



FLYSTRIKE R&D UPDATE

At this year's 2018 Breech Flystrike RD&E Technical Update, attended by 115 industry stakeholders, significant and incremental progress was reported from a wide spectrum of research projects and trials conducted on farms and in laboratories.

Woolgrowers, researchers, consultants, commercial providers, vets and animal welfare advocacy groups discussed the latest developments and trial results from AWI's flystrike prevention program at the 2018 Breech Flystrike Research, Development and Extension (RD&E) Technical Update held in July in Sydney.

Introduced by AWI Program Manager for Sheep Health & Welfare, Bridget Peachey, the forum was told that protecting the national flock from flystrike remains the top research priority at AWI. Since 2005, more than \$30 million has been invested by AWI on measures to combat flystrike as part of a greater long-term investment of more than \$60 million in animal health and welfare measures.

Fifteen speakers presented the latest technical information on completed and current projects, addressing sheep breeding and selection, breech modification alternatives, improved management practices, wool industry training and engagement and supply chain engagement. Significant and incremental progress is being reported in most areas.

"This, the sixth Breech Flystrike RD&E Technical Update since 2008, was another good opportunity to enable researchers to share ideas on the future direction of their studies, while hearing from the welfare groups and woolgrowers about their needs and expectations of the AWI breech flystrike program," said AWI Animal Welfare Advocacy Manager Geoff Lindon said.

INDUSTRY OVERVIEW

Supply chain engagement

AWI's General Manager of Corporate Affairs & International Market Access, Peta Slack-Smith reported how she leads an annual delegation

(including an Australian woolgrower and a researcher) to the northern hemisphere, where the delegation informs key brands, retailers, retail associations, welfare groups and NGOs about Australian wool and the high standard of on-farm animal welfare practices.

Ms Slack-Smith, who has led these delegations since 2009, said global apparel businesses are increasingly focused on sustainability and traceability, including animal welfare. The feedback from northern hemisphere markets is that consumers' and brands'/retailers' perception of wool is changing significantly for the better, with the result that demand for the fibre is growing.

However, she said these businesses have a very high awareness and understanding of AWEX's National Wool Declaration (NWD) and they monitor the NWD monthly and annual figures to see trends. Universally they want woolgrowers to increase use of the NWD.

AWEX National Wool Declaration (NWD)

Dr Kerry Hansford from AWEX gave a presentation on the trends and latest figures on NWD usage. Australian wool sold through auction declared through the NWD continues to increase; it was 66% in 2017, up from 61% in 2016. The declaration by woolgrowers of their use of Pain Relief (PR) for mulesing is also increasing through the NWD, as is the proportion of Non Mulesed (NM) declarations.

The results also show increasing premiums for Non Mulesed (NM) declared wool, on-going but modest premiums for Pain Relief (PR) declared wool, and small discounts for wool that is Not Declared (ND) - see page 52.

Survey of husbandry practices

Bob Sloane from market research company Kynetec reported the results of a significant survey of the husbandry practices of more

than 1,200 woolgrowers across six states. The survey results showed how committed woolgrowers are to the welfare of their animals and their ability to change.

While 77% of Merino ewes and 66% of Merino wethers nationally are still mulesed, about 85% of lambs that are mulesed are now treated with at least one pain relief product, an increase from 77% in 2013/14. There has been rapid adoption of pain relief by Merino producers since the first product was commercialised in 2006.

BREEDING & SELECTION

Industry progress in breeding for breech strike resistance

AWI's Geoff Lindon reported that the indirect indicators of breech flystrike – lower wrinkle, dag and breech wool cover – are key risk factors for flystrike, and forum participants learnt that industry now has access to tools and strategies for breeding for plainer breech strike resistant sheep.

Industry has had access to commercially available breeding values via MERINOSELECT for these significant traits since late 2009. With a balanced approach to selection, participants heard that reducing breech strike and increasing production is possible but much harder in the Fine and Super Fine Merino types. Breeding for breech strike resistance continues across the national flock with medium Merino types showing strong gains towards reducing breech wrinkle and cover and thus the risk of breech strike.

Rate of genetic gain in reducing breech flystrike

Dr Forbes Brien of the University of Adelaide informed the audience about a project that will revise predictions (first made in 2015) of the future genetic gain achievable for reducing

breech strike incidence in Merino breeding programs while maintaining or improving productivity. These revisions are in light of updated genetic estimates that have since become available based on young crutched sheep, a management regime more typical of commercial industry practice.

Breeding for breech strike resistance: genomics

Dr Sonja Dominic of CSIRO provided an update on a project to complete the final phase (and most divergent between resistant and susceptible lines) of genotyping the breech flystrike resource flocks in NSW and WA. Outcomes are expected to form the only genomic reference population for breech flystrike resistance. The genome-wide association study for breech flystrike resistance and indicator traits will contribute to determining pathways for further genetic evaluation research in breech flystrike for sheep.

IMPROVED MANAGEMENT PRACTICES

Breech flystrike risk factors – a review

Dr Peter James of the University of Queensland spoke about a review being undertaken of flystrike risk factors with a view to developing new or improved means of control. Specifically, its objectives are to review current and past information on the importance of identified risk factors; assess potential for utilising odour and other cues for the development of new controls; identify areas of knowledge deficit in risk factors for breech flystrike and recommend key areas of research towards more effective flystrike control.

Fly genome research

Continued work by the University of Melbourne on the genome of the sheep blowfly is providing greater understanding of what attracts the gravid female to sheep and what genes are active in the early larvae stage. Dr Trent Perry of the University of Melbourne reported that this will enhance the ability of researchers to identify and target blowfly genes critical to its lifecycle.

This ongoing and significant body of work is already contributing to the next steps in the development of new chemical controls that could kill the larvae or repel the female fly, and consideration for a blowfly vaccine which could potentially prevent the larvae feeding on the skin and underlying tissue of the sheep.

New chemicals for blowfly control

Dr Andrew Kotze of CSIRO spoke about the need for new chemicals for blowfly control due to the limited number of drugs for protection against flystrike. A CSIRO project to identify new compounds, providing a basis for the development of new insecticides to control sheep blowfly, is under way. Dr Kotze reported that, if successful, next steps will be to attract investment from an animal health company towards developing and commercialising a novel insecticide, potentially using the blowfly

as a proof-of-concept for a wider insecticide role. CSIRO has already started talking to several animal health companies, but the anticipated time frame for development of new chemicals would be at least 5-10 years.

CSIRO pain relief study and next steps

Dr Alison Small of CSIRO reported on pain relief research co-funded by AWI that shows the use of the anti-inflammatory agent Buccalgesic® and anaesthetic actives in Tri-Solfen®, singly or in combination, provide welfare benefits that persist for at least six hours post-mulesing based on behavioural observations (only assessed for 6 hours), and up to 24 hours based on physiological parameters.

The best outcome was seen where Tri-Solfen and Buccalgesic were used in combination, delivering the benefits of both local anaesthetic and non-steroidal anti-inflammatory agents. Buccalgesic therefore offers a good adjunct to Tri-Solfen in extending the pain relief period for sheep undergoing surgical mulesing. See page 42 of the June edition of *Beyond the Bale*.

Participants heard that the results from this project have already been used to support registration of Buccalgesic for use in mulesing, and that there are now three pain relief options (Metacam, Buccalgesic and Tri-Solfen) available for woolgrowers to consider for their lambs in the alleviation of pain during mulesing, castration and tail docking. Woolgrowers are advised to consult with their local veterinarian as options do vary between procedures.

BREECH MODIFICATION ALTERNATIVES

Breeching Process

John Steinfort of Steinfort Agvet reported that the original R&D into treating the breech using the Liquid Nitrogen Process was not successful and has been discontinued. However, he is now working on a new Breeching Process, also using Liquid Nitrogen. AWI is not funding this new work.

SkinTraction

Bridget Peachey of AWI told the forum that discussions continue with a potential new partner for further SkinTraction R&D to overcome the tight APVMA label use restrictions.

WOOL INDUSTRY TRAINING AND ENGAGEMENT

Moving to a non-mulesed Merino enterprise

AWI's Geoff Lindon told the forum about the AWI manual *Planning for a non-mulesed Merino enterprise* that outlines important matters for woolgrowers to consider in planning to move to a non-mules enterprise. Forty producers who have successfully made the transition were interviewed for the manual. Geoff said the key messages from these businesses are: the focus should be on improving whole-of-life welfare; re-balancing the remaining mix of tools used to control

strike and ensuring the wool premiums are maximised and the discounts minimised for un-mulesed restocker sheep. A key learning from the producers was that it is important to have a detailed plan in place before starting the move to a non-mules enterprise, that has the support of everyone involved in the business.

The manual is available to download from www.wool.com/flystrikelatest or from the AWI Helpline on 1800 070 099. A practical 10 step guide is also available on page 54 in this edition of *Beyond the Bale*.

Sheep ectoparasite resistance update

Narelle Sales of NSW DPI spoke about how AWI and NSW DPI have jointly funded a project to determine insecticide resistance profiles of the two major ectoparasites of the Australian wool industry, the Australian sheep blowfly and the sheep body louse, across the major wool producing regions of Australia.

To ensure that all wool-growing areas are covered, NSW DPI researchers are seeking blowfly samples from across Australia. A request is out for woolgrowers from all states across Australia who are willing to provide blowflies from their property for use in this research – see page 50 for more information.

Improving parasite management of sheep

The Executive Officer of ParaBoss, Dr Deb Maxwell, talked about FlyBoss, a producer-focused online information resource, jointly funded by AWI and MLA and delivered by UNE. It is one of a number of websites under the ParaBoss suite of tools, which also includes WormBoss and LiceBoss.

The FlyBoss website (www.flyboss.com.au) contains a large amount of information for woolgrowers on best practice flystrike control and is supported by regular Facebook updates, a fortnightly ParaBoss newsletter and a regular article in *Beyond the Bale*. Training for chemical retailers to ensure woolgrowers are receiving accurate and consistent messages about best practice chemical treatment use to prevent flystrike is also under development. **E**

MORE INFORMATION

The presentations from the event are all available on the AWI website at

www.wool.com/flystrikeRnDupDate

Hear more about the Forum in Episode 51 of AWI's The Yarn podcast at www.wool.com/podcast



The 115 industry stakeholders at the 2018 Breech Flystrike RD&E Technical Update in July.