Balmoral

Merino Sire Evaluation

Site Report

2023 Drop
Post Weaning and Hogget Assessment

Within-Site Results
July 2025

Conducted by

Balmoral Breeders

Under the auspices of

Australian Merino Sire Evaluation Association
MERINO Superior Sires

With support from

awi
Australian Wool Innovation Limited

Foreword

The Balmoral Sire Evaluation Trials aim to evaluate and promote leading sires suited to fine/medium wool and now some focus on lamb production in Western Victoria. We are also hoping to report on meat eating qualities and reproduction in our trials going forward.

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, Balmoral Show and Hamilton Sheepvention.

In 1998 a small group of stud breeders met to form what is now known as the Balmoral Sire Evaluation Group. The Sire Evaluation Trials commenced in 1998 and as of this year there will be 18 progeny drops for the 2025 season. All trials are run for a minimum of 2 years. The site planning and direction is provided by the 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
- 2017 & 2018 "Kooringal", Coleraine
- 2019 & 2020 "Jigsaw Farms", Hensley Park
- 2021 & 2022 "Austral Park", Coleraine
- 2023, 2024 & 2025 "Warooka", Cavendish

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

Mark Bunge
Chairman - Balmoral Breeders

Site Committee

Mark Bunge	Ashley Read	Marina VanAken
Anthony Close	Mark Williams	Ian Murray
Michael Craig	Rich Currie	Sean Harvey
Tom Silcock	Jarrod Alcorn	Rosey Leeming
Nick Falkenberg	Gary Simpson	John Lyons
Hugh Jarvis	Wayne Whale	Scott Davis
Andrew Howells	Colin Frawley	Elise Kealy
David Whyte	Rick Luhrs	Jonno Hicks
Tony Kealy	Peter Fraser	Kym Lyons
Clive Silcock	Celia Dymond	Hamish Robertson
Bernie Duggan		

For further information on this report please contact:

Mark Bunge (Site Chair & AMSEA Representative) mbunge5@gmail.com
Ben Swain (AMSEA Executive Officer) ben.swain@bcsagribusiness.com.au

Contents

2023 Drop Post Weaning and Hogget Assessment

The information in this Site Report provides the results of the assessment of the 2023 drop, including the Post Weaning and Hogget assessments of the sire's progeny performance for measured and visually assessed traits.

The Post Weaning midside fleece assessments were completed at 6.5 months of age with 6.5 months of wool growth and shearing was completed at 7.5 months of age with 7.5 months of wool growth.

The Hogget wether midside fleece assessments were completed at 18 months of age with 10.5 months of wool growth and shearing was completed at 18 months of age with 10.5 months of wool growth. The Hogget ewe midside fleece assessments were completed at 18.5 months of age with 11 months of wool growth and shearing was completed at 19.5 months of age with 12 months of wool growth.

Visual Trait Assessment and Site Breeding Objective

Visual trait assessment
Classer's Grade: Stephen Chalmers
Visual Trait Scores: Stephen Chalmers and Site Committee

Site Breeding Objective used to assess the Visual 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.

> 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. Fertility and reproduction are also a focus in selection.

In regard to Classer's Visual Grades the expectation is at the start of grading that there will be a ratio of 25% Top, 50% Flock and 25% Cull. However, the sheep performance relative to the above breeding objective determines the final proportion allocated to each grade.

Sire Codes and Pedigrees

Sire Code	Breeders flock, Sire number	Sheep Genetics ID	Poll	Sire of Sire
1	Anderson Poll, 200504	609147-2020-200504	PP	Anderson Poll,160390
2	Edale, 20Z350	502756-2020-20Z350	PH	Edale, 08E239
3	Egelabra, 200117	500032-2020-200117	HH	Egelabra, 140880
4	Ejanding Poll, 215492	600443-2021-215492	PP	Wallaloo Park Poll, 172032
5	Ella Matta Poll, 210170	601450-2021-210170	PH	Wallaloo Park Poll, 172032
6	Forest Springs Poll, 210257	601465-2021-210257	PP	Leachcim Poll, 173122
7	Gelton Poll, 190140	601341-2019-190140	PH	Unknown
8	Gringegalgona Poll, 200114	601321-2020-200114	PH	Gringegalgona Poll, 071233
9	Hazeldean, 001009	500383-2021-001009	PP	Hazeldean, 003368
10	Hill Padua, 210273	509262-2021-210273	PP	Hill Padua, 190523
11	Kia Ora, 190228	509221-2019-190228	HH	Kia Ora, 170039
12	Kiandra Poll, 210266	601138-2021-210266	PP	Wallaloo Park Poll, 180026
13	Kurra-Wirra, 210561	504173-2021-210561	PH	Kurra-Wirra, 191190
14	Mernowie Poll, 201080	600792-2020-201080	PP	Mernowie Poll, 181054
15	Mooralla Poll, 200116	609298-2020-200116	PH	Trigger Vale, 180492
16	Mumblebone, 191150 (Link Sire)	500063-2019-191150	PP	Moojepin, 120652
17	Nyowee Poll, 200298	600065-2020-200298	PP	Unknown
18	Nyowee Poll, PKS15	600065-2021-210015	PP	Unknown
19	Pooginook Poll, 220122	601442-2022-220122	PP	Pooginook Poll, 200747
20	Roseville Park Poll, 213488	601288-2021-213488	PP	Anderson Poll,160061
21	Stirling Dohne, 210032	510186-2021-210032	PP	Stirling Dohne, 180040
22	Stud Park South Poll, 859333	601462-2020-859333	PP	Wallaloo Park Poll, 190062
23	Trefusis, 170436	500013-2017-170436	HH	Nerstane, 130018
24	Turkey Lane, 200042	509069-2020-200042	PP	Turkey Lane, 190180
25	Wallaloo Park Poll, 161514 (Link Sire)	601332-2016-161514	PH	Trigger Vale, 140477

Sire and Owner Contact Details

Breeders flock, Sire number Sire ID #	Contact Details
Anderson Poll, 200504 609147-2020-200504, Poll Merino	**Lynley Anderson** Brookvale, RMB 512, Kojonup WA 6395 M: 0429 32 8055, E: info@andersonrams.com.au
Edale, 20Z350 502756-2020-20Z350, Merino	**Philip and James Gardiner** 555 Cattady Road, Moora WA 6510 P: (08) 9651 1700, M: 0408 91 5916, E: edale@wn.com.au
Egelabra, 200117 500032-2020-200117, Merino	**Cam Munro** Egelabra, 9429 Oxley Highway, Warren NSW 2824 P: (02) 6847 4808, M: 0428 47 8696, E: office@egelabra.com
Ejanding Poll, 215492 600443-2021-215492, Poll Merino	**Anthony Close** Kurra Wirra, 770 Mooree-Culla Rd, Culla VIC 3315 M: 0437 08 5217, E: anthony@kurrawirra.com.au
Ella Matta Poll, 210170 601450-2021-210170, Poll Merino	**Jonno Hicks** Hannaton Partnership, PO Box 22, Kaniva VIC 3419 M: 0428 92 2366, E: office@hannaton.com.au
Forest Springs Poll, 210257 601465-2021-210257, Poll Merino	**Bruce Dean** 96 Frampton Road, Joel Joel VIC 3384 M: 0407 05 4342, E: forestsprings@activ8.net.au
Gelton Poll, 190140 601341-2019-190140, Poll Merino	**Geoff Gellert** Mt Elliot , 805 Yarram Gap, Willaura VIC 3379 P: (03) 5354 1517, M: 0427 25 5220, E: geoffgellert@bigpond.com
Gringegalgona Poll, 200114 601321-2020-200114, Poll Merino	**Clive Silcock** 279 Melville Forest - Vasey Rd, Vasey VIC 3407 M: 0408 93 0044, E: cs.silcock@gmail.com
Hazeldean, 001009 500383-2021-001009, Merino	**Bea Litchfield** 1410 Maffra Rd, Cooma NSW 2630 M: 0427 93 3103, E: admin@hazeldean.com.au
Hill Padua, 210273 509262-2021-210273, Merino	**Anthony Thomas** 792 Strutton Rd, Three Springs WA 6519 M: 0427 54 1155, E: hillpadua@bigpond.com
Kia Ora, 190228 509221-2019-190228, Merino	**BP SS JP & N Finnigan** 178 Kia Ora Rd, Winslow VIC 3281 P: (03) 5569 2079, M: 0408 59 7678, E: finnigan.kiaora@gmail.com
Kiandra Poll, 210266 601138-2021-210266, Poll Merino	**Ryan Kluska** 4611 Emu Flat Road, Bordertown SA 5268 P: (08) 8754 2030, M: 0428 86 2040, E: kluska@activ8.net.au
Kurra-Wirra, 210561 504173-2021-210561, Merino	**Anthony Close** Kurra Wirra, 770 Mooree-Culla Rd, Culla VIC 3315 M: 0437 08 5217, E: anthony@kurrawirra.com.au
Mernowie Poll, 201080 600792-2020-201080, Poll Merino	**David Rowett** 55 Light River Road, RSD 96, Marrabel SA 5413 M: 0419 83 9280, E: david@mernowie.com
Mooralla Poll, 200116 609298-2020-200116, Poll Merino	**Ricky Luhrs** 440 Luhrs Rd, Mooralla VIC 3314 M: 0428 24 5746, E: info@moorallamerino.au
Mumblebone, 191150 (Link Sire) 500063-2019-191150, Merino	**Chad Taylor** Marapana, 456 Wuuluman Road, Wellington NSW 2820 P: (02) 6845 3620, M: 0458 45 3608, E: chad@mumblebone.com.au
Nyowee Poll, 200298 600065-2020-200298, Poll Merino	**Barrie and Ian Michael** PO Box 147, Balaklava SA 5461 P: (08) 8863 1277, M: 0409 69 2891
Nyowee Poll, PKS15 600065-2021-210015, Poll Merino	**Barrie and Ian Michael** PO Box 147, Balaklava SA 5461 P: (08) 8863 1277, M: 0409 69 2891
Pooginook Poll, 220122 601442-2022-220122, Poll Merino	**Andrew Glover** Pooginook , Jerilderie NSW 2716 M: 0427 20 3895, E: pooginook@paraway.com.au
Roseville Park Poll, 213488 601288-2021-213488, Poll Merino	**Matthew and Cherie Coddington** Glenwood, 39R Dilladerry Rd MS3, Dubbo NSW 2830 P: (02) 6887 7286, M: 0428 63 5386, E: rpmerinos@bigpond.com
Stirling Dohne, 210032 510186-2021-210032, Dohne	**Murray Rogerson** 538 Astons Road, Glenthompson VIC 3293 P: (03) 5577 8248, E: murrayrogerson1954@gmail.com
Stud Park South Poll, 859333 601462-2020-859333, Poll Merino	**Pat Millear** 6001 Mortlake Ararat Road, Willaura VIC 3379 M: 0428 54 1462, E: millearaps@bigpond.com
Trefusis, 170436 500013-2017-170436, Merino	**Georgina and Hamish Wallace** 1929 Tooms Lake Road, Ross TAS 7209 P: (03) 6381 5320, M: 0438 98 6257, E: gawallace@trefusis.com.au
Turkey Lane, 200042 509069-2020-200042, Merino	**John Symons** 31 Johncock Road, Parndana SA 5220 M: 0428 59 2234, E: j.jsymons@bigpond.com
Wallaloo Park Poll, 161514 (Link Sire) 601332-2016-161514, Poll Merino	**Trent Carter** 80 Bolangum Inn Road, Marnoo VIC 3387 M: 0427 77 6114, E: trent_carter@hotmail.com

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

Link sires are a vital sire evaluation component as they provide the 'genetic link' between sire evaluation sites located across Australia, allowing all sires entered to have their performance reported relative to each other in the annual Merino Superior Sires. An AMSEA link sire must have at least 25 progeny assessed at their 1st sire evaluation assessment.

The 16 digit Sire ID is a unique number for all sheep.
- 2 for the breed of the flock, e.g.Merino (50), Poll Merino (60), Dohne (51)
- 4 for flock code, AASMB Registered flock code or unregistered code.
- 4 for year of drop & 6 for tag# used in the breeder's records.

Manager's Report

Location
The host property 'Warooka' is located 35kms north of Hamilton and receives 600mm of winter dominant rainfall per year. The property is owned and operated by John, Joan, Kym and Julie Lyons.

Ewe Base
The property runs a self-replacing fine wool ewe flock, with the focus on breeding sheep that produce white, bright wool and have good fertility doing ewe ability. There has been a focus over the last few years to produce a sheep that is plainer easier care. The mature ewe reference weight is 60kgs, producing 5.5kgs of 18.5 micron wool.

Joining
Laparoscopic insemination of 1250 ewes was conducted by Genstock on 23rd and 24th February 2023 with the ewes being in condition score 3.

Pregnancy and Lambing
The ewes were pregnancy scanned on 24th April 2023 by George Western from SheepPro. Ewes were split following scanning into singles, twins and triplet bearing ewes. The ewes were split into 5 mobs during the pre-lambing process; two mobs of singles (228), two mobs of twins (155) and a small mob of 14 triplet bearing ewes. All received a BZ/levamisole combination oral drench, Cydectin LA injection, Websters 6 in 1, Multimin with copper and Cobalife B12. Each mob was lambed down in sheltered paddocks on good levels of Phalaris/Clover or Ryegrass/Clover pasture. The conditions in each of the single and twin paddocks was matched as closely as possible. Ewes started lambing 20th July 2023 over a 10 day period in their pregnancy status mobs.

Lamb marking was conducted on 24th August 2023 with TSUs taken, visual assessment, ear tagged and vaccinated. Lambs received 6 in 1 with B12 vaccination, Gaudair and Scabigard. Marking percentages were 87% for the singles, 142% for the twins and 164% for the triplets giving an overall lambing percentage of 110% from scanning. All lambs were mulesed on 4th September 2023 using Tri-Solfen and Meloxicam as pain relief and Clik as fly treatment. The lambs were also weighed as they exited the cradle to provide a starting point to measure growth rates.

Weaning to Post Weaning
Lambs were weaned on 17th October 2023, 89 days from the start of lambing. All were treated with a triple combination drench, 6 in 1, Multimin with copper and Cobalife B12. The lambs were weighed and split into 2 management mobs based on sex. Both mobs were placed on matched ryegrass/clover paddocks post weaning. The ewe lambs were weighed again on 6th December 2023 to be viewed at a Christmas function. Growth rates are shown in the table below.

	Marking/Mulesing (4th Sept) (kg)	Weaning (17th Oct) (kg)	Average Daily Gain (marking to weaning) (g/day)	Ewes (6th Dec) (kg)	Average Daily Gain (weaning to 6th Dec) (g/day)
Singles	17.8	26	189	32.2	129
Twin	15.3	23.5	190	30.2	145
Overall	16.5	24.6	189	31.2	138

All lambs were drenched with Zolvix Plus and Clikzin applied to body and breech on 7th December 2023. A 39mm rain event over the Christmas period led to the Clikzin breaking down faster than expected and a number of the lambs became fly-struck prior their planned crutching post Christmas break. This allowed fly-strike data to be collected for the trial. Lambs were crutched on 15th January 2024 and Clikzin re-applied to give protection until shearing after the site field day on 1st March 2024. Mid-side samples were collected on 5th February 2024 and the lambs shorn on the 5th March 2024 after inspection at the field day. After a wet period over Christmas, early January produced a good level of green pick, with the season then drying off into one of the driest starts to the year on record. Lambs were maintained on lick-feeders containing a mix of either beans or lupins and barley. Feeding was maintained until mid August 2024 due to the late autumn break and lack of pasture growth over autumn and winter.

Post Weaning to Hogget Assessment

WEC levels were monitored from March to early May 2024 to reach the required threshold of 300. The wether mob reached a level of 250epg when tested on 26th April 2024, while the ewe mob was only 75epg at the same point. Several of the wethers died prior to the next testing with a suspected Barbers pole outbreak. Both mobs were drenched on 6h May 2024 with Tridection to prevent further losses. No individual WEC samples were taken.

Fat and muscle scanning took place on 2nd October 2024. Dag/stain scoring on 28th October 2024 and all were crutched on 28th October 2024. Hogget classing was conducted on 21st January 2025 to allow the data to be collated prior to the 2025 field day on 7th March 2025. The wethers were mid-side sampled on 21st January 2025 and the ewes on 13th February 2025. At the field day the ewes were displayed in full wool while the wethers were shorn. Wethers were shorn on 31st January 2025, while the ewes were shorn 21st March 2025. Body wrinkle scoring and body weight was recorded directly off shears for both groups.

Kym Lyons

Assessment and Management Program

Activity	Date/s	Age	Wool
Selection of ewes	December, 2022		
Allocation of ewes for mating	January, 2023		
AI program	February 23 – 24, 2023		
Pregnancy scanning	April 24, 2023		
Allocated to lambing paddocks	June 16, 2023		
Lambing: start – finish	July 20 – August 10, 2023		
Marking, tagging, pigmentation and breech scoring	August 24, 2023	4 weeks	
Lambing mobs boxed into a single management group	August 24, 2023	4 weeks	
Weaning	October 17, 2023	12 weeks	
Even Up Shearing	-		
Worm egg count (Y)	Not collected; minimum measurement threshold not reached.		
Crutching	January 15, 2024 October 28, 2024	5.5 months 15 months	5.5 months 7.5 months
Fat and eye muscle scanning (Y)	October 2, 2024	14 months	
Mid side fleece sampling (P) **Mid side fleece sampling (H) - Wethers** **Mid side fleece sampling (H) - Ewes**	February 5, 2024 January 21, 2025 February 13, 2025	6.5 months 18 months 18.5 months	6.5 months 10.5 months 11 months
Visual trait scoring (P) **Visual trait scoring (H)**	February 5, 2024 January 21, 2025	6.5 months 18 months	6.5 months 10.5 months
Shearing (P) **Shearing (H) - Wethers** **Shearing (H) - Ewes**	March 5, 2024 January 31, 2025 March 21, 2025	7.5 months 18 months 19.5 months	7.5 months 10.5 months 12 months
Body weight (W) **Body weight (P)** **Body Weight (Y)** **Body Weight (H)-Wethers** **Body Weight (H)-Ewes**	October 17, 2023 February 29, 2024 October 2, 2024 January 31, 2025 March 21, 2025	3 months 7 months 14 months 18 months 19.5 months	
Vaccination	Marking - 6 in 1, Gudair, Scabigrad Weaning - 6 in 1		
Drench	Weaning - Triple combination 1st Summer (December 7, 2023) -Zolvix Plus Barbers pole out break (May 6, 2024) - Tridectin		
Fly treatment	Marking- Breech using Clik Post weaning-Body and breech using Clikzin. Post 1st crutching – Body and breech using Clikzin (re-application due to wet weather breaking down product)		
Field day or public display	March 1, 2024 March 7, 2025		

Explaining the Different Types of Results Reported

Raw Data » **Adjusted Sire Means** » **Flock Breeding Values**

Merino Sire Evaluation produces a variety of result types which are all connected. The types of data produced include **Raw Data**, **Adjusted Sire Means**, **Flock Breeding Values** and **Indexes**. Initial measurements taken during sire evaluation assessments are used as the first level of results (Raw Data), then adjustments are made to increase the selection accuracy and better enable the comparison of results and sires (Adjusted Sire Means and Flock Breeding Values and Indexes).

Generally, AMSEA publishes **Adjusted Sire Means**, **Flock Breeding Values** and **Indexes** in Site Reports as they offer a higher level of accuracy**.** Visual Traits were historically reported as **Raw Data**, however Adjusted Sire Means are now available for these traits and visual traits will now be presented in this format.

Raw Data

Raw data; unadjusted results as measured in the yard, paddock or wool testing facility.

Adjusted Sire Means

These are raw data results that have been adjusted for the effect of sex, birth type/rear type, age of dam, dam source, age at measurement, the number of progeny a sire has and management group(s).

Flock Breeding Values (FBVs)

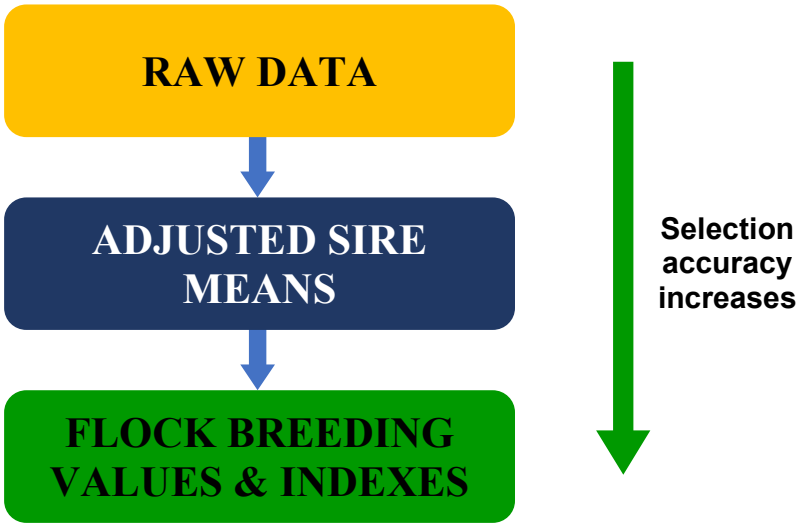
These results have been adjusted in the same way as Adjusted Sire Means, then further calculations have also been made to account for the level of heritability of a trait (some are more heritable than others) and correlations between traits.

FBVs are within site and within drop. As such they do not include data from other sources as is the case with Australian Sheep Breeding Values (ASBVs), which are reported in Merino Superior Sires.

Indexes

A breeding index is the combination of breeding values into a single value that reflects a certain emphasis on those traits.

For more information about each Index see the page in this report titled ‘Index Options’.



Understanding the Results - Classer's Visual Grade & Visual Traits				
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 weaning. Average number of progeny is included.			
Trait Leaders:	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.			
Age at assessment:	M	Marking - 14 to 39 days (2 to 6 weeks)	Y	Yearling - 300 to 449 days (10 to 15 months)
	W	Weaning - 40 to 149 days (6 weeks to 5 months)	H	Hogget - 450 to 659 days (15 to 22 months)
	P	Post Weaning - 150 to 299 days (5 to 10 months)	A	Adult - 660 days or older (22 months or 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 also included. Classer's Visual Grade is reported as **Adjusted Sire Means.** Results which have been adjusted for all available information on sex, birth type, rear type, age of dam, age of measurement, the number of progeny a sire has and management group(s), in order to improve the accuracy. No account is made for trait heritability or genetic correlations between traits that can further improve the accuracy. More detail on who completed the Visual Grade Classing/Scoring and the site's Breeding Objective is available earlier in this report.			
Visual Traits:	The following description of trait scores is a summary of the detailed word and diagrammatical description of these scores in Version 4 (2024) of the Visual Sheep Scores booklet that is available free from AWI or at *www.merinosuperiorsires.com.au*. For the majority of breeding objectives a lower score would be considered favourable and a large difference below the average performance is preferable. Staple structure and Face are the possible exceptions when for many breeders the optimum score is in the middle of the range therefore trait leaders are not highlighted. Visual traits are reported as **Adjusted Sire Means.** Results which have been adjusted for all available information on sex, birth type, rear type, age of dam, age of measurement, the number of progeny a sire has and management group(s), in order to improve the accuracy. No account is made for trait heritability or genetic correlations between traits that can further improve the accuracy. A selection of visual traits are also reported as **Flock Breeding Values (FBVs).** Results which are calculated from data recorded within-site and within-drop and express the expected genetic performance 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, the heritability of the trait, and non-genetic affects such as birth and rear type, sex (see adjustments listed earlier), and the number of progeny a sire has in the analysis. FBVs are calculated using all measured assessments up to the stage which is reported.			

Fleece rot:	FLROT	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:	COL	Greasy wool colour scored from **1** (whitest) to **5** (yellow).
Wool character:	CHAR	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:	DUST	Degree of dust penetration from 1 (only tip <6%) to 5 (71 to 100% of staple).
Staple weathering:	WEATH	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:	SSTRC	The size and diameter of each staple from **1** (<6mm) to **5** (>30 mm).
Fibre pigmentation:	FPIG	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:	SPIG	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 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. Only the percentage of progeny for each sire who scored 5 are reported for Recessive black and Random spot.
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.
Jaw:	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).
Hocks:	HOCK	Angulation of the hock joints in relation to the feet from **1** (square) to **5** (extreme angulation).
Front Legs:	FLEGS	Orientation of the front legs and feet from **1** (square) to **5** (extreme inward or outward orientation).
Pasterns:	PASTERN	Angulation of the pastern joint from **1** (no angulation) to **5** (extreme angulation).
Front Toes:	FTOES	Direction and degree of growth on the front toes from **1** (straight and normal) to **5** (long and opened or rolled over).
Back Toes:	BTOES	Direction and degree of growth on the back toes from **1** (straight and normal) to **5** (long and opened or rolled over).
Back/Shoulder:	BACK	Conformation of the back and shoulder from **1** (very square) to **5** (very dipped or high).
Face cover:	FACE	Wool cover on the face scored from **1** (open face) to **5** (fully covered face).

Body wrinkle:	BDWR	The degree of body wrinkle from **1** (no wrinkle) to **5** (extensive wrinkle).
Neck wrinkle:	NKWR	The degree of neck wrinkle from **1** (no wrinkle) to **5** (extensive wrinkle).
Breech wrinkle:	BRWR	Degree of wrinkle at the tail set and hind legs from **1** (nil) to **5** (extensive).
Breech cover:	BCOV	Size of natural bare area around the breech from **1** (large) to **5** (no bare).
Crutch cover:	CCOV	Size of natural bare area in the pubic and groin from **1** (large) to **5** (no bare).
Dag:	DAG	Degree of dag adhering to the breech and legs from **1** (nil) to **5** (extensive).
Urine:	URINE	Degree of urine stained wool in the breech area, including the hind legs from **1** (nil) to **5** (extensive).

Visual Traits reported as Flock Breeding Values (FBVs):	EBRWR: EBCOV: ECOL: EFROT: ECHAR: EDAG:	Early Breech Wrinkle Early Breech Cover Early Wool Colour Early Fleece Rot Early Wool Character Early Dag	LBRWR: LBCOV: LCOL: LFROT: LCHAR: LDAG:	Late Breech Wrinkle Late Breech Cover Late Wool Colour Late Fleece Rot Late Wool Character Late Dag

FBVs for Visual Traits are reported as 'Early' or 'Late'. Stage codes are divided into early or late as follows.

Wool Traits			
ECOL: EFROT: ECHAR:	Early Wool Colour Early Fleece Rot Early Wool Character	LCOL: LFROT: LCHAR:	Late Wool Colour Late Fleece Rot Late Wool Character
Early stages include Post Weaning and Yearling		**Late** stages include Hogget and Adult	

Other Traits			
EBRWR: EBCOV: EDAG:	Early Breech Wrinkle Early Breech Cover Early Dag	LBRWR: LBCOV: LDAG:	Late Breech Wrinkle Late Breech Cover Late Dag
Early stages include Marking and Weaning		**Late** stages include Post Weaning, Yearling, Hogget and Adult	

Table 1. Adjusted Sire Means - 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 also included.

Sire Code	Breeders flock, Sire number	Number of Progeny*	Classer's Visual Grade *Hogget* TOPS %	Classer's Visual Grade *Hogget* CULLS %
1	Anderson Poll, 200504	27	3	-8
2	Edale, 20Z350	37	-16	27
3	Egelabra, 200117	39	-9	-6
4	Ejanding Poll, 215492	38	0	9
5	Ella Matta Poll, 210170	32	24	-12
6	Forest Springs Poll, 210257	24	35	-19
7	Gelton Poll, 190140	28	17	-10
8	Gringegalgona Poll, 200114	28	-1	-7
9	Hazeldean, 001009	33	8	-1
10	Hill Padua, 210273	36	-10	-2
11	Kia Ora, 190228	41	0	-1
12	Kiandra Poll, 210266	17	4	-7
13	Kurra-Wirra, 210561	32	-4	-15
14	Mernowie Poll, 201080	25	-7	-14
15	Mooralla Poll, 200116	23	11	-17
16	Mumblebone, 191150 (Link Sire)	31	4	-21
17	Nyowee Poll, 200298	26	-19	50
18	Nyowee Poll, PKS15	18	-10	14
19	Pooginook Poll, 220122	18	3	-9
20	Roseville Park Poll, 213488	23	2	-13
21	Stirling Dohne, 210032	34	-1	-2
22	Stud Park South Poll, 859333	22	-15	16
23	Trefusis, 170436	39	-6	21
24	Turkey Lane, 200042	26	-9	21
25	Wallaloo Park Poll, 161514 (Link Sire)	24	-3	7
	Progeny group average	**29**	**19**	**31**

*Number of progeny is as at the Hogget classing event.

These Classer's Visual Grade were collected from both ewe and wether progeny of the sires and are reported as Adjusted Sire Means.
Please see pages 9-11 for a full description of trait names and an explanation of Adjusted Sire Means.

Table 2. Adjusted Sire Means - Visual Traits - Wool Quality and Pigmentation

Sire Code	Breeders flock, Sire number	Number of Progeny	Wool Quality - *Hogget*						Pigmentation - *Marking*			
			FLROT	COL	CHAR	DUST	WEATH	SSTRC	FPIG	SPIG	BLACK % Score 5	SPOT % Score 5
1	Anderson Poll, 200504	29	1.6	2.3	2.0	2.2	1.9	2.7	1.0	2.0	0	0
2	Edale, 20Z350	38	1.7	2.3	2.1	1.8	1.4	1.7	1.0	2.7	0	0
3	Egelabra, 200117	45	1.1	1.8	2.8	2.2	1.9	2.9	1.0	1.6	0	0
4	Ejanding Poll, 215492	43	1.8	2.5	2.3	2.4	2.1	2.3	1.0	1.8	0	0
5	Ella Matta Poll, 210170	34	1.4	1.9	1.8	2.0	1.8	2.0	1.0	2.6	0	0
6	Forest Springs Poll, 210257	28	2.0	2.2	1.6	2.1	1.8	2.3	1.0	2.0	0	0
7	Gelton Poll, 190140	29	1.8	2.6	1.5	2.0	1.7	1.9	1.0	2.1	0	0
8	Gringegalgona Poll, 200114	30	1.2	1.7	2.1	2.0	1.8	2.2	1.0	2.4	0	0
9	Hazeldean, 001009	33	1.8	2.3	1.7	2.4	2.1	1.9	1.0	3.0	0	0
10	Hill Padua, 210273	40	1.4	2.1	2.5	2.7	2.3	2.6	1.0	2.5	0	0
11	Kia Ora, 190228	45	1.2	1.8	2.7	2.5	2.2	2.3	1.1	2.8	0	0
12	Kiandra Poll, 210266	20	1.2	1.7	2.2	2.5	2.2	2.4	1.0	1.6	0	0
13	Kurra-Wirra, 210561	38	1.3	1.7	2.7	2.7	2.3	2.7	1.0	2.4	0	0
14	Mernowie Poll, 201080	34	1.8	2.2	2.2	2.4	2.2	2.3	1.0	1.9	0	0
15	Mooralla Poll, 200116	25	1.2	1.7	2.5	2.7	2.3	2.4	1.0	2.3	0	0
16	Mumblebone, 191150 (Link Sire)	36	1.3	1.8	2.4	2.6	2.2	2.4	1.0	2.6	0	0
17	Nyowee Poll, 200298	27	1.6	2.1	2.0	2.0	1.8	1.8	1.0	1.6	0	0
18	Nyowee Poll, PKS15	20	1.4	2.5	1.8	1.9	1.5	2.0	1.0	2.3	0	0
19	Pooginook Poll, 220122	20	1.4	2.2	2.4	2.3	2.0	2.2	1.0	2.0	0	0
20	Roseville Park Poll, 213488	29	1.3	2.0	2.4	2.4	2.0	2.0	1.0	2.1	0	0
21	Stirling Dohne, 210032	38	1.7	2.4	2.6	2.4	2.2	2.8	1.0	2.1	0	0
22	Stud Park South Poll, 859333	28	1.6	2.5	2.0	1.9	1.7	2.1	1.0	2.0	0	0
23	Trefusis, 170436	44	1.3	1.6	1.8	1.9	1.6	1.9	1.0	2.2	0	0
24	Turkey Lane, 200042	26	1.5	2.4	1.6	1.7	1.6	1.6	1.0	2.5	0	0
25	Wallaloo Park Poll, 161514 (Link Sire)	28	1.5	2.0	2.2	2.5	2.3	2.6	1.0	2.1	0	0
	Progeny group average	**32**	**1.5**	**2.1**	**2.2**	**2.2**	**1.9**	**2.2**	**1.0**	**2.2**	**-**	**-**

These visual traits were collected from both ewe and wether progeny of the sires and are reported as Adjusted Sire Means.
Please see pages 9-11 for a full description of trait names and an explanation of Adjusted Sire Means.

Table 3. Adjusted Sire Means - Visual Traits - Conformation

Sire Code	Breeders flock, Sire number	Number of Progeny	Conformation - *Hogget*								
			JAW	FACE	BACK	BDWR	HOCK	FLEGS	PASTERN	FTOES	BTOES
1	Anderson Poll, 200504	29	1.0	2.5	1.1	2.1	1.6	1.5	1.6	1.7	2.2
2	Edale, 20Z350	38	1.1	2.6	1.4	2.7	2.0	2.5	1.8	2.8	2.9
3	Egelabra, 200117	45	1.0	3.1	2.1	2.6	1.8	1.7	1.7	2.0	2.7
4	Ejanding Poll, 215492	43	1.0	3.0	1.4	1.9	1.6	2.3	1.7	2.6	2.6
5	Ella Matta Poll, 210170	34	1.0	2.7	1.5	2.1	1.8	1.8	1.5	1.9	2.4
6	Forest Springs Poll, 210257	28	1.0	2.9	1.6	2.0	1.6	1.8	1.4	2.1	2.6
7	Gelton Poll, 190140	29	1.0	2.8	1.5	2.4	1.4	2.3	1.6	2.1	2.4
8	Gringegalgona Poll, 200114	30	1.0	2.9	1.9	2.4	1.6	1.9	1.6	2.3	2.8
9	Hazeldean, 001009	33	1.1	2.8	1.6	2.1	2.0	2.1	1.8	2.4	2.8
10	Hill Padua, 210273	40	1.0	2.7	1.3	1.8	1.3	1.6	1.4	1.8	2.4
11	Kia Ora, 190228	45	1.0	2.9	1.7	2.5	1.5	1.9	1.5	2.0	2.6
12	Kiandra Poll, 210266	20	1.0	3.0	1.6	2.4	1.5	2.0	1.5	2.3	2.8
13	Kurra-Wirra, 210561	38	1.0	3.1	1.3	2.3	1.8	2.2	1.8	2.3	3.0
14	Mernowie Poll, 201080	34	1.0	2.7	1.5	2.0	1.7	2.0	1.7	2.2	2.4
15	Mooralla Poll, 200116	25	1.2	2.4	1.2	2.3	1.5	2.2	1.8	2.4	2.9
16	Mumblebone, 191150 (Link Sire)	36	1.0	2.6	1.2	1.8	1.3	1.9	1.5	2.1	2.6
17	Nyowee Poll, 200298	27	1.0	3.0	2.0	2.5	1.9	1.6	1.6	1.6	2.0
18	Nyowee Poll, PKS15	20	1.0	2.9	2.0	2.7	1.8	1.9	1.5	2.2	2.6
19	Pooginook Poll, 220122	20	1.1	2.9	1.2	2.0	1.3	1.8	1.8	2.1	2.4
20	Roseville Park Poll, 213488	29	1.2	2.6	1.3	1.7	1.6	1.7	1.6	2.0	2.6
21	Stirling Dohne, 210032	38	1.0	2.4	1.1	1.6	1.3	1.9	1.8	2.1	2.4
22	Stud Park South Poll, 859333	28	1.2	3.0	1.4	2.3	1.6	2.0	1.7	2.4	3.1
23	Trefusis, 170436	44	1.0	3.1	1.7	2.8	1.9	1.8	1.6	2.0	2.4
24	Turkey Lane, 200042	26	1.0	2.9	1.4	2.4	1.7	2.0	1.6	2.3	2.5
25	Wallaloo Park Poll, 161514 (Link Sire)	28	1.0	3.0	1.7	2.2	1.5	2.1	1.9	2.2	2.8

These visual traits were collected from both ewe and wether progeny of the sires and are reported as Adjusted Sire Means.
Please see pages 9-11 for a full description of trait names and an explanation of Adjusted Sire Means.

Table 4. Adjusted Sire Means - Visual Traits - Breech

Sire Code	Breeders flock, Sire number	Number of Progeny	Breech Visual Traits			
			BRWR	BCOV	DAG	URINE
			Marking		*Hogget*	
1	Anderson Poll, 200504	29	1.5	2.6	1.9	2.1
2	Edale, 20Z350	38	3.0	3.3	1.9	2.0
3	Egelabra, 200117	45	2.8	3.1	1.6	2.6
4	Ejanding Poll, 215492	43	1.8	2.9	1.6	2.3
5	Ella Matta Poll, 210170	34	1.6	2.8	1.9	2.1
6	Forest Springs Poll, 210257	28	2.0	3.3	2.1	1.7
7	Gelton Poll, 190140	29	2.6	3.1	2.0	1.9
8	Gringegalgona Poll, 200114	30	2.6	3.4	1.7	2.0
9	Hazeldean, 001009	33	2.4	3.4	1.7	2.4
10	Hill Padua, 210273	40	1.7	2.7	1.5	2.2
11	Kia Ora, 190228	45	2.7	3.1	1.9	1.6
12	Kiandra Poll, 210266	20	1.8	2.6	1.3	2.6
13	Kurra-Wirra, 210561	38	1.7	2.7	1.7	2.3
14	Mernowie Poll, 201080	34	1.7	2.8	1.5	2.3
15	Mooralla Poll, 200116	25	2.1	2.7	1.5	1.7
16	Mumblebone, 191150 (Link Sire)	36	2.0	3.1	1.6	2.3
17	Nyowee Poll, 200298	27	2.8	3.2	2.2	1.7
18	Nyowee Poll, PKS15	20	2.6	3.4	2.4	1.7
19	Pooginook Poll, 220122	20	2.1	3.2	1.8	2.6
20	Roseville Park Poll, 213488	29	2.1	2.6	1.7	2.1
21	Stirling Dohne, 210032	38	1.7	2.8	1.8	1.8
22	Stud Park South Poll, 859333	28	2.2	2.5	1.8	1.8
23	Trefusis, 170436	44	3.2	3.3	1.8	2.2
24	Turkey Lane, 200042	26	2.7	2.6	1.8	2.2
25	Wallaloo Park Poll, 161514 (Link Sire)	28	1.7	2.7	1.4	2.8
	Progeny group average	**32**	**2.2**	**3.0**	**1.8**	**2.1**

These visual traits were collected from both ewe and wether progeny of the sires and are reported as Adjusted Sire Means.
Please see pages 9-11 for a full description of trait names and an explanation of Adjusted Sire Means.

Table 5. Flock Breeding Values – Visual Traits

Sire Code	Breeders flock, Sire number	Number of Progeny	Flock Breeding Values					
			EBRWR	EBCOV	LCOL	LFROT	LCHAR	LDAG
1	Anderson Poll, 200504	29	-1.07	-0.50	0.46	0.10	-0.18	0.12
2	Edale, 20Z350	38	1.26	0.53	0.43	0.38	-0.11	0.37
3	Egelabra, 200117	45	1.04	0.31	-0.49	-0.44	0.94	-0.20
4	Ejanding Poll, 215492	43	-0.82	-0.06	0.71	0.46	0.25	-0.31
5	Ella Matta Poll, 210170	34	-0.79	-0.33	-0.34	-0.21	-0.55	0.20
6	Forest Springs Poll, 210257	28	-0.16	0.44	0.24	0.55	-0.72	0.41
7	Gelton Poll, 190140	29	0.53	0.27	0.84	0.48	-0.78	0.40
8	Gringegalgona Poll, 200114	30	0.58	0.65	-0.67	-0.41	-0.10	0.00
9	Hazeldean, 001009	33	0.36	0.67	0.34	0.43	-0.64	-0.15
10	Hill Padua, 210273	40	-1.05	-0.54	0.10	-0.14	0.56	-0.40
11	Kia Ora, 190228	45	0.73	0.30	-0.53	-0.39	0.76	0.31
12	Kiandra Poll, 210266	20	-0.64	-0.48	-0.62	-0.38	0.01	-0.63
13	Kurra-Wirra, 210561	38	-0.75	-0.44	-0.69	-0.35	0.61	-0.18
14	Mernowie Poll, 201080	34	-0.81	-0.22	0.21	0.33	0.10	-0.48
15	Mooralla Poll, 200116	25	-0.06	-0.29	-0.61	-0.34	0.39	-0.37
16	Mumblebone, 191150 (Link Sire)	36	-0.35	0.12	-0.50	-0.33	0.30	-0.32
17	Nyowee Poll, 200298	27	0.91	0.38	0.02	0.16	-0.22	0.68
18	Nyowee Poll, PKS15	20	0.63	0.60	0.55	0.10	-0.47	0.81
19	Pooginook Poll, 220122	20	-0.02	0.24	0.17	-0.05	0.25	0.05
20	Roseville Park Poll, 213488	29	-0.23	-0.54	-0.07	-0.25	0.32	-0.13
21	Stirling Dohne, 210032	38	-0.89	-0.29	0.57	0.32	0.69	0.09
22	Stud Park South Poll, 859333	28	-0.02	-0.59	0.59	0.19	-0.20	0.13
23	Trefusis, 170436	44	1.70	0.60	-1.01	-0.32	-0.52	0.09
24	Turkey Lane, 200042	26	0.76	-0.50	0.38	0.09	-0.68	0.10
25	Wallaloo Park Poll, 161514 (Link Sire)	28	-0.83	-0.34	-0.10	-0.02	-0.02	-0.57

These Flock Breeding Values were calculated using both the ewe and wether progeny of the sires.
Please see page 9-11 for a full description of trait names and an explanation of Flock Breeding Values.

Understanding the Results - Measured Traits						
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 weaning. Average number of progeny is included.					
Trait Leaders:	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.					
Measured Traits: Abbreviation, trait and the (units reported)	Measured traits are those assessed via a standardised collection and testing process completed by an independent, accredited and recognised service provider. Measured traits include the following:					
	GFW: CFW: FD: FDCV: SL: SS: CURV:	Greasy fleece weight (percentage) Clean fleece weight (percentage) Fibre diameter (micron) Fibre diameter coefficient of variation (percentage) Staple length (mm) at the mid-side Staple strength (N/ktex) at the mid-side Fibre curvature (degrees)		WT: EMD: FAT: WEC:	Body weight (kilograms) Eye muscle depth (mm) at the 'C' site Fat depth (mm) at the 'C' site Worm egg count (% deviation in worm burden of sire's progeny)	
Age at assessment:	M W P	Marking - 14 to 39 days (2 to 6 weeks) Weaning - 40 to 149 days (6 weeks to 5 months) Post Weaning - 150 to 299 days (5 to 10 months)		Y H A	Yearling - 300 to 449 days (10 to 15 months) Hogget - 450 to 659 days (15 to 22 months) Adult - 660 days or older (22 months or older)	
Adjusted Sire Means	Sire means are the average performance of all the progeny of a sire adjusted for the progeny's birth type, rear type, age of dam, management group and the number of progeny a sire has in the analysis. Adjustments improve the accuracy of the result and adjustments are based on the actual influence of these factors on the drop. No account is made for trait heritability and genetic correlations between traits. The overall progeny group mean is also reported.					
Flock Breeding Values (FBVs)	FBVs are calculated from data recorded within-site and within-drop and express the expected genetic performance 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, the heritability of the trait, and non-genetic affects such as birth and rear type, sex (see adjustments listed earlier), and the number of progeny a sire has in the analysis. FBVs are calculated using all measured assessments up to the stage which is reported. For more information: www.merinosuperiorsires.com.au/resources.					
Indexes	The indexes reported are based on measured traits FBV performance with varying emphasis on fleece weight, fibre diameter, body weight, staple strength and worm egg count. The indexes reported are the FW, WP, SM and ML. These indexes are the same as the MERINOSELECT indexes of that name but account for the fact that not all traits are currently collected as part of standard sire evaluation trials. Further information about Indexes is available earlier in this report and at www.merinosuperiorsires.com.au/resources.					

Table 6. Adjusted Sire Means - Wool

Sire Code	Breeders flock, Sire number	Number of Progeny	Adjusted Sire Means																	
			GFW kg			CFW kg			FD µm			FDCV %			SL mm		SS N/ktex		CURV deg/mm	
			P	H (wethers	H (ewes)	P	H (wethers	H (ewes)	P	H (wethers	H (ewes)	P	H (wethers	H (ewes)	H (wethers	H (ewes)	H (wethers	H (ewes)	H (wethers	H (ewes)
1	Anderson Poll, 200504	29	2.6	5.9	7.1	2.0	4.3	5.0	17.2	17.1	17.7	17.2	17.9	18.1	105.4	116.8	18.3	31.6	57.8	60.5
2	Edale, 20Z350	38	2.7	6.3	6.7	1.9	4.3	4.4	16.7	16.7	16.4	18.8	19.2	19.7	99.5	99.7	23.4	23.5	59.5	62.3
3	Egelabra, 200117	45	2.6	5.8	6.9	2.0	4.2	5.0	17.9	17.3	18.3	18.2	18.8	19.0	95.2	106.2	23.9	32.8	64.6	68.5
4	Ejanding Poll, 215492	43	2.5	5.6	6.8	1.9	4.2	4.7	16.6	16.6	17.2	18.4	18.3	19.6	101.4	108.9	26.5	26.9	64.8	59.3
5	Ella Matta Poll, 210170	34	2.7	5.7	7.1	2.0	4.2	5.1	16.9	16.5	17.6	18.4	20.3	18.7	104.8	118.5	20.5	23.3	57.3	57.8
6	Forest Springs Poll, 210257	28	2.8	7.2	7.5	2.1	5.2	5.2	16.9	17.8	17.4	17.0	17.9	16.4	106.0	117.1	30.7	33.6	52.9	58.6
7	Gelton Poll, 190140	29	2.8	7.3	8.0	2.1	5.4	5.8	16.6	17.1	17.3	18.4	17.3	18.0	111.4	113.4	32.1	32.5	52.0	58.1
8	Gringegalgona Poll, 200114	30	2.6	6.1	6.1	1.9	4.5	4.3	17.1	16.9	16.7	18.5	19.6	20.2	101.0	101.9	20.7	23.0	65.1	63.0
9	Hazeldean, 001009	33	2.9	6.3	7.4	2.1	4.6	5.2	16.3	16.4	16.4	16.3	16.3	17.5	112.7	114.5	20.4	27.3	56.2	58.7
10	Hill Padua, 210273	40	2.4	5.0	6.5	1.9	3.8	4.7	17.7	17.4	18.1	17.8	19.2	18.8	101.4	112.9	18.8	18.9	61.3	60.9
11	Kia Ora, 190228	45	2.8	6.4	6.7	2.0	4.5	4.6	16.4	16.8	16.2	17.8	17.5	19.2	108.3	113.5	25.3	28.3	66.0	66.7
12	Kiandra Poll, 210266	20	2.8	5.9	7.2	2.2	4.5	5.2	18.0	17.6	17.7	18.5	18.2	17.8	105.7	122.2	27.3	29.2	56.8	57.1
13	Kurra-Wirra, 210561	38	2.9	6.4	7.6	2.1	4.7	5.3	17.7	17.8	18.2	19.1	18.5	18.9	117.0	130.6	26.3	31.3	54.9	58.9
14	Mernowie Poll, 201080	34	2.7	5.2	6.9	2.0	3.7	4.9	17.3	16.5	18.2	18.2	19.6	18.4	105.4	119.8	15.7	30.8	54.5	58.7
15	Mooralla Poll, 200116	25	2.8	5.7	6.8	2.1	4.2	4.9	17.2	17.9	18.2	16.6	16.9	16.0	112.7	123.5	35.8	39.9	62.8	62.5
16	Mumblebone, 191150 (Link Sire)	36	2.7	5.7	6.4	2.0	4.3	4.6	17.4	17.5	18.0	18.6	17.8	17.0	117.4	122.5	17.3	24.2	55.8	55.6
17	Nyowee Poll, 200298	27	2.4	4.6	5.7	1.8	3.3	3.9	17.2	16.1	16.4	19.4	21.4	22.8	87.3	87.2	14.4	15.0	63.9	66.0
18	Nyowee Poll, PKS15	20	2.4	5.1	6.6	1.8	3.5	4.5	17.0	16.0	17.0	19.0	20.7	20.8	85.2	108.1	20.8	26.1	60.4	60.3
19	Pooginook Poll, 220122	20	2.7	6.2	7.2	2.0	4.6	5.2	16.5	16.5	17.3	18.0	16.3	16.8	107.8	114.3	30.9	31.6	58.4	56.5
20	Roseville Park Poll, 213488	29	2.6	5.7	7.0	1.9	4.0	4.7	16.9	16.7	17.5	17.2	19.0	16.7	95.6	112.2	21.3	32.3	66.9	68.6
21	Stirling Dohne, 210032	38	2.5	5.6	6.1	1.8	4.0	4.4	17.8	18.3	18.6	18.2	18.0	18.4	102.7	106.2	19.4	26.5	60.6	65.7
22	Stud Park South Poll, 859333	28	2.7	6.4	7.1	2.0	4.6	4.9	16.9	16.7	17.2	17.7	19.0	19.3	96.6	114.7	21.8	29.6	56.5	59.3
23	Trefusis, 170436	44	2.5	6.0	7.1	1.9	4.3	4.9	16.3	16.4	16.3	17.6	18.3	18.3	91.1	102.7	24.4	27.5	59.7	64.7
24	Turkey Lane, 200042	26	2.7	5.5	7.2	1.9	3.7	4.7	16.4	15.7	16.3	18.2	18.3	18.9	95.8	104.1	21.0	27.0	55.6	63.1
25	Wallaloo Park Poll, 161514 (Link Sire)	28	2.7	4.8	7.0	2.0	3.4	4.9	17.5	16.3	17.7	17.4	19.8	17.4	98.9	121.6	13.3	23.0	61.1	63.0
	Progeny group average	**32**	**2.7**	**5.9**	**6.9**	**2.0**	**4.3**	**4.8**	**17.0**	**17.0**	**17.3**	**18.0**	**18.5**	**18.6**	**103.0**	**112.2**	**22.8**	**27.6**	**59.7**	**61.6**
				kg			kg			µm			%			mm		N/ktex		deg/mm	

These Adjusted Sire Means were calculated using both the ewe and wether progeny of the sires.
Please see page 17 for a full description of trait names and an explanation of Adjusted Sire Means.

Table 7. Adjusted Sire Means - Weight and Carcase

Sire Code	Breeders flock, Sire number	Number of Progeny	Adjusted Sire Means						
			WT kg					EMD mm	FAT mm
			W	P	Y	H (wethers	H (ewes)	Y	Y
1	Anderson Poll, 200504	29	24.5	43.1	58.8	54.4	50.1	31.4	6.7
2	Edale, 20Z350	38	23.7	38.4	50.1	47.2	42.4	27.2	5.1
3	Egelabra, 200117	45	24.9	41.2	55.8	48.5	46.8	28.8	5.6
4	Ejanding Poll, 215492	43	25.5	41.7	60.4	53.6	50.6	31.8	5.8
5	Ella Matta Poll, 210170	34	25.6	41.7	56.8	49.3	51.3	31.8	5.4
6	Forest Springs Poll, 210257	28	26.0	45.6	66.4	58.7	56.2	32.6	6.3
7	Gelton Poll, 190140	29	24.7	41.4	61.3	52.3	52.0	29.9	5.3
8	Gringegalgona Poll, 200114	30	24.3	38.9	53.6	49.8	45.8	29.7	4.4
9	Hazeldean, 001009	33	25.5	45.2	60.8	52.7	49.7	32.1	5.2
10	Hill Padua, 210273	40	24.7	41.2	55.5	53.2	53.2	31.7	6.7
11	Kia Ora, 190228	45	22.4	38.0	52.3	48.6	43.4	31.1	6.2
12	Kiandra Poll, 210266	20	24.7	43.1	56.9	50.3	49.5	30.8	6.1
13	Kurra-Wirra, 210561	38	25.2	43.5	57.7	49.4	48.4	31.1	5.1
14	Mernowie Poll, 201080	34	24.4	43.0	56.4	49.8	51.8	30.8	5.1
15	Mooralla Poll, 200116	25	26.5	45.3	62.1	51.2	51.8	32.0	6.9
16	Mumblebone, 191150 (Link Sire)	36	23.5	41.7	59.0	52.6	52.6	32.6	7.0
17	Nyowee Poll, 200298	27	23.6	36.7	45.0	45.6	41.3	25.1	2.8
18	Nyowee Poll, PKS15	20	23.4	35.7	48.4	44.3	42.1	26.9	3.1
19	Pooginook Poll, 220122	20	26.8	43.2	60.3	53.2	50.2	31.6	6.3
20	Roseville Park Poll, 213488	29	25.6	44.9	60.4	54.4	52.4	33.1	6.4
21	Stirling Dohne, 210032	38	26.0	44.4	60.7	57.2	54.8	32.9	6.7
22	Stud Park South Poll, 859333	28	24.2	42.8	59.2	54.8	51.2	29.8	5.1
23	Trefusis, 170436	44	24.1	39.6	53.3	49.6	46.3	27.9	5.2
24	Turkey Lane, 200042	26	24.3	38.7	52.4	46.3	46.4	29.5	5.1
25	Wallaloo Park Poll, 161514 (Link Sire)	28	26.2	44.3	52.8	45.6	52.2	30.4	5.2
	Progeny group average	**32**	**24.8**	**41.7**	**56.6** kg	**51.1**	**49.2**	**30.5** mm	**5.6** mm

These Adjusted Sire Means were calculated using both the ewe and wether progeny of the sires.
Please see page 17 for a full description of trait names and an explanation of Adjusted Sire Means.

Table 8. Flock Breeding Values - Wool

Sire Code	Breeders flock, Sire number	Number of Progeny	Flock Breeding Values										
			GFW %		CFW %		FD µm		FDCV %		SL mm	SS N/ktex	CURV deg/mm
			P	H	P	H	P	H	P	H	H	H	H
1	Anderson Poll, 200504	29	-4	0	-1	1	0.3	0.3	-1.2	-0.7	3.7	-0.1	-0.3
2	Edale, 20Z350	38	3	1	-4	-5	-0.5	-1.1	1.1	1.5	-12.6	-1.9	0.4
3	Egelabra, 200117	45	-2	-2	-2	-2	1.4	0.9	0.2	0.8	-11.3	2.7	7.8
4	Ejanding Poll, 215492	43	-7	-5	-4	-4	-0.8	-0.5	0.6	0.7	-3.9	0.4	0.9
5	Ella Matta Poll, 210170	34	3	2	5	3	-0.2	-0.2	0.8	1.4	5.3	-5.3	-6.1
6	Forest Springs Poll, 210257	28	6	20	7	22	-0.3	0.7	-1.3	-1.6	4.2	6.6	-3.9
7	Gelton Poll, 190140	29	8	28	10	33	-0.8	-0.2	0.4	-0.8	5.8	6.1	-8.3
8	Gringegalgona Poll, 200114	30	-1	2	-2	-1	0.0	-0.4	0.8	1.6	-7.1	-3.9	6.4
9	Hazeldean, 001009	33	7	9	6	11	-1.2	-1.1	-2.6	-2.5	9.3	-1.0	-4.1
10	Hill Padua, 210273	40	-10	-15	-4	-7	1.2	1.3	-0.4	0.0	1.6	-6.3	-0.3
11	Kia Ora, 190228	45	4	2	3	0	-1.2	-1.4	-0.3	0.2	3.6	1.7	9.2
12	Kiandra Poll, 210266	20	5	4	8	9	1.3	0.9	0.4	-0.3	8.1	2.4	-7.0
13	Kurra-Wirra, 210561	38	14	14	9	15	1.1	1.6	1.6	0.5	22.3	3.1	-6.5
14	Mernowie Poll, 201080	34	0	-4	1	-2	0.4	0.8	0.4	0.1	8.5	-0.5	-5.6
15	Mooralla Poll, 200116	25	3	-3	2	-4	0.3	1.2	-2.0	-2.6	12.1	11.6	1.7
16	Mumblebone, 191150 (Link Sire)	36	0	-8	3	-3	0.5	1.1	0.4	-1.2	18.2	-4.0	-8.4
17	Nyowee Poll, 200298	27	-9	-24	-7	-27	0.2	-1.3	2.3	4.4	-27.9	-12.8	7.5
18	Nyowee Poll, PKS15	20	-7	-6	-8	-11	-0.2	-0.8	1.7	2.5	-12.0	-2.8	-2.3
19	Pooginook Poll, 220122	20	2	4	2	4	-0.9	-0.6	-0.5	-2.0	3.3	6.8	-3.8
20	Roseville Park Poll, 213488	29	-2	-5	-6	-8	-0.2	-0.1	-1.1	-0.9	-5.7	1.5	12.8
21	Stirling Dohne, 210032	38	-7	-10	-7	-8	1.4	2.3	0.0	-0.5	-3.2	-1.7	4.7
22	Stud Park South Poll, 859333	28	1	6	0	5	-0.3	-0.3	-0.2	0.5	-1.3	-0.3	-1.7
23	Trefusis, 170436	44	-7	1	-7	1	-1.3	-1.4	-0.7	-0.6	-15.7	2.1	4.6
24	Turkey Lane, 200042	26	4	1	-3	-8	-1.1	-1.8	0.2	0.3	-10.2	0.0	-0.1
25	Wallaloo Park Poll, 161514 (Link Sire)	28	-3	-12	-2	-14	0.8	0.2	-0.7	-0.6	4.7	-4.5	2.5

These Flock Breeding Values were calculated using both the ewe and wether progeny of the sires.
Please see page 17 for a full description of trait names and an explanation of Flock Breeding Values.

Table 9. Flock Breeding Values - Weight, Carcase and WEC

Sire Code	Breeders flock, Sire number	Number of Progeny	Flock Breeding Values						
			WT kg				EMD mm	FAT mm	WEC %
			W	P	Y	H	Y	Y	
1	Anderson Poll, 200504	29	0.0	2.0	2.7	2.5	0.5	1.4	Worm Egg Count not recorded as thresholds not met.
2	Edale, 20Z350	38	-2.2	-5.4	-7.7	-8.7	-2.2	0.4	
3	Egelabra, 200117	45	-0.2	-0.7	-2.0	-4.5	-2.3	0.1	
4	Ejanding Poll, 215492	43	0.9	0.9	3.4	2.5	0.4	-0.1	
5	Ella Matta Poll, 210170	34	0.7	-0.4	0.1	0.3	1.4	-0.3	
6	Forest Springs Poll, 210257	28	2.4	5.8	10.3	9.8	-0.6	-0.4	
7	Gelton Poll, 190140	29	-0.2	0.4	4.4	2.7	-2.6	-1.6	
8	Gringegalgona Poll, 200114	30	-1.4	-3.4	-3.1	-2.5	-0.1	-1.5	
9	Hazeldean, 001009	33	1.6	5.0	4.8	1.8	0.3	-1.3	
10	Hill Padua, 210273	40	0.1	-0.2	0.0	6.3	2.9	2.8	
11	Kia Ora, 190228	45	-4.7	-6.3	-5.8	-8.0	2.3	2.3	
12	Kiandra Poll, 210266	20	0.3	1.4	0.3	0.3	0.3	0.5	
13	Kurra-Wirra, 210561	38	1.1	3.0	1.5	-1.1	0.2	-1.0	
14	Mernowie Poll, 201080	34	-0.1	1.7	0.9	2.6	0.6	-0.7	
15	Mooralla Poll, 200116	25	2.5	4.5	4.6	1.8	0.0	1.2	
16	Mumblebone, 191150 (Link Sire)	36	-1.6	-0.1	1.5	3.4	2.2	2.2	
17	Nyowee Poll, 200298	27	-2.7	-7.1	-11.8	-9.9	-3.0	-3.1	
18	Nyowee Poll, PKS15	20	-2.8	-7.0	-8.3	-9.0	-2.1	-2.8	
19	Pooginook Poll, 220122	20	2.4	1.5	1.7	0.8	-0.2	0.2	
20	Roseville Park Poll, 213488	29	1.7	4.3	4.7	4.9	2.0	1.0	
21	Stirling Dohne, 210032	38	2.8	4.8	6.6	10.4	2.4	1.7	
22	Stud Park South Poll, 859333	28	-0.3	1.6	3.3	3.5	-1.6	-0.9	
23	Trefusis, 170436	44	-1.5	-3.5	-3.7	-3.6	-2.3	0.0	
24	Turkey Lane, 200042	26	-1.2	-4.4	-5.0	-5.0	-0.2	-0.3	
25	Wallaloo Park Poll, 161514 (Link Sire)	28	2.4	1.7	-3.5	-1.1	1.6	0.2	

These Flock Breeding Values were calculated using both the ewe and wether progeny of the sires.
Please see page 17 for a full description of trait names and an explanation of Flock Breeding Values.

MERINOSELECT Indexes

A guide from Sheep Genetics

Why use a selection index?

Indexes are an important tool to drive genetic improvement in ram breeding programs. Each index combines multiple measured traits, or ASBVs, into a single value that reflects a certain production emphasis on these traits. A range of traits are included which are of economic or functional importance. Collectively, these traits make up the "breeding objective" of the index which aims to improve profitability in commercial sheep enterprises.

Indexes are useful because they balance genetic improvement appropriately across a range of traits with the emphasis of each individual trait determined by it's relative importance to a selection approach for a particular style of production system.

" **Appropriately designed indexes are central to the goal of breeding more profitable sheep.**

However, it is recommended that the performance of individual measured and visually assessed traits also be used in conjunction with indexes.

Choosing the right index

This report includes four indexes based on four commercial production systems, these are outlined in the figure below.

Fine Wool (FW) The majority of the income is from the wool clip, with a strong focus on reducing micron.	**Wool Production (WP)** The majority of the income is from the wool clip, with a strong focus on increasing wool production.
Sustainable Merino (SM) The majority of the income is from the wool clip, and sheepmeat production is balanced.	**Merino Lamb (ML)** The majority of the income is from sheepmeat production, particularly lambs, with some income from the adult ewe wool clip.

" **When selecting on these indexes the long-term responses will vary depending on the traits measured, available pedigree, use of genomics, flock structure and selection emphasis on the index.**

The changes in individual traits from using an index depend on the information you record in your flock. If you want to improve, or even just maintain a trait, you must record it to ensure breeding values are sufficiently accurate for the index to do its job.

For detailed explanations and further information on indexes visit:

www.sheepgenetics.org.au

Sheep Genetics have resources available for both ram breeders and ram buyers.

Table 10. AMSEA Indexes

The indexes reported are the FW, WP, SM and ML indexes. These indexes are the same as the MERINOSELECT indexes of that name but account for the fact that not all traits are currently collected as part of standard sire evaluation trials. Further information about Indexes is available earlier in this report and at www.merinosuperiorsires.com.au/resources. The average value for all indexes is 100.

Sire Code	Breeders flock, Sire number	Number of Progeny	AMSEA Index Values			
			Fine Wool	Wool Production	Sustainable Merino	Merino Lamb
1	Anderson Poll, 200504	29	109	110	110	110
2	Edale, 20Z350	38	91	89	80	86
3	Egelabra, 200117	45	68	88	76	75
4	Ejanding Poll, 215492	43	109	102	106	107
5	Ella Matta Poll, 210170	34	112	107	113	113
6	Forest Springs Poll, 210257	28	139	110	118	143
7	Gelton Poll, 190140	29	154	103	111	158
8	Gringegalgona Poll, 200114	30	86	86	86	88
9	Hazeldean, 001009	33	134	118	120	126
10	Hill Padua, 210273	40	74	99	103	80
11	Kia Ora, 190228	45	121	105	105	111
12	Kiandra Poll, 210266	20	111	111	115	117
13	Kurra-Wirra, 210561	38	108	116	116	119
14	Mernowie Poll, 201080	34	92	102	106	96
15	Mooralla Poll, 200116	25	103	110	108	102
16	Mumblebone, 191150 (Link Sire)	36	81	102	104	84
17	Nyowee Poll, 200298	27	37	65	52	36
18	Nyowee Poll, PKS15	20	74	74	67	71
19	Pooginook Poll, 220122	20	134	111	114	127
20	Roseville Park Poll, 213488	29	94	107	106	92
21	Stirling Dohne, 210032	38	60	98	98	71
22	Stud Park South Poll, 859333	28	109	97	99	110
23	Trefusis, 170436	44	107	86	83	97
24	Turkey Lane, 200042	26	113	94	95	102
25	Wallaloo Park Poll, 161514 (Link Sire)	28	81	109	106	80

These indexes were calculated using both the ewe and wether progeny of the sires.
Please see page 22 for a description of the Indexes published.

Combined Measured Traits and Visual Performance

The following figures use the same sire codes as Table 2 to locate sire performance for a variety of trait combinations. The blue boxes describe the high and low performance quadrants of results for the traits, as does any text accompanying the figure.

Figure 1a. Combined measured traits (FW index) and combined visually assessed traits for the site objective.

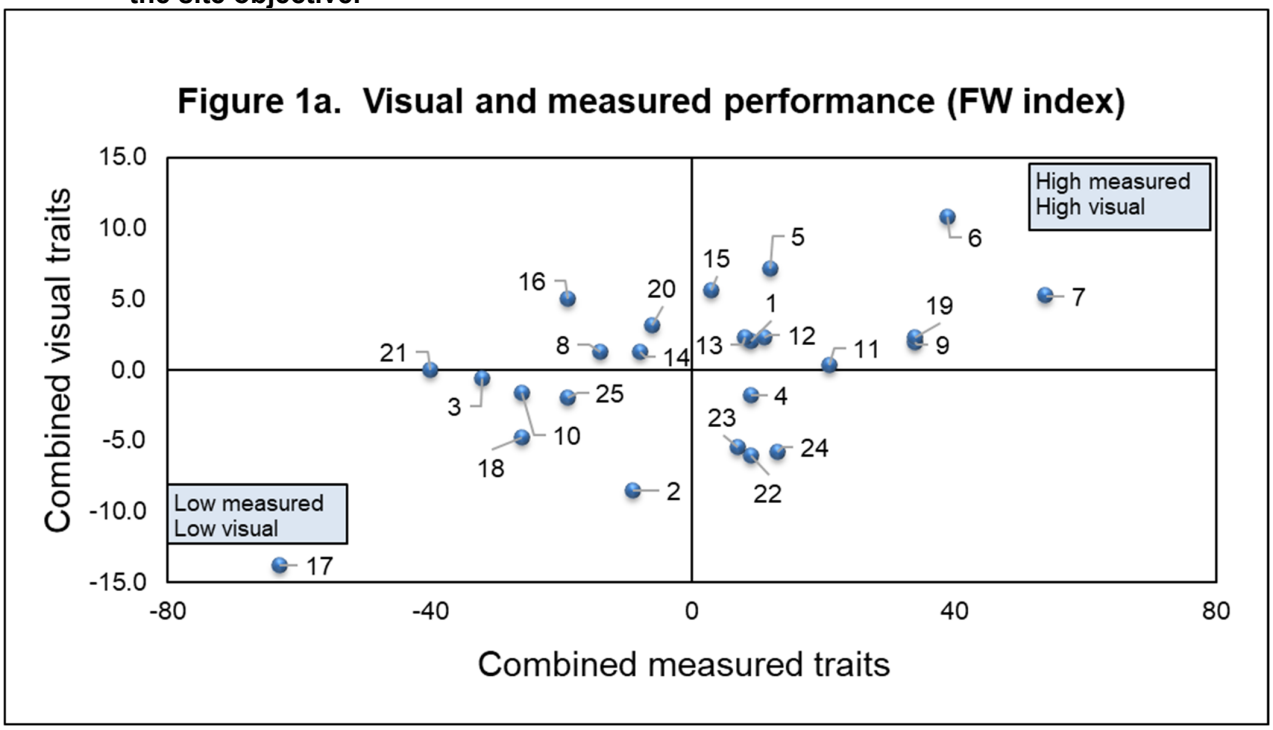
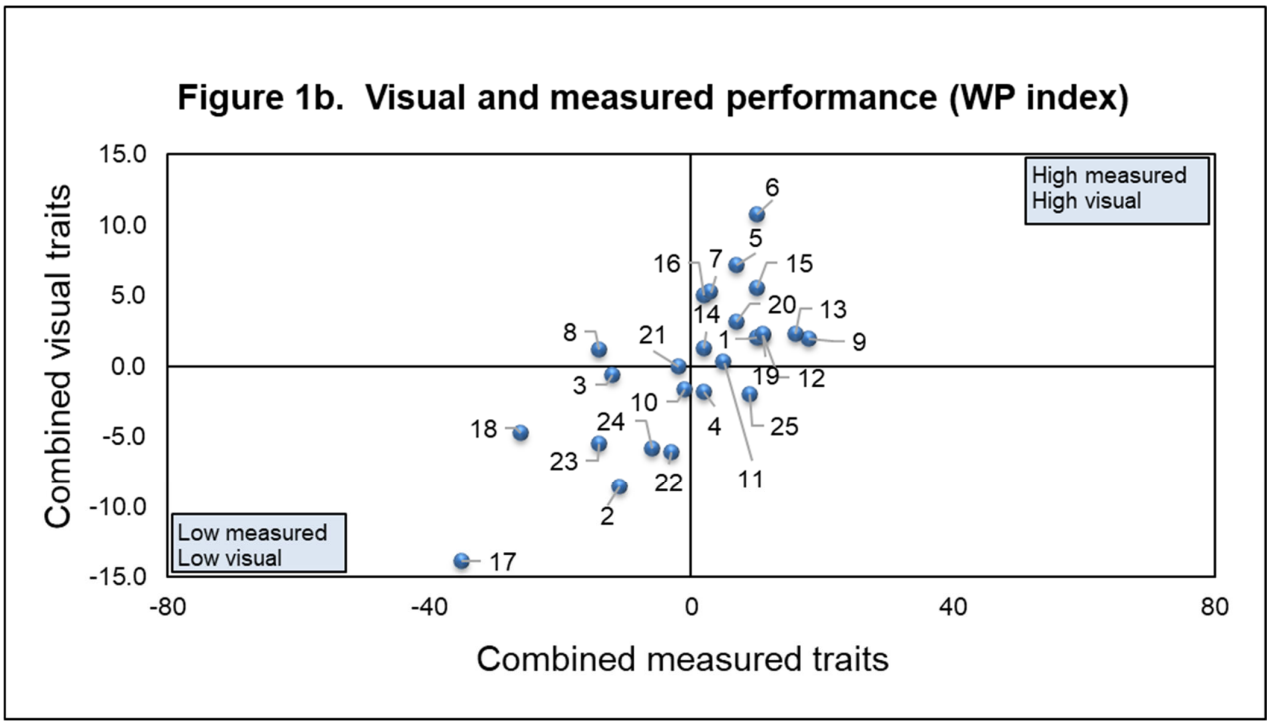


Figure 1b. Combined measured traits (WP index) and combined visually assessed traits for the site objective.



Combined visual traits are derived from Classer's Visual Grade via the following formula:
Tops% - Culls% / 5

Figure 1c. Combined measured traits (SM index) and combined visually assessed traits for the site objective.

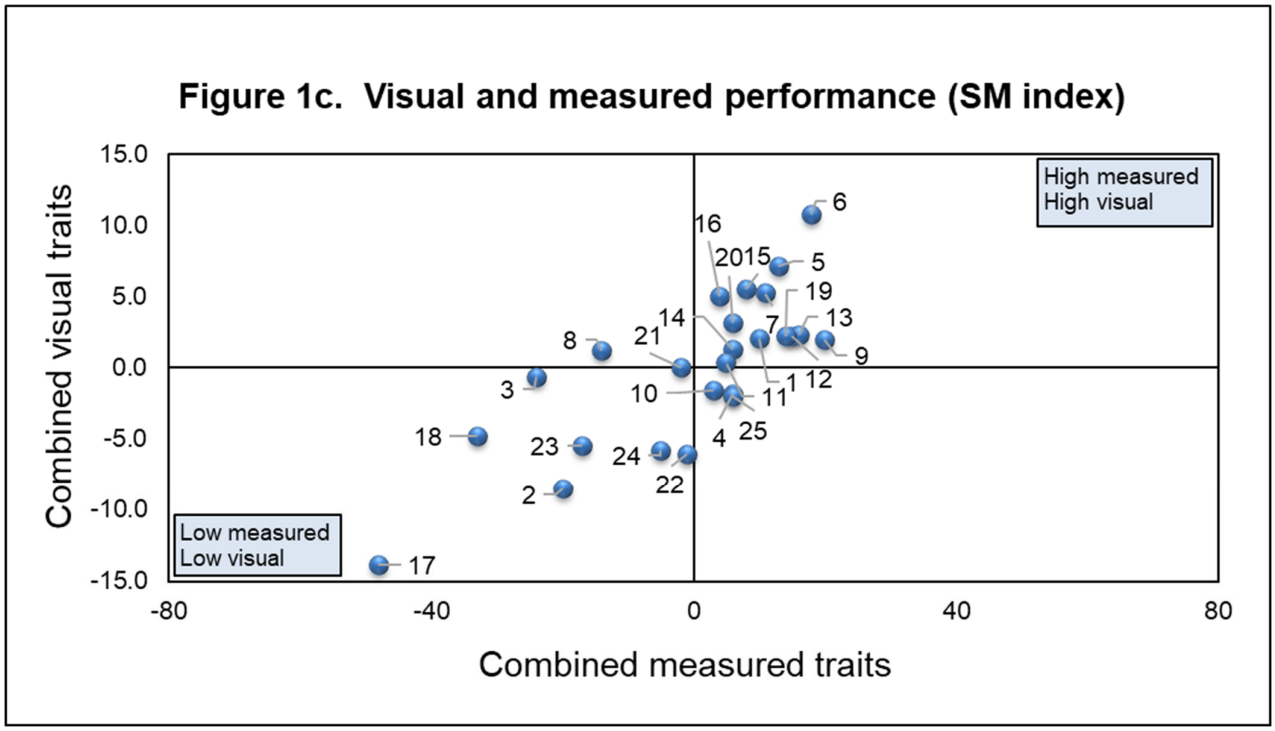
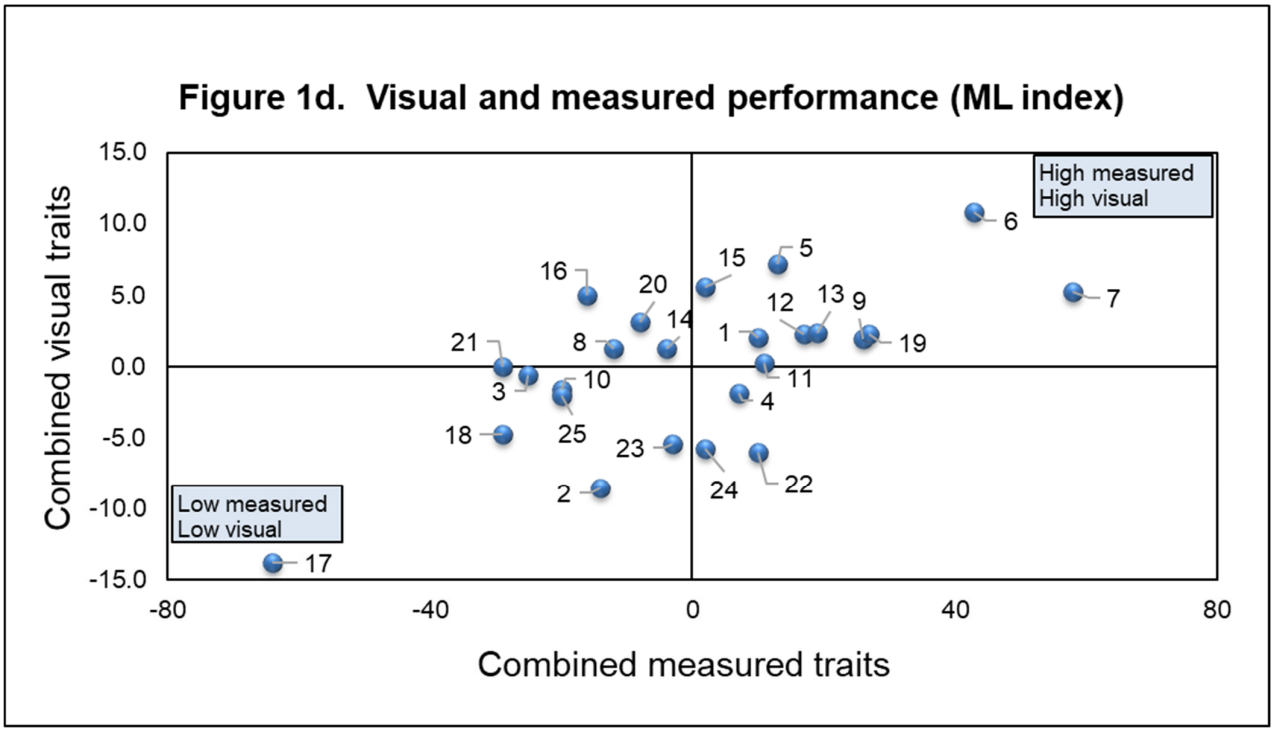


Figure 1d. Combined measured traits (ML index) and combined visually assessed traits for the site objective.

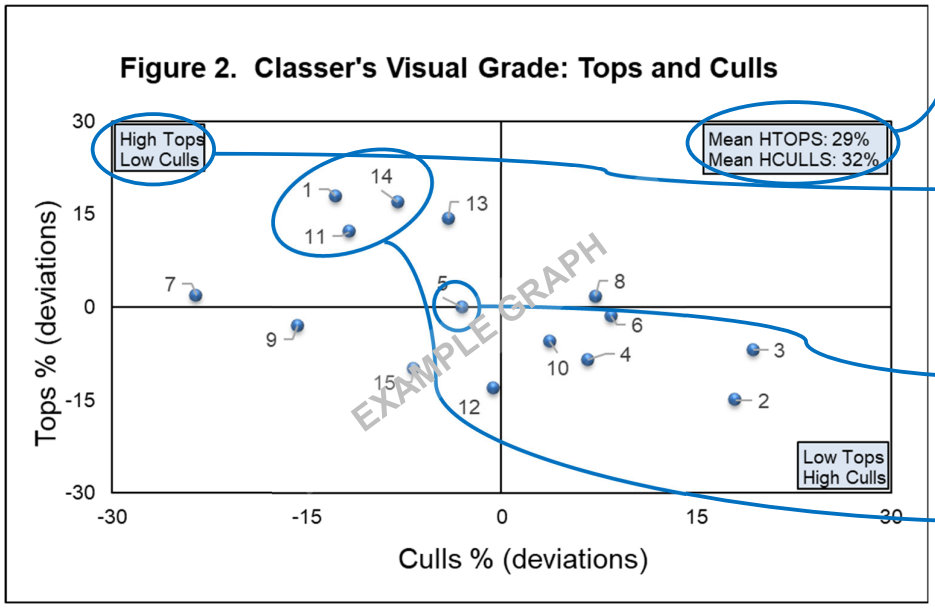


Combined visual traits are derived from Classer's Visual Grade via the following formula:
Tops% - Culls% / 5

Understanding the Results - Summary Graphs

The following quadrant graphs summarise sire results for trait combinations of particular interest to industry. Sire codes are as per Table 2. The blue boxes describe the high and low quadrants of results for the traits, generally placed within the highest performing and the lowest performing quadrants. Progeny group averages are also reported for the graphed traits. Further descriptions are included in the accompanying text.

Explanation of a quadrant graph:



Progeny group averages: in this instance for Tops / Culls.

For this figure, this top left quadrant reports the most favourable performance (High Tops and Low Culls). Different quadrants will be the most / least optimal for different trait combinations.

This sire is performing close to the progeny group average.

These sires are recorded in the extreme portion of the most optimal quadrant for this set of traits (Top / Culls).

Figure 2. Classer's Visual Grade - Tops and Culls

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.

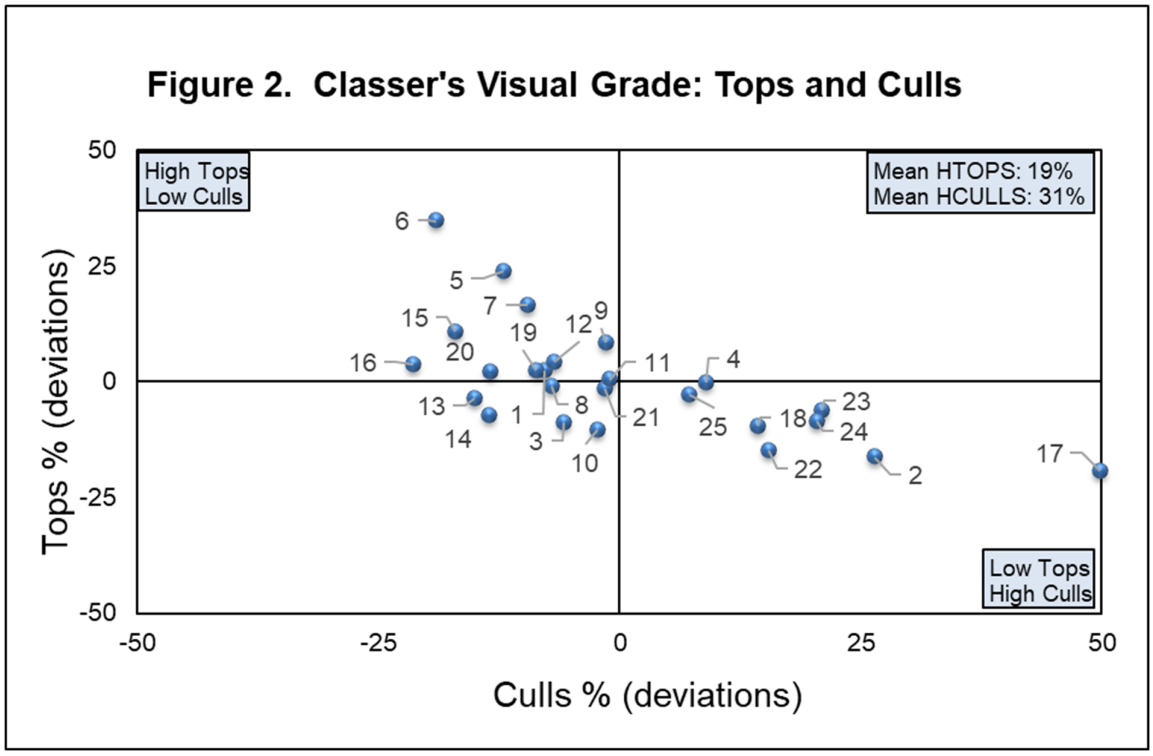


Figure 3. Fleece Weight and Fibre Diameter (FBVs)
The graph describes performance for clean fleece weight (CFW) on the side axis and fibre diameter (FD) on the bottom axis. Sires that are above average for fleece weight and below average fibre diameter are located in the top left hand quarter.

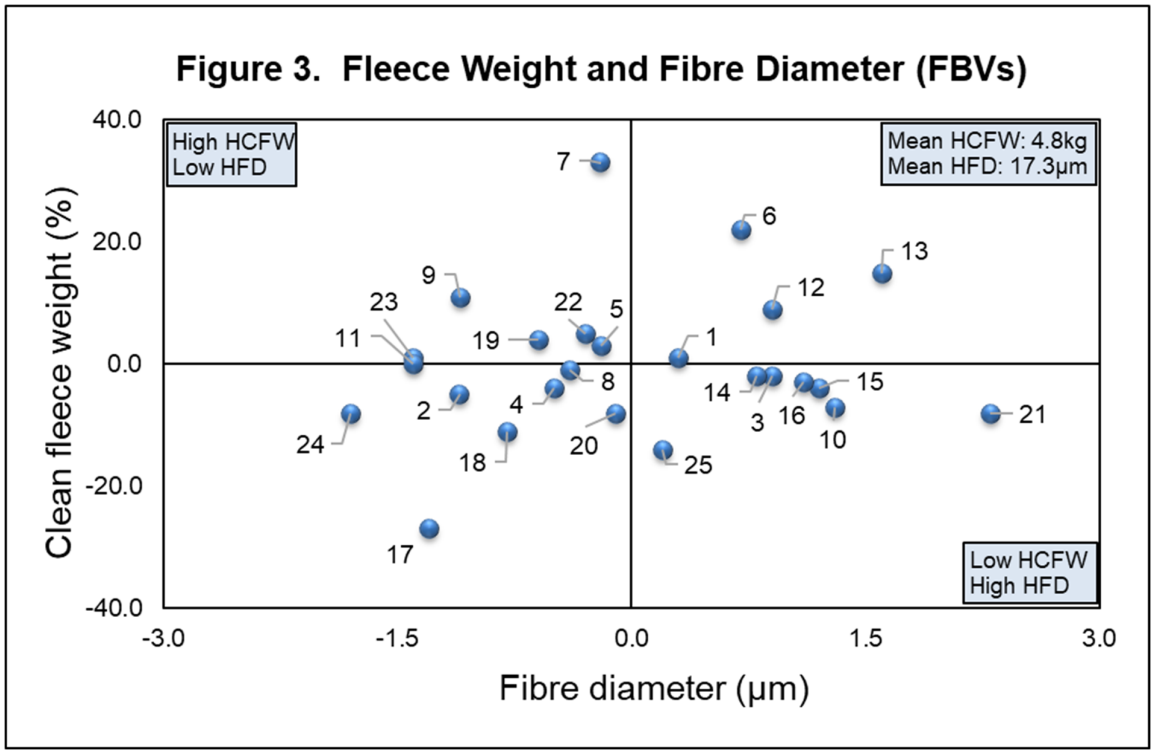


Figure 4. Fleece Weight and Staple Length (FBVs)
The graph describes performance for clean fleece weight (CFW) on the side axis and staple length (SL) on the bottom axis. Sires that are above average for fleece weight and above average for staple length are located in the top right hand quarter.

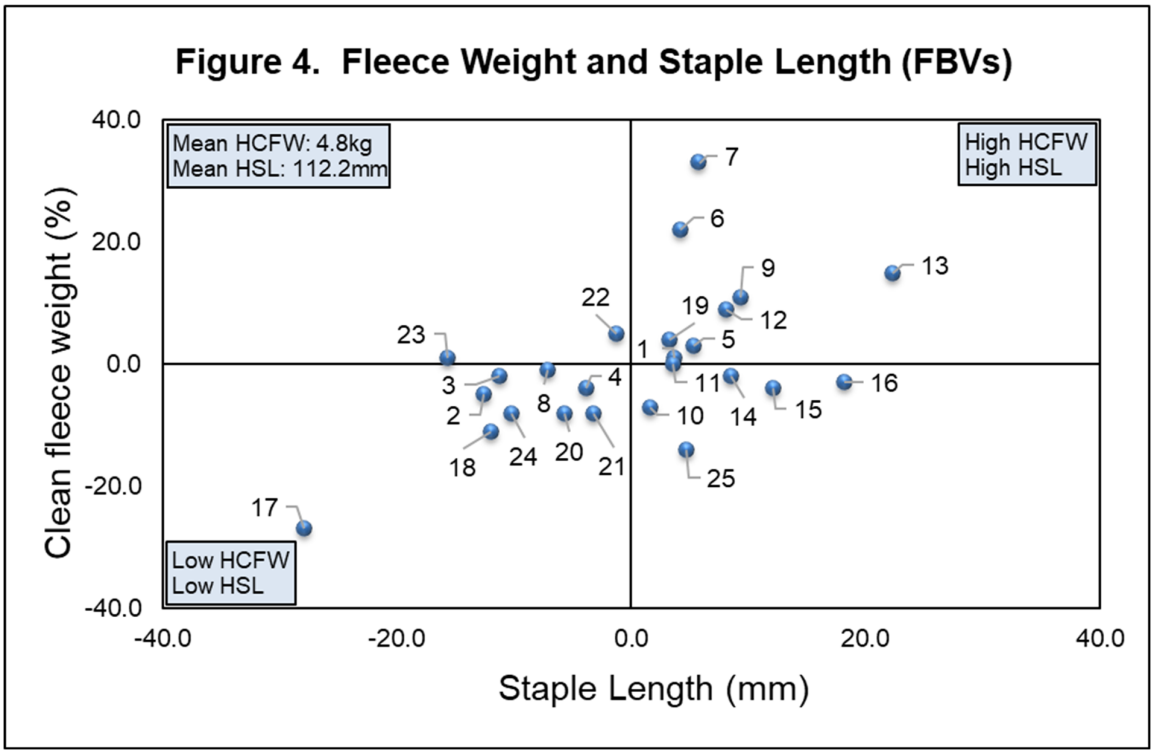


Figure 5. Fleece Weight and Body Weight (FBVs)
The graph describes performance for clean fleece weight (CFW) on the side axis and body weight (WT) on the bottom axis. Sires that are above average for fleece weight and above average for body weight are located in the top right hand quarter.

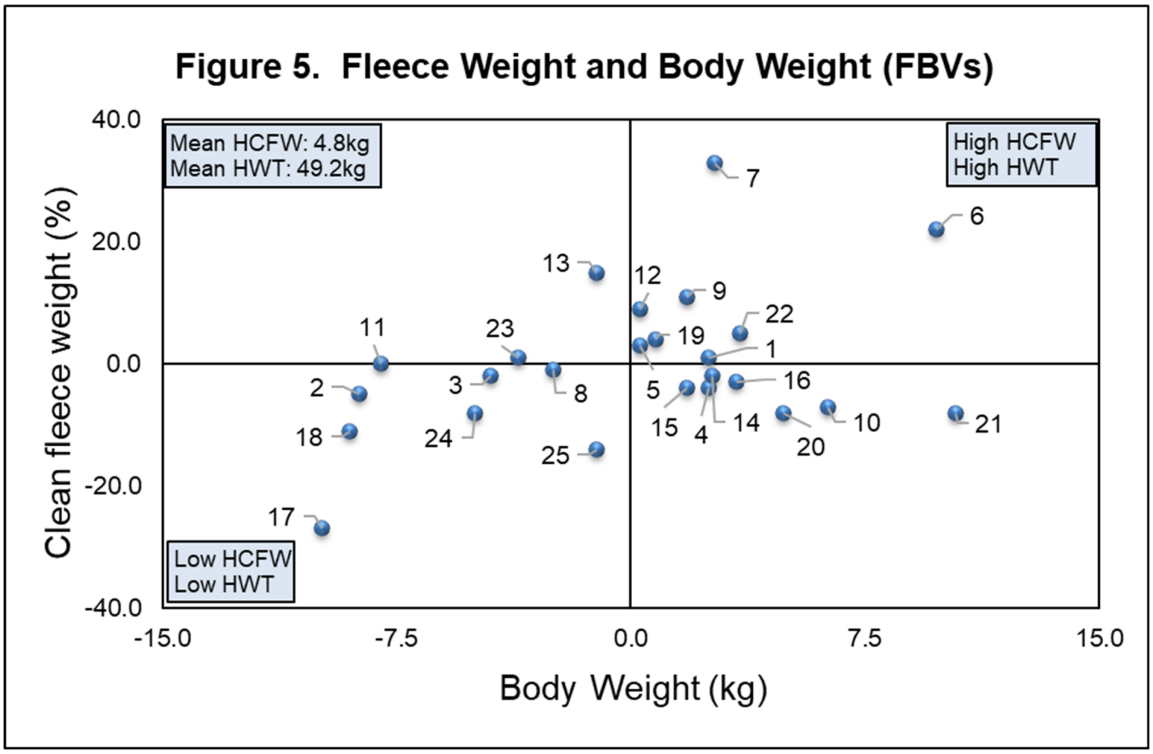


Figure 6. Fleece Weight and Fat (FBVs)
The graph describes performance for clean fleece weight (CFW) on the side axis and fat depth (FAT) on the bottom axis. Sires that are above average for fleece weight and above average for fat are located in the top right hand quarter.

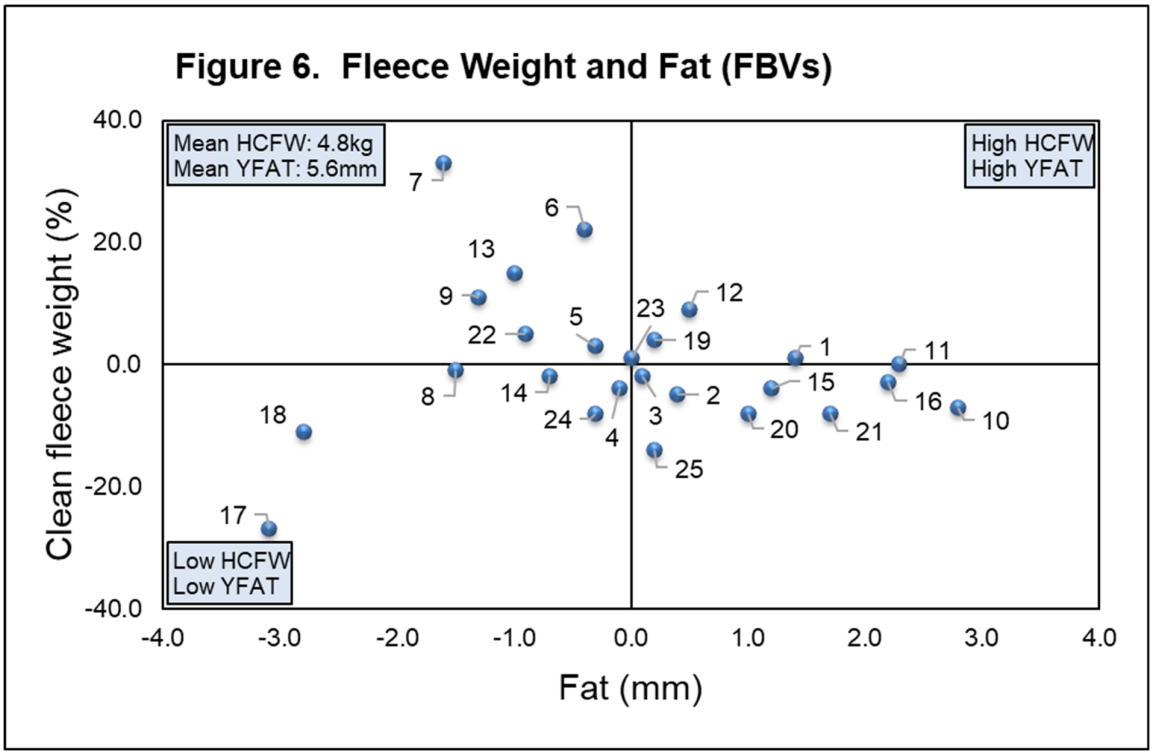


Figure 7. Fleece Weight and Eye Muscle Depth (FBVs)
The graph describes performance for clean fleece weight (CFW) on the side axis and eye muscle depth (EMD) on the bottom axis. Sires that are above average for fleece weight and above average for eye muscle depth are located in the top right hand quarter.

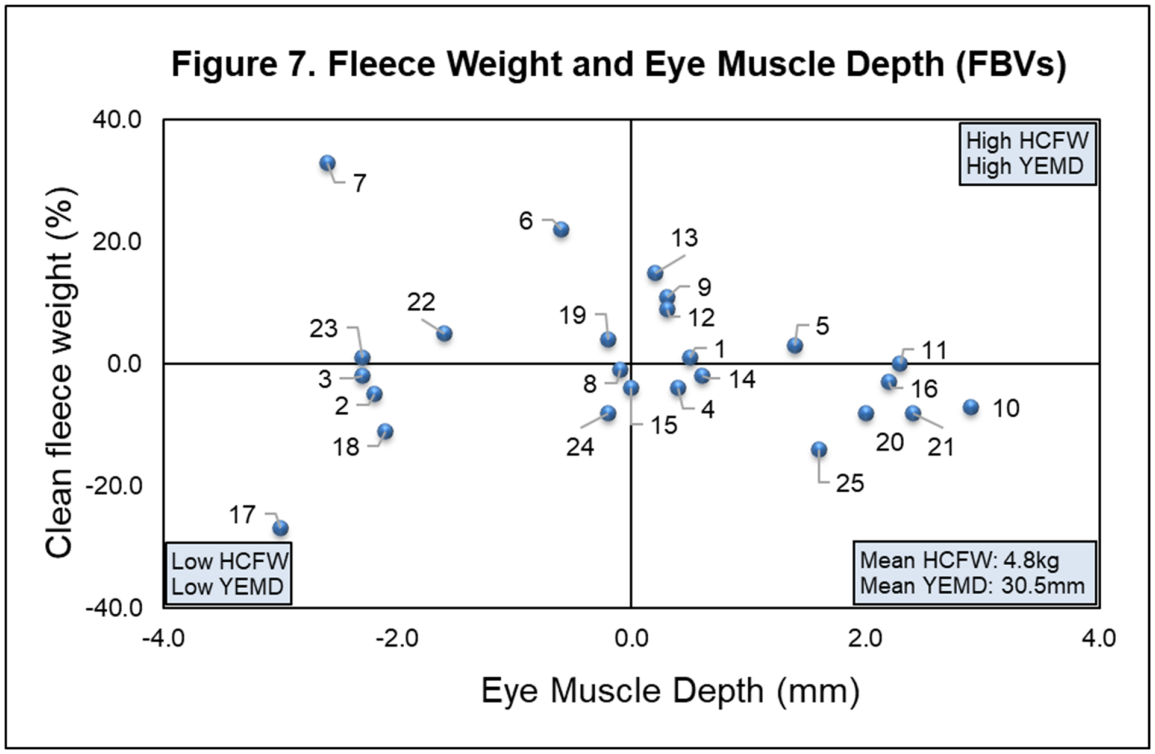


Figure 8. Fleece Weight and Breech Wrinkle (FBV)
The graph describes performance for clean fleece weight (CFW) on the side axis and breech wrinkle (BRWR) on the bottom axis. Sires that are above average for fleece weight and below average for breech wrinkle are located in the top left hand quarter.

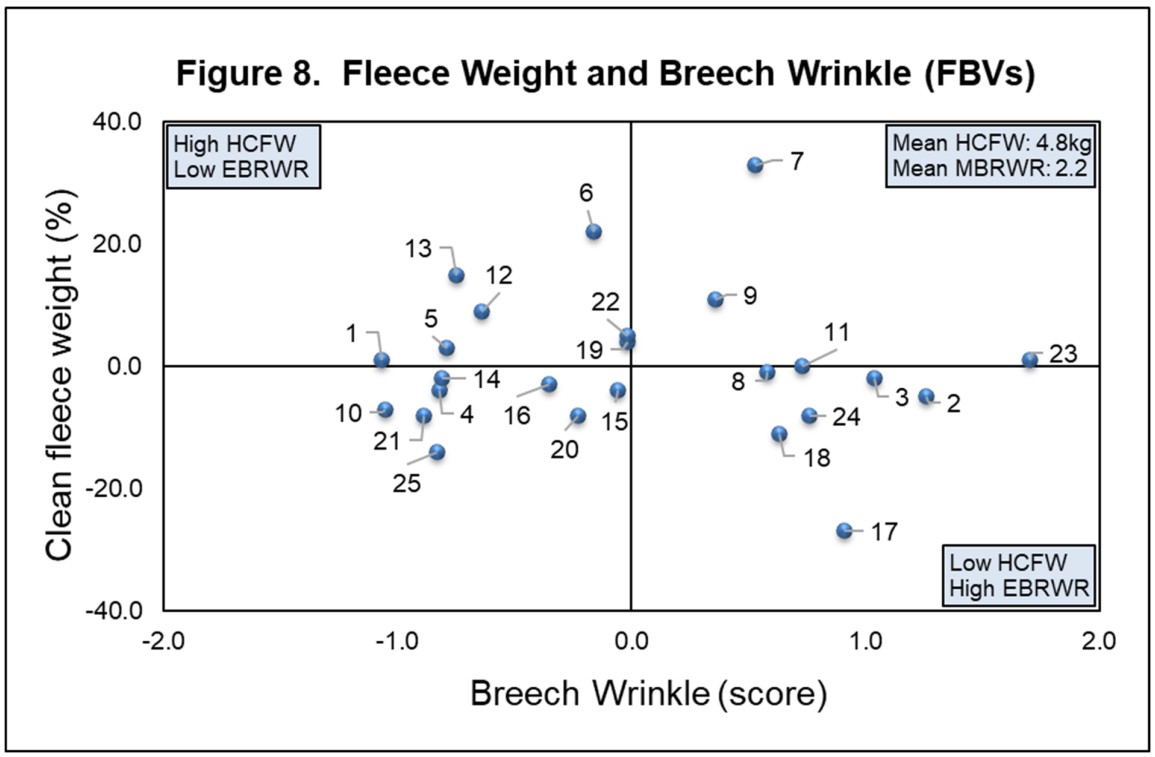


Figure 9. Body Weight and Eye Muscle Depth (FBVs)
The graph describes performance for body weight (WT) on the side axis and eye muscle depth (EMD) on the bottom axis. Sires that are above average for body weight and above average for eye muscle depth are located in the top right hand quarter.

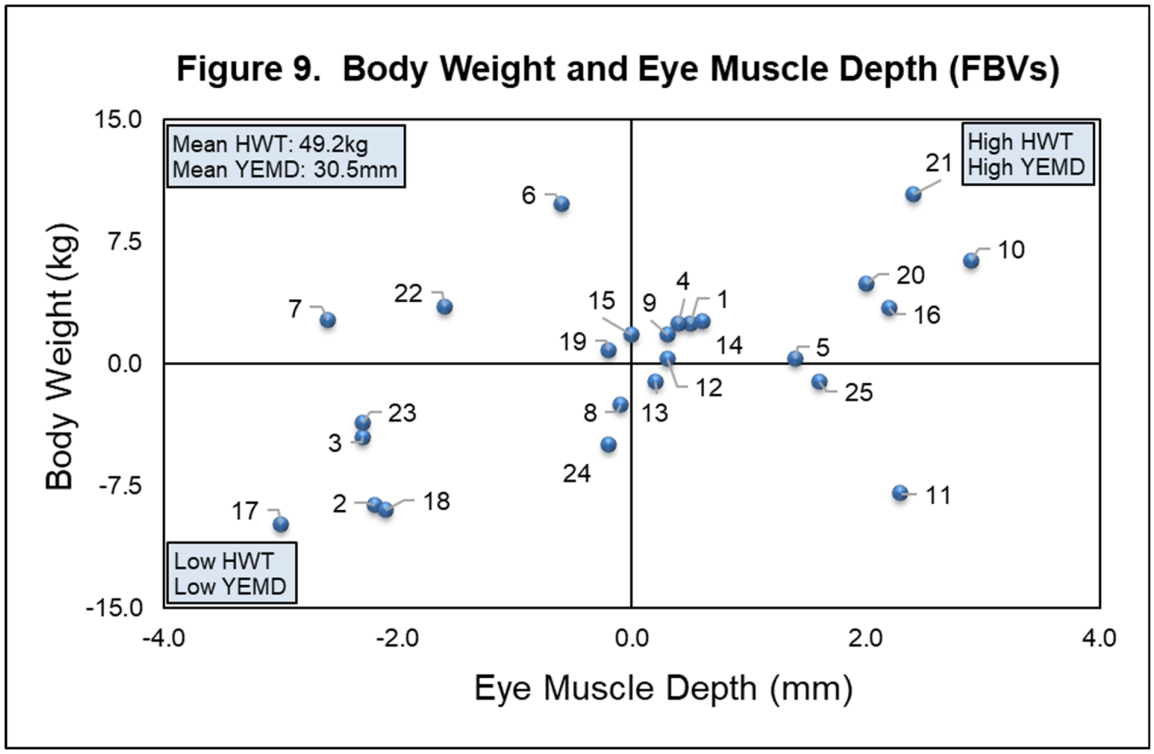


Figure 10. Staple Strength and Worm Egg Count (FBVs)
The graph describes performance for staple strength (SS) on the side axis and worm egg count (WEC) on the bottom axis. Sires that are above average for staple strength and below average for worm egg count are located in the top left hand quarter.

Worm Egg Count not recorded as thresholds not met.

Thank you to our Sponsors

We gratefully acknowledge the generous support of our sponsors and appreciate their participation in our trials.

Elders Hamilton (03) 5572 2266

FOR ANIMALS. FOR HEALTH. FOR YOU.
Ashley Reed 0408 279 823

Project & Executive Management

Scott Davis 0419 783 987

Jerilderie: (03) 5886 1772 Hamilton (03) 5570 8280

Vet & Ag Consultants | Parasite & Feed Analysis
Ph: (03) 5572 1419

465 Hume Highway ,Craigieburn, Victoria, 3064
Ph: (03) 8339 9000 Fax: (03) 8339 9051
Email: enquiries@leaderproducts.com.au

Riverina Wool Testers

Ph.: (02) 6925 1407
rwt@wooltesters.com.au

Richmond Hill Agribusiness Pty Ltd
Steve and Debbie Milne
Steve 0428 786 327
Debbie 0407 724 066
sjdjmilne@bigpond.com

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