Elders Balmoral

2015 Ewe Drop
Post Weaning Assessment

Within-Site Results

Conducted by

Elders Balmoral Sire Evaluation Group

under the auspices of

The Australian Merino Sire Evaluation Association

Merino Lifetime Productivity Project Site

June 2016

A revised report will be published when further data (including wether fleece results) becomes available.

Acknowledgement

The Merino Lifetime Productivity Project is being undertaken in partnership between the Australian Merino Sire Evaluation Association Incorporated (AMSEA) and Australian Wool Innovation (AWI). AMSEA and AWI would like to acknowledge those entities who also contribute funding, namely Woolgrowers through sire evaluation entry fees, site committee in-kind contributions, and sponsors of AMSEA. A special acknowledgement is also made to the Australian Government who support research, development and marketing of Australian wool.

Disclaimer

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 Sire Evaluation Group Central Test Sire Evaluation

The Elders Balmoral 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 about the events surrounding the trials, and through producing and distributing annual reports and periodic newsletters. To further promote the evaluation, displays have been on show at the Australian Sheep & Wool Show now held in Bendigo (1998-2016), 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" , "Wando Estate", "Mepungah" and "Tuloona" to allow progeny inspections 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 19 progeny drops: 1998 - 2016. All trials are run for a minimum of 2 years. The site planning and direction is provided by the Elders Balmoral Sire Evaluation Management Committee.

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

- 1998 & 1999 – "The Mountain Dam", Balmoral
- 2000 & 2002 – "Kerrsville", Balmoral
- 2002 & 2003 – "White Oaks", Balmoral
- 2004 & 2005 – "Arundale", Balmoral
- 2006 & 2007 – "Tuloona", Harrow
- 2008 & 2009 – "Mokanger, Cavendish
- 2010 & 2011 – "Yiddinga", Edenhope
- 2012 & 2013 – "Wando Estate", Casterton
- 2014 – "Mepungah", Wannon
- 2015 & 2016 – "Tuloona", Harrow

Merino Lifetime Productivity Project

Over recent years we have used the base trials to value add with additional trials. An example of this is the fertility analysis of sires from the 2010 drop progeny, a pedigree collection comparison in 2012 and now the Merino Lifetime Productivity Project (MLP) trials in 2015 and 2016.

The MLP project is a partnership between AWI and AMSEA that aims to comprehensively explore lifetime relationships between wool production, carcase performance and fertility. For modern Merino selection systems to be successful we need to understand and accommodate the lifetime relationships between all these production elements - and there are current data gaps. The MLP is set to fill these gaps through increasing our understanding of the genetics of the modern Merino sheep over its lifetime, across different locations and genotypes.

The Tuloona trial is one of four standard sire evaluation sites that will join via AI for two years and retain their ewe progeny for annual natural mating, classing and lifetime assessment. The sites will initially operate like a standard sire evaluation site – following the rigorous and independently assessed measured and visual assessment protocols. At the conclusion of the standard sire evaluation (once progeny is 18-24 months of age) AWI will support the ongoing measurement and visual classing of ewe progeny through 4-5 joinings and annual shearings. The number of ewes AI'd to each sire is increased to 90 ewes to ensure that there will be sufficient ewe progeny numbers per sire throughout life. More MLP information is available at www.wool.com.au/MLP.

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

Tom Silcock
Chairman - Elders Balmoral Sire Evaluation Group

2015 Drop Post Weaning Assessment

The information in this site evaluation report provides an update of the assessment of the 2015 drop, including the Post Weaning assessment of the sire's progeny performance for measured and visually assessed traits.

The Post Weaning fleece and visual assessments were made at 7 months of age with 7 months of wool growth. Post Weaning shearing was conducted at 7.5 months of age with 7.5 months of wool growth.

Contents

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Sire and Owner Details

Breeders flock, Sire name Sire ID [#], Breed [†]	Owner Details
Billandri Poll, 130087 (Link) 600571-2013-130087, Poll Merino	**Bill Sandilands** Billandri, Kendenup WA 6323 P: (08) 9851 4030, F: (08) 9851 4264, E: csandilands@bordernet.com.au
Bogo, 111424 (Link) 504792-2011-111424, Merino	**Malcolm Peake** Ravenswood, Boambolo Road, Yass NSW 2582 P: (02) 6227 1223, F: (02) 6227 1271, E: info@bogomerinos.com.au
Bundaleer Poll, 13V741 601449-2013-13V741, Poll Merino	**Peter and Gavin Lieschke** Pine Ridge, RMB 123, Walla Walla NSW 2659 P: (02) 6029 0142, F: (02) 6029 0188, E: lieschke@skymesh.com.au
Bundilla, 111265 504081-2011-111265, Merino	**Ross, Rick & Jill Baldwin** Bundilla, Tubbul Road, Young NSW 2594 P: (02) 6383 3802, F: (02) 6383 3805, E: bundillamerinos@bigpond.com
Centre Plus Poll, 207316 601250-2012-207316, Poll Merino	**Robert Mortimer** Devondale, Tullamore NSW 2874 P: (02) 6892 8259, F: (02) 6892 8292, E: robert@centreplus.com.au
Darriwell, 130941 503655-2013-130941, Merino	**Russell Jones** Darriwell , 924 Darriwell Rd, Trundle NSW 2875 P: (02) 6869 9242, F: (02) 6869 9242, E: darriwool@hotmail.com
Glenpaen, 120042 504654-2012-120042, Merino	**Rod Miller** 733 Victoria Valley Rd, Brimpaen VIC 3401 P: (03) 5383 9227, F: (03) 5383 9227, E: glenpaen@harboursat.com.au
Greenfields Poll, 130599 600240-2013-130599, Poll Merino	**Daryl Smith** Glenville, Cowell SA 5602 P: (08) 8628 5032, F: (08) 8628 5036, E: glenville@activ8.net.au
Hazeldean, 11.43 500383-2011-000043, Merino	**Jim Litchfield** Hazeldean Pty Ltd, Cooma NSW 2630 P: (02) 6453 5555, F: (02) 6453 5526, E: admin@hazeldean.com.au
Kurra-Wirra, SR5681 504173-2013-SR5681, 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
Leahcim Poll, 090918 (Link) 600815-2009-090918, Poll Merino	**Andrew and Rosemary Michael** PO Box 31, Snowtown SA 5520 P: (08) 8865 2085, F: (08) 8865 2585, E: leahcimgenetics@bigpond.com
Leahcim Poll, 123153 600815-2012-123153, Poll Merino	**Andrew and Rosemary Michael** PO Box 31, Snowtown SA 5520 P: (08) 8865 2085, F: (08) 8865 2585, E: leahcimgenetics@bigpond.com
Merinotech WA Poll, 100081 (Unreg) 609040-2010-100081, Poll Merino	**Ian Robertson** Merinotech (WA) Ltd, RMB 311, Kojonup WA 6395 P: (08) 9833 6251, F: (08) 9833 6255, E: yarrak311@optusnet.com.au
Mokanger, 120092 (Link) 504888-2012-120092, Merino	**Richard McShane** Mokanger Past Co, 711 Mokanger Road, Cavendish VIC 3314 P: (03) 5574 2367, F: (03) 5574 2328, E: mokanger2@bigpond.com
Moojepin, 100248 (Link) 504637-2010-100248, Merino	**Mark Wootton** 1874 Hensley Park Road, Hensley Park VIC 3315 P: (03) 5574 8246, F: (03) 5574 8262, E: office@jigsawfarms.com.au

Sire and Owner Details

Breeders flock, Sire name Sire ID #, Breed †	Owner Details
Mumblebone, 130389 (Link) 500063-2013-130389, Merino	**Chad Taylor** Marapana, 456 Wuuluman Road, Wellington NSW 2820 P: (02) 6845 3620, F: (02) 6845 3608, E: chad@mumblebone.com.au
Mumblebone, 130850 500063-2013-130850, Merino	**Chad Taylor** Marapana, 456 Wuuluman Road, Wellington NSW 2820 P: (02) 6845 3620, F: (02) 6845 3608, E: chad@mumblebone.com.au
Nareeb Nareeb, 130380 500246-2013-130380, Merino	**Richard Beggs** 4395 Hamilton Chatsworth Rd, Nareeb VIC 3293 P: (03) 5577 8222, F: (03) 5577 8362, E: office@nareebnareeb.com.au
Nerstane, 130467 503298-2013-130467, Merino	**John, Hamish and Jock McLaren** Nerstane, Woolbrook NSW 2354 P: (02) 6777 5881, F: (02) 6777 5922, E: jock@nerstane.com.au
One Oak No. 2, R56 (Link) 503855-2010-100R56, Merino	**Graham Wells** 1763 Great Alpine Road, Smoko VIC 3741 E: oneoakpl@bigpond.com
Roseville Park, 140019 (Link) 504166-2014-140019, Merino	**Matthew and Cherie Coddington** Glenwood, 39R Dilladerry Rd MS3, Dubbo NSW 2830 P: (02) 6887 7286, E: rpmerinos@bigpond.com
The Mountain Dam, 11/ESA004 504572-2011-ESA004, Merino	**Tom and Alison Silcock** The Mountain Dam, 429 Silcocks Road, Telangatuk East VIC 3401 P: (03) 5388 2288, F: (03) 5388 2235, E: tom@themountaindam.com.au
Tuckwood Poll, 121021 601053-2012-121021, Poll Merino	**Geoff Tucker** PMB 21, Millicent SA 5280 P: (08) 8734 2050, F: (08) 8734 2052, E: geomag@activ8.net.au
Yalgoo, 120043 (Link) 501552-2012-120043, Merino	**Jock Nivison** Yalgoo, PO Box 141, Walcha NSW 2354 P: (02) 6777 2088, E: yalgoopartnership@bigpond.com
Yiddinga, 130374 (Unreg) 509242-2013-130374, Merino	**Jim Farran** PO Box 222, Edenhope VIC 3318 P: (03) 5585 1888, 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 2015 drop progeny and location

"Tuloona" is operated by the Craig family and is located approximately 5km out of Harrow. Tuloona receives a winter dominated rainfall of approximately 470mm annually.

Ewe Base

The ewe base is a traditional super fine wool flock that has focussed over the past ten years on improving growth rate, wool cut and fertility whilst attempting to retain micron and quality. The mature ewe flock averages 17.2um and cuts 38kg/ha of clean wool (4.7kg at 63% yield, 2.96kg CFW) and weighing 52kg.

Ewes for the Merino Lifetime Productivity project were selected from three age groups totalling 3,500 ewes. Selection was based on evenness.

Joining

Laparoscopic insemination of 2160 ewes was conducted by Genstock Jerilderie between the 23-26 March, 2015. 25 sires were inseminated. Ewes averaged approximately condition score 2.9 at joining.

Owing to a mix up of semen at an AI centre, the semen sent for the Mumblebone sire was from two different Mumblebone sires. Both sires are reported in this report and the intended sire entrant has been re-joined and will have additional progeny in the 2016 drop.

Pregnancy and lambing

The ewes were pregnancy scanned on the 19 May, 2015. The results of which were disappointing with a relative low total number of foetuses. This was largely driven by a very low number of twin bearing ewes being scanned. In total, 67.3% foetuses to ewes joined were scanned.

Ewes were split following pregnancy scanning with the single bearing ewes divided into heavy condition and light condition order to maximise lamb survival. It was also decided to lamb the single bearing ewes in groups of approximately 200 to increase the possibility of lamb survival.

Ewes completed lambing at Tuloona in late August 2015. A total of 1268 lambs were tagged on 3 September. This represented 87% of the number of foetuses scanned. DNA samples were taken at tagging to determine sire and dam parentage.

The lambs were marked at tagging and scored for breech traits. On 9 November the lambs were weaned with an average weaning weight of 23.4kg.

Weaning to Post Weaning Assessment

Lambs tracked well for growth rate and body weight gain from weaning until affected with lupinosis in March. Body weights collected early March averaged 31.2kg (up from 25.5 on 28/1/16 – 160 grams/day) with an average condition score of 2.98. A combination of managing the lupinosis and a number of trial activities further impact on growth as outlined in the appended report by Hamish Dickson, AgriPartner Consulting. With shearing completed and green feed now in front of them, all lambs are doing well. The challenge now will be to try to build WEC levels so we can obtain individual WEC samples.

Seasonal conditions

The Spring leading up to the Summer of 2016, has seen record rainfall deficiencies leading to many livestock water storages being dry for the first time ever. As a result, lambs have been heavily supplemented from weaning to May. Record low levels of dry matter and water availability are now being relieved with good recent seasonal rainfall.

Assessment and Management Program

Activity			Date/s	Age	Wool
Selection of ewes			February 2015		
Allocation of ewes for mating			March 2015		
Pregnancy scanning			19 May 2015		
Allocated to lambing paddocks			10 August 2015		
Lambing: start – finish			16 – 23 August 2015		
Lambing mobs boxed to one management group			3 September 2015	14 days	
Tagging, pigmentation and breech scoring			3 September 2015	14 days	
Marking			3 September 2015	14 days	
Weaning			9 November 2015	81 days	
Mid side fleece sampling	•	PW	17 March 2016	7 months	7 months
Visual trait scoring	•	PW	17 March 2016	7 months	7 months
Shearing	•	PW	11 April 2016	7.5 months	7.5 months
Fat and eye muscle scanning	•		Not yet measured		
Worm egg count sampling	•		Not yet measured		
Body weighing	•	W	9 November 2015	81 days	
	•	PW	21 January 2016	5 months	
	•	PW	11 April 2016	7.5 months	
Drench	Drenched at weaning. Worm burdens currently being monitored.				
Fly treatment	Treated with Clik® at marking. Progeny are not mulesed.				
Supplementary feeding	Silage, Barley and Lupins post weaning				
Field day or public display of 2015 drop progeny	• Field Day & Progeny Display– April 2016 • Static display at Balmoral Show – March 2016				

Visual trait assessment and site Breeding Objective

Visual trait assessment
Classer's Grade: Mr David Whyte, Elders Limited
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 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 productive and well grown, with sound conformation and carrying heavy fine wool fleeces of good character, colour and nourishment suitable for the western Victorian environment.

Sire Codes and Pedigrees

Sire code	Breeders flock, Sire number	Sheep Genetics ID	Sire of Sire
1	Billandri Poll, 130087	600571-2013-130087	509605-2009-090122
2	Bogo, 111424	504792-2011-111424	Unknown
3	Bundaleer Poll, 13V741	601449-2013-13V741	Unknown
4	Bundilla, 111265	504081-2011-111265	504081-2009-090044
5	Centre Plus Poll, 207316	601250-2012-207316	601250-2009-907538 (Centre Plus Poll, 907538)
6	Darriwell, 130941	503655-2013-130941	503655-2011-000952
7	Glenpaen, 120042	504654-2012-120042	503298-2009-090910 (Nerstane, 090910)
8	Greenfields Poll, 130599	600240-2013-130599	600240-2010-100087
9	Hazeldean, 11.43	500383-2011-000043	600553-2007-070002 (Coromandel Poll, ET2)
10	Kurra-Wirra, SR5681	504173-2013-SR5681	504173-2010-SR4862
11	Leahcim Poll, 090918	600815-2009-090918	600815-2007-070319
12	Leahcim Poll, 123153	600815-2012-123153	600815-2010-101009
13	Merinotech WA Poll, 100081	609040-2010-100081	609040-2008-088578
14	Mokanger, 120092	504888-2012-120092	504888-2009-000004
15	Moojepin, 100248	504637-2010-100248	504637-2008-081206
16	Mumblebone, 130389	500063-2013-130389	601365-2009-090399
17	Mumblebone, 130850	500063-2013-130850	500063-2010-100186
18	Nareeb Nareeb, 130380	500246-2013-130380	503855-2011-BL0115
19	Nerstane, 130467	503298-2013-130467	503298-2010-100919 (Nerstane, 100919)
20	One Oak No. 2, R56	503855-2010-100R56	503855-2008-080004
21	Roseville Park, 140019	504166-2014-140019	601050-2009-090853 (Stockman Poll, 090853)
22	The Mountain Dam, 11/ESA004	504572-2011-ESA004	600792-2009-090576 (Mernowie Poll, 090576)
23	Tuckwood Poll, 121021	601053-2012-121021	601082-2008-081375
24	Yalgoo, 120043	501552-2012-120043	503298-2008-080121 (Nerstane, 080121)
25	Yiddinga, 130374	509242-2013-130374	509242-2011-000076

Figures 1 and 2. **Summary Graphs – FW and FD, Tops and Culls**

Figure 1. Fleece weight by fibre diameter (FBVs)
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.

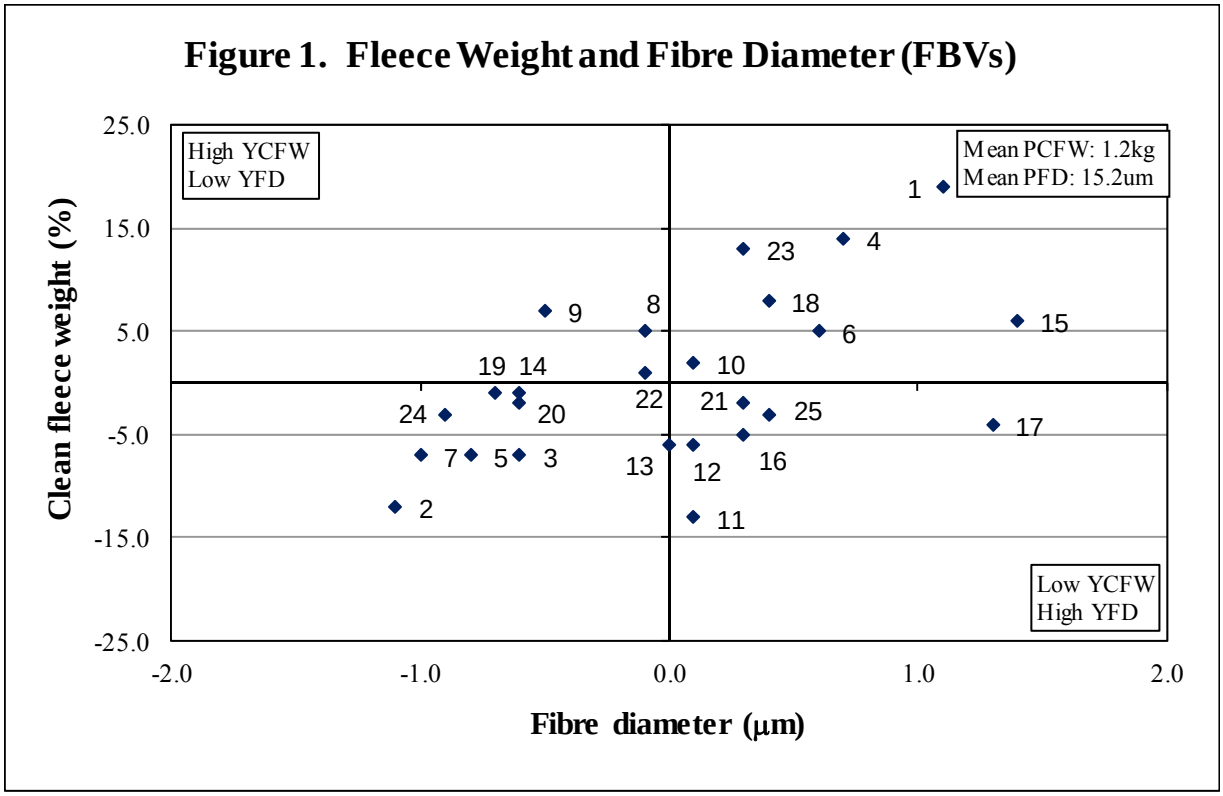
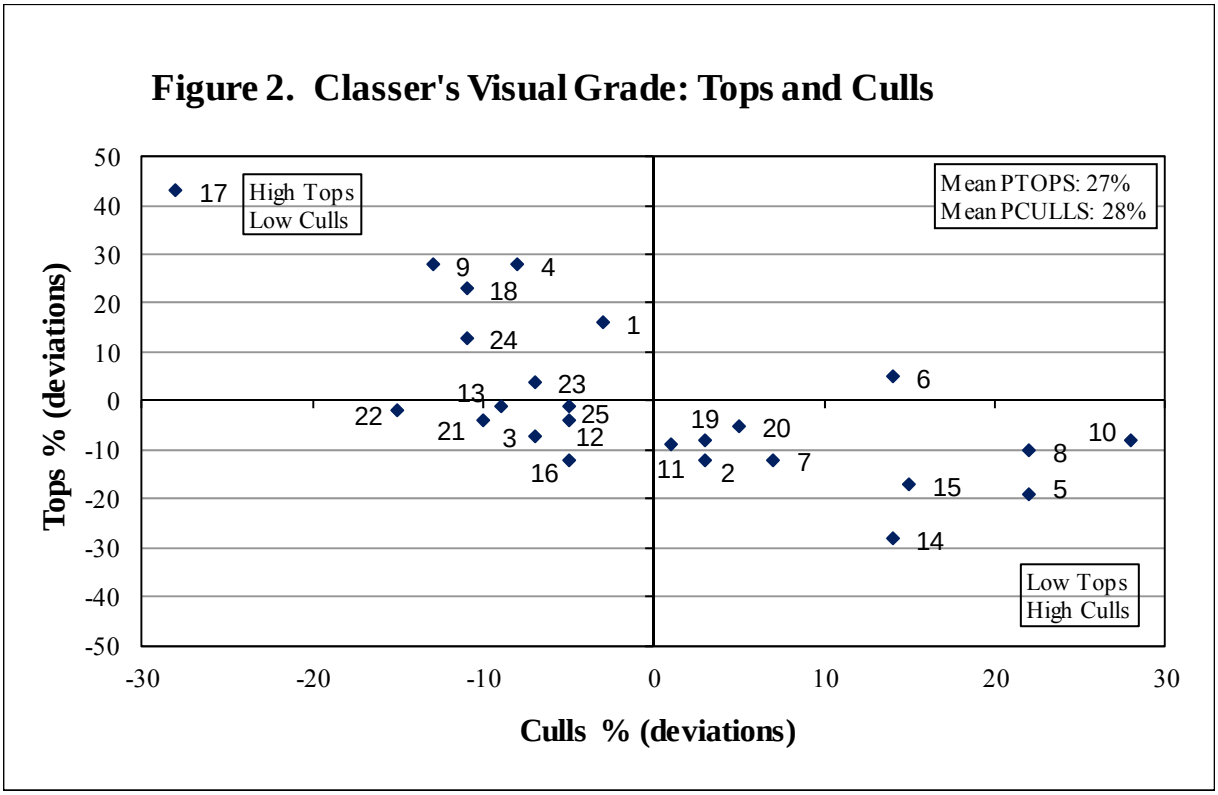


Figure 2. Classer's Visual Grade - Tops by Cull
The graph describes performance for Classer's Visual Tops Grade on the side axis and Culls Grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left hand quarter.



Understanding the Results

Measured trait performance and Classer's Visual Grade – Table 1

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. Average number of progeny is included in Table 1.
Flock Breeding Values:	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated by Sheep Genetics for the sires 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. The highest performing sires for each trait (trait leaders) are highlighted by shading. Curvature is the possible exception when for many breeders the optimum score is in the middle of the range therefore trait leaders have not been highlighted.
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). E = Early Post Weaning - 120 to 210 days (4 to 7 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 Visual 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. Average percentage of Tops and Culls for the entire drop is included in Table 1. Page 8 provides more detail on Classer's Visual Grade and the site's Breeding Objective.

Table 1. **Measured Traits and Classer's Visual Grade**

Breeders flock, Sire name	Number of Ewe Progeny	Post Weaning Flock Breeding Values (deviations)							Classer's Visual Grade[1]	
		GFW	CFW	FD	FDCV	CURV	WT		Tops	Culls
		%	%	µm	%	deg/mm	kg		%	%
		P^	P	P	P	P	W	P	P	P
Billandri Poll, 130087	16	14	19	1.1	0.1	-10.8	0.3	0.3	16	-3
Bogo, 111424	24	-9	-12	-1.1	0.0	4.9	-1.2	-2.2	-12	3
Bundaleer Poll, 13V741	29	-2	-7	-0.6	-0.3	4.4	-0.2	0.7	-7	-7
Bundilla, 111265	20	11	14	0.7	0.3	-2.0	2.1	3.3	28	-8
Centre Plus Poll, 207316	23	-5	-7	-0.8	-0.6	0.3	-1.6	-2.4	-19	22
Darriwell, 130941	18	2	5	0.6	0.0	-3.6	1.2	1.2	5	14
Glenpaen, 120042	26	-3	-7	-1.0	0.7	8.0	-0.5	-0.9	-12	7
Greenfields Poll, 130599	22	3	5	-0.1	1.3	-2.4	-0.7	-1.1	-10	22
Hazeldean, 11.43	26	6	7	-0.5	0.8	-0.7	1.0	1.3	28	-13
Kurra-Wirra, SR5681	23	0	2	0.1	1.4	-0.8	-2.6	-4.8	-8	28
Leahcim Poll, 090918	27	-12	-13	0.1	-0.2	2.5	-0.3	-1.0	-9	1
Leahcim Poll, 123153	22	-6	-6	0.1	-1.4	-3.5	0.3	0.2	-4	-5
Merinotech WA Poll, 100081	25	-7	-6	0.0	-1.7	3.2	-1.9	-2.4	-1	-9
Mokanger, 120092	19	-2	-1	-0.6	1.7	2.3	-0.4	-1.3	-28	14
Moojepin, 100248	21	6	6	1.4	-0.6	-5.5	2.5	4.8	-17	15
Mumblebone, 130389	13	-5	-5	0.3	-0.7	-2.7	-0.8	-1.2	-12	-5
Mumblebone, 130850	15	0	-4	1.3	-2.2	2.0	2.8	5.2	43	-28
Nareeb Nareeb, 130380	25	5	8	0.4	-0.5	-1.3	1.4	2.7	23	-11
Nerstane, 130467	25	4	-1	-0.7	1.0	0.8	-1.2	-2.8	-8	3
One Oak No. 2, R56	36	-1	-2	-0.6	1.9	3.5	-1.2	-2.2	-5	5
Roseville Park, 140019	17	-3	-2	0.3	0.5	1.2	-0.2	0.2	-4	-10
The Mountain Dam, 11/ESA004	31	-2	1	-0.1	0.8	-3.6	0.0	0.2	-2	-15
Tuckwood Poll, 121021	29	10	13	0.3	0.2	-3.4	2.6	4.0	4	-7
Yalgoo, 120043	31	-2	-3	-0.9	-1.2	6.7	-0.8	-1.1	13	-11
Yiddinga, 130374	26	-3	-3	0.4	-1.4	0.3	-0.7	-0.7	-1	-5

^ 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 Visual Grade is expressed as the percentage deviation of average Tops% and Culls%.

Understanding the results

Scored trait performance – Tables 2a, 2b, 2c, 2d

The following description of trait scores is a summary of the detailed word and diagrammatical description of these scores in Version 2 (2013) of the Visual Sheep Scores booklet that is available free from AWI or at *www.merinosuperiorsires.com.au*

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.

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

■ 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 <6%) to **5** (71 to 100% of staple).
■ Staple weathering:	The deterioration due to light and water from **1** (least, <6% of staple) to **5** (most, 71 to 100%) reflect the depth and degree of deterioration.
■ Staple structure:	The size and diameter of each staple from **1** (<6mm) to **5** (>30 mm).
■ Fibre pigmentation:	The percentage of dark fibres on any part of the sheep from **1** (0 pigmented fibres at any site) to **5** (71 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** (71 to 100% pigmented area on one or more bare skin sites, **and/or** 71 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.
■ 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 straight) to **5** (very angulated).
■ Body wrinkle:	The degree of body wrinkle from **1** (no wrinkle) to **5** (extensive wrinkle).
■ Jaw:	The alignment of the lower jaw and its teeth relative to the top jaw from **1** (very well aligned) to **5** (heavily undershot or overshot).
■ Back/Shoulder:	Conformation of the back and shoulder from **1** (very square) to **5** (very dipped or high).
■ 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).
■ Urine	Degree of urine stained wool in the breech area, including the hind legs from **1** (nil) to **5** (extensive).

Table 2a. **Visual trait assessments – Wool Quality**

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. No adjustments are made to the data to improve the accuracy of the results as is the case with sire means or breeding values.

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, 130087	0.0	94	6	0	0	0	0.2	0	13	75	12	0	0.1	0	19	75	6	0	-0.4	0	50	44	6	0
Bogo, 111424	0.0	100	0	0	0	0	0.2	4	15	58	23	0	-0.2	0	42	58	0	0	0.0	0	23	65	12	0
Bundaleer Poll, 13V741	0.0	100	0	0	0	0	-0.1	3	21	69	7	0	-0.2	0	41	55	4	0	-0.1	0	31	55	14	0
Bundilla, 111265	0.0	100	0	0	0	0	-0.1	0	45	40	15	0	0.2	0	10	80	10	0	0.1	0	15	70	15	0
Centre Plus Poll, 207316	0.0	100	0	0	0	0	0.2	0	16	67	17	0	-0.2	0	42	54	4	0	0.0	0	21	62	17	0
Darriwell, 130941	0.0	100	0	0	0	0	0.0	0	26	58	16	0	0.2	0	5	84	11	0	0.1	0	16	63	21	0
Glenpaen, 120042	0.0	100	0	0	0	0	0.3	0	8	69	23	0	-0.3	0	50	50	0	0	0.2	0	12	69	19	0
Greenfields Poll, 130599	0.0	95	5	0	0	0	0.0	4	14	77	5	0	0.0	0	27	68	5	0	0.2	0	18	50	32	0
Hazeldean, 11.43	0.0	100	0	0	0	0	0.0	0	33	48	19	0	-0.3	0	56	41	3	0	0.0	0	26	52	22	0
Kurra-Wirra, SR5681	0.1	92	8	0	0	0	0.2	0	16	60	24	0	-0.4	0	64	36	0	0	-0.1	0	36	44	20	0
Leahcim Poll, 090918	0.0	96	4	0	0	0	0.0	0	29	61	10	0	0.0	0	29	61	10	0	0.1	0	21	54	25	0
Leahcim Poll, 123153	0.0	100	0	0	0	0	0.0	0	23	68	9	0	-0.1	0	32	64	4	0	0.0	0	32	41	27	0
Merinotech WA Poll, 100081	0.0	100	0	0	0	0	-0.3	0	46	50	4	0	0.1	0	23	65	12	0	-0.3	0	50	42	8	0
Mokanger, 120092	0.0	95	5	0	0	0	0.1	0	20	65	15	0	-0.1	0	25	75	0	0	0.2	0	15	55	30	0
Moojepin, 100248	0.0	100	0	0	0	0	0.4	0	4	67	29	0	0.8	0	0	43	57	0	0.5	0	10	43	43	4
Mumblebone, 130389	0.0	100	0	0	0	0	-0.3	0	54	38	8	0	0.0	0	15	85	0	0	0.0	0	15	77	8	0
Mumblebone, 130850	0.1	92	8	0	0	0	0.2	0	31	38	31	0	0.1	0	8	92	0	0	0.1	0	23	54	23	0
Nareeb Nareeb, 130380	0.0	100	0	0	0	0	0.0	0	25	62	13	0	0.1	0	12	88	0	0	-0.4	0	46	54	0	0
Nerstane, 130467	0.0	96	4	0	0	0	-0.2	0	50	35	15	0	-0.2	0	35	65	0	0	0.2	0	19	50	31	0
One Oak No. 2, R56	0.0	100	0	0	0	0	0.1	0	22	61	17	0	-0.1	0	33	67	0	0	-0.1	0	31	56	13	0
Roseville Park, 140019	0.0	100	0	0	0	0	0.2	0	24	47	29	0	-0.2	0	35	65	0	0	0.0	0	18	76	6	0
The Mountain Dam, 11/ESA004	0.0	100	0	0	0	0	-0.1	0	35	55	10	0	0.2	0	10	77	13	0	-0.2	0	35	61	4	0
Tuckwood Poll, 121021	0.0	100	0	0	0	0	-0.3	0	52	41	7	0	0.3	0	3	83	14	0	0.1	0	17	62	21	0
Yalgoo, 120043	0.0	100	0	0	0	0	-0.5	0	63	37	0	0	-0.1	0	33	63	4	0	-0.2	0	33	63	4	0
Yiddinga, 130374	0.0	100	0	0	0	0	-0.2	0	37	59	4	0	0.2	0	11	74	15	0	-0.1	0	41	41	18	0
Average performance	**1.0**	**98**	**2**	**0**	**0**	**0**	**2.8**	**0**	**29**	**56**	**15**	**0**	**2.8**	**0**	**26**	**67**	**7**	**0**	**2.9**	**0**	**26**	**56**	**18**	**0**

Table 2b. **Visual trait assessments – Wool Quality and Pigmentation**

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. Staple Structure is the possible exception when for many breeders the optimum score is in the middle of the range therefore trait leaders have not been highlighted. Four pigmentation traits are reported. 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 progeny for each sire that a score 5 is recorded, are reported for Recessive black and Random spot.

Breeders flock, Sire name	Wool Quality												Pigmentation - Marking													
	Staple Weathering						Staple Structure						Fibre pigmentation						Non-fibre pigmentation						Black	Spot
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	5	5
Billandri Poll, 130087							0.1	7	12	81	0	0	0.0	98	2	0	0	0	0.1	33	61	6	0	0	0	2
Bogo, 111424							-0.3	0	58	42	0	0	0.0	94	4	0	2	0	0.0	43	48	9	0	0	0	0
Bundaleer Poll, 13V741							0.0	0	34	66	0	0	0.0	97	1	2	0	0	-0.2	59	41	0	0	0	0	0
Bundilla, 111265							0.2	0	15	85	0	0	0.0	97	0	0	0	3	0.3	21	67	12	0	0	0	5
Centre Plus Poll, 207316							-0.2	0	54	46	0	0	-0.1	100	0	0	0	0	-0.1	43	54	3	0	0	0	0
Darriwell, 130941							0.3	0	5	95	0	0	-0.1	100	0	0	0	0	0.3	26	53	21	0	0	0	0
Glenpaen, 120042							-0.4	0	69	31	0	0	-0.1	100	0	0	0	0	-0.3	69	30	1	0	0	0	2
Greenfields Poll, 130599							0.1	0	23	77	0	0	0.0	96	2	2	0	0	-0.3	65	35	0	0	0	0	0
Hazeldean, 11.43							-0.4	0	74	26	0	0	0.0	97	3	0	0	0	-0.1	48	48	4	0	0	0	0
Kurra-Wirra, SR5681							-0.2	0	56	44	0	0	0.0	95	4	1	0	0	-0.1	51	40	9	0	0	0	4
Leahcim Poll, 090918	**Staple Weathering**						0.1	0	25	75	0	0	0.0	97	1	2	0	0	-0.2	62	35	1	2	0	0	0
Leahcim Poll, 123153	**was not scored**						0.0	0	27	73	0	0	0.0	93	5	2	0	0	0.0	45	45	10	0	0	0	0
Merinotech WA Poll, 100081	**as Dust Penetration was**						0.0	0	27	73	0	0	-0.1	100	0	0	0	0	-0.3	65	35	0	0	0	0	2
Mokanger, 120092							0.0	0	35	65	0	0	0.3	79	16	2	0	3	0.4	21	58	18	3	0	0	0
Moojepin, 100248							0.3	0	0	100	0	0	0.1	90	8	0	2	0	-0.1	55	39	6	0	0	0	4
Mumblebone, 130389							-0.1	0	38	62	0	0	0.1	91	6	0	0	3	0.3	28	50	19	3	0	0	0
Mumblebone, 130850							0.0	0	31	69	0	0	0.0	96	4	0	0	0	0.1	42	46	12	0	0	0	0
Nareeb Nareeb, 130380							0.1	0	17	83	0	0	0.0	96	2	2	0	0	0.3	25	56	19	0	0	0	2
Nerstane, 130467							-0.2	0	54	46	0	0	0.0	94	6	0	0	0	0.3	17	68	15	0	0	0	0
One Oak No. 2, R56							0.0	0	28	72	0	0	0.0	98	2	0	0	0	-0.3	63	37	0	0	0	0	2
Roseville Park, 140019							0.0	0	29	71	0	0	-0.1	100	0	0	0	0	0.2	23	69	8	0	0	0	0
The Mountain Dam, 11/ESA004							0.1	4	19	77	0	0	-0.1	100	0	0	0	0	0.0	44	47	7	2	0	0	0
Tuckwood Poll, 121021							0.2	0	10	90	0	0	-0.1	100	0	0	0	0	-0.3	61	39	0	0	0	0	0
Yalgoo, 120043							0.0	0	27	73	0	0	-0.1	100	0	0	0	0	-0.4	78	22	0	0	0	0	0
Yiddinga, 130374							0.3	0	4	96	0	0	0.0	96	4	0	0	0	0.3	10	84	6	0	0	0	0
Average performance							**2.7**	**0**	**31**	**69**	**0**	**0**	**1.1**	**96**	**3**	**1**	**0**	**0**	**1.6**	**44**	**48**	**8**	**0**	**0**		

Table 2c. **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. No adjustments are made to the data to improve the accuracy of the results as is the case with sire means or breeding values.

For the majority of breeder's objectives a negative deviation would be considered favourable and the larger the deviation the better. Face cover is the possible exception 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						Legs and Feet						Shoulder and Back						Face Cover						Body Wrinkle					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Billandri Poll, 130087	0.0	100	0	0	0	0	0.1	24	38	38	0	0	0.1	62	38	0	0	0	-0.1	0	25	75	0	0	0.2	0	50	50	0	0
Bogo, 111424	0.1	96	0	4	0	0	0.1	19	54	27	0	0	0.0	75	25	0	0	0	0.3	0	0	85	15	0	0.1	0	62	38	0	0
Bundaleer Poll, 13V741	0.0	100	0	0	0	0	-0.1	24	62	14	0	0	-0.1	83	17	0	0	0	0.0	0	14	83	3	0	0.0	3	59	38	0	0
Bundilla, 111265	0.0	100	0	0	0	0	-0.2	40	40	20	0	0	-0.1	84	16	0	0	0	0.2	0	0	90	10	0	0.2	0	47	53	0	0
Centre Plus Poll, 207316	0.0	100	0	0	0	0	0.2	13	58	29	0	0	-0.1	83	17	0	0	0	-0.3	0	46	54	0	0	0.1	4	48	48	0	0
Darriwell, 130941	0.0	100	0	0	0	0	-0.3	37	58	5	0	0	0.2	63	32	0	5	0	0.3	0	5	74	21	0	0.2	0	63	26	11	0
Glenpaen, 120042	0.0	100	0	0	0	0	0.0	23	58	19	0	0	0.3	58	31	11	0	0	0.1	0	15	73	12	0	0.3	0	46	42	12	0
Greenfields Poll, 130599	0.0	100	0	0	0	0	0.5	5	45	50	0	0	0.1	68	23	9	0	0	0.1	0	5	95	0	0	0.1	5	50	45	0	0
Hazeldean, 11.43	0.0	100	0	0	0	0	-0.2	30	63	7	0	0	0.1	63	37	0	0	0	-0.1	0	30	67	3	0	0.2	0	44	56	0	0
Kurra-Wirra, SR5681	0.1	96	0	4	0	0	0.5	12	28	60	0	0	0.4	48	39	13	0	0	0.1	0	12	76	12	0	0.2	0	57	39	4	0
Leahcim Poll, 090918	0.0	100	0	0	0	0	-0.1	43	28	29	0	0	0.1	70	26	4	0	0	-0.1	0	25	71	4	0	-0.6	26	74	0	0	0
Leahcim Poll, 123153	0.0	100	0	0	0	0	0.1	9	73	18	0	0	-0.1	82	18	0	0	0	-0.2	0	36	64	0	0	-0.5	27	68	5	0	0
Merinotech WA Poll, 100081	0.0	100	0	0	0	0	-0.1	15	77	8	0	0	0.0	73	27	0	0	0	-0.2	0	35	65	0	0	0.2	0	46	54	0	0
Mokanger, 120092	0.0	100	0	0	0	0	0.3	10	55	35	0	0	0.1	68	26	6	0	0	0.2	0	0	90	10	0	0.5	0	37	47	16	0
Moojepin, 100248	0.0	100	0	0	0	0	-0.1	29	57	14	0	0	-0.2	90	10	0	0	0	-0.6	0	71	29	0	0	-0.6	29	71	0	0	0
Mumblebone, 130389	0.0	100	0	0	0	0	-0.1	38	31	31	0	0	-0.2	92	8	0	0	0	0.1	0	0	100	0	0	-0.2	0	85	15	0	0
Mumblebone, 130850	0.0	100	0	0	0	0	-0.3	38	54	8	0	0	0.0	77	15	8	0	0	-0.5	0	62	38	0	0	-0.8	46	54	0	0	0
Nareeb Nareeb, 130380	0.0	100	0	0	0	0	-0.2	38	50	12	0	0	-0.2	88	12	0	0	0	-0.1	4	21	75	0	0	0.2	0	50	46	4	0
Nerstane, 130467	0.1	96	0	4	0	0	0.3	7	58	35	0	0	0.0	69	31	0	0	0	0.3	0	0	81	19	0	0.3	0	35	65	0	0
One Oak No. 2, R56	0.0	100	0	0	0	0	-0.2	33	53	14	0	0	0.1	75	11	14	0	0	0.2	0	3	86	11	0	0.3	0	44	50	6	0
Roseville Park, 140019	0.0	100	0	0	0	0	-0.1	24	65	11	0	0	0.0	82	12	6	0	0	-0.1	0	24	76	0	0	0.0	6	53	41	0	0
The Mountain Dam, 11/ESA004	0.0	100	0	0	0	0	0.1	26	39	35	0	0	0.1	77	6	13	4	0	0.1	0	6	94	0	0	-0.2	4	77	19	0	0
Tuckwood Poll, 121021	0.0	100	0	0	0	0	0.2	21	41	38	0	0	-0.1	86	14	0	0	0	-0.1	0	28	72	0	0	-0.3	11	79	10	0	0
Yalgoo, 120043	0.0	100	0	0	0	0	-0.4	43	50	7	0	0	-0.1	80	20	0	0	0	0.1	0	10	83	7	0	0.3	0	40	60	0	0
Yiddinga, 130374	0.0	100	0	0	0	0	0.1	22	52	26	0	0	-0.2	96	4	0	0	0	0.0	0	15	85	0	0	-0.2	15	59	26	0	0
Average performance	**1.0**	**100**	**0**	**0**	**0**	**0**	**2.0**	**25**	**51**	**24**	**0**	**0**	**1.3**	**76**	**21**	**3**	**0**	**0**	**2.9**	**0**	**19**	**75**	**6**	**0**	**2.3**	**7**	**56**	**35**	**2**	**0**

Table 2d. **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. No adjustments are made to the data to improve the accuracy of the results as is the case with sire means or breeding values.

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 *Marking*						**Breech Wrinkle** *Marking*						**Breech Cover** *Post Weaning*						**Breech Wrinkle** *Post Weaning*						**Dag** *Post Weaning*					
	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, 130087	0.0	0	12	60	28	0	0.2	6	42	40	12	0	0.0	0	17	65	18	0	0.1	0	53	41	6	0	-0.3	81	19	0	0	0
Bogo, 111424	-0.1	0	19	57	22	2	0.0	11	43	41	5	0	-0.1	0	21	62	17	0	-0.1	0	67	33	0	0	-0.1	64	28	8	0	0
Bundaleer Poll, 13V741	-0.3	7	24	52	17	0	-0.2	16	53	24	5	2	0.2	0	18	48	34	0	0.1	4	48	48	0	0	0.3	45	31	21	3	0
Bundilla, 111265	0.0	3	15	55	25	2	0.2	5	42	38	12	3	-0.1	0	25	60	15	0	0.1	5	50	40	5	0	-0.3	75	25	0	0	0
Centre Plus Poll, 207316	-0.3	5	30	41	24	0	-0.2	11	59	24	6	0	-0.2	0	35	52	13	0	0.3	5	39	43	13	0	-0.2	70	26	4	0	0
Darriwell, 130941	0.1	0	8	62	26	4	0.2	11	30	43	13	3	0.2	0	21	37	42	0	0.3	0	42	47	11	0	-0.3	79	16	5	0	0
Glenpaen, 120042	0.2	0	9	54	31	6	0.6	1	28	46	19	6	0.2	0	23	31	46	0	0.4	0	35	46	19	0	0.0	65	27	4	0	4
Greenfields Poll, 130599	0.0	0	14	59	25	2	0.0	16	41	34	7	2	-0.1	8	9	61	22	0	0.1	5	43	48	4	0	0.4	41	41	0	18	0
Hazeldean, 11.43	0.1	0	19	45	32	4	0.4	1	31	55	13	0	0.1	0	15	63	22	0	0.2	3	41	52	4	0	-0.1	69	23	8	0	0
Kurra-Wirra, SR5681	0.1	0	14	49	33	4	0.5	2	28	42	28	0	0.1	0	18	52	30	0	0.2	0	48	48	4	0	-0.4	88	12	0	0	0
Leahcim Poll, 090918	-0.4	3	34	48	15	0	-0.8	46	46	8	0	0	-0.2	4	33	44	19	0	-0.6	22	74	4	0	0	-0.3	86	11	3	0	0
Leahcim Poll, 123153	0.0	4	16	45	30	5	-0.5	30	50	20	0	0	-0.1	0	30	52	18	0	-0.6	30	61	9	0	0	0.3	45	32	23	0	0
Merinotech WA Poll, 100081	-0.2	5	26	46	20	3	-0.1	15	44	33	8	0	0.1	0	11	62	27	0	0.1	0	46	54	0	0	0.3	38	42	15	5	0
Mokanger, 120092	0.3	0	2	50	45	3	0.5	3	29	39	29	0	0.1	0	16	58	26	0	0.4	0	26	63	11	0	0.7	30	30	30	10	0
Moojepin, 100248	-0.4	4	30	50	16	0	-0.6	32	52	16	0	0	-0.4	0	43	52	5	0	-0.5	14	86	0	0	0	-0.4	86	14	0	0	0
Mumblebone, 130389	0.2	0	9	53	34	4	-0.1	16	47	31	6	0	-0.1	0	31	46	23	0	0.0	0	62	38	0	0	-0.2	69	31	0	0	0
Mumblebone, 130850	-0.3	0	33	52	15	0	-0.9	52	44	4	0	0	-0.5	7	40	53	0	0	-1.1	73	27	0	0	0	-0.3	80	20	0	0	0
Nareeb Nareeb, 130380	0.0	0	16	51	31	2	-0.2	18	41	37	4	0	0.0	0	28	44	28	0	0.3	0	36	60	4	0	0.0	60	32	8	0	0
Nerstane, 130467	0.5	0	8	32	47	13	0.6	3	25	40	28	4	0.6	0	0	46	50	4	0.5	0	19	73	8	0	0.4	42	35	15	8	0
One Oak No. 2, R56	0.7	1	3	29	48	19	1.0	0	14	41	37	8	0.1	0	16	56	28	0	0.3	0	39	53	8	0	-0.1	72	19	6	3	0
Roseville Park, 140019	-0.1	3	11	64	22	0	-0.4	31	42	25	2	0	0.0	0	16	67	17	0	0.2	6	39	44	11	0	-0.1	72	22	0	6	0
The Mountain Dam, 11/ESA004	0.1	2	16	44	36	2	-0.2	21	43	33	3	0	0.0	0	22	50	28	0	-0.3	9	72	19	0	0	-0.1	65	32	0	3	0
Tuckwood Poll, 121021	-0.1	2	31	37	22	8	-0.1	20	37	35	8	0	0.2	0	14	55	28	3	-0.3	0	86	14	0	0	0.1	59	26	7	4	4
Yalgoo, 120043	0.1	2	10	56	27	5	0.3	10	24	46	20	0	0.1	0	13	58	29	0	0.2	0	45	48	7	0	0.2	50	33	10	7	0
Yiddinga, 130374	-0.1	0	19	54	27	0	-0.3	17	52	31	0	0	-0.1	0	22	59	19	0	-0.2	14	56	30	0	0	0.5	37	33	22	4	4
Average performance	**3.1**	**2**	**17**	**50**	**28**	**3**	**2.4**	**16**	**39**	**33**	**11**	**1**	**3.0**	**2**	**21**	**53**	**24**	**0**	**2.4**	**8**	**50**	**38**	**4**	**0**	**1.5**	**63**	**26**	**8**	**3**	**0**

Table 3. **Sire Means for Measured Traits**

Sire means are the average performance of all the progeny of a sire adjusted for all available information on sex, birth type, rear type, age of dam, age of measurement and management group, in order to improve the accuracy. No account is made for trait heritability and genetic correlations between traits that can improve the breeding value accuracy, as is the case in Table 1.

The highest performing sires for each trait (trait leaders) are highlighted by shading. Curvature is the possible exception when for many breeders the optimum score is in the middle of the range therefore trait leaders have not been highlighted.

The **Progeny group average** listed at the bottom of the table is the actual mean of the progeny group.

Breeders flock, Sire name	Number of Ewe progeny	Sire means for measured traits (deviations from the site mean)						
		GFW	CFW	FD	FDCV	Curv	WT	
		kg	kg	µm	%	deg/mm	kg	
		P^	P	P	P	P	W	P
Billandri Poll, 130087	16	0.3	0.2	0.8	0.0	-9.5	0.1	0.0
Bogo, 111424	24	-0.1	-0.1	-0.8	0.0	4.2	-0.3	-1.4
Bundaleer Poll, 13V741	29	0.0	-0.1	-0.4	-0.3	3.9	-0.5	0.3
Bundilla, 111265	20	0.2	0.2	0.5	0.3	-1.0	1.2	1.7
Centre Plus Poll, 207316	23	-0.1	-0.1	-0.6	-0.6	0.7	-0.8	-1.6
Darriwell, 130941	18	0.0	0.0	0.4	0.2	-3.4	0.9	0.5
Glenpaen, 120042	26	0.0	0.0	-0.7	0.6	7.0	-0.2	-0.6
Greenfields Poll, 130599	22	0.0	0.0	-0.1	1.2	-2.5	-0.5	-0.4
Hazeldean, 11.43	26	0.1	0.1	-0.4	0.6	0.7	0.7	0.4
Kurra-Wirra, SR5681	23	0.0	0.0	0.1	1.3	-1.1	-1.1	-3.1
Leahcim Poll, 090918	27	-0.2	-0.1	0.1	-0.1	1.8	0.1	-0.4
Leahcim Poll, 123153	22	-0.2	-0.1	0.0	-1.2	-4.1	0.2	0.6
Merinotech WA Poll, 100081	25	-0.1	0.0	0.0	-1.4	2.2	-1.4	-1.1
Mokanger, 120092	19	-0.1	0.0	-0.5	1.7	1.7	0.1	-0.8
Moojepin, 100248	21	0.0	0.0	1.0	-0.5	-4.2	0.8	3.2
Mumblebone, 130389	13	-0.1	-0.1	0.2	-0.7	-3.7	-0.7	-0.1
Mumblebone, 130850	15	0.0	-0.1	1.0	-2.0	2.1	1.3	3.4
Nareeb Nareeb, 130380	25	0.1	0.1	0.2	-0.5	0.1	0.7	1.2
Nerstane, 130467	25	0.2	0.0	-0.5	0.8	0.3	-0.1	-1.9
One Oak No. 2, R56	36	0.0	0.0	-0.4	1.5	2.9	-0.6	-1.3
Roseville Park, 140019	17	-0.1	0.0	0.3	0.5	1.3	-0.4	0.4
The Mountain Dam, 11/ESA00	31	-0.1	0.0	-0.2	0.7	-3.7	-0.1	0.5
Tuckwood Poll, 121021	29	0.2	0.1	0.1	0.0	-2.3	1.7	2.2
Yalgoo, 120043	31	0.0	0.0	-0.6	-1.0	6.0	-0.4	-1.1
Yiddinga, 130374	26	0.0	0.0	0.3	-1.2	0.5	-0.6	-0.7
Progeny group average	**24**	**2.1**	**1.2**	**15.2**	**20.1**	**98.2**	**23.4**	**28.4**
		kg	kg	µm	%	deg/mm	kg	

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.

Calculation of Combined Information

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 Visual 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

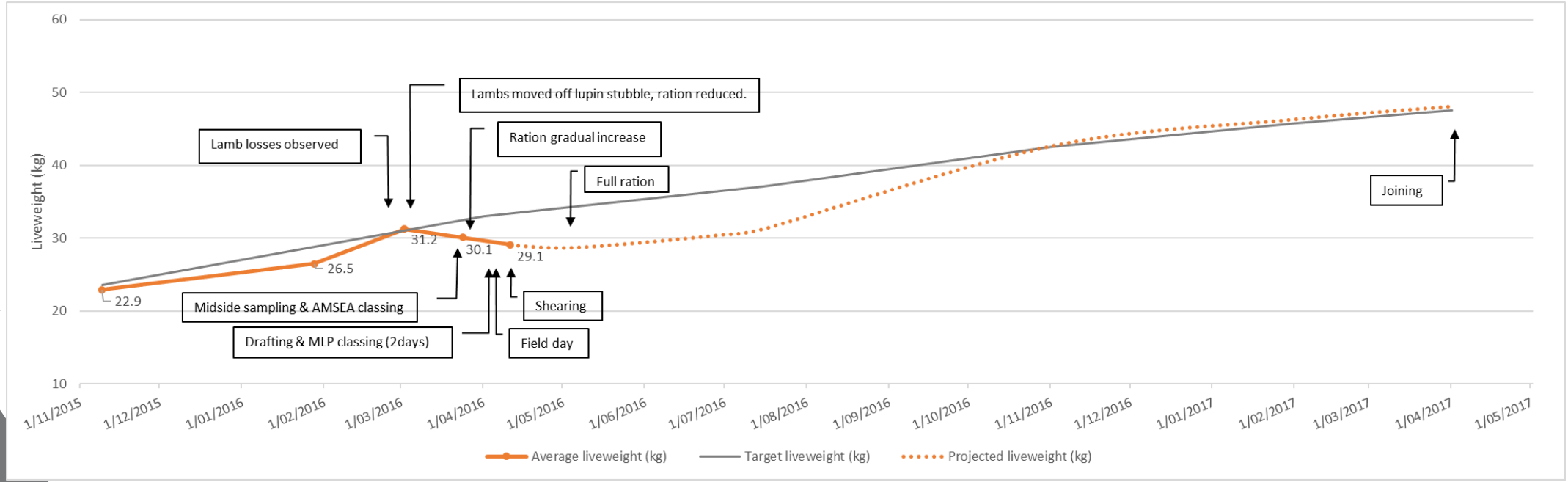
TULOONA 2015 MLP DROP EWE LAMB COMMENTARY

(Hamish Dickson, 19/5/16)

1. Lamb weaning weights were ideal, reaching an industry benchmark of 45% of mature weight
2. Lamb growth through summer until late February were tracking well on target
3. Lamb growth rate from late February suffered due to a combination of factors:
    a. health issues relating to lupinosis/blue green algae and the subsequent reduction in ration quality to manage the health issues
    b. significant disruption from multiple handling events/time off feed

Considering the seasonal conditions at Tuloona, the current condition of the stock is a great credit to Sean and Michael. The early growth and management of the stock placed them in good stead to withstand the recent challenges, had this not been the case significantly more mortalities would have been observed.

Given that the weaners have now fully recovered from the health issues and various husbandry/ trial activities; it is expected that growth rates are satisfactory again.



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Elders Balmoral

2015 Ewe Drop
Post Weaning Assessment Update

Merino Lifetime Productivity Project Site