

New England Merino Sire Evaluation Association

Central Test Sire Evaluation

2008 Drop 1st Evaluation

Conducted by

**NEW ENGLAND MERINO SIRE EVALUATION
ASSOCIATION**

under the auspices of

The Australian Merino Sire Evaluation Association



February 2010

Disclaimer

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

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product name does not imply endorsement by the site over any equivalent product from another manufacturer.

Recognising that some of the information in this document is provided by third parties, the author and the publisher take no responsibility for the accuracy, currency, reliability and correctness of any information included in the document provided by third parties.

New England Merino Sire Evaluation Association - Central Test Sire Evaluation

The New England Merino Sire Evaluation is an accredited Central Test Sire Evaluation (CTSE) site. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA). A sub-committee of the New England Merino Sire Evaluation Association run the New England Merino Sire Evaluation site. They are listed in the table below.

As a result of meetings in late 1989, a group was formed to conduct Merino Sire Evaluation in the New England district of NSW. In December 1992, the New England Merino Sire Evaluation Association was formed.

The first programs of insemination were conducted at 'Mirani' near Walcha, NSW in April 1990 and 1991. In 1992 and 1993 'Gostwyck Station' made available 800 fine wool ewes for the progeny tests, followed by 'Birralee' in 1994 and 1995 and then 'Deeargee' in 1996. CSIRO Chiswick hosted the Sire Evaluation program from 1997 to 2003 inclusive. In 2004 the program moved to the University of New England Kirby property. The program has operated with assistance from CSIRO Livestock Industries, NSW Department of Industry and Investment and University of New South Wales.

Each year, following the tagging of lambs at around two weeks of age, the ewes and their lambs are moved from their sire lambing plots and boxed as one group. The full drop of each sires' ewe and wether lambs are measured and visually assessed in the spring at 12 months of age in 12 months wool growth. This booklet reports the results of the first evaluation of the 2008 drop carried out during 2009.

**Jock McLaren, Chairperson, NEMSEA
February, 2010.**

Current members of the Site Committee

Name	Phone	Position on committee
Jock McLaren	02 6777 5881	Chairperson
Hugh Nivison	02 6777 1360	Vice Chairperson
Paul Arnott	02 67729860	Site Manager
Andrew Swan	02 6773 3209	Data Analysis
Michael Lollback	02 6763 1100	Classer
Katrina Blomfield	02 6777 9189	
Grant Nivison	02 6777 2525	
Jen Smith	02 6776 1381	
Lachlan Fulloon	02 67751217	

For further information on this report please contact:

Paul Arnott, Manager Rural Properties
Department of Rural Properties UNE, Armidale NSW 2351
Ph: (02) 67729860, Mobile: 0407450093
Email: paul.arnott@une.edu.au

Report authors

Michael Lollback¹, Sally Martin², Allan Casey³, Andrew Swan⁴

¹ NSW I & I, Tamworth Agricultural Institute, Marsden Park Road, Calala, NSW 2340

² NSW I & I, NSW Govt. Offices, 27 Lynch Street, Young NSW 2594

³ NSW I & I, Forrest Road, Orange 2800

⁴ AGBU, UNE, Armidale, NSW 2351

Date of publication: February 2010.

2008 Drop, 1st Assessment, New England Merino Sire Evaluation

The information in this site evaluation report provides a comprehensive assessment of the 2008 drop 1st Assessment of the sire's progeny performance, both measured and visually assessed traits. The 1st Assessment was made at 12 months of age with 12 months of wool growth. A 2nd assessment will be made at approximately 24 months of age in 12 months wool.

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

Contents

	Page
Sire and owner details	3
Managers report	4
Assessment and management program	5
Visual tait assessment and site Breeding Objective	6
Results – 1st Assessment	
Summary	
Figure 1: Combined measured and visual trait performance	7
Table A: Index values and Classer's Grades	8
Figure 2: Fleece Weight and Fibre Diameter	9
Figure 3: Classer's Grade: Tops and Culls	10
Detail	
Understanding the results – Measured trait performance	11
Table 1: Major measured trait and Classer's Grade performance	12
Table 2: Other measured trait breeding values	13
Understanding the results – Scored trait performance	14
Table 3a: Wool quality	15
Table 3b: Wool quality	16
Table 3c: Pigmentation	17
Table 3d: Conformation	18
Table 3e: Breech	19
Other assessment results	
Table 4: Ram averages for measured traits	20
Understanding the results – Information to assist the use of results	
Index options	21
Accuracy of Flock Breeding Values (FBVs)	22
Link Sires	22
Calculation of combined information	22

Sire and owner details

New England Merino Sire Evaluation 2008 drop 1st Assessment, 12 months of age with 12 months wool growth.

Sire and owner details

Ram code	Breeders flock, Ram number Ram ID #, Breed †	Contact name, address Phone, Fax
1	Alfoxton, 060107 50-4294-2006-060107	Chris Clonan, Alfoxton, Wattle Lane, Armidale NSW 2350 Ph: 02 6775 3245, Fax: 02 6775 3266
2**	Cressbrook, 06/580 50-2302-2006-006580	Lachlan Fulloon, Cressbrook, Armidale NSW 2350 Ph: 02 6775 1217, Fax: 02 6775 1341
3	Emoh Ruo, 26 50-4114-2005-A26754	John Doak, Emoh Ruo, PO Box 39, Bundarra NSW 2359 Ph: 02 6723 7343, Fax: 02 6723 7342
4	Grindon, 118 50-4455-2005-050118	Roland Ritson, Grindon, RMB 150, Boyup Brook WA 6244 Ph: 08 97653053, Fax: 08 9765 3006
5	Karori, K290 50-4773-2006-060290	Rob and Katrina Blomfield, Karori, Walcha NSW 2354 Ph: 02 6777 9189, Fax: 02 6777 9188
6 ^{UR}	Kia Ora, 58 50-9221-2004-040058	B.P. & S.S. Finnigan Kia Ora, Winslow, VIC 3281 Ph: 03 55692079, Fax: 03 5569 2079
7*	Mirani, 466.9 50-0732-1999-990466	Hugh Nivison, Mirani Pty Ltd, Mirani, Walcha NSW 2354 Ph: 02 6777 1360, Fax: 02 6777 2683
8**	Nerstane, 040222 50-3298-2004-040222	John, Hamish and Jock McLaren, Nerstane, Woolbrook NSW 2354 Ph: 02 6777 5881 Fax: 02 6777 5922
9	T13, 05A3156 50-4997-2005-0A3156	Ian Purvis, CSIRO, Locked Bag 1, Armidale NSW 2350 Ph: 02 6776 1373, Fax: 02 6776 1333
10** ^{UR}	Teangi, TE2026 50-9055-2002-002026	Gerard Stephen, Warrane, Armidale NSW 2350 Ph: 02 6775 1152, Fax: 02 6775 1010
11**	Yalgoo, 188 50-1552-2006-060188	Grant Nivison, Yalgoo, Walcha NSW 2354 Ph: 02 6777 2525, Fax: 02 6777 2875
12*	Yalgoo, 420 50-1552-2001-000420	Grant Nivison, Yalgoo, Walcha NSW 2354 Ph: 02 6777 2525, Fax: 02 6777 2875

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

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

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

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

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

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

- 4 for year of drop.

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

† Breed of flock in which the sire was born

Managers Report

1. Location

- Kirby Research Station is owned and operated by the University of New England and is located 10km northwest of Armidale. The property is 1134 ha in area and has an average annual rainfall of 789mm.
- Soil types range from heavy basalt to granite derived.

2. Selection and mating

- 600 ewes were mated by AI to 12 sires.
- Ewes were selected visually.
- The majority of ewes originated from the “Kirby” flock which has an average adult FD of 16.5 micron.
- The insemination program was conducted on 17th April 2008.
- Semen quality was in general good and the condition of the ewes ranged from 3-4 fat score at the time of insemination.
- The insemination program was conducted by Allstock (NSW) Pty. Ltd.
- 50 ewes were allocated to each sire entered.

3. Pregnancy and lambing

- Pregnancy scanning took place on 19th July 2008.
- A total of 597 ewes were scanned with a conception rate of 78%.
- The potential lambing rate including multiple births was 142%.
- Ewes were managed as one contemporary group.
- Adequate pasture and a supplementary feeding program ensured that nutritional requirements were met during all stages of pregnancy.
- Lambs were tagged within 3 days of lambing (7-14 September 2008) and boxed into one contemporary group of ewes and lambs.

4. Weaning and seasonal conditions

- The lambs were marked on 16 November 2007.
- E-tags were applied to the lambs on 22nd January 2008.
- The lambs were weaned onto improved pasture on 22nd January 2008.
- Pasture conditions were adequate from birth to their first shearing.

5. Assessments

- 1st stage assessments were carried out by Michael Lollback.

7. Rainfall

Armidale Airport Rainfall (mm per month) *							
Month	2004	2005	2006	2007	2008	2009	Average
January	229	106	72	101	59	49	103
February	90	64	114	121	174	123	114
March	54	17	88	80	5	43	48
April	36	0	54	56	55	53	42
May	14	14	0	36	14	80	26
June	9	107	48	53	64	60	57
July	46	26	52	12	30	32	31
August	65	24	19	91	28	24	42
September	43	110	44	6	52	38	49
October	21	60	33	84	76	90	61
November	48	151	108	122	124	60	102
December	113	68	71	115	87	141	99
Total	768	747	703	877	768	795	776

* Source: “Kirby” records and BOM

Reported by: Paul Arnott, Manager, Rural Properties, UNE.

Assessment and management program

Activity	Date/s	Age (months)	Wool (months)
Selection of ewes	15.3.2008		
Allocation of ewes for mating	17.4.2008		
Pregnancy scanning	19.7.2008		
Separated into sire lambing groups	1.9.2008		
Lambing: start – finish	7-14.9.2008		
Lambing mobs boxed to 1 sex management group	21.9.2008	14-21 days	
Tagging/pigment scores (age in days)	21.9.2008	14-21 days	
Marked and scored for breech traits	14.11.2008	68 days	
Weaning (age in days)	21.12.2008	100 days	
Pre assessment (even-up) shearing	NA		
Crutching	<ul style="list-style-type: none"> • 1st: 30.3.2009 • 2nd: 	8	8
Fat and eye muscle scanning and body weight	6.1.2010	15	
Fleece sampling	<ul style="list-style-type: none"> • 1st Assessment: 26.10.2009 • 2nd Assessment: 	13	13
Staple length assessment	<ul style="list-style-type: none"> • 1st Assessment: 26.10.2009 • 2nd Assessment: 	13	13
Classer's Grade	<ul style="list-style-type: none"> • 1st Assessment: 10.9.2009 • 2nd Assessment: 	12	12
Pre shearing scoring	<ul style="list-style-type: none"> • 1st Assessment: 10.9.2009 • 2nd Assessment: 	12	12
Assessment shearing	<ul style="list-style-type: none"> • 1st Assessment: 26.10.2009 • 2nd Assessment: 	13	13
Post shearing scoring	<ul style="list-style-type: none"> • 1st Assessment: 11.11.2009 • 2nd Assessment: 	14	14
Body weigh	<ul style="list-style-type: none"> • weaning 21.12.2008 • 1st Assessment: 6.1.2010 • 2nd Assessment: 	3 15	
Worm egg count sampling	<ul style="list-style-type: none"> • 1st Assessment: 15.2.2010 • 2nd Assessment: 	16	
Sire's Progeny Group Evenness assessment	NA		
Vaccination	Marking and weaning		
Drench	As required based on worm egg counts		
Supplementary feeding: start - finish	March to September 2009		
Field day or public display of sheep	April 2010		

Visual trait assessment

1st Assessment

Classer's Grade: Michael Lollback.

Trait Scores: Michael Lollback and Paul Arnott (Breech Traits).

Site Breeding Objective used to assess the Classer's Grades

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

The NEMSEA Breeding Objective is to improve fleece value and animal performance by placing appropriate emphasis on both measured and visually assessed traits to enable animals to perform profitably under climatic and pastoral conditions experienced on the New England Tablelands.

The measured traits include fleece weight, fibre diameter, live weight, staple strength and worm resistance. The visual traits include wool quality (wool character, wool colour and fleece rot resistance) and conformation and structural traits (face cover, neck and body development, feet and leg structure and back and shoulder structure).

In assessing animals for classer grade the classer can use the animals measured performance results combined with visual assessment of traits in the breeding objective to finalise a grade (top, flock or cull). For the first assessment of the 2008 drop no reference was made to measured performance meaning the grade assigned to each animal was based on visual assessment only.

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 1st 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 21).

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



Rams reported in Figure 1			
Ram code	Breeders flock, Ram number	Ram code	Breeders flock, Ram number
1	Alfoxton, 060107 50-4294-2006-060107	7*	Mirani, 466.9 50-0732-1999-990466
2**	Cressbrook, 06/580 50-2302-2006-006580	8**	Nerstane, 040222 50-3298-2004-040222
3	Emoh Ruo, 26 50-4114-2005-A26754	9	T13, 05A3156 50-4997-2005-0A3156
4	Grindon, 118 50-4455-2005-050118	10**	Teangi, TE2026 50-9055-2002-002026
5	Karori, K290 50-4773-2006-060290	11**	Yalgoo, 188 50-1552-2006-060188
6	Kia-Ora, 58 50-9221-2004-040058	12*	Yalgoo, 420 50-1552-2001-000420

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

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

Table A. AMSEA Index values and Classer's Grade

The highest performing 2 sires for each trait (i.e., trait leaders) are highlighted by shading, e.g., in the table below see Sire 5 and 8 for Classers Grade – Tops%. Each sire is listed for Classer's Grade and the same three indexes at all site evaluations. An additional index (Fine Merino 20%+SS) considered relevant to this site evaluation is also reported.

The index values reported are based on measured traits FBV performance with varying emphasis on fleece weight, fibre diameter, body weight, staple strength and worm egg count. (See 'Index Options' on page 20 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) which is given a zero FBV value in AMSEA calculations.

- **Merino 14% +SS** High emphasis on fibre diameter and low emphasis on fleece weight plus moderate emphasis on live weight and staple strength.
- **Fine 10% +SS** Moderate emphasis on fleece weight and fibre diameter plus moderate emphasis on staple strength.
- **Dual Purpose 7%** Moderate emphasis on fleece weight and fibre diameter plus high emphasis on live weight.
- **Fine 20%+SS** Maintain emphasis on fleece weight and high emphasis on fibre diameter (20% Micron Premium) plus moderate emphasis on staple strength and maintain performance on other traits.

Ram code	Breeders flock, ram number	Number of progeny	AMSEA Indexes values				Classer's Grade	
			Merino 14% + SS	Fine 10% + SS	Dual Purpose 7%	Fine 20% + SS	Tops % (dev)	Culls % (dev)
							Y^	Y
1	Alfoxton, 060107	21	95	96	88	93	4	8
2*	Cressbrook, 06/580	29	110	112	111	110	8	2
3	Emoh Ruo, 26	26	97	94	89	97	-33	11
4	Grindon, 118	27	94	91	98	97	-10	-5
5	Karori, K290	29	96	95	93	96	15	-1
6	Kia-Ora, 58	27	108	116	119	103	-11	-12
7*	Mirani, 466.9	27	101	109	106	97	8	-1
8*	Nerstane, 040222	24	107	104	103	105	17	-8
9	T13, 05A3156	33	98	94	91	102	7	-6
10*	Teangi, TE2026	24	87	75	84	94	5	-8
11*	Yalgoo, 188	27	96	99	110	95	6	7
12*	Yalgoo, 420	25	111	115	109	110	-15	14
Average performance		27	100	100	100	100	37	12

* 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*.

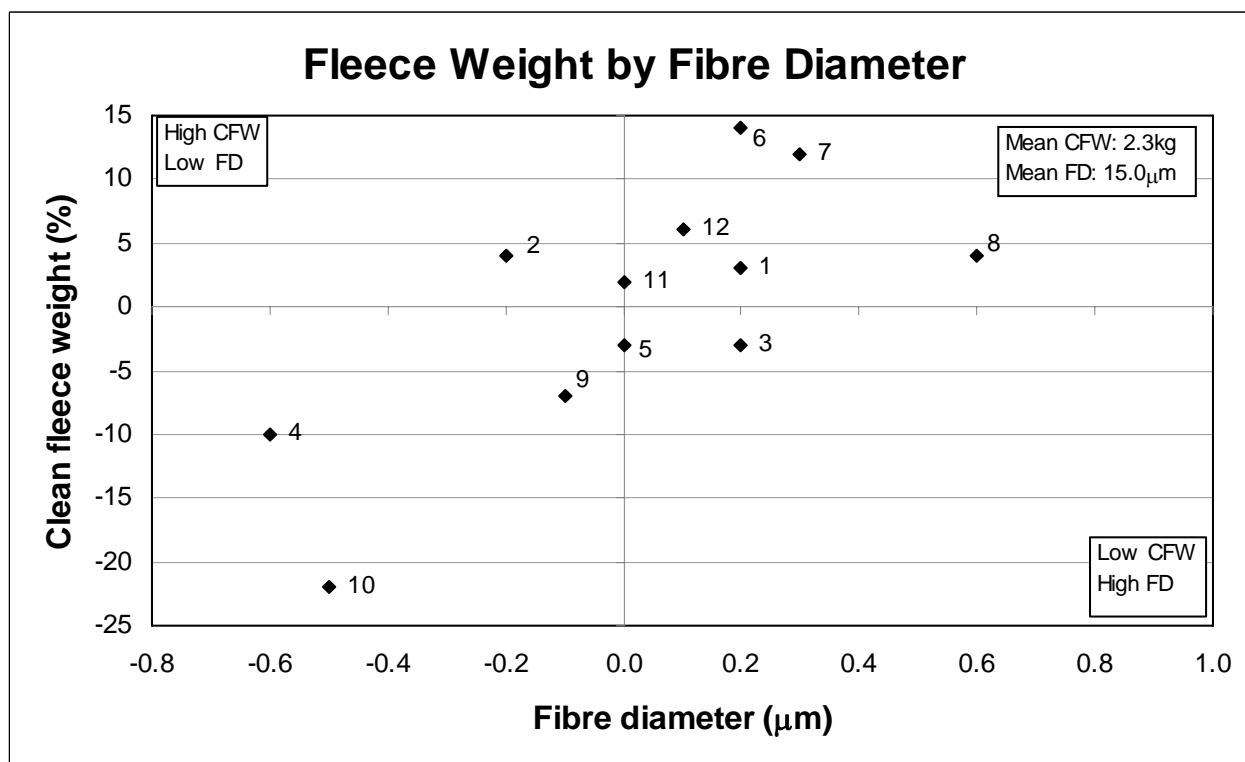
^ Y = Yearling (300 to 400 days).

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

Figures 2. and 3. Summary Graphs – FW and FD, Tops and Culls

Figure 2 Fleece weight by fibre diameter

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



Rams reported in Figure 2

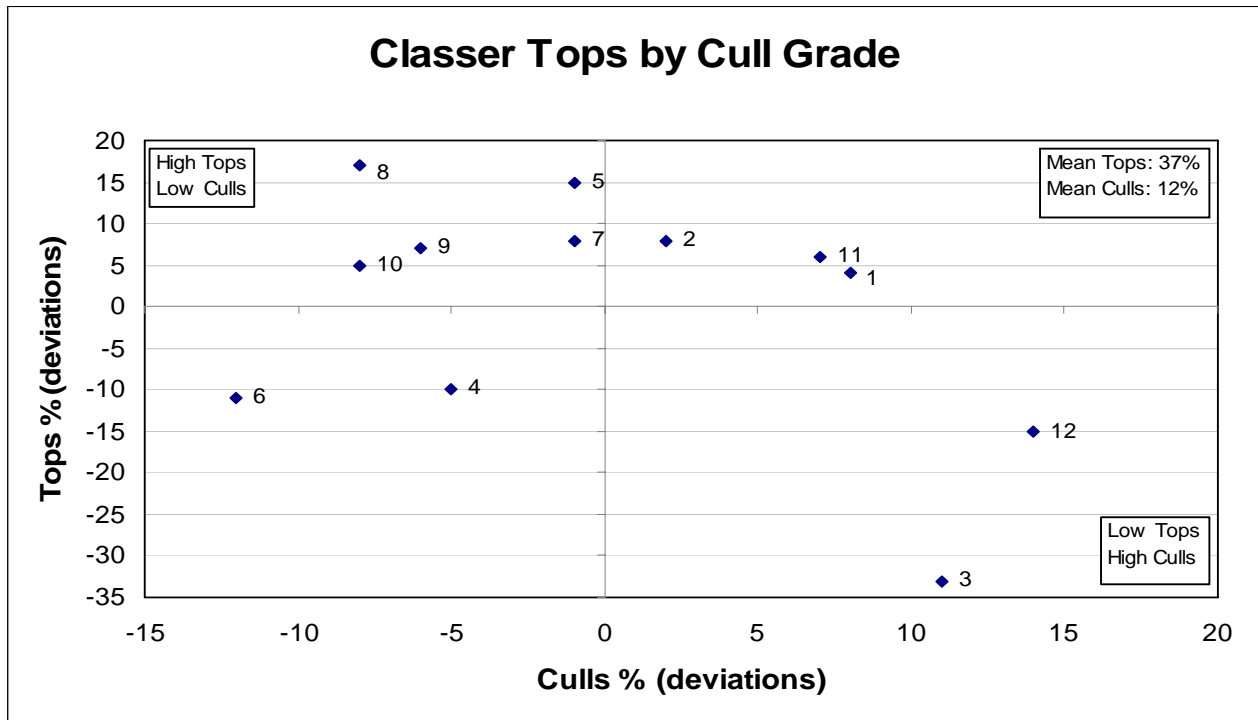
Ram code	Breeders flock, Ram number	Ram code	Breeders flock, Ram number
1	Alfoxtton, 060107 50-4294-2006-060107	7*	Mirani, 466.9 50-0732-1999-990466
2**	Cressbrook, 06/580 50-2302-2006-006580	8**	Nerstane, 040222 50-3298-2004-040222
3	Emoh Ruo, 26 50-4114-2005-A26754	9	T13, 05A3156 50-4997-2005-0A3156
4	Grindon, 118 50-4455-2005-050118	10**	Teangi, TE2026 50-9055-2002-002026
5	Karori, K290 50-4773-2006-060290	11**	Yalgoo, 188 50-1552-2006-060188
6	Kia-Ora, 58 50-9221-2004-040058	12*	Yalgoo, 420 50-1552-2001-000420

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

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

Figure 3 Classers Tops by Cull Grade

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



Rams reported in Figure 3			
Ram code	Breeders flock, Ram number	Ram code	Breeders flock, Ram number
1	Alfoxton, 060107 50-4294-2006-060107	7*	Mirani, 466.9 50-0732-1999-990466
2**	Cressbrook, 06/580 50-2302-2006-006580	8**	Nerstane, 040222 50-3298-2004-040222
3	Emoh Ruo, 26 50-4114-2005-A26754	9	T13, 05A3156 50-4997-2005-0A3156
4	Grindon, 118 50-4455-2005-050118	10**	Teangi, TE2026 50-9055-2002-002026
5	Karori, K290 50-4773-2006-060290	11**	Yalgoo, 188 50-1552-2006-060188
6	Kia-Ora, 58 50-9221-2004-040058	12*	Yalgoo, 420 50-1552-2001-000420

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

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

Understanding the results

Measured trait performance and Classer's Grade – Tables 1 and 2 – pages 12 and 13

Ram code:	Allows a ram to be located on the summary graphs and some tables.
Ram name:	Identity of the breeder's flock and the ram's number or name.
No. of progeny:	The number of progeny a ram had at the most recent measured analysis.
Flock Breeding Values:	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated by Sheep Genetics for the ram's evaluated in this report. Only data from this site evaluation is used in the calculation of these FBVs. FBVs describe the relative breeding value (genetic performance) of the rams (in this case based on the performance of their progeny). A ram's progeny will express half of their ram's FBV. FBVs do not necessarily reflect the rams observed performance, which is a combination of both genetic and environmental influences. FBVs are an estimate of the genetic component of the sheep's performance.
Traits:	GFW: Greasy fleece weight (percentage).
Abbreviation, trait and the (units reported)	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 Tops, Flocks or Culls based on 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	Breeders flock, Ram number	Number of progeny	Flock Breeding Values (deviations)				Classer's Grade ¹	
			GFW % Y [^]	CFW % Y	FD μ m Y	WT kg Y	Tops % (dev) Y	Culls % (dev) Y
1	Alfoxton, 060107	21	3	3	0.2	0.6	4	8
2**	Cressbrook, 06/580	29	4	4	-0.2	0.8	8	2
3	Emoh Ruo, 26	26	-3	-3	0.2	0.6	-33	11
4	Grindon, 118	27	-8	-10	-0.6	-2.7	-10	-5
5	Karori, K290	29	-3	-3	0	-0.4	15	-1
6	Kia Ora, 58	27	14	14	0.2	2.2	-11	-12
7*	Mirani, 466.9	27	11	12	0.3	-0.1	8	-1
8**	Nerstane, 040222	24	5	4	0.6	2.4	17	-8
9	T13, 05A3156	33	-8	-7	-0.1	-1.2	7	-6
10**	Teangi, TE2026	24	-20	-22	-0.5	0.4	5	-8
11**	Yalgoo, 188	27	2	2	0	-1.6	6	7
12*	Yalgoo, 420	25	4	7	0.1	-0.9	-15	14
	Average performance	27	2.9 kg	2.3 kg	15.0 μ m	38.0 kg	37 %	12 %

* 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*.

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

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

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

■ Information on how to use the results in the table above can be found on page 11.

Table 2. Other measured traits

Ram code	Breeders flock, ram number	Number of progeny	Flock Breeding Values (deviations)						
			FDCV % Y [^]	SL mm Y	SS N/ktex Y	Curv deg/mm Y	Fat mm Y	EMD mm Y	WEC % Y
1	Alfoxton, 060107	21	0.2	4.3	-1.5	0.7	-2	-1.9	29
2**	Cressbrook, 06/580	29	-0.2	0.8	0.5	-2.0	0.2	0.2	118
3	Emoh Ruo, 26	26	0.5	-10.5	2.4	5.2	-0.3	-0.9	26
4	Grindon, 118	27	1.2	-7.6	-0.7	4.9	0.6	1.4	-52
5	Karori, K290	29	0.3	0.5	-0.7	-0.6	0	-0.3	-58
6	Kia-Ora, 58	27	0.7	8.7	1.0	-8.7	-1.0	-0.5	74
7*	Mirani, 466.9	27	0.7	6.0	-2.8	-9.0	0.1	-0.4	79
8**	Nerstane, 040222	24	-1.2	13.2	3.9	-0.3	-0.5	-0.6	21
9	T13, 05A3156	33	-0.7	-4.9	1.1	3.7	0.5	0.2	-17
10**	Teangi, TE2026	24	-0.9	-16.7	0.2	22.1	1.7	1.3	-37
11**	Yalgoo, 188	27	0.3	4.6	-2.9	-5.4	0.8	1.5	-14
12*	Yalgoo, 420	25	-0.8	1.6	1.5	-10.8	0	0	-54
Average performance		27	18.1	95.5	35.3	107.9	3.0	24.3	

* 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*.

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

[^] Y = Yearling (300 to 400 days);

■ Information on how to use the results in the table above can be found on page 11.

Understanding the results

Scored trait performance – Tables 3a to 3e – pages 15 to 19

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 favourable and the larger the deviation the better.

Ram code	Wool Quality																	
	Fleece Rot						Wool Colour						Wool Character					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1	0.0	84	5	0	11	0	0.1	47	37	16	0	0	0.0	26	63	11	0	0
2**	0.0	72	21	4	3	0	0.0	48	45	7	0	0	-0.2	38	59	3	0	0
3	0.5	38	42	20	0	0	0.2	23	69	8	0	0	0.5	12	50	31	7	0
4	0.0	73	23	4	0	0	-0.1	54	42	4	0	0	0.1	23	54	23	0	0
5	0.0	74	22	4	0	0	-0.1	52	48	0	0	0	-0.2	37	56	7	0	0
6	-0.2	89	11	0	0	0	0.4	8	85	7	0	0	0.4	11	52	37	0	0
7*	0.0	74	15	11	0	0	0.1	41	52	7	0	0	-0.1	37	52	11	0	0
8**	-0.3	100	0	0	0	0	0.1	25	75	0	0	0	0.0	21	71	8	0	0
9	-0.1	78	22	0	0	0	-0.3	69	31	0	0	0	-0.1	31	59	10	0	0
10**	-0.3	100	0	0	0	0	-0.4	75	25	0	0	0	-0.1	33	58	9	0	0
11**	0.1	69	23	4	4	0	0.0	50	42	4	4	0	-0.2	38	58	4	0	0
12*	0.5	44	36	12	8	0	0.1	48	36	16	0	0	0.0	28	56	16	0	0
Av	1.3	75	18	5	2	0	1.6	45	49	6	0	0	1.9	28	57	14	1	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*.

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

■ Information on how to use the results in the table above can be found on page 14.

Table 3b Visual trait assessment – Wool quality

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

Ram code	Wool Quality											
	Staple Weathering						Staple Structure					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1	0.0	0	100	0	0	0	0.1	0	84	16	0	0
2**	0.0	0	100	0	0	0	0.0	4	86	10	0	0
3	0.0	4	92	4	0	0	0.1	0	81	15	4	0
4	-0.1	4	96	0	0	0	-0.1	0	100	0	0	0
5	0.0	0	100	0	0	0	0.1	0	78	22	0	0
6	0.1	0	89	11	0	0	0.1	0	81	19	0	0
7*	0.0	0	96	4	0	0	-0.1	11	74	15	0	0
8**	0.0	0	96	4	0	0	0.1	0	75	25	0	0
9	0.0	0	97	3	0	0	0.0	4	84	12	0	0
10**	0.0	0	100	0	0	0	-0.1	4	88	8	0	0
11**	0.0	4	92	4	0	0	-0.2	19	73	8	0	0
12*	0.1	0	92	8	0	0	-0.1	0	96	4	0	0
Av	2.0	1	96	3	0	0	2.1	4	83	13	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*.

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

■ Information on how to use the results in the table above can be found on page 14.

Table 3c Visual trait assessment - Pigmentation

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

Four pigmentation traits are reported as described on page 14. These are Fibre pigmentation, Non-fibre pigmentation, Recessive “black” and Random “spot”. Fibre pigmentation and Non-fibre pigmentation are scored **1** to **5** however Recessive black and Random spot are scored **1** (no pigmentation of this type) or **5** (when the trait is expressed). Only the percentage scored 5 are reported for Recessive black and Random spot.

Ram code	Pigmentation													
	Fibre pigmentation						Non-fibre pigmentation						Black	Spot
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	5	5
1	0	100	0	0	0	0	0.1	4	19	5	24	48	0	5
2**	0	100	0	0	0	0	-0.1	14	17	11	10	48	0	0
3	0	100	0	0	0	0	0.2	12	12	2	12	62	0	0
4	0	96	4	0	0	0	-0.5	19	22	11	11	37	0	0
5	0	100	0	0	0	0	-1.2	34	21	14	14	17	0	0
6	0	100	0	0	0	0	0.7	3	0	11	19	67	0	4
7*	0	100	0	0	0	0	-0.4	22	19	0	22	37	0	0
8**	0	100	0	0	0	0	0.9	4	4	0	4	88	0	4
9	0	100	0	0	0	0	-0.5	18	24	7	18	33	0	0
10**	0	96	4	0	0	0	-0.5	17	17	12	33	21	0	0
11**	0	100	0	0	0	0	0.7	0	15	0	15	70	0	0
12*	0	100	0	0	0	0	0.6	0	8	16	8	68	0	4
Av	1.0	99	1	0	0	0	3.8	12	15	7	16	50	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*.

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

■ Information on how to use the results in the table above can be found on page 14.

Table 3d. Visual trait assessments – Conformation

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

Ram code	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	0.2	95	0	0	0	5	-0.3	70	0	30	0	0	-0.1	95	0	5	0	0	0.2	0	63	37	0	0	-0.1	70	30	0	0	0
2**	0	100	0	0	0	0	0.1	55	0	38	4	3	0	86	14	0	0	0	0	0	83	17	0	0	0.1	52	45	3	0	0
3	0	100	0	0	0	0	0.2	46	4	46	4	0	-0.1	96	4	0	0	0	0	0	81	19	0	0	0.2	42	54	4	0	0
4	0	100	0	0	0	0	-0.2	65	0	35	0	0	-0.1	96	4	0	0	0	0	0	88	12	0	0	-0.1	69	31	0	0	0
5	0	100	0	0	0	0	-0.2	70	0	26	0	4	-0.1	96	4	0	0	0	0.2	0	70	22	8	0	0.1	56	44	0	0	0
6	0	100	0	0	0	0	0.4	33	8	59	0	0	0.1	81	8	11	0	0	-0.2	0	100	0	0	0	-0.2	81	19	0	0	0
7*	0	100	0	0	0	0	-0.1	67	0	30	0	3	0.2	81	4	15	0	0	-0.1	0	93	7	0	0	0.3	37	56	7	0	0
8**	0	100	0	0	0	0	0	62	0	33	0	5	0.1	88	0	12	0	0	-0.1	0	96	4	0	0	-0.1	75	25	0	0	0
9	0	100	0	0	0	0	0	56	0	44	0	0	-0.1	94	3	3	0	0	-0.1	0	97	3	0	0	-0.1	69	31	0	0	0
10**	0	100	0	0	0	0	-0.3	71	0	29	0	0	0.2	75	13	12	0	0	0.1	4	75	17	4	0	0	58	42	0	0	0
11**	0	100	0	0	0	0	0.2	50	4	42	0	4	0.1	88	0	12	0	0	0.1	0	77	19	4	0	-0.3	92	8	0	0	0
12*	0	100	0	0	0	0	0.3	48	0	48	0	4	-0.1	96	0	4	0	0	-0.2	4	92	4	0	0	0	65	35	0	0	0
Avg.	1.0	100	0	0	0	0	1.9	58	1	38	1	2	1.2	89	5	6	0	0	2.2	1	85	13	1	0	1.4	64	35	1	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*.

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

■ Information on how to use the results in the table above can be found on page 14.

Table 3e. Visual trait assessments – Breech

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

Ram code	Breech Cover						Breech Wrinkle					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
1	0.2	0	10	48	38	4	-0.2	0	43	52	5	0
2**	-0.2	0	32	34	34	0	-0.2	0	48	45	4	3
3	0.2	0	7	50	35	8	0.4	0	27	35	35	3
4	0.3	0	11	33	52	4	0.2	0	30	44	22	4
5	0.1	0	28	17	48	7	-0.2	0	45	52	3	0
6	0.0	0	18	41	41	0	-0.2	0	48	44	8	0
7*	0.0	0	26	37	30	7	-0.1	0	37	59	4	0
8**	0.0	0	12	54	29	5	-0.4	0	58	42	0	0
9	-0.1	0	18	52	30	0	0.5	0	15	45	33	7
10**	-0.5	3	38	42	17	0	0.2	0	25	54	17	4
11**	0.0	0	22	37	37	4	-0.1	0	37	56	7	0
12*	-0.2	4	24	36	36	0	-0.1	0	44	48	8	0
Avg.	3.2	1	20	40	36	3	2.8	0	38	48	12	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*.

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

■ Information on how to use the results in the table above can be found on page 14.

Table 4. Ram averages for measured traits

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

Ram code	Breeders flock, Ram number	Number of progeny	Ram averages for measured traits (deviations)							
			GFW % Y [^]	CFW % Y	FD mm Y	WT kg Y	FDCV % Y	Curv deg/mm Y	SL mm Y	SS N/ktex Y
1	Alfoxton, 060107	21	0.1	0	0.2	1	0	1.8	3.8	-1.5
2**	Cressbrook, 06/580	29	0.1	0.1	-0.2	0.1	-0.3	-1.3	0.8	0.5
3	Emoh Ruo, 26	26	-0.1	0	0.2	1.2	0.5	3.1	-9.1	2.9
4	Grindon, 118	27	-0.2	-0.2	-0.4	-2.5	1.2	3.5	-6.1	0.5
5	Karori, K290	29	-0.2	-0.1	0	0.5	0.4	-1	0.6	-0.5
6	Kia-Ora, 58	27	0.4	0.2	0.1	2.4	0.4	-6.2	6.1	0.1
7*	Mirani, 466.9	27	0.3	0.2	0.1	-0.2	0.4	-6.7	4.3	-2.5
8**	Nerstane, 040222	24	0.1	0	0.3	2.1	-0.8	1.4	12.6	4.3
9	T13, 05A3156	33	-0.2	-0.1	-0.1	-1	-0.5	2.3	-3.8	0.3
10**	Teangi, TE2026	24	-0.4	-0.3	-0.2	-0.5	-0.5	17.1	-12.2	-1.3
11**	Yalgoo, 188	27	0.1	0	-0.1	-2.3	0.1	-4	3.8	-3.5
12*	Yalgoo, 420	25	0.1	0.1	0	-0.8	-0.8	-10	-0.7	0.7
	Average performance	27	2.9	2.3	15.0	38.0	18.1	107.9	95.5	35.3
			kg	kg	mm	kg	%	deg/mm	mm	N/ktex

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

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

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

Understanding the results

Index Options – indexes reported on page 8

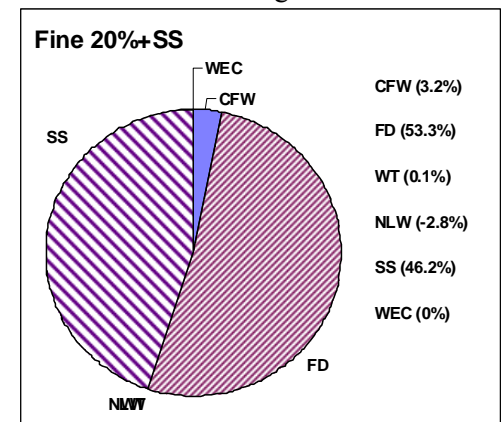
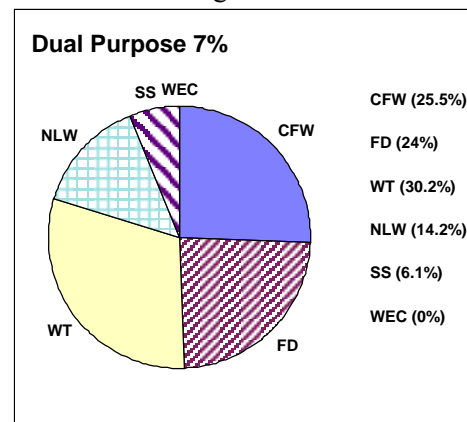
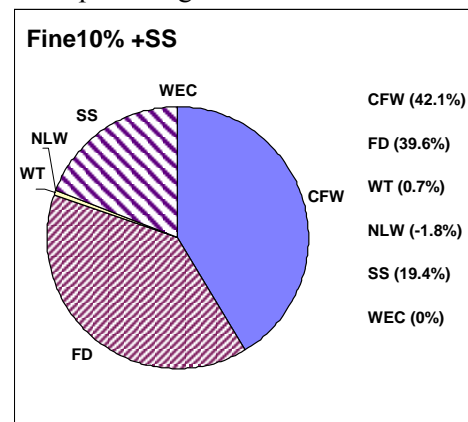
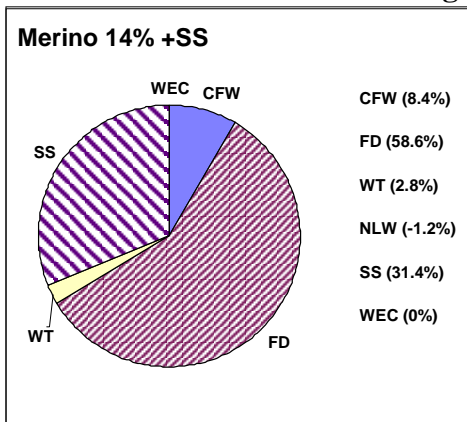
Breeding Objective index options provide the relative value of rams based on a combination of the measured traits' genetic performance. The indexes used in this report are only some of the many indexes that can be used to describe an individual breeder's objective for measured traits.

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

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

This report has added an additional index – the AMSEA **Fine 20%+SS** (F20%+SS)

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.



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 maintain emphasis on fleece weight and high emphasis on fibre diameter (20% Micron Premium) plus moderate emphasis on staple strength and maintain performance on other traits.

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

NEW ENGLAND MERINO SIRE EVALUATION ASSOCIATION

under the auspices of

The Australian Merino Sire Evaluation Association

