SOUTH AUSTRALIAN STUD MERINO
SHEEPBREEDERS' ASSOCIATION INC

ABN 21 254 813 645
Royal Adelaide Showground
Goodwood Road, Wayville
PO Box 108
Goodwood SA 5034

P 08 8212 4157
F 08 8231 7095
E info@merinosa.com.au
W www.merinosa.com.au

SA MERINO SIRE EVALUATION TRIAL
+ RED MEAT & WOOL FOCUS FARM FIELD DAY
FRIDAY OCTOBER 30th 2020, McPIGGERY, LAMEROO

Schedule

11:00am Field Day begins

Marquee Presentations

- **11:30 Roger Fiebig, SA Merino Sire Evaluation Trial Chairman** *Welcome*
- **11:35 Duane Simon, SA Merino Sire Evaluation Trial Site Host** *Site Summary*
- **11:40 Stephen Lee, Senior Research Associate, School of Animal and Veterinary Sciences, University of Adelaide** *Sire Evaluation Results*
- **11:55 Dr William van Wettere, Senior Lecturer (Intensive Livestock), School of Animal and Veterinary Sciences, University of Adelaide** *Effect of Melatonin implants on twin lamb survival*
- **12:10 Associate Professor Forbes Brien, Research Fellow, Davies Livestock Research Centre, School of Animal and Veterinary Sciences, University of Adelaide**
  Weaning more lambs from ewes by culling 'passengers' & keeping 'performers' longer
- **12:25 Nathan Scott, Achieve Ag (sponsor: Red Meat & Wool Growth Program)** *Sheep eID, what is in it for me?*

Inspection of 2019-drop and 2020-drop progeny in sire groups alongside results from measured and visual assessments.

3:00pm Field Day closes

South Australian Merino Sire Evaluation

Australian Merino Sire Evaluation Association (AMSEA) trials provide the opportunity for objective comparisons to be made between rams from different studs by evaluating their progeny for sheep type, structure, wool production and carcase traits. The progeny are all run together in the same environmental conditions with all male progeny marked. The SA site was established in 2017, and is important for South Australia's Merino industry given no other public Merino sire evaluation trials occur in SA. The site will make an important contribution to genetic improvement for Merinos in SA. This is an accredited sire evaluation program run under the rigorous design, recording and data evaluation protocols of AMSEA.

Site Breeding Objective

Rams will be capable of producing progeny with 18-21 micron fleece at 12 months with at least 4kg of wool from 8 months growth from an easy-care plain bodied sheep. In addition, progeny should be capable of achieving 22-25kg carcase weight at 10-12 months of age. Ewe progeny will be fertile and capable of high natural conception rates when first joined at 18 months.

Host Property and Ewe Base

In their first year as host of the SA Merino Sire Evaluation Trial, the McMahon family at McPiggery, Lameroo generously hosted the 2019 Drop, after Keyneton Station hosted the 2017 and 2018 Drops. McPiggery receives an average of 325mm rainfall in a Winter dominant pattern, although Lameroo (Austin Plains) only received 208.4mm in 2018 and 227mm in 2019. The McPiggery ewe mature weight is 70-75kg producing approximately 20 micron wool. The ewes mated for the 2019 Drop trial were sourced from a rising 3-4 year old age group and were classed prior to joining to ensure an even line.

Host Property and Ewe Base

The McMahon family at McPiggery, Lameroo generously hosted the 2019 and 2020 Drops of Sire Evaluation progeny. McPiggery receives an average of 325mm rainfall in a Winter dominant pattern, although Lameroo only received 208.4mm in 2018 and 227mm in 2019. The McPiggery ewe mature weight is 70-75kg, producing approximately 20 micron wool. The ewes mated for the 2019 Drop trial were sourced from a rising 3-4 year old age group and classed pre-joining to ensure an even line.

2019 Drop Summary

The site evaluated 16 entered rams including 3 link sires. A fourth link was created when an entry was used at another site after the SA joining. 60 ewes were joined to each sire via AI in mid-late November 2018 over two days. At day 50, the ewes were scanned as pregnant with a resulting conception rate of 69.6% from the AI program. At this time, the ewes were separated into three mobs of twin-bearing ewes and two mobs of singles and placed on native grass pastures. Dry conditions continued with ewes being supplementary fed barley via trail feeding up until lambing in mid-April and vetch hay just prior to lambing to minimise disturbance.

Lambing occurred in April 2019. Lamb marking took place in mid-May with visual traits fibre pigmentation, non-fibre pigmentation, recessive black, random spot, breech cover and breech wrinkle recorded. Sire pedigree was established by DNA testing. There were 666 progeny generated across the 16 rams. The average marking breech cover was visually assessed as 1.8 (from a range of 1-5, as per the Visual Sheep Scores publication), and the average marking breech wrinkle was visually assessed as 1.7 (from a range of 1-5, as per the Visual Sheep Scores publication). This indicates the lambs were reasonably plain. Following lamb marking, lambing mobs were boxed up again from which time they continued to be trail fed barley. The ewes were maintained in condition score 3.

Progeny were weaned at 14 weeks of age in late July. Weaning weights were assessed, with single lambs weighing an average of 32.4kg and twin lambs an average of 28.2kg, giving a total average weaning weight of 30.1kg live weight. Progeny then ran together in one mob, on sown barley pasture, until the end of the year. Lambs were crutched / jetted in September 2019. McPiggery had a good Winter with average rainfall, however it was a frosty season which limited feed production. Below average rainfall Spring 19 - Summer 20 resulted in lambs having access to self-feeders of oats over Summer.

On January 8, 2020 Eye Muscle Depth and Fat were scanned. The remaining classing was on March 10, 2020 including:

- Mid-side fleece sampling: yield, fibre diameter, fibre diameter coefficient of variation, fibre diameter standard deviation, curvature, comfort, staple strength and staple length.
- Visual classing: fleece rot, wool colour, wool character, dust penetration, staple structure, face cover, jaw, legs/feet, dag, and Classer's Visual Grade.

Shearing was on March 12 and 13, 2020 with greasy fleece weight being collected. Post shearing visual traits shoulder/back and body wrinkle were assessed on April 1, 2020. The wether component of the 2019 drop was then sold. The ewes underwent their adult assessment of mid-side sampling (except staple strength and length) and visual classing on October 6, 2020. Greasy fleece weight and post shearing visual traits will be assessed at shearing early November 2020. WEC was not collected as minimum testing thresholds were not reached. This will mark the completion of the 2019 drop trial.

2020 Drop Summary

The site evaluated 18 entered rams including 3 link sires in 2020. 60 ewes were joined to each sire via AI in late November 2019 over two days. At day 50, the ewes were pregnancy scanned with a resulting AI conception rate of 72%. Pre-lambing, the ewes were separated into six twin-bearing mobs and the three singles mobs and were placed on native grass pastures. A wet February provided green feed with occasional supplementary feeding of barley hay during the lambing period.

Lambing was in late April 2020. Lamb marking was mid-May, with visual traits fibre pigmentation, non-fibre pigmentation, recessive black, random spot, breech cover and breech wrinkle recorded. Sire pedigree was established by DNA testing. There were 877 progeny generated across the 18 rams. The average marking breech cover was visually assessed as 1.0 (from a range of 1-5, as per the Visual Sheep Scores publication), and the average marking breech wrinkle was visually assessed as 1.5 (from a range of 1-5, as per the Visual Sheep Scores publication). This indicates the lambs were reasonably plain. Following lamb marking, lambing mobs were boxed up again, and ewes were maintained in condition score 3.

Weaning was at 13 weeks of age in late July with progeny tip shorn. Weaning weights were assessed, with single lambs weighing an average of 33.2kg and twin lambs an average of 29.4kg, giving a total average weaning weight of 31.3kg live weight. Progeny then ran together in one mob on sown barley pasture.

2019 Drop – Adjusted Sire Means

Wool, Weight and Carcase Results

Breeders flock, Sire number	Progeny No.*	AFD (um)	AFDCV (%)	YCFW (kg)	YSL (mm)	YSS (NKtex)	WWT (kg)	PWT (kg)	YWT (kg)	PEMD (mm)	PFAT (mm)
Anderson Poll, 160390	36	20.8	14.7	3.7	115.2	26.0	30.8	50.5	54.1	31.0	3.3
Calcookara Poll, 170400	32	19.2	15.8	3.6	98.1	22.1	29.8	49.6	54.5	29.1	3.0
Challara Poll, 150245	45	19.7	15.3	3.2	113.8	25.6	29.9	47.4	51.3	30.5	3.3
Flairdale Poll, 170070	36	19.5	17.1	3.2	98.4	22.3	29.2	46.7	51.3	28.0	2.9
Greenfields Poll, 160079	41	19.1	14.6	3.3	93.6	26.7	30.2	46.4	49.3	28.4	2.9
Gunallo Poll, 170295	24	20.0	15.7	3.7	106.9	26.3	30.2	50.3	52.4	29.0	3.1
Hilton Heath Poll, 150817	48	20.6	15.3	3.8	103.3	28.8	29.7	47.4	51.8	28.9	3.1
Kelvale Poll, 170004	52	20.7	14.6	3.3	124.0	26.7	29.0	47.5	51.9	30.9	3.0
Leahcim Poll, 173114	36	20.1	14.4	3.6	112.6	28.0	31.5	50.1	53.8	30.6	3.3
Malleetech Poll, 177141	44	21.4	15.5	3.5	102.2	32.9	28.7	45.3	50.3	30.0	3.1
Moorundie Poll, NE73	25	20.0	16.5	3.7	99.8	23.6	31.0	48.4	49.9	28.2	3.0
Pepper Well Poll, 177031	40	20.6	14.6	3.4	109.6	29.1	29.5	48.4	50.6	29.4	3.2
Pimbena Poll, 170509	39	19.1	15.4	3.5	113.4	29.2	31.6	53.7	58.2	28.5	3.1
Ridgway Poll, 170005	45	20.3	14.6	3.6	100.9	27.4	30.4	50.6	55.9	30.2	3.2
Roemahkita Poll, 160018	37	19.6	14.6	3.3	97.6	25.5	30.5	48.7	53.6	29.5	3.0
Wallaloo Park Poll, 172070	41	20.8	14.5	3.6	106.6	27.1	29.7	49.6	54.4	29.7	3.2
Average	**39**	**20.1**	**15.2**	**3.5**	**106.0**	**26.7**	**30.1**	**48.8**	**52.7**	**29.5**	**3.1**

***Progeny number at Adult classing.**

These adjusted sire means are the average performance of all the progeny of a sire adjusted for an individual's birth type, rear type, sex, age of dam, management group and differences in progeny group sizes. Adjustments improve the accuracy of the result and the size of the adjustment is based on the actual influence of these factors on the drop. No account is made for the difference in the age of the progeny, trait heritability and genetic correlations between traits. The overall progeny group mean is listed at the bottom of the table.

Age Stage:
W = Weaning (42-120 days); P = Post Weaning (210-300 days); Y = Yearling (300-400 days); H = Hogget (400-540 days); A = Adult (1.5-2.5 years).

Traits: Abbreviation, trait (units reported)	FD:	Average fibre diameter (um)	SS:	Staple strength (NKtex) at the mid-side
	FDCV:	Fibre diameter coefficient of variation (%)	WT:	Body weight (kg)
	CFW:	Clean fleece weight (kg)	EMD:	Eye muscle depth (mm) at the 'C' site
	SL:	Staple length (mm) at the mid-side	FAT:	Fat depth (mm) at the 'C' site
Trait Leaders:	The highest performing 3 (or more if equal) sires for each trait (trait leaders) are highlighted by shading.			

2019 Drop – Flock Breeding Values

Wool, Weight and Carcase Results

Breeders flock, Sire number	Progeny No.*	AFD (µm)	AFDCV (%)	YCFW (%)	YSL (mm)	YSS (Nktex)	WWT (kg)	PWT (kg)	YWT (kg)	PEMD (mm)	PFAT (mm)
Anderson Poll, 160390	36	1.1	-1.6	6	13.6	-0.8	1.0	2.1	2.4	2.0	0.7
Calcookara Poll, 170400	32	-1.4	0.9	5	-12.3	-7.4	-0.3	0.9	0.9	-0.7	-0.4
Challara Poll, 150245	45	-0.7	0.3	-14	12.8	-2.0	-0.5	-1.5	-1.9	1.6	0.7
Flairdale Poll, 170070	36	-1.3	2.8	-11	-12.3	-7.1	-1.2	-2.4	-2.1	-2.1	-0.7
Greenfields Poll, 160079	41	-1.5	-0.4	-11	-20.3	0.0	-0.2	-2.4	-5.1	-1.6	-0.6
Gunallo Poll, 170295	24	0.2	0.5	10	2.3	-0.6	0.4	1.5	0.0	-0.8	-0.3
Hilton Heath Poll, 150817	48	1.1	1.1	13	-5.0	2.6	-0.7	-1.5	-1.3	-0.9	-0.1
Kelvale Poll, 170004	52	0.8	-1.5	-7	30.0	0.1	-1.5	-1.3	-0.3	2.1	0.1
Leahcim Poll, 173114	36	-0.1	-1.6	1	10.4	2.2	1.6	1.6	1.2	1.5	0.5
Malleetech Poll, 177141	44	2.4	0.2	-1	-6.8	9.5	-2.0	-4.1	-3.6	0.7	0.1
Moorundie Poll, NE73	25	-0.3	2.3	10	-9.1	-4.7	0.8	-1.2	-3.2	-1.7	-0.5
Pepper Well Poll, 177031	40	1.0	-0.9	-1	6.3	4.4	-0.6	-1.0	-2.8	-0.2	0.2
Pimbena Poll, 170509	39	-1.5	-0.3	-1	11.2	3.7	2.5	5.9	8.1	-1.4	-0.1
Ridgway Poll, 170005	45	0.2	-0.7	2	-8.3	1.2	0.5	1.7	3.9	1.0	0.4
Roemahkita Poll, 160018	37	-0.9	-0.8	-9	-13.3	-1.2	0.3	0.3	1.2	0.0	-0.1
Wallaloo Park Poll, 172070	41	0.8	-0.4	6	0.9	-0.1	-0.1	1.7	2.5	0.3	0.2

***Progeny number at Adult classing.**

These FBVs are calculated from data recorded within-site and within-drop and express the expected genetic performance of a sire relative to another sire in the evaluation (when mated to the same standard of ewes). FBVs improve the accuracy of sire results because they account for the difference in the age of the progeny, trait heritability, genetic correlations between traits and non-genetic effects such as birth type, rear type, sex, age of dam, management group and differences in progeny group sizes.

Age Stage:
W = Weaning (42-120 days); P = Post Weaning (210-300 days); Y = Yearling (300-400 days); H = Hogget (400-540 days); A = Adult (1.5-2.5 years).

Traits:
Abbreviation, trait (units reported)

FD:	Average fibre diameter (um)	SS:	Staple strength (NKtex) at the mid-side
FDCV:	Fibre diameter coefficient of variation (%)	WT:	Body weight (kg)
CFW:	Clean fleece weight (kg)	EMD:	Eye muscle depth (mm) at the 'C' site
SL:	Staple length (mm) at the mid-side	FAT:	Fat depth (mm) at the 'C' site

Trait Leaders: The highest performing 3 (or more if equal) sires for each trait (trait leaders) are highlighted by shading.

2019 Drop

Birth Type

Breeders flock, Sire number	Progeny Weaned	Birth Type (%)	
		Single	Twin
Anderson Poll, 160390	42	52	48
Calcookara Poll, 170400	35	31	69
Challara Poll, 150245	48	29	71
Flairdale Poll, 170070	40	50	50
Greenfields Poll, 160079	46	50	50
Gunallo Poll, 170295	26	50	50
Hilton Heath Poll, 150817	51	47	53
Kelvale Poll, 170004	56	32	68
Leahcim Poll, 173114	40	52	48
Malleetech Poll, 177141	45	40	60
Moorundie Poll, NE73	29	72	28
Pepper Well Poll, 177031	42	43	57
Pimbena Poll, 170509	40	47	53
Ridgway Poll, 170005	51	47	53
Roemahkita Poll, 160018	37	49	51
Wallaloo Park Poll, 172070	42	45	55
Average	**670**	**302** ***45%***	**369** ***55%***

Visual Scores

Breeders flock, Sire number	Breech Scores @ Marking		Adult Classing			
	BRWR	BCOV	DAG	CHAR	LEGS	FACE
Anderson Poll, 160390	1.4	1.4	1.1	2.1	1.4	1.6
Calcookara Poll, 170400	1.9	2.0	1.1	1.7	1.5	2.4
Challara Poll, 150245	1.8	1.8	1.2	1.7	1.2	1.7
Flairdale Poll, 170070	1.8	1.8	1.5	2.1	1.1	2.5
Greenfields Poll, 160079	2.1	2.1	1.2	2.3	1.4	2.2
Gunallo Poll, 170295	1.6	1.8	1.2	1.3	1.4	2.1
Hilton Heath Poll, 150817	1.7	2.1	1.1	2.5	1.2	2.7
Kelvale Poll, 170004	1.2	1.5	1.2	1.8	1.3	2.0
Leahcim Poll, 173114	1.5	1.8	1.1	1.9	1.1	2.8
Malleetech Poll, 177141	1.8	2.0	1.2	2.4	1.6	2.3
Moorundie Poll, NE73	1.8	1.8	1.1	1.8	1.3	2.3
Pepper Well Poll, 177031	1.8	1.9	1.1	1.6	1.1	2.0
Pimbena Poll, 170509	1.3	1.6	1.2	2.0	1.3	2.1
Ridgway Poll, 170005	1.4	1.6	1.3	1.4	1.5	1.9
Roemahkita Poll, 160018	2.0	1.9	1.3	2.3	1.3	2.4
Wallaloo Park Poll, 172070	1.9	1.8	1.1	1.6	1.3	2.1
Average	**1.7**	**1.8**	**1.2**	**1.9**	**1.3**	**2.2**

Classer's Grade

Breeders flock, Sire number	Classer's Grade - Adult		
	Progeny No.*	TOPS (%)	CULLS (%)
Anderson Poll, 160390	36	-7	2
Calcookara Poll, 170400	32	4	-7
Challara Poll, 150245	45	-1	-12
Flairdale Poll, 170070	36	-19	18
Greenfields Poll, 160079	41	-26	22
Gunallo Poll, 170295	24	24	-14
Hilton Heath Poll, 150817	48	-10	14
Kelvale Poll, 170004	52	13	-9
Leahcim Poll, 173114	36	-5	-9
Malleetech Poll, 177141	44	-11	14
Moorundie Poll, NE73	25	27	-13
Pepper Well Poll, 177031	40	16	9
Pimbena Poll, 170509	39	-5	-17
Ridgway Poll, 170005	45	9	-10
Roemahkita Poll, 160018	37	-19	21
Wallaloo Park Poll, 172070	41	9	-11
Average	**39**	**25**	**23**

***Progeny number at Adult classing.**

The Classer's Visual Grade results are presented in the table above as Adjusted Sire Means see the Adjusted Sires Means page for further explanation.

A classer grades all progeny as either Top, Flock or Cull based on their visual assessment of all traits relative to the Site's Breeding Objective (see page 1). This classing reflects the approach that may be undertaken in a commercial flock. Tops and Culls are reported as the group's percentage above / below the drop average, ie. a more positive *Tops* result is better as is a more negative *Culls* result. Progeny are also assessed for a range of visual traits.

Visual Traits as reported:	BRWR: Breech Wrinkle BCOV: Breech Cover DAG: Dag *Scored betw. 1-5 based on the Visual Sheep Scores.*	CHAR: Wool Character FACE: Face Cover LEGS: Feet and Legs *Further traits are available in Site Reports*.
Trait Leaders:	The highest performing 3 (or more if equal) sires for each trait (trait leaders) are highlighted by shading.	

2020 Drop

Birth Type | Visual Scores | Weight

Breeders flock, Sire number	Progeny Weaned	Birth Type (%)		Breech Scores @ Marking		Adjusted Sire Means	Flock Breeding Values
		Single	Twin	BRWR	BCOV	WWT (kg)	WWT (kg)
Baderloo Poll, 180049	42	50	50	1.2	1.0	29.1	-2.8
Calcookara Poll, 170060	57	51	49	1.3	1.1	31.9	0.8
Caroonboon, 181395	42	57	43	1.4	1.1	32.9	2.0
Challara Poll, 181063	49	49	51	1.2	1.0	32.4	1.4
Collandra North, 180645	41	76	24	1.9	1.0	29.7	-1.9
Collinsville Poll, 130545 (Apollo) (Link)	48	48	52	1.5	1.0	31.6	0.4
Flairdale Poll, 180015 (Link)	55	47	53	1.2	1.1	30.6	-0.9
Glenville Poll, T88018	57	40	60	1.2	1.0	32.6	1.7
Hazeldean, 000113 (Link)	44	64	36	2.4	1.1	31.0	-0.4
Malleetech Poll, 188039	53	38	62	1.6	1.1	29.7	-2.1
Mernowie Poll, 180500	51	43	57	1.7	1.0	31.5	0.3
Mumblebone, 170129	41	61	39	1.2	1.0	30.9	-0.5
Old Ashrose Poll, 150445	50	46	54	1.4	1.0	33.6	3.0
Pepper Well Poll, 188187	43	51	49	1.2	1.1	31.5	0.2
Ramsgate, 180451	43	47	53	1.5	1.0	31.5	0.2
Ridgway Poll, 180157	47	43	57	1.4	1.1	30.9	-0.5
Stockton, DB0074	43	42	58	1.2	1.1	30.8	-0.7
Willandra Poll, 180080	44	41	59	2.2	1.0	31.2	-0.2
Average	**850**	**417** ***49%***	**433** ***51%***	**1.5**	**1.0**	**31.3**	

Weight results are presented in the table above as both Adjusted Sire Means and Flock Breeding Values.
See the corresponding 2019 drop pages for further explanation.

Visual Traits as reported:	BRWR: Breech Wrinkle BCOV: Breech Cover DAG: Dag *Scored betw. 1-5 based on the Visual Sheep Scores.*	CHAR: Wool Character FACE: Face Cover LEGS: Feet and Legs *Further traits are available in Site Reports.*
Trait Leaders:	The highest performing 3 (or more if equal) sires for each trait (trait leaders) are highlighted by shading.	

For further information in relation to Sire Evaluation please contact:

Ben Swain, AMSEA Executive Officer
0427 100 542 or ben.swain@bcsagribusiness.com.au,

or

Anna Cameron, SA Merino Sire Evaluation Site Coordinator
0403 747 332 or acameron@yalumba.com

SA MERINO SIRE EVALUATION SITE COMMITTEE

Chairman	Roger Fiebig	Breeder Representative	Hansi Graetz
Site Owner (2017/2018 drops)	Keynes Family	Breeder Representative	Matt Ridgway
Site Owner (2019/2020 drops)	Duane Simon, McPiggery	Finance & Administration	Jennifer Light
Site Owner (2021/2022 drops)	Eckert Family	Site Coordinator	Anna Cameron
Data Manager	Michelle Cousins	AMSEA Site Representative	Stephen Lee
Industry Service Provider	Bill Walker		

SPONSORS, CONTRIBUTORS AND VOLUNTEERS

As a non-profit site, our sponsors provide a very important contribution, and we would like to acknowledge their generous support of the SA Merino Sire Evaluation Trial. We would also like to thank those individuals, and/or businesses whom have volunteered their time in helping the site run as smoothly as possible throughout the year, whether that be in the form of providing labour, or helping with specific tasks as required by the AMSEA protocols. It is important to acknowledge McPiggery, who importantly offered to be the host site for 2019 & 2020 drops for the SA Merino Sire Evaluation Trial, as well as volunteering their own time in planning and labour.

Mary Chirgwin 0418 898 505

James Ellis 0409 229 368

Margie Trowbridge 08 8756 6065

Paul Cousins 0427 922 108
Michelle Cousins 0407 607 899

Bill & Rose Walker 0428 973 804

FOR REGULAR UPDATES AND REPORTS VISIT
www.merinosuperiorsires.com.au