Elders Victoria Sire Evaluation Group

2006 Drop 2nd Assessment of Progeny
21 months age, 10 months wool growth

Conducted by:
The Elders Victoria Sire Evaluation Group
under the auspices of the
Victorian Stud Merino Sheepbreeders' Association
& Balmoral P & A Society

under the auspices of

The Australian Merino Sire Evaluation Association

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February 2009

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The Elders Victoria Sire Evaluation Group Central Test Sire Evaluation

The Elders Victoria Sire Evaluation Group 2006 drop 2nd Assessment is an accredited Central Test Sire Evaluation (CTSE) site evaluation. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

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

This goal is achieved by informing participants, their clients and interested woolgrowers on events surrounding the trials and in addition to this; produce and distribute annual reports and periodic newsletters. To further promote the evaluation, displays of progeny, data and their fleeces have been on show at the Australian Sheep & Wool Show (1998-2008), Balmoral and Horsham Shows and Hamilton Sheepvention. Participating studs have also provided static displays for viewing during field days. Since April 2000 successful annual Open Days have been held at "The Mountain Dam", "Kerrsville", "White Oaks", "Arundale" and "Tuloona" to inspect progeny and to discuss the sire evaluation program with interested woolgrowers.

Prior to 1998, there were three previous trials in the Balmoral/Hamilton district, which are recorded in Merino Superior Sires as B95, HT93, HT94. In 1998 a small group of stud breeders met to form what is now known as the Elders Victoria Sire Evaluation Group. The Sire Evaluation Trials commenced in 1998 and there are now 10 progeny drops – 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006 and 2007. All trials are run for a minimum of 2 years.

- 1998 & 1999 drop – Host property "The Mountain Dam", Balmoral
- 2000 & 2002 drop - Host property "Kerrsville", situated between Balmoral and Coleraine
- 2002 & 2003 drop – Host property "White Oaks", Gringegalgona Merino Stud at Balmoral.
- 2004 & 2005 drop – Host property "Arundale", Balmoral
- 2006 & 2007 drop – Host property "Tuloona", Harrow

The 1998 drop wethers continued to be assessed for the further 2 years (a total of 4 assessments) outside the Central Test Evaluation program as part of a PIRD (Producer Initiated Research Development) Program. The PIRD results indicated that mature age assessments when averaged across each sire group provide similar information to the two-year trial data and in particular show clear trends and confidence with the second year assessment information.

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

The Management Committee

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Details of host property for 2006 drop progeny – see page 6

The information in this site evaluation report provides a comprehensive assessment of the 2006 1st and 2nd Assessment of the sire's progeny performance, both measured and visually assessed traits. The 1st Assessment was made at 11 months of age with 11 months of wool growth. The 2nd Assessment was made at 21 months of age with 10 months of wool growth.

Three graphs and a table provide a summary of the results. Nine tables provide the detailed performance information.

Contents

Elders Victoria 2006 drop 2nd Assessment, 21 months of age with 10 months of wool growth.

Ram and owner details

Ram code	Breeders flock, Ram number Ram ID#, Breed†	Contact Name, Address Phone, Fax and email
1	**Avington, 03.086** 6012892003030086, Poll Merino	Noel & Lindsay Henderson, 504 Sidonia Rd Sidonia VIC 3444 P 03 5423 7100 F 03 5423 7101 E derek.mason@avingtonfarm.com
2	**Bindawarra, 03.0400** 5038922003030400, Merino	Murray Toland, PO Box 131 Omeo VIC 3898 P 03 5159 1362 F 03 5159 1361 E bindawarra@bordernet.com.au
3 *€	**Bindawarra, 01.1143** 5038922001011143, Merino	Richard Alexander, Pattisons Lane Glenthompson VIC 3293 P 03 5577 8265 F 03 5577 8256 E goodwoodmerino@datafast.net.au
4	**Hazeldean, 1.10014** 5003832001010014, Merino	Jim Litchfield, Hazeldean Pty Ltd, Cooma NSW 2630 P 02 6453 5555 F 02 6453 5526 E admin@hazeldean.com
5	**Hyfield, 3723** 6007172004043723, Poll Merino	Kevin Keatley, RMB 619 Kojonup WA 6395 P 08 9831 1760 F 08 9831 1763 E hyfield@wn.com.au
6 *	**Kerrsville, SY 21108** 6012172002S21108, Poll Merino	Robert Push, 1885 Coleraine-Edenhope Rd Coleraine VIC 3315 P 03 5575 0208 F 03 5575 0208 E: rjplush@bigpond.com
7	**Melrose, TD696-03** 50170420030TD696, Merino	Warren Russell, 112 Russells Rd Nurrabiel Horsham VIC 3401 P 03 5388 1243 F 03 5388 1246 E melrose@wimmera.com.au
8	**Merinotech, Vic 041629** 5046482004041629, Merino	Hugh & Susan Jarvis, 8338 Natimuk-Hamilton Rd Gatum VIC 3407 P 03 5574 3298 F 03 5574 3299 E suejarvis@bigpond.com
9	**Pastora, Black 800** 6010901999000800, Poll Merino	Tim Westblade, Pastora 22 Drummond St Lockhart NSW 2656 P 02 6920 5681 F 02 6920 5682 E pastora@bigpond.com
11	**Pleasant Park, HS Blck tag** 50170820020HS123, Merino	Phillip Walker, Pleasant Park Goroke VIC 3412 P 03 5386 1202 F 03 5386 1202 E pleasantpark@eldersnet.com.au
13	**The Mountain Dam, 04/NAH015** 5045722004NAH015, Merino	Tom & Alison Silcock, 429 Silcocks Rd Telangatuk East VIC 3401 P 03 5388 2238 F 03 5388 2235 E themountaindam@bigpond.com
14	**Toland Poll, Yellow 1474** 6010822005051474, Poll Merino	Phil Toland, RMB 2005 Feltrim Rd Violet Town VIC 3669 P 03 5798 1605 F 03 5798 1404 E toland@iinet.net.au
15 UR	**Tuloona, 2047** 5092132001012047, Merino	Michael Craig,Tuloona Pastoral 271 Greens Lane Harrow VIC 3317 P 03 5588 1395 F 03 5588 1394 E tuloonapastoral@bigpond.com
16	**Windarra, 04/0236** 5043382004040236, Merino	Tom Hanson, 3 Rutland Ave Unley Park SA 5061 P 08 8271 2656 F 08 8272 2145 E tomhanson@ozemail.com.au

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

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

Sire ID provides a unique number for all sheep. A sire ID has 16 digits.
- 2 for the breed of the flock, e.g., Merino (50), Poll Merino (60), Dohne (51), SAMM (48), Afrino (AF)
- 4 for flock code, AASMB Registered flock code or unregistered code.
- 4 for year of drop.
- 6 for tag number used in the breeder's records.

† Breed of flock in which the sire was born

€ **Bindawarra, 01.1143** (ram code number 3 in this evaluation) was entered as a link ram by the ram's owner Goodwood (Richard Alexander, Pattisons Lane Glenthompson VIC 3293).

1. **Location**
   - "Tuloona" is located approximately 5 kilometres from the township of Harrow in the Western Districts of Victoria. Average annual rainfall is approximately 575mm.

2. **Selection and mating**
   - Ewes were selected from a random draft of "Tuloona" three year old commercial fine wool ewes.
   - The average adult flock micron at "Tuloona" in 2006 was 17.7 micron.
   - Laparoscopic insemination of 825 ewes, conducted by Brecon Breeders on the 6th - 7th March 2006.
   - 14 sires were participating in the site evaluation.
   - All ewes were in condition score 3 plus at the time of insemination.

3. **Pregnancy and lambing**
   - On the 5th May 2006 ultrasound scanning of ewes was carried out by Mark Jenkinson.
   - Ewes were drafted in to two groups: single bearing ewes and ewes bearing multiple lambs, and fed according to Lifetime Wool Production Project guidelines.
   - The conception rate of ewes artificially inseminated was 81%, resulting in 667 lambs expected (364 singles, 288 twins and15 triplets).
   - On the 28th July 2006 ewes were drenched and vaccinated and drafted into sire groups for lambing.
   - Ewes commenced lambing on the 1st August 2006.
   - Lambs tagged and scored on the 21st August.
   - Lamb tagging, including the application of RFID ear tags, was done on 21st August. 571 lambs were tagged, consisting of 336 singles, 228 twins and 7 triplets. Lambs were also scored for fibre and non-fibre pigmentation. Progeny were then managed as one group.
   - The lambs were dropped during relatively good lambing conditions, and despite enduring a failed spring, their weaning weights were exceptionally good at over 27kg average.
   - Feeding commenced in October while still on their mothers and continued on until mid May at rates of up to 2.7kg of beans and pellets per week because of the drought conditions.

4. **Weaning and seasonal conditions**
   - On the 12th September the lambs were marked/mulesed, vaccinated, scored for breach traits.
   - On the 30th October lambs were weaned, 2nd vaccination, 1st summer drench, and body weighed.
   - After the much needed autumn break the progeny continued to grow well during the 2007 winter and during the average 2007 spring.
   - At the time of their second shearing in Autumn 2008, condition scores of the trial progeny were gradually declining because of another tough autumn.
   - All Sire evaluation progeny were fed accordingly to manage condition score between 2.7 and 3.

5. **Rainfall**

Month	Harrow Rainfall (mm per month) *					
	2004	**2005**	**2006**	**2007**	**2008**	**Average**
January	16.6	40.8	34.6	94.0	18.8	41.0
February	20.2	39.2	24.0	4.0	3.0	18.1
March	33.0	3.0	15.8	17.6	22.6	18.4
April	14.4	15.8	45.0	34.4	22.8	26.5
May	41.4	18.6	38.8	99.2	46.3	48.9
June	116.4	92.4	8.2	36.2	21.6	55.0
July	84.6	42.8	57.0	78.6	63.3	65.3
August	97.4	86.0	41.2	34.0	85.2	68.8
September	38.4	48.6	51.1	63.6	34.5	50.4
October	26.2	89.8	5.8	23.9	8.7	36.4
November	58.2	28.6	10.0	62.2	33	39.8
December	45.6	33.4	16.2	51.4	73	36.7
Total	592.4	539.0	347.7	*599.1*	*432.7*	505.3

* Sourced from Harrow Post Office

Reported by: Michael Craig (sheep manager)

Assessment and management program

Activity			Date/s	Age (months)	Wool (months)
Selection of ewes			February 2006	40	10
Allocation of ewes for mating and mating			6 - 7 March 2006		
Pregnancy scanning			5th May		
Lambing: start – finish			1-7 August (Av 4th)		
Lambing mobs boxed to 1 management group			21st August	17 days	
Tagging/pigment scores (age in days)			21st August	17 days	
Weaning (age in days)			30th October	86 days	
Weaning body weight (age in days)			30th October	86 days	
Pre assessment (even-up) shearing			Not applicable		
Crutching			25th February 2007 20th February 2008	6.5	6.5
Fat and eye muscle scanning and body weight			Not applicable	NA	
Fleece sampling	•	1st Assessment:	26th June 2007	10	10
	•	2nd Assessment:	9th May 2008	21	10
Staple length assessment	•	1st Assessment:	26th June 2007	10	10
	•	2nd Assessment:	9th May 2008	21	10
Classer's Grade	•	1st Assessment:	26th June 2007	10	10
	•	2nd Assessment:	9th May 2008	21	10
Pre shearing scoring	•	1st Assessment:	26th June 2007	10	10
	•	2nd Assessment:	9th May 2008	21	10
Assessment shearing	•	1st Assessment:	18th July 2007	11	11
	•	2nd Assessment:	16th May 2008	21	10
Post shearing scoring	•	1st Assessment:	Not applicable	NA	NA
	•	2nd Assessment:	Not applicable	NA	NA
Body weigh	•	1st Assessment:	16th August 2007	12	
	•	2nd Assessment:	16th May 2008	21	
Worm egg count sampling	•	1st Assessment:	30th July 2007	11.5	
	•	2nd Assessment:	Not applicable		
Sire's Progeny Group Evenness assessment			18th April 2008	20	9
Vaccination			Marking, weaning and crutching		
Drench			Weaning, 30th July 2007, November 2007		
Supplementary feeding: start - finish			November 2007 – July 2008		
Field day or public display of sheep			■ Progeny on display at Balmoral Show – 17th March 2007. ■ Progeny on display at Balmoral Show – 15th March 2008. ■ Progeny on display at Open day – 3rd April 2007. ■ Progeny on display at Open day – 18th April 2008.		

Visual tait assessment and site breeding objective

Visual tait assessment

1st Assessment
Classer's Grade: Mr Ross Dickinson, Elders Ltd.
Trait Scores: Mr Ross Dickinson, Elders Ltd scored all visually assessed traits (Tables 3a, b, c and d) apart from pigmentation and breech traits. Mr Tom Silcock scored pigmentation and breech traits.

2nd Assessment
Classer's Grade: Mr Ross Dickinson, Elders Ltd scored all visually assessed traits (Tables 3a, b, c and d) apart from pigmentation and breech traits. Mr Tom Silcock scored pigmentation and breech traits.

Site breeding objective used to assess the Classer's Grades

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

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

Host property for 2006 drop progeny

The "Tuloona" property is owned by the Craig family and managed by son Michael and his wife Jane. The property is located 5km south of Harrow and consists of sandy loam soils over heavy clays on undulating red gum country. The average rainfall was 600mm, although since 2002 the rainfall has averaged only 515mm. Progeny are managed under strict commercial conditions.

Figure 1. Combined measured traits and visual trait performance

Summary graph: visual and measured performance

Each sire that had 15 or more progeny assessed at 2nd Assessment is located on the graph. The graph describes performance for combined measured traits and combined visual assessment.

Figure 1 is combined measured traits based on an AMSEA Merino 7% index (that is equal emphasis on fleece weight and fibre diameter with enough emphasis on body weight to provide a moderate increase in this trait). Visual trait performance is a combination of Classer's Grade performance (Tops and Culls). More information is found in "Calculation of combined performance" (page 22).

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

Figure 1. Visual and measured performance
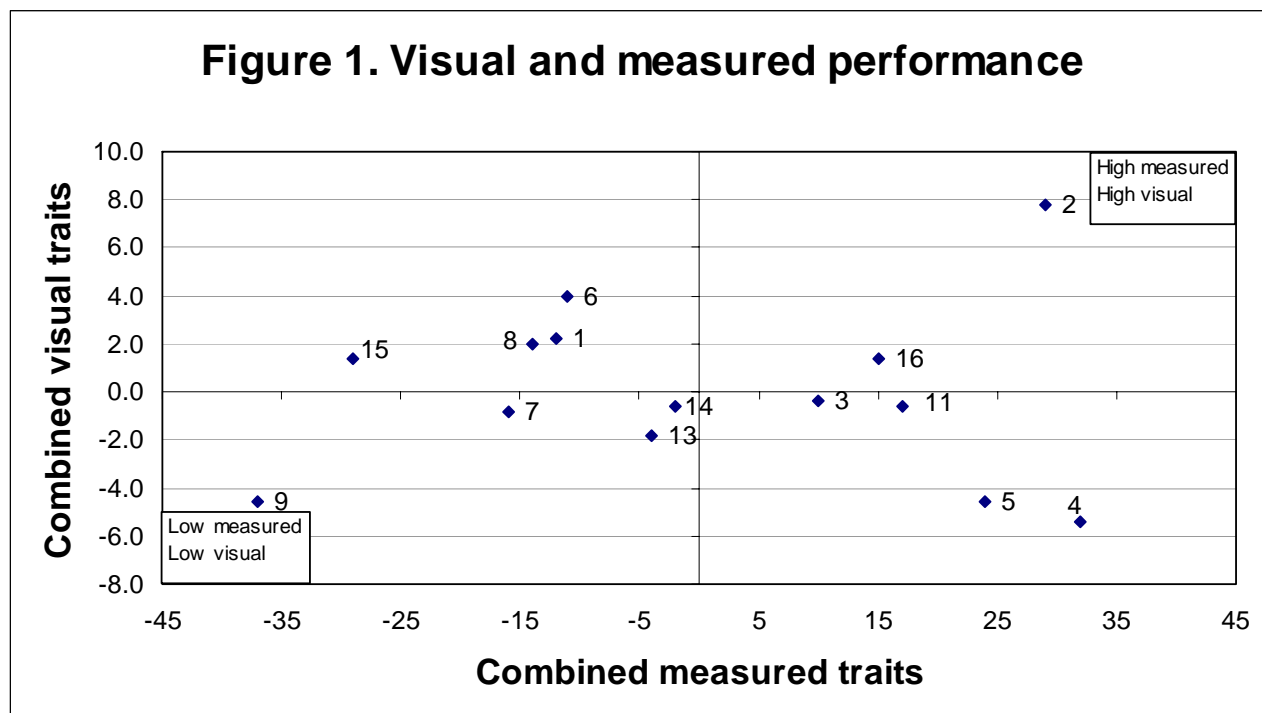
Rams reported in Figure 1 above	
Ram code	Breeders flock, Ram number
1	Avington Poll, 03-086
2	Bindawarra, 03.400
3 *	Bindawarra, 01.1143
4	Hazeldean, 1.10014
5	Hyfield Poll, 3723
6 *	Kerrsville Poll, SY21108
7	Melrose, Little Ted
8	Merinotech VIC, 041629
9	Pastora Poll, Black 800
11	Pleasant Park, HS 123
13	The Mountain Dam, 04/NAH015
14	Toland Poll, Yellow 1474
15 [UR]	Tuloona, 2047
16	Windarra, 04/0236

Table A. AMSEA Index values and Classer's Grade

The highest performing 3 sires for each trait (i.e., trait leaders) are highlight by shading, e.g., in the table below see Sire 1 has 14% above average for Tops%.
Each sire is listed for Classer's Grade and the same three indexes at all site evaluations. An additional index (Fine 20% +SS) considered relevant to the site evaluation is also reported.

The index values reported are based on measured traits FBV performance with varying the emphasis on fleece weight, fibre diameter, body weight, staple strength and worm egg count. See 'Index Options' on page 21 for more information on the indexes presented in the table below.

AMSEA Indexes are the same as MERINOSELECT Indexes apart from NLW (Number of Lambs Weaned) being given a zero FBV value in AMSEA calculations.

- ■ **Merino 14% +SS** High emphasis on fibre diameter and low emphasis on fleece weight plus moderate emphasis on live weight and staple strength.
- ■ **Fine 10%** +SS Moderate emphasis on fleece weight and fibre diameter plus moderate emphasis on staple strength.
- ■ **Dual Purpose 7%** Moderate emphasis on fleece weight and fibre diameter plus high emphasis on live weight.
- ■ **Fine 20%** +SS High emphasis on fibre diameter and staple strength plus adequate emphasis on other traits to be maintain except a reduction in NLW..

Ram code	Breeders flock, Ram number	AMSEA Indexes values				Classer's Grade			
				Dual		Tops % (dev)		Culls % (dev)	
		Merino	Fine	Purpose	Fine				
		14% +SS	10% +SS	7%	20% +SS	Y^	A	Y	A
1	Avington Poll, 03-086	92	89	90	95	14	4	-3	-7
2	Bindawarra, 03.400	117	126	128	111	31	32	2	-7
3 *	Bindawarra, 01.1143	113	114	105	114	-4	-1	-4	1
4	Hazeldean, 1.10014	121	131	122	115	-15	-17	0	10
5	Hyfield Poll, 3723	114	120	129	110	-7	-15	-6	8
6 *	Kerrsville Poll, SY21108	96	91	91	100	-1	11	-14	-9
7	Melrose, Little Ted	86	84	78	86	-17	-1	16	3
8	Merinotech VIC, 041629	97	90	93	102	10	8	-1	-2
9	Pastora Poll, Black 800	82	72	58	93	-19	-10	22	13
11	Pleasant Park, HS 123	96	109	109	87	2	-5	4	-2
13	The Mountain Dam, 04/NAH015	91	90	105	88	3	-6	0	3
14	Toland Poll, Yellow 1474	98	93	113	96	1	-4	-7	-1
15 UR	Tuloona, 2047	90	79	67	99	-8	3	7	-4
16	Windarra, 04/0236	108	112	114	104	17	1	-13	-6
	Average performance	100	100	100	100	28	26	16	13

* Link ram: Ram evaluated to provide links between site evaluations and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires.*

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

Figure 2. Fleece weight by fibre diameter

The graph describes performance for fleece weight on the side axis and fibre diameter on the bottom axis. Rams that are above average for fleece weight and below average fibre diameter are located in the <u>top left hand quarter</u>

Figure 2. Fleece Weight by Fibre Diameter
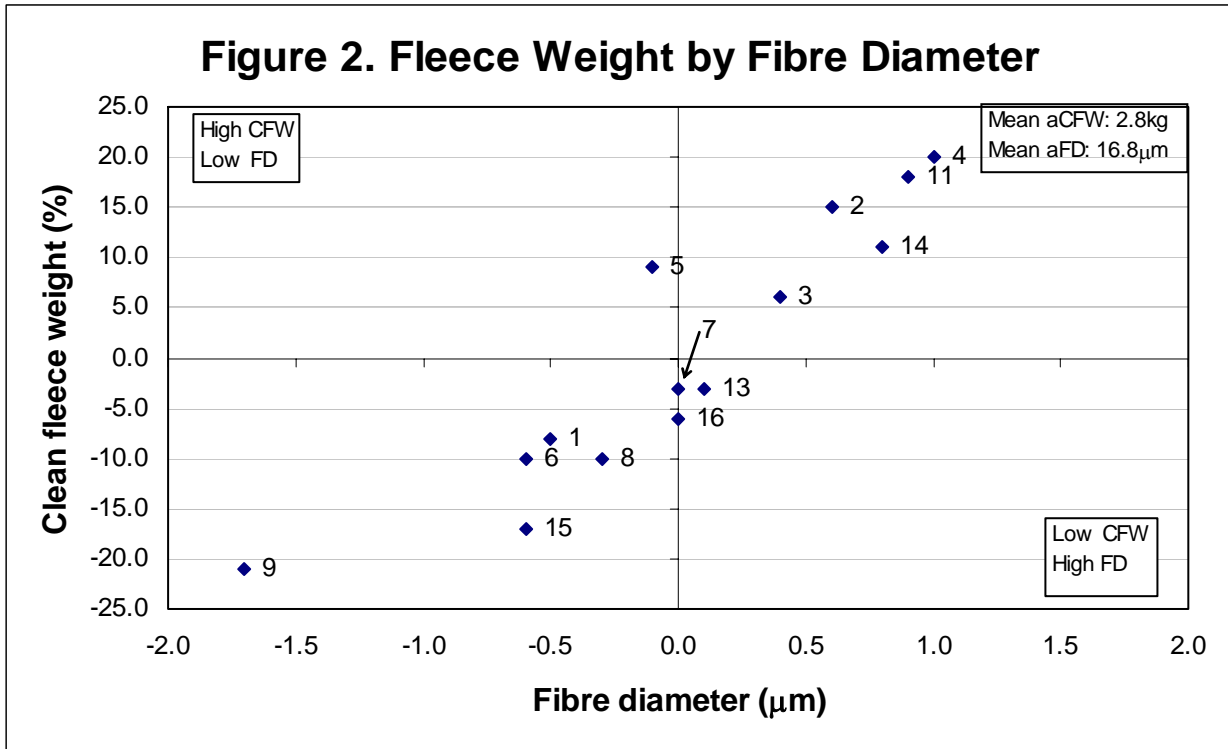
Figure 3. Classers Tops by Cull Grade

The graph describes performance for Classer's Tops Grade on the side axis and Cull Grade on the bottom axis. Rams that have above average Tops and below average Culls are in the <u>top left hand quarter</u>.

Figure 3. Classer Tops by Cull Grade
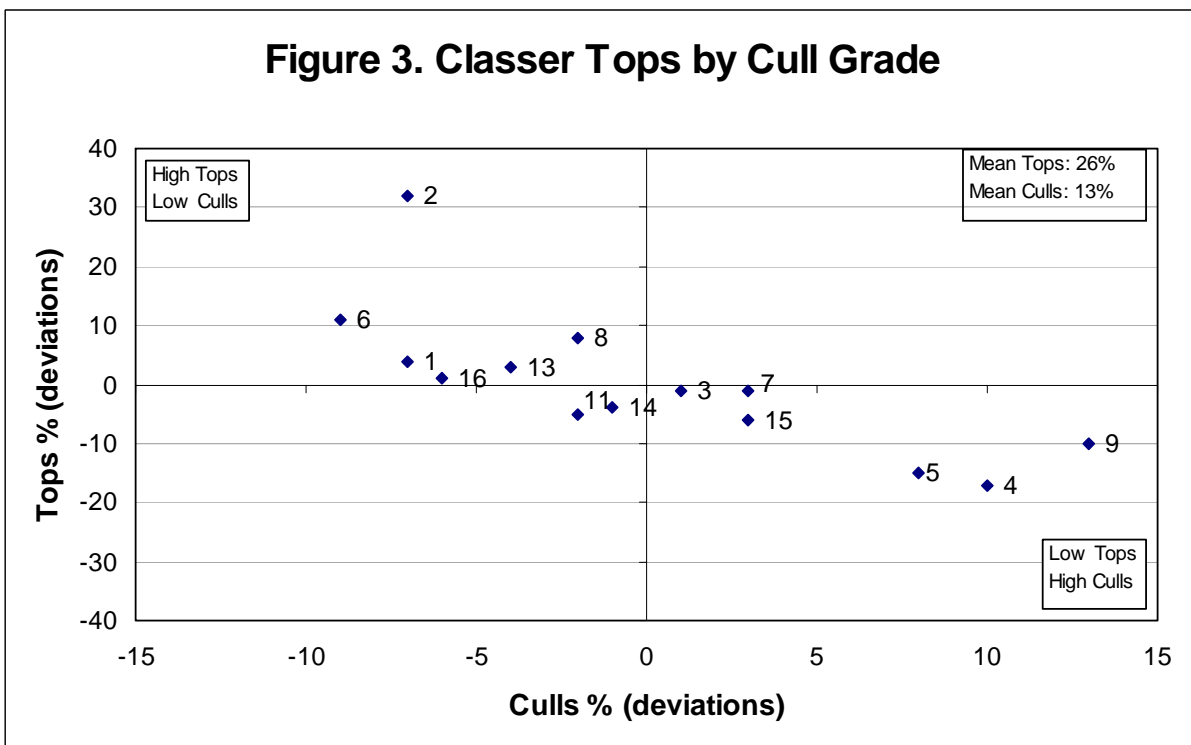
Measured trait performance and Classer's Grade – Tables 1 and 2 – pages 11 and 12

Ram code:	Allows a ram to be located on the summary graphs and some tables.
Ram name:	Identity of the breeder's flock and the ram's number or name.
No. of progeny:	The number of progeny a ram had at the most recent measured analysis.
Flock Breeding Values:	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated by Sheep Genetics for the rams evaluated in this report. Only data from this site evaluation is used in the calculation of these FBVs. FBVs describe the relative breeding value (genetic performance) of the rams (in this case based on the performance of their progeny). A ram's progeny will express half of their ram's FBV. FBVs do not necessarily reflect the ram's observed performance, which is a combination of both genetic and environmental influences. FBVs are an estimate of the genetic component of the sheep's performance.

Traits:

Abbreviation, trait and the (units reported)

GFW:	Greasy fleece weight (percentage).
CFW:	Clean fleece weight (percentage).
FD:	Average fibre diameter (micron).
WT:	Body weight (kilograms).
FDCV:	Fibre diameter coefficient of variation (percentage).
SL:	Staple length (mm) at the mid-side.
SS:	Staple strength (N/ktex) at the mid-side.
EMD:	Eye muscle depth (mm) at the 'C' site.
FAT:	Fat depth (mm) at the 'C' site.
CURV:	Fibre curvature (degrees)
WEC:	Worm egg count (% deviation in worm burden of ram's progeny)

Age at assessment:

Y = Yearling	- 300 to 400 days (10 to 13 months of age).
H = Hogget	- 400 to 540 days (13 to 18 months of age).
A = Adult	- 540 days or older (18 months and older).

Classer's Grade: A classer grades all progeny as either Tops, Flocks or Culls based on their visual assessment of all traits relative to the site's Breeding Objective (page 6). The percentage deviation from the average of Tops and Culls is presented in this report.

Table 1 – Major measured traits and Classer's Grades

| Ram code | Ram name | Number of progeny | Flock Breeding Values (deviations) | | | | | | | | Classer's Grade[1] | | | |
| | | | GFW % | | CFW % | | FD mm | | WT *kg* | | Tops % (dev) | | Culls % (dev) | |
			Y^	A	Y	A	Y	A	Y	A	Y	A	Y	A
1	Avington Poll, 03-086	50	-9	-8	-9	-8	-0.5	-0.5	-0.3	0.3	14	4	-3	-7
2	Bindawarra, 03.400	41	13	13	16	15	0.4	0.6	2.8	2.1	31	32	2	-7
3 *	Bindawarra, 01.1143	36	-1	4	2	6	0	0.4	-2.4	-2.0	-4	-1	-4	1
4	Hazeldean, 1.10014	49	14	17	18	20	0.7	1.0	-0.3	-1.3	-15	-17	0	10
5	Hyfield Poll, 3723	45	9	7	11	9	0	-0.1	5.0	4.8	-7	-15	-6	8
6 *	Kerrsville Poll, SY21108	49	-5	-9	-7	-10	-0.2	-0.6	-0.4	1.7	-1	11	-14	-9
7	Melrose, Little Ted	21	-4	-3	-4	-3	-0.1	0.0	-3.7	-4.3	-17	-1	16	3
8	Merinotech VIC, 041629	37	-10	-9	-11	-10	0	-0.3	0.4	1.2	10	8	-1	-2
9	Pastora Poll, Black 800	59	-22	-20	-25	-21	-1.4	-1.7	-7.2	-6.5	-19	-10	22	13
11	Pleasant Park, HS 123	47	17	17	18	18	0.6	0.9	-0.2	-0.7	2	-5	4	-2
13	The Mountain Dam, 04/NAH015	34	2	-1	0	-3	0.1	0.1	4.4	3.7	3	-6	0	3
14	Toland Poll, Yellow 1474	35	2	-4	2	-6	0.7	0.0	5.8	4.7	1	-4	-7	-1
15 UR	Tuloona, 2047	37	-17	-15	-19	-17	-0.6	-0.6	-5.0	-5.0	-8	3	7	-4
16	Windarra, 04/0236	31	10	12	9	11	0.4	0.8	1.4	1.3	17	1	-13	-6
	Average performance	41	3.6 kg	4.4 kg	2.5 kg	2.8 kg	15.9 mm	16.8 mm	35.2 kg	37.0 kg	28 %	26 %	16 %	13 %

* Link ram: Ram evaluated to provide links between site evaluations and sites so that the all site results can be combined into a single report, e.g., *Merino Superior Sires.*

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

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

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

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

Tables 2 – Other measured traits

Ram code	Ram name	No. of Prog.	FDCV %		SL mm		SS N/ktex		Curv deg/mm		Fat mm		EMD mm		WEC%
			Y^	A	Y	A	Y	A	Y	A	Y	H	Y	H	Y
1	Avington Poll, 03-086	50	0.0	-0.2	-1.2	-0.8	-3.0	-2.0	3.6	4.7					66.0
2	Bindawarra, 03.400	41	-0.3	-0.5	2.2	3.3	1.6	3.0	-7.3	-9.1					-15.0
3 *	Bindawarra, 01.1143	36	-0.8	-1.0	3.0	6.9	4.8	5.8	-5.2	-7.9					-43.0
4	Hazeldean, 1.10014	49	-0.9	-0.5	7.1	8.5	4.7	3.2	-10.7	-13.8					9.0
5	Hyfield Poll, 3723	45	0.2	0.2	0.3	-0.9	-0.5	-1.5	-4.1	-4.4					-1.0
6 *	Kerrsville Poll, SY21108	49	-0.9	-1.2	0.1	-2.1	-1.3	-1.8	5.6	9.5					-50.0
7	Melrose, Little Ted	21	1.6	1.5	-5.9	-5.6	-1.9	-2.6	4.0	4.4					20.0
8	Merinotech VIC, 041629	37	-1.4	-1.0	0.6	0.8	1.7	1.0	3.2	2.9					-38.0
9	Pastora Poll, Black 800	59	1.6	1.0	-11.0	-10.9	-3.7	-2.4	6.3	8.3					-25.0
11	Pleasant Park, HS 123	47	2.0	1.7	4.4	5.1	-4.1	-3.1	-12.2	-13.2					76.0
13	The Mountain Dam, 04/NAH015	34	0.3	0.3	-1.1	-2.5	-3.4	-2.9	1.5	2.7					154.0
14	Toland Poll, Yellow 1474	35	-1.1	-0.1	9.1	3.9	0.0	-2.6	2.4	3.3					-51.0
15 UR	Tuloona, 2047	37	-0.3	-0.4	-8.6	-8.7	2.2	3.2	9.4	10.3					17.0
16	Windarra, 04/0236	31	0.1	0.0	1.1	3.0	2.8	2.7	3.3	1.9					-6.0
	Average performance	42	20.4	20.4	72.8	72.7	35.7	22.1	92.0	108.4					
			%		mm		N/ktex		deg/mm		mm		mm		%

* Link ram: Ram evaluated to provide links between site evaluations and sites so that the all evaluations can be combined into one report, e.g., *Merino Superior Sires.*

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

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

Scored trait performance – Tables 3a to 3d – pages 14 to 17

The following description of trait scores is a summary of the detailed word and diagrammatical description of these scores in the Visual Sheep Scores booklet (free on application to AWI 02 92995155).

A deviation from the average trait score for all progeny is reported as well as the percentage of the ram's progeny recorded for each trait.

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

Table 3a – Visual trait assessments – Wool quality

Visually assessed traits reported in Tables 3a, b, c and d were scored at their 2nd Assessment apart from pigmentation that was scored at tagging and breech traits scored for 1st Assessment.

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

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

| | Wool Quality | | | | | | | | | | | | | | | | | | | | | | | | |
| Ram code | Fleece Rot | | | | | | Wool Colour | | | | | | Wool Character | | | | | | Dust Penetration | | | | | |
	Dev	**1**	**2**	**3**	**4**	**5**	**Dev**	**1**	**2**	**3**	**4**	**5**	**Dev**	**1**	**2**	**3**	**4**	**5**	**Dev**	**1**	**2**	**3**	**4**	**5**
1	-0.2	98	2	0	0	0	-0.4	70	23	7	0	0	-0.2	2	55	41	2	0	0.0	0	30	68	2	0
2	-0.2	95	2	3	0	0	-0.3	67	23	8	2	0	-0.2	3	56	38	3	0	-0.5	0	74	23	3	0
3 *	0.4	63	13	13	11	0	0.3	20	60	17	0	3	0.3	0	30	53	17	0	-0.1	0	40	60	0	0
4	0.1	77	13	5	5	0	0.7	3	57	38	2	0	0.1	3	32	57	8	0	0.2	0	22	65	13	0
5	0.6	62	14	10	4	10	0.5	17	50	29	4	0	0.1	0	43	48	9	0	0.2	0	10	86	4	0
6 *	-0.1	93	3	2	2	0	-0.3	64	32	4	0	0	-0.4	2	75	23	0	0	-0.2	0	43	57	0	0
7	-0.3	100	0	0	0	0	-0.2	42	58	0	0	0	0.0	0	42	53	5	0	0.1	0	21	79	0	0
8	-0.3	100	0	0	0	0	-0.2	45	52	3	0	0	0.1	0	36	61	3	0	0.1	3	9	88	0	0
9	-0.1	91	4	1	2	2	-0.3	61	33	6	0	0	-0.1	0	59	37	4	0	0.0	0	36	55	9	0
11	-0.1	89	8	3	0	0	0.1	32	55	13	0	0	0.1	0	37	58	5	0	-0.1	0	37	58	5	0
13	0.2	84	3	0	13	0	0.0	42	45	13	0	0	0.0	0	45	48	7	0	-0.1	0	42	52	6	0
14	0.2	71	12	15	2	0	0.3	29	41	26	4	0	0.1	0	41	44	15	0	0.4	0	3	76	21	0
15[UR]	-0.3	100	0	0	0	0	-0.4	67	30	3	0	0	0.0	0	52	36	12	0	-0.1	0	42	55	3	0
16	-0.1	90	4	3	3	0	0.1	37	47	16	0	0	0.0	0	47	47	6	0	0.1	0	27	67	6	0
Avg.	1.3	87	6	4	3	0	1.7	42	43	13	2	0	2.6	1	46	46	7	0	2.7	0	31	63	6	0

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

■ Information on how to use the results in the table above can be found on page 13.

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram's progeny assessed for each score is also reported. For the majority of breeder's objectives a negative deviation would be considered favorable and the larger the deviation the better.

Three pigmentation traits are reported as described on page 13. These are Fibre pigmentation (including Random spot), Non-fibre pigmentation and Recessive black. Fibre pigmentation and Non-fibre pigmentation are scored **1** to **5** however Recessive black and Random spot are scored **1** (no pigmentation of this type) or **5** (when the trait is expressed). Only the percentage scored 5 are reported for Recessive black (black) and Random spot (spot).

Ram code	Wool Quality												Pigmentation		
	Staple Weathering						Staple Structure						Black	Fibre	Skin
	Dev	**1**	**2**	**3**	**4**	**5**	**Dev**	**1**	**2**	**3**	**4**	**5**	*%*	*%*	*%*
1	-0.3	80	20	0	0	0	-0.1	23	75	2	0	0	0	4	24
2	-0.2	74	21	5	0	0	0.1	10	82	8	0	0	0	2	78
3 *	0.0	60	33	7	0	0	0.1	10	80	10	0	0	0	0	25
4	0.2	40	50	10	0	0	0.3	0	82	18	0	0	0	4	78
5	0.5	24	60	16	0	0	0.1	10	86	4	0	0	0	2	64
6 *	-0.1	68	32	0	0	0	-0.2	39	59	2	0	0	0	2	51
7	0.1	63	21	11	5	0	0.0	21	68	11	0	0	0	0	48
8	-0.2	70	30	0	0	0	0.1	12	82	6	0	0	0	3	65
9	0.0	64	28	8	0	0	-0.3	49	47	4	0	0	0	5	75
11	0.0	55	45	0	0	0	0.2	8	76	16	0	0	2	4	57
13	-0.1	65	32	3	0	0	-0.1	23	74	3	0	0	0	0	71
14	0.2	44	47	9	0	0	0.1	15	76	9	0	0	0	0	34
15^{UR}	-0.2	79	21	0	0	0	-0.2	42	48	10	0	0	0	0	22
16	0.0	57	37	6	0	0	0.0	23	63	14	0	0	0	3	65
Avg.	1.5	60	34	6	0	0	1.9	20	71	9	0	0	0	2	54

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

■ Information on how to use the results in the table above can be found on page 13.

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram's progeny assessed for each score is also reported.
For the majority of breeder's objectives a negative deviation would be considered favorable and the larger the deviation the better. Face cover and body wrinkle are possible exceptions when for many breeders the optimum score is in the middle of the range therefore trait leaders have not been highlighted.

Ram code	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
1	0	100	0	0	0	0	-0.1	48	48	4	0	0	-0.1	39	52	9	0	0	-0.1	0	0	91	4	5	-0.1	25	57	18	0	0
2	0	100	0	0	0	0	-0.1	51	38	11	0	0	0.2	28	54	13	2	3	-0.1	0	0	85	15	0	0.2	8	56	36	0	0
3 *	0	97	0	3	0	0	-0.2	50	47	3	0	0	-0.2	50	33	17	0	0	-0.2	0	7	83	10	0	0.1	13	57	30	0	0
4	0	100	0	0	0	0	0.1	35	52	13	0	0	0.1	28	52	20	0	0	0	0	0	80	18	2	0	15	60	25	0	0
5	0	100	0	0	0	0	0	43	48	9	0	0	0.3	24	43	33	0	0	0.1	0	3	64	33	0	0.1	15	52	33	0	0
6 *	0	100	0	0	0	0	-0.1	48	48	4	0	0	-0.2	48	41	11	0	0	-0.1	0	0	86	11	3	-0.2	27	57	16	0	0
7	0	100	0	0	0	0	0	42	42	16	0	0	-0.1	47	32	21	0	0	0.2	0	0	58	37	5	0	31	32	37	0	0
8	0	97	0	3	0	0	0.1	30	61	9	0	0	-0.2	48	42	10	0	0	0.2	0	0	61	33	6	0.1	6	67	27	0	0
9	0	100	0	0	0	0	0	41	52	7	0	0	0.3	11	65	22	2	0	0.3	0	0	50	44	6	-0.3	39	44	13	4	0
11	0	97	0	3	0	0	0.4	18	58	24	0	0	0	32	50	18	0	0	0	0	0	71	29	0	0.3	3	55	42	0	0
13	0.2	90	0	10	0	0	0.1	35	45	20	0	0	0.1	29	52	19	0	0	0	0	0	77	19	4	-0.1	19	65	16	0	0
14	0	100	0	0	0	0	0	35	56	9	0	0	0	41	32	27	0	0	-0.3	0	6	91	3	0	-0.2	21	71	8	0	0
15 UR	0	100	0	0	0	0	-0.2	52	45	3	0	0	-0.4	61	33	6	0	0	0.1	0	0	70	27	3	-0.2	27	55	18	0	0
16	0	97	0	3	0	0	0	33	63	4	0	0	0.1	23	57	20	0	0	-0.1	0	3	77	17	3	0.2	10	57	33	0	0
Av.	1.0	98	0	2	0	0	1.7	40	50	10	0	0	1.8	36	46	18	0	0	3.3	0	0	75	22	3	2.1	19	56	25	0	0

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

■ Information on how to use the results in the table above can be found on page 13.

Table 3d – Visual trait assessments – Breech

Traits are reported as a deviation (Dev) from the average trait score for all progeny. The percentage of a ram's progeny assessed for each score is also reported.
For the majority of breeder's objectives a negative deviation would be considered favorable and the larger the deviation the better.

Ram	Breech Cover						Crutch Cover						Breech Wrinkle						Dag					
code	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1	0	0	4	12	40	44							0	12	46	42	0	0						
2	0	0	4	8	50	38							0	10	48	40	2	0						
3 *	0	0	6	14	40	40							0	6	51	40	3	0						
4	0.2	0	0	4	43	53							0	19	49	23	6	3						
5	0	0	0	14	44	42							0	11	49	33	7	0						
6 *	0.3	0	0	2	38	60							0.3	6	40	34	17	3						
7	0.2	0	0	0	43	57							0.2	19	33	29	14	5						
8	0	0	0	3	61	36							0	14	53	31	2	0						
9	0.2	0	0	0	44	56							0.6	3	34	36	17	10						
11	0.1	0	0	4	49	47							0.2	13	31	44	9	3						
13	0.1	0	0	3	50	47							0	21	41	29	6	3						
14	-1.0	3	3	34	54	6							-1.0	51	43	6	0	0						
15 UR	0	0	0	11	46	43							0.1	3	49	43	5	0						
16	0	0	0	10	45	45							0	13	55	26	3	3						
Av.	4.3	0	2	8	46	44							2.4	14	44	33	7	2						

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

■ Information on how to use the results in the table above can be found on page 13.

Table 4 – Ram averages for measured traits

Ram averages are the average performance of all the progeny of a ram. No account is made for factors that can improve the breeding value accuracy.

Ram name	No. of Prog.	GFW %		CFW %		FD mm		WT kg		FDCV %		Curv *deg/mm*		SL *mm*		SS *N/ktex*	
		Y^	A	Y	A	Y	A	Y	A	Y	A	Y	A	Y	A	Y	A
Avington Poll, 03-086	50	-0.2	-0.3	-0.1	-0.1	-0.3	-0.2	-0.4	0.4	-0.1	0.0	1.6	3.1	-0.7	0.3	-2.9	-1.0
Bindawarra, 03.400	41	0.3	0.4	0.3	0.3	0.3	0.2	2.1	0.9	-0.1	-0.6	-4.4	-7.2	1.1	1.1	0.7	2.8
Bindawarra, 01.1143	36	-0.1	0.0	0.0	0.2	-0.1	0.2	-1.1	-1.2	-0.4	-1.0	-2.7	-5.8	1.4	5.0	4.0	6.0
Hazeldean, 1.10014	49	0.3	0.4	0.3	0.4	0.4	0.4	-0.5	-0.3	-0.8	-0.5	-4.7	-9.2	4.3	4.7	3.9	1.8
Hyfield Poll, 3723	45	0.3	0.2	0.2	0.2	-0.1	-0.1	3.1	2.9	0.0	0.1	-3.1	-3.1	0.1	-1.3	0.1	-1.1
Kerrsville Poll, SY21108	49	-0.1	-0.3	-0.1	-0.2	0.0	-0.4	-0.6	1.1	-0.5	-0.8	1.2	7.8	0.0	-0.9	-1.2	-2.9
Melrose, Little Ted	21	-0.1	-0.2	-0.1	-0.1	-0.1	0.1	-3.1	-3.4	1.2	1.4	3.5	4.0	-4.7	-3.2	-0.9	-2.5
Merinotech VIC, 041629	37	-0.3	-0.3	-0.2	-0.2	0.0	-0.3	0.3	0.4	-1.0	-0.5	1.2	1.4	-0.1	1.2	1.2	0.0
Pastora Poll, Black 800	59	-0.6	-0.5	-0.4	-0.4	-0.7	-0.9	-3.2	-3.9	1.5	0.5	1.6	4.8	-7.2	-5.8	-1.8	-1.3
Pleasant Park, HS 123	47	0.5	0.5	0.3	0.3	0.3	0.5	-1.1	1.1	1.0	1.2	-6.5	-8.3	2.9	1.9	-4.0	-1.3
The Mountain Dam, 04/NAH015	34	0.1	0.0	0.0	-0.1	0.1	0.1	2.7	1.7	0.2	0.2	0.6	1.8	-0.6	-1.8	-3.1	-3.3
Toland Poll, Yellow 1474	35	0.1	-0.1	0.1	-0.2	0.3	0.0	4.3	2.5	-1.2	0.5	1.7	3.2	7.3	2.2	-0.4	-1.5
Tuloona, 2047	37	-0.5	-0.5	-0.3	-0.3	-0.2	-0.3	-3.1	-2.9	0.2	-0.4	6.9	5.5	-5.3	-4.7	2.0	2.7
Windarra, 04/0236	31	0.3	0.5	0.1	0.2	0.1	0.5	0.5	0.7	0.0	0.1	3.1	2.1	1.4	1.3	2.4	1.7
Average performance	41	3.6	4.4	2.5	2.8	15.9	16.8	35.2	37.0	20.4	20.4	92.0	108.4	72.8	72.7	35.7	22.1
		kg		kg		mm		kg		%		deg/mm		mm		N/ktex	

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

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

Table 5 – Ram's Progeny Group Evenness

Ram Progeny Group Evenness

The assessment of evenness of ram progeny groups was carried out at 20 months of age with 9 months wool growth.

Classers assess the progeny for evenness to type based on visually assessed traits as described on page 13.

Evenness scores in the table below range from 1 (very even) and 5 (very uneven).

Evenness does not imply a "high standard" of performance as the progeny could be even but of a poor performance. Performance is reported in tables 1, 2 and 3.Generally the comments report the traits that are uneven and the progeny in the group can be considered even for traits not described in the comments.

The classer, Mr Ross Dickinson, visually assessed each ram's progeny group for evenness. He scored each group for evenness and reported evenness comments in Table 5.

Ram code	Ram name	Percentage tagged :			Evenness score	Evenness comments
		Single	Twin	Triplet		
1	Avington 03-086	56	44	0	2.5	More variation in group size
2	Bindawarra, 03.400	46	54	0	2	Good average structure, odd open back, good wool nourishment across group, lacks bit of consistency
3 *	Bindawarra, 01.1143	69	31	0	2	Good consistently even frame, some size variation
4	Hazeldean 1.10014	69	31	0	2	Some variation and odd smaller sheep compared to group
5	Hyfield 3723	64	36	0	1.5	Good general structure and even stretch
6 *	Kerrsville SY 21108	55	45	0	1.5	Overall as group, very even size and good structure, odd muffle, few smaller
7	Melrose TD696-03	71	29	0	3	Not as even in size and uneven in structure
8	Merinotech Vic 041629	51	49	0	2.5	Range of body structures, noticeable uneven face cover
9	Pastora Black 800	44	53	3	1.5	Good consistent group
11	Pleasant Park HS Black tag	55	40	4	1.5	Good even structure and good shape, good even mob. Odd lighter sheep
13	The Mountain Dam, 04/NAH015	59	41	0	2	Very even group but some lighter
14	Toland Poll Yellow 1474	69	23	9	2	Bit of size variation, some very big sheep and some smaller framed sheep. Question effect of triplets?
15[UR]	Tuloona 2047	70	30	0	1	Group size not as big but consistent in size and very even group
16	Windarra 04/0236	58	42	0	1	Very consistent good even group
	Average performance	59%	40%	1%		

Table 6 – Fleece value

An AWEX-ID was allocated to each fleece at shearing time. This information along with fleece weight, fibre diameter, yield, staple length and staple strength has been used to calculate an average value per ram group. Three year average wool prices for the Northern Wool Selling Region were used to calculate the fleece values.

Ram Code	Ram name	Price cents/kg (clean)	Wool value ($/head)
1	Avington Poll, 03-086	1207	$31.18
2	Bindawarra, 03.400	1173	$34.51
3 *	Bindawarra, 01.1143	1183	$33.33
4	Hazeldean, 1.10014	1086	$32.74
5	Hyfield Poll, 3723	1185	$34.12
6 *	Kerrsville Poll, SY21108	1207	$32.02
7	Melrose, Little Ted	1147	$31.29
8	Merinotech VIC, 041629	1217	$32.29
9	Pastora Poll, Black 800	1274	$31.39
11	Pleasant Park, HS 123	1123	$33.58
13	The Mountain Dam, 04/NAH015	1159	$31.31
14	Toland Poll, Yellow 1474	1173	$31.69
15 UR	Tuloona, 2047	1211	$30.44
16	Windarra, 04/0236	1146	$33.23
	Average performance	1178	$32.44

* Link ram: Ram evaluated by the site to provide links between years and sites so that the all site results can be combined into a single report – *Merino Superior Sires*.

Index Options – indexes reported on page 8

Breeding Objective index options provide the relative value of rams based on a combination of the underlined measured traits' genetic performance. The indexes used in this report are only some of the many indexes that can be used to describe an individual breeder's objective for measured traits.

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

All AMSEA site evaluation reports present 3 standard indexes to provide combined **measured** trait performance These 3 AMSEA indexes are Fine 10% +SS; Merino 14% +SS; and Dual Purpose 7%. These indexes are the same as MERINOSELECT indexes of that name however as there is no direct reproduction records captured by sire evaluation AMSEA do not include a Reproduction (NLW) FBV in their index calculations. As a result the 14% contribution by NLW in the Dual Purpose 7% index is not effectively applied by the index calculation.

This report has added an additional index – the AMSEA Fine 20% +SS.
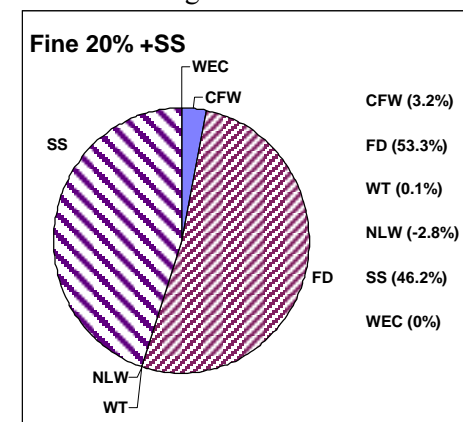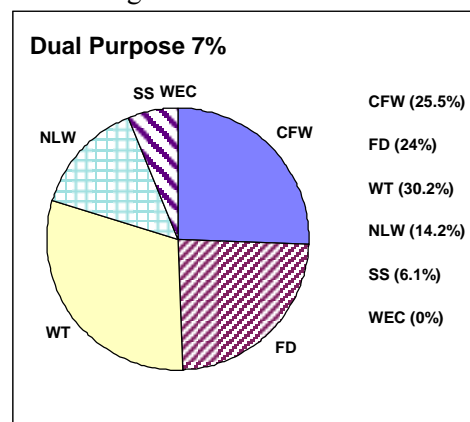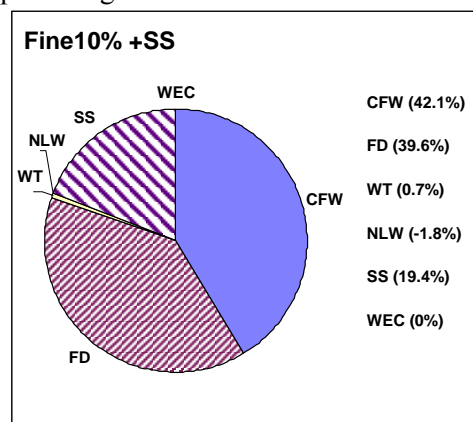
Index *production system* and breeding objectives
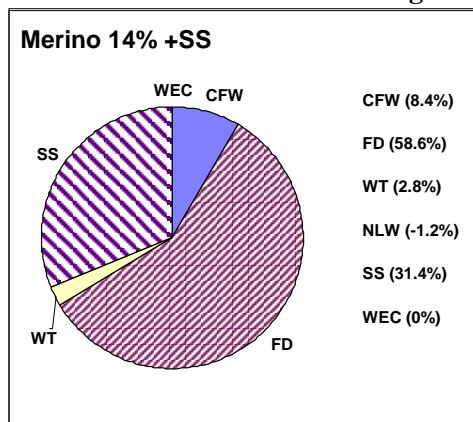
AMSEA
Fine 10% +SS
(F10% +SS)

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

AMSEA
Merino 14% +SS
(M14% +SS)

Medium wool Merino self-replacing production system with high emphasis on fibre diameter and low emphasis on fleece weight (14% Micron Premium) plus moderate emphasis on live weight and staple strength with maintain performance on other traits.

AMSEA
Dual Purpose 7%
(DP7%)

Medium wool Merino self-replacing production system (in conjunction with 25% of ewes in terminal lamb production) with moderate emphasis on fleece weight and fibre diameter (7% Micron Premium) plus high emphasis on live weight and maintain performance on other traits.

AMSEA
Fine 20% +SS
(F20% +SS)

Fine wool Merino self-replacing production system with high emphasis on fibre diameter (20% Micron Premium) and staple strength. There is adequate emphasis on other traits to maintain performance except a moderate reduction in reproduction (number lambs weaned - NLW).

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

Merino 14% +SS

CFW (8.4%)
FD (58.6%)
WT (2.8%)
NLW (-1.2%)
SS (31.4%)
WEC (0%)

Fine10% +SS

CFW (42.1%)
FD (39.6%)
WT (0.7%)
NLW (-1.8%)
SS (19.4%)
WEC (0%)

Dual Purpose 7%

CFW (25.5%)
FD (24%)
WT (30.2%)
NLW (14.2%)
SS (6.1%)
WEC (0%)

Fine 20% +SS

CFW (3.2%)
FD (53.3%)
WT (0.1%)
NLW (-2.8%)
SS (46.2%)
WEC (0%)

Accuracy of Flock Breeding Values

Flock Breeding Values (FBVs) are reported by Sheep Genetics Australia (SGA). FBVs express the expected performance of progeny of a ram relative to another ram in the evaluation when mated to the same standard of ewes. FBVs improve the accuracy of ram results because they account for the association between traits, adjustment for birth effects and the number of progeny a ram has in the analysis.

True Breeding Values would be achieved if the number of progeny evaluated for each ram were infinite. Because the number of progeny in the evaluation is not infinite, performance shown in this report is described as *Flock* Breeding Values.

Without progeny test information the correlation between the *Flock* and *True* Breeding Value of rams from different sources would be zero (0.0%). The correlation between *Flock* and *True* Breeding Value improves rapidly from 0.0% with no progeny to 77% with 10 progeny. The rate of improvement in correlation slows from 86% with 20 progeny, to 90% with 30 progeny and 92% with 40 progeny. With an infinite population the correlation is 100%. Note that the correlation used in the above example is for a trait such as fibre diameter with a high heritability (0.5).

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

Link rams

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

To be used as a link a ram must have at least 25 progeny assessed at 1st Assessment at one accredited site. Site reports provide valuable information not reported in *Merino Superior Sires* however *Merino Superior Sires* reports the performance of a large number of rams which can provide a wider perspective of the elite rams available across many flocks in Australia and New Zealand.

Combined measured trait and combined visual trait performance

Combined measured trait performance is calculated as (7% MP Index − 100). Combined visual trait performance is calculated as:
(Classer's Grade Tops% − Culls%)/5, expressed as a deviation from (average Tops% − average Culls%)/5.

   Example

Ram's performance:
- AMSEA 7% MP Index value = 119.7
- Tops% = 25.5 (average Tops% = 25.1)
- Culls% = 17.6 (average Culls% = 16.4)

- Combined Measured = 119.7.0 − 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
  = -0.16

2006 Drop 2nd Assessment

21 months age, 10 months wool growth