

Managing Merinos on Murrayfield

Bruce Michael

The move to un-mulesed merinos is a holistic approach and there are many issues that are intertwined to enable this to happen. It has not cost us money but in fact has been an income earner and has made us better managers.

Murrayfield is situated on Bruny Island south of Hobart. The rainfall is 600mm falling evenly over the year with temperatures varying from 11C^o in winter and 20C^o in the summer.

Soils are mostly Dolerite and Mudstone soils with some sandy areas. The total area of the property is 4100 ha with 1750 arable ha. The business enterprise is based on Merinos plus a group of first cross ewes. The DSE ranges from 18300 in the spring time to 13400 DSE in the autumn, with 5500 ewes mated annually. Murrayfield was purchased in 2001 by the Indigenous Land Corporation for the benefit of the local Indigenous community and we are required to run the business using best business practices.

We decided to cease mulesing on Murrayfield after 2004 not because of the response by PETA (it was a small aspect) but it was the fact that this property was situated in a rapidly growing tourist area and nearly all the paddocks were very close to the main tourist road.

At Murrayfield, we find that there are 3 key aspects in managing un-mulesed sheep

1. Dag control
2. Wool colour
3. Breech wrinkle

Dag control

Dag control on Murrayfield relies on three management strategies

1. Energy management
2. Genetics
3. Pasture species

During August of 2002 and 2005 we lost 5% of the flock due to decreased energy amounts. Murrayfield has much less daylight than the rest of Australia and through winter we feel we are very deficient in energy in our production system due to decreased growing hours. This lack of energy reduces the immunity level of our sheep to fight off worm burdens, and we believe it is our major reason for scouring and dags.

We focus on four management strategies to reduce the impact of this problem.

1. Condition scoring ewes: Based on the Lifetime wool model, we aim to keep all our ewes at CS 2.5 through this winter. It is difficult to keep them above CS 3 due to climatic & economic constraints

2. Grain production: This has the most impact on weaners. Grain production is critical in supplying energy through the winter. Due to grain prices in Tasmania usually \$100 above mainland prices, we decided to grow our own grain. The money saved is used to offset some of the costs of the pasture renovation. As we have more grain available we are able to increase the level of grain the sheep receive.

3. Pregnancy testing: This allows us to better manage the feeding regime for the ewes in the two months from testing to lambing, by splitting up the ewes into their pregnancy status and feeding as required, this saves us money by better targeting of our energy supplies.

4. Pasture improvement: Murrayfield's long term aim is to redevelop pastures along the lines that Evergraze recommends, such as Lucerne, Phalaris, Fescue and Chicory. This in turn will improve the level of energy in our system. Our first aim is to have enough new pastures to graze our merino weaners on all of these paddocks.

Genetics

Murrayfield started using genetics as a tool only last year as a way to manage unmulesed sheep. We have set the culling parameters as being:

- Ram hoggets anything above dag score 3 is culled
- Ewe hoggets anything above dag score 4 is culled
- In the older sheep we are culling off older ewes above dag score 3

We are flexible in the parameters but felt that it was important to start with the 'bar high'. We have already seen the effect of using these culling pressures in the progeny from the AI rams used in 2007 (Table 1). Of note is that the ram N159 had 2 out of the 30 rams with a dag score of 5.

Table 1

	Ycfw %	Yfd mic	Ysl mm	Yss	Ywt Kg	Yfat mm	Yemd mm	NLW %	Yfec %	7%DP	dag score avg	ram hogs %>3
L 154	13.11	- 2.37	10.95	0.54	4.86	- 0.50	-0.42	3.4	- 37.0	155.1	1.65	0
L 009	18.02	- 1.59	9.07	2.68	3.91	- 0.80	-0.40	-0.3	n/a	148.7	1.97	11
N 159	19.54	- 1.69	8.35	0.33	2.35	- 0.45	-1.01	-0.7	-2.1	144.5	2.08	15
											1 - 5	

Data from 21/4/09 Merinoselect

The dag scores are on 2007 drop rams at Murrayfield and are not part of Merino select figures

Pasture type:

One of our biggest problems is the late summer/early autumn rain causing rapid growth in cocksfoot pastures. This causes severe scouring in weaners and is usually seen during high risk blow fly weather. We are slowly removing these pastures and putting in other species to reduce this problem.

Wool colour and breech wrinkle

Wool colour and breach wrinkle is determined by breeding. The breeding plan we have had in place since 2002 gave us the right sort of sheep to stop mulesing. Our breeding plan focusing on the following key points;

- Reduction of body wrinkle
- Improvement of wool color
- Improvement of style and length
- Increase in body weight
- Increase in fleece weight
- Maintain micron

Although all our classing has been visual for the top three traits we are now at a point that we need to start measuring the last three traits and this will offer us great potential to lift performance. The process to a much plainer type of sheep has not cost us money. Table 2 demonstrates Murrayfield's progress since 2002.

Table 2

	weaners		adult		
	micron	length mm	micron	length	% colour
2002	17.1	70	21	90	11.4
2003	17.9	75	19.8	90	6.5
2004	17.4	80	20.1	96	7.8
2005	16.9	75	19.5	91	4.8
2006	17.1	72	18.8	85	3.8
2007	17.5	70	18.9	93	3.7
2008	16.9	71	18.4	95	3.6
2009	16.5	69	18.4	96	2.0

From the last sale this selling season the comparative fleece value from 2002 to 2009 is \$29.26 (5.3 kgs) to \$35.56 (4.8kgs). The direction of our breeding can be seen in data from Table 1 when ram L154 has given us much plainer sheep but when all his statistics were put together he had a much better 7%DP index than ram N159 a ram that gave us a lot more body wrinkle and all his rams were culled.

We have found the day to day management of unmulesed sheep to be no different from mulesed sheep. The only management practice we have changed is that the hoggets receive an extra crutching in the spring. We have found that once the sheep pass hogget age they do tend to plain up and are easier to manage especially in regards to dags, the immunity level to worms for these older sheep is much higher and this also helps with dag control. Worm control is still the same and sheep are drenched based on WEC, not if they are scouring.

Conclusion

Managing the Murrayfield flock was never aimed at allowing us to have unmulesed sheep. It is a result of a complete holistic form of management from information that already exists. As more information becomes available we will have a flock that will be much the better for not being mulesed.