supplementary feeding	Oats, Beans and Barley (see report above)		
Field day or public display of 2011 drop sheep	■ Field Day & Progeny Display at Yiddinga – April 2012 ■ Field Day & Progeny Display at Yiddinga – April 2013 ■ Display at Hamilton Sheepvention – August 2012 ■ Progeny Display at Balmoral Show – 2013 ■ Display at Australian Sheep & Wool Show - Bendigo – July 2012		

Visual trait assessment and site Breeding Objective

Visual trait assessment
1st and final assessment
Classer's Grade: Mr Elliot Lindley, Elders
Trait Scores: Committee

Site Breeding Objective used to assess the Classer's Grades
The Breeding Objective used by the classer/s when selecting the Classers Tops, Flock and Cull grades is described below. The Breeding Objective for both measured and visual assessed traits that is described below was developed by the site committee in consultation with the classer prior to the grading.

Breeding Objective
The goal is to select sheep that are well grown, with sound conformation and carrying heavy fine wool fleeces of good character, colour and nourishment.

Combined measured traits and visual trait performance

Summary graph: visual and measured performance

Each sire that meets reporting thresholds for index accuracies is located on the graph. The graph describes performance for combined measured traits and combined visual assessment.

A different graph is provided for each of the three indexes reported. In each graph, visual trait performance is a combination of Classer's Grade performance (Tops and Culls). More information is found in "Understanding the Results".

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

Sire code	Breeders flock, Sire number	Sheep Genetics ID
1	Billandri Poll, 070380	600571-2007-070380
2	Connewarran, 7001	504704-2007-007001
3	Curlew, Red 11	509262-2009-090011
4	Future Park Poll, 099268	609254-2009-099268
5	Glendemar, 080121	503070-2008-080121
6	Gringegalgona Poll, 071233	601321-2007-071233
7	Jigsaw Farms, 080378	509263-2008-080378
8	Kooringal, 081100	504170-2008-081100
9	Kurra-Wirra, B39	504173-2009-KWB039
10	Merinotech VIC, 081564	504648-2008-081564
11	Mokanger, 04	504888-2008-000004
12	Moojepin, 090781	504637-2009-090781
13	Nerstane, 040222	503298-2004-040222
14	Nerstane, 090910	503298-2009-090910
15	Pooginook, Ranger	500788-2008-082065
16	The Mountain Dam, 08/YA077	504572-2007-8YA077
17	Tuckwood Poll, W26	601053-2009-091026
18	Yiddinga, WHITE 243	509242-2009-090243

Figure 1a, 1b and 1c. **Combined measured traits and visual trait performance**

Figure 1a. Combined measured traits based on an AMSEA <u>Dual Purpose Plus</u> (DP+) index. Based on a meat focused production system where surplus progeny are sold as lambs and a portion of ewes are joined to terminal sires.

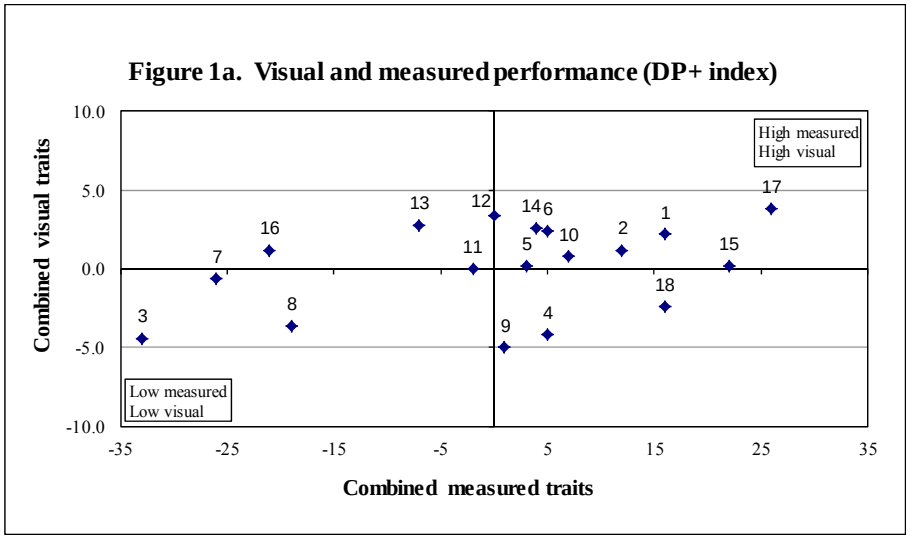


Figure 1b. Combined measured traits based on an AMSEA <u>Merino Production Plus</u> (MP+) index. Based on a balanced wool and meat production system where surplus progeny are sold as hoggets.

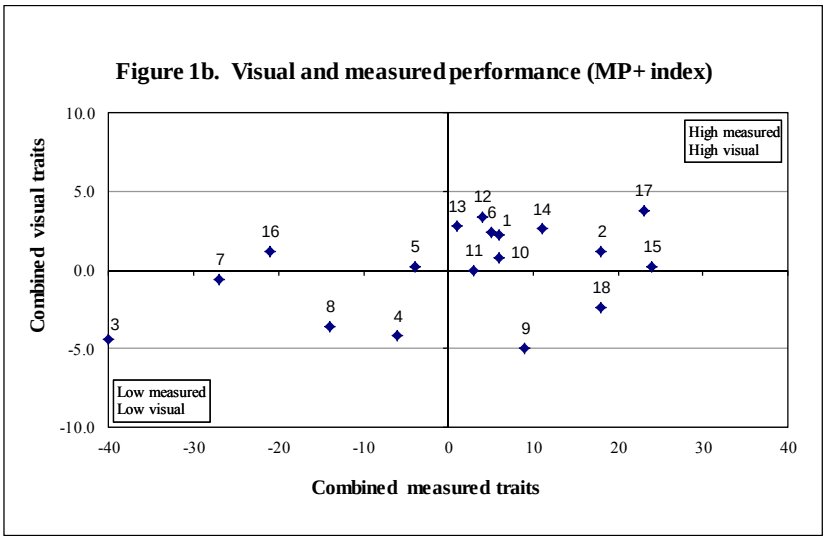


Figure 1c. Combined measured traits based on an AMSEA <u>Fibre Production Plus</u> (FP+) index. Based on a wool focussed production system where wethers are retained, operating in an environment where worms cause economic losses.

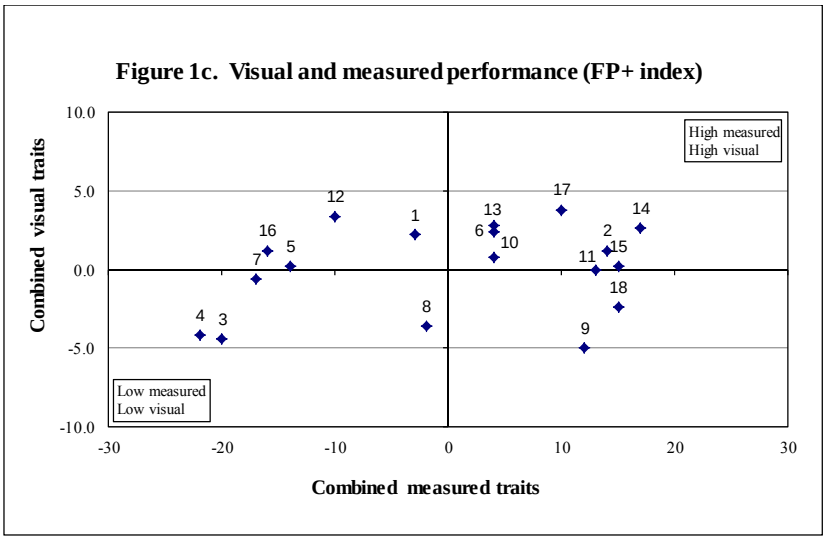


Table 1. **AMSEA Index Values and Classer's Grade**

The highest performing 3 sires for each trait (trait leaders) are highlighted by shading. Each sire is listed for Classer's Grade and the same three indexes at all site evaluations. An additional index considered relevant to the site evaluation 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' 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) being given a zero FBV value in AMSEA calculations.

- **Dual Purpose Plus (DP+)**: Based on a meat focused production system where surplus progeny are sold as lambs and a portion of ewes are joined to terminal sires.
- **Merino Production Plus (MP+):** Based on a balanced wool and meat production system where surplus progeny are sold as hoggets.
- **Fibre Production Plus (FP+):** Based on a wool focussed production system where wethers are retained, operating in an environment where worms cause economic losses.
- **Fine 20+SS (F20%+SS):** High emphasis on fibre diameter and staple strength. There is adequate emphasis on other traits to maintain performance except a moderate reduction in reproduction (number of lambs weaned – NLW).

Sire Code	Breeders flock, Sire name	Number of progeny	AMSEA Index Values				Classer's Grade	
			Dual Purpose Plus	Merino Production Plus	Fibre Production Plus	Fine 20% + SS	Tops % (dev)	Culls % (dev)
1	Billandri Poll, 070380	45	116	106	97	96	8	-3
2	Connewarran, 7001	40	112	118	114	112	2	-4
3	Curlew, Red 11	28	67	60	80	85	-9	13
4	Future Park Poll, 099268	29	105	94	78	68	-13	8
5	Glendemar, 080121	39	103	96	86	79	0	-1
6	Gringegalgona Poll, 071233	34	105	105	104	108	6	-6
7	Jigsaw Farms, 080378	39	74	73	83	90	0	3
8	Kooringal, 081100	32	81	86	98	105	-14	4
9	Kurra-Wirra, B39	38	101	109	112	117	-14	11
10	Merinotech VIC, 081564	28	107	106	104	101	2	-2
11	Mokanger, 04	43	98	103	113	116	1	1
12	Moojepin, 090781	26	100	104	90	90	7	-10
13	Nerstane, 040222	28	93	101	104	110	-1	-15
14	Nerstane, 090910	31	104	111	117	118	11	-2
15	Pooginook, Ranger	40	122	124	115	114	1	0
16	The Mountain Dam, 08/YA077	46	79	79	84	85	2	-4
17	Tuckwood Poll, W26	37	126	123	110	100	20	1
18	Yiddinga, WHITE 243	44	116	118	115	113	-9	3
Average performance		**36**	**100**	**100**	**100**	**100**	**19**	**21**

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.

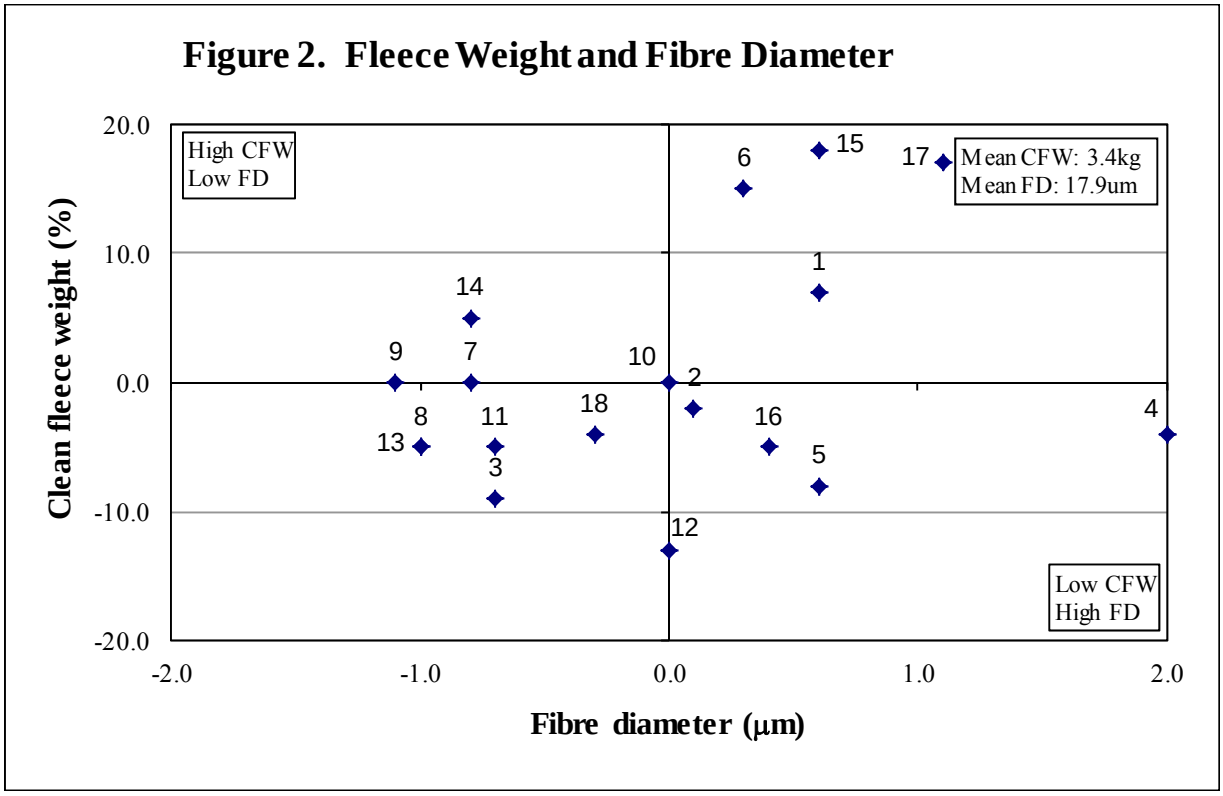
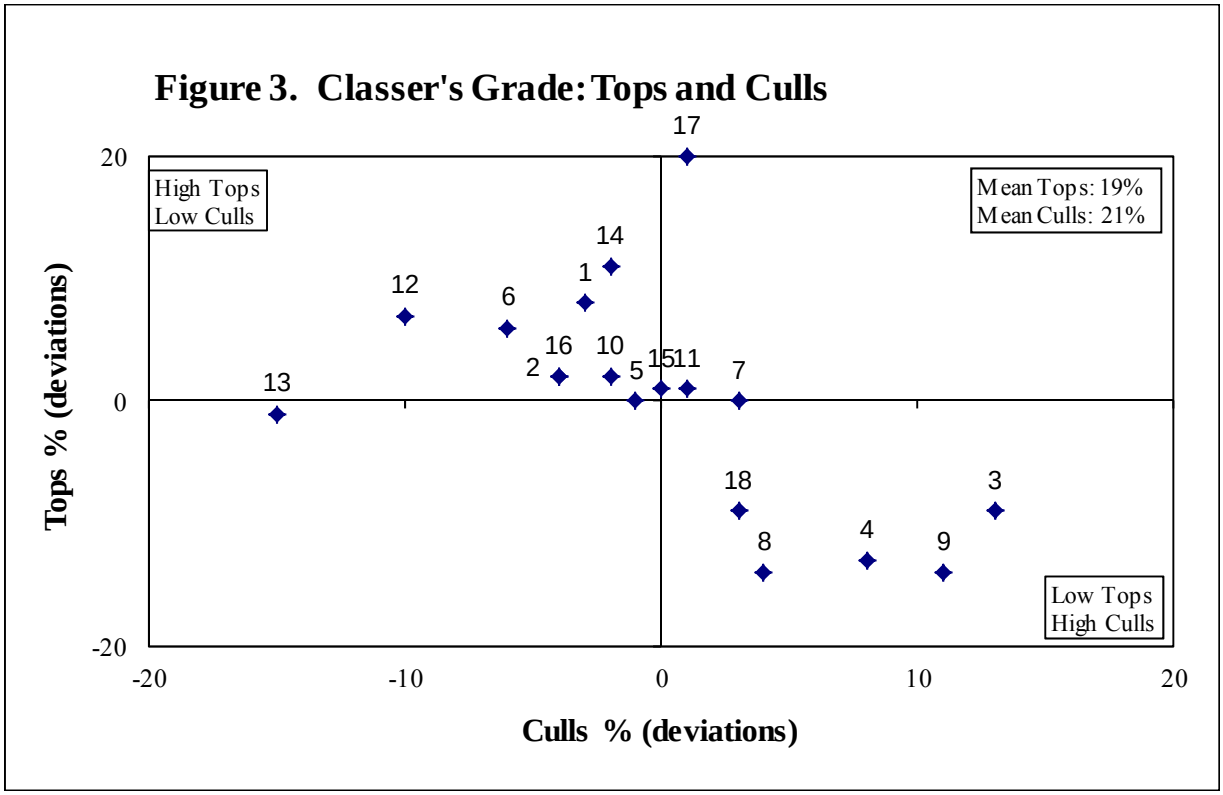


Figure 3. Classers Tops by Cull Grade
The graph describes performance for Classer's Tops Grade on the side axis and Culls Grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left hand quarter.



Understanding the results

Measured trait performance and Classer's Grade – Tables 2 and 3

Breeders flock, Sire number:	Identity of the breeder's flock and the sire's number or name.
Number of progeny:	The number of progeny a sire had at the most recent measured analysis.
Flock Breeding Values:	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated by Sheep Genetics for the sire'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 sires (in this case based on the performance of their progeny). A sire's progeny will express half of their sire's FBV. FBVs do not necessarily reflect the sire's 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: Abbreviation, trait and the (units reported)	GFW: Greasy fleece weight (percentage). CFW: Clean fleece weight (percentage). FD: Average fibre diameter (micron). WT: Body weight (kilograms). FDCV: Fibre diameter coefficient of variation (percentage). SL: Staple length (mm) at the mid-side. SS: Staple strength (N/ktex) at the mid-side. EMD: Eye muscle depth (mm) at the 'C' site. FAT: Fat depth (mm) at the 'C' site. CURV: Fibre curvature (degrees). WEC: Worm egg count (% deviation in worm burden of sire's progeny).
Age at assessment:	W = Weaning - 42 to 120 days (6 weeks to 4 months of age). P = Post Weaning - 210 to 300 days (7 to 10 months of age). Y = Yearling - 300 to 400 days (10 to 13 months of age). H = Hogget - 400 to 540 days (13 to 18 months of age). A = Adult - 540 days or older (18 months and older).
Classer's Grade:	A classer grades all progeny as either, Tops, Flocks or Culls based on their visual assessment of all traits relative to the site's Breeding Objective. The percentage deviation from the average of Tops and Culls is presented in this report.

Table 2. **Major measured traits and Classer's Grades**

Breeders flock, Sire name	Number of progeny	Flock Breeding Values (deviations)						Classer's Grade[1]	
		GFW	CFW	FD	WT			Tops	Culls
		%	%	µm	kg			%	%
		A^	A	A	W	H	A	A	A
Billandri Poll, 070380	45	6	7	0.6	1.5	3.9	2.0	8	-3
Connewarran, 7001	40	-1	-2	0.1	-0.4	0.3	0.7	2	-4
Curlew, Red 11	28	-8	-9	-0.7	-2.8	-7.3	-8.0	-9	13
Future Park Poll, 099268	29	-3	-4	2.0	2.6	6.1	6.5	-13	8
Glendemar, 080121	39	-7	-8	0.6	3.1	5.5	6.7	0	-1
Gringegalgona Poll, 071233	34	12	15	0.3	-0.9	-3.0	-3.5	6	-6
Jigsaw Farms, 080378	39	-1	0	-0.8	-1.9	-3.7	-3.7	0	3
Kooringal, 081100	32	-4	-5	-1.0	-2.2	-3.2	-2.5	-14	4
Kurra-Wirra, B39	38	0	0	-1.1	-0.1	-0.9	-0.8	-14	11
Merinotech VIC, 081564	28	0	0	0.0	0.0	1.4	0.8	2	-2
Mokanger, 04	43	-3	-5	-0.7	-2.1	-3.7	-4.1	1	1
Moojepin, 090781	26	-12	-13	0.0	3.4	6.7	7.6	7	-10
Nerstane, 040222	28	-3	-5	-1.0	0.1	-1.2	-0.6	-1	-15
Nerstane, 090910	31	5	5	-0.8	-1.4	-2.6	-2.2	11	-2
Pooginook, Ranger	40	15	18	0.6	0.5	-0.2	-1.1	1	0
The Mountain Dam, 08/YA077	46	-5	-5	0.4	-1.3	-2.5	-1.3	2	-4
Tuckwood Poll, W26	37	16	17	1.1	2.5	5.2	5.0	20	1
Yiddinga, WHITE 243	44	-5	-4	-0.3	0.2	1.2	0.3	-9	3
Average performance	**36**	**5.5**	**3.4**	**17.9**	**21.7**	**40.6**	**34.9**	**19**	**21**
		%	%	µm	kg	kg	kg	%	%

^ W = Weaning (42 to 120 days); P = Post Weaning (210 to 300 days); 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%.

Table 3. **Other measured traits**

Breeders flock, Sire name	Number of progeny	Flock Breeding Values (deviations)						
		FDCV	**SL**	**SS**	**CURV**	**FAT**	**EMD**	**WEC**
		%	mm	N/ktex	deg/mm	mm	mm	%
		A^	A	A	A	H	H	Y
Billandri Poll, 070380	45	-0.5	4.4	-1.0	-3.6	3.3	2.3	13
Connewarran, 7001	40	-0.9	-0.3	8.0	2.9	-0.2	-0.7	30
Curlew, Red 11	28	1.9	-12.6	-5.7	10.3	0.6	0.7	1
Future Park Poll, 099268	29	-0.4	7.9	-0.8	-3.5	1.4	1.7	-15
Glendemar, 080121	39	0.2	7.7	-4.2	-10.2	1.3	1.3	-41
Gringegalgona Poll, 071233	34	0.7	2.1	2.0	-8.1	-2.4	-0.9	67
Jigsaw Farms, 080378	39	1.4	0.1	-9.4	2.1	-0.3	-0.6	1
Kooringal, 081100	32	-0.3	-7.9	-4.1	8.1	-0.8	-0.7	-15
Kurra-Wirra, B39	38	-0.2	-1.1	-0.6	-1.6	-0.9	-0.9	-4
Merinotech VIC, 081564	28	0.2	-4.3	1.0	4.1	0.1	0.5	-12
Mokanger, 04	43	-0.6	-7.8	5.1	11.4	0.5	0.1	-2
Moojepin, 090781	26	-1.2	3.7	-3.9	-4.6	0.5	0.2	-11
Nerstane, 040222	28	-0.4	0.0	-2.2	6.0	-1.1	-0.9	-3
Nerstane, 090910	31	0.2	0.2	2.5	5.2	-1.3	-1.2	-9
Pooginook, Ranger	40	0.3	3.6	6.9	-12.4	-1.2	-1.2	79
The Mountain Dam, 08/YA077	46	0.1	0.2	-2.8	0.0	-1.3	-0.4	-2
Tuckwood Poll, W26	37	-0.1	10.4	2.1	-5.9	0.8	0.0	-37
Yiddinga, WHITE 243	44	-0.3	-6.0	6.2	2.7	1.2	0.6	25
Average performance	**36**	**17.5**	**79.8**	**42.2**	**100.0**	**3.0**	**23.5**	
		%	mm	N/ktex	deg/mm	mm	mm	

^ W = Weaning (42 to 120 days); P = Post Weaning (210 to 300 days); Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Understanding the results

Scored trait performance – Tables 4a, 4b, 4c, 4d, 4e

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 from AWI).

A deviation from the average trait score for all progeny is reported as well as the percentage of the sire'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-shot 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 hind legs from **1** (nil) to **5** (extensive).
■ Dag	Degree of dag adhering to the breech and legs from **1** (nil) to **5** (extensive).

Table 4a. **Visual trait assessments – Wool quality**

Visually assessed traits reported were scored at their latest assessment with the exception of pigmentation which was scored at tagging (Spot updated on an ongoing basis) and breech traits recorded at marking time (or later in unmulesed flocks with the exception of Dag).

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a sire's progeny assessed for each score is also reported.

For the majority of breeder's objectives a negative deviation would be considered favourable and the larger the deviation the better.

Breeders flock, Sire name	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
Billandri Poll, 070380	0.2	47	40	13	0	0	0.2	0	49	47	4	0	0.0	0	36	60	4	0	0.1	0	7	71	22	0
Connewarran, 7001	-0.1	72	25	3	0	0	-0.2	15	57	28	0	0	-0.2	0	55	42	3	0	0.0	0	13	72	15	0
Curlew, Red 11	0.1	59	31	7	3	0	0.1	4	59	34	3	0	0.0	0	38	59	3	0	-0.3	0	41	45	14	0
Future Park Poll, 099268	0.1	57	33	7	3	0	0.2	0	53	40	7	0	0.4	0	17	60	23	0	0.3	0	0	60	40	0
Glendemar, 080121	0.2	44	51	5	0	0	0.3	3	38	59	0	0	0.0	0	36	56	8	0	0.3	0	0	62	38	0
Gringegalgona Poll, 071233	-0.1	71	26	3	0	0	0.1	3	53	44	0	0	0.3	2	18	56	21	3	0.0	0	11	68	21	0
Jigsaw Farms, 080378	-0.2	82	13	5	0	0	-0.2	13	64	23	0	0	0.1	2	26	59	13	0	0.1	0	7	67	26	0
Kooringal, 081100	0.2	43	49	8	0	0	0.1	3	54	43	0	0	0.0	0	40	49	11	0	0.2	0	0	77	23	0
Kurra-Wirra, B39	0.3	41	46	10	0	3	0.4	0	36	62	2	0	0.1	0	21	77	2	0	0.0	0	8	74	18	0
Merinotech VIC, 081564	-0.1	75	21	0	4	0	-0.3	32	36	29	3	0	0.1	0	36	50	14	0	-0.2	0	32	54	14	0
Mokanger, 04	-0.1	74	22	4	0	0	-0.4	30	46	24	0	0	-0.2	5	48	43	4	0	-0.3	0	26	70	4	0
Moojepin, 090781	0.0	62	38	0	0	0	0.0	4	65	27	4	0	-0.2	0	58	31	11	0	0.0	0	16	65	19	0
Nerstane, 040222	-0.3	86	11	3	0	0	-0.3	22	57	21	0	0	-0.1	3	36	61	0	0	0.0	3	4	75	18	0
Nerstane, 090910	-0.1	68	32	0	0	0	-0.1	13	58	29	0	0	-0.2	0	55	45	0	0	-0.1	0	13	74	13	0
Pooginook, Ranger	0.2	54	32	12	0	2	0.2	5	39	54	2	0	0.1	0	32	59	9	0	0.1	0	10	68	22	0
The Mountain Dam, 08/YA077	-0.2	82	18	0	0	0	-0.2	15	61	24	0	0	-0.1	0	49	41	10	0	0.1	0	5	73	22	0
Tuckwood Poll, W26	0.0	62	28	10	0	0	0.2	3	55	32	10	0	-0.1	2	48	42	8	0	0.1	3	12	55	30	0
Yiddinga, WHITE 243	-0.1	80	13	4	3	0	-0.1	5	71	20	4	0	0.1	0	29	62	9	0	-0.3	0	31	64	5	0
Average performance	**1.4**	**64**	**29**	**5**	**2**	**0**	**2.3**	**9**	**53**	**36**	**2**	**0**	**2.7**	**1**	**37**	**53**	**9**	**0**	**3.1**	**0**	**14**	**66**	**20**	**0**

Table 4b. **Visual trait assessments – Wool quality and Pigment**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a sire's progeny assessed for each score is also reported.

For the majority of breeder's objectives a negative deviation for wool quality traits would be considered favourable and the larger the deviation the better.

Four pigmentation traits are reported. 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.

Breeders flock, Sire name	Wool Quality											
	Staple Weathering						Staple Structure					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Billandri Poll, 070380	0.1	0	33	64	3	0	0.0	0	38	62	0	0
Connewarran, 7001	-0.1	0	52	42	6	0	-0.2	0	65	32	3	0
Curlew, Red 11	-0.2	0	59	38	3	0	0.0	0	41	55	4	0
Future Park Poll, 099268	0.4	0	23	47	30	0	0.5	0	16	57	27	0
Glendemar, 080121	0.2	0	36	44	20	0	0.1	5	31	56	8	0
Gringegalgona Poll, 071233	0.1	0	35	59	6	0	0.1	3	26	65	6	0
Jigsaw Farms, 080378	0.1	3	33	54	10	0	0.0	5	33	54	8	0
Kooringal, 081100	0.1	0	40	49	11	0	0.1	0	37	54	9	0
Kurra-Wirra, B39	0.1	0	33	59	8	0	0.1	0	28	72	0	0
Merinotech VIC, 081564	-0.2	0	61	32	7	0	0.1	0	39	54	7	0
Mokanger, 04	-0.4	4	70	24	2	0	-0.3	11	52	35	2	0
Moojepin, 090781	0.1	0	35	54	11	0	0.0	0	46	46	8	0
Nerstane, 040222	-0.2	7	50	36	7	0	-0.1	7	43	46	4	0
Nerstane, 090910	-0.1	0	55	42	3	0	-0.2	3	52	45	0	0
Pooginook, Ranger	0.1	0	39	46	15	0	0.0	2	37	59	2	0
The Mountain Dam, 08/YA077	0.0	0	47	41	12	0	0.0	2	47	39	12	0
Tuckwood Poll, W26	0.1	2	35	48	15	0	-0.2	5	48	45	2	0
Yiddinga, WHITE 243	-0.3	0	64	33	3	0	-0.1	0	49	49	2	0
Average performance	**2.6**	**1**	**44**	**45**	**10**	**0**	**2.6**	**3**	**40**	**51**	**6**	**0**

Pigmentation														
Fibre pigmentation							Non-fibre pigmentation						Black	Spot
Dev	1	2	3	4	5		Dev	1	2	3	4	5	5	5
-0.1	100	0	0	0	0		0.3	4	49	32	15	0	0	0
0.1	93	0	5	0	2		0.1	10	52	31	2	5	0	0
0.2	81	14	2	0	3		0.0	11	54	32	3	0	0	0
-0.1	100	0	0	0	0		-0.5	38	47	15	0	0	0	0
-0.1	100	0	0	0	0		0.0	8	62	28	2	0	0	0
-0.1	100	0	0	0	0		0.4	0	49	41	10	0	0	3
-0.1	100	0	0	0	0		0.1	4	55	36	5	0	0	0
0.2	93	0	0	5	2		0.4	3	39	49	7	2	0	2
-0.1	100	0	0	0	0		0.0	5	63	30	2	0	0	0
-0.1	100	0	0	0	0		0.0	3	68	29	0	0	0	0
0.0	98	0	0	2	0		0.3	4	47	40	9	0	0	0
0.0	97	0	3	0	0		-0.3	20	63	17	0	0	0	3
0.0	94	3	3	0	0		0.5	3	21	70	6	0	0	0
0.0	90	6	4	0	0		-0.2	13	71	16	0	0	0	0
-0.1	100	0	0	0	0		-0.6	34	66	0	0	0	0	0
0.0	96	2	0	0	2		-0.1	13	67	13	4	3	0	2
-0.1	100	0	0	0	0		-0.2	12	74	12	2	0	0	0
0.2	85	7	7	1	0		-0.2	17	70	9	2	2	0	2
1.1	**96**	**2**	**0**	**1**	**1**		**2.3**	**11**	**56**	**28**	**4**	**1**		

Table 4c. **Visual trait assessments – Conformation**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a sire's progeny assessed for each score is also reported.

For the majority of breeder's objectives a negative deviation would be considered favourable and the larger the deviation the better. 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.

Breeders flock, Sire name	Conformation																							
	Jaw						Face Cover						Body Wrinkle						Neck 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
Billandri Poll, 070380	0.0	0	0	100	0	0	-0.1	0	18	82	0	0	-0.1	0	80	20	0	0	0.1	4	60	33	3	0
Connewarran, 7001	0.0	0	0	100	0	0	0.2	0	2	80	18	0	-0.1	0	75	25	0	0	0.0	0	75	25	0	0
Curlew, Red 11	0.0	0	0	100	0	0	0.5	0	4	55	41	0	0.3	0	36	64	0	0	-0.1	0	86	14	0	0
Future Park Poll, 099268	0.0	0	0	100	0	0	-0.4	0	47	53	0	0	-0.4	7	89	4	0	0	-0.3	7	86	7	0	0
Glendemar, 080121	0.0	0	0	100	0	0	-0.9	11	74	15	0	0	-0.4	8	89	3	0	0	-0.3	3	97	0	0	0
Gringegalgona Poll, 071233	0.0	0	0	100	0	0	0.0	0	15	76	9	0	0.2	0	50	50	0	0	0.1	0	65	35	0	0
Jigsaw Farms, 080378	0.0	0	0	100	0	0	0.2	0	8	74	18	0	0.1	2	49	49	0	0	0.0	6	59	35	0	0
Kooringal, 081100	0.0	0	3	97	0	0	0.0	0	17	71	12	0	0.1	0	61	36	3	0	-0.2	6	76	18	0	0
Kurra-Wirra, B39	0.0	0	0	100	0	0	0.3	0	5	74	21	0	0.0	0	63	37	0	0	0.1	0	58	42	0	0
Merinotech VIC, 081564	0.0	0	0	100	0	0	0.1	0	15	71	14	0	0.2	0	50	50	0	0	0.5	0	32	57	11	0
Mokanger, 04	0.0	0	0	100	0	0	0.1	0	17	70	13	0	0.3	0	39	57	4	0	0.2	2	50	46	2	0
Moojepin, 090781	0.0	0	0	100	0	0	-0.5	0	69	23	4	4	-0.3	0	96	4	0	0	-0.3	8	88	4	0	0
Nerstane, 040222	0.0	0	0	96	4	0	-0.1	0	25	71	4	0	0.0	0	64	36	0	0	0.0	3	68	29	0	0
Nerstane, 090910	0.0	0	0	100	0	0	0.2	0	6	81	13	0	0.1	0	58	42	0	0	0.0	3	68	29	0	0
Pooginook, Ranger	0.0	0	0	100	0	0	0.1	0	9	76	15	0	0.1	0	62	38	0	0	0.1	3	52	45	0	0
The Mountain Dam, 08/YA077	0.0	0	0	100	0	0	0.2	0	13	63	24	0	-0.1	0	82	18	0	0	0.1	0	63	35	2	0
Tuckwood Poll, W26	0.0	0	0	100	0	0	0.1	0	15	70	15	0	-0.2	0	89	11	0	0	-0.1	0	86	14	0	0
Yiddinga, WHITE 243	0.0	0	0	100	0	0	-0.1	0	27	69	4	0	0.1	5	53	40	2	0	0.2	9	33	56	2	0
Average performance	**3.0**	**0**	**0**	**100**	**0**	**0**	**2.9**	**2**	**21**	**65**	**12**	**0**	**2.3**	**1**	**66**	**32**	**1**	**0**	**2.3**	**3**	**67**	**29**	**1**	**0**

Table 4c. **Visual trait assessments – Conformation**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a sire's progeny assessed for each score is also reported.

For the majority of breeder's objectives a negative deviation would be considered favourable and the larger the deviation the better. 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.

Breeders flock, Sire name	Conformation																											
	Front Legs						Back Legs						Hocks						Pasterns						Toes					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Billandri Poll, 070380	0.0	0	4	87	9	0	0.1	0	18	73	9	0	0.0	0	0	42	58	0	0.2	0	6	47	47	0	0.1	0	3	93	4	0
Connewarran, 7001	0.0	0	0	95	5	0	0.0	0	25	75	0	0	0.0	0	3	42	55	0	-0.1	0	10	70	20	0	0.0	5	0	92	3	0
Curlew, Red 11	0.0	0	0	93	7	0	0.0	0	24	72	4	0	-0.1	0	0	59	41	0	0.0	0	6	66	28	0	-0.1	4	3	93	0	0
Future Park Poll, 099268	0.0	0	0	90	10	0	-0.3	0	53	43	4	0	0.0	0	0	43	57	0	0.2	0	0	63	37	0	0.1	0	0	97	3	0
Glendemar, 080121	0.0	0	0	95	5	0	0.1	0	28	54	18	0	0.2	0	0	26	74	0	0.1	0	0	67	31	2	-0.1	0	10	90	0	0
Gringegalgona Poll, 071233	0.0	0	0	88	12	0	0.0	3	15	82	0	0	-0.2	0	3	62	35	0	0.0	0	6	68	26	0	0.2	3	0	85	6	6
Jigsaw Farms, 080378	0.1	0	0	87	13	0	0.0	2	21	72	5	0	-0.1	0	3	56	41	0	-0.1	0	15	54	31	0	-0.1	10	3	77	10	0
Kooringal, 081100	0.1	0	0	86	14	0	0.0	0	29	66	2	3	0.2	0	0	31	69	0	0.1	0	3	60	37	0	0.1	0	3	86	11	0
Kurra-Wirra, B39	0.1	0	0	79	21	0	-0.1	0	36	64	0	0	0.0	0	0	46	54	0	-0.1	0	12	67	21	0	0.0	0	2	95	3	0
Merinotech VIC, 081564	-0.1	0	0	100	0	0	-0.1	0	39	57	4	0	-0.1	0	0	54	46	0	0.0	0	3	68	29	0	0.1	0	0	93	7	0
Mokanger, 04	0.0	0	2	96	0	2	-0.1	0	28	72	0	0	0.1	0	0	37	61	2	0.1	0	2	63	33	2	0.1	2	4	85	7	2
Moojepin, 090781	-0.1	0	0	100	0	0	0.0	0	35	54	11	0	0.0	0	4	42	54	0	0.0	0	4	73	23	0	0.0	0	8	92	0	0
Nerstane, 040222	0.0	0	0	93	7	0	0.0	4	25	64	7	0	0.3	0	4	14	82	0	0.2	0	3	54	43	0	-0.2	7	7	86	0	0
Nerstane, 090910	0.0	0	0	90	10	0	0.1	0	19	77	4	0	-0.1	0	0	58	42	0	-0.1	0	13	68	19	0	0.0	6	4	84	6	0
Pooginook, Ranger	0.0	0	0	93	7	0	0.1	0	15	83	2	0	0.0	0	0	51	49	0	-0.2	0	12	71	17	0	0.0	3	2	88	7	0
The Mountain Dam, 08/YA077	0.0	0	0	94	6	0	0.1	0	20	76	4	0	-0.1	0	0	57	43	0	-0.2	0	19	59	22	0	0.0	0	8	92	0	0
Tuckwood Poll, W26	0.0	0	0	95	5	0	0.1	0	20	75	5	0	-0.2	0	2	60	38	0	-0.2	0	15	65	20	0	0.0	2	0	98	0	0
Yiddinga, WHITE 243	-0.1	2	0	96	2	0	-0.1	0	40	53	7	0	0.1	0	0	36	62	2	0.0	0	11	56	33	0	-0.2	11	7	80	2	0
Average performance	**3.1**	**0**	**0**	**92**	**8**	**0**	**2.8**	**1**	**27**	**67**	**5**	**0**	**3.5**	**0**	**2**	**45**	**53**	**0**	**3.2**	**0**	**8**	**63**	**29**	**0**	**3.0**	**3**	**4**	**89**	**4**	**0**

Table 4d. **Visual trait assessments – Breech**

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a sire's progeny assessed for each score is also reported.

For the majority of breeder's objectives a negative deviation would be considered favourable and the larger the deviation the better.

Breeders flock, Sire name	Breech Visual Traits																							
	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
Billandri Poll, 070380	-0.2	0	11	43	38	8							-0.7	68	23	6	3	0	-0.3	78	13	9	0	0
Connewarran, 7001	0.2	0	5	26	50	19							0.1	24	45	21	10	0	0.2	50	25	20	3	2
Curlew, Red 11	0.2	0	3	32	46	19							0.3	22	24	46	8	0	0.6	37	33	13	10	7
Future Park Poll, 099268	-0.5	6	19	44	25	6							-0.9	84	12	4	0	0	-0.1	68	19	10	3	0
Glendemar, 080121	-0.7	10	20	48	18	4							-0.8	78	15	7	0	0	-0.3	74	18	8	0	0
Gringegalgona Poll, 071233	0.3	0	0	41	32	27							-0.1	32	38	24	3	3	0.0	58	30	9	0	3
Jigsaw Farms, 080378	0.1	5	3	29	41	22							0.6	12	36	19	31	2	0.1	61	24	8	5	2
Kooringal, 081100	0.0	2	5	41	32	20	**Crutch Cover**						0.5	0	49	39	10	2	-0.3	82	9	9	0	0
Kurra-Wirra, B39	0.2	0	2	40	37	21	**was not scored**						0.4	16	35	28	19	2	0.2	49	33	13	2	3
Merinotech VIC, 081564	0.1	0	3	42	39	16							0.6	13	26	35	26	0	-0.3	76	14	10	0	0
Mokanger, 04	0.2	0	4	38	26	32							0.1	23	36	36	5	0	-0.1	65	20	13	2	0
Moojepin, 090781	-0.3	0	10	53	30	7							-0.7	67	30	3	0	0	-0.3	74	22	4	0	0
Nerstane, 040222	0.1	0	3	52	21	24							-0.2	42	33	18	7	0	0.1	50	36	7	3	4
Nerstane, 090910	0.6	0	0	26	32	42							0.3	19	39	26	16	0	0.1	55	22	23	0	0
Pooginook, Ranger	0.1	4	7	32	30	27							0.4	25	20	36	14	5	0.4	51	20	12	10	7
The Mountain Dam, 08/YA077	-0.2	2	2	53	39	4							0.2	17	40	38	5	0	-0.3	80	14	6	0	0
Tuckwood Poll, W26	0.2	0	10	29	27	34							-0.4	45	38	17	0	0	0.8	32	32	12	12	12
Yiddinga, WHITE 243	-0.3	7	13	39	26	15							0.3	22	28	37	9	4	-0.4	80	15	5	0	0
Average performance	**3.6**	**2**	**7**	**39**	**33**	**19**							**2.1**	**34**	**32**	**25**	**9**	**0**	**1.6**	**62**	**22**	**11**	**3**	**2**

Table 5. **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.

Breeders flock, Sire name	Number of progeny	Sire averages for measured traits (deviations from the site average)									
		GFW	CFW	FD	WT			FDCV	Curv	SL	SS
		%	%	µm	kg			%	deg/mm	mm	N/ktex
		A^	A	A	W	H	A	A	A	A	A
Billandri Poll, 070380	45	0.2	0.2	0.4	1.2	1.9	0.4	-0.5	-2.6	2.5	-1.5
Connewarran, 7001	40	0.0	-0.1	0.1	-0.5	0.3	0.6	-0.4	1.9	0.1	8.5
Curlew, Red 11	28	-0.3	-0.2	-0.2	-1.5	-4.8	-4.7	1.5	8.4	-8.4	-5.7
Future Park Poll, 099268	29	-0.2	-0.2	1.5	1.3	3.1	3.4	-0.1	-2.9	5.7	-1.8
Glendemar, 080121	39	-0.4	-0.3	0.4	1.7	2.0	5.2	0.3	-9.6	4.7	-3.0
Gringegalgona Poll, 071233	34	0.4	0.4	0.1	-0.3	-1.1	-2.3	0.3	-5.3	1.1	2.3
Jigsaw Farms, 080378	39	-0.1	0.1	-0.4	-1.2	-1.9	-2.3	0.8	2.1	0.5	-8.9
Kooringal, 081100	32	0.0	-0.1	-0.5	-1.7	-1.8	-0.8	-0.4	5.5	-5.8	-5.3
Kurra-Wirra, B39	38	0.0	0.0	-0.8	0.0	-0.5	-0.6	-0.4	-1.8	-1.0	-0.3
Merinotech VIC, 081564	28	0.0	0.0	0.1	-0.4	1.1	-0.1	0.2	3.3	-3.0	0.9
Mokanger, 04	43	0.0	-0.1	-0.4	-1.2	-2.4	-2.4	-0.4	8.5	-4.9	4.8
Moojepin, 090781	26	-0.5	-0.5	0.0	1.7	3.5	4.6	-0.9	-6.0	2.1	-4.8
Nerstane, 040222	28	0.0	-0.1	-0.7	0.4	-0.9	-0.8	-0.4	5.3	1.1	-3.2
Nerstane, 090910	31	0.2	0.1	-0.6	-0.9	-1.5	-1.6	0.2	5.1	1.0	3.4
Pooginook, Ranger	40	0.4	0.4	0.3	0.7	0.5	-0.9	0.2	-9.0	1.5	8.0
The Mountain Dam, 08/YA07	46	-0.2	-0.1	0.4	-1.1	-1.7	-0.2	0.0	-0.3	-0.1	-3.2
Tuckwood Poll, W26	37	0.6	0.4	0.6	2.0	3.3	2.1	0.0	-3.6	7.1	2.9
Yiddinga, WHITE 243	44	-0.2	0.0	-0.2	-0.1	0.7	0.4	-0.1	0.9	-4.1	6.9
Average performance	**36**	**5.5**	**3.4**	**17.9**	**21.7**	**40.6**	**34.9**	**17.5**	**100.0**	**79.8**	**42.2**

^ W = Weaning (42 to 120 days); P = Post Weaning (210 to 300 days); Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Understanding the results

Index Options

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.

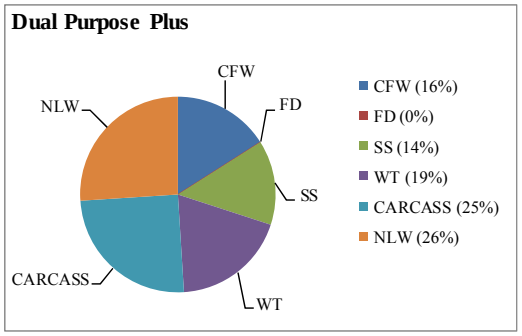
If a breeder is considering using a sire in this report it is critical to consider the performance of the breeder's flock relative to the performance standard in this report. The relative performance must be considered to establish the result that can be expected when a sire is used in a breeder's flock.

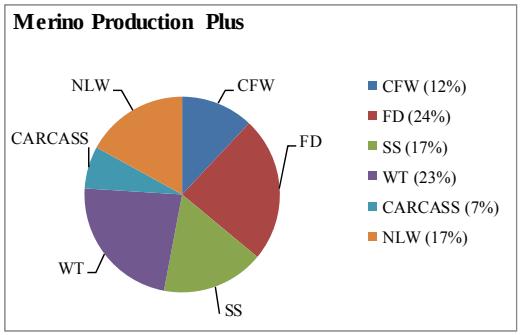
All AMSEA site evaluation reports present 3 standard indexes to provide combined **measured** trait performance These 3 AMSEA indexes are DP+; MP+; and FP+. These indexes are the same as MERINOSELECT indexes of that name however as there is no direct reproduction records captured by sire evaluation AMSEA do not include a Reproduction (NLW) FBV in their index calculations. As a result the 25% contribution by NLW in the DP+ index is not effectively applied by the index calculation.

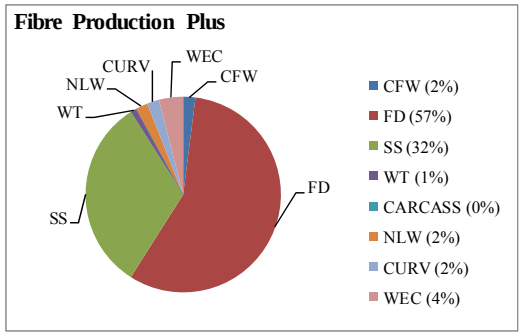
This report has added an additional index – the AMSEA Fine 20%+ SS.

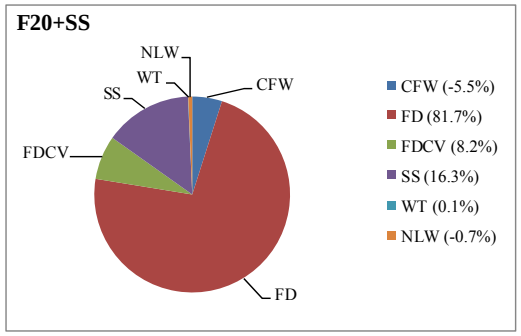
AMSEA **DP+**	**Dual Purpose:** Based on a meat focused production system where surplus progeny are sold as lambs and a portion of ewes are joined to terminal sires. Large increase in carcass traits and fleece weight. Moderate increase in reproduction. Maintain fibre diameter and staple strength.
AMSEA **MP+**	**Merino Production:** Based on a balanced wool and meat production system where surplus progeny are sold as hoggets. Moderate increase in fleece weight, staple strength, carcass traits and reproduction. Moderate reduction in fibre diameter.
AMSEA **FP+**	**Fibre Production:** Based on a wool focussed production system where wethers are retained, operating in an environment where worms cause economic losses. Large reduction in fibre diameter. Large increase in staple strength. Moderate reduction in WEC (if measured in the breeding program). Small increase in fleece weight. Little change in carcass traits and reproduction.
AMSEA **Fine20%+SS** (F20% +SS)	High emphasis on fibre diameter and staple strength. There is adequate emphasis on other traits to maintain performance except a moderate reduction in reproduction (number of lambs weaned – NLW).

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









Understanding the results

Accuracy of Flock Breeding Values

Flock Breeding Values (FBVs) are reported by Sheep Genetics (SG). 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 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 sires from different sources would be zero (0.0%). The correlation between *Flock* and *True* Breeding Value improves rapidly from 0.0% with no progeny to 77% with 10 progeny. The rate of improvement in correlation slows from 86% with 20 progeny, to 90% with 30 progeny and 92% with 40 progeny. With an infinite population the correlation is 100%. Note that the correlation used in the above example is for a trait such as fibre diameter with a high heritability (0.5).

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

Link sires

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

To be used as a link a sire 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 sires which can provide a wider perspective of the elite sires available across many flocks in Australia.

Combined measured trait and combined visual trait performance

Combined measured trait performance is calculated as Index – 100. Three different index options are provided to cater for breeders' different breeding objectives.

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 DP+ Index value = 119.7
 Tops% = 25.5 (average Tops% = 25.1)
 Culls% = 17.6 (average Culls% = 16.4)

Combined Measured = 119.7.0 – 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 = -0.1

Elders Balmoral Victoria Sire Evaluation Group

2011 Drop