Elders Victoria Sire Evaluation Group

2005 Drop 1st Evaluation of Progeny at 10 Months, 10 Months Wool Growth

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

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Data analysis: Andrew Swan (SGA) & Susan Jarvis

November 2006

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The information in this booklet should not be read in isolation – 2005 drop progeny at the time of their assessment were 10 months of age and were shorn with 10 months wool growth. This is the first assessment of the 2005 progeny in the Central Test Evaluation trials and results from this assessment will be reported in *Merino Superior Sires.*

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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Michael Craig		03 5588 1395	tuloonapastoral@bigpond.com
Tania Rentsch		03 5576 5051	manager@balmoralbreeders.com
(Manager, c/- D Rendell & Assoc)			

Host Property for 2005 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:

GFW%	Greasy Fleece Weight (percentage)
CFW%	Clean Fleece Weight (percentage)
FD µm	Average Fibre diameter (micron)
WT	Body Weight (kilograms)
CV%	Co-efficient of variation of fibre diameter
Yld%	Washing yield of the midside sample
SL	Staple Length (mm)
SS	Staple Strength (N/ktex)

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. Many animals were scored '3', being neither bad nor outstandingly good. For some scores 2, 3 & 4 are best.**

Conformation

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.

Shoulders/back – Reported as percentage of the progeny with a negative expression.

Feet/legs – Scored 1 to 5. (1 being best)

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).

Mouth/Jaw – Reported as percentage of progeny with a negative expression.

Wool Quality

Wool Colour – Scored 1 to 5. (1 being best)

Wool Character – Scored 1 to 5 (1 being best)

Staple Weathering / D**ust penetration** - Scored 1 to 5 (where '1' is best).

Fleece Rot – Scored 0 to 5, '0' is no fleece rot, '1' slight fleece rot, '5' is extreme.

Scored Visual Wool Counts – Assessed as 74's, 70's, 66's, 64's, 62's etc. A lower number means bolder crimp.

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:	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 EBV^1) for each sire, to arrive at the fleece value ($/fleece). No qualifiers for colour or other wool faults were used. Table 5 shows the average fleece value for each progeny group. Prices were from the preceding 12 months for the Southern region. Calculated clean fleece weight = $2.04 \times (1+(EBV_{CFW}/200))$
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 2nd 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 first assessment in 2006. A second and final assessment will be undertaken in 2007.

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 2005 TRIAL

SIRE & OWNER DETAILS

Stud Sire Identity	*Contact Name, Address, Phone & Fax No. & Email*
Coonewarran 30134 5047042003030134	Richard Weatherly PO Box 21 Mortlake VIC 3272 Ph 03 55997276 Fax 0355997227 Email: connewarran@tca-online.com.au
Goodwood 0056 5038922003030056	Richard Alexander Pattisons Lane Glenthompson VIC 3293 Ph 03 55778265 Fax 03 55778256 Email: goodwoodmerino@datafast.net.au
Goodwood BW1143/01 * 5038922001011143	Richard Alexander Pattisons Lane Glenthompson VIC 3293 Ph 03 55778265 Fax 03 55778256 Email: goodwoodmerino@datafast.net.au
Gringegalgona ZAC0011/01 5030972001ZAC011	Stephen Silcock 279 Melville Forest Vasey Rd Vasey VIC 3407 Ph. 03 55743202 Fax 03 55743239 Email: sjsilcock@bigpond.com
Hannaton 202 5016942002020202	Peter & Sally Hicks PO Box 22 Kaniva VIC 3419 Ph. 03 53922366 Fax 03 53922938 Email: pjhicks@wimmera.com.au
Hazeldean Zachary 0.12946 5003832000012946	Jim Litchfield Cooma NSW 2830 Ph 02 64535555 Fax 02 64535526 Email: admin@hazeldean.com
Kilfeera Park 3.21 5034252003030021	Murray & Fiona McKenzie 131 Brock Rd Lurg VIC 3673 Ph 03 57666278 Fax 03 57666248 Email: kilpark@austarnet.com.au
Kilfeera Park 6.275 * 5034251996960275	Murray & Fiona McKenzie 131 Brock Rd Lurg VIC 3673 Ph 03 57666278 Fax 03 57666248 Email: kilpark@austarnet.com.au
Kurra Wirra BLK38 50417320030BLK38	Rob & Bernie Close RMB 9331 Coleraine VIC 3315 Ph 03 55704238 Fax 03 55704234 Email: kurrawirra@ansonic.com.au
Nerstane N78 5032982001010078	John, Jock & Hamish McLaren Woolbrook NSW 2354 Ph 02 67775881 Fax 02 67775922 Email: info@nerstane.com.au
One Oak OO No 2 3001 5038552003003001	Graham Wells PO Box 84 Jerilderie NSW 2716 Ph 03 58861269 Fax 03 58861792 Email: oneoak@bigpond.com
Ruby Hills 0188 5041202000010188	Andrew Burgess PO Box 134 Walcha NSW 2354 Ph 02 67772102 Fax 02 67780009 Email: rubyhills@bigpond.com
The Grange 201112 5042082002201112	Lukis Blake PO Box 95 Dongara WA 6525 Ph 08 92961880 Fax 08 92961088 Email: lukis@thegrange.biz
The Mountain Dam SN77 5045721999SN0077	Tom & Alison Silcock 429 Silcocks Rd Telangatuk East VIC 3401 Ph 03 53882238 Fax 03 53882235 Email: themountaindam@bigpond.com
Windarra 010838 5043382001010838	Tom Hanson 3 Rutland Ave Unley park SA 5061 Ph 08 8271 2656 Fax 08 82722145 Email: tomhanson@ozemail.com.au

*** 2005 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 – 2005 drop Progeny – "Arundale"

Ewe Base:

Ewes for the 2005 trial were selected from "Arundale" mixed age, fine wool Merino breeding ewes. The average adult flock micron at "Arundale" is 19.5µ.

2005 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 2005 drop lambs were born commencing 11th August 05 where a week of very inclement weather in the middle of lambing caused above average losses. The lambs were mulesed, marked and vaccinated at the end of September. In mid December they were weaned, drenched and received their 2nd vaccination. They were away to a good start after the above average spring and being imprint fed while on the ewes. We continued with grain and hay being progressively increased to meet their needs. They were crutched in February 06 and received their 2nd summer drench.

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 since 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 see us 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 2005 drop progeny:

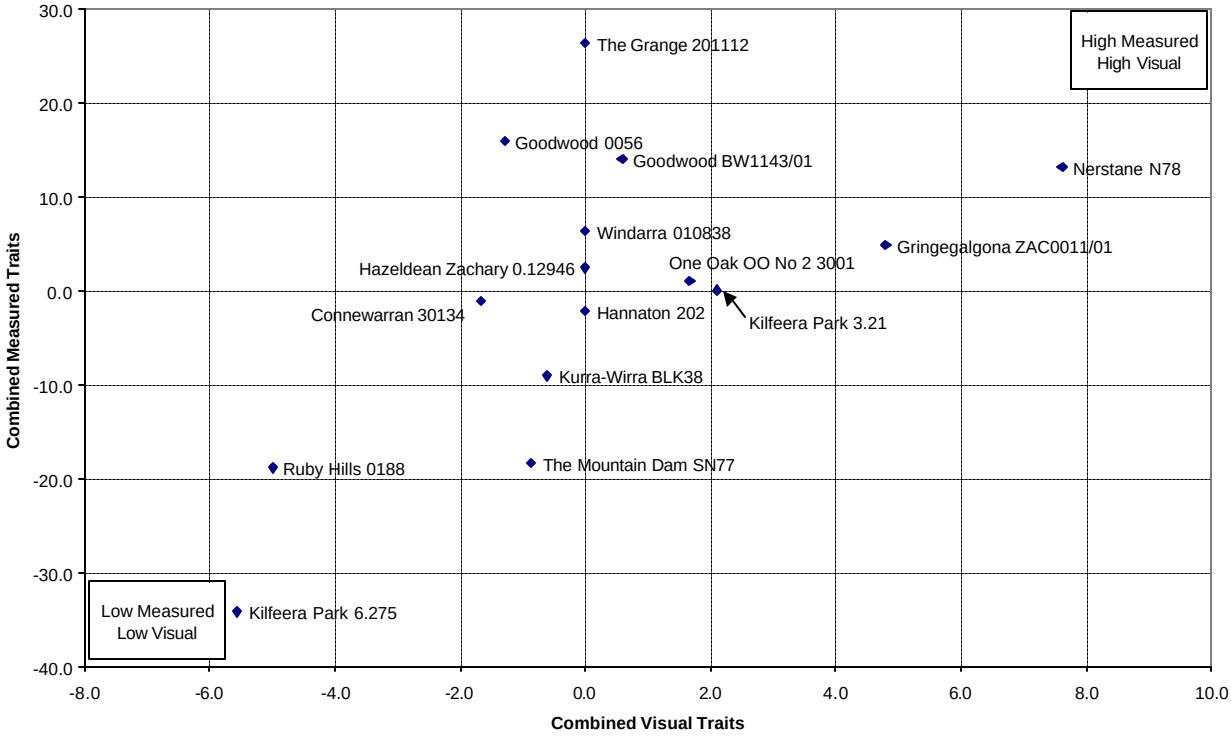
21st February 2005	Commenced AI program. Ewes sponged and teasers injected
9th March 2005	Laparoscopic insemination of 900 ewes, conducted by Brecon Breeders
9th May 2005	Ultrasound/scan ewes by Mark Jenkinson
10th May 2005	Drafted ewes into groups of singles and twins
22nd July 2005	Drenched and vaccinated ewes, drafted into sire groups for lambing
11th August 2005	Ewes commenced lambing
2nd September 2005	Lambs tagged and scored
27th September 2005	Marked and mulesed lambs, vaccinated, scored for tail and breach wrinkle
9th November 2005	Jetted ewes and lambs for fly protection
15th December 2005	Weaned lambs, 2nd vaccination, 1st summer drench, lambs body weighed (weaning weights)
24th February 2006	2nd summer drench, crutched
18th March 2006	Progeny on display at Balmoral Show
5th April 2006	Progeny on display at Open day
14th June 2006	Drenched, mid side sampling and 1st visual classing of progeny
11th July 2006	1st shearing (11months wool)
11th August 2006	Body weighing (yearling weight)
29th August 2006	Individual WEC samples collected

Classer for 2005 Drop Progeny : Mr Elliot Lindley, Elders Ltd.

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

Figure 1: Summary Graph – **Combined Measured Traits and Classer's Grade 2005 drop – 1st Evaluation**

Summary graph using the 7% Breeding Objective 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 (Tops % - Culls%)/5, expressed as a deviation from (Average Tops%-Average Culls%)/5.
Combined Measured is calculated as (7% MP Index - 100)

Example: Goodwood BW1143/01

Tops% = 11.76 %
Culls% = 8.82 %
7% MP Index = 114.00
Average Tops% = 15.27 %
Average Culls% = 15.27 %

Combined Visual = ((11.76-8.82)/5) - ((15.27-15.27)/5) = 2.94/5-0/5 = 0.59 -0.00= 0.59 %

Combined Measured = 114.00 - 100 = 14.00

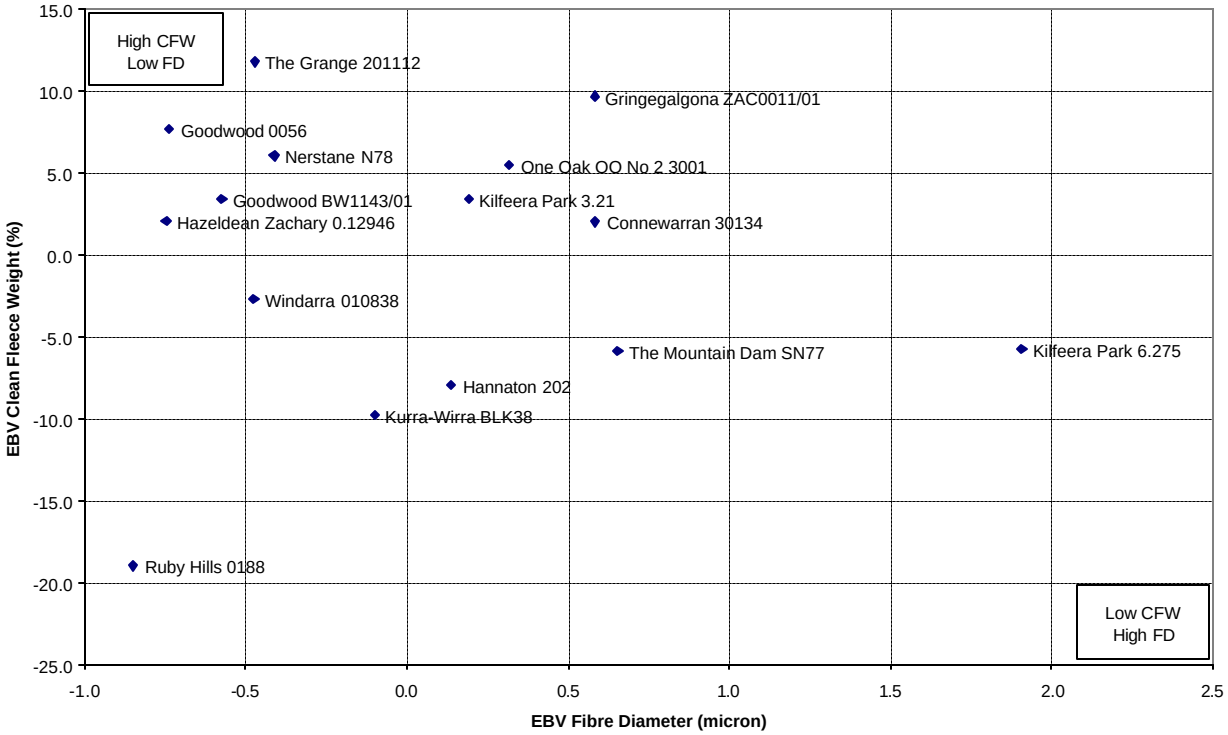
Table A – **MERINOSELECT Index Options and Classer's Grade**
2005 drop - 1st Evaluation

		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 %
Connewarran 30134	36	98	99	99	88	17	58	25
Goodwood 0056	31	112	116	117	119	6	81	13
Goodwood BW1143/01	34	108	114	117	106	12	79	9
Gringegalgona ZAC0011/01 *	25	112	105	97	102	24	76	0
Hannaton 202	34	92	98	103	99	18	65	18
Hazeldean Zachary 0.12946	29	104	102	101	117	10	79	10
Kilfeera Park 3.21	19	107	100	94	71	16	79	5
Kilfeera Park 6.275 *	17	76	66	63	73	0	72	28
Kurra-Wirra BLK38	32	90	91	94	81	18	61	21
Nerstane N78	21	113	113	111	117	43	52	5
One Oak OO No 2 3001	36	105	101	97	92	17	75	8
Ruby Hills 0188	32	73	81	92	95	3	69	28
The Grange 201112	27	124	126	124	122	19	63	19
The Mountain Dam SN77	23	84	82	83	91	13	70	17
Windarra 010838	21	103	106	109	106	19	62	19
Average	28	100	100	100	100	15 %	69 %	15 %

* **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**
2005 drop - 1st Evaluation



Tables 1 & 2– **Measured and scored assessments – 2005 drop – 1st Evaluation**

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

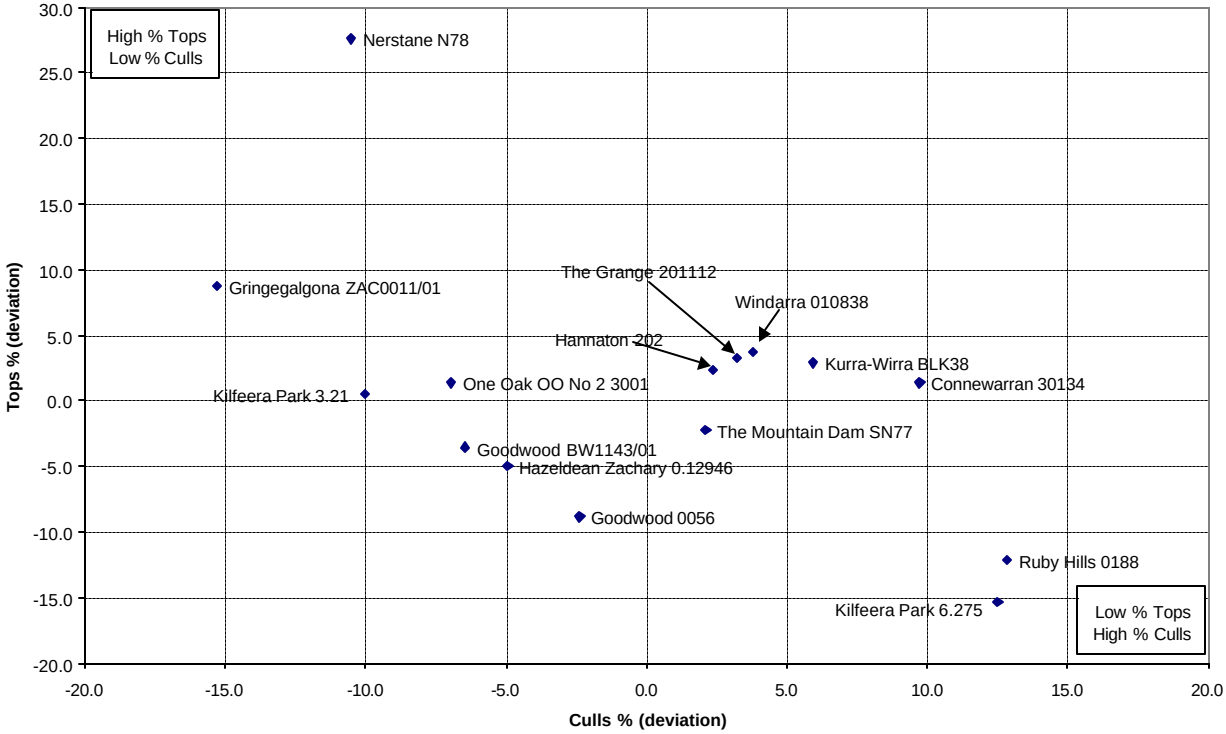
Sire Identity	No of progeny	Estimated Breeding Values				Classer's Grade		
		GFW %	CFW %	FD µm	WT kg	Tops %	Flocks %	Culls %
Connewarran 30134	36	-2.0	2.0	0.6	-2.0	17	58	25
Goodwood 0056	31	0.9	7.6	-0.7	-3.6	6	81	13
Goodwood BW1143/01	34	-3.4	3.3	-0.6	-2.0	12	79	9
Gringegalgona ZAC0011/01	25	10.0	9.6	0.6	2.4	24	76	0
Hannaton 202	34	-9.9	-8.0	0.1	3.8	18	65	18
Hazeldean Zachary 0.12946	29	7.7	2.0	-0.7	-3.1	10	79	10
Kilfeera Park 3.21	19	5.0	3.3	0.2	5.8	16	79	5
Kilfeera Park 6.275	17	-9.0	-5.8	1.9	-1.3	0	72	28
Kurra-Wirra BLK38	32	-6.8	-9.8	-0.1	4.2	18	61	21
Nerstane N78	21	12.2	6.0	-0.4	-0.6	43	52	5
One Oak OO No 2 3001	36	3.8	5.5	0.3	-1.4	17	75	8
Ruby Hills 0188	32	-18.7	-19.0	-0.8	-3.8	3	69	28
The Grange 201112	27	13.0	11.7	-0.5	2.9	19	63	19
The Mountain Dam SN77	23	-6.5	-5.9	0.7	-1.3	13	70	17
Windarra 010838	21	3.7	-2.7	-0.5	0.2	19	62	19
Average	28	2.8 kg	2.0 kg	16.1 µm	28.2 kg	15 %	69 %	15 %

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 %*
Connewarran 30134	36	-1.5	-10.5	4.5	1.4	58.3
Goodwood 0056	31	-0.1	-1.7	2.0	1.4	-6.8
Goodwood BW1143/01	34	-1.7	-4.0	1.9	4.5	55.8
Gringegalgona ZAC0011/01	25	1.7	6.4	-1.1	3.6	-18.6
Hannaton 202	34	-2.6	-0.1	3.9	-3.1	10.3
Hazeldean Zachary 0.12946	29	1.7	-1.8	-4.0	5.4	-73.9
Kilfeera Park 3.21	19	1.7	2.7	-5.9	-8.7	97.6
Kilfeera Park 6.275	17	1.7	-0.2	1.7	-4.6	-44.1
Kurra-Wirra BLK38	32	-0.6	-1.5	-1.8	-11.4	49.8
Nerstane N78	21	-0.9	6.5	-4.6	8.2	-27.3
One Oak OO No 2 3001	36	1.2	-4.0	0.4	5.0	30.8
Ruby Hills 0188	32	1.6	8.6	2.3	-5.6	-9.4
The Grange 201112	27	-1.2	-10.1	4.2	-2.6	5.9
The Mountain Dam SN77	23	-0.4	9.6	-2.4	-4.9	-39.3
Windarra 010838	21	-0.7	0.2	-1.0	11.4	13.6
Average	28	22.0 %	86.6 deg/mm	32.0 N/ktex	66.6 mm	543 epg

.* Percentage reduction in average WEC (see page 4)

Figure 3 - **Summary Graph Classer's Grades – 2005 drop - 1st Evaluation**



Tables 3 – **Measured traits – 2005 drop – 1st Evaluation**

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

Sire Identity	No of progeny	Yld	Spin. F.	Std. Dev.	Comfort Factor
Connewarran 30134	23	74.5	16.0	3.5	99.9
Goodwood 0056	32	76.1	15.4	3.4	99.9
Goodwood BW1143/01	21	75.9	15.3	3.3	100.0
Gringegalgona ZAC0011/01	25	72.8	16.3	3.8	99.8
Hannaton 202	19	73.9	15.6	3.3	99.9
Hazeldean Zachary 0.12946	21	70.1	15.5	3.6	100.0
Kilfeera Park 3.21	34	71.7	16.0	3.8	99.8
Kilfeera Park 6.275	17	75.1	17.3	4.1	99.2
Kurra-Wirra BLK38	32	70.3	15.6	3.5	99.9
Nerstane N78	31	69.6	15.3	3.3	100.0
One Oak OO No 2 3001	29	73.6	16.0	3.7	99.7
Ruby Hills 0188	34	72.7	15.5	3.6	99.9
The Grange 201112	36	72.2	15.4	3.3	100.0
The Mountain Dam SN77	27	73.0	16.1	3.6	99.8
Windarra 010838	36	69.6	15.4	3.4	99.9
Average	28	73.1 %	15.8 µm	3.5 µm	99.8 %

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

Table 3b. Measured Traits[1] – Sire Least Square Means*

Sire Identity	No of progeny	GFW	CFW	FD	WT	CV	Curv.	SS	SL
Connewarran 30134	23	2.8	2.1	16.4	27.3	21.2	79.7	34.3	68.0
Goodwood 0056	32	2.8	2.1	15.6	26.3	22.0	85.8	32.1	68.3
Goodwood BW1143/01	21	2.7	2.1	15.7	26.8	21.0	83.7	31.6	70.1
Gringegalgona ZAC0011/01	25	2.9	2.1	16.4	28.7	23.3	92.0	30.7	69.6
Hannaton 202	19	2.6	1.9	16.1	29.1	20.6	85.9	33.0	65.5
Hazeldean Zachary 0.12946	21	2.9	2.0	15.6	26.3	23.2	86.1	28.3	70.2
Kilfeera Park 3.21	34	2.9	2.0	16.1	30.6	23.3	89.0	25.6	61.4
Kilfeera Park 6.275	17	2.5	1.9	17.4	27.0	23.5	87.3	32.8	64.4
Kurra-Wirra BLK38	32	2.7	1.9	15.9	29.4	21.7	85.4	29.0	60.4
Nerstane N78	31	3.0	2.1	15.7	27.1	21.2	92.6	25.9	72.7
One Oak OO No 2 3001	29	2.8	2.1	16.2	27.0	22.8	84.9	31.0	70.5
Ruby Hills 0188	34	2.5	1.8	15.5	26.1	23.4	91.8	32.6	64.0
The Grange 201112	36	3.0	2.1	15.8	28.9	21.1	80.0	33.7	65.7
The Mountain Dam SN77	27	2.7	1.9	16.4	27.0	21.8	93.8	28.4	64.1
Windarra 010838	36	2.8	2.0	15.7	27.7	21.6	87.3	29.6	74.8
Average	28	2.8 kg	2.0 kg	16.1 µm	28.2 kg	22.0 %	86.6 deg/mm	32.0 N/ktex	66.6 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 – 2005 drop – 1st 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
Connewarran 30134	1.9	31	47	22			1.9	22	67	11			2.8		36	47	17		0.19	89	8			3	
Goodwood 0056	1.7	42	42	16			1.9	26	58	16			2.6	3	32	61	3		0.10	94	3	3			
Goodwood BW1143/01	1.6	50	41	9			1.7	41	50	9			2.6	3	38	59			0.09	91	9				
Gringegalgona ZAC0011/01	1.8	32	56	12			2.0	20	60	16	4		2.5		48	52			0.20	88	8		4		
Hannaton 202	1.6	50	44	6			1.5	62	29	6	3		2.5	6	41	47	6		0.09	91	9				
Hazeldean Zachary 0.12946	1.8	34	48	17			1.9	28	59	10	3		2.3	14	41	41	3		0.17	83	17				
Kilfeera Park 3.21	1.7	47	32	21			2.1	11	74	16			2.4		68	26	5		0.21	79	21				
Kilfeera Park 6.275	2.0	28	44	28			2.1	11	67	22			3.0		6	89	6		0.12	88	12				
Kurra-Wirra BLK38	2.0	27	48	21	3		1.9	30	52	15		3	2.5	12	39	39	6	3	0.19	81	19				
Nerstane N78	1.5	57	33	10			1.4	67	29	5			2.1	14	62	24			0.05	95	5				
One Oak OO No 2 3001	2.1	17	58	25			2.0	25	53	22			2.7	3	31	64	3		0.33	75	19	3	3		
Ruby Hills 0188	2.1	16	56	28			2.4	16	44	28	9	3	3.0		19	66	16		0.06	94	6				
The Grange 201112	2.1	19	52	26	4		2.0	22	56	19	4		2.5	11	41	37	11		0.48	74	11	11		4	
The Mountain Dam SN77	2.0	30	43	26			1.9	35	43	22			2.5	4	43	52			0.30	74	22	4			
Windarra 010838	1.9	29	52	19			2.0	33	43	19	5		2.8	5	24	62	10		0.10	90	10				
Average	1.9	33	47	19			1.9	30	52	16	2		2.6	5	37	51	6		0.18	86	12	1			

Table 4b. Scored Visual Wool Counts

Sire Identity	60	64	66	70	74	80
Connewarran 30134		25	61	11	3	
Goodwood 0056		16	55	29		
Goodwood BW1143/01		3	44	50	3	
Gringegalgona ZAC0011/01			28	64	8	
Hannaton 202		6	53	41		
Hazeldean Zachary 0.12946		10	52	31	7	
Kilfeera Park 3.21		11	58	32		
Kilfeera Park 6.275		11	50	33	6	
Kurra-Wirra BLK38		3	45	48	3	
Nerstane N78			33	67		
One Oak OO No 2 3001		11	50	39		

Ruby Hills 0188		22	66	13
The Grange 201112	26	67	7	
The Mountain Dam SN77	4	13	74	9
Windarra 010838	5	43	48	5
Average	9	46	42	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]
Connewarran 30134	2.6		50	42	8		2.0	31	47	17	6		3.4		14	36	50		6	6
Goodwood 0056	2.7		42	45	13		1.9	26	61	13			3.4		16	26	58			10
Goodwood BW1143/01	2.6	3	53	29	15		1.9	26	62	12			3.1		18	50	32			
Gringegalgona ZAC0011/01	2.2		76	24			2.3	8	52	40			3.0	4	28	32	36			
Hannaton 202	2.1	9	74	15	3		2.2	21	41	35	3		3.2		21	35	44			9
Hazeldean Zachary 0.12946	2.7		41	48	10		2.2	17	48	34			3.2		24	31	41	3		3
Kilfeera Park 3.21	3.1		26	37	37		2.4	11	47	32	11		3.3		16	42	42			
Kilfeera Park 6.275	2.2		83	17			2.5	6	44	44	6		3.6			44	56			
Kurra-Wirra BLK38	2.8	3	33	48	15		2.1	21	48	30			3.0	6	21	42	30			6
Nerstane N78	2.1	5	76	19			2.0	19	57	24			3.1		29	33	38			
One Oak OO No 2 3001	2.1	3	83	14			2.0	19	64	17			3.2		25	33	42			
Ruby Hills 0188	2.4		72	16	13		2.1	25	44	31			3.3	3	16	38	41	3	3	3
The Grange 201112	2.3	4	70	22	4		2.3	11	44	44			3.2		26	33	37	4		15
The Mountain Dam SN77	2.5		52	43	4		2.3	17	35	48			3.3		13	43	39	4	9	
Windarra 010838	2.6		57	29	14		1.8	29	62	10			3.1		5	76	19			10
Average	2.5	2	59	30	9		2.1	20	51	28	1		3.2	1	19	39	41	1	1	4

* 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]
Connewarran 30134		3	39
Goodwood 0056		3	48
Goodwood BW1143/01			6
Gringegalgona ZAC0011/01		8	58
Hannaton 202			20
Hazeldean Zachary 0.12946			63
Kilfeera Park 3.21			50
Kilfeera Park 6.275			42
Kurra-Wirra BLK38			27
Nerstane N78			41
One Oak OO No 2 3001		5	44
Ruby Hills 0188		3	21
The Grange 201112		3	45
The Mountain Dam SN77			24
Windarra 010838		4	56
Average		2	38

* No black lambs recorded
[1] The percentage of progeny with negative expression of the trait is described

Table 4e. Breech Scoring

	Tail Breech Wrinkle						Bare Area						Body Wrinkle						Tail Length				
Sire Identity	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4	5	Avg	1	2	3	4
Connewarran 30134	2.0	39	33	22	3	3	3.1		11	72	17		2.9	3	34	46	9	9	1.7	33	64	3	
Goodwood 0056	1.6	48	45	6			3.0		16	71	13		2.6	3	42	45	10		1.9	19	74	3	3
Goodwood BW1143/01	1.9	18	74	9			3.1		3	85	12		3.1		24	50	18	9	2.0	21	65	9	6
Gringegalgona ZAC0011/01	2.5	20	32	28	16	4	3.0			96	4		3.6	4	12	28	36	20	1.8	24	72	4	
Hannaton 202	1.9	26	60	14			3.0		6	86	9		2.9		31	46	20	3	1.7	34	60	3	3
Hazeldean Zachary 0.12946	2.0	39	32	23	3	3	2.9		13	84	3		3.4		10	52	26	13	1.9	16	77	3	3
Kilfeera Park 3.21	2.1	30	45	15	5	5	2.9		15	85			3.4		25	30	30	15	2.1	10	80	5	5
Kilfeera Park 6.275	1.9	32	47	16	5		3.1		11	68	21		3.0		32	37	32		1.8	32	63		5
Kurra-Wirra BLK38	2.8	11	24	41	19	5	3.1		8	73	19		3.7	3	11	24	41	22	1.9	11	86	3	
Nerstane N78	1.8	45	32	23			3.1			86	14		2.6		36	64			2.2	18	55	14	14
One Oak OO No 2 3001	2.4	16	49	22	11	3	2.9		11	87	3		3.2	3	16	53	16	13	2.4	3	65	27	5
Ruby Hills 0188	2.2	31	41	13	6	9	3.3			75	25		2.8	9	47	19	6	19	1.8	22	78		
The Grange 201112	2.4	19	37	33	11		3.0		7	89	4		3.5		19	31	31	19	2.0	11	78	11	
The Mountain Dam SN77	2.4	16	32	48		4	2.8		20	76	4		3.5	8	12	24	36	20	2.0	12	84		4
Windarra 010838	1.6	52	35	13			3.0		4	91	4		2.5		65	22	13		2.0	17	70	9	4
Average	2.1	29	42	22	6	3	3.0		8	81	10		3.1	2	27	39	21	11	1.9	19	71	6	3

Definition of Breech Scores

Tail Breech Wrinkle	1 - 5	1 = plain	5 = heavy wrinkle
Bare Area	1 - 5	1 = woolly	5= bare
Body Wrinkle	1 - 5	1 = plain	5 = heavy wrinkle
Tail Length	1 - 4	1 = short 2 = normal length 3 = very long 4 = abnormal eg. chewed	

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**
Connewarran 30134	MF4	2.06	16.3	74.5	1	67	34	943	$19.41
Goodwood 0056	MF4	2.12	15.7	76.1	1	67	33	963	$20.37
Goodwood BW1143/01	MF4	2.07	15.8	75.9	1	69	33	963	$19.95
Gringegalgona ZAC0011/01	MF4	2.14	16.3	72.8	1	68	31	931	$19.89
Hannaton 202	MF4	1.96	16.1	73.9	1	65	34	959	$18.76
Hazeldean Zachary 0.12946	MF4	2.06	15.7	70.1	1	69	30	951	$19.58
Kilfeera Park 3.21	MF4	2.07	16.2	71.7	1	62	29	931	$19.29
Kilfeera Park 6.275	MF4	1.98	17	75.1	1	64	33	884	$17.49
Kurra-Wirra BLK38	MF4	1.94	16	70.3	1	61	31	955	$18.51
Nerstane N78	MF4	2.10	15.8	69.6	1	71	30	1186	$24.90
One Oak OO No 2 3001	MF4	2.09	16.2	73.6	1	69	32	943	$19.74
Ruby Hills 0188	MF4	1.84	15.6	72.7	1	64	33	963	$17.76
The Grange 201112	MF4	2.16	15.8	72.2	1	65	34	966	$20.84
The Mountain Dam SN77	MF4	1.98	16.4	73	1	64	31	923	$18.26
Windarra 010838	MF4	2.01	15.8	69.6	1	72	32	1227	$24.67

[1] Progeny performance predicted by using average for trait +EBV/2. See page 5 for further explanation
[2] Predicted progeny clean fleece weight = 2.04 x (1+(EBV_{CFW}/200))
[3] LS mean for yield used in absence of EBV for yield

Prices were obtained from AWI's Woolcheque website (http://www.woolcheque.com.au), using latest 12 month season and the Southern region.