

Monday 24th August, 2020

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Dear Merino Breeder

This year’s newsletter is written at a time of greater challenge and uncertainty than those of the recent past. The economics of our businesses are not what they were, but we believe there is still reason to be optimistic. And when we look at the lives of our city counterparts, we remain grateful that we are woolgrowers.

As pressure on commodity prices, particularly wool, grows, so does the importance of productivity. In the following pages we’d like to share with you some of the steps we have taken, the reasons behind them, and our plans for the future, which are enabling us to build further on the value of our genetics and increase the resilience of our business. We’ll cover a range of topics including: Our big picture thoughts, Twin lamb survival, Mulesing, Sire evaluation trials, Eco-Credentials, and we’ll also introduce the newest member of the Connewarran team!

The big picture

At Connewarran we seek to run, and enable our clients to run, a business that is:

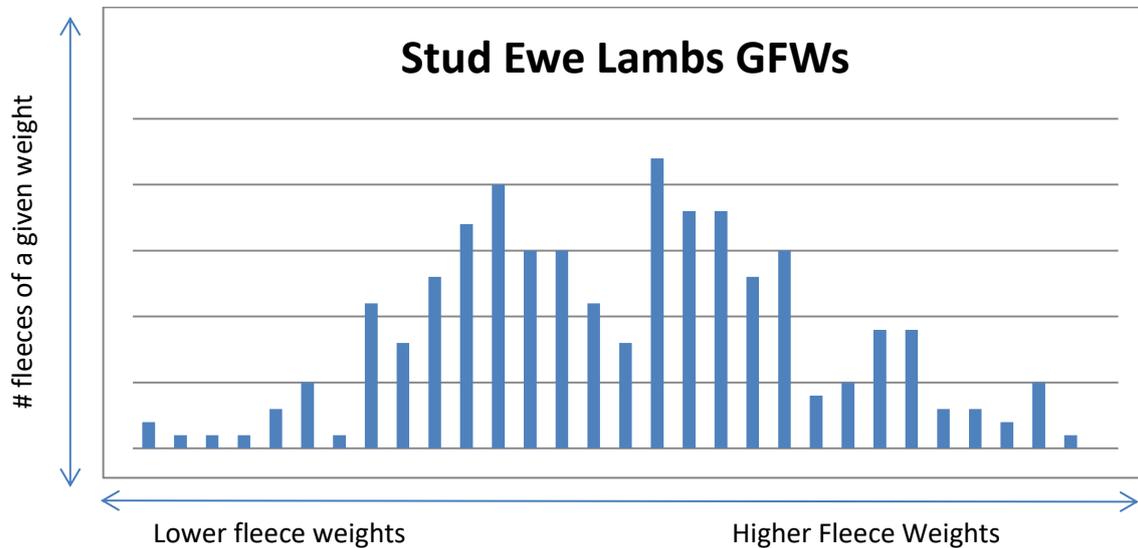
- **Profitable through the cycle** due to exceptional levels of production per hectare
- **Flexible and resilient.** Able to adjust relatively easily to fluctuations in the meat/wool price ratio without requiring fundamental and sudden changes in the underlying ewe base
- **De-risked.** Not exposed to sudden market or legislative changes relating to environmental and animal welfare.

Independent sire evaluation trials have consistently demonstrated the capacity of Connewarran blood sheep to cut very significant weights of high quality, fine wool. So, the question is, how do we drive average fleece weights higher whilst maintaining a balanced, plain animal capable of meeting current and future welfare requirements? We believe the best path for us is to increase selection pressure, and remove more of those animals in a mob that drag the average down. Essentially, trimming the bottom rather than trying to push further at the top.



We look forward to presenting a selection of these fine fellows in October!

The graph below demonstrates the distribution of fleece weights from the 2019 drop Connewarran Stud Ewe Lambs. In this cohort, approximately, for every 1% of ewes that are removed, a .3% increase in average fleece weight is achieved. Of course, each ewe that is removed through additional selection pressure, increasing average fleece weight, also becomes available to generate cash through the meat side of the enterprise, either through direct sale or breeding a crossbred lamb.



In recent years we've discussed in this newsletter a lot of the work we've done to drive up selection pressure. We've increased conception rates, particularly in our maidens, and also the capacity of our lambs to survive and grow over summer. The result has been more young ewes to join, and more of them getting in lamb. Whilst we continue to focus on these aspects of our reproductive capacity, we are also increasingly focusing on twin lamb survival.



There's optimism!

Twin lamb survival

This year we conducted a very small, simple, but fascinating experiment. We took 21 ewes scanned with multiples and lambed them IN a plantation. At the end of 5 weeks we mustered the plantation and pulled out 39 lambs, or 186%, including a set of triplets. This is significantly higher than our standard marking percentage and miles above our district average. It gives some idea of the production upside that is possible. It suggests, as does most of the research, that exposure is a significant contributor to mortality in the first 48 hours for twin lambs in our system. In this instance we do not believe that the very small (around 20 ewes) mob size was a significant contributor to the improved rate of survival. We have conducted numerous lambings with very small mob sizes over the years and have not been able to create a significant variation in survival between very small and moderate (100-200 ewes) mob sizes.

Obviously we are not going to suddenly lamb all our twinners in plantations, and neither are our clients, so the question remains what are we doing to improve the resilience of our twin lambs to adverse weather events? A few things:

- 1) We have increased the average bodyweight of our stud ewes from 55kg to 65kg. A bigger ewe should equal a bigger lamb. All other things held equal, a bigger lamb loses body heat at a slower rate and has a better chance of survival. This increase in ewe size has also increased conception rates
- 2) We have had, and maintain, a very heavy emphasis on the behavioural aspect of lamb survival. Any ewe that fails to bring a lamb in when we tag, just after birth, is culled. We also identify and promote ewes with a notable instinct to protect and defend their lambs
- 3) We are actively seeking to increase the capacity of our ewes to lay down fat, and in the past 4 years have introduced two sires, Willandra Desmond and Merinotech 10-0115, with the specific aim of increasing the fat coverage on our sheep. An increased capacity to lay down fat should mean better nutrition for the lamb in the womb, a stronger lamb at birth, and hopefully more kidney fat for the lamb to metabolise to use for heat and suckling in the first hours after birth
- 4) Lincoln University in New Zealand has developed a “Cold Tolerance Gene-Marker Test” and we are investigating whether this may be something we can incorporate into our selection process



These commercial ewes are replicating an experiment in which 21 multiple bearing ewes lambed in exceptional shelter marked 186%.

Over time we expect the actions listed above will allow us to significantly reduce one of the biggest sources of wastage in high rainfall, cold climate merino enterprises. The result should be significant productivity and welfare benefits, which leads us to the topic of mulesing.

Mulesing update

As of July 1 pain relief became mandatory when mulesing lambs in Victoria. We see this as a sensible and pro-active step. It formalises the commitment of the wool industry, and most growers, to improved welfare outcomes for our animals. We also believe that this is far from the end of the debate, and that pressure will continue to be applied to woolgrowers to cease mulesing completely. In our own business, we are aiming to maintain a productive sheep whilst developing the genetic base and skillset required to enable us to cease mulesing, should we be required to do so. We believe that at some point the economic or, more likely legislative, environment will require this, although we have no idea when. We have been working for a while now to lay these foundations and have conducted two significant on-property trials relating to mulesing in the last 12 months.

The first trial included leaving approximately one third of the Aug/Sept 2019 drop commercial lambs un-mulesed. In the un-mulesed trial, the contractor was asked to breach wrinkle score each lamb in the cradle at marking. She then left anything score 1 or 2 un-mulesed, and mulesed anything score 3 or above. The result was that 37.5% of the drop were left un-mulesed. These animals were not treated any differently to their mulesed contemporaries. All animals were run as one mob and managed equally as follows:

- Treated on the breach and back with Klik Extra on 9 December, 2019
- Crutched on 21 February, 2020
- Shorn on 15 or 16 May, 2020



Mulesed ewes with freeze branded lambs

Results:

At the time of crutching, one mulesed lamb, or 0.18% of the cohort, was identified as struck and eight un-mulesed lambs, or 2.4% of the cohort, were identified as struck. We believe that these 9 cases were the only cases of strike in this mob for the year. All strikes were very mild, about the size of a tennis ball or smaller, located just above the tail, and could not be seen until the crutcher took off the wool. It is reasonable to believe that, had crutching taken place a week earlier, there may well have been no cases of strike in the mob for the year. The lambs were left un-crutched a little longer than they should have been. No sheep were lost due to strike during the year.

The wool was sold on 3 June, 2020 in two lines, one of mulesed wool, the other un-mulesed, with interesting results:

Status	Micron	CV	SD	Yield	Length	CVL	STR	Haut	Break	Clean Price
Unmulesed	17.0	20.1	3.4	75.8	86mm	15	40	71	46:54:0	1639
Mulesed	16.4	20.1	3.3	75.5	79mm	10	33	60	2:95:3	1774

We think there are some lessons we can take from this, and previous, exercises:

- 1) It is feasible to run a non-mulesed operation using Connewarran blood. This is best done with rams from the plainer end of our offering and does require a small increase in management attention
- 2) Mulesing remains an effective tool in reducing the likelihood of breach strike
- 3) Un-mulesed wool does not automatically command a premium

It is interesting to note the difference in test results between the two lines of wool. We believe this is mainly attributable to the “type” of sheep that does not require mulesing. Unlike our previous on-property trials, the un-mulesed sheep in this trial were not a random sample. Rather, they were the plainer animals.

With regard to the “premium” for un-mulesed wool, in this instance the wool was not sold through a certification program. It was simply placed on market like any other line of Connewarran wool to try and get a fair price comparison between the two lines. No premium eventuated, which didn’t surprise us at all. In the long term, we don’t believe that there will be a premium for un-mulesed wool. Rather, we believe there will be a “discount” for mulesed wool. Unfortunately, our system tends to work more on a base price and discounts than it does on a base price and premiums.

The second trial was our first on-property trial of “Steining” or “Freeze Branding” the technique of modifying a sheep’s breach using liquid nitrogen. We conducted this exercise using the entire 2020 drop of 614 stud lambs on 29 June, 2020. Lambs were marked as per usual but injected with .5ml of meloxicam prior to freeze branding, instead of being mulesed and receiving post-operative Trisolfen.

Results:

Lambs did appear to have a diminished pain response and were able to mother-up and graze quickly after the procedure. They also appeared more comfortable in the days immediately subsequent to freeze branding and passed what we think is the ultimate test, that we would have been happy for anyone to walk onto the property and see them the day after marking. We look forward to weaning and the opportunity to compare weights with previous years.

We did, very surprisingly and despite good weather, lose a small number of lambs after marking, which was quite unusual. At this point, we have no reason to believe that freeze branding leads to poorer survival than mulesing with pain relief, but we will need to keep an eye on this space.

In addition to the two on-property trials described above, we have had a sire entered in a non-mules sire evaluation trial with progeny being evaluated over the last two years. The results have been extremely pleasing.

Sire evaluation trials

A fantastic outcome for Connewarran was achieved this year with the release of the 2018 drop results from the North East Trial, featuring poll ram Connewarran 15024. He managed the very rare feat of leading all four trial indexes, which came about through strong performances across a range of measured and visual traits including fleece weight, eye muscle depth, fibre diameter and classers tops.

AWI “Environmental Credentials of Woolgrowing” Project

Earlier this year the Connewarran team were honoured to be one of three woolgrowing enterprises in Victoria, and six in Australia, approached by AWI to be a case study business used to promote the environmental credentials of wool. This project is part of a broader push by AWI to promote the eco-credentials of wool and reflects the growing interest of consumers in the traceability and systems of production which create the fibre they wear. At Connewarran, we are mindful that to produce a product that matches the expectations of our consumers we need to be more than responsible custodians of our land and resources. We must also produce an animal that has the genetic capacity to thrive within its environment under appropriate husbandry practices. We see our focus on breeding plainer, yet still highly productive, sheep and increasing twin lamb survival as two key pillars in this process.

Matilda Kai Weatherly

Whilst most of Australia was panicking about how to secure their next roll of loo paper, and preparing to go into lockdown, the Weatherly family were more pre-occupied with the imminent arrival of Matilda Kai Weatherly. Matilda was born at 7.59am on Monday 23 March, 2020. Happy, healthy, and rather vocal, we were all delighted to welcome her into the world. We hope she will show the same love of merino sheep that her older brother is already clearly exhibiting. Thank you to all who have offered well wishes and support as the Weatherly family entered the “two under two” era.



And on that happy note, we sign off on our newsletter for 2020. We look forward to seeing many of you at our ram sale in October, in whatever form it may end up taking. We will be in contact again shortly as soon as the details are finalised.

Best regards

Hamish, Eli, Richard and Jenny Weatherly
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