



Transitioning to Non-Mulesed Sheep

Producer case study: Impact of tail docking method

Project overview

The Meat & Livestock Australia (MLA) funded “Transitioning Towards Non-Mulesed Sheep” Producer Demonstration Site (PDS) project, aimed to support sheep producers transition to non-mulesed (NM) flocks through utilising existing tools and resources available. Producers developed their own, property-specific transition plans and participated in regular group meetings to share experiences and improve skills.

Three “Towards NM Sheep” groups were run across Victoria and a fourth group was in the South West Slopes region of NSW. Producers had the opportunity to run a demonstration on their property to evaluate management and genetic options that could assist with moving to, and managing, a non-mulesed flock.

Why was ‘tail docking method’ an issue?

Tail docking method emerged as a major discussion point among all the groups. With the move to NM (and no tail stripping), producers anticipated that the wool on the end of the tail may increase the risk of dag accumulation and flystrike, and may take longer to crutch. Different tail docking methods were evaluated to see if any gave better results in terms of reduced wool on the end of the tail and impact on dag and crutching ease.

Demonstration site producers

Peter and Brendan Hinchliffe from Langi Logan, and Wayne Burton from Mt Dryden, in western Victoria

conducted tail docking method demonstrations on their properties.

The Hinchliffes run a self-replacing superfine (16-17µm) Merino flock and ceased mulesing all lambs in 2020. With increased demand for NM wool and accreditation opportunities, they market their wool through the RWS integrity scheme and declare it as non-mulesed via the National Wool Declaration (NWD). While this wasn’t the motivating factor to cease mulesing, they are keen to take advantage of any premiums which may occur from being accredited as NM.

They are continuing to refine their management calendar and make changes to ram selection to maintain the flock as NM. To breed more breech flystrike-resistant sheep, they are putting more emphasis on reducing breech wrinkle and dag.



Image 1. Tail docking methods evaluated in the PDS

The Burtons run a self-replacing fine (19 µm) Merino flock and sell some wethers as lambs to re-stockers. Currently, all lambs are mulesed. The Burtons are working on their plan to cease mulesing in the future and have trialed running a small mob of NM ewe lambs to see what might be required. Their sheep are relatively plain bodied with an average visual breech wrinkle score of 1.5. They have regular

buyers for their wether lambs, who prefer them to be mulesed, so this is another factor to consider in their transition plan.

The Hinchliffes and Burtons used a standard straight hot-knife for tail docking at marking and wanted to see if the Te Pari Patesco rolling anvil knife or the Steinfort knife gave a better result on NM lambs.

Importance of tail length

Best practice tail length was promoted and used in all demonstrations. Docking at the 3–4th joint to cover the tip of the vulva, or the equivalent length in wether lambs, is the recommendation.

This tail length has been shown to reduce risk of breech flystrike and stain for lambing ewes. Shorter tails have issues with increased risk of flystrike, rectal prolapse, cancer in ewes, and are slower to heal.

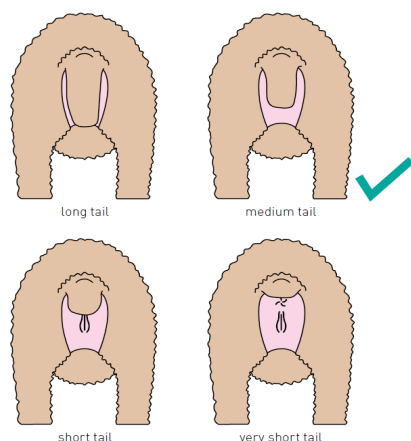


Image 2. Correct tail docking length. (J. Lloyd, 2012)

Demonstration sites – methodology

Different tail docking methods were compared at the two Victorian properties (a third demonstration was conducted by a producer in the NSW group but results are not reported here).

Methods compared were a standard straight hot-knife (e.g. Leader), the Te Pari Patesco rolling anvil hot-knife, the Steinfort hot-knife (Model year 2021) at both properties and rubber rings with NumNuts applicator were also used at Langi Logan.

For all treatments, tails were docked to the same best practice length. All lambs received pain relief of meloxicam at marking. The one operator – Dr John Steinfort (Steinfort AgVet) – used the different methods to dock all tails at the two demonstration sites. This reduced variation in tail length that may have resulted from having different operators.

On each farm, a mob of single-born lambs from adult ewes were randomly allocated to each tail docking method. This mob of lambs was selected to reduce any variation in breech wrinkle influenced by variations in birth type and dam age. At Langi Logan, lambs from two different sire groups (with different breech wrinkle scores) were also compared.

Each treatment group was visually scored for a range of welfare traits that are important for non-mulesed flocks. These included Early Breech Wrinkle (EBWR) and Breech Cover scoring at marking, as well as dag and urine scores prior to crutching.

Visual scores were assessed based on the AWI and MLA 'Visual Sheep Scores' booklet (2019). The SheepMetriX team developed a tail wool cover score (1 to 5) to determine if the various tail docking techniques resulted in more or less wool coverage over the tip of the tail.

Results

Langi Logan

- There were no major differences in tail wool cover score for the four tail docking methods, when lambs were observed 110 days after marking. The ring method may be an inferior method to use on lambs with higher breech wrinkle as this method gave a higher tail cover score for lambs from sire group 2 (Table 1).
- There was no consistent trend with the dag score of lambs and tail docking method used.
- There was no obvious difference in crutching ease between the different tail dock methods.

Table 1. Effect of tail docking method on tail cover score and dag score at Langi Logan.

Treatment	EBWR 27/10/21	Tail score (ewes) 16/2/22	Dag score 16/2/22	Dag score 12/10/22
Sire Group 1				
Rings	2.5	3.5	2.3	3.7
Steinfort (2021)	2.4	3.5	2.2	3.7
Te Pari Patesco	2.5	3.5	2.7	3.3
Standard (Leader)	2.6	3.5	2.2	4.1
Sire Group 2				
Rings	3.0	3.9	2.1	3.6
Steinfort (2021)	3.2	3.1	2.2	3.3
Te Pari Patesco	3.0	3.3	2.7	3.6
Standard (Leader)	3.0	3.3	1.8	3.1



Image 3. Brendan and Peter Hinchliffe, Langi Logan, dag scoring the PDS weaners.

“We found the tail docking method is a relatively small part of the story about managing NM sheep. There are other factors that contribute more to ease of management such as breech wrinkle and dag.

“By measuring the early breech wrinkle scores at marking we were also able to see the impact of our new ram team (sire group 1) on the lambs. We were able to reduce EBWR by 0.5 a score.”

- Brendan Hinchliffe, Langi Logan.

Mt Dryden

- There were minor differences in tail wool cover score for the three tail docking methods, when shorn lambs were observed 210 days after marking. On this sheep type, the standard and Te Pari knives gave a slightly lower tail score than the Steinfort knife.
- There was no real difference in dag score of lambs for the tail dock methods used.
- The wool cover on tails seemed to be due more to variation in wrinkle between lambs rather than the treatments. How well the tail area was shorn also influenced the appearance from a distance.
- There was no obvious difference in crutching ease or shearing ease between the different tail docking methods.

Table 2. Effect of tail docking method on tail cover score and dag score at Mt Dryden.

Treatment	EBWR score 13/7/22	DAG score 18/10/22	TAIL score 8/02/23
Steinfort (2021)	1.3	1.7	2.7
Te Pari	1.4	1.8	2.2
Straight	1.4	1.5	2.4



Image 4. Wayne Burton, Mt Dryden, assessing wool cover on tails of the PDS ewes (18 months of age) after shearing.

“Based on the PDS results, I will possibly move to using a Te Pari Patesco rolling anvil knife in future. I thought it gave a better result with less wool on the tip of the tail.” - Wayne Burton, Mt Dryden.

Conclusions

There was no obvious difference in crutching ease of NM sheep between the different tail dock methods evaluated. There was no consistent trend with the dag score of lambs and tail docking method used.

Using the tail wool cover scoring system that was developed for this project, there were no major differences in tail wool cover and docking method. More work needs to be done to validate whether tail cover score is the best method to assess the appearance of the tail after docking.

Results may vary from farm to farm depending on the amount of wrinkle present on lambs and the person(s) carrying out tail docking. Taking extra care at marking is critical to ensure that procedures, such as tail docking, are performed to a high standard to ensure maximum animal welfare outcomes and ease of management later in life.

For further information: Lisa Warn, Lisa Warn Ag Consulting Pty Ltd. M 0418 748 607 E l.warn@inet.net.au