

Submission
No 20

**INQUIRY INTO PREVENTION OF CRUELTY TO ANIMALS
AMENDMENT (RESTRICTIONS ON STOCK ANIMAL
PROCEDURES) BILL 2019**

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Submission to Prevention of Cruelty to Animals Amendment (Restrictions on Stock Animal Procedures) Bill 2019

Author:

Declaration of Interest:

I first became involved with development of pain relief solutions for lambs undergoing mulesing in 2004. At this time, newly aware of the procedure, and to address concerns being raised via various animal welfare and rights groups,

Tri-Solfen

is sprayed onto the wound immediately post-procedure and acts to rapidly numb the wound with prolonged effect, while also containing actives to minimise bleeding and provide antiseptics. Lambs are able to return to their dams as quickly as possible for on-going recovery.

which retains the I.P.

and hence commercial interest in Tri-Solfen, which we continue to develop to address other wound pain relief indications in lambs, calves, piglets, and other animal species as well as in humans.

Submission regarding Prevention of Cruelty to Animals Amendment (Restrictions on Stock Animal Procedures) Bill 2019.

Whilst I fully support the aspirational aim to eliminate the need for mulesing, I believe that imposing an effective “deadline date” of Jan 1 2022 for use of the procedure is unsound medical practice and of high risk of resulting in counterproductive animal welfare outcomes.

The mulesing procedure, now able to be performed with effective analgesia, currently underpins the lifetime health and welfare of a large proportion of the Australian Merino flock, by preventing a particularly virulent form of flystrike by the *Lucilia cuprina* blowfly. Despite a major and ongoing breeding as well as research and development effort, effective alternative methods of preventing this virulent form of flystrike are not sufficiently developed, effective or established across the national flock to support any arbitrary date for banning the procedure.

First introduced to Australia in the 1770s sheep, particularly merino sheep, were readily able to adapt and thrive in the Australian environment, such that by the 1850's they numbered close to 20 million and 100million by the 1920s. Flystrike, although present, did not become the virulent and rapidly fatal form, we know today, until the early 1900s, when the *Lucilia cuprina* blowfly was inadvertently introduced to Australia, believed to be from South Africa¹. This followed the introduction of “high wrinkle” Vermont genetics into the Australian flock from the late 1800's. This new highly virulent form of flystrike began to

rapidly decimate the Australian flock, until in the late 1920's John Mules discovered that it could be prevented by removal of loose folds of skin in the breech via a procedure now known as the Mules operation. This dropped the risk or incidence of flystrike from upwards of 50% to less than 2-3%. This preventative health procedure was rapidly widely adopted and has been used as the main-stay to prevent virulent and rapidly fatal form of flystrike caused by *Lucilia cuprina* blow-fly to this day.

Whilst an enormous R&D effort is underway to develop successful alternatives, this has not yet produced a widely available, practical method to successfully prevent flystrike across the national flock as effectively as mulesing. Breeding strategies are progressively breeding towards plainer bodied sheep with greater natural resilience to flystrike, however this needs to be recognised as a long term objective. While relatively rapid gains can be made in highly focussed stud breeding enterprises, any gains achieved can be expected to take decades to successfully transfer to the entire national flock in a manner that is equally successful across the diversity of climate, environment and landscape in Australia. As farmers attempt to breed away from mulesing they must fall back on more frequent crutching and increased use of chemical fly-sprays. In the short-term success may depend on environment, season, extent of blow-fly waves and on a range of production restraints. Short term success may not be sustainable due to climate change and the development of chemical resistance.

In human and animal medicine, we accept that there are conditions in which preventative health procedures are required to offer life-time health and welfare benefit. Dogs and cats are routinely spayed or neutered. Humans and animals under-go a wide variety of surgical procedures such as to remove skin lesions to prevent cancer. We balance the short-term impacts such as pain and stress, against the long-term health and welfare benefits. Mulesing needs to be considered in just the same light. It is not appropriate to call it a "mutilation", as this implies causing injury without beneficial therapeutic intent or effect. Mulesing is only performed to protect the lifetime health and welfare of the animal. It is performed with beneficial therapeutic intent and effect. Nevertheless, where-ever possible, where-ever such procedures are necessary, they are performed with the minimum pain and distress possible – which means, using effective analgesic or anesthetic medications where available. This is now available for the Mules operation as discussed in answer part B below.

In the setting that blowflystrike remains a critical health and welfare risk for sheep in Australia, the mules procedure should not be banned unless or until alternative methods of preventing blowflystrike have a) proven to be equally successful as mulesing to prevent blowflystrike over the lifetime of the sheep and b) are well established in a sustainable manner across the entire national flock of 70 million sheep. Banning mulesing prior to this risks the potential for mass seasonal outbreaks of flystrike with associated suffering and death, and / or driving farmers out of sheep production. It is playing Russian roulette with the health and welfare of sheep and the sustainability of sheep production.

It is sometimes claimed that without a "deadline" date, there is no incentive to drive change. The evidence does not support this. Maintaining the optimum health and welfare of their animals is one of the highest priorities of farmers providing a strong ethical driver. Furthermore, mulesing has negative cost and production impacts, providing strong commercial drivers. These ethical and commercial drivers promote farmers to continually

pursue greater natural resilience against flystrike in their animals and / or to use pain-relief for the procedure, where needed in the interim. This is evident in the progressive growth in production of non-mulesed wool, and uptake of use of commercially available pain-relief since commercially available in 2005.

Part B - Use of pain relief.

Surgical procedures induce pain at the time of surgery due to trauma to nerve endings, and later due to the release of inflammatory mediators that sensitise afferent nerves causing hypersensitivity to sensation and “inflammatory” pain. This pain can be blocked using anesthetic and / or analgesic medications.

- Local anaesthetics (such as lignocaine and bupivacaine) block nerve conduction of pain signals and hence they induce numbness and can prevent the development of hyperalgesia and post-inflammatory pain. Applied to the mulesing wound immediately after it is created, lignocaine (as present in Tri-Solfen) has a very rapid onset, inducing wound anaesthesia within 30 seconds. Bupivacaine has a slower onset but more prolonged duration of action and, together with lignocaine and adrenalin as present in Tri-Solfen, has been shown to reduce hyperalgesic responses in lambs including up to 24 hours following the procedure. This has been associated with a significant reduction in pain-related behaviour in lambs following the procedure^{ii, iii}.
- Non-steroidal anti inflammatory medications such as Meloxicam and Carprofen, act to mitigate pain by blocking the production of prostaglandins and other pro-inflammatory mediators, and some NSAIDs have been shown to reduce pain related behaviour in the post-operative period^{iv}.
- One study reported that when Carprofen and Tri-Solfen were used together, not only did lambs not exhibit post-operative pain, but the combination abolished the cortisol stress response to the surgical procedure^v.
- These data indicate that effective pain relief is available for this procedure.
- It is noted that neither Tri-Solfen or NSAIDs induce pre-operative skin anaesthesia. Nevertheless, it is considered that due to the swiftness of the procedure (which takes a matter of seconds), and the rapid onset of anesthetic effect within 30 seconds when Tri-Solfen is applied immediately after the procedure, the over-all effect is less painful and/ or stressful than it would be if the skin were to be anaesthetised prior to the procedure, such as by local anaesthetic injection. (Local anesthetic injection is painful in and of itself, requires skilled veterinary administration, and would result in the need for double handling and / or prolonged restraint and handling of animals. This is because after injection it takes 5-10 minutes for the local anaesthetics to diffuse into nerve tissue and take effect. Prolonged restraint and handling induces extra stress responses in animals and prolongs separation from the dam).
- It has been my experience that Australia’s wool growers have shown a high degree of concern to support the optimum welfare of lambs. They have played a prominent role in advocating for and supporting the development of pain-relief for mulesing. They have shown high levels of adoption, and played a prominent role in promoting the adoption of pain-relief for mulesing. They have been at the forefront of the

global movement to find and implement effective pain relief solutions for livestock husbandry procedures.

In summary

- mulesing currently remains an essential procedure to protect the lifetime health and welfare of a large proportion of the merino flock in Australia, which remains susceptible to virulent flystrike due to the *Lucilia cuprina* blowfly.
- Effective analgesia is now available for the procedure
- In view of the virulence of the *Lucilia cuprina* blow-flystrike, the efficacy of the mulesing procedure to prevent suffering and death from it and the availability of effective analgesia for mulesing, proper preventative health practice would dictate that the mulesing procedure should not be banned in the absence of effective, sustainable, widely established alternative measures, that have been successfully implemented across the national flock and proven equally effective to prevent flystrike.

ⁱ Jules Dorrian (3 June 2006). Battling the blowfly – plan for the future (PDF). Australian Wool Innovation. ISBN 1-920908-21-8.

ⁱⁱ Lomax S, Sheil M, Windsor PA. Impact of topical anaesthesia on pain alleviation and wound healing in lambs after mulesing. *Australian Veterinary Journal*. 2008 May;86(5):159–68.

ⁱⁱⁱ Lomax S, Sheil M, Windsor P. Duration of action of a topical anaesthetic formulation for pain management of mulesing in sheep. *Australian Veterinary Journal*. 2013 Apr;91(4):160–7.

^{iv} Paull D, Lee C, Colditz I, Atkinson S, Fisher A. The effect of a topical anaesthetic formulation, systemic flunixin and carprofen, singly or in combination, on cortisol and behavioural responses of Merino lambs to mulesing. *Australian Veterinary Journal*. 2007 Mar;85(3):98–106.

^v Fisher A. New Research on Methods for Alleviating Pain in Farm Animals. Available from:

<http://www.australiananimalwelfare.com.au/app/webroot/files/upload/files/andrew-fisher.pdf>