

Elders Victoria Sire Evaluation Group

2004 Drop 2nd Evaluation of Progeny at 23 Months 12 Months Wool Growth



Conducted by:

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



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November 2006

CONTENTS

The information in this booklet should not be read in isolation – 2004 drop progeny at the time of their assessment were 23 months of age and were shorn with 12 months wool growth. This is the second assessment of the 2004 progeny in the Central Test Evaluation trials and results from this assessment will be reported in *Merino Superior Sires*.

	Page
CONDUCT OF SIRE EVALUATION SCHEMES	
Elders Victoria Sire Evaluation Group	3
Management Committee	3
Host Properties	3
Understanding the graphs & tables of results	4
PARTICIPANTS IN 2004 TRIAL	
Sire & Owner Summary	8
MANAGEMENT REPORT	
Main events Calendar	9
PRESENTATION OF RESULTS	
2004 drop 1st year evaluation results:	
Summary:	
Figure 1: Summary Graph: Combined Measured Traits & Classer's Grades	10
Table A: MERINOSELECT Index Options & Classer's Grades	11
Figure 2: Summary Graph: Fleece Weight/Fibre Diameter	12
Tables 1 & 2 Measured and Scored Assessments	13
Figure 3. Summary Graph: Classer's Grades	15
Detailed Information:	
Table 3a: Other Measured Traits – Sire Least Square Means	16
Table 3b: Measured Traits – Sire Least Square Means	17
Table 4a: Classer's Assessment – Scored Wool Quality Traits	18
Table 4b: Classer's Assessment – Scored Visual Wool Counts	18
Table 4c: Classer's Assessment – Scored Conformation Traits	19
Table 4d: Pigmentation	19
Table 5: Fleece Value	20
Table 6: Progeny Group Classing	21

CONDUCT OF SIRE EVALUATION SCHEMES

This evaluation is an accredited sire evaluation program run under the guidelines of the Australian Merino Sire Evaluation Association (AMSEA). The established guidelines have been followed to enable an accurate and fair comparison of the Merino rams entered allowing the results to be published in the Merino Superior Sires report.

Elders Victoria Sire Evaluation Group - Balmoral

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

This goal is achieved by informing participants, their clients and interested woolgrowers on events surrounding the trials and in addition to this; produce and distribute annual reports and periodic newsletters. To further promote the evaluation, displays of progeny, data and their fleeces have been on show at the Australian Sheep & Wool Show (1998-2005), Balmoral and Horsham Shows and Hamilton Sheepvention. Participating studs have also provided static displays for viewing during field days. Since April 2000 successful annual Open Days have been held at “The Mountain Dam”, “Kerrsville”, “White Oaks” and “Arundale” to inspect progeny and to discuss the sire evaluation program with interested woolgrowers.

Prior to 1998, there were three previous trials in the Balmoral/Hamilton district, which are recorded in Merino Superior Sires as B95, HT93, HT94. In 1998 a small group of stud breeders met to form what is now known as the Elders Victoria Sire Evaluation Group. The Sire Evaluation Trials commenced in 1998 and there are now 9 progeny drops – 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005 & 2006. All trials are run for a minimum of 2 years.

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

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

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

The Management Committee:

Tom Silcock	(Chairman)	03 5388 2238	themountaindam@bigpond.com
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Colin & Jill Frawley		03 5578 6334	wirra@ansonic.com.au
Michael Craig		03 5588 1395	tuloona@bigpond.com
Tania Rentsch		03 5576 5051	manager@balmoralbreeders.com

(Manager, c/- D Rendell & Assoc)

Host Property for 2004 drop progeny

The “Arundale” property, owned by Donald Cant and managed by Barry Matthews, is located 16 kms west of Balmoral on a predominately sandy, grey loam soil type in undulating red gum country. The average rainfall is 650 mm. Progeny are managed under strict commercial conditions.

UNDERSTANDING THE RESULTS

TABLES

Sire Identity:	Identity of breeder and the sire's number and/or name and code number located on some tables and graphs.
No. of Progeny:	Number of progeny assessed at time of event
Estimated Breeding Values:	Estimated Breeding Values (EBVs) express the expected performance of a sire relative to another sire in the evaluation when mated to a random allocation of ewes. EBVs are used to describe the performance of the major measured traits (see information on accuracy over page). They are expressed as deviations (dev) from the average of sires in the evaluation. Body Weight, Fibre Diameter, Coefficient of Variation of Fibre Diameter, Staple Strength and Staple Length EBVs are presented as deviations from the average, expressed in the same units as they were measured. Greasy and Clean Fleece Weights are percentages and 0% equals average.
Measured traits:	<p>GFW% Greasy Fleece Weight (percentage)</p> <p>CFW% Clean Fleece Weight (percentage)</p> <p>FD μm Average Fibre diameter (micron)</p> <p>WT Body Weight (kilograms)</p> <p>CV% Co-efficient of variation of fibre diameter</p> <p>Yld% Washing yield of the midside sample</p> <p>SL Staple Length (mm)</p> <p>SS Staple Strength (N/ktex)</p>
WEC	Worm Egg Count. (WEC) breeding values relate to the susceptibility or resistance to infection by worms: WEC EBVs are expressed as a percentage relative to a count of 500 eggs per gram. An animal with a WEC EBV of -100% should have progeny with 50% lower worm burdens (or 250 epg) than progeny of an animal with a WEC EBV of 0% when the average worm burden is 500 epg.
Sire Least Square Means:	Sire least square means are the average performance of all the progeny assessed, but corrected for the number of progeny, sex and birth type.
Visual Traits:	Most traits are scored 1 to 5, with '1' being best and '5' being worst. For some traits scores 2, 3 & 4 are best. Many animals were scored '3', being neither bad nor outstandingly good.
<i>Conformation</i>	<p>Face cover– Scored 1 to 5. Scores of 2,3, or 4 are most acceptable; scores of 1 (bare) or 5 (muffled) are less acceptable.</p> <p>Shoulders/back – Reported as percentage of the progeny with a negative expression.</p> <p>Feet/legs – Scored 1 to 5. (1 being best)</p> <p>Neck/body development – Scored 1 to 5. Scores of 2, 3 or 4 are most acceptable, scores of 1 or 5 are less acceptable (too heavy or too plain).</p>
<i>Wool Quality</i>	<p>Mouth/Jaw – Reported as percentage of progeny with a negative expression.</p> <p>Wool Colour – Scored 1 to 5. (1 being best)</p> <p>Wool Character – Scored 1 to 5 (1 being best)</p> <p>Staple Weathering / Dust penetration - Scored 1 to 5 (where '1' is best).</p> <p>Fleece Rot – Scored 0 to 5, '0' is no fleece rot, '1' slight fleece rot, '5' is extreme.</p> <p>Scored Visual Wool Counts – Assessed as 74's, 70's, 66's, 64's, 62's etc. A lower number means bolder crimp.</p>

Pigmentation

A **Black Lamb** is the result of a black recessive gene being present in both the sire and the dam (both sire and dam being Bb, or heterozygous). There is a 25% chance that the progeny of the Bb x Bb mating will be a 'black lamb' (bb). That any 'black lambs' resulted from a sire confirms that the sire carries the black recessive gene. When a sire does not produce any 'black lambs' is no guarantee that it does not carry the black recessive gene, as it requires the ewes he is mated to be carriers for this 25% chance of expression to occur.

Skin Pigmentation: significant degree of pigmented skin on non wool growing areas (typically smutty nose/brown rimmed eyes), reported as percentage of progeny with skin pigmentation

Wool Pigmentation: pigmented wool in random spots or isolated pigment or pigmented birthcoat, halo-hair, or pigmented leg hair or black lamb, noted at tagging, visual classing or shearing and shown as a percentage of progeny with wool pigmentation.

Index Options:

Breeding Objective index options provide the relative value of sires based on a combination of the measured traits. It should be noted that these are only some of the many indexes that can be used to describe an individual breeder's objective for measured traits. If a breeder uses a sire, the relative performance of the flock must be considered to establish the change that can be expected.

Four of the Sheep Genetics Australia (SGA) MERINOSELECT indexes – 3.5%, 7% and 14% Micron Premium (MP) for Merinos and 10% MP+ SS +WEC for Fine Merinos – have been chosen as the base indexes for this site to provide combined measured trait results.

Production system description

1. Merino indexes

- self-replacing Merino flock.
- 19 to 23 micron adult ewes fleece (850c/kg clean).
- adult wethers are not maintained to produce wool.
- Surplus wethers and ewes are sold as store or meat sheep at yearling to hogget age at 44kg (\$45/head).

2. Fine Merino indexes

- self-replacing Merino flock.
- 19 micron or finer adult ewes fleece (1300c/kg clean).
- 30% of adult sheep are wethers maintained to produce wool.
- surplus wethers and ewes are sold as store or meat sheep at yearling to hogget age at 40kg (\$40/head).

Predicted genetic response

3.5% MP Merino

Fleece weight	high gain
Fibre diameter	maintain
Body weight	moderate gain
Other traits	maintain

7% MP Merino

Fleece weight	moderate gain
Fibre diameter	moderate gain
Body weight	moderate gain
Other traits	maintain

14% MP Merino

Fleece weight	maintain
Fibre diameter	high gain
Body weight	moderate gain
Other traits	maintain

10% MP + SS + WEC Fine Merino

Fleece weight	moderate gain
Fibre diameter	moderate gain
Body weight	small gain
SS	moderate gain
WEC	moderate gain
Other traits	maintain

Classer's Grade:	In the 2000 drop Assessment the Committee changed to one Classer to grade all assessed progeny as Tops, Flocks or Culls, based on visual assessment of all traits. The percentage of Tops, Flocks and Culls is presented. This change is in line with changes to Sire Evaluation requirements.
Fleece Value:	<p>The combination of fibre diameter, style grade, staple length, staple strength, yield, and vegetable matter is used to value fleeces. Estimates of clean price (c/kg) were obtained using AWI's Woolcheque website (http://www.woolcheque.com.au), using style grade MF4 (best topmaker) and vegetable matter of 1.0% for all sire groups, as well as averages for sire progeny groups for fibre diameter, staple length, staple strength calculated as Overall Mean + (Estimated Breeding Value/2). The Least Square Mean for Yield was used in the absence of an EBV for this trait. The price in cents/kg clean was then multiplied by the clean fleece weight (mean calculated using EBV¹) for each sire, to arrive at the fleece value (\$/fleece). No qualifiers for colour or other wool faults were used.</p> <p>Table 5 shows the average fleece value for each progeny group. Prices were from the preceding 12 months for the Southern region.</p> <p>Calculated clean fleece weight = $3.43 \times (1 + (\text{EBV}_{\text{CFW}}/200))$</p>
Progeny Group Classing:	Assessment of the evenness of sire progeny groups is carried out as a separate assessment to individual classing. It is conducted in the 2 nd year of assessment.

SUMMARY GRAPHS

Performance distribution graphs provide a summary of performance of sires for two traits such as Fleece Weight and Fibre Diameter. Use the labels on the graph to obtain a general idea of the performance of sires in that area of the graph, e.g. High Fleece Weight / Low Fibre Diameter (see Figure 2).

ACCURACY OF ESTIMATED BREEDING VALUES

Estimated Breeding Values (EBVs) express the expected performance of a sire relative to performance of another sire in the evaluation when mated to the same standard of ewes. The expected performance of the progeny is the Estimated Breeding Value divided by 2 (EBV/2), as progeny get half their genes from their sire and half their genes from their dam.

EBVs are more accurate indicators of a sire's relative genetic merit than simple sire averages as they take into account:

- how much of the superiority is actually due to the sire's genes and can be passed on to its progeny;
- the number of progeny a sire has in the analysis;
- the performance of other related traits,
- non-genetic effects such as whether animals are born as singles or twins.

The 'true' Breeding Value of a sire would be obtained if the number of progeny evaluated for each sire was infinite. Because the number of progeny for each sire in the evaluation is not infinite, performance shown in this report is described as *Estimated* Breeding values.

The correlation (similarity) between the *Estimated* Breeding Value and the *True* Breeding Value increases as

- i) the number of progeny is increased, and
- ii) the heritability of the trait is greater.

If the number of progeny were infinite the correlation between the *Estimated* and *True* Breeding Value would be perfect (described as 100%). For a highly heritable trait (0.5) such as fibre diameter, the correlation between *Estimated* 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. Traits with lower heritabilities require more progeny to reach the same level of accuracy.

ALLOWANCE FOR TWINS/TRIPLETS

Visual Assessment:

No allowance was made in the visual assessment for multiple births.

Objective Analysis:

An allowance was made by SGA analysis program, OVIS, for twins and triplets when analysing measurement data.

LINKING CENTRAL TEST DATA USING LOCAL SITES

Link sires provide the “link” between other local sites and are used in combined Central Test Sire Evaluation reports to report across sites and across years. These “link sires” are a vital component of the Central Test Sire Evaluation. To become a “link sire”, the ram must have participated in evaluation of their progeny across more than one site. Each year the publication *Merino Superior Sires* is produced which reports the combined analysis of rams participating across all Australian Local Sites.

The information in this booklet therefore should not be read in isolation. These progeny are now reported in this document for their second and final assessment in 2006.

CHANGES TO THE CENTRAL TEST GROUP

In 2000 the Central Test Sire Evaluation Committee run under the auspices of the Australian Association of Stud Merino Breeders voted to become an independent group and is now known as the Australian Merino Sire Evaluation Association (AMSEA). Updated CTSE accreditation requirements were adopted in April 2000 and continue to be modified by AMSEA as a gradual improvement program for the most accurate data collection and analysis.

The Victorian Stud Merino Sheepbreeders’ Association continues to support Victorian Sire Evaluation Trials and the Elders Victoria Sire Evaluation Trial is conducted under the auspices of both the Victorian Stud Merino Sheepbreeders’ Association and the Balmoral Pastoral and Agricultural Society.

PARTICIPANTS IN THE 2004 TRIAL

SIRE & OWNER DETAILS

Stud Sire Identity	Contact Name, Address, Phone & Fax No. & Email
Broxborne Park A172 * 504031199494A172	Sam Steers PO Box 40 Avenel VIC 3664 Ph. 03 57962259, Fax 03 57962338 Email: samsteers@hotmail.com
Cressbrook 99-677 5023021999099677	Lach & Olivia Fulloon 437 Enmore Rd Armidale, NSW 2350 Ph. 02 67751217, Fax 02 67751341 Email: cressbrk@bigpond.com
Gringegalgona A3M0070/99 5030971999A3M070	Stephen Silcock, 279 Melville Forest Vasey Rd, Vasey VIC 3407 Ph. 03 55743202, Fax 03 55743239 Email: sjsilcock@bigpond.com
Hannaton Jonny Blue 5016941999000009	Peter & Sally Hicks PO Box 22 Kaniva VIC 3419 Ph. 03 53922366, Fax 03 53922938 Email: pjhicks@wimmera.com.au
Havilah North 01.0413 5039342001010413	Andrew & Kate White Stoneycreek Rd Mudgee NSW 2850 Ph. 02 63735265, Fax 63735400, Email: merinos@havilahnorth.com.au
Identity withheld at owner's request	
Identity withheld at owner's request	
Kerrsville NB20856 5035092002020856	Robert Plush, 1885 Coleraine Edenhope Rd, Coleraine VIC 3315 Ph/Fax 03 55750208 Email: rjplush@bigpond.com
Kurra-Wirra SR 1263 5041732001001263	Robert Close, Kurra-Wirra, RMB 9333, Coleraine VIC 3315 Ph. 03 55704238, Fax 03 55704234 Email: kurrawirra@anson.com.au
Melrose RB3262.02 5017042002RB3262	Warren Russell RMB 5434 Horsham VIC 3401 Ph. 03 53881204, Fax 03 53881204 Email: melrose@wimmera.com.au
Merinotech 021530 5046482002021530	Hugh & Susan Jarvis, 8338 Natimuk – Hamilton Rd, Gatum VIC 3407 Ph. 03 55743298, Fax 03 55743299, Email: suejarvis@bigpond.com
One Oak B114 503855200100B114	Graham Wells PO Box 84 Jerilderie NSW 2716 Ph. 03 58861269, Fax 03 58861792
Pleasant Park Red tag 212 5017082002000212	Phillip Walker Pleasant Park, Goroke VIC 3412 Ph. 03 53861202 Email: pleasantpark@wimmera.com.au
The Mountain Dam 96/N1011 * 5045721996N10011	Tom Silcock, T & A Silcock, 429 Silcocks Rd, Telangatuk East VIC 3401 Ph. 03 53882238, Fax 03 53882235 Email: themountaindam@bigpond.com
The Mountain Dam 99/NL112 5045721999NL0112	Tom Silcock, T & A Silcock, 429 Silcocks Rd, Telangatuk East VIC 3401 Ph. 03 53882238, Fax 035388 2235 Email: themountaindam@bigpond.com
Toland White 597 5044852001010597	Philip Toland, PC & G Toland, Feltrim Road, RMB 2005, Violet Town VIC 3669 Ph. 03 57981605, Fax 03 57981404, Email: toland@origin.net.au
Wooltech 0126 5046402000000126	Gregory Hargreaves 20 Wilson St Wedderburn VIC 3518 Ph. 03 54943368 : Email: hargreavesgt@bigpond.com

* **2004 Link Sires** — these sires provide the “link” between other accredited Sire Evaluation Sites and Years and have participated in evaluation of their progeny across more than one site.

MANAGEMENT REPORT – 2004 drop Progeny – “Arundale”

Ewe Base:

Ewes for the 2004 trial were selected from “Arundale” mixed age, fine wool Merino breeding ewes. The average adult flock micron at “Arundale” is 19.5µ.

2004 Progeny Location:

The “Arundale” property, owned by Donald Cant and managed by Barry Matthews, is located 16 kms west of Balmoral on a predominately sandy, grey loam soil type in undulating red gum country. An extensive pasture improvement program has been implemented at “Arundale”, using rotational and cell grazing strategies along with pasture oversowing and the trialing of lucerne in certain areas. The average rainfall is 650 mm.

Stock Management/Seasonal Conditions

The 2004-drop benefited from a good spring in 2005, and were grazed on oats stubble and supplemented with lupins, oats and Lucerne hay during the summer and autumn. Good rains in late June early July gave us hope of being a good year, but as we all know that was not to be. Very little rain for the rest of winter and spring saw a reduced growth and bulk in the pastures and hardly any run off into dams. An extensive destocking program and the pumping of water from several spring-fed dams should help us get through one of the toughest years on record. The only positive side has been the milder temperatures through winter, which has enabled stock to utilise the supplementary feed.

Barry Matthews

The Evaluation & Management Program 2004 drop progeny:

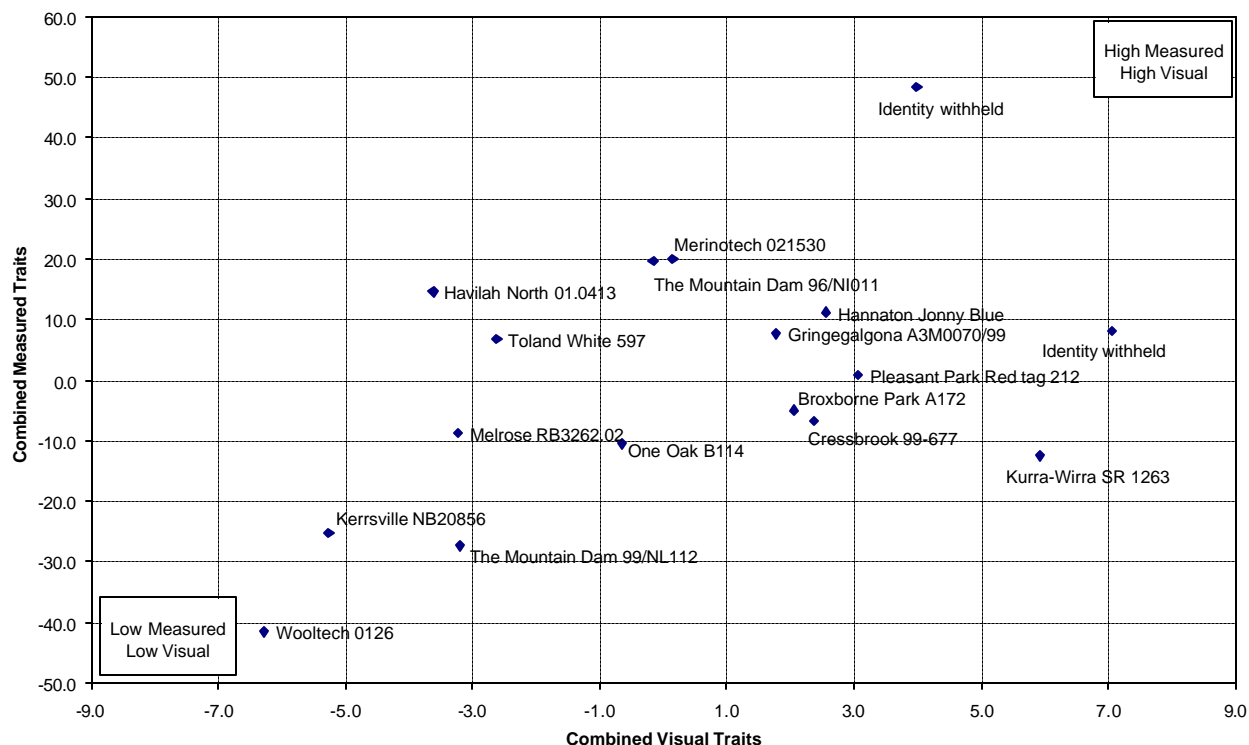
21 st February 2004	Commenced AI program-Ewes sponged & teasers injected
7 th /8 th March 2004	Pull sponges & injected ewes with PMSG, introduced teasers
9 th /10 th March 2004	Laparoscopic insemination of 1003 ewes, conducted by Brecon Breeders
18 th May 2004	Ultrasound / scan ewes by Mark Jenkinson, ewes drafted into mobs of singles & twins.
14 th July 2004	Ewes drenched, vaccinated & crutched.
27 th July 2004	Ewes drafted into 34 groups for lambing
6 th August 2004	Ewes commenced lambing
19 th August 2004	Lambs tagged, scored & returned to full mob
23 rd September 2004	Marked & mulesed lambs, vaccinated & Cliked
22 nd November 2004	Weaned lambs, drenched & vaccinated
20 th December 2004	Lambs body weighed, electronic ear tags inserted
9 th February 2005	Lambs crutched & drenched
19 th March 2005	Progeny on display at Balmoral Show
22 nd March 2005	Progeny on display at Open Day
17 th May 2005	Lambs drenched
24 th June 2005	1 st visual classing of progeny and midside samples taken
6 th July 2005	1 st shearing (11 months wool)
19 th August 2005	Body weighing (yearling weight)
23 rd September 2005	Individual WEC samples collected and progeny drenched
1 st November 2005	Jetted for fly protection
19 th December 2005	1 st summer drench
19 th January 2006	Crutched
24 th February 2006	2 nd summer drench
18 th March 2006	Progeny on display at Balmoral Show
5 th April	Progeny on display at Open Day
13 th June 2006	2 nd visual classing of progeny and midside samples taken
28 th June 2006	Group visual classing by Andrew Combe
10 th July 2006	2 nd shearing (12 months wool, 23 months age)
11 th August 2006	Body weighing (adult weight)

Classer for 2004 drop Progeny: Mr Andrew Combe, Elders Ltd

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

**Figure 1: Summary Graph – Combined Measured Traits and Classer's Grade
2004 drop – 2nd Evaluation**

Summary graph using the 7% Index Option has been used to combine Measured Traits and Classer's Tops & Culls has been used to combine Visual Traits.



Combined Visual is calculated as $(\text{Tops \%} - \text{Culls \%})/5$, expressed as a deviation from $(\text{Average Tops \%} - \text{Average Culls \%})/5$.
Combined Measured is calculated as $(7\% \text{ MP Index} - 100)$

Example: The Mountain Dam 96/NI011

Tops% = 25.5 %

Culls% = 17.6 %

7% MP Index = 119.7

Average Tops% = 25.1 %

Average Culls% = 16.4 %

Combined Visual = $((25.5 - 17.6)/5) - ((25.1 - 16.4)/5) = 7.9/5 - 8.7/5 = 1.58 - 1.74 = -0.16 \%$

Combined Measured = $119.7 - 100 = 19.7$

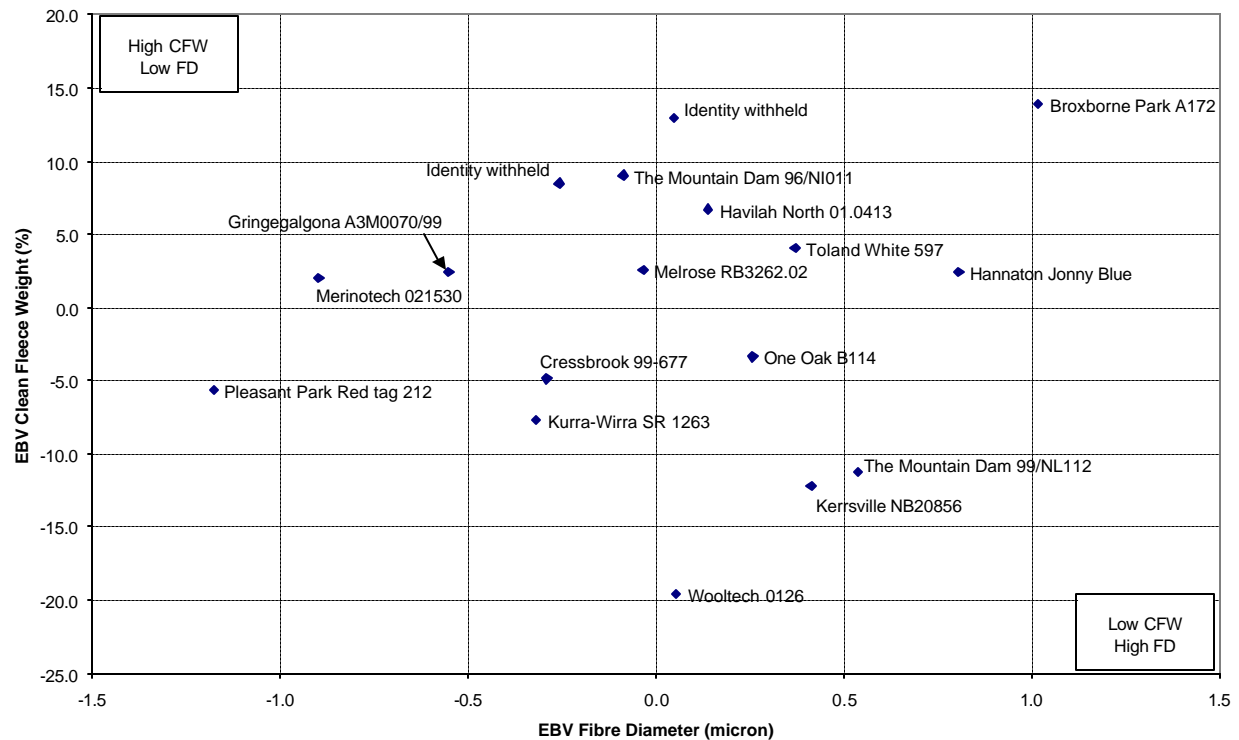
**Table A –SGA MERINOSELECT Index Options and Classer's Grade
2004 drop - 2nd Evaluation**

		MERINOSELECT Index Options				Classer's Grade %		
		Merino			Fine			
Sire Identity	No of progeny	3.5% MP	7% MP	14% MP	10% MP + SS + WEC	Tops %	Flocks %	Culls %
Broxborne Park A172 *	41	110	95	83	77	30	59	11
Cressbrook 99-677	40	94	93	95	102	23	74	3
Gringegalgona A3M0070/99	42	108	108	106	118	25	68	8
Hannaton Jonny Blue	43	112	111	107	106	40	40	19
Havilah North 01.0413	54	112	115	114	112	17	57	26
Identity withheld at owner's request	36	140	148	146	128	31	66	3
Identity withheld at owner's request	41	116	108	99	96	54	37	10
Kerrsville NB20856	35	72	75	82	83	9	65	26
Kurra-Wirra SR 1263	37	86	88	91	100	47	44	9
Melrose RB3262.02	40	96	91	89	89	10	73	18
Merinotech 021530	33	117	120	120	126	22	66	13
One Oak B114	37	91	90	90	84	30	46	24
Pleasant Park Red tag 212	26	95	101	107	89	36	52	12
The Mountain Dam 96/NI011 *	51	125	120	111	107	25	57	18
The Mountain Dam 99/NL112	43	73	73	78	74	20	54	27
Toland White 597	45	110	107	103	106	11	73	16
Wooltech 0126	45	44	59	79	83	7	64	30
Average	41	100	100	100	100	25 %	59 %	16 %

* **Link Sires** --- these sires provide the “link” between other accredited Sire Evaluation Sites and Years and have participated in evaluation of their progeny across more than one site.

Classer's Grade is expressed as a percentage of a sire's progeny.

**Figure 2 - Summary Graph Fleece Weight/Fibre Diameter
2004 drop - 2nd Evaluation**



Tables 1 & 2– Measured and scored assessments – 2004 drop – 2nd Evaluation

Table 1. Major Measured Traits –Estimated Breeding Values and Classer's Grade %

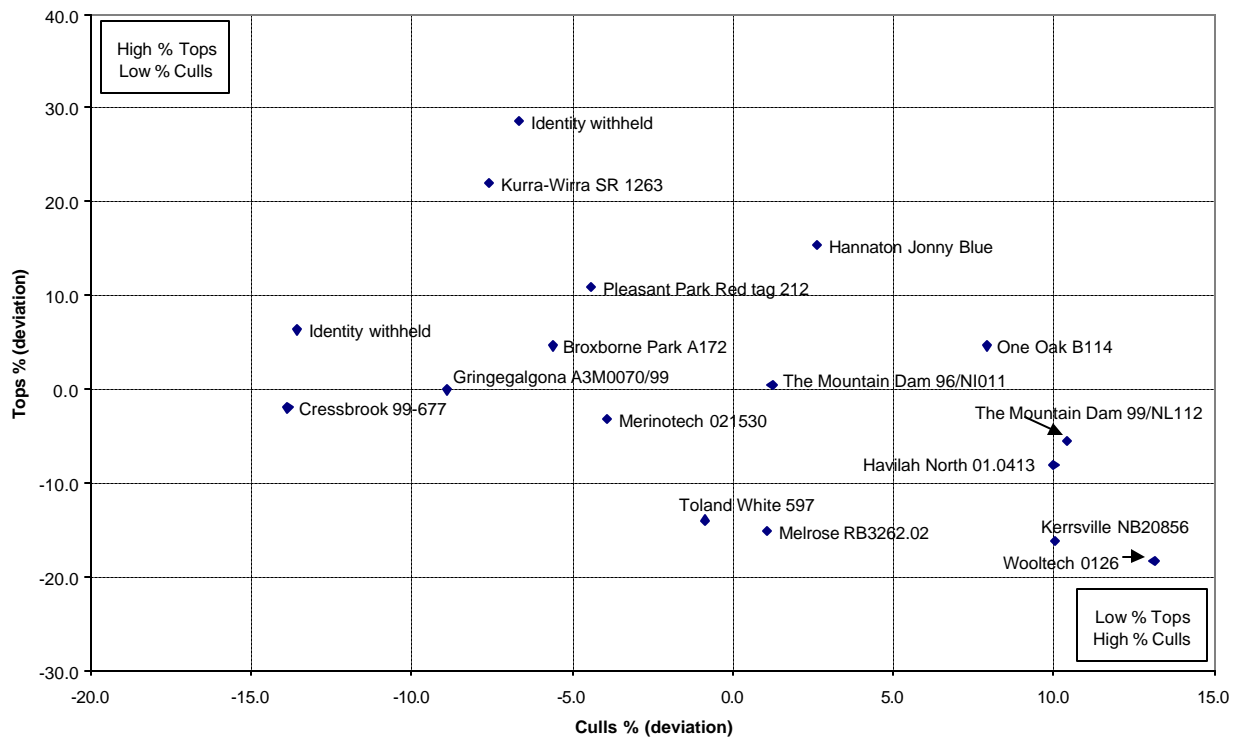
Sire Identity	No of progeny	Estimated Breeding Values								Classer's Grade %		
		GFW %		CFW %		FD µm		WT kg		Tops %	Flocks %	Culls %
		1st	2nd	1st	2nd	1st	2nd	1st	2nd			
Broxborne Park A172	41	6.9	12.0	8.3	13.9	1.0	1.0	-2.7	-1.9	30	59	11
Cressbrook 99-677	40	-3.7	-4.9	-1.7	-4.9	-0.4	-0.3	1.9	2.1	23	74	3
Gringegalgona A3M0070/99	42	-2.2	2.0	1.5	2.4	0.2	-0.6	2.3	1.2	25	68	8
Hannaton Jonny Blue	43	3.0	1.8	6.9	2.4	0.7	0.8	4.6	2.0	40	40	19
Havilah North 01.0413	54	-1.2	6.4	1.1	6.7	-0.4	0.1	-0.1	1.3	17	57	26
Identity withheld at owner's request	36	14.1	7.1	18.9	8.5	-0.5	-0.3	0.4	-0.7	31	66	3
Identity withheld at owner's request	41	9.7	14.9	4.0	12.9	0.4	0.0	1.2	1.4	54	37	10
Kerrsville NB20856	35	-10.4	-11.8	-8.1	-12.2	0.5	0.4	-2.8	-0.7	9	65	26
Kurra-Wirra SR 1263	37	0.6	-2.6	-6.4	-7.7	-0.4	-0.3	1.5	2.7	47	44	9
Melrose RB3262.02	40	-6.0	1.0	-5.4	2.6	0.1	0.0	1.8	0.4	10	73	18
Merinotech 021530	33	3.1	1.6	2.5	2.0	-0.9	-0.9	3.2	1.2	22	66	13
One Oak B114	37	0.0	-2.7	-0.5	-3.4	0.4	0.3	-1.3	-0.6	30	46	24
Pleasant Park Red tag 212	26	-0.2	-3.7	-4.5	-5.7	-1.0	-1.2	-1.0	-1.0	36	52	12
The Mountain Dam 96/NI011	51	20.2	10.6	14.2	9.0	0.2	-0.1	-0.2	-1.9	25	57	18
The Mountain Dam 99/NL112	43	-8.3	-12.8	-6.2	-11.3	0.5	0.5	-3.6	-2.7	20	54	27
Toland White 597	45	7.8	3.4	7.3	4.1	0.2	0.4	-1.4	-2.7	11	73	16
Wooltech 0126	45	-33.2	-22.4	-31.9	-19.6	-0.4	0.1	-3.9	-0.3	7	64	30
Average	41	2.3 kg	4.7 kg	1.7 kg	3.4 kg	16.1 µm	17.2 µm	25.0 kg	37.6 kg	25 %	59 %	16 %

Table 2. Other Measured Traits – Estimated Breeding Values

Estimated Breeding Values										
Sire Identity	No of progeny	CV %		Curvature deg/mm		Staple Strength N/ktex		Staple Length mm		WEC% *
		1st	2nd	1st	2 nd	1st	2nd	1st	2nd	
Broxborne Park A172	41	2.5	3.2	-1.8	-5.1	-5.0	-3.2	4.4	2.4	45.5
Cressbrook 99-677	40	1.5	1.2	11.3	14.5	-2.4	-4.6	-3.7	-2.3	-49.8
Gringegalgona A3M0070/99	42	-0.1	0.0	0.7	1.8	-1.6	-3.1	1.1	2.1	-51.1
Hannaton Jonny Blue	43	-1.2	-0.8	-3.6	-4.8	6.3	2.6	0.4	3.6	6.9
Havilah North 01.0413	54	-1.1	0.6	-2.3	-1.8	5.7	1.0	-1.9	-4.1	21.8
Identity withheld at owner's request	36	-2.0	-1.7	-7.3	-8.9	13.2	5.7	2.4	5.9	109.3
Identity withheld at owner's request	41	2.0	2.2	-5.6	-10.0	-2.7	-2.1	-7.3	-6.1	36.1
Kerrsville NB20856	35	-0.2	-1.7	6.9	13.8	0.9	1.5	-9.7	-11.8	-14.9
Kurra-Wirra SR 1263	37	1.3	0.0	10.1	11.8	-2.8	1.7	1.7	3.3	-57.1
Melrose RB3262.02	40	1.7	1.2	9.1	5.5	-4.2	-2.5	-8.4	-5.8	1.4
Merinotech 021530	33	-1.4	-1.1	-3.0	-2.9	-2.9	-1.0	7.6	6.5	-33.9
One Oak B114	37	-0.6	0.4	-7.6	-8.5	-1.6	-3.6	-1.1	-3.4	23.7
Pleasant Park Red tag 212	26	0.4	0.6	-3.6	-4.5	-1.6	1.3	-6.3	-1.8	75.4
The Mountain Dam 96/NI011	51	0.3	-0.4	2.2	3.9	-3.7	-1.9	10.3	7.2	31.4
The Mountain Dam 99/NL112	43	-0.7	-1.6	9.4	13.8	-3.5	0.6	9.9	6.3	3.0
Toland White 597	45	-0.5	0.1	-10.1	-12.7	-0.3	0.4	14.2	9.1	-13.1
Wooltech 0126	45	-1.9	-2.1	-4.5	-5.5	6.1	7.1	-13.7	-11.0	-29.4
Average	41	21.3 %	22.5 %	61.6 deg/mm	82.9 deg/mm	39.4 N/ktex	25.4 N/ktex	72.0 mm	81.2 mm	1614 epg

* Percentage reduction in average WEC (see page 4)

**Figure 3 - Summary Graph Classer's Grades – 2004 drop -
2nd Evaluation**



Tables 3 – Measured traits – 2004 drop – 2nd Evaluation

Table 3a. Other Measured Traits – Sire Least Square Means*

Sire Identity	No of progeny	Spin. F.	Std. Dev.	Yld	Comfort Factor
Broxborne Park A172	41	17.8	4.3	73.3	99.3
Cressbrook 99-677	40	17.0	4.0	71.9	99.6
Gringegalgona A3M0070/99	42	16.7	3.8	72.4	99.8
Hannaton Jonny Blue	43	17.3	3.9	72.7	99.6
Havilah North 01.0413	54	17.1	4.0	72.0	99.7
Identity withheld at owner's request	36	16.7	3.6	73.6	99.8
Identity withheld at owner's request	41	17.2	4.1	71.3	99.3
Kerrsville NB20856	35	17.0	3.7	71.3	99.8
Kurra-Wirra SR 1263	37	16.8	3.8	68.6	99.7
Melrose RB3262.02	40	17.1	4.0	72.6	99.6
Merinotech 021530	33	16.4	3.6	71.7	99.9
One Oak B114	37	17.1	3.9	71.1	99.7
Pleasant Park Red tag 212	26	16.3	3.7	70.6	99.8
The Mountain Dam 96/N1011	51	16.9	3.8	71.1	99.7
The Mountain Dam 99/NL112	43	17.2	3.8	73.0	99.7
Toland White 597	45	17.2	3.9	72.3	99.7
Wooltech 0126	45	16.8	3.6	73.4	99.8
Average	41	16.9 µm	3.9 µm	72.1 %	99.7 %

* Least Square Means – corrected for number of progeny, sex and birth type

Table 3b. Measured Traits¹ – Sire Least Square Means*

Sire Identity	No of progeny	GFW	CFW	FD	WT	CV	Curv.	Yld	SS	SL
Broxborne Park A172	41	5.0	3.7	17.8	36.7	24.4	79.9	73.3	23.7	82.9
Cressbrook 99-677	40	4.6	3.3	17.1	38.7	23.2	91.7	71.9	22.5	80.3
Gringegalgona A3M0070/99	42	4.7	3.4	17.0	37.9	22.2	85.1	72.4	24.0	83.0
Hannaton Jonny Blue	43	4.7	3.4	17.7	38.5	21.8	80.5	72.7	26.6	83.6
Havilah North 01.0413	54	5.0	3.6	17.3	38.4	22.9	81.8	72.0	25.3	78.7
Identity withheld at owner's request	36	4.9	3.6	17.1	37.8	21.2	76.5	73.6	28.5	85.8
Identity withheld at owner's request	41	5.1	3.6	17.2	38.6	23.6	77.0	71.3	24.3	77.9
Kerrsville NB20856	35	4.3	3.1	17.4	37.5	21.3	91.7	71.3	25.8	74.5
Kurra-Wirra SR 1263	37	4.7	3.2	17.0	39.3	22.5	90.5	68.6	26.2	83.4
Melrose RB3262.02	40	4.8	3.5	17.2	37.8	23.1	85.8	72.6	23.9	78.1
Merinotech 021530	33	4.8	3.4	16.8	37.9	21.7	82.1	71.7	24.5	85.2
One Oak B114	37	4.6	3.3	17.3	37.9	22.7	77.9	71.1	23.1	79.4
Pleasant Park Red tag 212	26	4.5	3.2	16.5	37.4	22.8	80.8	70.6	27.3	81.6
The Mountain Dam 96/N1011	51	5.0	3.6	17.2	36.5	22.2	85.1	71.1	23.5	85.6
The Mountain Dam 99/NL112	43	4.3	3.1	17.6	35.8	21.5	91.1	73.0	25.5	85.0
Toland White 597	45	4.8	3.5	17.5	36.2	22.3	75.7	72.3	25.3	86.2
Wooltech 0126	45	4.0	2.9	17.2	37.6	21.1	79.7	73.4	29.6	75.3
Average	41	4.7 kg	3.4 kg	17.2 µm	37.6 kg	22.5 %	82.9 deg/mm	72.1 %	25.4 Nktex	81.2 mm

¹ Measured traits presented as EBVs in Tables 1 and 2

* Least Square Means – corrected for number of progeny, sex and birth type

Tables 4. Classer's Assessment – 2004 drop – 2nd Evaluation

A sire's average score and the percentage of a sire's progeny for each score are reported.

Table 4a. Scored Wool Quality Traits

	Colour					Character					Staple Weathering					Fleece Rot									
	best		worst			best		worst			best		worst			best		worst							
Sire Identity	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	0	1	2	3	4	5
Broxborne Park A172	1.9	32	46	22			2.1	19	54	27			2.1	8	73	19			0.3	78	16	5			
Cressbrook 99-677	1.6	56	31	13			2.0	21	59	21			2.1	13	62	26			0.3	77	21		3		
Gringegalgona A3M0070/99	1.8	35	50	15			1.9	28	60	13			2.0	23	55	23			0.5	70	15	10	5		
Hannaton Jonny Blue	1.7	50	33	17			1.7	45	40	14			2.0	29	38	33			0.3	81	14	2	2		
Havilah North 01.0413	1.8	40	38	23			2.0	23	51	26			2.2	4	72	25			0.6	70	11	8	8	4	
Identity withheld at owner's request	1.3	71	23	6			1.6	46	49	6			2.1	14	66	20			0.1	86	14				
Identity withheld at owner's request	1.5	54	41	2	2		1.7	44	44	12			1.6	44	51	5			0.4	76	12	7	5		
Kerrsville NB20856	1.7	41	47	12			1.9	26	56	18			2.4		65	35			0.2	82	15	3			
Kurra-Wirra SR 1263	1.2	79	18	3			1.9	32	47	21			1.9	24	59	18			0.0	97	3				
Melrose RB3262.02	1.8	38	48	15			2.4	10	45	43	3		2.3	8	58	35			0.3	75	23	3			
Merinotech 021530	1.7	34	63	3			1.8	28	59	13			2.0	9	78	13			0.2	84	9	6			
One Oak B114	2.2	19	46	35			2.0	19	65	16			2.1	14	62	24			0.3	81	11	6	3		
Pleasant Park Red tag 212	1.3	76	20	4			1.5	52	44	4			1.8	28	68	4			0.4	80	8	8	4		
The Mountain Dam 96/NI011	1.6	51	35	14			1.8	35	51	14			2.3	6	55	39			0.5	61	29	6	4		
The Mountain Dam 99/NL112	1.5	56	39	5			2.2	12	54	32	2		2.7		39	54	7		0.2	83	17				
Toland White 597	2.1	9	76	16			2.2	16	49	36			2.5	2	44	53			0.2	87	11		2		
Wooltech 0126	1.8	48	27	20	2	2	1.9	34	43	23			2.3	5	64	32			0.4	82	5	7	2	5	
Average	1.7	45	40	14			1.9	28	51	20			2.2	13	59	28			0.3	79	14	4	2	1	

Table 4b. Scored Visual Wool Counts

Sire Identity	60	64	66	70	74	80
Broxborne Park A172	3	24	68	5		
Cressbrook 99-677	5	33	46	13	3	
Gringegalgona A3M0070/99	8	45	38	3	8	
Hannaton Jonny Blue	7	50	33	7	2	
Havilah North 01.0413	8	57	23	6	8	
Identity withheld at owner's request	3	43	37	9	9	
Identity withheld at owner's request	5	17	63	12		2
Kerrsville NB20856		41	50	9		
Kurra-Wirra SR 1263		26	32	26	15	
Melrose RB3262.02	13	35	40	13		
Merinotech 021530	13	53	25	6	3	

One Oak B114	24	54	19	3	
Pleasant Park Red tag 212	52	44	4		
The Mountain Dam 96/N1011	2	45	35	10	8
The Mountain Dam 99/NL112	29	49	17	5	
Toland White 597	27	67	7		
Wooltech 0126	14	68	16	2	
Average	10	49	29	7	4

Note rows appear not to always sum to 100. This is due to rounding to nearest percentage.

Table 4c. Scored Conformation Traits

	Face						Neck / Body Development						Feet / Legs						Jaw	Back / Shoulder
	* acceptable *						* acceptable *						best worst							
Sire Identity	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Neg ¹	Neg ¹
Broxborne Park A172	2.1	19	57	19	3	3	2.8		30	65		5	1.6	43	51	3	3			3
Cressbrook 99-677	1.6	44	54	3			2.6	5	33	59	3		2.1	23	54	18	3	3		
Gringegalgona A3M0070/99	2.6	3	48	43	8		2.8	3	23	68	8		1.5	60	35	5				5
Hannaton Jonny Blue	2.3	5	69	21	5		3.0	2	17	62	19		2.6	10	38	40	7	5		
Havilah North 01.0413	2.1	19	58	21	2		2.6	2	40	57	2		2.0	26	55	15	2	2		2
Identity withheld at owner's request	2.3	3	66	31			2.7		26	74			1.8	34	49	17				
Identity withheld at owner's request	1.8	29	59	12			3.0	2	10	76	12		1.9	37	41	17	5			2
Kerrsville NB20856	2.4		65	29	3	3	2.6	3	38	53	6		1.9	24	62	15				6
Kurra-Wirra SR 1263	2.4		65	35			2.7	3	35	47	15		1.8	32	53	15				
Melrose RB3262.02	2.8	10	30	38	20	3	2.8	3	28	58	13		2.1	23	50	23	5			3
Merinotech 021530	2.3	6	59	34			2.4	6	47	47			1.8	34	53	13				3
One Oak B114	2.1	30	43	22		5	2.8		27	65	8		2.1	14	68	14	5			3
Pleasant Park Red tag 212	2.3	12	52	32	4		2.8		24	72	4		2.3	16	48	32		4		
The Mountain Dam 96/NI011	2.4		69	27	4		2.7	4	25	67	4		2.6	2	55	29	10	4	2	2
The Mountain Dam 99/NL112	2.5	2	51	39	5	2	2.3	7	54	39			2.5	15	49	20	10	7		
Toland White 597	2.2	9	64	20	7		2.4	4	53	40	2		2.0	24	58	16		2		
Wooltech 0126	1.8	32	59	9			2.5	9	39	45	7		2.2	11	64	20	5			5
Average	2.2	13	57	25	4	1	2.7	3	32	58	6		2.1	25	52	18	3	2		2

* Face and Neck/Body Development traits: scores of 2,3 and 4 are most acceptable, scores of 1 and 5 are less acceptable

¹ The percentage of progeny with negative expression of the trait is described

Table 4d. Pigmentation

	Black Lamb	Wool	Skin
Sire Identity	Neg ¹	Neg ¹	Neg ¹
Broxborne Park A172			40
Cressbrook 99-677		4	38
Gringegalgona A3M0070/99		2	54
Hannaton Jonny Blue			9
Havilah North 01.0413		7	39
Identity withheld at owner's request	2	6	49
Identity withheld at owner's request	6	10	42
Kerrsville NB20856	6	4	38
Kurra-Wirra SR 1263		5	39
Melrose RB3262.02			21

Merinotech 021530		3	29
One Oak B114			52
Pleasant Park Red tag 212			18
The Mountain Dam 96/N1011		5	52
The Mountain Dam 99/NL112		2	60
Toland White 597	4	8	37
Wooltech 0126		6	49
Average	1	4	40

¹ The percentage of progeny with negative expression of the trait is described

Table 5. Calculated Fleece Value

		Predicted Progeny Performance ¹						Price	Fleece value
		CFW ²	FD	YLD ³	Vm	SL	Str		
Sire Identity	AWEX ID	Kg	µm	%	%	mm	N/ktex	cents/ kg clean	\$/fleece
Broxborne Park A172	MF4	3.7	17.7	73.3	1	82	24	949	\$34.79
Cressbrook 99-677	MF4	3.3	17	71.9	1	80	23	994	\$33.23
Gringegalgona A3M0070/99	MF4	3.5	16.9	72.4	1	82	24	1019	\$35.34
Hannaton Jonny Blue	MF4	3.5	17.6	72.7	1	83	27	994	\$34.48
Havilah North 01.0413	MF4	3.5	17.2	72	1	79	26	1018	\$36.06
Identity withheld at owner's request	MF4	3.6	17	73.6	1	84	28	1078	\$38.51
Identity withheld at owner's request	MF4	3.6	17.2	71.3	1	78	24	981	\$35.79
Kerrsville NB20856	MF4	3.2	17.4	71.3	1	75	26	973	\$31.31
Kurra-Wirra SR 1263	MF4	3.3	17	68.6	1	83	26	1045	\$34.44
Melrose RB3262.02	MF4	3.5	17.1	72.6	1	78	24	989	\$34.33
Merinotech 021530	MF4	3.5	16.7	71.7	1	84	25	1053	\$36.45
One Oak B114	MF4	3.4	17.3	71.1	1	79	24	980	\$33.02
Pleasant Park Red tag 212	MF4	3.3	16.6	70.6	1	80	26	1082	\$36.03
The Mountain Dam 96/NI011	MF4	3.6	17.1	71.1	1	85	24	1003	\$35.92
The Mountain Dam 99/NL112	MF4	3.2	17.4	73	1	84	26	1004	\$32.47
Toland White 597	MF4	3.5	17.3	72.3	1	86	26	1014	\$35.46
Wooltech 0126	MF4	3.1	17.2	73.4	1	76	29	1035	\$32.00

¹ Progeny performance predicted by using average for trait +EBV/2. See page 5 for further explanation

² Predicted progeny clean fleece weight = $3.43 \times (1 + (\text{EBV}_{\text{CFW}}/200))$

³ LS mean for yield used in absence of EBV for yield

Prices and premiums / discounts were obtained from AWT's Woolcheque website (<http://www.woolcheque.com.au>), using average prices from last 12 months and the Southern region.



Table 6. Progeny Group Classing

Classer, Mr Andrew Combe, visually assessed each sire group. Evenness of each group was scored from 1 (most even) to 5 (highly variable). General comments were also noted by classer on each progeny group. The classer did not know the identity of the sire of each group at the time of classing.

Name	Comments on Conformation	Comments on Wool	Comments on Evenness	Score for Evenness
Orme Park A172 *	Medium frame. Good open faces. Whole mob looks shorter in body. Some shoulder problems.	Some fleece rot due to shoulder problems. Wool covered. Wool visually more medium.	Good even woolly type	1.5
Cressbrook 99-677	Medium-large frame. Good open faces. Uncomplicated, easy care sheep. Appear to have good doing ability.	White, long stapled wool.	Very even group	1
Gringegalgona A3M0070/99	Medium frames. A few smutty noses. More neck development. Feet OK. Fault with shoulders on some, causing fly strike.	Well covered down legs.	Quite even group	2
Hannaton Jonny Blue	Large frame. Stand well on feet. Odd one shorter in body.	Well covered to toes. Wool is drier than in some other groups	A bit mixed, but still a good group. Only a few obvious culls	2
Havilah North 01.0413	Good large framed sheep. Odd one with shorter body length. Open faces.	Well covered down legs. Long stapled wool.	Low percentage culls. Very even group.	1
Identity withdrawn at owner's request	Odd smutty nose. Well covered heads, but not too muffled in face. Medium-large frame, deep bodies. Good feet.	Well woolled down legs. Pencilly staple, well nourished.	Very even	1
Identity withdrawn at owner's request	Medium-large frames. Odd one with long toes.	Well nourished wool. Long stapled.	Good even group.	1.5
Kerrsville NB20856	Medium frame. Shorter in body. Odd one with slightly muffled face. Good feet.	Well covered with wool to toes. Slightly shorter stapled.	Quite even as a group	2
Kurra-Wirra SR 1263	Medium frames.	Reasonable nourishment.	Odd smaller one that appears unthrifty	3
Melrose RB3262.02	Medium frames. Generally open faces. Good feet.	Well covered with wool down legs. Dense wool, well nourished. Good heavy cutting finewool	Very even	1
Merinotech 021530	Good medium frame. Open faces. Odd shoulder problem.	Well covered. Good long stapled wool.	Good even woolly type	1.5
One Oak B114	Smaller frames. Appear to have poorer constitution	Less wool coverage down legs.	Mixed, with some good tops, some ordinary ones	3.5
Pleasant Park Red tag 212	Medium frame. Feet not as good as should be, with long claws. Faces tending to be muffled	Not as well covered down legs with wool. Might not cut as well. Some wools are nourished, some are dry. Some open backs.	More mixed wool types	3
The Mountain Dam 96/NI011 *	Medium frame, some smaller. Open faces. Some with bad feet. Some with bad shoulders leading to fleece rot.	Drier wools, shorter stapled on some. Well covered down legs.	Slightly uneven	2.5
The Mountain Dam 99/NL112	Smaller-medium frames. Odd smutty nose. Some a bit muffled. Constitution not as good. Some bad feet.	Drier wool, more dust penetration. Very thin woolled sheep. Flat skin types.	Slightly uneven.	2.5
Toland White 597	Medium frame. Good open faces. Good feet	Well covered down legs. Slightly drier in wool. Do not appear to be heavy cutters	Very even type.	1.5
Wooltech 0126	Medium-large frame. Good open faces. Good deep barrels. Some shoulder problems leading to fly strike.	White wools. Odd dry wool. Some lighter cutters. Not as well covered down legs.	Slightly uneven	2.5