Merino Lifetime Productivity Project Newsletter No.6

Reproduction Research Breeding Values for industry

The MLP project data has been used in the development of an exciting new suite of research breeding values (RBVs) for ewe reproductive performance traits. New traits have been released by Sheep Genetics following an extensive research and development program at the Animal Genetics and Breeding Unit (AGBU).

A new genetic evaluation system will now produce breeding value estimates for the component traits of reproduction for yearling and adult ewes. Breeding values are available for Conception, Litter Size, Ewe Rearing Ability along with Maternal Behaviour and pre-joining Body Condition Scores.

These new traits provide breeders with opportunities to focus on specific traits by separating the individual contributions of Conception, Litter Size and Ewe Rearing Ability from the resulting Number of Lambs Weaned.

Information derived from lambing records and pregnancy scanning are used in the new system, plus up to 12 other traits; body weight, fat, eye muscle depth and early reproductive development information from male relatives. Models account for joining and lambing management groups, ewe age differences and previous reproduction results for 2 year old ewes.

The inclusion of MLP data in MERINOSELECT, in combination with other research and industry datasets has led to the development of a valuable genomic reference population for these reproduction traits. This reference population underpins genomically enhanced breeding values which are important given the lowly heritable nature of reproduction performance. Traits of low heritability require considerably more sources of information to accurately predict future performance.

The now routine multi-trait single step analysis, that sees genomic information combined with industry data, generates higher accuracy reproduction breeding values leading to greater genetic gain in reproductive performance (increased accuracy = increased genetic gain).

Ram breeders can now obtain substantial improvements in the accuracy of reproduction breeding values by genotyping young rams, allowing more accurate selection at earlier ages. The MLP project is proud to have played a role in making this achievement possible.

Kim Bunter and Andrew Swan, AGBU

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 runs at five sites where sire evaluation trials operate for the first two years and then continue tracking performance of ewe progeny as they proceed 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 Inc.
  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 will 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.

MLP online - New England's 2020 field day

The New England MLP Field Day has been transformed into an online experience launching on August 13, 1pm (AEST) giving access to the MLP ewes to anyone with an internet connection.

CSIRO, New England's site host and research partner, and the New England Merino Sire Evaluation Association (NEMSEA) look forward to hosting an online field day for industry showcasing the MLP ewes and their results.

All the usual elements of an MLP field day have been converted from an in-person experience to an online event. A web page will host the following:

- **Field Day Welcome video**
  Duncan Lance (NEMSEA)
- **Site Overview video**
  Jen Smith (CSIRO)
- **2017 and 2018 Results Report for download and accompanying results explanation video**
- **Sire progeny group inspection videos**
  Ben Swain (AMSEA) & Angus Carter (Site Classer)
- **Sire results pen cards for download**
- **Additional CSIRO research presentation videos**
  Amy Bell, Lynden Smith, Brad Hine, Jen Smith (CSIRO)
- **Other site, project and associate information**

After the launch of the web page attendees will be able to access the online field day content when it's most convenient and return to this resource repeatedly to view the videos and results over the months to come.

This unique opportunity has come about because of the current COVID isolation and travel restrictions. A very limited number of personnel were given restricted site access to develop the online content and the MLP team are very grateful to CSIRO for enabling this. Inspection videos have been created for each sire progeny group incorporating the usual sire introduction and the group's results. Well-respected local classer Angus Carter, the site's regular AMSEA classer, also provides a commentary on the sire groups.

Although nothing replaces the hands-on inspection of the progeny of the 30 industry sires, it's hoped that this online event will deliver the next best thing. This webpage is designed so that attendees can pick and choose which sires to inspect, which presentations to view, plus there is a hub to submit any questions you might have.

The field day web page will be launched with a results webinar on August 13 at 1pm (AEST). Webinar presenters include Site Manager Jen Smith (CSIRO) and Ben Swain (AMSEA Executive Officer) with an extended question panel. SheepConnect NSW will host the webinar and pre-registration is available here.

2020 field day update

Field days are tentatively scheduled for:

Pingelly - October 22

MerinoLink - October 20

Details to be confirmed as per COVID-19 restrictions.
Updates available via wool.com/mlp

NEW ENGLAND 2020 *Online* MLP FIELD DAY

merinosuperiorsires.com.au/newenglandfieldday

WEBSITE LIVE AUGUST 13
Register now for Results Webinar - August 13, 1pm AEST.

Around the sites

Balmoral

The site is experiencing one of the best seasons in many years. Ewes were pregnancy scanned in early June with the 2015 drop averaging a foetal rate of 160% and the 2016 drop 148%. The 2015 ewes averaged condition score 3.5 and the 2016 drop 3.4. Lambs will start to arrive in mid-August.

The final Balmoral MLP field day will be held on February 26, 2021 just prior to the ewes last shearing.

MLP data indicator

As of July 31 2020 the MLP project will have collected approximately 1,055,721 data points across the five sites.

This is 58% of the projected total for the project which is currently estimated as 1,971,555 data records.

A comprehensive Merino dataset.

1.9 M
1.7 M
1.5 M
1.3 M
1.1 M
0.9 M
0.7 M

Pingelly

The site has seen good pasture growth with the ewes no longer requiring supplementary feeding from self-feeders generously donated by **Universal Feeders**. Pregnancy scanning in late April saw the 2016 drop ewes achieving 151% foetal rate while the 2017 drop achieved 122%. The ewes were in good condition averaging 3.1 going into their July lambing.

An updated set of results are available for download at merinosuperiorsires.com.au/mlp-project-reports.

Pingelly's 2017 drop ewes awaiting their next yard session, June 2020.
Image credit: Bronwyn Clarke, Murdoch University

MerinoLink

Great rainfall events through Autumn and the start of winter has seen excellent feed availability. Ewes went into lambing in good condition averaging condition score 3.0. Lambs were tagged in early July suggesting a tagging rate of 107% and foetal survivial of 79%. MerinoLink plan to host their field day on October 20, 2020

A full set of updated results are available for download at merinosuperiorsires.com.au/mlp-project-reports.

MerinoLink 2016 drop ewes and lambs coming in for tagging, July 2020. *Image credit: Lexi Cesnik, Moses & Son*

Macquarie

The site is enjoying good seasonal conditions with regular rainfall events. Ewes went into lambing paddocks in late April averaging condition score 3.0. Lamb tagging in early June saw a tagging rate of 105% (which included a maiden lambing) and a foetal survival of 86%. Weaning is currently scheduled for early August.

A new farm manager, Glenn Orman, commenced at the Trangie Agricultural Research Centre on July 2.

Macquarie F2 lambs in for tagging, June 2020.
Image credit: Kathryn Egerton-Warburton, NSW DPI

New England

The site continues to experience a good return to seasonal conditions. Ewes were pregnancy scanned in late June with the 2017 drop achieving 136% foetal rate and the 2018 drop maiden ewes 105%. The 2017 drop ewes averaged condition score 3.5 and the 2018 drop averaged 3.4.
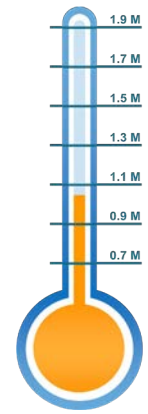
The site's major 2020 assessment is complete. Results will be available at the online field day on August 13 plus via the usual download link (as above).

New England 2018 Drop ewes, June 2020.
Image credit: Emma Grabham, AMSEA

Profile Series: Meet the MLP Site Managers
Tom Silcock - Balmoral, Victoria

The MLP Site Managers will each be profiled in this series. This edition features Tom Silcock from the Balmoral site which is hosted by the Craig family of Tuloona Pastoral.

Tom's pedigree in site management and sire evaluation is well profiled with impressive linkage! Tom has been associated with the Balmoral Breeders Association for 20+ years, he's a past Chairman of the Australian Merino Sire Evaluation Association (AMSEA) and has run his own Merino stud The Mountain Dam. It's no surprise that he is actively involved in his rural community. This vast depth of knowledge and Tom's great personality is now applied to the management of the Balmoral MLP site.

Where has your career path taken you?
Grew up on the family farm, attended Glenormiston Agricultural College, bought own farm and developed **The Mountain Dam** bloodline, hosted Balmoral's first Sire Evaluation site (1998), chair of Balmoral Breeders and AMSEA for a decade and now sheep classing work across Australia for several leading studs and commercial flocks.

What's a highlight of your role as Balmoral's Site Manager?
Being able to work with likeminded people in the pursuit of finding new and better ways to breed Merinos! It's exciting to get early glimpses of project findings and it's great to be able to showcase the value of DNA technology to industry.

How would you describe your site and it's ewe base?
The Craig family's Tuloona property ran a traditional superfine flock that has been recently adapted into a more dual purpose production system. Winters are very harsh, cold and unkind which challenge the Merinos doing ability and health. Worm pressure is another complication.

Where are Balmoral's ewes up to in their lifetime?
We were the first MLP site established so our 2015 ewes have been shorn five times and weaned three drops of lambs. The 2016 drop are a year behind.

What makes the Balmoral site unique?
Balmoral is very much grower led and run. The Balmoral Breeders comittee is very engaged and hands-on with a well-established succession process in place. Our site is run by industry, which is a bit different to the research sites.

What is Balmoral Breeder's particular interest in the MLP?
Balmoral Breeders were looking for solutions to identify animals that would thrive and have optimal production in the tough environment of Victoria's Western District.

Tom Silcock during classing at Balmoral.
Image credit: Bill Walker

What's the most important activitiy of the year at Balmoral?
DNA pedigreeing is the most important activity. It helped us assign the F1 ewes to the MLP sires and now to assign the F2 lambs to these ewes.

'All MLP data is important, but without pedigree it's nothing!' says Tom.

What's the most interesting activity of the year?
Classing and wool sampling is the chance to see firsthand the MLP sire's impact on their progeny - it's very exciting to see the next generation of progeny coming through and the genetic opportunity that they bring!

And the biggest challenge?
In the early stages of the MLP we were the first established site and often were the first to undertake new processes. This included using the early DNA Tissue Sampling Units. We were often the guinea pigs which posed challenges but also delivered great labour efficiencies for the site.

The Craig family and the Tuloona team have gone out of their way to accomodate the project within their large scale commercial operation. Despite the complications they continue to deliver which is testament to their professionalism and commitment to the project!

Tom's top tip for collecting quality data is:
100% team commitment to the task and jobs assigned based on experience. Plus good planning always pays off.

The Balmoral Breeders Committee with Tom in their midst.
Image credit: Balmoral Breeders

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.

Subscribe to the MLP quarterly newsletter at https://go.wool.com/mlp-subscription

Contact MLP Project Manager Anne Ramsay on 0400 368 448

www.wool.com/MLP