

Monday 25 July, 2022

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Dear Woolgrower,

We hope this note finds you well. Another interesting year is behind us, hopefully a good one for most with generally ample rain and strong prices for meat and wool. At Connewarran, the last 12 months has been very interesting, with significant new trial findings relevant to our business being released. It also seems to have been a year in which the move to accreditation for non-mulesed wools has gained real traction. Below we discuss what we are doing with regard to these findings and changes in our industry and, ultimately, our efforts to produce a sheep that enables breeders to best meet the commercial, environmental, and ethical requirements of a wool growing business.



***De-risking the business:
Mulesing, RWS and other accreditation schemes***

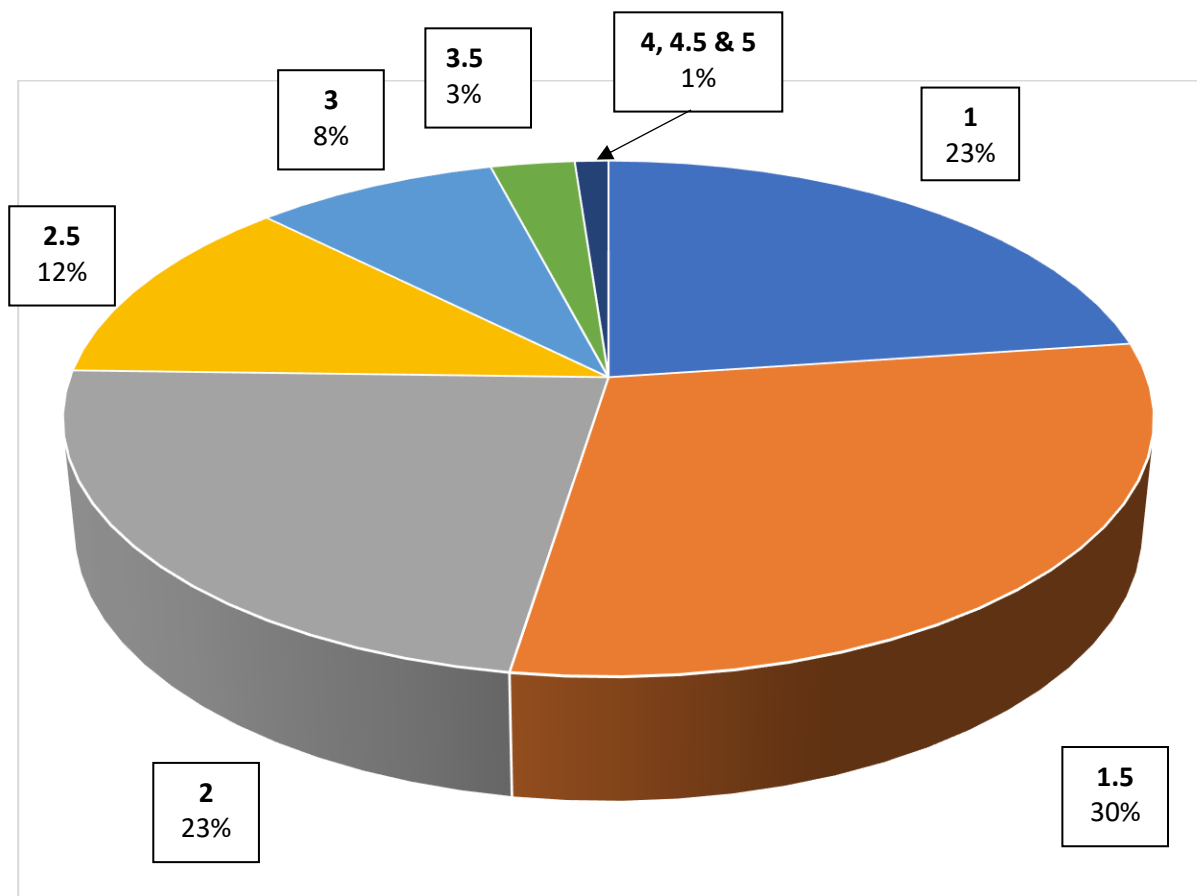
- Only 4% of the 2022 drop with a breech wrinkle score higher than 3
- A proportion of our 2023 sale offering will be non-mulesed and suitable for clients with RWS and other similar accreditations

There has been a lot of movement in this space over the last 12 to 18 months. As far as we're aware, approximately 40% of our rams are now being placed in non-mules operations. No doubt there are others considering a move in this direction.

Our objective is to “de-risk” our business, and provide the tools our clients require to do the same should they wish to do so. We want to have our sheep “safe” rather than “extreme” when it comes to plainness and we believe that we have largely achieved that objective. Our on-property trials have demonstrated that mulesing can be ceased if desired or necessary. For those clients who want to take the leap, or maybe want to move a little bit faster to plain up their animals, the plain end of our offering would suit them best. For those who are inclined to maintain the status quo, there is a broader range of animals to choose from.

Below is a pie chart which shows the breach wrinkle status of the 2022 drop of lambs. Over time we will continue to whittle away the heavier skinned edge, but we feel the majority of the heavy lifting has been done.

BREECH WRINKLE SCORES IN THE 2022 DROP OF CONNEWARRAN STUD LAMBS



Regarding our 2023 sale offering, we have left a proportion of the 2022 drop with no breach modification to cater to those who need to source such sheep for accreditation purposes. We anticipate that our 2023 offering will be divided into “Breach modified” and “Non-modified” offerings, much like some studs divide their offering into horns and polls.

“Smarta” Data!

Merino Lifetime Productivity Findings: Implications for selection methodologies

- We encourage clients to discuss with us how we can best meet their data needs when it comes to selection decisions
- A combination of visual and objective assessment was found to be the most effective selection methodology
- ASBVs were relatively unsuccessful in predicting a sire’s trial performance

We are lucky as merino breeders to have the Balmoral Sire Evaluation Trials. A large part of what is probably the world’s best publicly available raw dataset on merino genetics is collected on our doorstep. A lot can be learnt from this data.

We commend to all sheep breeders an article in the June 2022 edition of *Beyond the Bale* titled *“MLP using visual, measured, and analysed assessments”*. Unsurprisingly the conclusion was that it was best to combine both visual and objective forms of assessment. We wholeheartedly agree with this, although we do differentiate between “Objective measurement”, and “figures” or “ASBVs”. Whilst objective measurement refers to raw data, ASBVs are a range of objective and subjective measurements which are filtered through a very rigid algorithm. We do not believe that this algorithm is a true reflection of the way genetics interact and thus, whilst we provide ASBVs as a service to those clients who use them, we ourselves do not endorse ASBVs as a selection tool.



The MLP data from Balmoral provide a good demonstration of the challenges commercial breeders face when using ASBVs as a selection tool. Generally, in this trial, a sire’s ASBVs did not accurately predict his breeding performance. This held most true when the sire’s ASBVs were generated mainly

from the parental midpoint, with limited measurement of the sire at an early age, and when there were no measured progeny of the sire entered in the analysis. When the sire was measured as an adult and had high numbers of progeny included in the analysis, the effectiveness of his ASBVs improved considerably. Unfortunately, the former scenario is precisely the circumstances in which the vast majority of rams are sold in Australia. They are relatively young animals, with typically single measurements taken for each trait at a young age, and with no measured progeny in the analysis. We think it is important that ram buyers keep these facts in mind when using ASBVs to make their selection decisions.

If you feel we can present the raw data we collect on our animals in a way that better suits your needs, please feel free to discuss this with us and we can see what we can do.

Marking more lambs.

Merino Lifetime Productivity Findings: Carcase traits, muscle and fat, were NOT a consistent predictor of reproductive performance

That's right. The MLP was unable to demonstrate a correlation between muscle, fat and reproductive outcomes! This was surprising for many in our industry, including ourselves! Nor was the reproductive performance of many link sires consistent across sites and years. How, can this be?

We think the most likely reason is because the survival of a lamb is a multi-faceted equation, with a range of variables influencing the outcome and no single silver bullet. Putting aside the management variables, which are obviously critical, there are five main genetic variables that we are working on in our own breeding program.



<i>Variable</i>	<i>Rationale</i>	<i>Status</i>
<i>Ewe/lamb size</i>	Bigger lambs lose heat more slowly.	We are trying to stabilise our ewe size around the 65kg mark. As much as we love weaning lambs, we think that's big enough.
<i>Mothering ability</i>	We believe this is heritable, or at the very least highly repeatable.	All adult ewes have been required to raise a lamb now for a decade. It is likely that this will be extended to maidens also from 2022 onwards.
<i>Fat</i>	We still believe this provides the initial store of energy that the lamb can burn to generate heat when it is confronted by a cold challenge.	Despite the initial findings of the MLP, we intend to continue to gradually build the fat in our animals.
<i>Cold tolerance markers</i>	These markers influence how rapidly the lamb is able to convert its fat to heat. If fat is the fuel, then the cold tolerance marker is the engine.	We are continuing to test our sires to identify their gene marker status. We are assessing the impact these markers are having on our own survival rates. We are taking these markers into consideration when making selection decisions, but they are not currently a primary driver of selection. We would need more definitive evidence of significant impact before this becomes the case.
<i>Skin type and thickness</i>	When we observe our own sheep, and analyse their data, there is the hint that this variable might be quite important in merinos.	We will continue to analyse this variable over time and seek out new research as it becomes available. There was research published in New Zealand in 2021 proposing a positive relationship between skin thickness and lamb survival in Romneys. Obviously any such correlation needs to be considered in conjunction with the numerous effects it could have on wool traits.
<i>Total reproductive outcomes</i>	Even if we don't understand the mechanism, through our process of conducting full pedigrees we are able to understand which sires have the most favourable outcomes.	Currently, our preferred methodology for measuring reproductive outcomes is what we call "Total Survival Rate". We calculate this as lambs weaned/foetuses scanned in comparison with the equivalent cohort of rams. It is likely to be a consideration when making future selection decisions.

Moving forward, our ewe size and requirements to raise a lamb will remain cornerstones of what we do. We still believe in fat. We see fat as the fuel, cold tolerance gene markers as the engine, and think that potentially the skin might be a bit like a blanket wrapped around the whole lot. We will continue to investigate these newer developments and where they are significant incorporate them into our selection decisions with regard to stud sires and potentially also ET donor ewes.

Sheepvention 2022

Sheepvention is back on! This year our site has been moved to site 396, which is right next to the King St entrance. Please do drop in for Eli's famous coffee and brownies, to check out the sheep, and to say hello if you're at this year's event.

2022 sale offering ***Wednesday 19 October, 2022*** ***11am inspection, 1pm sale by Helmsman Auction***

Data collection is almost complete for this year's sale offering and there is just one final visual classing remaining. Despite the brutal start they had last winter, at this point, we feel the rams are coming along nicely. We would like to think they reflect what our sheep are known for, a very high quality, high rainfall wool, on a good sized relatively plain animal, along with some of the conformation and carcass traits we've been working on.

We anticipate that the split between horns and polls will be approximately 50:50 and that the proportion of polls in our mix will grow over time. We look forward to presenting the rams at our on-property sale on Wednesday 19, October. As always, please let us know if you'd like to come and inspect at an earlier date. We're always happy to run them in.



Wishing you all the best as the season progresses.

Hamish, Eli, Richard and Jenny Weatherly
Connewarran Merino Stud