

# Merino Lifetime Productivity Project Newsletter No.17

## A Field Day of Firsts and Lasts

Make sure you've put the New England MLP Field Day – May 29 – in your diary. It will be the lucky last field day with sheep on display and it has a few novel features in store.

The F1 ewes will be penned in their sire groups along with their latest results, and in an industry first, each pen will display research breech and body flystrike breeding values. With the industry buzzing about fly control after a particularly testing summer in some parts, the introduction of a new tool to help breed for greater flystrike resistance will be welcome news.

The flystrike breeding values are a result of an AWI funded partnership with AGBU that's using industry flystrike records along with genotypes to generate the new research breeding values.

You can hear more about the flystrike breeding values at the field day along with talks from CSIRO researchers who will update us on their work to predict immune competence. We will also hear from UNE's Erin Smith who will share her latest research on the impact of udder soundness on lamb survival and weaning weights.

AWI's Geoff Lindon will talk through where to next with the MLP analysis and the analysis team will be at the field day if you would like to discuss your own analysis ideas.

The day will wrap up with a cut-out dinner at the Top Pub in Uralla. We hope you can join us as we celebrate the conclusion of the data collection phase of the project.



**FINAL NEW ENGLAND MLP FIELD DAY**

## 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 been 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.

## FINAL New England MLP Field Day

*"Chiswick", Uralla NSW*

**Wednesday May 29, 2024**

**10.30am to 4pm + Dinner**

*Register and purchase dinner tickets via;*

<https://NEMLPFieldDay2024.eventbrite.com.au>

## MLP Proving its Value

While the data collection and analytical phase of the Merino Lifetime Productivity (MLP) project is ongoing, the project has already provided substantial benefits to the Merino industry. For example, it has facilitated further research initiatives, improved genetic evaluation systems, provided early insights through project analysis, and encouraged positive social and practice changes.

### Immediate Benefit No.1: Enabler of additional industry research

The core MLP project has been instrumental in supporting various add-on projects funded by AWI and other entities. These additional projects involve a mix of MLP ewes and wethers, and the offspring of the ewes. Some notable projects include:

**The Murdoch University-led GEPEP project**, assessing the viability of practical feed efficiency assessments using new ways of measuring and comparing feed intake, body composition and productivity.

Through a GEPEP and a UNE-led MLA-funded project, four of the five MLP project sites will be assessed for methane production.

**The NSW DPI and MLA Donor Company project**, evaluating Merino meat eating quality and its association with lifetime production traits.

**The CSIRO Birth Recording project**, generating data to study neonatal fitness and survival.

**The Animal Health Australia, Murdoch University and Nextgen Agri project**, focusing on the development of Australian Footrot Resistant breeding values.

**The CSIRO and AWI-funded Resilience project**, spanning phases 1 and 2, understanding and predicting immune competence and its relationship to production traits.

**The Wells Classer Trial**, exploring the effectiveness of sheep classers in predicting lifetime performance.



Macquarie 2017 Drop Ewes - Top Cut + High NLW Group, October 2023

### Immediate Benefit No.2: A more robust genetic evaluation system for the Merino industry

The MLP project has annually collected data on visual and objective performance traits on 5,700 ewes that are the daughters of 134 industry AI sires. This data, combined with genotype information, has and continues to be routinely submitted to MERINOSELECT leading to enhancements in the estimates of breeding performance of all animals.

The substantial volume of data collected includes crucial yet challenging-to-measure traits such as reproduction, adult performance, and worm egg count. This wealth of data has significantly bolstered the Merino genomic reference population. With 40% of MERINOSELECT animals submitted having a genotype, the advantages of higher accuracy breeding values are becoming more widespread. This has translated into greater rates of genetic improvement, which will have a significant positive impact across the industry into the future.

Additionally, the MLP reproduction data has played a pivotal role in the development of the genomically enhanced MERINOSELECT reproduction model, which was launched in 2022. And in 2023, the MLP dataset along with other key datasets was used to update the genetic assumptions such as heritability, genetic correlations and trait means used for calculating breeding values.

For index development, MLP has enabled a more evidence based partitioning of emphasis between reproduction and adult wool production, leading to a more accurate evaluation system.

### Immediate Benefit No.3: Early analysis insights and data for development

During the data collection phase, MLP has provided early analysis insights from both the core and add-on projects. These insights have been shared through project newsletters, publications like Beyond the Bale, conferences, and various industry events. Some noteworthy insights include:



Jock McLaren, Chris Bowman, Drew Chapman and Graham Wells at the Analysis and Reporting Committee Meeting, March 2024

- The understanding that a one-size-fits-all culling approach for optimising reproduction in commercial flocks is unlikely.
- The renewed importance of including at least one late hogget or adult fleece record in a measurement program for predicting lifetime wool production.
- The variability in sire mating success rates among naturally mated teams of rams, and the occurrence of twins born from different sires.
- Udder traits are heritable and are closely related to lamb survival.
- Selecting for eating quality has minimal impact on key production traits.
- The heritability of ewe survival is low, but variable, like reproduction. There is a moderate genetic relationship between improved survival and lower wrinkle.
- Skin pigmentation recorded at marking is highly related to lifetime skin pigmentation.
- Yields collected at the mid side reliably predict differences in fleece weight even under drought conditions.
- Whole fleece testing at two MLP sites showed that longer staple length at any fleece weight results in slightly higher yield.
- Trained pregnancy scan operators can reliably predict foetal age.

## Immediate Benefit No.4: Social and practice change impact

The MLP project has played a pivotal role in fostering collaboration, networking and the exchange of ideas within the Merino industry. This industry is known for its diverse breeding philosophies, sometimes leading to scepticism and rivalry among advocates. MLP has brought together various viewpoints through site committees and an Industry Steering Committee, fostering greater understanding, mutual respect and collaboration.

Field days have been important gatherings where over 2,000 ram breeders, ram buyers, researchers and advisors have connected and gained first hand insights into Merino production over time. These events have attracted substantial support, with both in-person and online participation. Attendees have found the content valuable, and surveys conducted during these events have shown increased confidence in utilising MLP site results, which encompass raw data, adjusted sire means, breeding values, classer grades, visual scores, and indexes.

MLP has also introduced several ram breeding operations to sire evaluation for the first time, further enriching the genetic diversity of Merinos involved in across flock genetic evaluation.

## Wrap up

Although the full dataset for the MLP project won't be accessible until mid 2024, it's important to acknowledge the substantial benefits that have already emerged during the project's progress. The database, its analysis, along with collective industry knowledge sharing will lead to strategies to improve Merino lifetime productivity.

## Economics in the MLP

John Young from Farming Systems Analysis has commenced working on an economic analysis for the MLP Project.

His focus has been on the first three sites to wrap up data collection and to date has used two approaches to economic comparison; an estimate of Value of Production and Gross Margin Analysis. A third analysis looking at Profit per Ha will take place for all sites once the data collection is complete.

The analysis has a lot of moving parts with representation of genotypes, management & site/year to accommodate. There are also questions about traits to include and how to best represent the feed budget. John's work shows that variation in the evaluation framework leads to slightly different answers.

The current analyses are creating the nuts and bolts for the big picture questions regarding breeding decisions that will be tackled later.

The analyses to date have been stepping stones in the evaluation of the individual teams.

We hope to report some of John's findings in future editions of the MLP Project Newsletter.



John Young from Farming Systems Analysis presenting to the MLP Project Analysis and Reporting Committee, March 2024

# Around the sites

## Balmoral, MerinoLink, Pingelly, Macquarie - SITES COMPLETE

### New England

Following a very dry winter and early spring, the rainfall pattern at the New England site returned to “normal” late in 2023. The total rainfall for 2023 was 698mm which was approximately 10% below long term average. A total of 198mm has fallen for 2024 as of March 19, but storm activity in the district has been very patchy. Pasture conditions are reasonable such that the ewes are not receiving supplementary feed.

The lambs from the 2018 drop ewes were weaned on November 29 and the 2017 drop on December 4. The 2017 drop weaned 145% lambs to ewes joined and the 2018 drop weaned 146% to ewes joined. The lambs were transferred to the AWI and CSIRO collaborative Immune Competence project.

As part of the fit to lamb project, sensor tags (elastic collars around the neck) were applied to the 2018 drop ewes post weaning for two weeks to monitor ewe behaviour. A sample of ewes will have sensors refitted over the next couple of months to retest ewe activity.

A spike in worm egg count saw individual samples collected mid-February. Ewes are estimated to be sitting just below CS 3.0 which is the result of high weaning rates, feed conditions, the rapid increase in worm burden (now resolved) and a degree of lameness in the ewes.

Ewes were foot pared in the second week of March to resolve the ongoing feet soreness. Preparations for the May 29 field day and June final assessment are underway.



New England 2018 drop ewes at weaning, December 2023



New England ewes having a pedicure, March 2024

### Catch MLP Project Updates at this Event!

#### MerinoLink Conference Bathurst, June 5 2024

Dr Peter Wahinya from the AGBU Analysis team will provide an MLP Analysis Insight.

Peter's presentation will be titled "How well does early performance predict lifetime performance of MLP ewes?"



Click here for more MerinoLink Conference details:

[www.merinolink.com.au/conference24/](http://www.merinolink.com.au/conference24/)

### Wrinkle Expression in the MLP Project

Have you ever wondered what breech wrinkle ASBV you need to achieve score 2 on your farm?

The March issue of Beyond the Bale featured a story about the expression of wrinkle across the five MLP Project sites.

It shows that some sites had a plainer ewe base than others, and that the performance of common sires across sites was as predicted by their breech wrinkle ASBVs. Click here to read more:

[www.wool.com/news-events/beyond-the-bale/](http://www.wool.com/news-events/beyond-the-bale/)

### Further information

Download MLP Reports from [www.merinosuperiorsires.com.au/mlp-project-reports](http://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](http://www.wool.com/MLP)