



AN INTRODUCTION TO FLYSTRIKE IN AUSTRALIA

KEY POINTS

- Flystrike occurs when blowflies lay eggs in the warm moist wrinkles and folds of sheep and these eggs hatch into maggots which eat into the tissue of the live sheep.
- Sheep with flystrike will be suffering significant pain and fever, and flystrike can be rapidly fatal.
- Flystrike is a complex disease and woolgrowers must select from a range of tools using an integrated pest management approach to significantly reduce a flock's susceptibility to flystrike.
- Mulesing is highly successful at controlling flystrike, but due to welfare concerns the industry is replacing or refining the practice of traditional mulesing with welfare-improved practices, including the widespread use of effective analgesia and anaesthesia, with a long-term aim of moving to reduced reliance on mulesing.

Flystrike has been a serious risk to the health and welfare of Australian sheep since the accidental introduction of *Lucilia cuprina*, also known as the Australian sheep blowfly, to Australia in the early 1900s. By 2022 it was estimated that flystrike cost the industry over \$323 M per annum in prevention, treatment and production costs (Shephard et al. 2022).

Compared with Australia, the *L. cuprina* blowfly has minimal impact in other wool producing nations such as New Zealand, South Africa or South America, and subsequently their flocks are not devastated by this serious and complex sheep health and welfare issue.

WHAT IS FLYSTRIKE?



Example of flystrike in sheep

Source: FlyBoss

Sheep, especially the Merino breed, have wrinkles and folds in their skin, particularly around the tail and breech area (back and top of hind legs under tail), which can become moist with urine and contaminated with faeces.



Flystrike occurs when blowflies lay eggs – about 200 at a time – in these warm, moist areas beneath the wool, and these eggs hatch into maggots. The maggots then invade the sheep, causing severe suffering as they eat through the skin and feed off underlying tissue.

After the Australian sheep blowfly has initiated a strike, other species of fly may attack the animal and can cause additional damage which is sometimes more severe.

Flystrike is difficult to detect early and flystruck sheep will be suffering significant pain as well as fever and other whole of body effects, flystrike can be rapidly fatal.

HOW DO WOOLGROWERS MANAGE FLYSTRIKE?



The flystrike management toolbox

Source: AWI



Shearing sheep reduces wool length so flystrike prone areas dry quickly.

Source: Managing Breech Flystrike (2019), AWI

Flystrike is a complex disease and woolgrowers face many challenges in identifying solutions for its management. There is no single strategy that woolgrowers can use to address the problem, and therefore, to significantly reduce a flock's susceptibility to flystrike, they are encouraged to select from a range of tools using an integrated pest management approach. These tools include:

- **Monitoring** – Regular and rapid identification of flystrike ensures effective treatment and prevents further flystrike in the flock.
- **Crutching and shearing** – Crutching removes the wool from around the breech area to reduce the likelihood of dags and stain. Shearing also reduces the amount of wool on the body that can get wet and stay wet
- **Preventative chemicals** – The use of preventative chemicals can provide protection from flystrike for between 4 weeks to 29 weeks, depending on the chemical used.
- **Managing scouring, dags and stain** – Scouring, dags and staining in the breech area create a moist, warm area that attracts mature female flies due to the odours emitted, managing these will greatly reduce the risk of flystrike.
- **Paddock selection** – Paddocks that are more open, with sparse vegetation and no large sources of water such as swamps, are likely to be drier and windier and are a lower risk for flystrike.
- **Reducing fly populations** – killing maggots and removing sources of protein that emergent flies might use for a food source, such as dirty wool, mulesed skin, docked tails, testicles, horn tips and household waste will aid in reducing the fly population and therefore lower the risk of flystrike.
- **Classing, selection and joining** – Breeding for increased flystrike resistance in the flock is a long-term strategy which relies on classing, selecting and joining profitable, naturally flystrike resistant sheep.
- **Breech modification** – Modifying the sheep's breech is a long-term strategic tool that can have a significant impact on the susceptibility of treated sheep to flystrike for their entire life.

An 'integrated pest management' approach using both chemical and non-chemical options is important to reduce the future risk of flystrike.



WHAT IS MULESING?

In the 1930s, annual flystrike rates of up to 60 to 120% led to the introduction of a procedure called mulesing to control the problem. It was highly successful.

While not pleasant, the one-off procedure provides lifelong protection, ensuring treated sheep do not suffer a slow and painful death from flystrike.

In this procedure, a loose fold of skin is removed from each side of the sheep's breech and tail. The procedure is performed once, when lambs are young, to minimise the chance of them ever getting flystrike.

The wound contracts to form a smooth scar, minimising the opportunity for blowfly eggs to hatch. Mulesing combined with good animal husbandry practices cut flystrike rates from a range of 60 to 120%, to 1 to 3% over their lifetime, greatly improving sheep welfare.

In response to welfare concerns about traditional mulesing of lambs, the Australian wool industry introduced welfare-improved flystrike prevention practices. The industry also fast-tracked research into management and breeding programs to reduce the risk of flystrike.

The ultimate long-term aim of Australian Wool Innovation's (AWI) research, development and extension program is to reduce woolgrower reliance on mulesing. The immediate or short-term aim is to provide woolgrowers with methods to replace or refine the practice of traditional mulesing with welfare-improved practices.

The development of effective and practical anaesthetic and analgesic treatments for lambs has been a critical advance in alleviating the pain and distress lambs experience associated with husbandry procedures such as mulesing. In 2021 a survey of 1,203 Merino producers reported that 92% of woolgrowers that mules their lambs provided analgesics and/or anaesthetics.

REFERENCE

Shephard, R.; Webb Ware, J.; Bloomfield, B.; Niethe, G. (2022). Priority list of endemic diseases for the red meat industry - 2022 update in: Final Report B.AHE.0327. Prepared for Meat & Livestock Australia.

FURTHER INFORMATION



To access a wealth of information on flystrike management, visit www.wool.com/simplify



For the latest flystrike R&D publications in one spot, visit www.wool.com/flystrikelatest

For more detailed information on flystrike management, including access to interactive decision support tools, visit www.flyboss.com.au

AWI supports all woolgrowers in their choice of best practice animal health and welfare procedures in their management of flystrike.

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