CLASSING MERINOS FOR LIFETIME PRODUCTIVITY

There are many outcomes of the Merino Lifetime Productivity (MLP) project, but one specific focus is to highlight the role sheep classers play in selecting for lifetime productivity. While it is still early days for the trial, important data is now being generated comparing classing at relatively young ages.

MLP FAST FACTS

- The AWI-funded MLP project is a $7 million (plus $5 million from partners), 10-year partnership between AWI, the Australian Merino Sire Evaluation Association (AMSEA), nominating stud Merino breeders and site hosts.
- The project aims to increase the understanding of the genetics, environment and economic interactions for a diverse range of Merino types producing wool, lambs and meat during their lifetime.
- 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.
- A full suite of assessments will be undertaken during the MLP project including visual trait scoring, the objective assessment of a range of key traits, classer gradings and index evaluations.

Nathan King undertaking the **Professional classing** at the **Pingelly** MLP site, assisted by **Henry Vaughan** (November 2018).

The **Balmoral site committee** standing along the classing line looking from the **Professional classing** box back along the **AMSEA Visual classing** line and midside sampling point (December 2018).

Breeding decisions play a vital role in delivering ongoing productivity to Merino breeding businesses. While the decision-making process varies, one established method is through the engagement of a professional sheep classer who applies a unique combination of visual and hands-on assessments to evaluate animals during the selection process.

The MLP project is combining the use of sheep classers and their various approaches with measurement-based selection techniques to assess the accuracy of a range of sheep selection scenarios when selecting for ewe lifetime productivity.

MLP CLASSING TRIALS

The MLP project incorporates a range of approaches to selection including two forms of sheep classing. The first of these, the **AMSEA Classer's Visual Grade**, is currently used across all of AMSEA's Merino sire evaluation trials. It involves a three-way classing of the complete progeny group into tops (25%), flocks (50%) and culls (25%). This reflects an approach that might be undertaken at the commercial flock level.

The second form of classing is termed a **Professional Grade** which involves a five-way classing into tops (1%), studs (9%), seconds (60%), sales (20%) and culls (10%). This reflects what generally happens in a stud selection situation.

The ewes are classed randomly as a mob to the site's breeding objective without access to measurements, data or any sire identification. Both of these approaches are undertaken annually on each drop.

Classers also complete an annual assessment of specific visual traits, as is done in Merino sire evaluation trials. Wool, conformation and breech traits are scored according to the Visual Sheep Scores publication, which is available for download at www.wool.com/breedingpublications.

A third classing approach, the **Wells Classing Trial**, has been established at several sites as an MLP Add-On Project.

This method will explore the results from classing within sire progeny groups. Progeny are presented in their sire groups, still with sire unidentified, and the classer is informed of the entrant/sire group's breeding objective. Classers then class the progeny group four ways as tops (10%), firsts (25%), seconds (30%) and culls (35%) according to the entrant's breeding objective. Two classers complete this method independently.

The Wells Classing Trial differs significantly from the AMSEA Classer's Visual Grade and Professional Grade in that ewes are presented for classing in their sire groups. This recognises that each site is made up of divergent sire types and that not all entrants' breeding objectives are the same.

This MLP Add-On Project is occurring for one drop of F1 ewes at the MerinoLink (Temora, NSW) and Balmoral (Harrow, Vic) sites and on both drops of ewes at the Macquarie (Trangie, NSW) site. Classing will occur at the one year old, two year old and final (at approximately five years of age) assessment to determine how animals visually perform later in their lifetime relative to their earlier visual classing(s).

Preliminary AMSEA Classer's Visual Grade and Visual Sheep Scores, along with the Professional Classing results, are reported at MLP Field Days and within the MLP Reports for each site. These reports are available via www.wool.com/mlp.

The overall results of these different classing approaches will be included in the MLP dataset and examined to understand how industry can optimise cost effective selection approaches to better deliver lifetime productivity outcomes. B

MORE INFORMATION

www.wool.com/MLP and subscribe to the MLP quarterly newsletter. MLP Reports an be downloaded from **merinosuperiorsires.com.au**

Geoff Lindon, AWI Program Manager Genetics & Animal Welfare Advocacy 0427 572 228

Bill Walker and **Nathan King** undertake the **Wells Classer Trial** at MerinoLink's **Temora MLP** site (March 2019).

Bill Walker (front) and **Chris Bowman** (rear) undertaking the **Wells Classing Trial** (February 2019).

Briefing classer **Chris Bowman** for the **Wells Classer Trial group** classing at **Macquarie**; peg allocation, sire's breeding objective (February 2018).

AMSEA CLASSER AT THE BALMORAL SITE: DAVID WHYTE

The AMSEA classer at the Balmoral site, David Whyte, has classed the 2015 drop ewes as tops, flocks or culls each year for the past four years and will again twice more to complete their lifetime within the MLP project.

"When I undertake the AMSEA commercial classing I go into robot-mode and assess each sheep as it appears in front of me. I score each trait for their visual scores and then class them an overall top, flock or cull," David explained.

"It's good to then see this all come together in the results for each sire group and over the different years as published in the reports. This is interesting as it shows trends which are obvious in the report but not considered when I'm classing the sheep individually in the race."

Table 1 is an excerpt from the Balmoral MLP Report, February 2019, and shows the **AMSEA Classer's Visual Grade** performance to date of the 25 sires used in the Balmoral 2015 drop. These grade results are expressed as adjusted sire means. The adjustments account for non-genetic differences between the sire's progeny such as birth and rear type (singles or twins), age of dam, age at measurement, management groups (which includes accounting for differences in the foundation ewe source) and number of progeny a sire has in the analysis.

These Balmoral 2015 classing results show that some sire groups' performances change significantly over time, while others appear to be more stable. Once the MLP project is complete, the lifetime data will provide information on how well the scoring, objective assessments and classers have predicted lifetime productivity and at what age. Comparisons between the objective and classing data at each age will also consider the repeatability of these assessments.

UPCOMING MLP FIELD DAYS

NEW ENGLAND MLP FIELD DAY
(2017 and 2018 Progeny on Display),
New England Highway, Armidale, NSW
Date: Thursday 20 June
Contact: Jen Smith 0411 825 748

MACQUARIE MLP FIELD DAY
(2018 Progeny on Display),
Trangie, NSW
Date: Wednesday 10 July
Contact: Kathryn Egerton Warburton 0429 943 708

PINGELLY MLP FIELD DAY
(2016 and 2017 Progeny on Display),
UWA 'Ridgefield', Pingelly, WA.
Date: Friday 25 October
Contact: Bronwyn Clarke 0418 957 293

Most of these lifetime comparisons will not be available until 2024 when the ewes reach five and six years of age at every site.

Table 1. Balmoral 2015 Drop Classer's Visual Grade Results, February 2019

BREEDERS FLOCK, SIRE NUMBER	PROGENY NO	TOPS (%)				CULLS (%)			
		P	A2	A3	A4	P	A2	A3	A4
Billandri Poll, 130087	14	16	0	7	6	-3	-5	-2	-8
Bogo, 111424	22	-12	26	32	14	3	-19	-20	-17
Bundaleer Poll, 13V741	29	-7	-14	7	-2	3	-19	-20	-17
Bundilla, 111265	19	28	-17	-15	-17	-8	12	25	10
Centre Plus Poll, 207316	20	-19	-9	4	12	22	3	-6	-17
Darriwell, 130941	16	5	-10	-15	-16	14	-2	-5	13
Glenpaen, 120042	24	-12	-15	24	23	7	29	-2	-6
Greenfields Poll, 130599	19	-10	8	-5	-7	22	-9	4	-8
Hazeldean, 11.43	26	28	13	9	1	-13	-5	-3	-14
Kurra-Wirra, SR5681	21	-8	6	8	11	28	4	-19	-12
Leahcim Poll, 090918	26	-9	-9	-13	-3	1	17	17	2
Leahcim Poll, 123153	22	-4	-15	-12	-8	-5	3	14	10
Merinotech WA Poll, 100081	25	-1	19	4	-3	-9	-12	-11	-2
Mokanger, 120092	16	-28	-27	-8	-4	14	36	0	3
Moojepin, 100248	20	-17	-9	-21	-21	15	14	39	19
Mumblebone, 130389	13	-12	10	-13	-14	-5	3	29	10
Mumblebone, 130850	14	43	18	2	14	-28	-12	0	-8
Nareeb Nareeb, 130380	20	23	1	-2	-2	-11	-15	-8	-7
Nerstane, 130467	22	-8	24	5	9	3	-11	0	6
One Oak No.2, R56	33	-5	-11	7	20	5	0	-13	2
Roseville Park, 140019	18	-4	-10	15	6	-10	-8	-21	-15
The Mountain Dam, 11/ESA004	30	-2	-5	-10	-6	-15	0	16	15
Tuckwood Poll, 121021	28	4	17	1	6	-7	-6	-8	-7
Yalgoo, 120043	29	13	9	4	-12	-11	-10	-11	13
Yiddinga, 130374	27	-1	2	-13	-7	-5	-12	-6	16
AVERAGE	22	27	28	20	22	28	19	33	22

Number of ewes in sire progeny group

P: Post Weaning age stage, 210-300 days old

A2: Adult2, 1.5-2.5 years
A3: Adult3, 2.5-3.5 years
A4: Adult4, 3.5-4.5 years

Blue shading highlights trait leaders which are the top performing sires for that trait.

+28
This sire group has 28% more ewes classed as Tops at the Post Weaning stage than the average of this drop.

-19
This sire group has 19% less ewes classed as Culls at the A3 stage than the average of this drop.

An improvement with age from Post Weaning to A4 can be seen in these results.

Consistent results across all age stages are observable for this sire group

Average number of ewes in sire progeny group

Average percentage of ewes classed at the Post Weaning stage as Tops across all sire progeny groups