

**Tasmanian
Central Test Sire Evaluation Assoc. Inc**

2007 Drop First Evaluation

Conducted under the auspices of

The Australian Merino Sire Evaluation Association



The organising committee wishes to acknowledge the tremendous co-operation and support of Richard Gardner and his livestock manager Sam Burrill in running the evaluation at Annandale

They also wish to acknowledge the assistance of the following companies as major sponsors.



August 2008

Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (August 2008). 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.

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Tasmanian Central Test Sire Evaluation

The Tasmanian Central Test Sire Evaluation (CTSE) site is an accredited site. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

The Annual General Meeting of the Tasmanian Central Test Sire Evaluation Association (Incorporated) was held on Thirtieth October 2007 at Ross, Tasmania.

The Tasmanian Central Test Sire Evaluation (CTSE) site has the following background.

- Five evaluations have been conducted with the initial evaluation commencing in 1998
- The host properties in order have been Grindstone Bay, Gunnston, Stewarton, Bloomfield (Ross) and Annandale
- The ewes used at Annandale are a combination of Merryville and Merton Vale genetics. The mixed age ewes average 5.0 kg at 18.5 micron.
- Each sire entered was joined to 50 ewes, which resulted in an average of 41 progeny tagged per sire with a range from 60 to 31.

The following members were elected to executive positions;

Chairman Andrew McShane0408 591134

**Secretary/Treasurer
and Public Officer** Knox Heggaton0418 125253

Executive Committee

Andrew Bailey	.....6336 5385
Scott Bowden	.....6259 5632
Simon Foster	.....6381 5209
William Fergusson	.....6257 3659
Richard Gardner	.....6255 2174
Tim Gunn	.....6355 2213
Sandy Gibson	.....6398 2246
Michael Parsons	.....6286 1319
James Walch	.....6398 5151
Lindsay Young	.....6381 5206

If you have any queries or comment please feel free to contact any of the above.

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2007 drop Tasmanian Sire Evaluation

The information in this site report provides a comprehensive assessment of the Tasmanian 2007 1st Evaluation sire's progeny performance, both measured and visually assessed. Three graphs and a table provide a summary of the results and nine tables provide the detailed performance information for the standard sire evaluation analysis. Additional measurements have been taken to give an average production value.

This report provides the results from the 2007-drop 1st Evaluation, 11 months of age with 11 of months wool growth.

The progeny will be assessed a second time in July 2009. They will be 23 months of age and be carrying twelve months wool.

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Sire and owner details

Tasmania 2007 drop 1st Evaluation, 11 months of age with 11 months wool growth.

Sire and owner details

Sire code	Sire name Sire ID [#] , Breed [†]	Contact Name, Address Phone and Fax Number
1 ^{UR}	Cluny SF 19 5092272002000019, Merino	Scott Bowden, "Cluny", Bothwell TAS 7030 Ph: (03) 6259 5632, Fax: (03) 6259 5761
2	Grindstone Bay 58 5043522003030058, Merino	Owner: John Weeding, Weedington, Oatlands, TAS 7120 Ph: (03) 625401396, Fax: (03) 6254 1396 Entrant: William Fergusson, Grindstone Bay, Triabunna, TAS 7190 Ph: (03) 6257 .3659, Fax: (03) 6257 4006
3 ^{UR}	Merton Vale, 2-110 5090752002000110, Merino	Simon Foster, Fosterville Pastoral, PO Box 40, Ross 7209 Ph: (03) 6381 5209, Fax: (03) 6381 5460
4 [*]	Native Point 363 5040422001000363, Merino	Sandy Gibson, Native Point, Perth TAS 7300 Ph: (03) 6398 2446, Fax: (03) 6398 02508
5	Nerstane 4636 5032982005054636, Merino	Hamish & Jock McLaren, "Nerstane", Woolbrook, NSW 2354 Ph: (02) 6777 5881, Fax: (02) 6777 5922
6	Norwood 03358 5040782001010358, Merino	Anthony Archer, "Norwood", Bothwell, TAS 7030 Ph: (03) 6259 5593 Fax: (03) 6259 5536
7	Stockman 020603 6010502002020603, Poll Merino	Kip Gray, 85 Lake Hwy, Melton Mowbray, TAS 7030 Ph: (03) 6259 1162, Fax: (03) 6259 1333
8	Tincurrin Poll 051035 6010452005051035, Poll Merino	Lindsay Young, Lewisham, PO Box 8, Ross TAS 7209 Ph: (03) 6381 5206, Fax: (03) 6381 5292
9	Windarra 0310078 5043382003030078, Merino	Duncan Pixley, PMB 100, Naracoorte, SA 5271 Ph: (08) 8757 3023, Fax: (08) 8757 3013
10 [*]	Yalgoo 420 5015522001000420, Merino	Grant Nivison, Yalgoo, PO Box 141, Walcha NSW 2354 Ph: (02) 6777 2525, Fax: (02) 6777 2875

* Link Sires: Sires 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 or other breed 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

- Annandale is situated approx 6 km north west of Tunbridge in the central midlands of Tasmania. Pastures consist of perennial grasses with sub clover.

2. Selection and joining

- Each sire was AIed to 50 ewes.
- 500 ewes were selected from approximately 800 3 yo flock ewes.
- Insemination occurred on 26th and 27th April 2007.
- 10 sires have participated in the evaluation.
- Overall semen quality was good with some variation between sires.
- Ewes were in condition score 2/3 when inseminated.
- Insemination was conducted by Stuart Robertson from Robertson Livestock Services.

3. Pregnancy and lambing

- The ewes were scanned on 23rd July 2007.
- All ewes were scanned with a conception rate 98.2 %.
- The ewes were maintained in one group post-lambing and kept in condition score 2-3 throughout pregnancy.
- Lambs were tagged on 3rd Oct and all ewes and lambs were boxed into one mob. All lambs were double tagged with an electronic tag and a conventional tag.

4. Weaning and seasonal conditions

- Lambs were marked on 26th Oct 2007.
- Lambs were weaned on 20th Dec 2007. They were drenched with 8 ml Virbamec Oral, vaccinated with 6 in 1 + selenium and jetted with Virbazine. They weighed 23.3 kg at weaning. Late January the average weight was 30.8 kg and they reached 35 kg by mid March.
- Lambs were weaned onto 1900kg/DM/Ha lucerne where they stayed until mid January when cereal stubbles became readily available after harvest. Between Mid January to late May the lambs were shuffled around shooting barley stubbles caused by the occasional summer shower. July through to shearing was spent on 1600kg/DM/Ha ryegrass pastures.

5. Assessments

- Riverina Wool Testers conducted the tests on the midside samples.
- Rob Russell from Sheepscope conducted the visual assessments.

6. Rainfall

Month	Annandale rainfall (mm per month) *					Average
	2004	2005	2006	2007	2008	
January		12	22	45	4	39
February		20	10	22	60	26
March		11	19	21	23	32
April		30	34	2	22	34
May		11	22	95	17	35
June		38	7	8	32	34
July		11	17	18	56	40
August		86	6	26	13	46
September		86	40	31		43
October		89	25	30		43
November		52	15	7		42
December		30	12	55		42
Total		478	231	363		459

* Source: On farm records – Richard Gardner

Managers Report

Evaluation and Management Program

Event	Date/s	Age (months)	Wool (months)
Selection of ewes	3rd April 2007		
Joining	26th & 27th April		
Lambing: start – finish	20th to 27th Sept.		
Tagging/pigment assessment (age in days)	3rd Oct 2007	10 days	
Weaning (age in days)	20th Dec. 2007	90 days	
Weaning body weight (age in days)	20th Dec. 2007	90 days	
Crutching	11th March 2008	6	
Fleece sampling	<ul style="list-style-type: none"> • 1st Evaluation: 9th July 2008 • 2nd Evaluation: 	10	10
Staple length	<ul style="list-style-type: none"> • 1st Evaluation: 9th July 2008 • 2nd Evaluation: 	10	10
Assessment shearing	<ul style="list-style-type: none"> • 1st Evaluation: 12th August 2008 • 2nd Evaluation: 	11	11
Classer's Group	<ul style="list-style-type: none"> • 1st Evaluation: 9th July 2008 • 2nd Evaluation: 	10	10
Pre shearing scoring	<ul style="list-style-type: none"> • 1st Evaluation: 9th July 2008 • 2nd Evaluation: 	10	10
Body weigh	<ul style="list-style-type: none"> • 1st Evaluation: 9th July 2008 • 2nd Evaluation: 	10	101
Vaccination	20th Dec 2007		
Drench	20th Dec 2007		
	31st March 2008		
Supplementary feeding: start - finish	Not applicable		

Visual tait assessment

1st Evaluation

Classer's Grade and trait scoring

Rob Russell – Sheepscope, 12 Alfred St North, Lake Wendouree, Vic 3350

Site Breeding Objective used to assess the Classer's Grades

Selection objective was to maintain or slightly increase fleece weight and decrease micron at a moderate rate. Structural correctness and wool faults were also considered.

Figure 1. Combined measured traits and visual trait performance

Summary graph: visual and measured performance

Each sire that had 20 or more progeny assessed at 1st Evaluation 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 a AMSEA Merino 7% index. Visual trait performance is a combination of Classer's Grade performance (Tops and Culls). More information is found in "Calculation of combined performance" (page 18).

Sires that are above average performers for combined measured traits and visual assessment are located in the top right hand quarter.

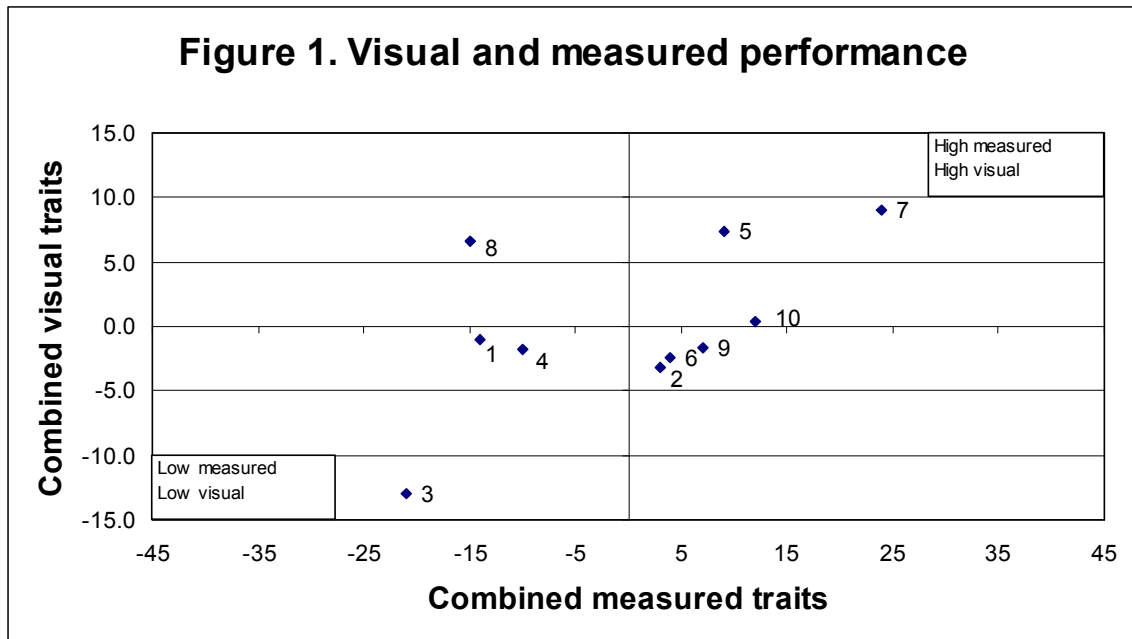


Table A. AMSEA Index values and Classer's Grade

The highest performing sire/s (1 for each 5 reported) for each trait in any table are grey shaded (e.g., Sire 1 DP 7%+SS) to highlight the trait leader/s. Each sire is reported for Classer's Grade and the same three indexes at all sites. An additional index (Fine 20%) considered relevant to the site 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 17 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 maintain fleece weight plus moderate emphasis on 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 both fleece weight and fibre diameter plus high emphasis on live weight.
- **Fine 20%** Very high emphasis on fibre diameter and a maintain emphasis on fleece weight plus a small emphasis on staple strength.

Sire code	Sire name	AMSEA indexes				Classer's Grade	
		Merino 14% +SS	Fine 10% +SS	Dual Purpose 7%	Fine 20%	Tops % (dev)	Culls % (dev)
1 ^{UR}	Cluny, SF 19	89	88	79	93	-2	3
2	Grindstone Bay, 58	103	105	105	113	-14	2
3 ^{UR}	Merton Vale, 02-110	80	80	74	87	-19	46
4*	Native Point, 363	83	88	88	93	-2	7
5	Nerstane, N4636	99	103	117	101	15	-22
6	Norwood, 358	119	113	97	110	-17	-5
7	Stockman Poll, Jim	126	124	128	113	36	-9
8	Tincurrin Poll, 051035	73	73	100	63	13	-20
9	Windarra, 03/0078	113	110	103	107	-7	1
10*	Yalgoo, 420	115	115	109	119	-1	-3
	Average performance	100	100	100	100	24	26

* Link Sires: Sires 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.

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

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. Sires that are above average for fleece weight and below average fibre diameter are located in the top left hand quarter.

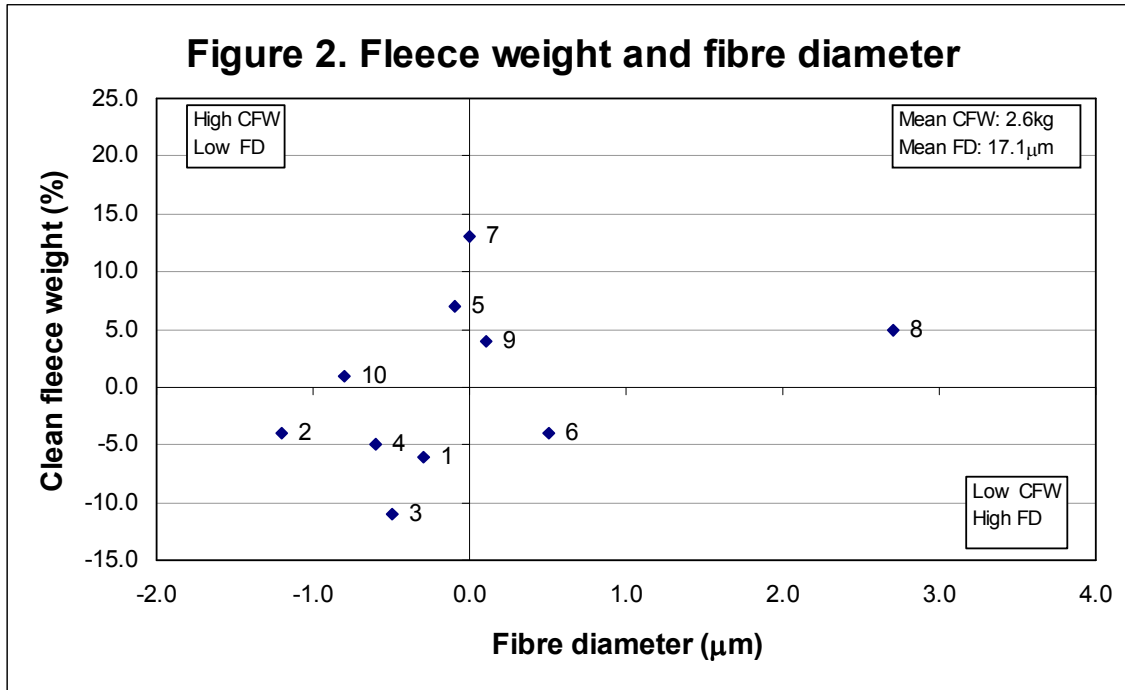
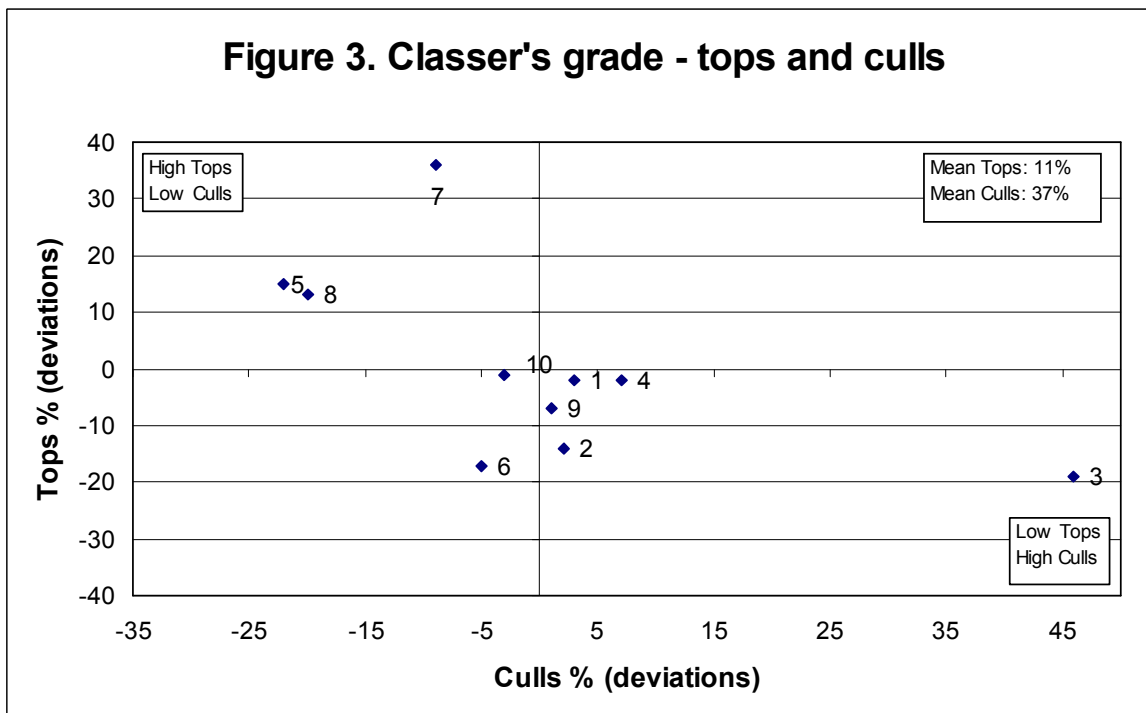


Figure 3. Classer's Tops by Cull Grade

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



Understanding the results

Measured trait performance and Classer's Grade – Tables 1 and 2 – pages 10 and 11

Sire code:	Allows a sire to be located on the summary graphs and some tables.
Sire name:	Identity of the breeder's flock and the sire's number or name.
No. of progeny:	The number of progeny a sire had at the most recent measured analysis.
Flock Breeding Values:	Flock Breeding Values (FBVs) are Estimated Breeding Values (EBVs) calculated by Sheep Genetics for the sires evaluated in this report. Only data from this evaluation is used in the calculation of these FBVs. FBVs describe the relative breeding value (genetic performance) of the sires (in this case based on the performance of their progeny). A sire's progeny will express half of their Sires FBV. FBVs do not necessarily reflect the sires 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 sire'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 5). The percentage deviation from the average of Tops and Culls is presented in this report.

Table 1 – Major measured traits and Classer's Grades

Sire code	Sire name	Number of progeny	Flock Breeding Values (deviations)				Classer's Grade ¹	
			GFW % Y [^]	CFW % Y	FD mm Y	WT kg Y	Tops% (dev) Y	Culls% (dev) Y
1 ^{UR}	Cluny, SF 19	39	-10	-6	-0.3	-3.4	-2	3
2	Grindstone Bay, 58	45	3	-4	-1.2	0.4	-14	2
3 ^{UR}	Merton Vale, 02-110	44	-11	-11	-0.5	-4.7	-19	46
4*	Native Point, 363	41	2	-5	-0.6	-1.1	-2	7
5	Nerstane, N4636	53	14	7	-0.1	3.5	15	-22
6	Norwood, 358	37	-5	-4	0.5	-2.2	-17	-5
7	Stockman Poll, Jim	43	8	13	0	2.8	36	-9
8	Tincurrin Poll, 051035	33	4	5	2.7	5.3	13	-20
9	Windarra, 03/0078	31	0	4	0.1	-0.7	-7	1
10*	Yalgoo, 420	43	-6	1	-0.8	0	-1	-3
	Average performance	41	4	3	17	37	24	26

* Link Sires: Sires 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.

[^] 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 9.

Tables 2 – Other measured traits

Sire code	Sire name	Number of progeny	Flock Breeding Values (deviations)			
			CV % Y [^]	Curv deg/mm Y	SL mm Y	SS N/k Y
1	Cluny, SF 19	39	1.2	11.8	-12.9	-2.3
2	Grindstone Bay, 58	45	-0.1	9.6	-10.5	-4.6
3	Merton Vale, 02-110	44	1.7	0.3	-11.4	-4.6
4*	Native Point, 363	41	2.6	9.5	-6.6	-8.7
5	Nerstane, N4636	53	0.6	-2.1	1.9	-4.2
6	Norwood, 358	37	-2.0	-3.6	21.3	11.3
7	Stockman Poll, Jim	43	0.6	-6.1	1.9	9.2
8	Tincurrin Poll, 051035	33	-1.3	-12.7	22.4	-1.8
9	Windarra, 03/0078	31	-1.1	-1.5	-5	5.8
10*	Yalgoo, 420	43	-2.1	-5.5	-1	0
Average performance		41	18	98	80	32

* Link Sires: Sires 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)

■ Information on how to use the results in the table above can be found on page 9.

Understanding the results

Scored trait performance – Tables 3a to 3e – pages 13 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 sires 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 along staple) 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 of the staple 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

Under the Avg column heading sire performance for wool quality traits are reported as a deviation from the average trait score for all progeny. The percentage of the sires progeny are reported for each score for a trait that is reported.

Sire code	Wool colour					Wool character					Dust penetration					Staple weathering								
	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5
1	-0.4	63	34	3	0	0	0.0	0	68	29	3	0	-0.4	10	79	11	0	0	-0.3	5	87	8	0	0
2	-0.1	50	36	14	0	0	-0.1	2	74	24	0	0	-0.3	7	74	19	0	0	-0.1	3	76	19	2	0
3	0.8	2	40	51	7	0	0.6	0	26	60	14	0	0.2	0	44	53	3	0	0.5	0	35	47	18	0
4*	0.5	14	53	31	0	2	0.3	0	42	53	5	0	-0.2	5	72	17	6	0	-0.1	3	69	25	3	0
5	-0.3	54	40	6	0	0	0.0	2	67	31	0	0	-0.3	3	83	12	2	0	-0.2	0	90	10	0	0
6	0.2	21	64	12	3	0	-0.1	6	70	21	3	0	0.8	0	6	67	27	0	0.5	0	21	76	3	0
7	-0.3	55	45	0	0	0	-0.3	15	71	14	0	0	-0.2	2	79	19	0	0	-0.2	3	83	14	0	0
8	0.1	15	76	9	0	0	0.0	6	61	33	0	0	0.6	0	12	79	9	0	0.2	0	48	48	4	0
9	-0.2	47	50	3	0	0	0.0	0	70	30	0	0	-0.1	0	70	30	0	0	-0.1	0	77	23	0	0
10*	-0.3	56	33	11	0	0	-0.3	5	87	8	0	0	-0.1	0	67	33	0	0	0.0	0	72	21	7	0
Avg	1.8	38	47	14	1	0	2.3	4	64	30	2	0	2.4	2	59	34	5	0	2.4	1	66	29	4	0

Sire code	Staple structure					Fleece rot						
	Avg	1	2	3	4	5	Avg	1	2	3	4	5
1	0.0	0	32	55	13	0	-0.2	79	16	5	0	0
2	0.0	0	26	69	3	2	0.1	64	24	7	3	2
3	0.6	0	7	51	33	9	0.9	33	21	26	16	4
4*	0.5	0	6	64	22	8	-0.3	92	2	3	3	0
5	-0.2	0	42	58	0	0	-0.4	92	6	2	0	0
6	-0.4	0	58	42	0	0	-0.2	88	3	3	6	0
7	-0.1	5	33	50	12	0	0	74	14	7	3	2
8	-0.3	0	52	48	0	0	-0.2	88	3	6	3	0
9	0.0	0	27	67	6	0	0.1	67	17	10	3	3
10*	-0.2	2	33	62	3	0	0.1	69	18	5	3	5
Avg	2.8	1	31	57	9	2	1.5	74	12	7	4	3

* Link Sires: Sires 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 12.

Table 3b – Visual trait assessments – Confirmation and Pigmentation

Conformation traits are reported as a deviation from the average trait score for all progeny from the average trait score for all progeny as well as the percentage of the sires progeny recorded for each trait. Pigmentation traits as the percentage of the sires progeny recorded as a 5 score. Four pigmentation traits are as described on page 12 (% scored 5 reported).

Sire code	Conformation																							
	Jaw					Legs and Feet					Shoulder and Back					Face Cover								
	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5
1	0	97	3	0	0	0	0.1	87	11	2	0	0	0	100	0	0	0	0	-0.2	29	66	2	3	0
2	0	100	0	0	0	0	0	95	5	0	0	0	0	98	2	0	0	0	0.6	0	62	26	7	5
3	0	98	2	0	0	0	0	98	2	0	0	0	0	93	7	0	0	0	0.1	14	67	16	3	0
4*	0	100	0	0	0	0	-0.1	100	0	0	0	0	0	94	6	0	0	0	-0.3	47	42	11	0	0
5	0	96	4	0	0	0	0	96	4	0	0	0	0	100	0	0	0	0	0.1	12	73	10	3	2
6	0	100	0	0	0	0	0	97	3	0	0	0	0	100	0	0	0	0	-0.2	36	52	9	3	0
7	0	100	0	0	0	0	0	93	5	2	0	0	0.1	90	10	0	0	0	0.2	17	60	17	6	0
8	0	100	0	0	0	0	0	94	6	0	0	0	0	97	3	0	0	0	-0.5	58	39	0	3	0
9	0.1	93	4	3	0	0	-0.1	100	0	0	0	0	0	93	7	0	0	0	0.4	4	70	13	10	3
10*	0	97	3	0	0	0	0	92	8	0	0	0	0	95	2	3	0	0	-0.1	23	69	8	0	0
Avg.	1.0	98	2	0	0	0	1.1	95	4	1	0	0	1.0	96	4	0	0	2.0	24	60	11	4	1	

Sire code	Pigmentation			
	Rec. black %	Random black %	Fibre %	Non Fibre %
1 ^R	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4*	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10*	0	3	0	0
Avg.	0.0	0.0	0.0	0.0

Information on how to use the results in the table above can be found on page 12.

Table 3c – Visual trait assessments – Breech Traits

Breech traits are reported as a deviation from the average trait score for all progeny is reported as well as the percentage of the sires progeny recorded for each trait.

Sire code	Table 3c. Breech Visual Traits																						
	Breech Cover					Crutch Cover					Breech Wrinkle					Dag							
	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5
1						0.2	0	0	13	84	3							0.3	61	24	11	4	0
2						0.1	0	0	21	76	3							0.1	74	14	7	5	0
3						0.1	0	2	19	77	2							-0	91	9	0	0	0
4*						0.2	0	0	17	81	2							0.1	75	17	2	6	0
5						-0	0	0	39	61	0							-0	87	11	2	0	0
6						-0	0	0	45	55	0							0	79	12	9	0	0
7						0.1	0	0	29	66	5							0	80	8	12	0	0
8						-0	0	6	53	41	0							0	84	4	12	0	0
9						0	0	0	33	67	0							-0	77	23	0	0	0
10*						-0	0	2	36	62	0							0.1	72	18	10	0	0
Avg.						3.7	0	1	31	67	1							1.3	78	14	7	1	0

* Link Sires: Sires 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 12.

Table 4 – Sire averages for measured traits

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

Sire code	Sire name	Number of progeny	Sire averages for measured traits (deviations)									
			GFW % Y [^]	CFW % Y	FD mm Y	WT % Y	CV % Y	Curv deg/mm Y	SL mm Y	SS N/ktex Y		
1	Cluny, SF 19	39	-0.2	-0.1	-0.2	-1.6	0.8	7.3	-7.5	-1.8		
2	Grindstone Bay, 58	45	0.1	-0.1	-0.6	0.3	-0.1	5.6	-6.4	-3.5		
3	Merton Vale, 02-110	44	-0.2	-0.2	-0.3	-2.2	1.1	0.2	-6.7	-3.2		
4*	Native Point, 363	41	0.1	-0.1	-0.4	-0.6	1.6	6.2	-4.3	-6.3		
5	Nerstane, N4636	53	0.3	0.1	0	1.7	0.3	-1.2	0.8	-2.7		
6	Norwood, 358	37	-0.1	-0.1	0.3	-1	-1.1	-2	13.1	8.3		
7	Stockman Poll, Jim	43	0.1	0.2	0	1.5	0.4	-3.6	1.2	6.9		
8	Tincurrin Poll, 051035	33	0.1	0.1	1.5	2.4	-0.8	-7.7	13.3	-1.6		
9	Windarra, 03/0078	31	0	0.1	0.1	-0.4	-0.8	-1.1	-3	4.2		
10*	Yalgoo, 420	43	-0.1	0	-0.4	0	-1.4	-3.6	-0.5	-0.4		
	Average performance	41	3.8 kg	2.6 kg	17.1 mm	37.3 kg	18.1 %	97.5 deg/mm	79.7 mm	32.2 N/ktex		

* Link Sires: Sires 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).

Index Options – page 7

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

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

All AMSEA site reports present 3 standard indexes to provide combined measured trait performance. These 3 indexes are AMSEA Fine 10% +SS; AMSEA Merino 14% +SS; and AMSEA Dual Purpose 7%. These indexes are similar to MERINOSELECT indexes of the same name however as there is no direct reproduction records captured by sire evaluation AMSEA does 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 in this index.

Sites may report additional index as they wish. This report has added the AMSEA **Fine 20%** index.

Index production system and breeding objectives

AMSEA **Fine 20%** (F20%) *Fine wool merino self-replacing production system with very high emphasis on fibre diameter and a maintain emphasis on fleece weight (20% Micron Premium), a small emphasis on staple strength, and maintain emphasis on other traits measured traits.*

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.*

Index percentage contribution to economic gain

The percentage contribution to economic gain to a commercial merino flock that joins rams selected using an index shown below.

AMSEA Fine 10% +SS

Clean fleece weight:	42%
Fibre diameter:	39%
Body weight:	0%
Staple strength:	19%
Worm egg count:	0%
Number lambs weaned:	0%

AMSEA Merino 14% +SS

Clean fleece weight:	8%
Fibre diameter:	58%
Body weight:	3%
Staple strength:	31%
Worm egg count:	0%
Number lambs weaned:	0%

AMSEA Dual Purpose 7%

Clean fleece weight:	26%
Fibre diameter:	24%
Body weight:	30%
Staple strength:	6%
Worm egg count:	0%
Number lambs weaned:	14% (see above)

AMSEA Fine 20%

Clean Fleece weight:	3%
Fibre Diameter:	86%
Body weight:	0%
Staple Strength:	11%
Worm egg count:	0%
Number lambs weaned:	0%

Understanding the results – continued

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 sire relative to another sire in the evaluation when mated to the same standard of ewes. FBVs improve the accuracy of sire results because they account for the association between traits, adjustment for birth effects and the number of progeny a sire has in the analysis.

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

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

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

Link Sires

Link sires provide the 'genetic link' between CTSE sites located across Australia to allow all sires entered in these sites to have their performance reported relative to each other in *Merino Superior Sires*. *Merino Superior Sires* reports sires from across all effectively linked CTSE sites and across all years at these sites. Link sires are therefore a vital component of the Central Test Sire Evaluation. To be used as link sire a ram must have at least 25 progeny assessed at 1st Evaluation at one accredited site. Site reports provide valuable information not reported in *Merino Superior Sires* however *Merino Superior Sires* reports the performance of a large number of sires which can provide a wider perspective of the elite rams available across many flocks in Australia and New Zealand.

Calculation of combined measured trait and combined visual trait performance

Combined measured trait performance is calculated as (AMSEA 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

- Sire'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 = $119.7 - 100 = 19.7$
- Combined Visual = $((25.5 - 17.6)/5) - ((25.1 - 16.4)/5) = 7.9/5 - 8.7/5 = 1.58 - 1.74 = -0.16$

**Tasmanian
Central Test Sire Evaluation Assoc. Inc**