North East Victoria (Dookie College)

Central Test Sire Evaluation

2011 Drop Second Assessment

Conducted by

North East Victoria Stud Merino Breeders Inc.

under the auspices of

The Australian Merino Sire Evaluation Association

with support from

Livestock Breeding Services

Allflex Australia

September 2013

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The Australian Merino Sire Evaluation Association has approved the format used in this report.

Australian Sheep Breeding Values reported here are based on analyses conducted by Sheep Genetics.

Foreword

North East Victoria (Dookie College) ~ Central Test Sire Evaluation

The North East Victoria (Dookie College) site is an accredited Central Test Sire Evaluation (CTSE) site. It conforms to the requirements of the Australian Merino Sire Evaluation Association (AMSEA).

A subcommittee of the north East Merinos and other co-opted members run the North East Victoria Sire Evaluation site. The site committee are listed in the table below.

The North East Victoria Sire Evaluation started in 1997. The 2011 drop progeny are the fifteenth evaluation since 1997, all of which have been conducted at Dookie College. The Dookie College ewes are of Toland blood and only ewes which have lambed previously are included in the AI program. Ewes are randomly allocated, ensuring an even number of each age group is allocated to each sire.

Current Members of the Site Committee

Name	Phone	Position on committee
Phil Toland …….	03 57981 606	Chairperson
Frank O'Connor	03 58339 200	Site Manager
Murray McKenzie	03 57666 278	
Paul Wallace	03 58339 200	Data Manager

For further information regarding this report please contact

Phil Toland: P: (03) 5798 1605, E: tolandmerino@bigpond.com

Report author
Paul Wallace
375 Zeerust Road
Zeerust VIC 3634

Date of publication: September 2013

2011 Drop 2nd Evaluation ~ North East Victoria (Dookie College) Sire Evaluation

The information in this site report provides a comprehensive assessment of the North East Victoria, 2011 drop, 2nd evaluation sire's progeny performance, both measured and visually assessed. Three graphs and a table provide a summary of the results and eight 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 2011 drop 2nd Evaluation, 20 months of age with 12 months wool growth.

Contents

Sire and Owner Details

Breeders flock, Sire name Sire ID #, Breed †	Owner Details
Connewarran, 6042 (Link) 504704-2006-006042, Merino	**Richard Weatherly** Connewarran, PO Box 21, Mortlake VIC 3272 P: (03) 5599 7276, F: (03) 5599 7227, E: connewarran@westvic.com.au
Ewe Wish Poll, 090243 601443-2009-090243, Poll Merino	**Matthew Ipsen** 912 Maryborough - St Arnaud Rd, Wareek VIC 3465 P: (03) 5461 2016, F: (03) 5461 2063, E: ewewish@bigpond.com
Hannaton Poll, 100001 600804-2010-100001, Poll Merino	**Peter Hicks** Hannaton Partnership, PO Box 22, Kaniva VIC 3419 P: (03) 5392 2366, F: (03) 5392 2938, E: peter@hannaton.com.au
Kilfeera Park, 100024 503425-2010-100024, Merino	**Murray & Fiona McKenzie** 131 Brock Rd, Lurg VIC 3673 P: (03) 5766 6278, F: (03) 5766 6248, E: kilpark@people.net.au
Melrose, 09N10577 501704-2009-N10577, Merino	**Warren Russell** 112 Russells Rd, Nurrabiel, Horsham VIC 3401 P: (03) 5388 1243, F: (03) 5388 1246, E: melrose@harboursat.com.au
Mernowie Poll, 090576 600792-2009-090576, Poll Merino	**Phil Toland** 1888 Feltrim Rd, Violet Town VIC 3669 P: (03) 5798 1605, F: (03) 5798 1404, E: tolandmerino@bigpond.com
One Oak Poll, 080020 600408-2008-080020, Poll Merino	**Alistair and Natasha Wells** One Oak Poll, Liddle Lane, Jerilderie NSW 2716 P: (03) 5886 7117, F: (03) 5886 7117
Toland Poll, 101045 601082-2010-101045, Poll Merino	**Phil Toland** 1888 Feltrim Rd, Violet Town VIC 3669 P: (03) 5798 1605, F: (03) 5798 1404, E: tolandmerino@bigpond.com
Toland Poll, Blue 1046 (Link) 601082-2007-071046, Poll Merino	**Phil Toland** 1888 Feltrim Rd, Violet Town VIC 3669 P: (03) 5798 1605, F: (03) 5798 1404, E: tolandmerino@bigpond.com
Well Gully Poll, 733 (Link) 601106-2007-7MT733, Poll Merino	**Errol and Candy Brumpton** Brumpton Quality Wool Aus, Well Gully, Mitchell QLD 4465 P: (07) 4623 1170, F: (07) 4623 6670, E: wellgullymerinos@bigpond.com

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

(Unreg) Sire bred in an unregistered flock.

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

† Breed of flock in which the sire was born.

Manager's Report

1. Location

- The Dookie College site is run on The University of Melbourne Dookie Campus Farm, located 30 kilometers east of Shepparton, off the Midland Highway.
- The Dookie College farm is 2200 hectares of undulating country with sheep and cropping the two main broadacre enterprises.
- The sheep enterprise is predominantly a self-replacing merino flock of 3000 merino ewes joined to both merino and terminal sires.
- Pastures range from phalaris/sub clover based to annual grasses/sub clover, with some Lucerne also available.
- Soil types vary from river sands to heavy clays, the most predominant soil type being clay/loams, suitable for cropping.

2. Selection and joining

- 446 ewes inseminated on the 23rd March, 2011,
- Ewes were selected to provide a uniform line with good conformation, even wool quality and productivity. Ewes were allocated randomly ensuring that an even balance of age groups are allocated to each sire,
- Ewes condition score 3.0 at the time of selection and insemination,
- Livestock Breeding Services conducted the insemination,
- 44 ewes were allocated to each sire

3. Pregnancy and lambing

- Ewes were managed to maintain condition
- Lambing 16th August to 21st August, 2011
- Lambs tagged 7th September, 2011 and run in one mob

4. Weaning and seasonal conditions

- Lambs marked 7th September, 2011.
- Lambs weaned onto Lucerne pasture.
- The lambs were weaned on the 11th November, 2011 at an average weight of 22.1 kg.

5. Rainfall

Dookie College Rainfall (mm per month) *								
Month	2007	2008	2009	2010	2011	2012	2013	Average
January	12	69	9	43	96	51	3	33
February	16	11	3	90	157	97	57	68
March	38	44	47	85	54	182	20	49
April	25	12	37	37	36	11	7	20
May	81	36	16	65	34	16	33	34
June	33	19	65	42	25	26	63	47
July	79	71	41	44	47	65	62	54
August	14	27	26	88	77	46		47
September	7	25	39	60	35	7		36
October	20	12	21	95	19	36		34
November	73	81	57	94	65	16		57
December	85	44	7	112	31	24		44
Total	483	450	368	856	676	577	245	524

* Dookie Agricultural College Weather Station.

Assessment and management program

Event		Date/s	Age (months)	Wool (months)
Selection of ewes		9 March, 2011		
Joining		23 March, 2011		
Lambing: start – finish		16 August – 21 August, 2011		
Tagging/pigment assessment		7 September, 2011	19 days	
Weaning		11 November, 2011	3	3
Weaning body weight		11November, 2011	3	3
Fleece sampling	• 1st Evaluation:	17 April, 2012	8	8
	• 2nd Evaluation:	4 April, 2013	20	12
Assessment shearing	• 1st Evaluation:	27 April, 2012	8	8
	• 2nd Evaluation:	8 April, 2013	20	12
Classer's Group	• 1st Evaluation:	17 April, 2012	8	8
	• 2nd Evaluation:	4 April, 2013	20	12
Body weight	• Weaning:	11 November, 2011	3	3
	• Post-Weaning:	27 April, 2012	8	0
	• Adult:	8 April, 2013	20	0
Vaccination		22 September, 2011	1	1

Visual trait assessment and site Breeding Objective

Visual trait assessment

1st & 2nd Assessments.
Classer's Grade: Athol Frederick, Landmark
Trait Scores: Athol Frederick, Landmark

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 Objectives below were developed by the site committee in consultation with the classer prior to the grading.

The North East Sire Evaluation Committee asked Athol to base his selection using an equal emphasis on fibre diameter reduction and an increase in fleece weight, also taking into consideration animals that had performed well for growth, structural soundness and wool quality traits such as staple length, colour and character. This objective would allow different sheep types to perform equally without bias against animals sired by a finer type or a stronger heavier type.

Combined measured traits and visual trait performance

Summary graph: visual and measured performance

Each sire that meets reporting thresholds for index accuracies is located on the graph. The graph describes performance for combined measured traits and combined visual assessment.

A different graph is provided for each of the three indexes reported. In each graph, visual trait performance is a combination of Classer's Grade performance (Tops and Culls). More information is found in "Understanding the Results".

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

Sire code	Breeders flock, Sire number	Sheep Genetics ID	Sire of Sire
1	504704-2006-006042	Connewarran, 6042	504470-2004-040119
2	601443-2009-090243	Ewe Wish Poll, 090243	Unknown
3	600804-2010-100001	Hannaton Poll, 100001	601382-2008-080386
4	503425-2010-100024	Kilfeera Park, 100024	Unknown
5	501704-2009-N10577	Melrose, 09N10577	503298-2005-050010 (Nerstane, 050010)
6	600792-2009-090576	Mernowie Poll, 090576	Unknown
7	600408-2008-080020	One Oak Poll, 080020	Unknown
8	601082-2010-101045	Toland Poll, 101045	601082-1998-98R730 (Toland Poll, R730)
9	601082-2007-071046	Toland Poll, Blue 1046	504485-2001-010611 (Toland, W611)
10	601106-2007-7MT733	Well Gully Poll, 733	Unknown

Figure 1a. Combined measured traits based on an AMSEA Dual Purpose Plus (DP+) index. Based on a meat focused production system where surplus progeny are sold as lambs and a portion of ewes are joined to terminal sires.

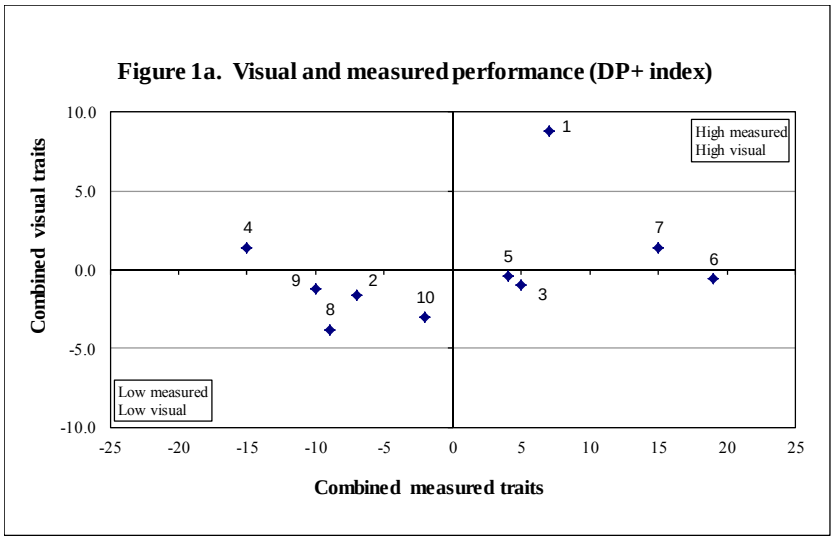


Figure 1b. Combined measured traits based on an AMSEA Merino Production Plus (MP+) index. Based on a balanced wool and meat production system where surplus progeny are sold as hoggets.

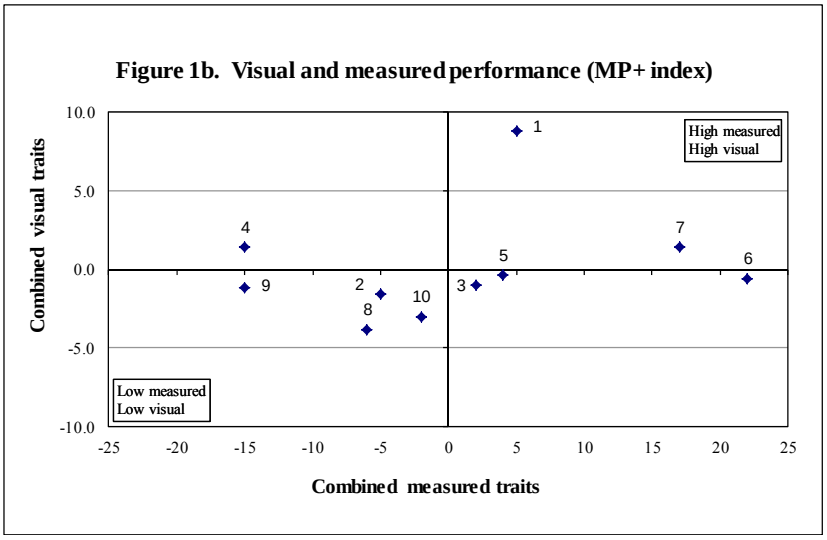


Figure 1c. Combined measured traits based on an AMSEA Fibre Production Plus (FP+) index. Based on a wool focussed production system where wethers are retained, operating in an environment where worms cause economic losses.

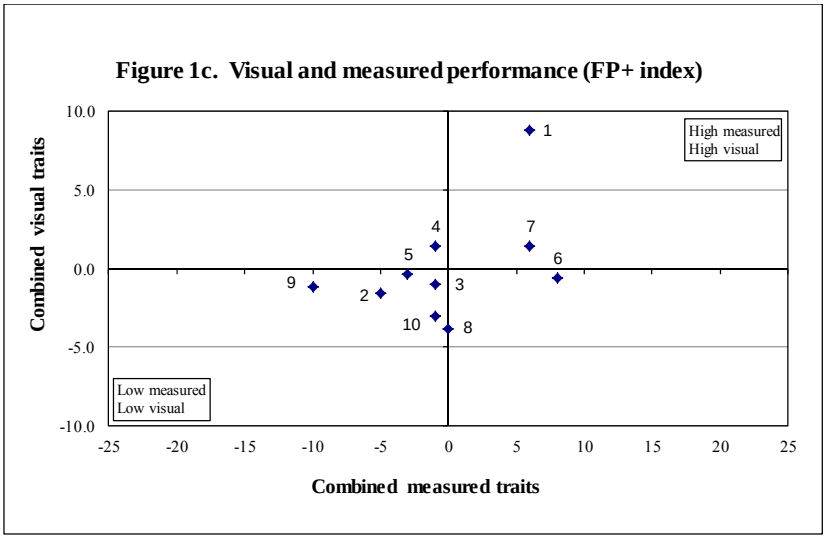


Table 1. **AMSEA Index Values and Classer's Grade**

The highest performing 2 sires for each trait (trait leaders) are highlighted by shading.

Each sire is listed for Classer's Grade and the same three indexes at all site evaluations. An additional index 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' 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.

- **Dual Purpose Plus (DP+)**: Based on a meat focused production system where surplus progeny are sold as lambs and a portion of ewes are joined to terminal sires.
- **Merino Production Plus (MP+):** Based on a balanced wool and meat production system where surplus progeny are sold as hoggets.
- **Fibre Production Plus (FP+):** Based on a wool focussed production system where wethers are retained, operating in an environment where worms cause economic losses.
- **Merino 7% (M7%):** High emphasis on fleece weight and fibre diameter plus small emphasis on live weight.

		AMSEA Index Values				Classer's Grade	
Breeders flock, Sire name	**Number of progeny**	**Dual Purpose Plus**	**Merino Production Plus**	**Fibre Production Plus**	**Merino 7%**	**Tops % (dev)**	**Culls % (dev)**
Connewarran, 6042	28	107	105	106	104	32	-12
Ewe Wish Poll, 090243	30	93	95	95	92	-17	-9
Hannaton Poll, 100001	15	105	102	99	99	4	9
Kilfeera Park, 100024	26	85	85	99	95	5	-2
Melrose, 09N10577	17	104	104	97	104	0	2
Mernowie Poll, 090576	18	119	122	108	107	-3	0
One Oak Poll, 080020	31	115	117	106	113	2	-5
Toland Poll, 101045	33	91	94	100	94	-17	2
Toland Poll, Blue 1046	13	90	85	90	95	-4	2
Well Gully Poll, 733	30	98	98	99	101	-3	12
Average performance	**24**	**100**	**100**	**100**	**100**	**30**	**15**

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.

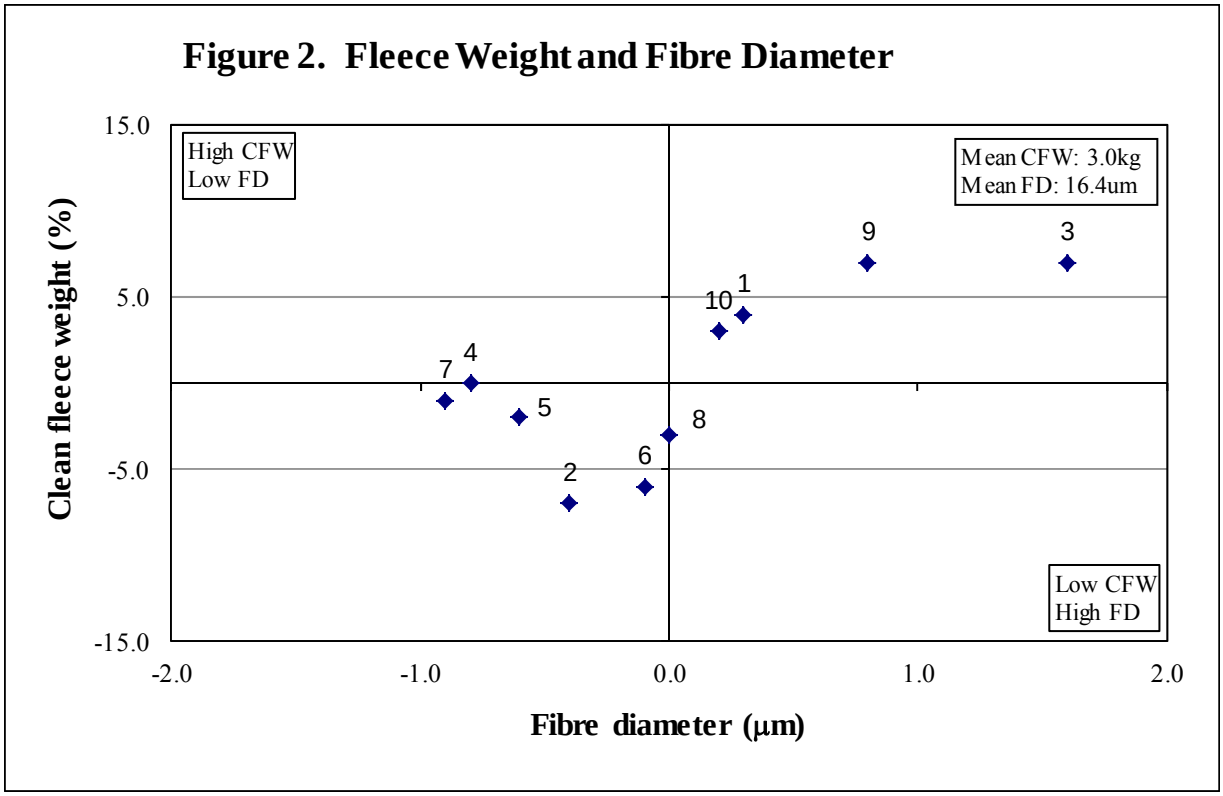
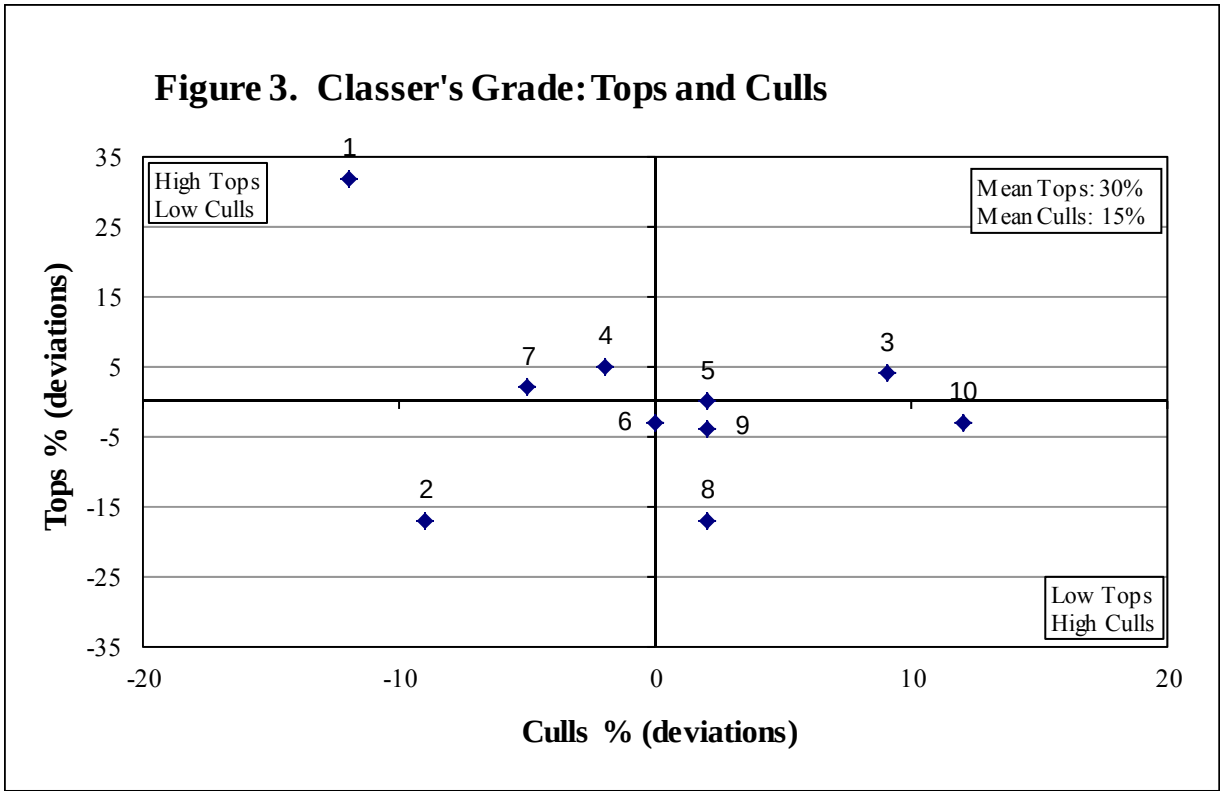


Figure 3. Classers Tops by Cull Grade
The graph describes performance for Classer's Tops Grade on the side axis and Culls Grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left hand quarter.



Understanding the results

Measured trait performance and Classer's Grade – Tables 2 and 3

Sire Code:	The sire's code used throughout the report. Each sire's owner has been provided with their sire's code.
Number 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 sire'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 sires (in this case based on the performance of their progeny). A sire's progeny will express half of their sire's FBV. FBVs do not necessarily reflect the sire's observed performance, which is a combination of both genetic and environmental influences. FBVs are an estimate of the genetic component of the sheep's performance.
Traits: Abbreviation, trait and the (units reported)	Fleece Traits are reported as RBVs. See page 2 for more information. GFW: Greasy fleece weight (percentage). CFW: Clean fleece weight (percentage). FD: Average fibre diameter (micron). WT: Body weight (kilograms). FDCV: Fibre diameter coefficient of variation (percentage). SL: Staple length (mm) at the mid-side. SS: Staple strength (N/ktex) at the mid-side. EMD: Eye muscle depth (mm) at the 'C' site. FAT: Fat depth (mm) at the 'C' site. CURV: Fibre curvature (degrees). WEC: Worm egg count (% deviation in worm burden of sire's progeny).
Age at assessment:	W = Weaning - 42 to 120 days (6 weeks to 4 months of age). E = Early Post Weaning - 120 to 210 days (4 to 7 months of age). P = Post Weaning - 210 to 300 days (7 to 10 months of age). Y = Yearling - 300 to 400 days (10 to 13 months of age). H = Hogget - 400 to 540 days (13 to 18 months of age). A = Adult - 540 days or older (18 months and older).
Classer's 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 (see page 3). The percentage deviation from the average of Tops and Culls is presented in this report.

Table 2. **Major measured traits and Classer's Grades**

Breeders flock, Sire name	Number of progeny	Flock Breeding Values (deviations)						Classer's Grade[1]	
		GFW	CFW	FD		WT		Tops	Culls
		%	%	µm		kg		%	%
		A^	A	A	W	P	A	A	A
Connewarran, 6042	28	2	4	0.3	0.5	0.8	2.0	32	-12
Ewe Wish Poll, 090243	30	-7	-7	-0.4	0.1	-0.4	-0.4	-17	-9
Hannaton Poll, 100001	15	8	7	1.6	-0.1	0.3	1.6	4	9
Kilfeera Park, 100024	26	0	0	-0.8	-2.7	-3.7	-3.8	5	-2
Melrose, 09N10577	17	0	-2	-0.6	1.4	1.6	0.1	0	2
Mernowie Poll, 090576	18	-6	-6	-0.1	3.1	5.0	6.2	-3	0
One Oak Poll, 080020	31	-1	-1	-0.9	2.2	3.0	2.8	2	-5
Toland Poll, 101045	33	-2	-3	0.0	-1.6	-2.2	-2.1	-17	2
Toland Poll, Blue 1046	13	5	7	0.8	-1.3	-1.7	-3.0	-4	2
Well Gully Poll, 733	30	3	3	0.2	-0.6	-0.9	-1.5	-3	12
Average performance	**24**	**4.4**	**3.0**	**16.4**	**22.1**	**26.3**	**46.9**	**30**	**15**
		%	%	µm	kg	kg	kg	%	%

^ W = Weaning (42 to 120 days); P = Post Weaning (210 to 300 days); Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older)

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

Table 3. **Other measured traits**

Breeders flock, Sire name	Number of progeny	Flock Breeding Values (deviations) FDCV % A^	SL mm	SS N/ktex	CURV deg/mm A	FAT mm	EMD mm	WEC % Y
Connewarran, 6042	28	-0.2			1.0			-57
Ewe Wish Poll, 090243	30	0.1			4.5			29
Hannaton Poll, 100001	15	-1.2			-4.3			-33
Kilfeera Park, 100024	26	1.2			2.6			-23
Melrose, 09N10577	17	1.0	**SL and SS**		6.0	**FAT and EMD**		64
Mernowie Poll, 090576	18	-1.2	**was not measured**		-1.0	**was not measured**		-12
One Oak Poll, 080020	31	0.3			2.7			44
Toland Poll, 101045	33	-0.8			-0.4			11
Toland Poll, Blue 1046	13	0.8			-7.5			3
Well Gully Poll, 733	30	-0.1			-3.9			17
Average performance	**24**	**19.9** %			**82.4** deg/mm			

^ W = Weaning (42 to 120 days); P = Post Weaning (210 to 300 days); Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Understanding the results

Scored trait performance – Tables 4a, 4b, 4c, 4d, 4e

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 from AWI).

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

■ 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-shot 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 hind legs from **1** (nil) to **5** (extensive).
■ Dag	Degree of dag adhering to the breech and legs from **1** (nil) to **5** (extensive).

Table 4a. **Visual trait assessments – Wool quality**

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

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

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

Breeders flock, Sire name	Wool Quality																							
	Fleece Rot						Wool Colour						Wool Character						Dust Penetration					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Connewarran, 6042	0.0	100	0	0	0	0	-0.5	37	56	7	0	0	-0.1	19	52	26	3	0	-0.5	11	52	33	4	0
Ewe Wish Poll, 090243	0.0	97	0	3	0	0	0.0	13	50	37	0	0	0.0	10	50	40	0	0	-0.3	0	53	47	0	0
Hannaton Poll, 100001	0.0	100	0	0	0	0	0.5	0	44	38	18	0	0.0	7	62	31	0	0	0.3	0	0	94	6	0
Kilfeera Park, 100024	0.0	100	0	0	0	0	-0.1	7	75	18	0	0	0.1	0	64	32	4	0	0.0	0	25	71	4	0
Melrose, 09N10577	0.0	100	0	0	0	0	-0.3	24	65	11	0	0	0.0	5	71	18	6	0	0.2	0	12	82	6	0
Mernowie Poll, 090576	0.1	95	0	0	5	0	0.3	0	53	42	5	0	-0.2	16	58	26	0	0	0.2	0	6	89	5	0
One Oak Poll, 080020	0.0	100	0	0	0	0	0.2	16	38	41	5	0	0.0	7	62	25	6	0	0.0	0	28	72	0	0
Toland Poll, 101045	0.0	100	0	0	0	0	0.1	9	48	39	4	0	0.1	3	64	30	3	0	0.0	0	21	79	0	0
Toland Poll, Blue 1046	0.0	100	0	0	0	0	-0.4	38	46	16	0	0	0.0	23	23	54	0	0	-0.1	0	31	69	0	0
Well Gully Poll, 733	0.0	97	3	0	0	0	0.2	10	43	40	7	0	0.1	7	53	37	3	0	0.0	0	20	80	0	0
Average performance	**1.0**	**99**	**0**	**0**	**1**	**0**	**2.2**	**15**	**52**	**29**	**4**	**0**	**2.3**	**10**	**56**	**32**	**2**	**0**	**2.8**	**1**	**25**	**72**	**2**	**0**

Table 4b. **Visual trait assessments – Wool quality and Pigment**

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

For the majority of breeder's objectives a negative deviation for wool quality traits would be considered favourable and the larger the deviation the better.

Four pigmentation traits are reported. 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.

Breeders flock, Sire name	Wool Quality											
	Staple Weathering						Staple Structure					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Connewarran, 6042	-0.4	7	56	33	4	0	0.0	7	67	26	0	0
Ewe Wish Poll, 090243	-0.3	0	60	40	0	0	0.0	13	50	37	0	0
Hannaton Poll, 100001	0.2	0	6	94	0	0	-0.2	13	75	12	0	0
Kilfeera Park, 100024	0.0	0	25	75	0	0	0.1	7	54	39	0	0
Melrose, 09N10577	0.2	0	18	76	6	0	0.0	18	53	24	5	0
Mernowie Poll, 090576	0.2	0	5	95	0	0	-0.2	16	68	16	0	0
One Oak Poll, 080020	0.0	0	28	72	0	0	0.0	9	66	25	0	0
Toland Poll, 101045	0.0	0	27	73	0	0	0.0	9	61	27	3	0
Toland Poll, Blue 1046	0.0	0	31	69	0	0	0.3	15	23	62	0	0
Well Gully Poll, 733	0.1	0	20	80	0	0	0.0	7	63	30	0	0
Average performance	**2.7**	0	28	71	1	0	**2.2**	11	58	30	1	0

Pigmentation														
Fibre pigmentation							Non-fibre pigmentation						Black	Spot
Dev	1	2	3	4	5		Dev	1	2	3	4	5	5	5
Pigmentation was not scored														

Table 4c. **Visual trait assessments – Conformation**

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

For the majority of breeder's objectives a negative deviation would be considered favourable 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.

Breeders flock, Sire name	Conformation																											
	Jaw						Legs and Feet						Shoulder and Back						Face Cover						Body Wrinkle					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Connewarran, 6042	0.0	100	0	0	0	0	-0.1	100	0	0	0	0							0.3	0	74	22	4	0						
Ewe Wish Poll, 090243	0.0	100	0	0	0	0	-0.1	100	0	0	0	0							0.2	4	73	23	0	0						
Hannaton Poll, 100001	0.0	100	0	0	0	0	0.0	94	0	6	0	0							0.0	0	100	0	0	0						
Kilfeera Park, 100024	0.0	100	0	0	0	0	-0.1	100	0	0	0	0							0.1	0	89	11	0	0						
Melrose, 09N10577	0.0	100	0	0	0	0	0.0	94	0	6	0	0	**Shoulder and Back**						-0.3	29	71	0	0	0	**Body Wrinkle**					
Mernowie Poll, 090576	0.1	95	0	5	0	0	0.1	89	0	11	0	0	**was not scored**						-0.1	21	68	11	0	0	**was not scored**					
One Oak Poll, 080020	0.0	100	0	0	0	0	-0.1	97	0	3	0	0							-0.1	9	91	0	0	0						
Toland Poll, 101045	0.0	100	0	0	0	0	0.1	91	0	9	0	0							0.0	6	82	12	0	0						
Toland Poll, Blue 1046	0.0	100	0	0	0	0	0.2	85	0	15	0	0							0.1	0	85	15	0	0						
Well Gully Poll, 733	0.0	100	0	0	0	0	0.1	90	0	10	0	0							-0.1	3	97	0	0	0						
Average performance	**1.0**	**99**	**0**	**1**	**0**	**0**	**1.1**	**94**	**0**	**6**	**0**	**0**							**2.0**	**8**	**83**	**9**	**0**	**0**						

Table 4d. **Visual trait assessments – Breech**

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

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

Breeders flock, Sire name	Breech Visual Traits																					
	Breech Cover						Crutch Cover						Breech Wrinkle						Dag					
	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5	Dev	1	2	3	4	5
Connewarran, 6042	0.2	0	19	48	33	0							-0.1	3	55	30	12	0						
Ewe Wish Poll, 090243	0.0	2	24	50	24	0							-0.1	6	41	53	0	0						
Hannaton Poll, 100001	-0.2	9	22	52	17	0							-0.4	0	78	22	0	0						
Kilfeera Park, 100024	0.3	0	10	49	41	0							0.1	0	49	36	15	0						
Melrose, 09N10577	-0.3	9	25	54	12	0	**Crutch Cover**						0.2	0	42	38	20	0	**Dag**					
Mernowie Poll, 090576	-0.1	0	25	62	13	0	**was not scored**						-0.2	4	54	42	0	0	**was not scored**					
One Oak Poll, 080020	-0.1	2	24	56	18	0							0.1	0	38	53	9	0						
Toland Poll, 101045	0.1	2	18	55	25	0							0.1	0	38	60	2	0						
Toland Poll, Blue 1046	0.0	0	16	68	16	0							0.1	0	42	47	11	0						
Well Gully Poll, 733	0.0	0	29	44	27	0							0.3	0	38	44	12	6						
Average performance	**3.0**	**2**	**21**	**54**	**23**	**0**							**2.6**	**2**	**47**	**42**	**8**	**1**						

Table 5. **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.

Breeders flock, Sire name	Number of progeny	Sire averages for measured traits (deviations from the site average)									
		GFW % Y^	**CFW** % Y	**FD** µm Y	**WT** kg W	**WT** kg P	**WT** kg A	**FDCV** % Y	**Curv** deg/mm Y	**SL** mm	**SS** N/ktex
Connewarran, 6042	28	-0.1	0.2	0.2	0.3	0.2	1.4	-0.1	0.7		
Ewe Wish Poll, 090243	30	-0.2	-0.2	-0.2	0.3	-0.7	-0.8	0.2	3.1		
Hannaton Poll, 100001	15	0.4	0.1	1.1	-0.5	0.4	2.4	-1.1	-3.6		
Kilfeera Park, 100024	26	-0.1	0.0	-0.5	-1.7	-2.3	-2.7	1.0	2.1		
Melrose, 09N10577	17	0.1	-0.1	-0.4	1.3	0.9	-1.6	1.0	6.3	**SL and SS**	
Mernowie Poll, 090576	18	-0.2	-0.1	-0.2	1.6	3.1	5.1	-1.0	-2.2	**was not measured**	
One Oak Poll, 080020	31	0.0	0.0	-0.6	1.5	1.5	1.1	0.2	2.1		
Toland Poll, 101045	33	0.0	-0.1	0.0	-1.2	-1.6	-1.7	-0.6	-0.5		
Toland Poll, Blue 1046	13	0.1	0.2	0.5	-1.1	-0.7	-1.6	0.6	-5.5		
Well Gully Poll, 733	30	0.1	0.0	0.1	-0.4	-0.9	-1.6	-0.2	-2.6		
Average performance	**24**	**4.4** %	**3.0** %	**16.4** µm	**22.1** kg	**26.3** kg	**46.9** kg	**19.9** %	**82.4** deg/mm		

^ W = Weaning (42 to 120 days); P = Post Weaning (210 to 300 days); Y = Yearling (300 to 400 days); H = Hogget (400 to 540 days); A = Adult (540 days and older).

Understanding the results

Index Options

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.

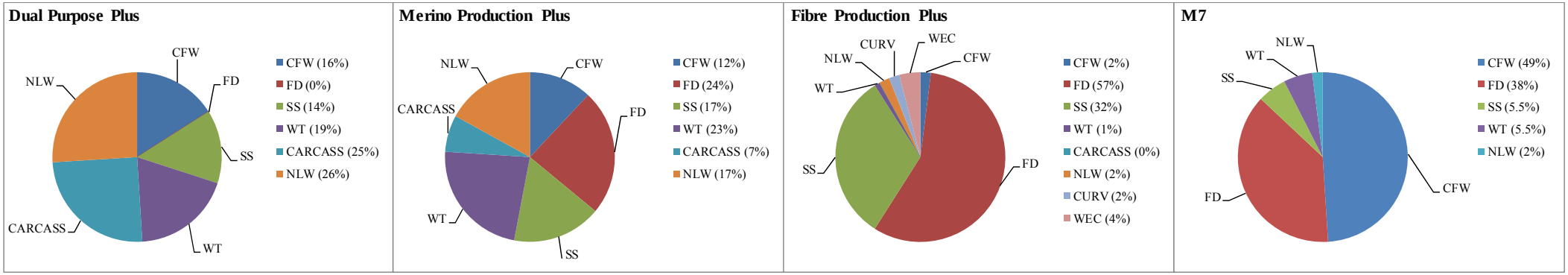
If a breeder is considering using a sire in this report it is critical to consider the performance of the breeder's flock relative to the performance standard in this report. The relative performance must be considered to establish the result that can be expected when a sire is used in a breeder's flock.

All AMSEA site evaluation reports present 3 standard indexes to provide combined **measured** trait performance These 3 AMSEA indexes are DP+; MP+; and FP+. 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 25% contribution by NLW in the DP+ index is not effectively applied by the index calculation.

This report has added an additional index – the AMSEA Merino 7%.

AMSEA **DP+**	**Dual Purpose**: Based on a meat focused production system where surplus progeny are sold as lambs and a portion of ewes are joined to terminal sires. High increase in carcass traits and fleece weight, moderate increase in reproduction, fibre diameter maintained, maintain or small increase in staple strength.
AMSEA **MP+**	**Merino Production:** Based on a balanced wool and meat production system where surplus progeny are sold as hoggets. Moderate increase in fleece weight, staple strength, carcass traits and reproduction, moderate reduction in fibre diameter.
AMSEA **FP+**	**Fibre Production:** Based on a wool focussed production system where wethers are retained, operating in an environment where worms cause economic losses. Large reduction in fibre diameter, large increase in staple strength, moderate reduction in WEC (if measured in the breeding program), small increase in fleece weight. Little change in carcass traits and reproduction.
AMSEA **Merino 7%** (M7)	High emphasis on fleece weight and fibre diameter plus small emphasis on live weight.

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



Understanding the results

Accuracy of Flock Breeding Values

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

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

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

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

Link sires

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

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

Combined measured trait and combined visual trait performance

Combined measured trait performance is calculated as Index – 100. Three different index options are provided to cater for breeders' different breeding objectives.

Combined visual trait performance is calculated as:
(Classer's Grade Tops% – Culls%)/5, expressed as a deviation from (average Tops% – average Culls%)/5.

Example
Sire's performance: AMSEA DP+ Index value = 119.7
- Tops% = 25.5 (average Tops% = 25.1)
- Culls% = 17.6 (average Culls% = 16.4)

Combined Measured = 119.7.0 – 100 = 19.7
Combined Visual = ((25.5 – 17.6)/5) – ((25.1 – 16.4)/5)
= 7.9/5 – 8.7/5 = 1.58 – 1.74 = -0.16

North East Victoria (Dookie College)

Central Test Sire Evaluation