

Australian Merino Production Trial 2023 – 2025

Benchmarking future genetics!

1. Trial Convenor

Redgum River Pastoral Co (formally Craig Wilson & Associates) is committed to the ongoing genetic improvement of the Australian Sheep Industry. The company has collected Merino benchmarking data for the past 18 consecutive years on more than 12,000 sheep over a number of evaluations and trails run across NSW.

E: craigwilsonlivestock@bigpond.com M: 0428 250 982

2. Australian Merino Production Trial 2023-2025 - summary

Wether trials have been a part of the genetic benchmarking landscape for over 30 years. They play a role in benchmarking your flock's performance. This year we will evaluate each team in two different production systems – feedlot (Condobolin) and pasture/grazing crops (Wagga Wagga) and focus on the meat and wool traits respectively.

In 2023 the teams will be randomly split into two groups with Group 1 (Meat) going into a Feedlot run by Fletcher International Exports near Condobolin to capture growth and carcase trait measurements. Group 2 (Wool) will run on a property near Wagga Wagga and their wool traits will be assessed over two shearings.

Data collection, wool and meat valuations, data analysis and reporting will be supported by Fletcher International Exports, SheepMetriX, NSW DPI, Moses & Son, JM Livestock and Riverina Wool Testers.



3. Value to entrants

Why should you benchmark your Merino flocks' genetics?

Benchmarking provides entrants with a thorough picture of the genetic capacity of their Merino flock. This information is fundamental to having a successful and profitable self-replacing Merino sheep breeding business. Environmental and management effects have a very large impact on how Merino sheep look and perform. To accurately measure a flock's relative genetic productivity and profitability, sheep must be run together over a period of time whilst objectively measurement and analysis of all traits is carried out.

Wethers are simply a vehicle to understand the relative genetic merits of an entrant's ewe flock.

What have previous trials told us so far?

The range in relative profitability particularly at Net Profit level demonstrated through these trials continue to highlight the opportunity for entrants to significantly increase the performance of their flock's genetics.

The table below clearly shows the consistency of two measured traits, fibre diameter and clean fleece weight of two entrants flocks over a ten-year period. This data represents five different drops of sheep, that have been entered into 5 wether trials, with the data giving confidence that the results generated from the trial do truly reflect a flock's relative profitability.

February 2023

Peter Westblade Memorial Merino Challenge 2010-2020 - Team Comparison - Raw Data

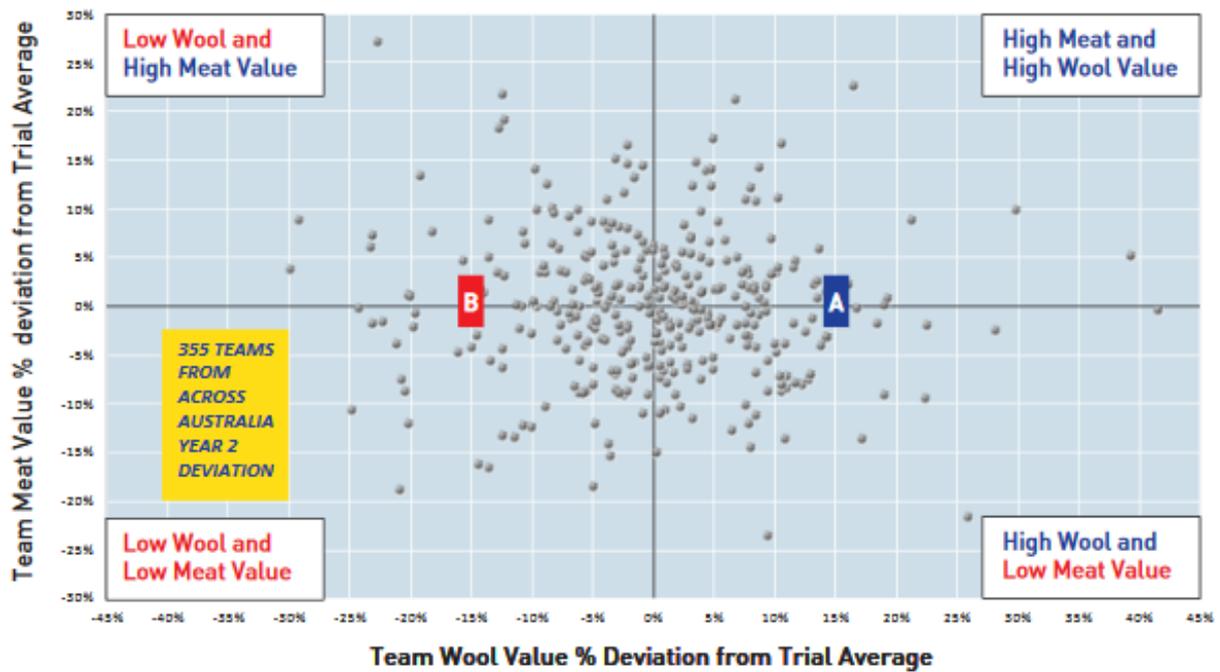
		2009 Drop - White Tag		2011 Drop Green Tag		2013 Drop - Yellow Tag		2015 Drop - Blue Tag		2017 Drop - White Tag		
	TEAM	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Averages
Age at Shearing		1.5 Yr	2.5yr	1.5 Yr	2.5 yr	1.5 yr	2.5 yr	1.5 Yr	2.5yr	1.5 Yr	2.5 yr	
Months of Wool		12	11	12	11	11	12	12	11	12	11	
Average Fiber Diameter	Team A	18.4	18.7	16.7	18.2	17.9	19.2	17.0	16.2	16.3	18.7	17.7
	Team B	19.9	19.7	18.2	19.6	19.7	20.5	18.9	18.6	18.2	21.0	19.4
	AV	18.9	18.8	17.5	18.8	18.1	19.3	18.0	17.2	16.3	18.9	18.2
	Var.	-1.5	-1.0	-1.5	-1.4	-1.8	-1.3	-1.9	-2.4	-1.9	-2.3	-1.7
Average Clean Wool Weight	Team A	4.4	4.6	3.6	4.1	4.3	5.2	3.7	3.5	3.1	3.4	4.0
	Team B	3.4	3.4	3.0	3.2	3.5	4.3	3.5	3.0	2.8	2.8	3.3
	AV	3.9	3.9	3.4	3.8	4.0	4.9	3.8	3.4	3.0	3.3	3.7
	Var.	1.0	1.2	0.6	0.9	0.8	0.9	0.2	0.5	0.3	0.6	0.7

What could this mean to the profitability of your business?

PWMMC 10 Year Production			
10 Year average Wool Value		Gross Income 1 Shearing 5000 sheep	Gross Lifetime Wool Production 5 shearings, 5000 sheep
Team A	\$59.05	\$295,253.20	\$1,476,265.98
Team B	\$43.85	\$219,234.20	\$1,096,171.01
Var.	\$15.20	\$76,018.99	\$380,094.97
10 Year average Meat value		Gross Income meat production 1 sheep, sale 5000 sheep	Gross Lifetime meat production 1 sheep, sale 5000 sheep
Team A	\$83.58	\$417,891.69	\$417,891.69
Team B	\$85.21	\$426,032.07	\$426,032.07
Var.	-\$1.63	-\$8,140.38	-\$8,140.38
		Gross Income Variance 1 Shearing 1 Sale 5000 sheep	Gross Income Variance 5 Shearings and 1 Sale 5000 sheep
Extra Gross Income		\$67,878.61	\$371,954.59

In a previous Beyond the Bale (December 2020) article, the graph below was presented showing the per head variation from the mean for the value of meat and wool across the **355 wether teams** that have been entered into the Peter Westblade Memorial Merino Challenges (PWMMC) from 2004 to 2020 (former name of wether trials run by Craig Wilson & Associates).

The graph below shows Team A and B have the same meat value, however Team A is more profitable by \$15 per head for wool value. Wether trials continue to demonstrate the within team and across team variation and are valued genetic benchmarking tools for entrants.



4. What will the AMPT 2023-2025 Provide?

The trial will provide commercial or seed stock breeders with an opportunity to evaluate and showcase their flock’s performance in key profit areas, and across two production systems.

Each entrant will receive a comprehensive analysis of their flock’s performance for all the traits listed in Section 3 after processing and each shearing. Entrants will be invited to attend field days and seminars where trial teams will be on display and results presented.

The 2023-2025 Australian Merino Production Trial (AMPT) will complement the other trials run under a similar format by CW&A. Since 2010, 311 teams have been evaluated from 5 states around Australia, Table 1 shows the distribution of teams. The AMPT will have links to past trials enabling the full dataset to be compared over time.

Table 1 – Number of teams represented by State.

States	2010-12	2012-14	2014-16	2016-18	2018-20	2020	2021-23	Total
NSW	45	50	46	43	34	23	29	270
VIC	4	7	3	4	5	3	5	31
WA	1		1	2	1			5
SA		2						2
TAS		1		1			1	3
Total	50	60	50	50	40	26	35	311

5. Previous Trials

All trials conducted by RRP/CW&A have been run under the NSW DPI Wether Trial Guidelines with all shearings overseen by NSW DPI Sheep Extension Officer(s) with the data from all trials contributed to the National Merino Bloodline Performance published by Australian Wool Innovation and NSW DPI. Trial analysis and reporting is carried out by SheepMetriX (formally Sally Martin Consulting) an independent sheep consulting business based in Young NSW.

Most of Australia's largest woolgrowers have been entrants in the trials and all Merino Bloodlines with a significant influence on the national flock have been represented. Below is a list of trials and locations that have been conducted by RPP/CW&A.

Craig Wilson Livestock Wether Trial

2004-2006 Wagga Wagga 27 teams of 15 wethers

2006-2009 Alectown 51 teams of 15 wethers

2008-2010 Taralga 30 teams of 30 wethers

2008-2010 Clyde Agriculture 13 teams of 30 wethers

Peter Westblade Memorial Merino Challenge

2010-2012 Temora 50 teams of 30 wethers

2012-2014 Temora 60 teams of 30 wethers

2014-2016 Temora 50 teams of 30 wethers

2016-2018 Wagga Wagga 50 teams of 30 wethers

2018-2020 Wagga Wagga 40 teams of 30 wethers

Paraway Pastoral Company Wether Trials

2014-2016 Narrandera 8 teams of 30 wethers

2016-2018 Narrandera 10 teams of 30 wethers

Australian Merino Lamb Trial

2020 Wagga Wagga 26 teams of 25 wethers

Australian Merino Production Trial

2021-2023 Wagga Wagga & Condobolin

2023-2025 Wagga Wagga & Condobolin Feedlot



6. AMPT 2023-2025 - Trial structure and traits to be measured.

Each entrant will be required to provide 30 wethers (randomly selected – see point 6.7, page 4) that will be split into two sub-groups of 15 wethers per group.

Group 1 (Meat) will go into the Fletcher International Export Feedlot at Kiargathur Station Condobolin and Group 2 (Wool) will be run at Koorringal, Wagga Wagga.

Group 1 (Meat) will be transported to the Kiargathur Station Feedlot and then processed at Fletchers International Export abattoir Dubbo to assess and report on the following traits.

Liveweight and growth traits

Liveweights

Growth rate (grams/head/day)

Final body weight (kg)

Age (mouthed – lamb/hogget) – prior to slaughter and at slaughter

Carcase traits

Carcase weight (kg)

Dressing percentage – derived from final body and carcase weight

Fat depth at GR (12th rib) (mm)

Inter Muscular Fat (IMF)

Economics

Carcase Value \$/head

Skin Value \$/head

Total Lamb Value \$/head

Group 2 (Wool) will run at Koorringal, Wagga Wagga for two consecutive shearings (2024 and 2025) to assess and report on the following traits.

Wool

Fibre Diameter (um)

Coefficient of Variation of Fibre Diameter

Standard Deviation (FD)

Comfort factor (% > 30 micron)

Washing Yield (%)

Schlumberg Yield (%)

Greasy fleece weight (kg)

Clean fleece weight (kg)

Staple length (mm)

Staple strength (N/ktex)

Bin Line (AAAM; AAAE; AAAC)

AWEX Identification – style (MF4; MF5)

Colour – Nil, H1, H2, H3

Conformation – Wool Challenge

Condition/Fat Score (1 to 5)

Off shearing body weight (kg)

Body wrinkle (1 to 5)

Fleece rot (1 to 5)

Liveweight traits

Induction liveweight (kg)

1st shearing assessment – body weight (kg) and condition/fat score (1-5)2nd shearing assessment – body weight (kg) and condition/fat score (1-5)

Economics

Fleece and Wool Value \$/head

Fleece value comparing current and Non-Mules price differences \$/head

Mutton Value \$/head

Total Sheep Value \$/head

The trial will include 'link' teams for across location comparisons, and two previous wether trials including the Peter Westblade Memorial Merino Challenge (PWMMC), Australian National Field Day and Bookham wether trials, and will also contribute to the National Merino Bloodline Performance Analysis produced by NSW Department of Primary Industries.

7. Reporting

The results from each site will be reported back to entrants after each assessment shearing and are outlined in Table 2.

Table 2 – Reporting Timetable

Date/Event	Report Generated
Even-up – Induction – 7 th April 2023	List of entrants, locations, details about trial sites
Group 1 – Feedlot & Processing	Growth/Carcase report
Group 2 – 1 st assessment – April 2024	1 st shearing assessment
Group 2 – 2 nd assessment – March 2025	2 nd shearing assessment – combined with 1 st assessment

8. Rules and Guidelines

- 8.1. Teams need to be from a commercial self-replacing sheep including, Horn, Poll, SRS, MPM, Mega Merino, Dohne and South African Meat Merino (SAMM).
- 8.2. The entrant must have bred all sheep nominated, with the wethers carrying the entrants registered ear mark and NLIS PIC tag. The entrant can enter a team of wethers bred from rams purchased from the nominated stud (bloodline source) or those bred to their own rams. A separate category will be set up for studs enabling data to be compared separately to the commercial teams.
- 8.3. The trial is open to sheep operations from across Australia. Preference may be given to teams from states with little representation.
- 8.4. The trial will commence in April 2023 and conclude in March 2025.
- 8.5. The trial will accommodate a maximum of sixty (60) teams, each to comprise thirty (30) wethers.
- 8.6. At the commencement of the trial, all teams will be shorn to standardise wool length (even up shearing). Each team will then be randomly split into two groups of 15 wethers – Wool and Meat trials.
- 8.7. Each nominated team must be selected according to the following process:
 - 8.7.1. The Entrant will yard a minimum 90% of his/her 2022 wether drop lambs (born after April 1st 2022). A minimum of 300 wether lambs must be yarded.
 - 8.7.2. A nominated trial representative will randomly, draft fifty-four (54) wethers from the above group.
 - 8.7.3. The Entrant and/or their advisor will then select his/her team of thirty (30) from the random group of 54 wethers. The selection of the 30 wethers will be in line with the entrants breeding objectives and selection will occur without the use of objective data.
 - 8.7.4. Under the supervision of the trial representative, the team of thirty (30) wethers will then be ear-tagged, with two permanent tags.
- 8.8. The Entrant is to liaise with the trial coordinator in their region for the delivery of his/her team of thirty (30) wethers to a central location for trucking to the trial site. All teams must be on-site prior to the even up shearing anticipated to be in the first week of April 2023 and accompanied with a National Sheep Health Statement and National Vendor Declaration (Sheep). If any form of footrot is present in a flock (or suspected), the flock is ineligible to participate in the trial.
- 8.9. Entrants may elect to have teams tagged and delivered at weaning.
- 8.10. Wethers to arrive unshorn at induction, allowing for the even up shearing. Teams shorn prior to 1st January 2023 may be accepted with prior approval.

- 8.11. Flocks previously testing positive to Ovine Johnes Disease must show a strong history of Gudair Vaccine use across the whole flock and ensure all wethers in the trial team have been vaccinated with Gudair by 16 weeks of age.
- 8.12. At entry to the trial (arrival at location for even-up shearing) and after sheep have passed a full animal health induction, all sheep become the property of Redgum River Pastoral Co (formally Craig Wilson & Associates). Entrants may consider approaching their ram breeder to assist with the cost to supply the sheep.
- 8.13. All transport costs will be covered by the owner of sheep at the time when the cost occurred. For example, all transport costs incurred taking the team to the even up shearing will be the responsibility of the entrant. Once the team has passed induction, all costs associated with the trial will be covered by the trial convenor.
- 8.14. Upon arrival a full animal health induction program will be implemented. Should any individual team fail the initial feet inspection or any other animal health issues deemed unacceptable by the trial induction manager, the team will be removed from the trial and entrants asked to pick up their sheep.
- 8.15. Following the induction and even up shearing the wethers will be divided into two groups ensuring an even distribution of across the two sub groups. The two sub groups will be known as the Meat (Group 1) and Wool (Group 2) trials.
- 8.15.1. The Meat Trial (Group 1) wethers will be run on pasture at Koorungal until mid May 2023 when they will then be trucked to Kiargathur Feedlot. They will be introduced to the feedlot on a starter ration for 2 weeks before progressing to a full feed ration early June 2023.
- 8.15.1.1. In the feedlot teams will be randomly allocated to pens using a pre feedlot bodyweight. Each feedlot pen will have three lambs from each team consisting of a high, medium and low body weight lamb. The pen allocation is important to remove any potential “pen effect” from the final analysis.
- 8.15.1.2. The Meat Trial lambs will be in the feedlot a maximum of 12 weeks (2 weeks induction and 10 weeks full ration) and be fed *ad lib* a ration that has been approved as a finishing ration in accordance with best practice lamb finishing. An independent sheep consultant will oversee the feedlot management and data collection in the feedlot and processing.
- 8.15.1.3. Any individual Meat Trial wethers that are deemed to be shy feeders and have not gained weight prior to the fourth weighing (Day 42) will not be included in the assessments. Any team that has more than 4 wethers which have not gained weight or have died prior to day 42 will not be published in the results. Teams will need a minimum of 11 wethers at processing to be published and included in the results.
- 8.15.2. The Wool Trial (Group 2) wethers will be run as one mob from the induction (even up) shearing on pasture and grazing crops at “Koorungal”. This is to ensure all wethers are run under the same management and nutrition conditions. Pasture will be the primary source of feed, with supplementation required to maintain liveweight when the condition of the leanest animal falls to condition score 2.

9. Trait Measurement

9.1 The Meat Trial, at entry to the feedlot all lambs will be body weighed. Adjustments for age (based on entrants lambing dates) will be made in the analysis. Body weights will be collected every three weeks.

9.1.1 Prior to processing lambs will be held without feed and water for 12 hours and body weighed and mouthed prior to trucking to the Fletcher International Export abattoir.

9.1.2 At processing the Meat Trial lambs will have the following traits assessed and measured - hot carcass weight, GR Fat, IMF and allocated an individual carcass price per head.

9.2 Prior to shearing of the Wool Trial wethers each year (April 2024 and March 2025) a sample of fleece will be taken from the mid-side of each sheep and tested for fibre diameter, coefficient of variation fibre diameter, staple length, staple strength (finance dependent) and washing yield. Prior to shearing wethers will also be body weighed, scored for condition, fleece rot and wool colour.

9.2.1 Post shearing the Wool Trial wethers will be scored for body wrinkle.

9.2.2 At shearing, all wool from each sheep will be weighed and commercial values will be calculated using long term 5-year average prices.

9.2.3 Additional pricing will be used to compare the 5 year average with the spot and non-mulesing market prices.

9.2.4 Commercial wool values will take into account each fleece's tested fibre diameter, staple length, staple strength, yield and wool type (AWEX ID) as determined by independent AWEX-ID accredited wool valuer(s).

9.2.5 Using the fleece values determined, team average results will be calculated each year, by dividing the sum of the individual wool values by the number of wethers present in the team at shearing. The total number of sheep in each team, plus the proportional oddment values will determine the team total value of wool production. If less than 8 sheep in the team, the information becomes unrepresentative, and the results may be withheld from the public and not published (information will be given to the entrant).

9.2.6 The value of the carcass (mutton value) in the Australian Merino Production Trial will be estimated each year on Group 2 using average body weight and condition score assessments to estimate a dressing percentage multiplied by the 5-year average mutton price.

9.2.7 Using the mutton values, team average results will be calculated each year, by dividing the sum of the individual carcass values by the number of wethers present, in the team.