



South Australia's 2020 Sire Evaluation field day with the 2020 drop on display. MerinoLink's 2021 drop progeny at the Central Tablelands Bathurst site.

Merino Sire Evaluation

Advancing industry's genetic gain

Sire entrants in the national Australian Merino Sire Evaluation Association (AMSEA) program are benchmarking their genetic gains across wool, carcase and visual classing traits. The genetic advancements are highlighted in a recent report to AWI on Australian sire evaluation.



Sire evaluation entrants in the AMSEA program benchmark their sire's genetics through the performance of their progeny against the best in the industry. Since 2013, 929 sires from 704 ram breeders have entered across 10 sites spread out across the major wool-growing regions of Australia.

Each site is managed by a local committee with 170+ committee members currently overseeing the sire evaluation trial designs and management across the 10 sites. These trials undertake objective wool and

carcase measurements as well as a broad range of visually scored traits on the progeny of entered sires. These results are then collated by AMSEA, analysed by the Animal Genetics and Breeding Unit (AGBU) to produce Site Reports, submitted to the Sheep Genetics MERINOSELECT database, and ASBVs are reported in the annual Merino Superior Sires (MSS) publication. The 27th edition of MSS was issued in October.

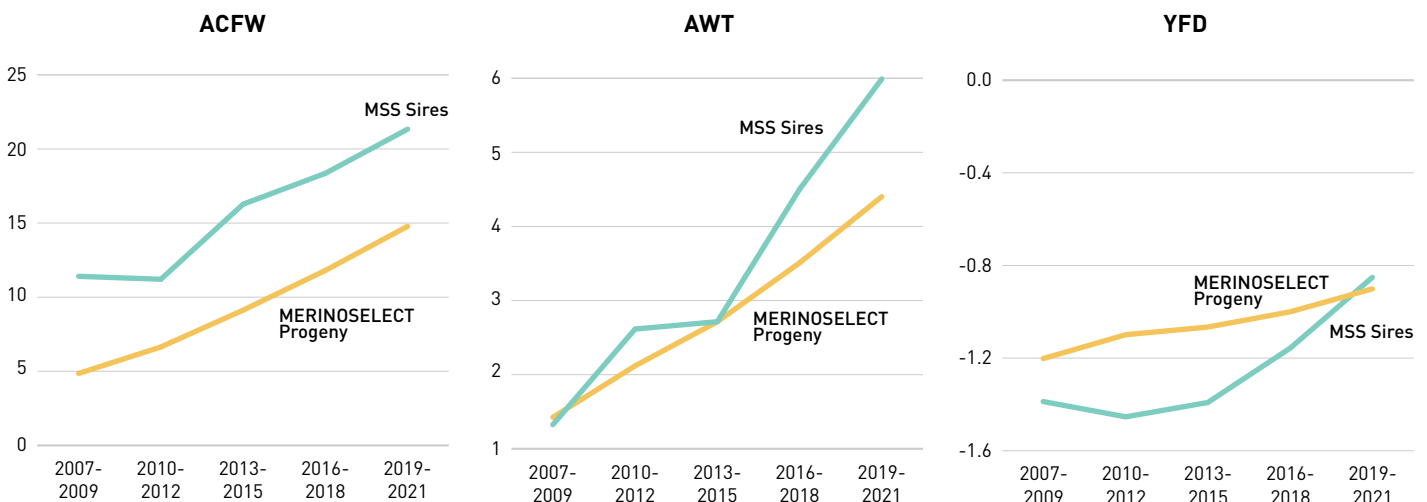
Trends in these results have recently been profiled within an AMSEA

project report showing genetic gain across the sire evaluation entrants for key production traits.

The first set of charts report the trendline of the full MERINOSELECT population against the corresponding grouped Merino Superior Sire entrants' results (MSS Sires) since 2007. These are reported as Australian Sheep Breeding Values (ASBVs). (MERINOSELECT data acknowledgment to Sheep Genetics.)

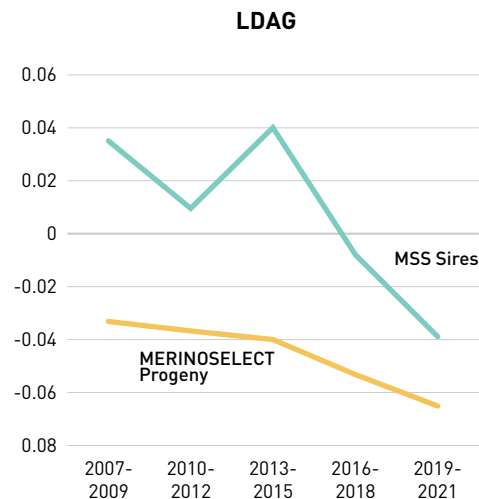
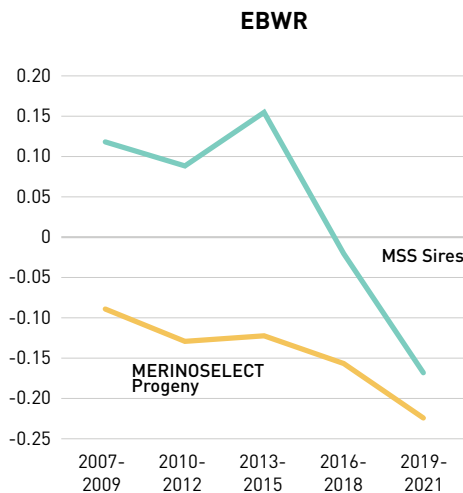
Key wool and carcase traits

The key production traits of *adult clean fleece weight (ACFW)* and *adult body weight (AWT)* shown in the following charts have both seen increases since the 2007-2009 period. *Fibre diameter at the Yearling age (YFD)* has also seen a slight increase, during a period of limited micron premiums when the focus of many woolgrowers has been to increase fleece weight.



Flystrike indicator traits

Sires entered have trended towards decreases in the key flystrike indicators of *early stage breech wrinkle* (EBWR) and *dag* (LDAG – at late stage) with the majority of the gain having been made in the past 10 years. This reflects the industry focus on increasing the reliance on breeding for breech strike control and away from mulesing and prevention chemicals. The decrease in *breech wrinkle* and *dag* has occurred while *clean fleece weight* has been increasing, showing that breeders are achieving gains in these normally antagonistic traits.



Visually classed traits

There are more visually scored traits assessed than objective traits measured in sire evaluation. These scores are completed according to the AWI MLA *Visual Sheep Scores* publication. The table below shows the drop averages for all sire evaluation progeny across Australia for the 2009 and 2019 drop progeny for a number of visually assessed traits.

The changes in these traits reveal a positive outcome with visual wool quality traits remaining consistent, during a time when fleece weights and fibre diameter have increased.

These results over the past decade point to sire evaluation progeny and thus sires tending to have less body wrinkle, with more open faces, whilst retaining or slightly improving wool quality. Body structure has remained relatively constant, however feet and leg structure appears to have regressed. This aligns with an increasing industry

concern regarding feet and has prompted a review of the feet and leg visual scoring system along with cause to take greater notice of feet conformation in general.

Entrants and AMSEA

The entrants in AMSEA's sire evaluation program are accelerating genetic gains and productivity across the Merino industry. Sire evaluation entry is open to any ram breeder or purchaser (with breeder permission) with entrants gaining a benchmark of a sire's genetics, plus very important assessments at older age stages including for some hard to assess traits. Due to the strong link sire requirement, entry also assists the development of a flock's linkage with other sires at a site level and also MERINOSELECT in general.

With ram breeders entering their top sires, the work of AMSEA continues to highlight the top sires and the sale of their

semen and progeny, thus driving genetic gain for the industry. During the past three years, 183 breeders who have not been previously involved have entered sires. The work of the 10 Site Committees and AMSEA's oversight, analysis and publication of results enable breeders and producers to stay up to date with currently available superior sires across a range of traits and breeding approaches. **B**

More information

- Download 'Merino Superior Sires No. 27 October 2021' and the 'Annual Sire Evaluation Site reports using within Flocks Breeding Values' via www.merinosuperiorsires.com.au
- Nominate a sire for entry in AMSEA's Sire Evaluation program via email merinosireevaluation@bcsagribusiness.com.au
- Subscribe to trial results and upcoming field day notices via www.bit.ly/AMSEA_Subscription

Table 1: Comparison of 2009 and 2019 Sire Evaluation drop progeny averages for Visually classed traits.

Average	Number of sires	Wool colour	Wool character	Conformation – legs and feet	Conformation – back and shoulder	Face wool cover	Body wrinkle
2009 Drop	79	2.3	2.5	1.7	1.6	2.7	2.3
2019 Drop	104	2.1	2.5	1.9	1.5	2.4	2.0

Merino Superior Sires No.27 released

Released in October, Merino Superior Sires No.27 (MSS27) includes sections on: All time top 50 sires, Top sires - last 2016-2020, Top 25 high use sires (2016-2020) and trait average, Percentile bands, Sire and contact details and a full report on all sires entered in the past five years.

MSS27 reports ASBVs for each sire entered between 2016 and 2020 on a range of measured traits including *clean fleece weight*, *fibre diameter*, *staple strength*, *body weight*, *eye muscle depth*, *fat depth*, plus *worm egg count*. Also included are ASBVs for the visual trait of early breech wrinkle, the reproduction trait *number of lambs weaned* and the percentages of progeny classed as *Tops and Culls*. Three standard industry indexes are reported DP+, MP+ and FP+, plus WP+ (Wool Production Plus) - the index developed specifically for AMSEA.

