MLP
Merino Lifetime Productivity Project

Merino Lifetime Productivity Project Newsletter No.15

Field Day Wrap Up

On March 29, NSW DPI's Trangie Agricultural Research Centre in partnership with the Macquarie Sire Evaluation Association hosted the final Macquarie Merino Lifetime Productivity (MLP) Project field day.

A crowd of 120 people descended to the site to see the daughters of 31 industry sires penned in their sire groups for the very last time. The focus of the field day was to celebrate the Macquarie site and to take a closer look at the key features that set the site apart from the other four MLP sites.

The day was complemented by four formal presentations and a series of pen-side talks. An evening dinner celebrated the success of the site and saw long term wool industry stalwart and MLP Classer Allan Casey awarded an Australian Wool Industry Medal.

All 31 sire groups were on display penned by sire and base ewe type groups. This involved a 62-way draft which was capably managed by MLP site manager Ms Tracie Bird-Gardiner with support from NSW DPI and Local Land Services staff.

Each sire pen had the standard MLP reporting of raw data, adjusted sire means and Flock Breeding Values, with additional pen cards featuring performance based on ewe type source.

Macquarie sire progeny penned by both dam ewe types.

MLP quick facts

- The Australian Wool Innovation (AWI) funded MLP project is a $8M (plus $5M from partners), 10-year partnership between AWI, the Australian Merino Sire Evaluation Association (AMSEA), nominating stud Merino breeders and site hosts.
- The MLP project has run at five sites where sire evaluation trials operated for the first two years and then tracked the performance of ewe progeny through four to five joinings and annual shearings.
- **Balmoral, VIC** **Host:** Tuloona Pastoral
  Committee: Balmoral Breeders Association
  Pingelly, WA **Host:** Murdoch University / UWA
  Committee:
  Federation of Performance Sheep Breeders (WA Branch)
  MerinoLink, Temora NSW **Host:** Moses & Son
  Committee: MerinoLink Limited
  Macquarie, Trangie NSW **Host:** NSW DPI
  Committee: Macquarie Sire Evaluation Association
  New England, NSW **Host:** CSIRO
  Committee: New England Merino Sire Evaluation Association
- A full suite of assessments have be undertaken during the MLP project including visual trait scoring, classer gradings, the objective assessment of a range of key traits and index evaluations.
- A unique and extensive dataset will result and be used to enhance existing Merino breeding and selection strategies, for both ram sellers and buyers, to deliver greater lifetime productivity and woolgrower returns.

Dr Sue Mortimer and long term MLP Project supporter Graham Wells both spoke at the field day about the impact of the two base ewe types on sire F1 progeny performance. You can read more about their presentations in the upcoming June 2023 edition of AWI's *Beyond the Bale*.

A full analysis of ewe by sire interactions will take place once the final data is collected from the Macquarie site in November 2023.

MLP
Merino Lifetime Productivity Project

Macquarie Final 2023 Field Day in Photos

Macquarie field day attendees listening to the pen-side sire introductions.

Macquarie Site Committee from left to right: Glenn Ormon, Allan Casey, Brad Wilson, Graham Wells, Matthew Coddington, Tracie Bird Gardiner, Mark Mortimer, David Greig, Sally Packham, Kyle McDonald, Emily Pitt. At the front kneeling from left to right: Kathryn Egerton-Warburton, Sue Mortimer and Sue Street.

2022 Wool Industry Medal - Allan Casey

During the Macquarie MLP Project dinner celebrations, MLP Project classer and MLP Project advocate Allan Casey was presented with a 2022 Wool Industry Medal recognising his outstanding and lasting contribution to the wool industry.

Throughout his career, Allan Casey has significantly influenced genetic improvement in the Merino industry through direct engagement with breeders, via sire evaluation and genetic analysis, and through nurturing future industry service providers.

We congratulate Allan on the receipt of the medal and thank him for his critical role in establishing and supporting the MLP Project. Pictured: Allan Casey and his wife Kerry Casey (March 2023)

Analysis and Reporting Committee Meet

The MLP Project Analysis and Reporting Committee (ARC) met in Sydney during March 2023 and heard presentations from the Animal Genetics Breeding Unit (AGBU), NSW DPI and by economist John Young.

MLP Project Analysis and Reporting Committee 2023.

Impact of Foot Paring on Performance

A presentation delivered by Dr Peter Wahinya of AGBU aimed to explore whether foot paring masked the impact of poor feet and leg scores on future production.

Following extreme wet weather conditions, the Macquarie site had opted to undertake a foot management program that involved foot paring affected sheep. Using the feet and leg scores recorded prior to foot paring and post foot paring AGBU explored the impact of foot paring on future feet and leg scores, reproduction, growth and wool production.

Of the 403 ewes in the Macquarie 2017 drop, 83% of the ewes were foot pared in October 2019. Each sire group had a good representation of ewe progeny that were and weren't foot pared. Table 1 shows the average feet and leg scores (based on the Visual Sheep Scores) at each annual assessment.

Table 1: Macquarie 2017 Drop F1 Ewe Foot Scores (red text indicates scores recorded post foot paring).

Date of Measurement	Mean leg scores (std) Not pared (68)	Pared (335)
01-Feb-18	1.90 (0.98)	1.92 (0.87)
26-Sep-18	1.29 (0.71)	1.88 (0.93)
18-Oct-19	1.63 (0.90)	2.93 (1.25)
15-Oct-20	1.82 (1.09)	2.54 (1.31)
12-Oct-21	2.06 (1.33)	2.81 (1.52)
11-Oct-22	2.34 (1.41)	3.11 (1.35)

In this dataset, the work showed that leg scores tend to increase with age, and that there were low to moderate correlations between the Feet and Leg scores across the age measurements (0.16 – 0.64).

It also showed that foot paring did not significantly influence ewe performance and therefore did not bias the sire's Flock Breeding values. The site foot pared the ewes again in late 2022 and the analysis will be revisited to see if a second year of extremely wet conditions and a further foot pare impacted the ewe performance.

Table 2: Macquarie 2017 Drop Adult 4 Production.

Trait*	Mean (std) No foot paring	Foot pared
WR	1.21 (0.87)	1.27 (0.77)
WT kg	72.97 (8.28)	73.56 (7.60)
FAT mm	4.82 (1.18)	5.07 (1.55)
EMD mm	26.34 (2.77)	26.09 (2.47)
CS	3.81 (0.30)	3.81 (0.32)
CFW kg	5.39 (1.28)	5.20 (1.01)
FD µm	20.37 (1.95)	20.30 (1.81)
SL mm	110.68 (8.05)	112.23 (9.39)
SS N/Ktex	42.16 (11.41)	41.00 (11.32)

* WR=Weaning Rate, WT=Body Weight, FAT=Fat measured at C site, EMD=Eye Muscle Depth, CS=Condition Score, CFW=Clean Fleece Weight, FD=Fibre Diameter, SL=Staple Length, SS=Staple Strength

Non Fibre Pigmentation Over Time

Over the past three years, the MLP sites have recorded non-fibre pigmentation scores off shears to better understand if skin pigmentation increases over time and if some sheep increase their level of pigmentation more than others.

All sheep evaluated through sire evaluation and the MLP Project are scored for non fibre pigmentation at marking. Dr Peter Wahinya looked at the scores recorded from marking and at later stages and found that fibre pigmentation is highly heritable and repeatable over time.

The conclusion for this work is that skin pigmentation recorded at marking is highly related to skin pigmentation recorded at later age stages.

Balmoral MLP ewe showing around the eye skin pigmentation.

Around the sites

Balmoral, MerinoLink, Pingelly - SITES COMPLETE

Macquarie

Over the first quarter for 2023, the weather has been warm and mostly dry with some small rainfall events totaling approximately 150mm. As of March, there is good pasture availability.

Preg scanning took place on March 8; the ewes averaged 150% embryos scanned to ewe joined and CS 3.1 for both drops. Both drops were drenched and will be monitored through pregnancy with the hope to collect another individual WEC prior to the site wrapping up in October.

Ewes will lamb for the last time from May 15.

Macquarie F1 Ewes March 2023.

New England

A mild summer has seen lower than average rainfall for 2023; a total of 312mm has been received to the end of March.

A prejoining weight and condition score took place the week commencing March 13. The 2017 drop ewes averaged CS 3.1 at joining and the 2018 drop averaged 3.4. The 2017 drop struggled to gain condition from weaning in December 2022.

Ewes were joined on March 27 with 10 rams joined to each drop. Rams will be removed on May 1. Mid side sampling, classing, and scoring are scheduled for June with shearing to follow in early July.

New England F1 Ewes February 2023.

Catch MLP Project Updates at these Events

MerinoLink Conference – June 2023

Professor Daniel Brown will be presenting some early MLP Analysis Insights at the June 1 conference in Bathurst.

http://www.merinolink.com.au/conference2023/

AAABG – July 2023

MLP data will feature in several papers presented at the upcoming July 26 - 28 AAABG Conference which will be held in Perth. A producer day is scheduled for July 27.

https://aaabgconference.com.au/

New England FINAL Field Day – March 2024

The very last field day for the MLP project will be held in March 2024. On display will be the daughters of 29 industry sires that have been evaluated through life. The site has boasted some interesting add on projects and the field day will be one not to miss. Stay tuned for more details.

MLP Data Update

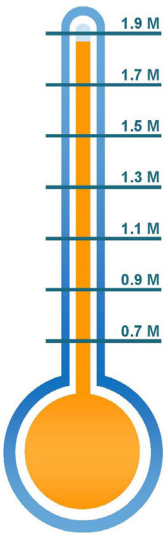
We are just 120,000 data points away from collecting the MLP 2,029,208 planned data points.

The Macquarie site is set to complete MLP core data collection by November 2023, and the New England site by July 2024.

Once we have lifetime records, we can then start to answer the many industry questions that formed the basis for the project, questions such as:

- How can we more accurately make breeding and selection decisions at a young age?
- What is the most cost-effective approach to selection?
- What are the genetic drivers of survival?

Plus many more.



Further information

Download MLP Reports from www.merinosuperiorsires.com.au/mlp-project-reports

Feel free to contact the Site Managers, Project or AMSEA staff who are listed in reports for assistance with interpreting reported results.

Contact MLP Project Manager Anne Ramsay on 0400 368 448

The Merino Lifetime Productivity Project is being undertaken in partnership between the Australian Merino Sire Evaluation Association Incorporated (AMSEA) and Australian Wool Innovation (AWI). AMSEA and AWI would like to acknowledge those entities who also contribute funding, namely Woolgrowers through sire evaluation entry fees, site hosts, site committee in-kind contributions, and sponsors of AMSEA. A special acknowledgement is also made to the Australian Government who supports research, development and marketing of Australian wool.

www.wool.com/MLP