

QUEENSLAND

Central Test Sire Evaluation

2004 Drop First Stage Assessment

Conducted at
Cashel Vale, Bollon
Queensland



under the auspices of
AMSEA

with support from
Department of Primary Industries and Fisheries, Queensland

Queensland Central Test Sire Evaluation 2004 Drop First Stage Assessment

Foreword

The Queensland Sire Evaluation site is an accredited Central Test Sire Evaluation (CTSE) site. As such, it conforms to the requirements of the Australian Merino Sire Evaluation Association committee.

A committee of Merino breeders and Merino breeding service providers runs the Queensland Sire Evaluation site. They are listed below and can be contacted for further information.

The information in this booklet provides a comprehensive assessment of a sire's progeny performance, both measured and visually assessed. Five graphics provide a summary of the results and six tables contain the detailed performance information.

The 2004 drop was bred from Haddon Rig classed ewes, by Stuart Mitchell at "Cashel Vale", Bollon. Ewes were artificially inseminated by Dr Mike Rival during 16-18 June 2004 and the progeny born in the week or so around 12 - 20 November 2004.

Lambs were tagged and inspected for pigmentation on 29 November 2004. Lambmarking occurred in the second week of January 2005.

The first assessment was carried out on 6 and 7 September 2005, on both the ewe and wether progeny when 9.5 months old and carrying 9.5 months of wool.

Conditions through the year were reasonably good until first assessment.

The Australian Merino Sire Evaluation Association has developed a strict set of guidelines for the operation of Central Test Sire Evaluation. These guidelines have been developed to ensure that results reported by Central Test Sire Evaluation Sites truly reflect the performance of sires entered. Amongst other guidelines, it has been determined that a sire must have 20 progeny measured in a single assessment or 15 measured in a two stage assessment for its results to be of sufficient accuracy.

Committee contacts for further information

Mr Bill Willis	07 4625 9158	Chairman,
Ms Deborah Maxwell	02 6773 3597	Report & Technical Assistance, Secretary
Dr Mike Rival	07 4671 2203	Artificial insemination, Treasurer
Mr Stuart Mitchell	07 4625 6198	Site Manager
Mr Peter Campbell	07 4626 5454	
Mr Graham Peart	02 6884 6250	
Mr Phillip Toland	03 5798 1404	
Mr Jim Litchfield	02 6453 5555	
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Contents

FOREWORD	1
COMMITTEE CONTACTS FOR FURTHER INFORMATION	1
ADDITIONAL INFORMATION:	1
SIRE AND OWNER DETAILS	3
UNDERSTANDING THE RESULTS	4
SUMMARY GRAPHS.....	5
COMBINED MEASURED TRAITS AND CLASSERS VISUAL ASSESSMENT - FIGURE 1	5
SUMMARY GRAPHS OF MEASURED AND CLASSER'S GRADE - FIGURES 2 & 3	6
SUMMARY GRAPHS OF CLASSER'S GROUP TRAITS - FIGURES 4 & 5	7
MEASURED AND SCORED ASSESSMENT	8
TABLE 1. MAJOR MEASURED TRAITS, ESTIMATED PROGENY VALUES	8
TABLE 2. RAMPOWER INDICES FOR 3, 6, 12 AND 20% MICRON PREMIUM COMBINED WITH BODYWEIGHT	8
TABLE 3. SCORED TRAIT PERFORMANCE.....	8
TABLE 4. CLASSER SCORES	9
TABLE 5. PIGMENTATION.....	9
CLASSER'S GROUP ASSESSMENT	10
CLASSER'S OBJECTIVE	10
TABLE 6. CLASSER'S GROUP COMMENTS.....	10
MANAGER'S REPORT	11
MAJOR MANAGEMENT EVENTS.....	12
OTHER MANAGEMENT EVENTS:	12
ACCURACY OF ESTIMATED PROGENY VALUES	12
COMBINED SIRE EVALUATION - "MERINO SUPERIOR SIRE"	12

Sire and Owner Details

Graph Code	Sire Identity & Sire Code #	Contact Name for Owner, Address, Phone and Fax Number
1	Identity withheld	
2	Toland W611* 50 4485200101W611	Philip Toland, RMB 205 Feltrim Rd, Violet Town, VIC 3669 Ph: 03 5798 1605 Fax: 03 5798 1404
3	Hazeldean Zachary 50 03832000012946	Jim Litchfield, Hazeldean, Cooma, NSW, 2630 Ph: 02 6453 5555 Fax: 02 6453 5526
4	Toland Poll G37 60 10822003030037	Philip Toland, RMB 205 Feltrim Rd, Violet Town, VIC 3669 Ph: 03 5798 1605 Fax: 03 5798 1404
5	Nerstane 43* 50 32981999990043	John McLaren, Nerstane, Woolbrook NSW 2354 Ph: 02 67775881 Fax: 02 67775922
6	Karbullah 870 60 91462002020870	Peter Campbell, Wyambah MS 1111, ROMA QLD 4455 Ph: 07 46265454 Fax: 07 46265454
7	Wyambah 30054 50 44822003030054	Peter Campbell, Wyambah MS 1111, ROMA QLD 4455 Ph: 07 46265454 Fax: 07 46265454
8	Bullamon Plains 020184 50 09642002020184	Bill Willis, Bullamon Plains, Thallon QLD 4497 Ph: 07 46259158 Fax: 07 4625 9236

- # **Sire codes** are an international system, which provides a unique number for all sheep when processing across-flock data. A sire code has 16 digits:
- 2 for the breed of the flock the sire was bred in: 50 (Merino) & 60 (Poll Merino)
 - 4 for the flock code from which the sire was bred (AASMB Registered or unregistered flock)
 - 4 for year of drop of the sire
 - 6 for the tag number, the breeder used to record the performance of the sire

- * Rams which are evaluated to provide a genetic link between other Sire Evaluation Sites and Years.

Understanding the Results

Tables and graphs

Graph Code	Allows a sire to be located on the summary graphs and tables.
Sire Identity	Identity of the breeder and the sire's number or name.
No. of Progeny:	The number of progeny a sire had in the measured analysis.
Estimated Progeny Values	Estimated Progeny Values (EPV) express the expected performance of progeny of a sire relative to another sire in the evaluation when mated to an equal allocation of ewes. EPVs are the units used to describe the performance of the major measured traits (see information on accuracy at the end of this booklet). They are expressed as deviations (dev) from the average of sires in the evaluation. Fibre Diameter traits, Yield and Staple Length EPVs are presented as deviations in the units they are measured in. Greasy and Clean Fleece Weight and Body Weight are presented as percentage deviations - for example, 10.0 is 10% above the average performance of the group.
Traits and EPVs	FD: Fibre diameter CFW: Clean Fleece Weight yGFW (%): Yearling Greasy Fleece Weight (percentage) yCFW (%): Yearling Clean Fleece Weight (percentage) yFD (µm): Yearling Average Fibre Diameter (micron) yCV (%): Yearling Fibre Diameter Coefficient of Variation yBWT (%): Yearling Body Weight (percentage) SL (mm): Staple Length (millimetres) SS (N/ktex): Staple Strength (Newtons per kilotex)
Classer's Grade	One classer grades all progeny as either Superior (about 10%) Tops (next 30%), Flocks (next 30%) or Culls (bottom 30%) based on the visual assessment of all traits. The percentage of progeny placed in Superior + Tops and Culls is presented.
Conformation traits	Face Cover (1-5) 1 is most open, 5 most muffled Back and Shoulders: (1-5) 1 most straight or correct Feet and Legs: (1-5) 1 most straight or correct Wrinkle score: (1-5) 1 most plain, 5 most wrinkled SRS Skin score: (1, 2, 3, 4, 5) 1 thin unwrinkled skin; 2 slightly thicker than 1; 3 small amount of pin wrinkle; 4 unwrinkled but thick skin; 5 heavily wrinkled.
Wool traits	Colour: (1-5) 1 is white, 5 most coloured Character: (1-5) 1 is most defined, 5 least defined Weathering: (1-5) 1 is least weathered, 5 is most weathered (primarily dust penetration) Fleece Rot: (0-5) 0 is no fleece rot, 5 is severe fleece rot
Rampower indices	3% represents a larger increase in clean fleece weight while maintaining fibre diameter 6% represents a moderate increase in clean fleece weight and a simultaneous moderate decrease in fibre diameter while 12% represents a larger decrease in fibre diameter while maintaining clean fleece weight 20% represents a major emphasis on reducing fibre diameter, likely to cause some loss of clean fleece weight

Number of Progeny:

This greatly affects the accuracy of the information presented. The greater the number, the more valid are the results. Those with less than 10 progeny have a low level of accuracy. Those with more than 20 progeny have a higher accuracy. All sires had more than 20 progeny at first assessment.

Summary Graphs

Figure 1:
Visual vs Measured performance

Each sire is located on the graph. The graph describes performance for combined measured traits (on the side axis) and visual assessment (bottom axis). Measured traits are combined with a Rampower index (6% MP + BWt). Visual trait performance is Classer's Grade performance (Superior + Tops). Sires that are above average performers for these traits are located in the top right hand quarter.

Figure 2:
Estimated Progeny values FD vs CFW

The graph describes performance for fleece weight on the side axis and fibre diameter on the bottom axis. Sires that are above average for fleece weight and below average for fibre diameter are located in the top left hand quarter.

Figure 3:
Classer's Grade (superior + tops vs culls)

The graph describes performance for classer's "Superior +Top" grade on the side axis and "Cull" grade on the bottom axis. Sires that have above average Tops and below average Culls are in the top left hand quarter.

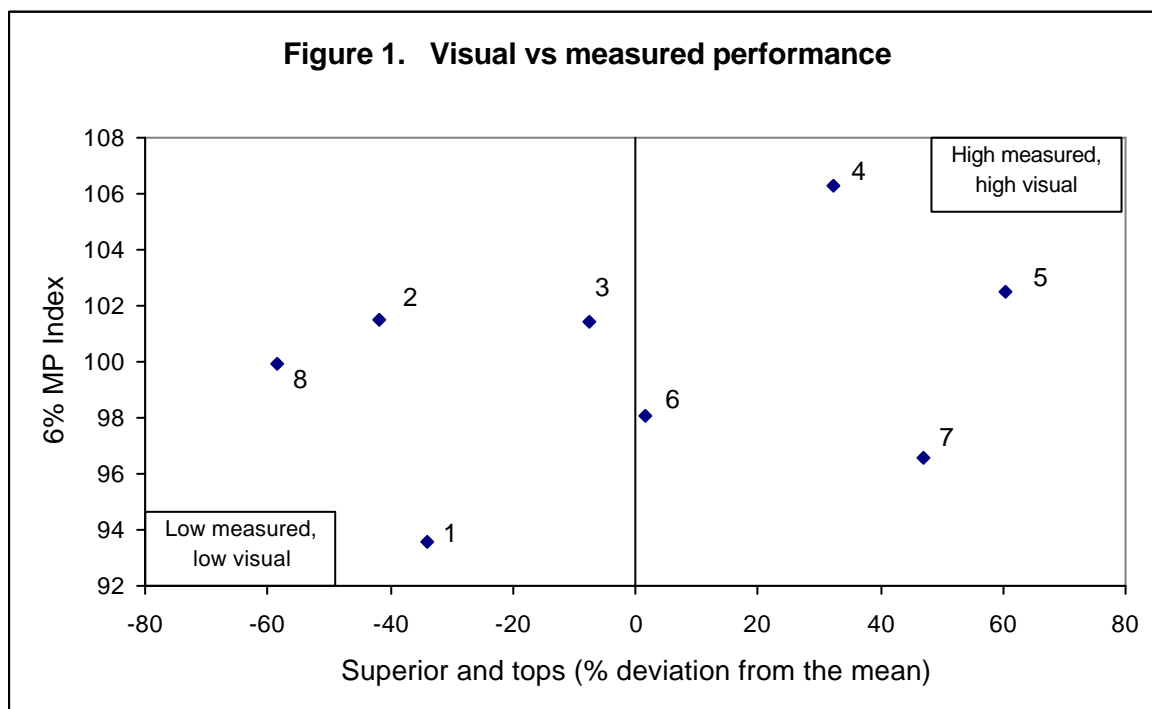
Figure 4:
Conformation traits

The graph displays the performance of sires for conformation traits. Sires that have low scores have progeny with a lower average level of faults (or with more open face).

Figure 5:
Wool traits

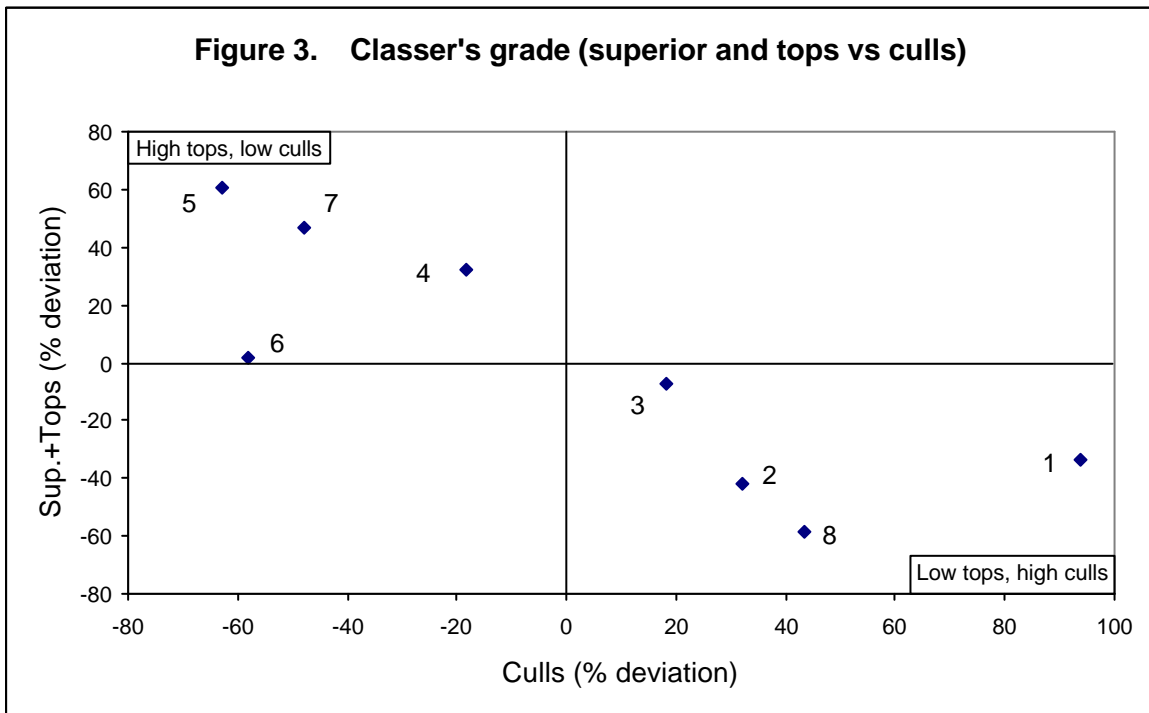
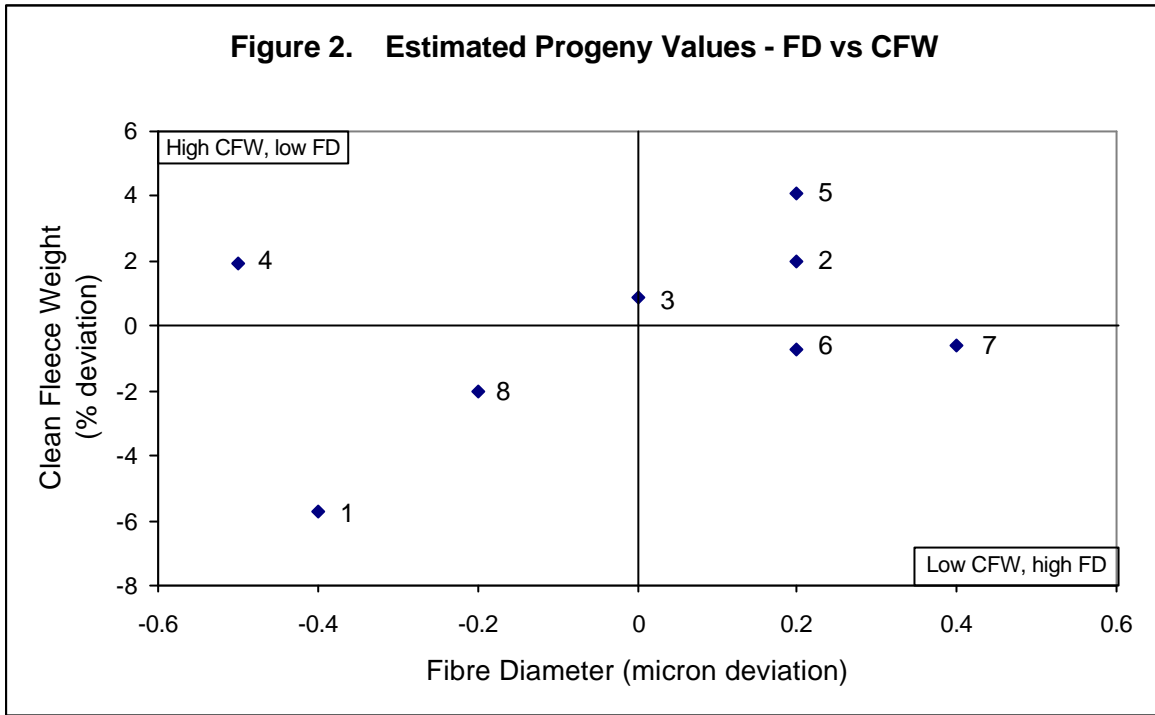
The graph displays the performance of sires for wool quality traits. Sires that have low scores have progeny with a lower average level of faults.

Combined Measured Traits and Classers Visual Assessment - Figure 1



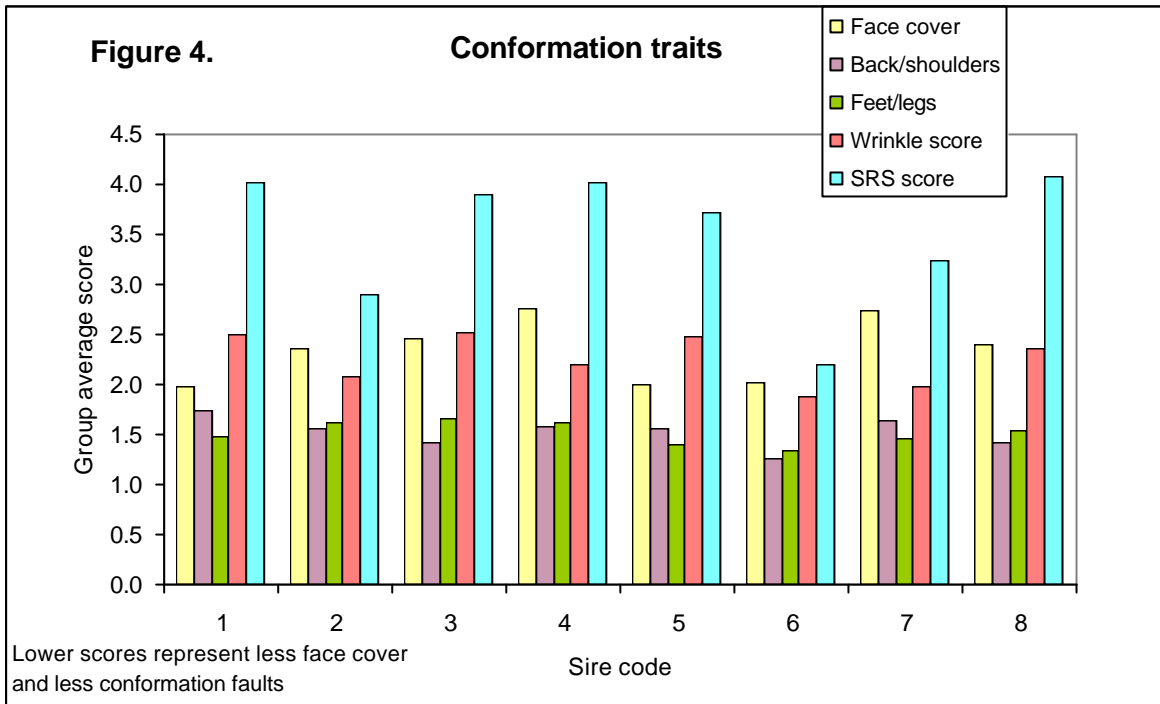
1 – Identity withheld; 2 – Toland W611*; 3 – Hazeldean Zachary; 4 – Toland Poll G37;
5 – Nerstane 43*; 6 – Karbullah 870; 7 – Wyambeh 300054; 8 – Bullamon Plains 020184

Summary Graphs of Measured and Classer's Grade - Figures 2 & 3



1 – Identity withheld; 2 – Toland W611*; 3 – Hazeldean Zachary; 4 – Toland Poll G37;
 5 – Nerstane 43*; 6 – Karbullah 870; 7 – Wyambah 300054; 8 – Bullamon Plains 020184

Summary Graphs of Classer's Group Traits - Figures 4 & 5



1 – Identity withheld; 2 – Toland W611*; 3 – Hazeldean Zachary; 4 – Toland Poll G37;
 5 – Nerstane 43*; 6 – Karbullah 870; 7 – Wyambah 300054; 8 – Bullamon Plains 020184

Measured and Scored Assessment

* Rams which are evaluated to provide a genetic link between other Sire Evaluation Sites and Years.

Table 1. Major measured traits, estimated progeny values

Graph code	Sire identity	No. of progeny	Estimated progeny values						
			yGFW (%)	yCFW (%)	yFD (um)	yCV (%)	yBW (%)	SL (mm)	SS (NKt)
1	Identity withheld	41	-2.8	-5.7	-0.4	1.5	-2.8	-4.3	-4.8
2*	Toland W611	37	-1.0	2.0	0.2	0.1	-2.0	5.9	-0.4
3	Hazeldean Zachary	33	3.4	0.9	0.0	-0.4	-3.8	-0.8	-0.6
4	Toland Poll G37	21	-0.7	1.9	-0.5	0.0	-2.4	-1.0	2.2
5*	Nerstane 43	23	6.3	4.1	0.2	-1.0	2.1	-0.6	3.9
6	Karbullah 870	39	-1.8	-0.7	0.2	0.0	2.2	7.3	-3.2
7	Wyambeh 300054	39	0.0	-0.6	0.4	-0.9	4.4	-0.5	3.7
8	Bullamon Plains 020184	41	-3.4	-2.0	-0.2	0.9	2.2	-6.0	-0.8
	Average		2.8	1.9	17.5	19.7	30.8	82.4	30.6

Table 2. Rampower indices for 3, 6, 12 and 20% micron premium combined with bodyweight

Graph code	Sire identity	No. of progeny	Index performance and rank							
			3%	rank	6%	rank	12%	rank	20%	rank
1	Identity withheld	41	90.4	8	93.6	8	95.6	7	94.8	7
2*	Toland W611	37	104.0	2	101.5	3	98.6	5	97.1	6
3	Hazeldean Zachary	33	101.3	4	101.4	4	100.9	4	100.4	4
4	Toland Poll G37	21	103.7	3	106.3	1	108.5	1	110.3	1
5*	Nerstane 43	23	104.1	1	102.5	2	102.3	2	103.7	2
6	Karbullah 870	39	99.9	5	98.1	6	95.3	8	92.9	8
7	Wyambeh 300054	39	98.5	6	96.6	7	97.4	6	99.1	5
8	Bullamon Plains 020184	41	98.0	7	99.9	5	101.4	3	101.7	3

The sires are ranked relative to each other for their ability to sire progeny with the following performance objectives:

3% represents a larger increase in clean fleece weight while maintaining fibre diameter and body weight

6% represents a moderate increase in clean fleece weight and a simultaneous moderate decrease in fibre diameter while maintaining body weight

12% represents a large decrease in fibre diameter while maintaining clean fleece weight and body weight

20% represents a larger decrease in fibre diameter with possible loss of clean fleece weight and body weight

Table 3. Scored trait performance

Graph code	Sire identity	No. of progeny	Conformation scores					Wool scores			
			Face cover	Back/shoulder	Feet/legs	Wrinkle score	SRS score	Colour	Character	Weathering	Fleece rot
1	Identity withheld	41	2.0	1.7	1.5	2.5	4.0	2.7	2.4	2.9	0.4
2*	Toland W611	37	2.4	1.6	1.6	2.1	2.9	2.5	2.7	3.1	0.0
3	Hazeldean Zachary	33	2.5	1.4	1.7	2.5	3.9	2.8	2.3	2.9	0.4
4	Toland Poll G37	21	2.8	1.6	1.6	2.2	4.0	2.3	2.2	2.7	0.1
5*	Nerstane 43	23	2.0	1.6	1.4	2.5	3.7	2.2	2.2	3.0	0.1
6	Karbullah 870	39	2.0	1.3	1.3	1.9	2.2	2.5	2.5	3.1	0.3
7	Wyambeh 300054	39	2.7	1.6	1.5	2.0	3.2	2.6	2.2	2.9	0.3
8	Bullamon Plains 020184	41	2.4	1.4	1.5	2.4	4.1	2.7	2.7	2.8	0.5
	Average		2.3	1.5	1.5	2.2	3.5	2.5	2.4	2.9	0.3

Table 4. Classer scores

Graph code	Sire identity	No. of progeny	Av. Classer score	Classer grades (%)				
				Superior	Top	Sup. + Tops	Flocks	Culls
1	Identity withheld	41	3.1	2.5	27.5	30.0	22.5	47.5
2*	Toland W611	37	3.0	8.8	17.6	26.5	41.2	32.4
3	Hazeldean Zachary	33	2.8	6.5	35.5	41.9	29.0	29.0
4	Toland Poll G37	21	2.3	30.0	30.0	60.0	20.0	20.0
5*	Nerstane 43	23	2.1	22.7	50.0	72.7	18.2	9.1
6	Karbullah 870	39	2.5	17.9	28.2	46.2	43.6	10.3
7	Wyambeh 300054	39	2.3	20.5	46.2	66.7	20.5	12.8
8	Bullamon Plains 020184	41	3.1	2.7	16.2	18.9	45.9	35.1
	Average		2.7	14.0	31.4	45.4	30.1	24.5

Table 5. Pigmentation

Graph code	Sire identity	No. of progeny (at tagging)	Number of lambs with pigmentation	Description of pigmentation
1	Identity withheld	45	0	
2*	Toland W611	38	3	150 mm brown patch on right rump and right side of tail as well as brown ear tips; brown knees and brown patch on front of hind leg as well as smaller brown speckles down legs and brown ear tips; 20 mm brown spot near hock, plus some nearby brown speckles.
3	Hazeldean Zachary	33	0	
4	Toland Poll G37	22	0	
5*	Nerstane 43	24	0	
6	Karbullah 870	42	1	Brown most of ear
7	Wyambeh 300054	40	1	Brown ear tips
8	Bullamon Plains 020184	41	5	40 mm brown spot on flank; Brown ear tips (2 sheep); Brown ear tips and brown halo on back of neck; 10 mm black spot on neck

Photographs can be viewed on the web at: www.sheepcrc.org.au/qctsepigment

Classer's group assessment

Classer's objective

The sheep should be large framed and in good condition, structurally sound and of plain to moderate skin development with a reasonably open face. The wool should be long in the staple, bright, soft handling and dense, with well defined crimp and little if any colour.

(The objective is to be used in context, considering the wool growing period, age of sheep and environmental conditions the sheep have experienced.)

Table 6. Classer's group comments

Sire group	Classer comment	Evenness & consistency of group (1 = most even, 5 = least even)
1 Identity withheld	Pretty even size, but some smaller ones. Average size group. Consistent conformation. Not so well covered. Some variation in wool. Quite good sheep but a little small.	Size 2 Conformation 1 Wool type 3
2 Toland W611	Reasonably consistent size and conformation. Meaty type, though not biggest sheep. Good square rump. Some variation in wool from those with a good long staple to short tight types.	Size 2 Conformation 2 Wool type 3
3 Hazeldean Zachary	A percentage of the group are a lot smaller than the average. This group is smaller than Group 1 Structurally quite good. Some variation in wool type – some well nourished but some flatter, drier types.	Size 4 Conformation 2 Wool type 3
4 Toland Poll G37	Moderate size. Some narrow and some wide animals. Not great sheep. Variation in some wool, a few different ones.	Size 3 Conformation 3 Wool type 3
5 Nerstane 43	A little above average size. Some bad hocks and pasterns. Very even wool.	Size 3 Conformation 4 Wool type 1
6 Karbullah 870	Quite consistent size. Well covered down legs and head. Good size, good big rump. Generally bigger sheep and robust. Very even wool. Good staple length. Wool lacks nourishment and is drier and flatter.	Size 1 Conformation 1 Wool type 1
7 Wyambeh 300054	Size better than average with a few smaller ones that are as good as the average of the other groups. Even conformation and no apparent faults. Quite even wool. Overall a pretty even lot.	Size 2 Conformation 1 Wool type 2
8 Bullamon Plains 020184	Medium size with some variation. Quite a few hocky sheep. Wool consistent. Evidence of primary fibre on a few sheep. Well covered	Size 3 Conformation 3 Wool type 2

Manager's Report

May 2004 - September 2005 Mr Stuart Mitchell

Location: "Cashel Vale", Bollon, 4488 (~100km west-south-west of St George)

Ewes were selected for AI in mid May 2004 while pasture conditions were good, and the ewes were in good order. Ewes were sponged on 2 June 2004. Preparation of teaser wethers began on the same day.

Folligon and sponge removal began on 14 June 2004. AI in order of teaser marking began on the morning of 16 June. Sixty ewes per sire were artificially inseminated on 16-18 of June and pregnancy testing occurred at approximately 80 days and showed good conception rates.

All ewes were drenched with levamisole and treated with Clik. Pasture conditions were maintained over the next five months with the lambs being dropped onto fair pasture.

A 1080 baiting campaign was carried out over the whole property before and after the commencement of lambing. The lambs were tagged and checked for pigment in late November 2004. All groups had reasonable lamb numbers except two that were lambed out along side each other and this may reflect some predator pressure.

Summer was moderately rainy, seeing the pasture improve.

Lambmarking occurred in early January 2005 with few lambs missing since tagging.

All lambs and ewes were drenched with levasimole at lamb marking time.

Between lamb marking and weaning, the condition of the pasture was maintained. Again, relatively few lambs were lost during this period.

Lambs were weaned at 26 March 2005, treated with Clik and weaned into the general flock sheep - worm testing showed no detectable worm levels.

All lambs were then crutched in July 2005.

Lambs were shorn and assessed in September. Seasonal conditions between weaning and shearing had been reasonably good following some good winter falls that had produced a reasonable herbage season.

The first assessment occurred on 6 and 7 September 2005. Scott McColl from Uंबरcollie Merino Stud, Goondiwindi, carried out the visual traditional classing prior to shearing and Peter Campbell from Wyambeh Stud at Surat carried out SRS classing off shears.

All weaners were tagged with RFID tags prior to shearing and treated with Magnum off shears. Worm testing again showed no detectable worm levels so no drenching occurred. At this time the season was still good and the weaners (approx. 9.5 months) were in good condition.

Stuart Mitchell (Site Manager)

Major management events

Event	Date	Age	Wool Growth
Birth	12-20 November 2004		
Tagging	29 November 2004	9-17 days	
Marking and mulesing	10 January 2005	1.5 months	1.5 months
Weaning	26 March 2005	4 months	4 months
Crutching	20 July 2005	8 months	8 months
Classing	6 September 2005	9.5 months	9.5 months
Assessment shearing and sampling	7 September 2005	9.5 months	9.5 months

Other management events:

Event	Date
Drench	10 January 2005 – Levamisole
Fly preventative	26 March 2005 – Clik
Off-shears Lice treatment	7 September 2005 – Magnum

Accuracy of Estimated Progeny Values

Estimated Progeny Values (EPVs) express the expected performance of progeny of a sire relative to others in the evaluation when they are mated to an equal allocation of ewes.

EPVs improve the accuracy of sire results because when available they account for associations between traits, adjustments for birth effects and the number of progeny each sire has.

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

The correlation (similarity) between the *Estimated* Progeny Value and the *True* Progeny Value is higher as (i) number of progeny is increased, and (ii) the heritability of the trait is greater. 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).

The EPVs in this report are a within-site comparison only.

Combined Sire Evaluation - “Merino Superior Sires”

Each Central Test site produces a report for each group of sires that the site evaluates. These results are incorporated into the annual Central Test Sire Evaluation across year and site report, called “Merino Superior Sires”. This provides a comparison between sires that have been entered at all Medium Wool or Fine Wool sites in Australia. The medium wool sites are conducted at Queensland, Monaro, Riverina, Yardstick (WA) and Rosebank (SA).