



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

**1999 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

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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 4 progeny drops – 1998, 1999, 2000 and 2001; the 1998 and 1999 progeny being run on host property “The Mountain Dam”, Balmoral and the 2000 & 2001 drop progeny at Kerrsville, situated between Balmoral and Coleraine. All trials are run for a minimum of 2 years.

The 1998 drop wethers have continued 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.

The Elders VP Victoria Sire Evaluation Trials aims to inform participants, their clients and interested woolgrowers on events surrounding the trials and in addition to these annual reports, produces periodic newsletters. 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 & 2001), Balmoral and Horsham Shows and Hamilton Sheepvention. Participating studs have also provided static displays for viewing during field days. In April, 2000 and again in 2001 successful Open Days were 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 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 were 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 15 DSE/ha.

The 2000 & 2001 drop progeny are hosted at Kerrsville, Coleraine.

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

*Data analysis: Sue Jarvis*

December 2001

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The information in this booklet should not be read in isolation – 1999 drop progeny at time of assessment were 22 months of age and shorn with 12 months wool growth. This is the second assessment of progeny in the Central Test Evaluation trials and results from this assessment will be reported in the *Merino Superior Sires* publication.

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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>Conformation:</b> Not specifically scored in assessment, but figures taken from overall classing of structural scores and combined into an aggregate.</p> <p><b>Face</b> – Scored 1 to 5, 1 being muffled, 2 being better and 3 and above being positive.</p> <p><b>Shoulders/back</b> – shown as a percentage of negative incidence.</p> <p><b>Feet/legs</b> – Scored 1 – 5, 1 having negative problems, 2 slight problem, and 3 and above being good.</p> <p><b>Neck/body development</b> - Scored 1 – 5, 1 having negative problems, 2 slight problem, and 3 and above being good</p> <p><b>Mouth/Jaw</b> – shown as a percentage of negative incidence.</p> <p><b>Wool Quality:</b></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>Wool Character</b> – Scored 1 to 5, where '5' is best, '1' is worst.</p> <p><b>Dust penetration/staple weathering</b> - Scored 1 to 5, where '5' is best, '1' is worst.</p> <p><b>Pigmentation:</b> No. <b>Black Lambs:</b> 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><b>Skin Pigmentation:</b> progeny noted as having skin pigmentation (typically smutty nose/brown rimmed eyes) shown as a percentage of negative incidence.</p> <p><b>Wool Pigmentation:</b> Small spot of black or coloured wool in wool growing area, noted at shearing and shown as a percentage of negative incidence.</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 <del>CFW, FD, CV &amp; BWT</del>. 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 <del>than that</del> 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 <del>improving</del> CV of fibre diameter <del>at 1/5<sup>th</sup> the value of FD which is in line with spinning performance</del>.</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 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 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 – 1999 drop progeny at time of 2nd assessment were 22 months of age with 12 months wool growth. These progeny are now reported in this document for their second and final assessment in 2001.

## **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.

## 1999 DROP SIRE & OWNER DETAILS

| <b>Sire Identity</b>                    | <b>Contact Name, Address, Phone &amp; Fax No. &amp; Email</b>   |
|---|---|
| Blythwood 0200                          | Graeme Belleville, Blythwood Pastoral Co., RMB 5440, Macarthur 3286<br>Ph. 0355 764235, Fax 0355 764238   |
| Burthong R-280                          | Nick Stanislawski, RMB 9210, Coleraine 3315<br>Ph. 0355 790253  |
| Charinga<br>White HM 10-398<br>[Munchy] | Roger & Donna Polkinghorne, RMB 636, St Arnaud 3478<br>Ph. 0354 965223, Fax 0354 965202, Email: <a href="mailto:charinga@ruralnet.net.au">charinga@ruralnet.net.au</a>                                      |
| Cressbrook B3 94/125                    | Ross, Liz, Lach & Olivia Fulloon, Cressbrook Partnership, 593 Enmore Road, Armidale 2350<br>Ph. 0267 751257, Fax 0267 751341, Email: <a href="mailto:cressbrk@northnet.com.au">cressbrk@northnet.com.au</a> |
| Cressbrook N8 96/59                     | Ross Fulloon, Cressbrook Partnership, 593 Enmore Road, Armidale 2350<br>Ph. 0267 751257, Fax 0267 751341, Email: <a href="mailto:cressbrk@northnet.com.au">cressbrk@northnet.com.au</a>                     |
| Denholm Green 1244                      | Will Allen, Denholm Green Pastoral Co., RMB 5312, Hexham 3273<br>Ph. 0355 997211, Fax 0355 997273   |
| Gringegalgonia<br>4N2527/95             | Stephen Silcock, Gringegalgonia Stud Partnership, RMB 365, Balmoral 3407<br>Ph. 0355 743202, Fax 0355 743239  |
| Hazeldean<br>95-4989                    | Jim Litchfield, Hazeldean Pty. Ltd., Cooma 2630<br>Ph. 0264 535555, Fax 0264 535526 Email: <a href="mailto:hazeldean@snowy.net.au">hazeldean@snowy.net.au</a>   |
| Kerrsville NB6040                       | Robert Plush, RMB 8203, Coleraine 3315<br>Ph/Fax 0355 750208 Email: <a href="mailto:plush1@ansonic.com.au">plush1@ansonic.com.au</a>  |
| Merinotech Vic 93084<br>[LINK SIRE] *   | Alistair Lade, Merinotech Vic, c/- RMB 4774, Seymour 3660<br>Ph. 0357 969276, Fax 0357 969311, <a href="mailto:al-lade@bigpond.com">al-lade@bigpond.com</a>   |
| Nerstane N950421                        | John McLaren, Nerstane Merino Stud, Woolbrook 2354<br>Ph. 0267 775881, Fax 0267 775922, Email: <a href="mailto:nerstane@northnet.com.au">nerstane@northnet.com.au</a>                                       |
| The Mountain Dam **<br>96/LB060         | Tom Silcock, T & A Silcock, RMB 8401, Horsham 3401<br>Ph. 0353 882238, Fax 0353 882235 Email: <a href="mailto:silcock@netconnect.com.au">silcock@netconnect.com.au</a>                                      |
| The Mountain Dam **<br>96/NI011         | Tom Silcock, T & A Silcock, RMB 8401, Horsham 3401<br>Ph. 0353 882238, Fax 0353 882235 Email: <a href="mailto:silcock@netconnect.com.au">silcock@netconnect.com.au</a>                                      |
| Toland Poll Red R25<br>[LINK SIRE] *    | Philip Toland, PC & G Toland, Feltrim, RMB 2005, Violet Town 3669<br>Ph. 0357 981605, Fax 0357 981404, Email: <a href="mailto:toland@hdc.com.au">toland@hdc.com.au</a>                                      |
| Toland Poll Red R507                    | Philip Toland, PC & G Toland, Feltrim, RMB 2005, Violet Town 3669<br>Ph. 0357 981605, Fax 0357 981404, Email: <a href="mailto:toland@hdc.com.au">toland@hdc.com.au</a>                                      |
| Wirrate White 047                       | Ken Heal, Classic Pastoral Co., Melrose Park, Nagambie 3608<br>Ph/Fax 0357 942475, Email: <a href="mailto:heal@eck.net.au">heal@eck.net.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 – 1999 Drop Progeny**

### ***Ewe Base:***

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

### ***1999 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 1999 commenced with two false starts to the autumn seasonal break. Feed was scarce right throughout the late Autumn and early Winter period. 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 finished with plentiful feed and major seed management conditions. The 2001 season has been spasmodic but has finished with a flourish and good water catchment.

### ***The Evaluation & Management Program 1999 drop progeny:***

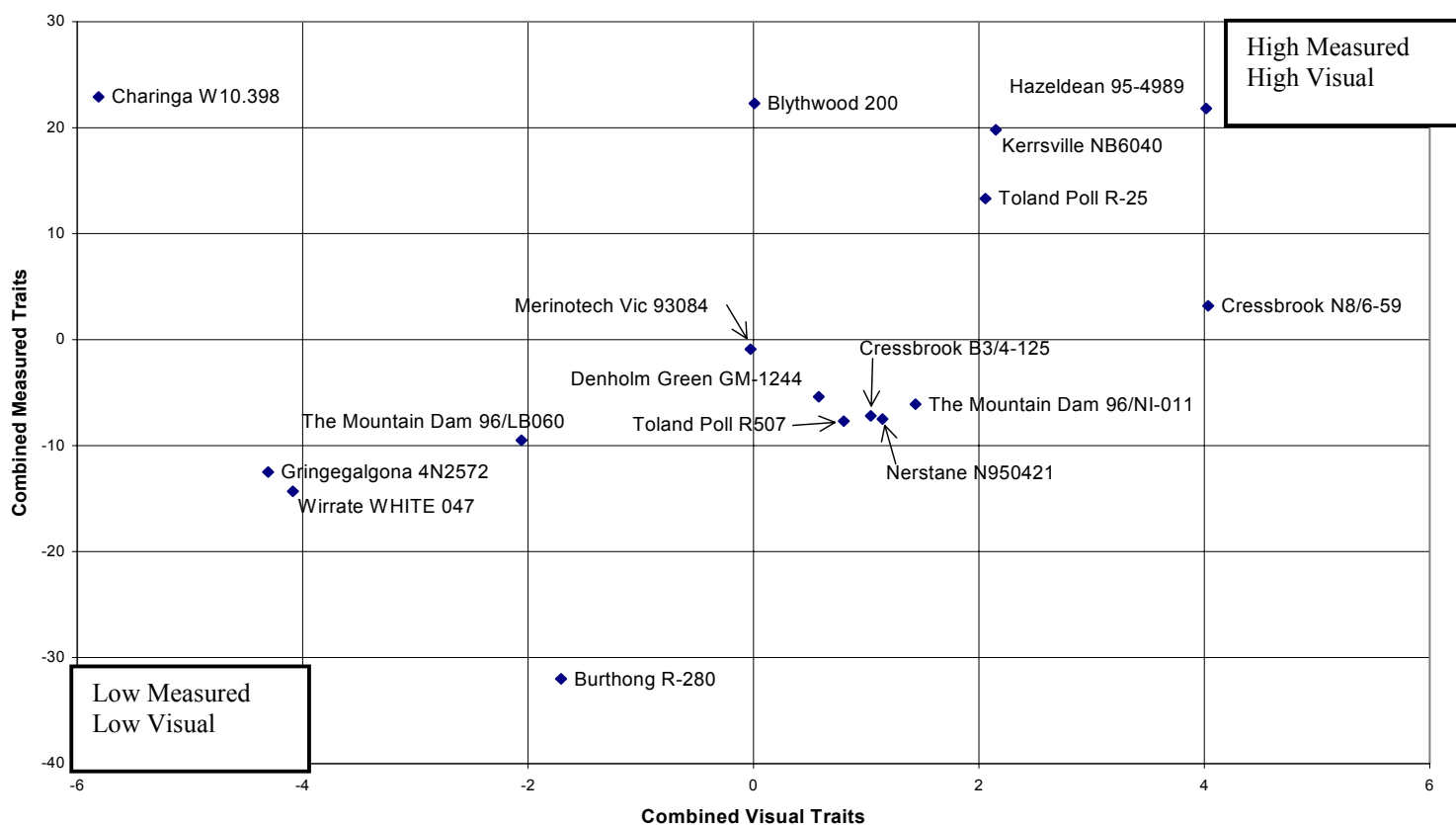
|  |   |
|--|---|
| 16 <sup>th</sup> March 1999                        | Commence AI program - Ewes sponged & teasers injected                     |
| 23 <sup>rd</sup> March 1999                        | 2 <sup>nd</sup> injection for Teasers                                     |
| 28 <sup>th</sup> /29 <sup>th</sup> March 1999      | Pull sponges & inject ewes with PMSG                                      |
| 30 <sup>th</sup> March/ 1 <sup>st</sup> April 1999 | Laparoscopic insemination of 944 ewes, conducted by Genstock              |
| 28 <sup>th</sup> May 1999                          | Ultrasound/scan ewes  |
| 25 <sup>th</sup> August 1999                       | Ewes drafted into 32 groups (identifying singles & twins) for lambing     |
| 27 <sup>th</sup> August 1999                       | Ewes commence lambing   |
| 4 <sup>th</sup> September 1999                     | Lambing complete – commence lamb tagging, scored and weighed (rained off) |
| 7 <sup>th</sup> September 1999                     | Complete lamb tagging, scoring and weighing                               |
| 7 <sup>th</sup> September 1999                     | Ewes & lambs returned to full mob   |
| 7 <sup>th</sup> October 1999                       | Mark & Mules lambs, vaccinated 6 in 1/selenium & weighed                  |
| 12 <sup>th</sup> December 1999                     | Weaned Lambs, body weighed, drenched, selenium bullets and jetted         |
| December, 1999                                     | Commenced supplementary feeding with lupins & hay                         |
| May, 2000  | Progeny crutched and Ivomec drench capsuled                               |
| 19 <sup>th</sup> June, 2000                        | 1 <sup>st</sup> Visual Classing of progeny                                |
| 28 <sup>th</sup> June, 2000                        | 1 <sup>st</sup> Shearing & body weighing of progeny                       |
| December 2000                                      | Summer/autumn rotational grazing system being given new saved paddocks    |
| 3 <sup>rd</sup> April, 2001                        | Group assessment  |
| 11 <sup>th</sup> June, 2001                        | 2 <sup>nd</sup> Visual classing   |
| 19 <sup>th</sup> June, 2001                        | 2 <sup>nd</sup> Shearing & body weighing of progeny                       |

### ***Classers for 1999 Drop Progeny***

Mr Michael Collins

Mr Gary Simpson

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



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.)

**Table B – RAMPOWER Standard Index Options and Classers' Grade 1999 Drop -  
2<sup>nd</sup> Evaluation**

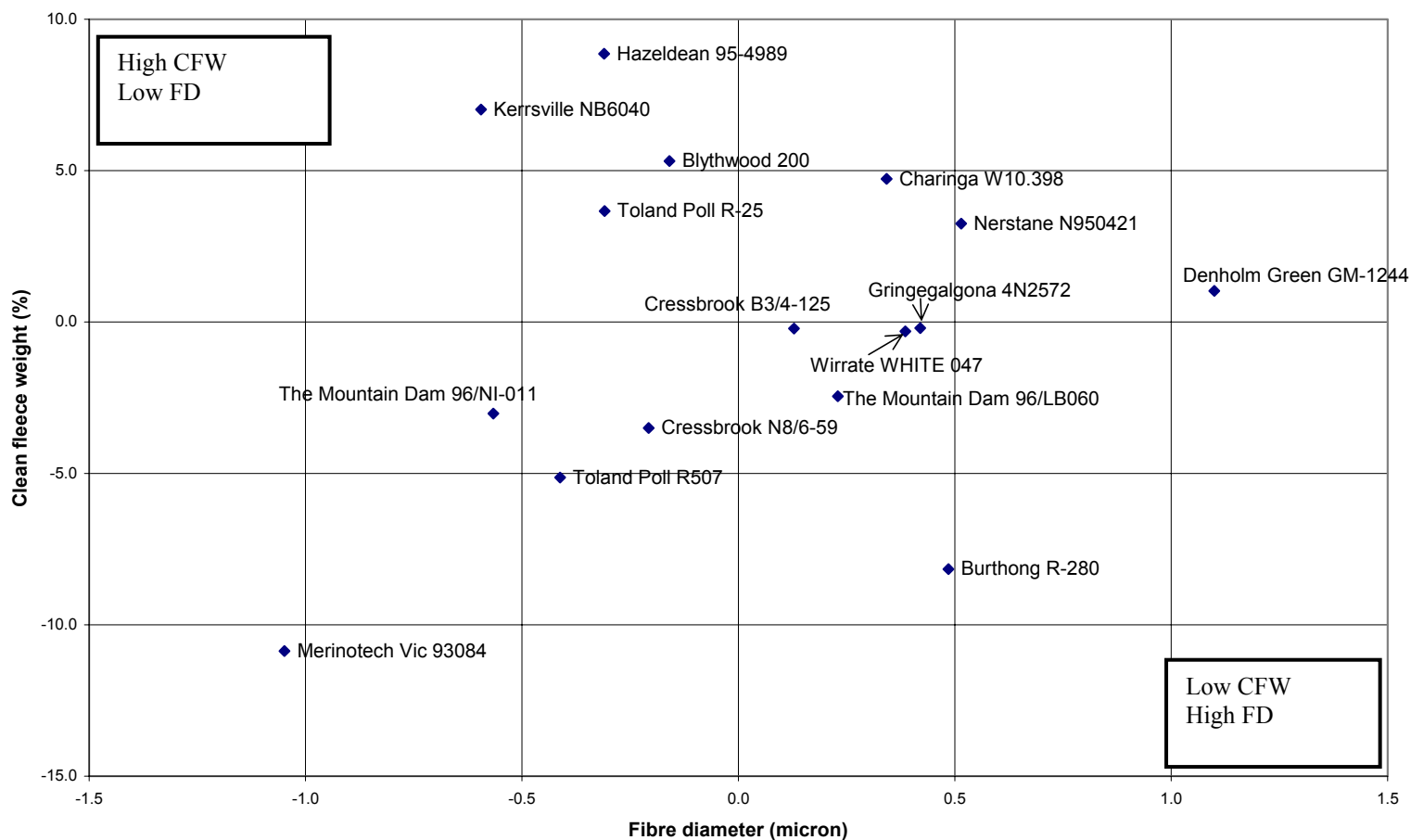
**RAMPOWER Standard Index Options and Classers' Grade – 1999 drop – 2<sup>nd</sup> Evaluation**

| Sire Graph Code | Sire Identity              | No of progeny | RAMPOWER Standard Index Options |       |        | Classers' Grade % <sup>1</sup> |        |       |
|-----------------|----------------------------|---------------|---------------------------------|-------|--------|--------------------------------|--------|-------|
|                 |                            |               | 3% MP                           | 6% MP | 12% MP | Tops                           | Flocks | Culls |
| 1               | Blythwood 200              | 36            | 124                             | 122   | 117    | 16                             | 76     | 9     |
| 2               | Burthong R-280             | 39            | 68                              | 68    | 74     | 11                             | 76     | 13    |
| 3               | Charinga W10.398           | 44            | 131                             | 123   | 111    | 12                             | 54     | 34    |
| 4               | Cressbrook B3/4-125        | 37            | 94                              | 93    | 95     | 19                             | 74     | 7     |
| 5               | Cressbrook N8/6-59         | 46            | 101                             | 103   | 105    | 31                             | 66     | 3     |
| 6               | Denholm Green GM-1244      | 42            | 105                             | 95    | 89     | 16                             | 78     | 6     |
| 7               | Gringegalgaona 4N2572      | 54            | 93                              | 88    | 86     | 9                              | 68     | 23    |
| 8               | Hazeldean 95-4989          | 58            | 123                             | 122   | 113    | 39                             | 48     | 12    |
| 9               | Kerrsville NB6040          | 42            | 117                             | 120   | 115    | 32                             | 54     | 14    |
| 10              | Merinotech Vic 93084 *     | 43            | 83                              | 99    | 115    | 17                             | 72     | 10    |
| 11              | Nerstane N950421           | 40            | 98                              | 93    | 90     | 24                             | 64     | 12    |
| 12              | The Mountain Dam 96/LB060  | 52            | 91                              | 91    | 91     | 7                              | 82     | 11    |
| 13              | The Mountain Dam 96/NI-011 | 50            | 85                              | 94    | 104    | 21                             | 71     | 7     |
| 14              | Toland Poll R-25 *         | 25            | 112                             | 113   | 112    | 24                             | 70     | 7     |
| 15              | Toland Poll R507           | 30            | 86                              | 92    | 99     | 15                             | 81     | 4     |
| 16              | Wirrate WHITE 047          | 33            | 89                              | 86    | 85     | 10                             | 67     | 23    |
|                 | Average                    | 42            | 100                             | 100   | 100    | 20                             | 68     | 12    |

\* 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 - 1999 drop - 2<sup>nd</sup> Evaluation



**Tables 1 & 2 – Measured and scored assessments - 1999 drop – 2<sup>nd</sup> Evaluation**

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

| Sire Code | Sire                       | No of progeny | Estimated Progeny Values |                 |                 |                 |                 |                 |                 |                 | Classers' Grade % |        |       |
|-----------|----------------------------|---------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|--------|-------|
|           |                            |               | GFW%                     |                 | CFW%            |                 | FD um           |                 | BWT%            |                 | Tops              | Flocks | Culls |
|           |                            |               | 1 <sup>st</sup>          | 2 <sup>nd</sup> | 1 <sup>st</sup> | 2 <sup>nd</sup> | 1 <sup>st</sup> | 2 <sup>nd</sup> | 1 <sup>st</sup> | 2 <sup>nd</sup> |                   |        |       |
| 1         | Blythwood 200              | 36            | 6.5                      | 4.3             | 7.4             | 5.3             | -0.1            | -0.2            | 0.6             | -0.2            | 16                | 76     | 9     |
| 2         | Burthong R-280             | 39            | -3.6                     | -4.6            | -7.5            | -8.2            | 0.4             | 0.5             | -2.5            | -0.7            | 11                | 76     | 13    |
| 3         | Charinga W10.398           | 44            | -2.5                     | 2.2             | -0.1            | 4.7             | 0.0             | 0.3             | -1.8            | 3.0             | 12                | 54     | 34    |
| 4         | Cressbrook B3/4-125        | 37            | -6.0                     | -5.1            | -1.9            | -0.2            | 0.1             | 0.1             | -3.8            | -3.4            | 19                | 74     | 7     |
| 5         | Cressbrook N8/6-59         | 46            | -0.4                     | -3.9            | -1.2            | -3.5            | -0.2            | -0.2            | -0.9            | 1.7             | 31                | 66     | 3     |
| 6         | Denholm Green GM-1244      | 42            | 0.5                      | 0.1             | 0.8             | 1.0             | 0.9             | 1.1             | 5.5             | 5.5             | 16                | 78     | 6     |
| 7         | Gringegalgonia 4N2572      | 54            | -5.4                     | -3.1            | -3.1            | -0.2            | 0.4             | 0.4             | -3.4            | -2.5            | 9                 | 68     | 23    |
| 8         | Hazeldean 95-4989          | 58            | 7.6                      | 13.0            | 6.1             | 8.9             | -0.1            | -0.3            | 2.4             | -0.7            | 39                | 48     | 12    |
| 9         | Kerrsville NB6040          | 42            | 0.4                      | 7.4             | -0.6            | 7.0             | -0.6            | -0.6            | 3.7             | 2.5             | 32                | 54     | 14    |
| 10        | Merinotech Vic 93084       | 43            | -2.5                     | -10.4           | -2.1            | -10.9           | -0.8            | -1.0            | 2.0             | 2.7             | 17                | 72     | 10    |
| 11        | Nerstane N950421           | 40            | 3.1                      | 3.4             | 2.4             | 3.3             | 0.6             | 0.5             | -3.2            | -4.9            | 24                | 64     | 12    |
| 12        | The Mountain Dam 96/LB060  | 52            | -0.1                     | 1.2             | -2.4            | -2.5            | 0.2             | 0.2             | 6.4             | 5.5             | 7                 | 82     | 11    |
| 13        | The Mountain Dam 96/NI-011 | 50            | 0.0                      | -2.1            | 0.3             | -3.0            | -0.3            | -0.6            | -1.6            | -4.0            | 21                | 71     | 7     |
| 14        | Toland Poll R-25           | 25            | -1.9                     | 1.5             | -0.6            | 3.7             | -0.5            | -0.3            | 0.1             | 0.5             | 24                | 70     | 7     |
| 15        | Toland Poll R507           | 30            | 1.9                      | -4.0            | 1.4             | -5.1            | -0.3            | -0.4            | 1.2             | 0.0             | 15                | 81     | 4     |
| 16        | Wirrate WHITE 047          | 33            | 2.3                      | 0.1             | 1.2             | -0.3            | 0.3             | 0.4             | -4.8            | -5.0            | 10                | 67     | 23    |
|           | Average                    | 42            | 2.6                      | 5.6             | 1.8             | 4.0             | 16.3            | 18.6            | 28.0            | 33.7            | 20                | 68     | 12    |

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

| Sire Code | Sire Identity              | No of progeny | EPVs            |                 |                 |                 | Sire Group – Deviation from Average |      |          |        |       | Fleece Rot |               |
|-----------|----------------------------|---------------|-----------------|-----------------|-----------------|-----------------|-------------------------------------|------|----------|--------|-------|------------|---------------|
|           |                            |               | Yld %           |                 | FDCV %          |                 | StpL                                | SD   | %>30 mic | Spin F | Curv  | Score *    | % Incidence** |
|           |                            |               | 1 <sup>st</sup> | 2 <sup>nd</sup> | 1 <sup>st</sup> | 2 <sup>nd</sup> |                                     |      |          |        |       |            |               |
| 1         | Blythwood 200              | 36            | 0.6             | 0.6             | -0.3            | 0.0             | 4.2                                 | 0.0  | 0.1      | -0.2   | -1.8  | 0.69       | 37.1          |
| 2         | Burthong R-280             | 39            | -3.2            | -2.2            | -0.7            | -0.4            | -9.7                                | 0.0  | 0.0      | 0.4    | 13.0  | 0.31       | 25.7          |
| 3         | Charinga W10.398           | 44            | 1.8             | 1.5             | 0.4             | 0.4             | 4.6                                 | 0.1  | 0.0      | 0.4    | -10.2 | 0.37       | 31.7          |
| 4         | Cressbrook B3/4-125        | 37            | 3.2             | 3.0             | 0.6             | 0.2             | -5.4                                | 0.1  | -0.1     | 0.2    | 4.3   | 0.46       | 32.4          |
| 5         | Cressbrook N8/6-59         | 46            | -0.5            | 0.3             | -0.3            | -0.1            | 0.4                                 | -0.1 | 0.1      | -0.2   | 4.4   | 0.32       | 18.2          |
| 6         | Denholm Green GM-1244      | 42            | 0.2             | 0.5             | -1.1            | -1.0            | -5.4                                | 0.1  | -0.2     | 0.9    | 4.6   | 0.45       | 32.5          |
| 7         | Gringegalgonia 4N2572      | 54            | 2.1             | 1.8             | 0.7             | 0.5             | 3.8                                 | 0.2  | -0.2     | 0.5    | -2.7  | 0.25       | 17.3          |
| 8         | Hazeldean 95-4989          | 58            | -1.5            | -2.4            | 0.5             | 0.6             | 4.4                                 | 0.1  | 0.1      | -0.2   | -5.4  | 0.60       | 31.6          |
| 9         | Kerrsville NB6040          | 42            | -0.8            | -0.3            | 0.4             | 1.1             | -9.0                                | 0.2  | -0.1     | -0.3   | -0.2  | 0.96       | 44.1          |
| 10        | Merinotech Vic 93084       | 43            | 0.6             | -0.3            | -0.8            | -1.2            | 4.3                                 | -0.5 | 0.4      | -1.3   | 0.8   | 0.23       | 14.0          |
| 11        | Nerstane N950421           | 40            | -0.8            | -0.2            | 0.0             | -0.3            | 2.7                                 | 0.0  | -0.2     | 0.3    | -0.3  | 0.46       | 28.2          |
| 12        | The Mountain Dam 96/LB060  | 52            | -1.8            | -2.1            | -0.2            | -0.3            | -2.7                                | 0.0  | -0.1     | 0.2    | 4.5   | 0.31       | 22.3          |
| 13        | The Mountain Dam 96/NI-011 | 50            | 0.2             | -0.6            | 0.0             | -0.6            | 2.5                                 | -0.3 | 0.2      | -0.7   | 2.7   | 0.49       | 30.6          |
| 14        | Toland Poll R-25           | 25            | 1.1             | 1.3             | 0.3             | 0.4             | 0.3                                 | 0.0  | 0.1      | -0.2   | -7.4  | 0.43       | 34.8          |
| 15        | Toland Poll R507           | 30            | -0.3            | -0.7            | 0.3             | 0.0             | 4.0                                 | -0.1 | 0.2      | -0.5   | 1.5   | 0.07       | 7.4           |
| 16        | Wirrate WHITE 047          | 33            | -0.8            | -0.2            | 0.3             | 0.5             | -1.4                                | 0.2  | -0.2     | 0.4    | -10.0 | 0.63       | 40.0          |
|           | Average                    | 42            | 71.3            | 71.5            | 21.1            | 20.5            | 103.5                               | 3.8  | 98.9     | 18.0   | 111.9 | 0.44       | 27.8          |

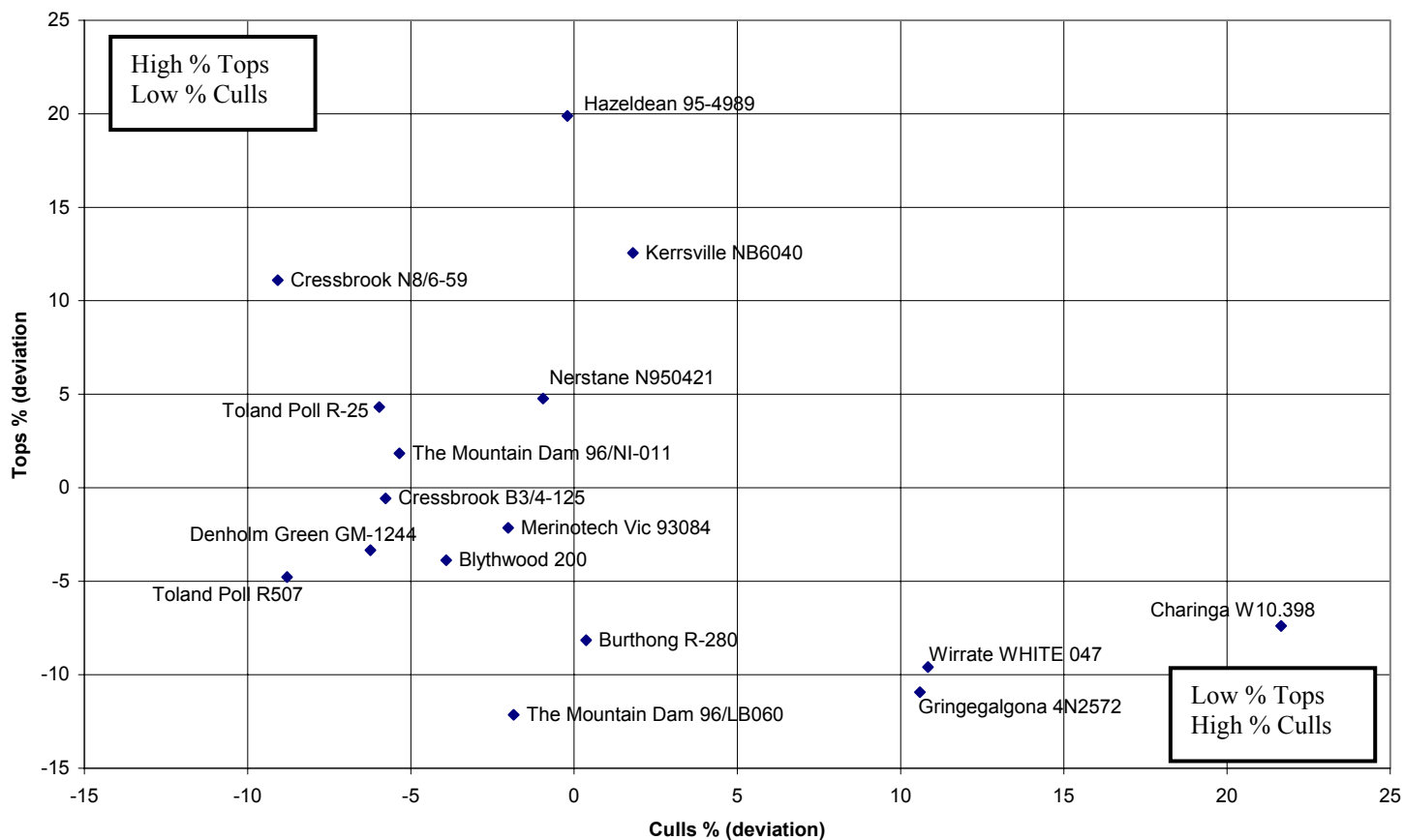
EPVs = Estimated Progeny Values

Fleece Rot scores from visual classing and shearing:

\* Average score of a sire's progeny, where "0" is best & '5' is worst.

\*\* Percentage of progeny showing any degree of fleece rot

**Figure 3 - Summary Graph Classers' Grades – 1999 drop - 2<sup>nd</sup> Evaluation**



**Tables 3 – Classers’ Assessments – 1999 drop – 2nd Evaluation**

**Table 3 (a) Group Traits**

| Sire Graph Code | Sire Identity              | Number of Progeny | Classers’ Grade % |        |       | Conformation |       |       | Quality |       |       |
|-----------------|----------------------------|-------------------|-------------------|--------|-------|--------------|-------|-------|---------|-------|-------|
|                 |                            |                   | Tops              | Flocks | Culls | % Pos        | % Avg | % Neg | % Pos   | % Avg | % Neg |
| 1               | Blythwood 200              | 36                | 16                | 76     | 9     | 0            | 84    | 16    | 46      | 21    | 33    |
| 2               | Burthong R-280             | 39                | 11                | 76     | 13    | 0            | 77    | 23    | 56      | 26    | 19    |
| 3               | Charinga W10.398           | 44                | 12                | 54     | 34    | 0            | 82    | 18    | 39      | 13    | 48    |
| 4               | Cressbrook B3/4-125        | 37                | 19                | 74     | 7     | 0            | 92    | 8     | 79      | -1    | 22    |
| 5               | Cressbrook N8/6-59         | 46                | 31                | 66     | 3     | 1            | 82    | 17    | 67      | 11    | 22    |
| 6               | Denholm Green GM-1244      | 42                | 16                | 78     | 6     | 0            | 85    | 15    | 64      | 6     | 30    |
| 7               | Gringegalgonia 4N2572      | 54                | 9                 | 68     | 23    | 0            | 89    | 11    | 33      | 31    | 37    |
| 8               | Hazeldean 95-4989          | 58                | 39                | 48     | 12    | 0            | 82    | 18    | 45      | 34    | 21    |
| 9               | Kerrsville NB6040          | 42                | 32                | 54     | 14    | 0            | 85    | 15    | 65      | 8     | 26    |
| 10              | Merinotech Vic 93084       | 43                | 17                | 72     | 10    | 0            | 84    | 16    | 58      | 15    | 27    |
| 11              | Nerstane N950421           | 40                | 24                | 64     | 12    | 0            | 81    | 19    | 54      | 27    | 19    |
| 12              | The Mountain Dam 96/LB060  | 52                | 7                 | 82     | 11    | 1            | 85    | 14    | 30      | 28    | 43    |
| 13              | The Mountain Dam 96/NI-011 | 50                | 21                | 71     | 7     | 0            | 76    | 24    | 63      | 11    | 26    |
| 14              | Toland Poll R-25           | 25                | 24                | 70     | 7     | 0            | 87    | 13    | 65      | 17    | 17    |
| 15              | Toland Poll R507           | 30                | 15                | 81     | 4     | 0            | 89    | 11    | 43      | 37    | 20    |
| 16              | Wirrate WHITE 047          | 33                | 10                | 67     | 23    | 0            | 78    | 22    | 72      | 7     | 22    |
|                 | Average                    | 42                | 20                | 68     | 12    | 0            | 83    | 16    | 54      | 19    | 28    |

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

**Table 3(b) Conformation and Type % 2nd Assessment**

| Sire Identity              | Face cover <sup>1</sup> | Neck/body development <sup>1</sup> | Feet/Legs conformation <sup>1</sup> | Jaw conformation % Neg | Back/shoulder conformation % Neg |
|----------------------------|-------------------------|------------------------------------|-------------------------------------|------------------------|----------------------------------|
| Blythwood 200              | 3.00                    | 3.00                               | 3.00                                | 4.3                    | 14.3                             |
| Burthong R-280             | 2.99                    | 2.87                               | 3.00                                | 1.4                    | 10.0                             |
| Charinga W10.398           | 2.93                    | 3.00                               | 2.99                                | 1.2                    | 8.5                              |
| Cressbrook B3/4-125        | 3.00                    | 2.97                               | 2.97                                | 2.7                    | 1.3                              |
| Cressbrook N8/6-59         | 2.95                    | 2.99                               | 3.00                                | 3.4                    | 5.7                              |
| Denholm Green GM-1244      | 2.99                    | 3.00                               | 3.00                                | 2.5                    | 12.5                             |
| Gringegalgonia 4N2572      | 3.00                    | 3.00                               | 3.00                                | 2.9                    | 7.7                              |
| Hazeldean 95-4989          | 2.99                    | 2.99                               | 3.00                                | 0.0                    | 16.7                             |
| Kerrsville NB6040          | 2.98                    | 3.00                               | 3.00                                | 1.2                    | 11.9                             |
| Merinotech Vic 93084       | 2.98                    | 3.00                               | 3.00                                | 0.0                    | 14.0                             |
| Nerstane N950421           | 2.96                    | 2.91                               | 3.00                                | 6.4                    | 2.6                              |
| The Mountain Dam 96/LB060  | 2.98                    | 3.00                               | 3.00                                | 1.1                    | 9.6                              |
| The Mountain Dam 96/NI-011 | 2.94                    | 2.97                               | 2.98                                | 2.0                    | 15.3                             |
| Toland Poll R-25           | 2.91                    | 3.00                               | 2.98                                | 0.0                    | 6.5                              |
| Toland Poll R507           | 2.98                    | 3.00                               | 3.00                                | 1.9                    | 7.4                              |
| Wirrate WHITE 047          | 3.00                    | 3.00                               | 2.97                                | 0.0                    | 18.3                             |
| Average                    | 2.97                    | 2.98                               | 2.99                                | 2.0                    | 10.4                             |

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

**Table 3(c) Wool Quality 2nd Assessment**

| Sire                       | Fleece colour <sup>1</sup> | Wool character <sup>1</sup> | Dust penetration / staple weathering <sup>1</sup> | Fleece rot         |             |
|----------------------------|----------------------------|-----------------------------|---|--------------------|-------------|
|                            |                            |                             |   | Score <sup>2</sup> | % Incidence |
| Blythwood 200              | 3.29                       | 2.84                        | 3.00  | 0.69               | 37.1        |
| Burthong R-280             | 3.43                       | 3.14                        | 2.97  | 0.31               | 25.7        |
| Charinga W10.398           | 3.09                       | 3.04                        | 2.71  | 0.37               | 31.7        |
| Cressbrook B3/4-125        | 3.79                       | 3.08                        | 3.03  | 0.46               | 32.4        |
| Cressbrook N8/6-59         | 3.60                       | 3.23                        | 2.98  | 0.32               | 18.2        |
| Denholm Green GM-1244      | 3.55                       | 3.05                        | 2.85  | 0.45               | 32.5        |
| Gringegalgonia 4N2572      | 3.23                       | 2.88                        | 2.80  | 0.25               | 17.3        |
| Hazeldean 95-4989          | 3.11                       | 3.05                        | 3.24  | 0.60               | 31.6        |
| Kerrsville NB6040          | 3.29                       | 3.15                        | 3.25  | 0.96               | 44.1        |
| Merinotech Vic 93084       | 3.12                       | 2.99                        | 3.27  | 0.23               | 14.0        |
| Nerstane N950421           | 3.31                       | 2.96                        | 3.14  | 0.46               | 28.2        |
| The Mountain Dam 96/LB060  | 2.95                       | 2.90                        | 2.96  | 0.31               | 22.3        |
| The Mountain Dam 96/NI-011 | 3.49                       | 3.21                        | 2.93  | 0.49               | 30.6        |
| Toland Poll R-25           | 3.52                       | 3.02                        | 3.20  | 0.43               | 34.8        |
| Toland Poll R507           | 3.22                       | 3.04                        | 3.04  | 0.07               | 7.4         |
| Wirrate WHITE 047          | 3.27                       | 3.15                        | 3.32  | 0.63               | 40.0        |
| <b>Average</b>             | <b>3.31</b>                | <b>3.05</b>                 | <b>3.03</b>                                       | <b>0.44</b>        | <b>27.8</b> |

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

<sup>2</sup> 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 <sup>1</sup> | Pigmented wool % Incidence <sup>2</sup> | Black lamb / black spot Number of lambs <sup>2</sup> | Black lamb / black spot % incidence <sup>2</sup> |
|----------------------------|---|---|--|--|
| Blythwood 200              | 1.4                                     | 0.0                                     |  | 0.0  |
| Burthong R-280             | 1.3                                     | 0.0                                     |  | 0.0  |
| Charinga W10.398           | 3.4                                     | 4.6                                     |  | 0.0  |
| Cressbrook B3/4-125        | 2.6                                     | 0.0                                     |  | 0.0  |
| Cressbrook N8/6-59         | 7.8                                     | 2.2                                     |  | 0.0  |
| Denholm Green GM-1244      | 14.3                                    | 0.0                                     |  | 0.0  |
| Gringegalgonia 4N2572      | 16.7                                    | 1.9                                     | 1  | 2.8  |
| Hazeldean 95-4989          | 1.7                                     | 1.7                                     |  | 0.0  |
| Kerrsville NB6040          | 0.0                                     | 0.0                                     |  | 0.0  |
| Merinotech Vic 93084       | 8.0                                     | 0.0                                     |  | 0.0  |
| Nerstane N950421           | 1.2                                     | 0.0                                     |  | 0.0  |
| The Mountain Dam 96/LB060  | 5.8                                     | 1.9                                     |  | 0.0  |
| The Mountain Dam 96/NI-011 | 16.0                                    | 6.0                                     |  | 0.0  |
| Toland Poll R-25           | 10.0                                    | 0.0                                     | 2  | 6.5  |
| Toland Poll R507           | 3.2                                     | 6.5                                     |  | 0.0  |
| Wirrate WHITE 047          | 1.5                                     | 0.0                                     |  | 0.0  |
| <b>Average</b>             | <b>6.2</b>                              | <b>1.6</b>                              | <b>Total = 3 lambs</b>                               | <b>0.4</b>                                       |

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

<sup>1</sup> Recorded at tagging or classing by committee/classer

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

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

## 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.

For further help or explanation please contact:

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