



## **Elders VP Victoria Sire Evaluation Group**

**1998 Drop 2<sup>nd</sup> Evaluation of Progeny at 22 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

Supported in sponsorship by:



et al

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## FOREWORD

### ***Elders VP Victoria Sire Evaluation Group***

There have been three trials conducted previously in the Balmoral (B95) and Hamilton (HT93, HT94) area. These trials were conducted by different groups and in 1998 a small group of studbreeders met with the Central Test Sire Evaluation Co-ordinator Dr. Euan Roberts to form what is now known as the Elders VP Victoria Sire Evaluation Group.

The Elders VP Victoria Sire Evaluation Trials commenced in 1998 and now have 3 progeny drops – 1998, 1999 and 2000; the 1998 and 1999 progeny are being run on host property “The Mountain Dam”, Balmoral and the 2000 progeny at Kerrsville, situated between Balmoral and Coleraine. All of these trials will run for a minimum of 2 years.

The 1998 drop wethers will continue to be assessed outside the Central Test Evaluation program as part of a PIRD (Producer Initiated Research Development) Program to determine if mature age assessments provide similar information to two year trials.

A feature of the Elders VP Victoria Sire Evaluation Trials is the production of newsletters to inform participants, their clients and interested woolgrowers on events surrounding the trials. In addition, displays of progeny, data and their fleeces have been on show at the Australian Sheep & Wool Show (Melbourne 1998, 1999 and Bendigo 2000), Balmoral and Horsham Shows and Hamilton Sheepvention. Participating studs have also provided static displays for viewing during field days.

In April, 2000 a successful Open Day was held at “The Mountain Dam” to inspect progeny and to discuss the sire evaluation program with interested woolgrowers.

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

### ***The Committee:***

Robert Plush	(Chairman)	0355 750208	Email: plush1@ansoniacom.au
Robert Close		0355 704238	Email: kurrawirra@ansoniacom.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
Peter Fitzgerald (1998)			

### ***Host Properties***

The Elders VP Sire Evaluation 1998 and 1999 Progeny Drop Trials are hosted on the property of Tom and Alison Silcock at “The Mountain Dam”, Telangatuk East. Progeny are managed under strict commercial conditions.

The Mountain Dam property is situated at the southern end of the Black Range, 20kms east of Balmoral (45 minutes south of Horsham, 60 minutes north of Hamilton). The country is predominantly clay loam with an average annual rainfall of 546mm and sheep are managed on an average of 6.7 DSE/ha (2.7 dse/ac).

The 2000 drop progeny are hosted at Kerrsville, Coleraine.

*Report writing & production: Elders VP Victoria Sire Evaluation Group*

*Data analysis, data processing and reports: Elders VP Victoria Sire Evaluation Group with advice from Advanced Breeding Services*

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The information in this booklet should not be read in isolation – 1998 drop progeny at time of assessment were 22 months of age and shorn with 12 months wool growth. This is the final assessment of progeny in the official Central Test trials but the wether portion of the progeny will be retained to provide further assessment for the third and fourth year at a more mature age to determine what/if any differences occur as progeny mature.

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Explanation of Estimated Breeding Values, Estimated Progeny Values & Indexes (Susan Jarvis)

## 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 – 100% equals average and, for example, 10.0 is 10% above average performance of the group.												
Traits:	<table><tr><td>GFW%</td><td>Greasy Fleece Weight (percentage)</td></tr><tr><td>CFW%</td><td>Clean Fleece Weight (percentage)</td></tr><tr><td>FD</td><td>Average Fibre diameter (micron)</td></tr><tr><td>BWT%</td><td>Body Weight (percentage)</td></tr><tr><td>CV%</td><td>Co-efficient of variation of fibre diameter</td></tr><tr><td>Yld%</td><td>Washing yield of the midside sample</td></tr></table>	GFW%	Greasy Fleece Weight (percentage)	CFW%	Clean Fleece Weight (percentage)	FD	Average Fibre diameter (micron)	BWT%	Body Weight (percentage)	CV%	Co-efficient of variation of fibre diameter	Yld%	Washing yield of the midside sample
GFW%	Greasy Fleece Weight (percentage)												
CFW%	Clean Fleece Weight (percentage)												
FD	Average Fibre diameter (micron)												
BWT%	Body Weight (percentage)												
CV%	Co-efficient of variation of fibre diameter												
Yld%	Washing yield of the midside sample												
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:	<p><b>Size</b> – Scored 1 to 5, 1 being smallest, 5 being largest</p> <p><b>Face</b> – Scored 1 to 5, 1 being muffled, 3 and above being good</p> <p><b>Shoulders</b> – Scored 1 to 5, 1 negative problems, 2 slight problem, and above being good</p> <p><b>Feet</b> – Scored 1 – 5, 1 having negative problems, 2 slight problem, and above being good</p> <p><b>Mouth</b> – Scored 1 – 5, 1 having negative problem, 2 slight problem, 3+ being good</p> <p><b>Nourishment</b> – Scored 1 to 5, 1 being very dry or excessively nourished, 5 being excellent</p> <p><b>Colour</b> – Scored 1 to 5, 1 being extreme colour, 3 being average/good, 5 being excellent white/bright</p> <p><b>Tip Hair</b> – Halo/tip hair assessed at 10 months.</p> <p><b>Pigmentation:</b> No. <b>Black Lambs:</b> number of lambs recorded as predominantly black at time of tagging;</p> <p><b>Skin Pigmentation:</b> progeny noted by classers as having skin pigmentation (typically smutty nose/brown rimmed eyes). Scored 1 to 5, with 1 being worst, 5 best</p> <p><b>Wool Pigmentation:</b> Small spot of black or coloured wool in wool growing area, noted at shearing.</p> <p><b>Conformation:</b> Not specifically scored in assessment, but figures taken from overall classing of structural scores and combined into an aggregate.</p> <p><b>Fleece Rot</b> – Scored 0 to 5, 0 is no fleece rot, 1 slight fleece rot, 5 is extreme.</p> <p><b>Incidence of Fleece rot</b> 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:	<p>Breeding Objective index options provide the relative value of sires based on a combination of the measured traits –CFW, FD, CV &amp; BWT. 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 than can be expected.</p> <p>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.</p> <p><b>3% Index:</b> Maintain fibre diameter (FD) while maximising the increase in Clean Fleece Weight (CFW), maintaining body weight (BWT) and improved CV of fibre diameter at 1/5<sup>th</sup> the value of FD which is in line with spinning performance.</p> <p><b>6% Index:</b> A moderate level of downward pressure on FD, while maintaining a high level of increase in CFW, maintaining BWT and improving CV of FD.</p> <p><b>12% Index:</b> A high level of downward pressure on FD, while obtaining a small increase in CFW, maintaining BWT and improving CV of FD.</p>
Classers’ Grade:	Two Classers grade all assessed progeny as either Tops, Flocks or Culls, based on their visual assessment of all traits. The percentage of Tops, Flocks and Culls is presented.
Group Traits:	The performance for a comprehensive list of traits (in addition to objectively measured traits) are scored by the two classers as described in Visual Traits above, and are then correlated by Advanced Breeding Services into ‘positive’, ‘average/good’ or ‘negative’ performance. These traits are also grouped into Conformation, Wool Quality and Markings as an aggregate to provide a summary of visual assessed performance. Each trait group shows the percentage of a sire’s progeny with a positive score or negative score for one or more traits in that group. (e.g. a sire that has an offspring with a negative score for both feet and shoulders would have this information collated as 2 negatives to go into the aggregate for conformation even though it may be the same sheep.)
Individual Traits:	The percentage of progeny which score positive or negative for each trait. The table lists individual traits within their Trait Group. A positive percentage that is <u>above</u> the groups’ average indicates good performance for that trait. A negative percentage that is <u>below</u> the average of all sires indicates fewer fault than average.
Progeny Group Classing:	Assessment of the evenness of sire progeny groups is carried out as a separate assessment to individual classing. This assessment is seen as per Table 4 .

## **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%, Body Weight, Fibre Diameter and Coefficient of Variation of Fibre Diameter.

## **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 – 1998 drop progeny at time of 1<sup>st</sup> assessment were 10 months of age with 10 months wool growth. At their second assessment progeny were 22 months of age and shorn with 12 months wool growth. This is the final assessment of progeny in the official Central Test trials but the wether portion of the progeny will be retained to provide further assessment for the third and fourth year at a more mature age to determine what/if any differences occur as progeny mature.

## **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.

## 1998 DROP SIRE & OWNER DETAILS

<b>Sire Identity</b>	<b>Contact Name, Address, Phone &amp; Fax No. &amp; Email</b>
Gringegalgona 4N2307/93 [Topcut]	Stephen Silcock, Gringegalgona Stud Partnership, RMB 365, Balmoral 3407 Ph. 0355 743202, Fax 0355 743239
Gumbough 5.271 [Cibie]	Bill & Prue Speirs, "Gumbough", RMB 1275, Casterton. 3311 Ph. 0355 798542, Fax 0355 798516
Hazeldean 93-1053	Jim Litchfield, Hazeldean Pty. Ltd., Cooma 2630 Ph. 0264 535555, Fax 0264 535526 Email: <a href="mailto:hazeldean@snowy.net.au">hazeldean@snowy.net.au</a>
Karmala Y81 [Ablett]	Janet Lowing, Karmala Partnership, RMB 508, Willaura 3379 Ph./Fax 0353 504228 Email: <a href="mailto:jan@karmala.com.au">jan@karmala.com.au</a>
Kerrsville M3065 [LINK SIRE] *	Robert & Ian Plush, RMB 8203, Coleraine 3315 Ph/Fax 0355 750208 Email: <a href="mailto:plush1@ansoniacom.au">plush1@ansoniacom.au</a>
Kurra Wirra BZ263	Robert Close, Close Pastoral Co., RMB 9331, Coleraine 3315 Ph. 0355 704238, Fax 0355 704234 Email: <a href="mailto:kurrawirra@ansoniacom.au">kurrawirra@ansoniacom.au</a>
Nareeb Nareeb A4-41	Hugh Beggs, Nareeb Nareeb Partnership, Glenthompson 3293 Ph. 0355 778238, Fax 0355 778285 Email: <a href="mailto:hugh@nareebnareeb.com.au">hugh@nareebnareeb.com.au</a>
Nareeb Nareeb A5-4 [The Manager]	Hugh Beggs, Nareeb Nareeb Partnership, Glenthompson 3293 Ph. 0355 778238, Fax 0355 778285 Email: <a href="mailto:hugh@nareebnareeb.com.au">hugh@nareebnareeb.com.au</a>
Nerstane N002 [LINK SIRE] *	John McLaren, Nerstane Merino Stud, Woolbrook 2354 Ph. 0267 775881, Fax 0267 775922
One Oak No. 2 OO-26, Klien	Graeme Wells, One Oak Pty. Ltd., P.O. Box 84, Jerilderie 2716 Ph. 0358 861269, Fax 0358 861792
Roseville Park RP24	Graham Coddington, GR & S Coddington, "Glenwood", Dubbo 2830 Ph. 0268 877230, Fax 0268 877234
The Mountain Dam ** 94/ND078	Tom Silcock, T & A Silcock, RMB 8401, Horsham 3401 Ph. 0353 882238, Fax 0353 882235 Email: <a href="mailto:silcock@netconnect.com.au">silcock@netconnect.com.au</a>
The Mountain Dam ** 94/NG014	Tom Silcock, T & A Silcock, RMB 8401, Horsham 3401 Ph. 0353 882238, Fax 0353 882235 Email: <a href="mailto:silcock@netconnect.com.au">silcock@netconnect.com.au</a>

\* Link Sires — these sires provide the "link" between other Central Test Sire Evaluation Sites and Years and have participated in evaluation of their progeny across more than one site.

\*\* Abbreviated names in graphs [The Mountain Dam = TMD]

## MANAGER'S REPORT – 1998 Drop Progeny

### **Ewe Base:**

Ewes for the 1998 and 1999 trials were selected from “The Mountain Dam” mixed aged commercial, fine wool Merino breeding ewes. The average adult flock micron at “The Mountain Dam” is 19.0

### **1998 Progeny Location:**

The Mountain Dam property is owned by Tom and Alison Silcock, located 20kms east of Balmoral, on the border between the Western District and Wimmera Regions of Victoria. A successful pasture improvement program has been implemented at The Mountain Dam using controlled rotational grazing strategies along with some pasture oversowing. Average annual rainfall of 546mm on a predominantly clay loam soil type.

### **Seasonal Conditions:**

Conditions in early 1998 were favourable with ewes commencing the AI program in good condition and maintaining a good level of nutrition. Lambing conditions were unusually dry but good stands of clover and grass pasture were available for tagged lambs and ewes. After weaning lambs were supplementary fed with lupins during the autumn period. After two false starts to the break in the season, feed was scarce right throughout the late Autumn and early Winter period. In June 1999, when the 1998 progeny drop were being evaluated and shorn, feed was still in short supply. By mid August, feed conditions were once again in good supply but throughout the region 1999 was an extremely dry year. Good stands of feed were available in November 1999 with an early close to the season of seeding and drying off in November.

The 2000 year provided a kinder feed situation for the progeny and with late rains the season in November 2000 has finished with plentiful feed and major seed management conditions.

### **The Evaluation & Management Program 1998 drop progeny:**

19 <sup>th</sup> & 20 <sup>th</sup> March 1998	Commence AI program - Ewes sponged & teasers injected
26 <sup>th</sup> March 1998	2 <sup>nd</sup> injection for Teasers
31 <sup>st</sup> March/1 <sup>st</sup> April 1998	Pull sponges & inject ewes with 1.5 PMSG
2 <sup>nd</sup> and 3 <sup>rd</sup> April 1998	Laposcopic insemination of 780 ewes, conducted by Genstock
9 <sup>th</sup> June 1998	Ultrasound/scan ewes
24 <sup>th</sup> August 1998	Ewes drafted into 26 groups (identifying singles & twins) for lambing
28 <sup>th</sup> August 1998	Ewes commence lambing
5 <sup>th</sup> September 1998	Lambing complete – lambs tagged, scored and weighed
8 <sup>th</sup> September 1998	Ewes & lambs returned to full mob
5 <sup>th</sup> October 1998	Mark & Mules lambs, vaccinated 6 in 1/selenium & weighed
7 <sup>th</sup> December 1998	Weaned Lambs
29 <sup>th</sup> December 1998	Jetted Weaners
18 <sup>th</sup> January 1999	Weigh Weaners & Cobalt/Selenium Bullet, Drench Cydectin
Autumn 1999	Supplementary feeding lupins
11 <sup>th</sup> May 1999	Merial Drench Capsules & small crutch
May/June 1999	Supplementary feeding barley
22 <sup>nd</sup> June, 1999	1 <sup>st</sup> Visual Classing of progeny
8 <sup>th</sup> July, 1999	1 <sup>st</sup> Shearing & body weighing of progeny
February, 2000	Progeny crutched and commenced supplementary feeding
April, 2000	Progeny drenched
6 <sup>th</sup> May, 2000	2 <sup>nd</sup> Visual Classing of progeny
20 <sup>th</sup> June, 2000	2 <sup>nd</sup> Shearing & body weighing of progeny

## Classers for 1998 Drop Progeny

Mr Murray Elliott  
Mr Robert Harding

### Summary Table A – Lambing Analysis & Survival – 1998 Drop

#### Assessment Numbers to May, 2000

Sire Identity	No. Ewes Scanned in Lamb	5-7/9/98			Wethers Ewes		5/10/98 Marking Tally	22/6/99 Classing Tally	06/5/00 Classing Tally	Attrition*		
		Lambs Tagged	Single	Twin & Trip						Died	NR	EL.
Gringegalgon 4N2307	44	58	29	29	25	33	58	55	55	0	1	2
Gumbough 5.271	46	61	20	41	30	31	61	60	58	1	1	1
Hazeldean 93-1053	42	54	22	32	31	23	52	48	44	3	6	1
Karmala Y81	48	52	23	29	29	23	50	46	45	5	2	0
Kerrsville M3065 [Link]	31	38	17	21	25	13	36	34	35	2	1	0
Kurra Wirra BZ 263	43	52	18	34	29	23	50	44	43	4	5	0
Nareeb Nareeb A4-41	43	52	23	29	26	26	52	50	49	0	1	2
Nareeb Nareeb A5-4	44	56	24	32	33	23	52	51	44	5	2	4
Nerstane N002 [Link]	47	62	17	45	28	34	59	53	53	5	3	1
One Oak No.2 OO-26	41	55	24	31	23	32	55	52	51	1	4	0
Roseville Park RP24	49	59	24	35	33	26	58	53	53	1	0	5
The Mountain Dam ND078	51	59	15	44	28	31	57	57	54	4	0	1
The Mountain Dam NG014	43	49	21	28	21	28	48	44	43	1	4	1
<b>Total</b>	<b>572</b>	<b>707</b>	<b>277</b>	<b>430</b>	<b>361</b>	<b>346</b>	<b>688</b>	<b>647</b>	<b>627</b>	<b>32</b>	<b>30</b>	<b>18</b>

572 scanned wet ewes

780 inseminated = 90% LAMBING

Prior to lambing, ewes were drafted into their progeny groups and lambed down in 26 separate paddocks identifying scanned singles, twins & triplets.

\*Attrition: These figures describe the number of progeny at 6/5/00 that have died since tagging, are missing from mob (NR) or were not included in the evaluation or have been eliminated (EL) - e.g. sheep sick/flystruck and lost wool. The Committee eliminated (removed) all commercially unviable progeny prior to classing on humane grounds and/or due to coloured wool.

Note that all lambs tagged 5-7/9/98 have been accounted for.

Some of the sheep missing (i.e. no record) can be attributed to sheep being run in large management groups and the knowledge of stolen sheep from the property, some of which may have been from the evaluation sheep group.

Riverina Wool Testers processed the mid side samples for both 1<sup>st</sup> and 2<sup>nd</sup> assessments of the 1998 Sire Evaluation Trials and we are grateful to them for their contribution.

**Figure 1: Summary Graph - Combined Measured Traits and Classers' Grade  
2<sup>nd</sup> Assessment**

The RAMPOWER standard indexes:

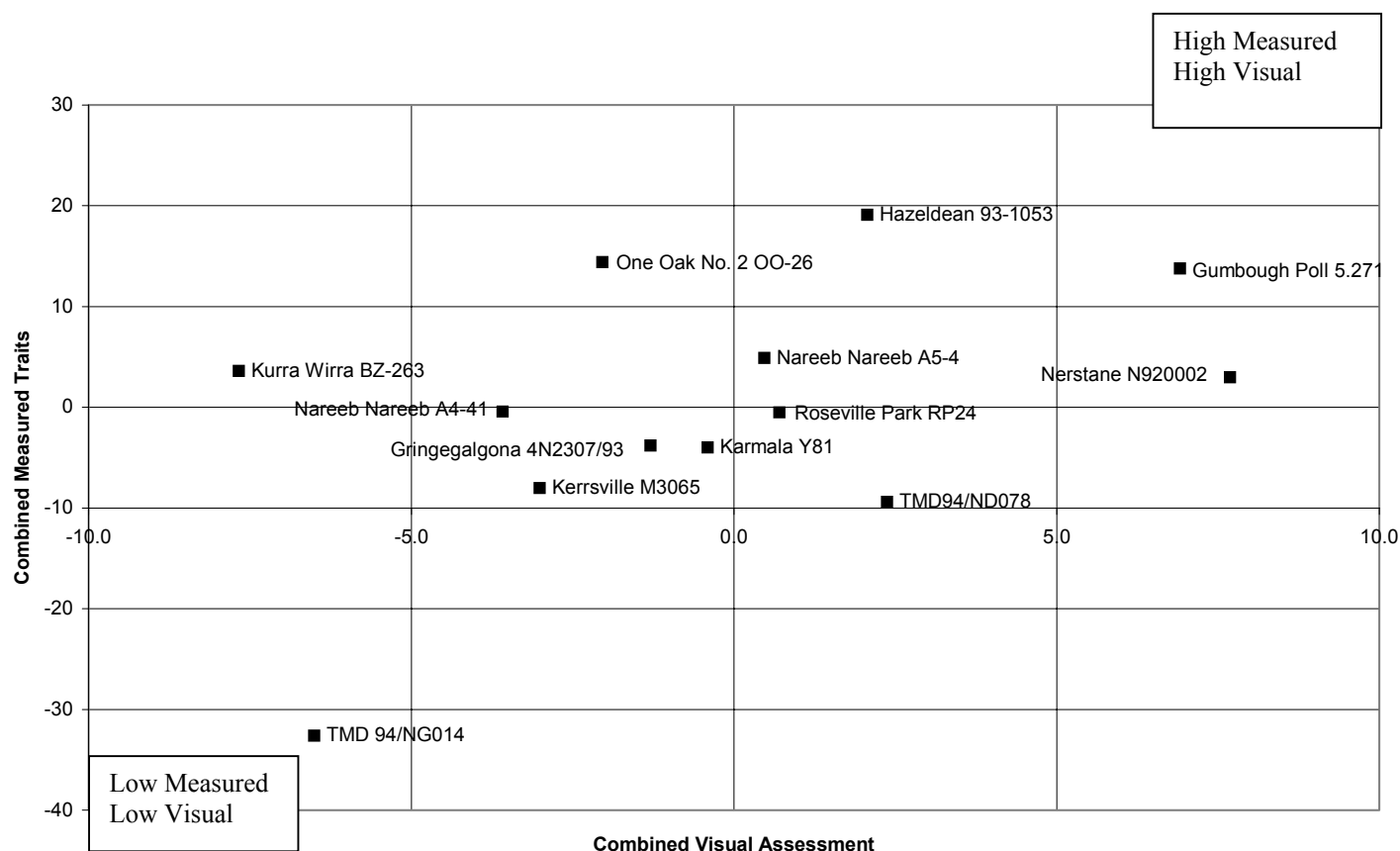
**3% Index:** Maintain FD while maximising the increase in CFW, maintaining BWT and improved CV of FD.

**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.

(See page 5 for more information on Breeding Objective index options.)

**Summary Graph using 6% Breeding Objective Index Option**



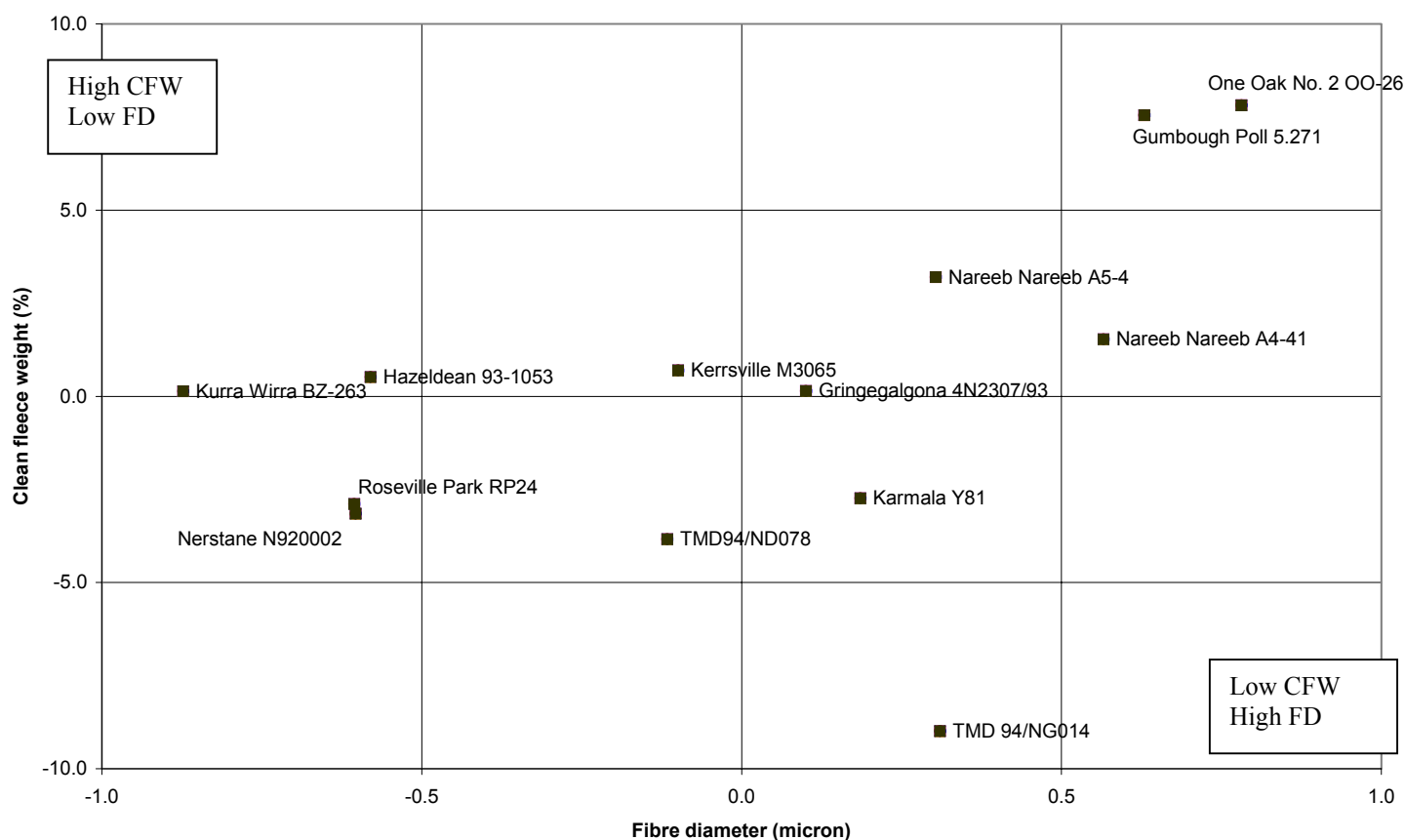
**Table B – RAMPOWER Standard Index Options and Classers' Grade  
1998 Drop - 2<sup>nd</sup> Evaluation**

Sire Graph Code	Sire Identity	RAMPOWER Standard Index Options			Classers' Grade % <sup>1</sup>		
		A	B (6%MP)	C (12%MP)	Tops	Flock	Culls
		(3%MP)			2nd Eval.	2nd Eval.	2nd Eval.
1	Gringegalgon 4N2307/93	99	96	93	14	62	24
2	Gumbough Poll 5.271	125	114	101	43	45	12
3	Hazeldean 93-1053	115	119	119	27	53	20
4	Karmala Y81	97	96	96	18	59	23
5	Kerrsville M3065	90	92	96	16	50	34
6	Kurra Wirra BZ-263	94	104	110	9	40	51
7	Nareeb Nareeb A4-41	106	100	95	8	62	30
8	Nareeb Nareeb A5-4	109	105	100	17	64	19
9	Nerstane N-0002	92	103	116	42	50	8
10	One Oak OO-26	127	114	101	18	51	31
11	Roseville Park RP24	93	100	104	19	62	19
12	The Mountain Dam 94/ND078	86	91	98	19	71	10
13	The Mountain Dam 94/NG014	66	67	74	3	57	40
Average performance		100%	100%	100%	<b>20</b>	<b>56</b>	<b>24</b>

\* Link Sires

<sup>1</sup> Classers' Assessments are expressed as a percentage of a sire's progeny.

**Figure 2 - Summary Graph Fleece Weight/Fibre Diameter - 1998 drop  
2<sup>nd</sup> Evaluation**



**Tables 1 & 2 – Measured and scored assessments - 1998 drop - 2<sup>nd</sup> Evaluation**

**Table 1. Major measured traits & Classers' grade**

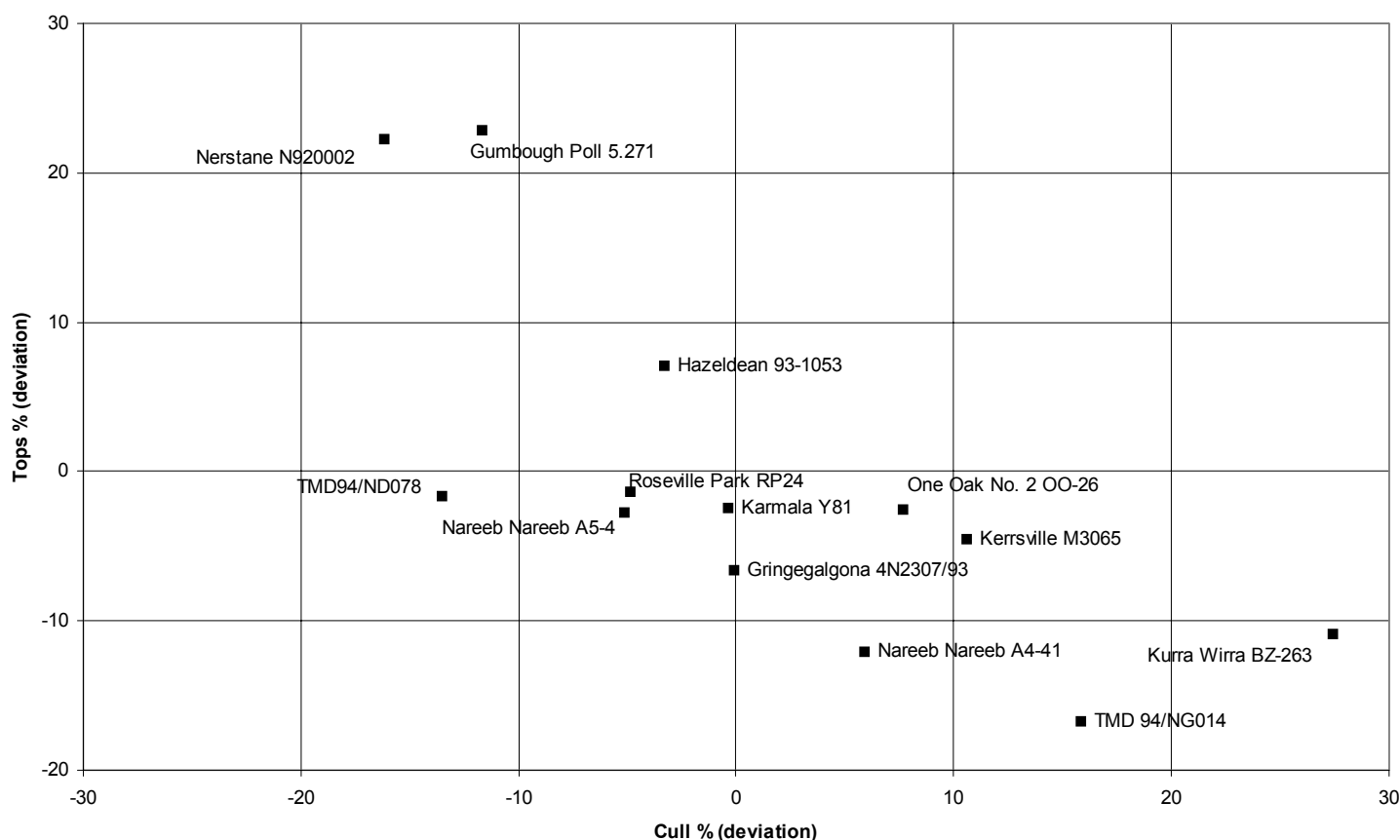
Sire Graph Code	Sire Identity	Number of Progeny	Estimated Progeny Values								Classers' grade %		
			GFW%		CFW%		FD um		BWT%		Tops 2 <sup>nd</sup>	Flocks 2 <sup>nd</sup>	Culls 2 <sup>nd</sup>
1	Gringegalgon 4N2307/93	55	1.5	1.8	1.9	0.1	0.2	0.1	-2.7	-2.8	14	62	24
2	Gumbough Poll 5.271	60	5.9	4.9	7.4	7.6	0.4	0.6	2.9	2.1	43	45	12
3	Hazeldean 93-1053	48	3.9	0.6	6.3	0.5	-0.3	-0.6	3.3	1.7	27	53	20
4	Karmala Y81	46	-3.7	-3.5	-3.4	-2.7	0.2	0.2	3.1	4.6	18	59	23
5	Kerrsville M3065	34	-3.2	-1.4	-3.4	0.7	-0.3	-0.1	-6.7	-6.0	16	50	34
6	Kurra Wirra BZ-263	44	-4.5	1.6	-6.1	0.1	-0.5	-0.9	-5.9	-5.3	9	40	51
7	Nareeb Nareeb A4-41	50	-0.4	1.4	-0.4	1.5	0.3	0.6	2.5	3.3	8	62	30
8	Nareeb Nareeb A5-4	51	1.3	0.7	0.9	3.2	0.1	0.3	3.8	3.8	17	64	19
9	Nerstane N-0002	53	-1.0	-2.3	-0.7	-3.1	-0.7	-0.6	0.1	-1.0	42	50	8
10	One Oak OO-26	52	1.2	4.2	3.2	7.8	0.3	0.8	-0.4	1.5	18	51	31
11	Roseville Park RP24	53	-0.2	0.6	-3.6	-2.9	-0.3	-0.6	-0.4	0.1	19	62	19
12	The Mountain Dam 94/ND078	57	-0.2	-5.7	2.5	-3.8	0.1	-0.1	2.5	-0.5	19	71	10
13	The Mountain Dam 94/NG014	44	-0.6	-3.0	-4.7	-9.0	0.4	0.3	-2.1	-1.5	3	57	40
Average		50	2.2 kg	4.6 kg	1.6 kg	3.3 kg	16.4 mic.	18.1 mic.	19.8 kg	37.4 kg	20%	56%	24%

**Table 2: Additional measured & scored trait performance**

Sire Graph Code	Sire Identity	Number Of Progeny	EPVs				Sire Group – Deviation from Average					Fleece Rot	
			Yld %		FDCV %		Stpl.lth DEV	Stand. DEV	%>30 DEV	Spin. DEV	Curv. DEV	Score (0-5)	Incid. %
1	Gringegalgon 4N2307/93	55	0.4	-0.8	0.7	0.8	3.8	0.2	0.0	0.2	-6.2	0.1	4.6
2	Gumbough Poll 5.271	60	1.2	1.6	0.4	0.8	7.2	0.3	0.6	0.8	-2.6	0.1	4.3
3	Hazeldean 93-1053	48	1.8	0.0	-0.4	-0.2	6.3	-0.2	-0.2	-0.6	-0.2	0.1	8.0
4	Karmala Y81	46	0.2	0.3	-0.2	-0.1	-2.1	0.0	0.0	0.2	3.5	0.2	11.1
5	Kerrsville M3065	34	-0.3	1.3	0.0	0.5	-5.4	0.1	0.0	0.0	0.9	0.1	7.1
6	Kurra Wirra BZ-263	44	-1.5	-0.8	0.4	-0.1	-6.3	-0.3	-0.3	-1.1	5.7	0.3	15.1
7	Nareeb Nareeb A4-41	50	-0.1	0.0	-0.6	0.1	-8.3	0.2	0.1	0.6	-2.2	0.1	7.1
8	Nareeb Nareeb A5-4	51	-0.1	1.6	0.3	0.1	-2.5	0.1	0.1	0.4	-3.8	0.3	15.1
9	Nerstane N-0002	53	0.1	-0.8	-1.0	-1.4	14.5	-0.4	-0.3	-0.8	-2.7	0.0	0.0
10	One Oak OO-26	52	1.4	2.2	0.3	0.6	1.6	0.3	0.3	0.9	-5.7	0.3	18.6
11	Roseville Park RP24	53	-2.5	-2.0	-0.1	0.0	-10.2	-0.1	-0.2	-0.7	2.9	0.1	5.7
12	The Mountain Dam 94/ND078	57	1.8	1.0	0.1	-0.9	3.0	-0.2	-0.1	-0.3	3.6	0.1	4.6
13	The Mountain Dam 94/NG014	44	-2.4	-3.7	0.0	-0.2	-7.8	0.0	0.0	0.2	10.0	0.0	0.0
Average		50	72.9	71.5	21.1	20.8	94.6	3.8	1.1	17.6	115.6	0.1	7.6

- Fleece Rot scores from visual classing/shearing
- Estimated Progeny Values (EPVs) are not constant figures. Each time an assessment of the same group of sheep is undertaken the new data is added to the previously recorded data and EPVs are calculated for traits from both first and second assessments. Because additional data is included in the analysis, the EPVs for the first assessment shown here may be different from the EPVs presented last year. This means that EPVs from a single assessment may change when more than one set of data is analysed. Because the data from the first assessment is re-used, the number of progeny measured in the first assessment is displayed here.

**Figure 3 - Summary Graph Classers' Grades - 1998 drop  
2<sup>nd</sup> Evaluation**



**Tables 3 – Classers' Assessments – 1998 drop - 2<sup>nd</sup> Evaluation**

**Table 3 (a) Group Traits**

Sire Graph Code	Sire Identity	Number of Progeny	Classers' Grade %			Conformation			Quality			Pigment	
			Tops	Flocks	Culls	Pos	Good	Neg	Pos	Good	Neg	Pos	Neg
1	Gringegalgon 4N2307/93	55	14	62	24	25	40	35	27	41	32	95	5
2	Gumbough Poll 5.271	60	43	45	12	61	12	27	65	12	23	85	15
3	Hazeldean 93-1053	48	27	53	20	55	13	33	41	18	41	88	13
4	Karmala Y81	46	18	59	23	60	16	24	32	32	36	88	12
5	Kerrsville M3065	34	16	50	34	10	29	61	41	19	40	94	6
6	Kurra Wirra BZ-263	44	9	40	51	17	17	65	29	27	44	99	1
7	Nareeb Nareeb A4-41	50	8	62	30	46	10	44	17	31	52	88	12
8	Nareeb Nareeb A5-4	51	17	64	19	59	10	30	31	37	31	87	13
9	Nerstane N-0002	53	42	50	8	48	31	21	73	5	23	98	2
10	One Oak OO-26	52	18	51	31	45	14	41	30	15	55	92	8
11	Roseville Park RP24	53	19	62	19	45	13	42	48	17	35	95	5
12	The Mountain Dam 94/ND078	57	19	71	10	51	17	32	33	27	40	96	4
13	The Mountain Dam 94/NG014	44	3	57	40	23	40	37	17	37	45	92	8
	<b>Average</b>	<b>50</b>	<b>20%</b>	<b>56%</b>	<b>24%</b>	<b>43%</b>	<b>20%</b>	<b>37%</b>	<b>38%</b>	<b>24%</b>	<b>38%</b>	<b>92</b>	<b>8%</b>

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

**Table 3(b) Conformation and Type % 2<sup>nd</sup> Assessment**

Sire Graph Code	Body Size			Body Length			Face cover		Mouth		Shoulder		Feet/Hocks		Development			Coverage		
	Pos	Avg	Neg	Pos	Avg	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Under	Avg	Over	Pos	Good	Neg
1	24	63	14	15	80	5	92	8	88	12	94	6	94	6	3	96	1	13	83	5
2	59	39	3	34	65	1	94	6	96	4	96	4	89	11	13	87	0	25	70	5
3	53	44	2	30	69	1	89	11	91	9	84	16	99	1	7	91	2	14	77	9
4	60	37	3	31	67	2	93	7	99	1	82	18	100	0	3	96	1	10	80	10
5	7	61	31	7	73	20	90	10	94	6	74	26	91	9	1	90	9	7	89	4
6	15	51	34	10	59	30	80	20	100	0	67	33	92	8	3	81	15	10	84	6
7	43	46	11	21	71	7	91	9	97	3	72	28	97	3	4	93	3	8	84	8
8	56	38	6	33	64	3	97	3	99	1	81	19	95	5	2	98	0	9	90	1
9	47	43	9	27	64	8	96	4	99	1	99	1	95	5	3	95	2	16	71	13
10	45	44	11	26	68	6	96	4	95	5	68	32	97	3	5	93	2	15	84	1
11	38	50	12	22	67	11	77	23	99	1	86	14	100	0	11	84	5	18	72	10
12	50	49	1	25	74	1	97	3	98	2	75	25	95	5	2	95	3	4	92	5
13	21	58	21	15	72	13	91	9	99	1	95	5	95	5	3	85	12	6	81	13
Avg	41	48	11	23	69	8	91	9	96	4	83	17	95	5	5	91	4	12	81	7

**Table 3(c) Wool Quality 2<sup>nd</sup> Assessment**

Sire Graph Code	Nourishment			Colour			Style			Evenness			Handle		Topline		Staple Structure		Tip Hair		Staple Length		
	Pos	Av	Neg	Pos	Avg	Neg	Pos	Avg	Neg	Pos	Avg	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Avg	Neg
1	19	65	16	21	73	6	21	74	5	16	80	4	91	9	96	4	90	10	100	0	0	100	0
2	41	53	5	43	54	3	48	43	9	36	62	2	91	9	97	3	98	2	100	0	3	97	0
3	25	66	9	26	52	22	27	64	9	25	69	6	91	9	86	14	88	13	97	3	0	98	2
4	22	61	17	19	73	8	21	74	4	16	81	3	97	3	88	12	92	8	100	0	0	97	3
5	27	51	21	31	66	3	39	60	1	20	76	4	94	6	89	11	91	9	100	0	0	99	1
6	20	67	13	19	60	21	23	67	9	14	77	9	93	7	83	17	80	20	100	0	0	97	3
7	6	76	18	12	80	8	14	80	6	8	83	9	88	12	82	18	86	14	99	1	0	99	1
8	17	77	6	23	69	8	28	69	3	17	77	6	95	5	87	13	99	1	100	0	0	99	1
9	38	55	8	55	43	2	46	43	10	44	54	2	98	2	100	0	93	7	100	0	6	94	0
10	18	68	15	23	66	12	23	68	10	17	75	9	93	7	70	30	89	11	97	3	1	97	2
11	36	54	10	26	62	11	35	62	3	22	71	8	96	4	88	12	89	11	100	0	0	97	3
12	13	72	15	27	71	2	21	69	9	16	81	3	94	6	84	16	97	3	98	2	1	99	0
13	7	67	26	9	72	19	9	74	16	6	78	16	84	16	99	1	69	31	99	1	0	97	3
Avg	23	64	13	26	65	9	28	65	8	20	74	6	93	7	89	12	90	10	99	1	1	98	2

**Table 3(d) Pigment**

Sire Grap Code	1 <sup>st</sup> Assessment			2 <sup>nd</sup> Assessment		
	Sire Identity	Skin Pigment % Neg *	% sheep with Pigmented Wool **	No. Black Spot Lmbs ***	Skin Pigment % Neg *	% sheep with Pigmented Wool
1	Gringegalgon 4N2307/93	0	1.8	0	5	0
2	Gumbough Poll 5.271	2	0	0	15	0
3	Hazeldean 93-1053	1	1.6	0	13	0
4	Karmala Y81	0	0	0	10	2
5	Kerrsville M3065	0	0	0	6	0
6	Kurra Wirra BZ-263	0	0	0	1	0
7	Nareeb Nareeb A4-41	0	2	1	12	0
8	Nareeb Nareeb A5-4	0	0	0	12	2
9	Nerstane N-0002	0	0	0	2	0
10	One Oak OO-26	0	0	0	8	0
11	Roseville Park RP24	0	5.6	3	5	2
12	The Mountain Dam 94/ND078	0	1.7	0	4	0
13	The Mountain Dam 94/NG014	2	0	0	8	0
	Average	0%	0%	4 lmbs	8%	0%

\* Noted by classers during 1<sup>st</sup> classing assessment (%)

\*\* Noted by committee at 1<sup>st</sup> assessment shearing (%)

\*\*\* Noted by committee at tagging (actual number)

Note: Black spot lambs and 1<sup>st</sup> assessment progeny with pigmented wool were removed from trial after first assessment. In the 2<sup>nd</sup> assessment classers were more critical of skin pigment when classing sheep at 22 months. The 2<sup>nd</sup> assessment table also shows some further progeny deemed to have pigmented wool were found at the 2<sup>nd</sup> shearing.

**Table 4 - Progeny Group Visual Classing – 1998 drop - 2<sup>nd</sup> Evaluation**

Group Assessment: The following table describes the classers' opinion on the progeny assessed in their Sire Groups for evenness. Progeny are divided into their sire groups and are assessed with a score from 1 to 5 (1 being poor, 5 being good) as an overall group. This table does not relate to the level of actual performance but how the overall group was viewed for the traits listed below.

Sire Graph Code	Sire Identity	Number of Progeny	Evenness	Size	Conformation
1	Gringegalgon 4N2307/93	55	3	2	3
2	Gumbough Poll 5.271	58	4	5	4
3	Hazeldean 93-1053	44	3	4	3
4	Karmala Y81	45	4	3	4
5	Kerrsville M3065	35	3	2	2
6	Kurra Wirra BZ-263	43	3	2	2
7	Nareeb Nareeb A4-41	49	4	4	4
8	Nareeb Nareeb A5-4	44	4	4	3
9	Nerstane N-0002	53	4	2	4
10	One Oak OO-26	51	3	3	3
11	Roseville Park RP24	53	3	3	3
12	The Mountain Dam 94/ND078	54	4	4	4
13	The Mountain Dam 94/NG014	43	3	3	3
	Average	627	3.5	3.2	3.2

## **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)
BW	%	Body Weight (percentage)
FD	µm	Fibre Diameter (micron)
CV FD	%	Coefficient of Variation (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 as a percentage 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 $\mu$ . Ram 2 has an EPV for Fibre Diameter of -0.8 $\mu$ . The progeny of Ram 1 are expected to be 2 $\mu$  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	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**

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 $\mu$  wool is worth \$5.00/Kg clean, then 19 $\mu$  wool is worth 8% more, or 1.08 x \$5.00 = \$5.40/kg.

### **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.

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