



# MLP

## Merino Lifetime Productivity Project

### Fast facts

The AWI-funded MLP project is a \$8 million (plus \$5 million from partners), 10-year partnership between AWI, the Australian Merino Sire Evaluation Association (AMSEA), nominating stud Merino breeders and five site partners.

- **Balmoral, Vic**  
Partner: Tuloona Pastoral Committee; Balmoral Breeders Association
- **Pingelly, WA**  
Partner: Murdoch University / UWA  
Committee: Federation of Performance Sheep Breeders (WA Branch)
- **MerinoLink, Temora, NSW**  
Partner: Moses & Son  
Committee: MerinoLink Inc.
- **Macquarie, Trangie, NSW**  
Partner: NSW DPI  
Committee: Macquarie Sire Evaluation Association
- **New England, NSW**  
Partner: CSIRO  
Committee: New England Merino Sire Evaluation Association

The MLP project is tracking the lifetime performance of 5,700 ewes as they proceed through four to five joinings and annual shearings.

A full suite of assessments will be undertaken including visual trait scoring, classer gradings, 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.

**To stay up to date with the latest MLP findings, visit [www.wool.com/mlp](http://www.wool.com/mlp). Subscribe to MLP updates via [www.merinosuperiorsires.com.au/contact-us](http://www.merinosuperiorsires.com.au/contact-us)**



# Ram mating success insights – an MLP Add-On project

**The MLP project has created opportunities for Add-On research projects. One of these Add-On projects is happening at the Balmoral, MerinoLink and Macquarie sites and is exploring if better prediction of ram mating success can be achieved through extensive pre-joining physical examination and semen screening.**

**T**he work commenced in 2019 at Balmoral, hosted by Tuloona Pastoral, led by Andrew Whale and Lexie Leonard (Livestock Logic). This has since extended to the MerinoLink site, hosted by Moses and Son, and the Macquarie site, hosted by NSW DPI. MerinoLink and Macquarie's work is led by Jill Kelly (Central West LLS) and Tim Gole (For Flocks Sake).

Each year, the MLP F1 ewes are joined to syndicates of Merino sires and DNA parentage tests are used to allocate sire and dam to their progeny. Results show that some sires in the syndicates are consistently good at getting ewes in

lamb and on the ground, whilst others are consistently bad.

The Add-On project sees race-side pre-joining inspections of the sires capturing scrotal circumference, testis tone, liveweight, condition score, fat score, age, teeth alignment, feet condition and gait. Semen is assessed for colour, density, mass activity, percentage live and motility. The semen samples are then sent off for more extensive morphology testing.

Rams assessed as *unsuitable* for joining were still added to each syndicate *in addition* to the number of rams required for joining. Progeny numbers per sire



are being collected and compared with the results of the physical assessment and semen testing to determine if they were able to explain the range in progeny performance.

Andrew Whale explains the rationale behind the work: "We are involved in extensive pre-joining physical and semen examination of bulls but the practice is not routinely carried out in sheep operations," he said.

"Essentially we are adding two extra steps in the routine pre-joining ram assessment. The first involves the physical palpation of testes by experienced operators; many testicle problems are subtle and easily missed if not palpated.

"The second step involves a semen analysis race-side and then more extensive testing in the lab. The race-side screening helps us determine what percentage of the sperm are swimming forward and alive. The lab-based testing determines what percentage of the sperm are normal.

"From this we get a really good idea of the percentage of the sperm that are both swimming forward plus anatomically normal and fit for fertilisation to occur.

"Work done with Bos Indicus cattle showed a positive correlation between better semen morphology and improved fertility in the daughters of these sires. If this relationship is true for sheep, then it will be a good approach for also improving conception rates in sheep."

At Balmoral in the first year of the Add-On, the sires joined to the MLP ewes were categorised as *fail* (6 sires out of 26), *borderline* (12 sires) or *pass* (8 sires). The average number of progeny per sire when joined at 2%



and within these categories was 15, 51 and 72 respectively.

While the first year of results from Balmoral are encouraging, a second year of assessment is under way to create a larger dataset and confidence in the results. Like Balmoral, the initial Macquarie results appear positive, although similarly more data is needed to be confident. The additional data will be generated from a second assessment at Macquarie and first assessment at the MerinoLink site.

Although reproduction success is largely driven by the ewe, having the rams in good condition with healthy semen optimises mating outcomes. For commercial growers these mating success indicators would be valuable if they were available for consideration in ram purchasing decisions. **B**

## MerinoLink's inspection day & webinar

The latest MLP results from the MerinoLink site were featured in a Sheep Connect NSW 1½-hour webinar 'MerinoLink: Beyond the report' that can be accessed, along with the MerinoLink results report and key site information, at a newly developed site-specific webpage: [www.merinosuperiorsires.com.au/merinolink2020mlp/](http://www.merinosuperiorsires.com.au/merinolink2020mlp/)

## NEW: An explanation of the MLP reports

If you're new to the MLP project, or want to better understand the different types of results that the MLP project is reporting, an explanation video has been developed from the MerinoLink webinar. Pingelly's MLP Site Manager, Dr Bronwyn Clarke (Murdoch University) outlines the different types of results including raw data, adjusted sire means, breeding values and indexes which are reported within the MLP reports. The 18-minute video is available on the AMSEA YouTube channel at <https://youtu.be/vjNX9toiOWU>

## ASBVs for MLP sires now searchable on MERINOSELECT

MLP sires are now searchable on Sheep Genetic's MERINOSELECT database by selecting the *MLP Sire Checkbox* in the basic search filter. Australian Sheep Breeding Values (ASBVs) are reported for the MLP sires and the ASBVs reported can be customised using the *Customise ASBVs* button. ASBVs enable comparison of a sire's expected genetic performance relative to other sires in Australia. The MERINOSELECT database is available at <https://search.sheepgenetics.org.au/search/dashboard>



Macquarie pre-joining sire inspections with **Jill Kelly** (opposite page) and **Tim Gole** (above), July 2020. PHOTOS: Kathryn Egerton-Warburton, NSW DPI