



Elders VP Victoria Sire Evaluation Group (Balmoral)

2000 Drop 2nd Evaluation of Progeny at 23 months

12 Months Wool Growth

Conducted by:



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

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Chairman: Robert Plush Phone/Fax 0355 750208
Manager: Marion Gibbins Phone 0353 848201, Fax 0353 848256, Mobile 0419 009 213
Correspondence to: Elders VP Victoria Sire Evaluation Group, PO Box 326, Horsham 3402

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The information in this booklet should not be read in isolation – 2000 drop progeny at time of their second assessment were 23 months of age and shorn with 12 months wool growth. This is the second and final assessment of the 2000 progeny in the Central Test Evaluation trials and results from this assessment will be reported in *Merino Superior Sires*.

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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 VP Victoria Sire Evaluation Group - Balmoral

Prior to 1998, / three previous trials in the Balmoral/Hamilton district are recorded in Merino Superior Sires as B95, HT93, HT94. In 1998 a small group of studbreeders met to form what is now known as the Elders VP Victoria Sire Evaluation Group. Sire Evaluation Trials commenced in 1998 and there are now 5 progeny drops – 1998, 1999, 2000, 2001 and 2002; the 1998 and 1999 progeny were run on host property “The Mountain Dam”, Balmoral and the 2000 & 2001 drop progeny at “Kerrsville”, situated between Balmoral and Coleraine. The 2002-03 trials are being hosted by “Gringegalgona”. All trials are run for a minimum of 2 years.

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.

The Elders VP Victoria Sire Evaluation Trials aim to inform participants, their clients and interested woolgrowers on events surrounding the trials and in addition to these annual reports, produce periodic newsletters. As well, displays of progeny, data and their fleeces have been on show at the Australian Sheep & Wool Show (1998-2002), Balmoral and Horsham Shows and Hamilton Sheepvention. Participating studs have also provided static displays for viewing during field days.

Since April, 2000 successful Open Days have been held at “The Mountain Dam” and “Kerrsville” to inspect progeny and to discuss the sire evaluation program with interested woolgrowers.

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

The Management Committee:

Robert Plush	(Chairman)	0355 750208	Email: plush1@anson.com.au
Robert Close		0355 704238	Email: kurrawirra@anson.com.au
Tom Silcock		0353 882238	Email: silcock@netconnect.com.au
John Crawford		0355 749224	
Sue Jarvis		0355 743298	Email: aramis@datafast.net.au
David Whyte		0355 722266	
Marion Gibbins	(Manager)	0353 848201	Email: mga@netconnect.com.au

Host Property for 2000 drop progeny

The Kerrsville property, run by Robert, Judi & Sam Plush, is situated on clay loam, undulating tableland red gum country on the Coleraine-Harrow Road. The average annual rainfall at Kerrsville is 720mm. Progeny are managed under strict commercial conditions.

Report writing & production: Elders VP Victoria Sire Evaluation Group

Data analysis: Susan Jarvis

December 2002

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 Progeny Values:	Estimated progeny values (EPVs) express the expected performance of progeny of a sire relative to another sire in the evaluation when mated to a random allocation of ewes. EPVs 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. Fibre Diameter, Yield and Coefficient of Variation of Fibre Diameter EPVs are presented as deviations from the average, expressed in the same units as they were measured. Greasy and Clean Fleece Weights and Body Weights are percentages – 0% equals average and, for example, 10.0 is 10% above average performance of the group.
Traits:	<p>GFW% Greasy Fleece Weight (percentage)</p> <p>CFW% Clean Fleece Weight (percentage)</p> <p>FD Average Fibre diameter (micron)</p> <p>BWT% Body Weight (percentage)</p> <p>CV% Co-efficient of variation of fibre diameter</p> <p>Yld% Washing yield of the midside sample</p>
Sire Averages:	Sire averages are the average performance of all the progeny assessed. No account is made for factors that can improve the accuracy, such as birth type or sex.
Visual Scores: <i>Conformation</i>	<p>All scored 1-5 (with the exception of fleece rot – see below), with '1' being worst and '5' being exceptionally good. Many animals were scored '3', being neither bad nor outstandingly good.</p> <p>Face – Scored 1 to 5, '1' being muffled, '2' being less muffled.</p> <p>Shoulders/back – Scored 1-5, with '1' being worst and '5' best. Reported as percentage of progeny with scores '1' and '2'.</p> <p>Feet/legs – Scored 1 – 5, '1' being worst, '2' having slight problem.</p> <p>Neck/body development – Scored 1 – 5, '1' being worst (too heavy or too plain), '2' having slight problem.</p> <p>Mouth/Jaw – Scored 1-5, with '1' being worst and '5' best. Reported as percentage of progeny with scores '1' and '2'</p>
<i>Wool Quality</i>	<p>Wool Colour – Scored 1 to 5, '1' being extreme colour, '3' being average/good, '5' being excellent white/bright</p> <p>Wool Character – Scored 1 to 5, where '5' is best, '1' is worst.</p> <p>Dust penetration/staple weathering - Scored 1 to 5, where '5' is best, '1' is worst.</p> <p>Pigmentation: No. Black Lambs: number of lambs recorded as predominantly black or with noticeable black spot at time of tagging; noted as the number of lambs recorded as such and the percentage of incidence within each sire group.</p> <p>Skin Pigmentation: progeny noted as having skin pigmentation (typically smutty nose/brown rimmed eyes), reported as percentage of progeny with skin pigmentation</p> <p>Wool Pigmentation: Small spot of black or coloured wool in wool growing area, noted at shearing and shown as a percentage of progeny with wool pigmentation.</p> <p>Fleece Rot – Scored 0 to 5, '0' is no fleece rot, '1' slight fleece rot, '5' is extreme.</p> <p>Incidence of Fleece rot is the percentage of a sire's progeny showing some level (that is, a score of 1 to 5) of fleece rot.</p>

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 which 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. The RAMPOWER standard indexes – 3%, 6% and 12% – have been endorsed by Central Test Sire Evaluation as the base indexes for sites to provide combined measured trait results.

3% Index: Maintain fibre diameter (FD) while maximising the increase in Clean Fleece Weight (CFW), maintaining body weight (BWT) and CV of fibre diameter.

6% Index: A moderate level of downward pressure on FD, while maintaining a high level of increase in CFW, maintaining BWT and improving CV of FD.

12% Index: A high level of downward pressure on FD, while obtaining a small increase in CFW, maintaining BWT and improving CV of FD.

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.

Combined Traits: The performance for a comprehensive list of traits is scored by the classer as described in Visual Traits above, and are then combined into 'positive', 'average/good' or 'negative' performance. This is intended to provide a summary of visually assessed performance. Each combined trait shows the percentage of a sire's progeny with any positive score or negative score for one or more traits in that group. So a sheep that has negative comments for 5 traits in the combined conformation score actually contributes exactly the same to the combined score as an animal that has only one negative score. This explains why the % positive and % negative do not add up to 100%, eg, for the combined conformation score, Hazeldean 95-3356 has 100% with positive and 24% negative. This means that 100% of the Hazeldean progeny had at least one positive score for one or more of face, development, feet/legs, jaw or back/shoulder and 24% of the progeny had at least one negative comment for the same traits.

Conformation: Not specifically scored in assessment, but figures taken from classing of face, shoulders/back, feet/legs, neck/body development and mouth/jaw and combined into an aggregate.

Wool Quality: Not specifically scored in assessment, but figures taken from classing of wool colour, wool character and dust penetration/staple weathering and combined into an aggregate.

Progeny Group Classing: Assessment of the evenness of sire progeny groups is carried out as a separate assessment to individual classing and 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 PROGENY VALUE

Estimated Progeny Values (EPVs) express the expected performance of progeny of a sire relative to performance of progeny of another sire in the evaluation when mated to the same standard of ewes.

EPVs are a more accurate indicator 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 measurements of other related traits.
- non-genetic effects such as whether animals are born as singles or twins.

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

The correlation (similarity) between the *Estimated Progeny Value* and the *True Progeny 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 Progeny Value* would be perfect (described as 100%). Without progeny test information the correlation between the *Estimated* and *True Progeny Value* of sires from different sources would be zero (0.0%). The correlation between *Estimated* and *True Progeny 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. Note the correlation used in this example is for a trait such as fibre diameter with a high heritability (0.5). 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 CTSE analysis program for twins and triplets when analysing measurement data for the following traits – GFW%, Yield, CFW%, BWT, FD and CV of FD.

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 2002.

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.

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 2000 TRIAL

SIRE & OWNER DETAILS

Stud Sire Identity	Contact Name, Address, Phone & Fax No. & Email
Bindawarra 783 “Steve” (5038921997000783)	Murray & Janet Toland, PO Box 131, Omeo 3898 Ph. 0351 591362, Fax 0351 591361
Geelong Park 62403 (5046961996062403)	Roxby Park Primary Producers, c/- Mackinnon Project, Werribee 3030 Ph. 03 9731 2225, Fax 03 9731 2388 Email: a.vizard@vet.unimelb.edu.au
Gringegalgonna R1B-0018/98 (5030971998R1B018)	Stephen Silcock, Gringegalgonna Stud Partnership, RMB 365, Balmoral 3407 Ph. 0355 743202, Fax 0355 743239 Email: sjsilcock@bigpond.com
Hazeldean 95-3356 (5003831995003356)	Jim Litchfield, Hazeldean Pty. Ltd., Cooma 2630 Ph. 0264 535555, Fax 0264 535526 Email litchfield@hazeldean.com.au
Kerrsville NB9883 (5035091999NB9883)	Robert Plush, RMB 8203, Coleraine 3315 Ph/Fax 0355 750208 Email: plush1@ansoniac.com.au
Kurra-Wirra BZ-480 (5041731997BZ0480)	Robert Close, Kurra-Wirra, RMB 9331, Coleraine 3315 Ph. 0355 704238, Fax 0355 704234 Email: kurrawirra@ansoniac.com.au
Merinotech 94-425 [LINK SIRE] * (5046481994940425)	Hugh & Sue Jarvis, Merinotech Victoria Pty Ltd, RMB 395 Balmoral 3407 Ph. 0355 743298, Fax 0355 743299 Email: aramis@datafast.net.au
One Oak OO-207 (503855199800B207)	Graham Wells, One Oak Pty Ltd, PO Box 84, Jerilderie 2716 Ph. 0358 861269, Fax 0358 861792
Streeton 960070 (5048241996960070)	Max Kent, RSD 2450, Camperdown 3260 Ph. 0355 970207, Fax 0355 970207 Email: maxkent@bigpond.com
The Mountain Dam 94/ND078 [LINK SIRE] * (50457219940ND078)	Tom Silcock, T & A Silcock, RMB 8401, Horsham 3401 Ph. 0353 882238, Fax 0353 882235 Email: silcock@netconnect.com.au
The Mountain Dam 96/CC111 (50457219960CC111)	Tom Silcock, T & A Silcock, RMB 8401, Horsham 3401 Ph. 0353 882238, Fax 0353 882235 Email: silcock@netconnect.com.au
Toland Poll 99-B282 (601082199900B282)	Philip Toland, PC & G Toland, Feltrim Road, RMB 2005, Violet Town 3669 Ph. 0357 981605, Fax 0357 981404, Email: toland@origin.net.au

* 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.

Note: The Mountain Dam is shown as TMD on graphs.

MANAGEMENT REPORT – 2000 Drop Progeny

Ewe Base:

Ewes for the 2000 trial were selected from “Kerrsville” mixed aged commercial, fine wool Merino breeding ewes. The average adult flock micron at “Kerrsville” in 2000 was 18.5 micron.

2000 Progeny Location:

The Kerrsville property is run by Robert, Judi and Sam Plush as is located approximately 20kms south of Balmoral, in the Western District of Victoria. Average annual rainfall of 720mm on a predominantly clay loam soil type.

Seasonal Conditions:

Conditions in early 2000 were marked with severe lack of water supply, although feed was average for this period. By early spring feed conditions were once again in good supply. The lack of good runoff water in the spring of 2000 meant that again during the summer and autumn of 2000/2001 good quality water supply affected young stock dramatically. The 2001 year provided a kinder year with good water runoff for the first time in more than 3 years and plentiful feed. Late rains for the season in November and December 2001 provided green feed right through to the end of the year. 2002 season has been a mixed year with long dry spells followed by late spring rains with the season finishing in a flourish but with a lack of solid base of feed for the autumn. Stock water quality will continue to be an issue with very little run-off water during the year.

The Evaluation & Management Program 2000 drop progeny:

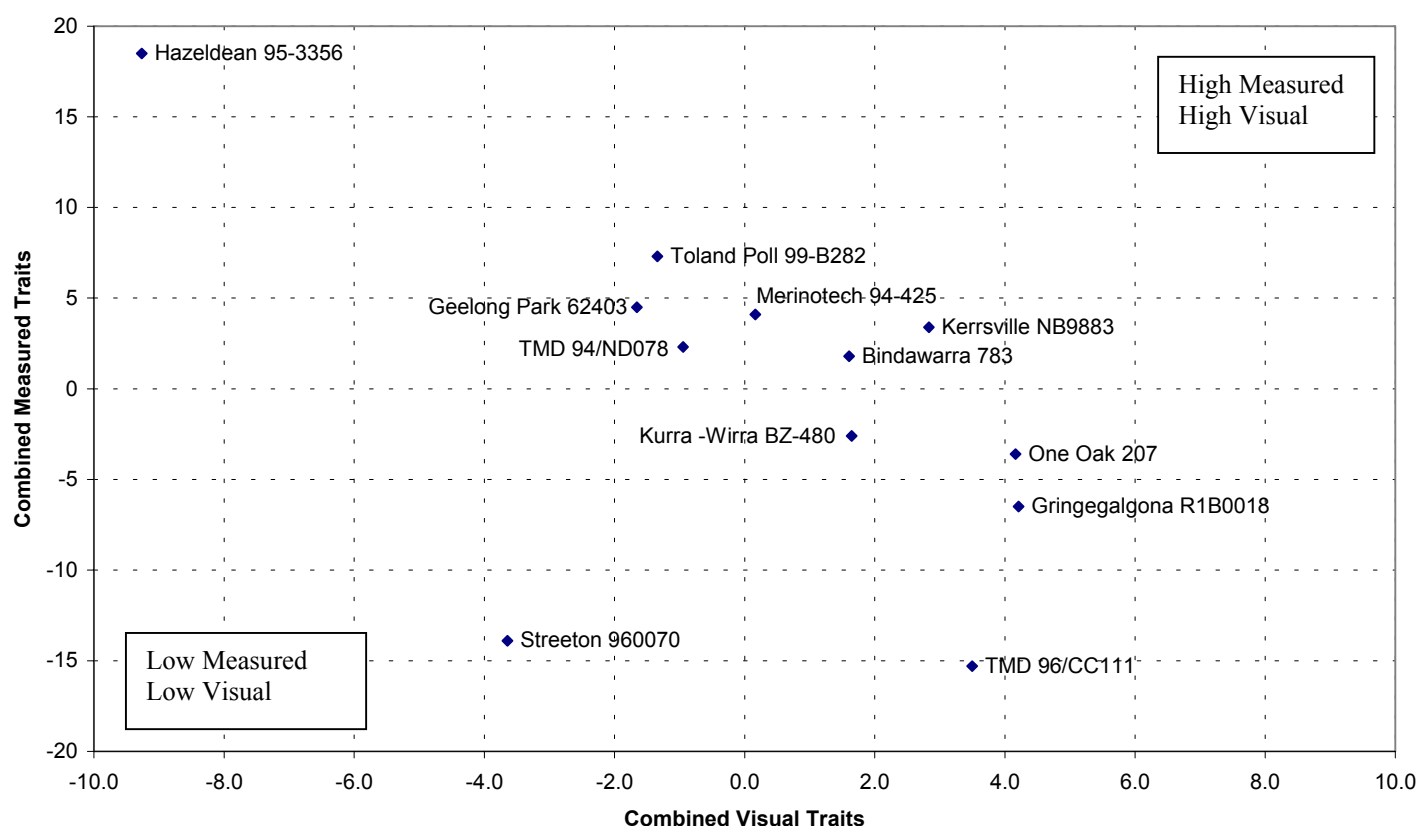
28 th March 2000	Commence AI program - Ewes sponged & teasers injected
5 th April 2000	1st injection for Teasers
10 th /11 th April 2000	Pull sponges & inject ewes with PMSG
12 th / 13 th April 2000	Laparoscopic insemination of 720 ewes, conducted by Brecon Breeders
13 th June 2000	Ultrasound/scan ewes by Mark Jenkinson
6 th September 2000	Ewes drafted into 24 groups (identifying singles & twins) for lambing
8 th September 2000	Ewes commence lambing
16 th September 2000	Lambing complete
23 rd September 2000	Lamb tagging, scoring and weighing
23 rd September 2000	Ewes & lambs returned to full mob
20 th October 2000	Mark & Mules lambs, vaccinated 6 in 1/selenium
20 th December 2000	Weaned Lambs, drenched, selenium bullets and jetted
December, 2000	Commenced supplementary feeding
April, 2001	Progeny on display at Open Day
26 th July, 2001	1 st Visual Classing of progeny
13 th August, 2001	1 st Shearing & body weighing of progeny (11 months wool)
25 th July, 2002	2 nd Visual Classing
12 th August, 2002	2 nd Shearing & body weighing (12 months wool)

Classer for 2000 Drop Progeny

Mr Mike Skermer

Figure 1: Summary Graph – Combined Measured Traits and Classer's Grade
2000 drop – 2nd Evaluation

Summary Graph using 6% Breeding Objective Index Option.



The RAMPOWER standard indexes:

3% Index: Maintain FD while maximising the increase in CFW, maintaining BWT and CV of FD.

6% Index: A moderate level of downward pressure on FD, while maintaining a high level of increase in CFW, maintaining BWT and improving CV of FD.

12% Index: A high level of downward pressure on FD, while obtaining a small increase in CFW, maintaining BWT and improving CV of FD.

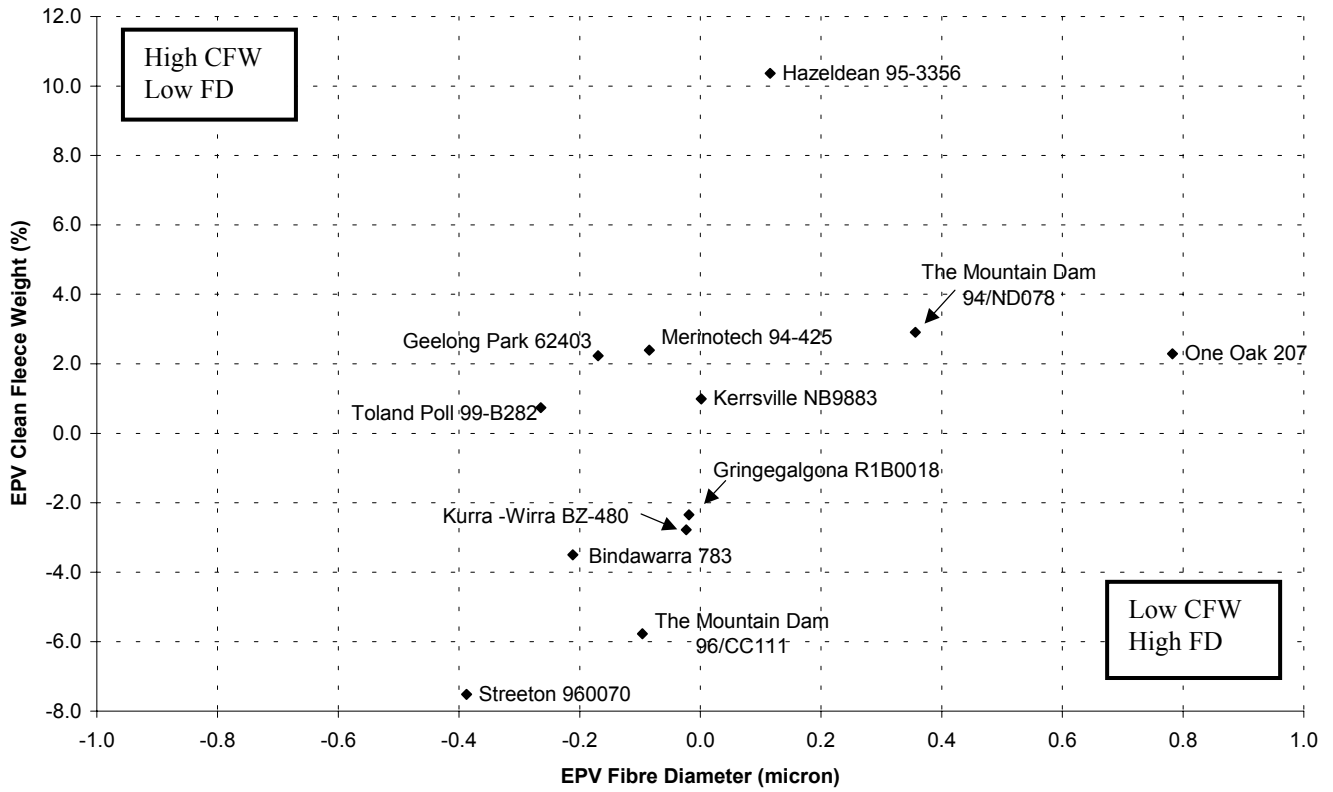
**Table B – RAMPOWER Standard Index Options and Classer’s Grade 2000 Drop -
2nd Evaluation**

Sire Identity	No of progeny	RAMPOWER Standard Index Options			Classer’s Grade % ¹		
		3%	6%	12%	Tops	Flocks	Culls
Bindawarra 783	39	100	102	104	49	43	8
Geelong Park 62403	37	104	105	102	27	70	3
Gringegalgonia R1B0018	34	93	94	96	54	46	0
Hazeldean 95-3356	40	125	119	109	14	59	28
Kerrsville NB9883	31	102	103	105	50	47	3
Kurra -Wirra BZ-480	34	97	97	98	48	44	7
Merinotech 94-425 *	44	106	104	100	41	51	8
One Oak 207	26	104	96	91	67	20	13
Streeton 960070	33	79	86	96	21	71	7
The Mountain Dam 94/ND078 *	42	106	102	99	36	56	8
The Mountain Dam 96/CC111	37	78	85	96	56	39	6
Toland Poll 99-B282	39	107	107	105	39	48	13
Average	36	100	100	100	41	51	8

* Link Sires

¹ Classer’s Assessment is expressed as a percentage of a sire’s progeny.

Figure 2 - Summary Graph Fleece Weight/Fibre Diameter - 2000 drop - 2nd Evaluation



Tables 1 & 2 – Measured and scored assessments - 2000 drop – 2nd Evaluation

Table 1. Major Measured Traits & Classer's Grade

Sire	No of progeny	Estimated Progeny Values (EPVs) Deviation from Average								Classer's Grade %		
		GFW %		CFW %		FD (Micron)		BWT %		Tops	Flocks	Culls
		1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd			
Bindawarra 783	39	-1.2	-5.1	1.2	-3.5	0.0	-0.2	1.3	1.6	49	43	8
Geelong Park 62403	37	3.5	3.3	1.9	2.2	-0.1	-0.2	1.6	0.5	27	70	3
Gringegalgona R1B0018	34	-1.1	-3.3	-0.6	-2.3	0.4	0.0	1.3	0.5	54	46	0
Hazeldean 95-3356	40	3.7	8.9	4.3	10.4	0.4	0.1	-3.8	-5.3	14	59	28
Kerrsville NB9883	31	-1.5	0.4	-1.6	1.0	-0.1	0.0	1.2	1.2	50	47	3
Kurra -Wirra BZ-480	34	0.2	-1.8	-0.1	-2.8	0.0	0.0	4.9	4.7	48	44	7
Merinotech 94-425	44	3.1	3.3	3.0	2.4	-0.4	-0.1	-3.5	-2.9	41	51	8
One Oak 207	26	2.2	2.1	2.8	2.3	0.3	0.8	1.7	1.6	67	20	13
Streeton 960070	33	-5.0	-7.6	-5.7	-7.5	-0.2	-0.4	-2.1	-0.5	21	71	7
The Mountain Dam 94/ND078	42	0.8	2.8	1.4	2.9	0.1	0.4	0.1	-0.2	36	56	8
The Mountain Dam 96/CC111	37	-5.8	-3.5	-8.2	-5.8	-0.2	-0.1	-4.0	-2.1	56	39	6
Toland Poll 99-B282	39	1.2	0.5	1.7	0.7	-0.1	-0.3	1.4	1.1	39	48	13
Average	36	3.2 kg	4.5 kg	2.4 kg	3.5 kg	17.7 µ	18.1 µ	31.1 kg	29.8 kg	41	51	8

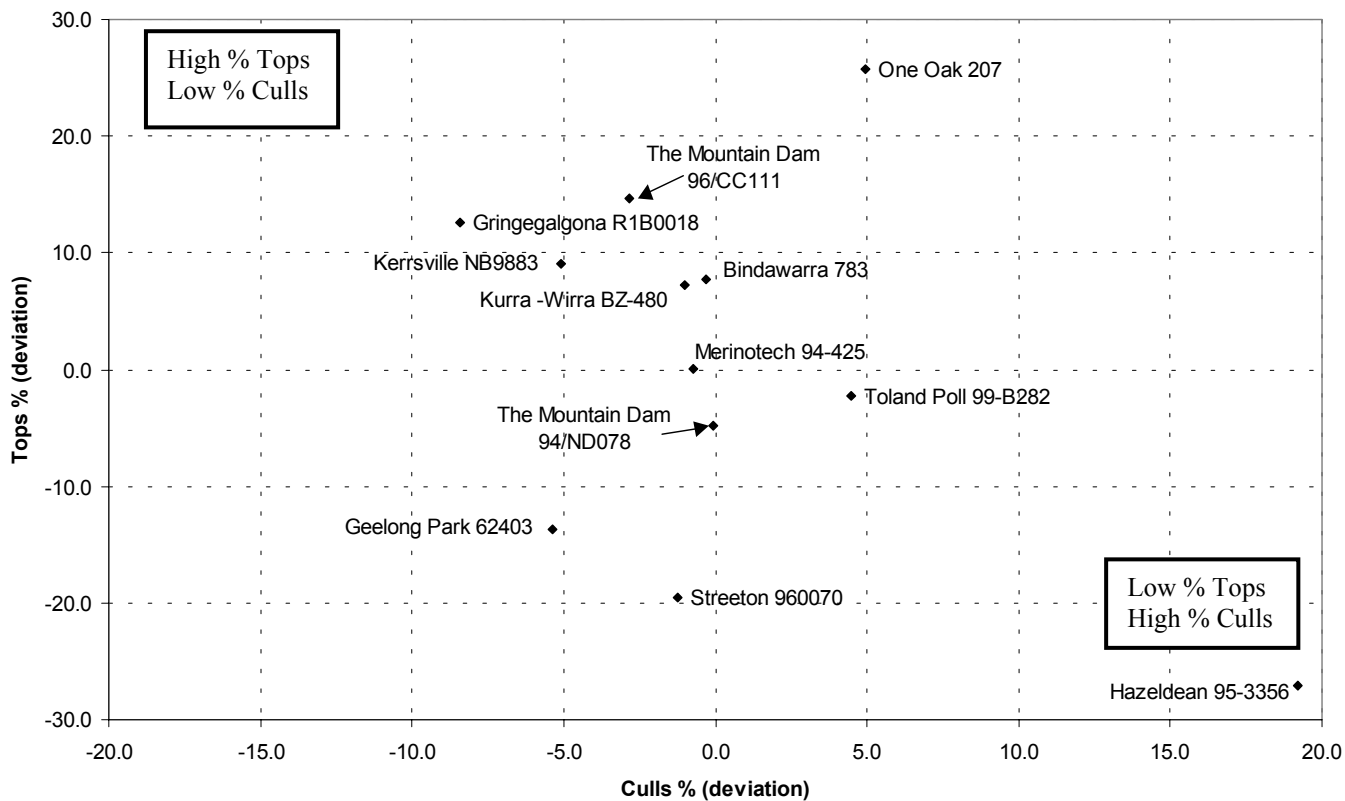
Table 2. Additional Measured & Scored Trait Information

Sire Identity	No of progeny	EPVs				Sire Group – Deviation from Average					Fleece Rot	
		Yld %		FDCV %		StpL	SD	>30 mic	SpinF	Curv	Score *	% Incidence **
		1st	2 nd	1 st	2 nd							
Bindawarra 783	39	2.0	1.6	-0.3	0.0	-2.5	0.0	0.1	-0.2	-7.2	0.32	18.9
Geelong Park 62403	37	-1.4	-1.0	0.9	0.4	1.9	0.0	0.0	-0.1	2.4	0.24	14.7
Gringegalgona R1B0018	34	0.5	1.1	-0.4	-0.2	-1.2	0.0	0.1	0.0	6.1	0.14	14.3
Hazeldean 95-3356	40	0.2	0.6	-0.1	0.1	4.3	0.0	0.1	0.1	-3.1	0.62	31.0
Kerrsville NB9883	31	0.0	0.4	-0.2	-0.7	-0.3	-0.2	0.1	-0.1	-3.9	0.17	16.7
Kurra -Wirra BZ-480	34	-0.2	-0.9	-0.1	0.1	-1.1	0.1	0.0	0.2	-3.5	0.11	11.1
Merinotech 94-425	44	-0.2	-0.9	1.2	1.2	1.3	0.3	-0.2	0.3	-2.6	0.15	5.1
One Oak 207	26	0.5	0.2	-0.2	0.1	-1.2	0.4	-0.8	1.2	-3.9	0.67	26.7
Streeton 960070	33	-0.3	0.6	-0.2	-0.2	2.9	-0.1	0.2	-0.5	2.5	0.21	21.4
The Mountain Dam 94/ND078	42	0.7	0.0	-0.4	-0.1	0.3	0.1	-0.2	0.4	4.1	0.20	14.3
The Mountain Dam 96/CC111	37	-2.2	-1.6	-1.0	-1.1	-3.1	-0.3	0.2	-0.3	6.0	0.11	11.1
Toland Poll 99-B282	39	0.4	-0.1	0.8	0.3	-1.5	-0.1	0.1	-0.3	1.8	0.13	6.5
Average	36	74.8	78.3	21.3	21.2	104.2	3.8	99.0	17.6	116.3	0.24	15.2

* Fleece rot - Average score of a sire's progeny, where '0' is best and '5' is worst. Fleece Rot scores from visual classing and shearing. ** Incidence shows any degree of fleece rot.

EPVs = Estimated Progeny Values

**Figure 3 - Summary Graph Classer's Grades – 2000 drop -
2nd Evaluation**



Tables 3 – Classer’s Assessment – 2000 drop – 2nd Evaluation

Table 3(a) Combined Traits

Table 3(a) shows the group traits above as an aggregate of Tables 3(b), (c) and (d).

Sire Identity	No of Progeny	Classer’s Grade %			Conformation		Quality	
		Tops	Flocks	Culls	% Pos	% Neg	% Pos	% Neg
Bindawarra 783	39	49	43	8	97	19	100	5
Geelong Park 62403	37	27	70	3	100	15	94	3
Gringegalgonia R1B0018	34	54	46	0	96	4	100	4
Hazeldean 95-3356	40	14	59	28	100	24	83	14
Kerrsville NB9883	31	50	47	3	100	3	100	3
Kurra -Wirra BZ-480	34	48	44	7	100	15	96	4
Merinotech 94-425	44	41	51	8	95	23	100	0
One Oak 207	26	67	20	13	93	20	100	7
Streeton 960070	33	21	71	7	100	14	93	7
The Mountain Dam 94/ND078	42	36	56	8	94	36	94	8
The Mountain Dam 96/CC111	37	56	39	6	100	11	100	0
Toland Poll 99-B282	39	39	48	13	100	29	97	10
Average	36	41	51	8	98	18	96	5

Table 3(b) Conformation Traits

Sire Identity	Face cover ¹	Neck/body development ¹	Feet/Legs conformation ¹	Jaw Conformation % Neg	Back/shoulder Conformation % Neg
Bindawarra 783	3.78	3.84	3.70	5.4	8.1
Geelong Park 62403	3.82	3.85	3.55	6.1	3.0
Gringegalgonia R1B0018	3.79	3.82	3.79	0.0	0.0
Hazeldean 95-3356	3.93	3.62	3.38	0.0	10.3
Kerrsville NB9883	4.10	3.93	3.60	0.0	0.0
Kurra -Wirra BZ-480	3.48	3.78	3.52	0.0	11.1
Merinotech 94-425	3.33	3.72	3.36	0.0	7.7
One Oak 207	3.40	3.73	3.73	0.0	6.7
Streeton 960070	3.86	3.96	3.64	0.0	10.7
The Mountain Dam 94/ND078	4.03	3.72	3.17	5.6	8.3
The Mountain Dam 96/CC111	4.11	3.89	3.58	2.8	0.0
Toland Poll 99-B282	3.35	3.71	3.39	0.0	6.5
Average	3.76	3.80	3.52	1.9	6.0

¹ Average score of a sire’s progeny, where ‘5’ is best and ‘1’ is worst

Table 3(c) Wool Quality Traits

Sire Identity	Fleece colour ¹	Wool character ¹	Dust penetration / staple weathering ¹	Fleece rot	
				Score ²	% Incidence
Bindawarra 783	4.22	4.24	4.03	0.32	18.9
Geelong Park 62403	3.73	3.42	3.94	0.24	14.7
Gringegalgonia R1B0018	4.46	3.96	3.93	0.14	14.3
Hazeldean 95-3356	3.38	3.34	3.83	0.62	31.0
Kerrsville NB9883	4.07	3.80	4.03	0.17	16.7
Kurra -Wirra BZ-480	4.48	4.11	4.00	0.11	11.1
Merinotech 94-425	4.41	3.90	3.95	0.15	5.1
One Oak 207	4.07	3.80	4.00	0.67	26.7
Streeton 960070	3.82	3.75	3.89	0.21	21.4
The Mountain Dam 94/ND078	4.08	3.83	3.94	0.20	14.3
The Mountain Dam 96/CC111	4.61	4.36	3.97	0.11	11.1
Toland Poll 99-B282	4.32	3.74	3.90	0.13	6.5
Average	4.15	3.87	3.95	0.24	15.2

¹ Average score of a sire's progeny, where '5' is best and '1' is worst

² Fleece rot - Average score of a sire's progeny, where '0' is best and '5' is worst

Table 3(d) Pigment

Sire Identity	Pigmented skin Incidence ¹	Pigmented wool Incidence ²	Black lamb / black spot incidence ²
Bindawarra 783	5.1	0.0	0.0
Geelong Park 62403	8.1	0.0	0.0
Gringegalgonia R1B0018	32.4	0.0	0.0
Hazeldean 95-3356	7.5	2.5	0.0
Kerrsville NB9883	16.1	3.2	0.0
Kurra -Wirra BZ-480	0.0	0.0	0.0
Merinotech 94-425	9.1	0.0	0.0
One Oak 207	19.2	0.0	0.0
Streeton 960070	45.5	0.0	0.0
The Mountain Dam 94/ND078	2.4	2.4	0.0
The Mountain Dam 96/CC111	10.8	0.0	0.0
Toland Poll 99-B282	28.2	2.6	2.6
Average	14.7	0.9	0.2

¹ Recorded at tagging or classing by committee/classer

² Recorded at tagging, classing or shearing by committee/classer

Note: Black spot lambs and 1st assessment progeny with pigmented wool were removed from trial at first assessment

All pigmentation records are cumulative over both years of assessment, even if animals have been culled after first assessment because of pigmentation

GROUP VISUAL ASSESSMENT

Each sire group is visually assessed for group evenness of characteristics as noted below at the second classing assessment. Evenness scoring based on 5 being more even as a group, 1 being least even as a group.

Classer, Mike Skermer, noted that “as a total mob, there is so little variation amongst the groups and it is fantastic to see the way the wools have come through. If you saw a general flock like this, apart from the few obvious culls, you’d be very pleased.”

Group Traits to be evaluated, recorded and publicly presented:

Evenness of the Sire Group for:

- Conformation
- Quality
- Markings (Pigmentation)

Sire Group	Evenness of Conformation	Evenness of Quality	Evenness Pigmentation
Bindawarra 783 (Light Blue)	4	4	4
Geelong Park 62403 (Black)	2	2	2
Gringegalgonna R1B0018 (White)	3.5	4	4
Hazeldean 95-3356 (Orange)	2	2	4
Kerrsville NB9883 (Dark Blue)	4	3	4
Kurra-Wirra BZ-480 (Purple)	4	3.5	4
Merinotech WR94-425 (Red)	3	2	4
One Oak No. 2 OO-207 (Pink)	4	3	3
Streeton 960070 (Gold)	3	3	2
The Mountain Dam 96/CC111 (Olive Green)	4	4.5	4
The Mountain Dam ND078 (Dark Green)	3.5	4	4
Toland 99-B282 (Light Yellow)	2	3	4

(Evenness is described using a comment or score to indicate either evenness or unevenness of performance. This group assessment should not include reference to actual level of performance.)

Explanation of Estimated Breeding Values, Estimated Progeny Values and Indexes

What are Estimated Breeding Values (EBVs) and Estimated Progeny Values (EPVs) ?

An Estimated Breeding Value (EBV) is an estimate of the genetic worth, or merit, of an animal for a particular trait. It can be thought of as a picture of an animal's genes for that trait.

Estimated Progeny Values (EPVs) express the expected performance of progeny of a sire, relative to that of other sires in the evaluation. EPVs are simply EBVs divided by two.

EPVs can be calculated for many of the measured traits, eg:

GFW	%	Greasy Fleece Weight (percentage)
CFW	%	Clean Fleece Weight (percentage)
BWT	%	Body Weight (percentage)
FD	µm	Fibre Diameter (micron)
CV	%	Coefficient of Variation of fibre diameter (percentage)

The Greasy Fleece Weight, Clean Fleece Weight and Body Weight EPVs are expressed as a percentage deviation from the average. However, EPVs for these traits could also be expressed in the units of the traits, eg, kgs of wool or kgs of liveweight. Fibre diameter EPVs are expressed in microns as a deviation from the average. Coefficient of Variation of Fibre Diameter EPVs are expressed in percentage units as a deviation.

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

- the heritability of the trait, ie, 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 measurements of other traits. Where two traits are affected by the same genes (ie, the traits are genetically correlated) the progeny records for both traits give us additional information to make the EPVs for both traits more accurate.
- Non-genetic, or environmental effects. These are factors that influence performance but are not passed on to the progeny. A simple example is that twins tend to be smaller (on average) and cut less wool than single-born lambs: This is not because they have poorer genes for body weight or fleece weight, but because they have had to share their dam's uterus (maternal nutrition) and milk supply (pre-weaning nutrition) with another lamb. Their environment has not (on average) been as good as that experienced by single lambs - this is a non-genetic influence that we need to account for in getting an accurate picture of the value of the genes.

Accuracy

The accuracy of the assessment of the genetic merit of an individual sire by progeny testing is a function of both the heritability of the trait and the number of the sire's progeny assessed.

No of progeny	Heritability					
	0.1	0.2	0.3	0.4	0.5	0.6
5	0.34	0.46	0.54	0.60	0.65	0.68
10	0.45	0.59	0.67	0.73	0.77	0.80
20	0.58	0.72	0.79	0.83	0.86	0.88
30	0.66	0.78	0.84	0.88	0.90	0.92
40	0.71	0.82	0.87	0.90	0.92	0.94
50	0.75	0.85	0.90	0.92	0.94	0.95
100	0.85	0.92	0.94	0.96	0.97	0.97

It should be noted that well designed and run progeny trials should have adequate progeny per sire.

Examples of using EPVs

	EPV CFW %	EPV FD
Ram 1	+8	-1.2
Ram 2	+1	+0.8

Ram 1 has an EPV for Clean Fleece Weight of +8%. That is, the progeny of Ram 1 are expected to be 7% superior (8.0 - 1.0) for Clean Fleece Weight than the progeny of Ram 2 with an EPV of 1%.

Similarly, Ram 1 has an EPV for Fibre Diameter of -1.2 μ . Ram 2 has an EPV for Fibre Diameter of +0.8 μ . The progeny of Ram 1 are expected to be 2 μ finer (-1.2 - 0.8) than the progeny of Ram 2.

Sire Averages

Sire Averages are the average performance of all the progeny of a sire. No account is taken of the heritability of the characters. Sire averages are much less reliable predictors of sire performance than are EPVs.

Breeding Objectives and Index Values

The breeding objective is what you want your breeding program to achieve.

Indexes are just a way of determining which animals most closely match your breeding objective. Three different breeding objectives are:

Breeding Objective or Aim	Index	Micron Premium
Near maximum increase in fleece weight, maintaining fibre diameter	3% MP	3%
Reduce fibre diameter and increase fleece weight	6% MP	6%
Greater reduction in diameter and maintain fleece weight	12% MP	12%

The 3% micron premium index ranks animals with high fleece weights more highly. It is valuable for those breeders who wish to maintain their fibre diameter and place maximum emphasis on increasing the fleece weight of their flock. The 12% micron premium index is useful for breeders who wish to place maximum emphasis on decreasing their flock fibre diameter, without losing fleece weight. A middle view is to use the 6% micron premium index which simultaneously increases fleece weight and decreases fibre diameter.

Explanation of Micron Premium

Micron premiums are derived from market values and are set by the market. The micron premium tells you how much the price of wool increases if the fibre diameter decreases by one micron.

For example, what is an 8% micron premium? If 20 μ wool is worth \$5.00/Kg clean and 19 μ wool is worth \$5.40/kg (a difference of \$0.40) then the micron premium is 40 divided by 500 x 100 = 8%

Calculation of Index

To calculate an index, the Estimated Breeding Value for each trait is multiplied by its Economic Value (EV). These products are then summed and then added to 100. This can be described mathematically as:

$$\text{Index} = 100 + (\text{EBV}_{\text{trait 1}} \times \text{EV}_{\text{trait 1}}) + (\text{EBV}_{\text{trait 2}} \times \text{EV}_{\text{trait 2}}) + \dots + (\text{EBV}_{\text{trait n}} \times \text{EV}_{\text{trait n}})$$

where there are n traits to be included in the index.

EBV means Estimated Breeding Value

EV means Economic Value.

For further help or explanation please contact:

Susan Jarvis
Animal Breeding Consultant
Committee Member of Elders VP Sire Evaluation Group

“Aramis”
RMB 395
Balmoral Vic 3407
AUSTRALIA

Tel 03 55743298 (Int. +61 3 55743298)

Fax 03 55743299 (Int. +61 3 55743299)

Email aramis@datafast.net.au