

30 June 2020

Ms Bridget Peachey
Program Manager Sheep Health and Welfare,
Australian Wool Innovation Limited
Level 6, 68 Harrington St.
The Rocks
Sydney NSW 2001

Dear Bridget,

RE: AVA REPORT ON PROGRESS OF AWI RD&E FLYSTRIKE PREVENTION PROGRAM

On 3rd April 2020 AVA appointed auditors Dr David Hucker and Professor Bruce Allworth joined you and Geoff Lindon as representatives of Australian Wool Innovation Limited (AWI) to conduct a review of progress of AWI's Flystrike Prevention program against Research, Development and Extension milestones.

The report detailing their findings is attached.

If you require further details or clarification of any points raised please do not hesitate to contact me.

Yours sincerely,



Dr Warwick Vale
National President

Cc	Mr Stuart McCullough CEO Australian Wool Innovation Level 6, 68 Harrington St The Rocks SYDNEY NSW 2001	
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**REPORT BY AVA APPOINTED AUDITORS AFTER REVIEWING THE PROGRESS OF AUSTRALIAN WOOL
INNOVATION'S FLYSTRIKE PREVENTION RESEARCH, DEVELOPMENT AND EXTENSION PROGRAM AGAINST
THEIR OBJECTIVES.**

April 2020

Scope of Review:

This review is intended to provide an independent assessment and review of the progress that Australian Wool Innovation (AWI) has made in its Flystrike Prevention program against the published milestones and objectives since the last report in April 2019. The report is primarily aimed at informing overseas retailers utilising Australian wool of progress and developments in the area of Flystrike prevention, and is a consequence of an undertaking in 2005 to overseas manufacturers and retailers of clothing incorporating Australian wool by the Australian wool industry.

Approach:

A review of the AWI research program was held between independent auditors appointed by the Australian Veterinary Association (Dr David Hucker and Professor Bruce Allworth) and AWI (Ms Bridget Peachey and Mr Geoff Lindon) by teleconference on 3rd April 2020. Written reports from AWI together with relevant verbal reports were provided across a range of areas.

Findings:

AWI continues to invest in research aimed at decreasing breech strike and specifically to decrease the reliance of wool producers on mulesing. The planned AWI Sheep Health and Welfare program budget for 2019-20 was \$A1.8m of which more than 80% is directed at activities to better manage flystrike. It should also be noted that while the original thrust of the AWI flystrike research program was aimed at managing breech strike only, a number of current research programs are now aimed at managing fly strike in general. Over the past year, AWI managed a total of 26 projects, including 6 projects that came to completion during the reporting period. This work, while still focused on finding alternatives to mulesing, continues to support much broader sheep welfare outcomes. In this reporting period there is increased emphasis specifically on reducing sheep exposure and susceptibility to the sheep blowfly. A total of 17 of the 26 projects were in the Improved Management Practices portfolio.

Breeding and selection Five projects in this area have all now been completed. One project involved a review of flystrike risk factors including odour, and a second project involved a re-analysis of data sets with a view to explain variation between resistant and susceptible sheep. The projects did not identify any new areas for genetic research. It is anticipated that the knowledge gained from these projects will contribute to a greater understanding of selection of sheep for greater flystrike resistance and will fill some of the current knowledge gaps in merino breeding.

Breech Modification Alternatives are not currently being further funded by AWI.

Improved Management Practices (10 current, 7 completed) is the main area of current research activity. Projects include chemicals (resistance in current chemicals, new chemical discovery, nanotechnology), vaccine development (2 projects), evaluation of further areas for pain alleviation research, and overcoming dags, a major risk factor for breechstrike. A number of these projects have resulted in the production of papers for publication in scientific journals and extension articles for sheep producers.

Wool Industry Training and Engagement (2 projects) continues to focus on the support of the successful ParaBoss website and extension activities with producer groups, as well as extension on pain relief. In addition, an updated lamb marking training guide has been produced and is currently being made available to sheep producers

Supply Chain Engagement has reduced considerably over the past year as a planned February 2020 Welfare Forum meeting was postponed and the April 2020 biennial RD&E technical update was postponed due to the COVID-19 pandemic.

Related Projects

AWI is funding four projects related to the identification and control of gastro intestinal parasites. Gastro intestinal parasites are responsible for increased dag formation which increases the susceptibility of affected sheep to breech strike.

The auditors noted a number of scientific and /or producer orientated publications aimed at the adoption of breeding strategies to reduce susceptibility to breech strike and /or reliance on mulesing. This is evidence that AWI has responded to previous Auditors' Reports and is maintaining a high level of transparency with producers. However, as previously suggested, there still remains a need to develop the methodology to monitor and report on the adoption of genetic advances within industry.

A description of current projects and some commentary is provided in Table1.

Table 1. Progress for AWI's BreechStrike Prevention Program, Apr 2020

	<i>Current / Proposed Projects</i>	<i>Current work / Progress</i>	<i>Comments</i>
Breeding and selection			
	Modelling unexplained variation in Breech Flystrike	Report in progress	Further analysis of existing data to understand the causal roles of different factors in flystrike
Breech Modification Alternatives			No current AWI funded work
Improved Management Practices			
<i>Improved pain relief options</i>	Evaluation of pain alleviation research.	Draft scientific report under review.	Aims to identify areas for research.
<i>Reduce the impact of flies</i>	<ol style="list-style-type: none"> 1. Histone deacetylase project 2. Vaccine development(3) 3. Nanotechnology 4. Novel biocontrols 	<p>Final report due Apr 2020</p> <p>Projects underway</p> <p>Project commenced</p> <p>Screening for possible agent underway</p>	These projects have implications for both breech strike and body strike.
<i>Chemical resistance, producer actions</i>	<ol style="list-style-type: none"> 1. Improved diagnostics for Worm Egg Counts(2), Review of dags 2. Ectoparasite Resistance Project (2) 	Five projects in progress across a range of areas	Five projects aimed at (1) improving diagnostics for worm control (2) understanding/managing resistance status of flies/lice (3) dags
Wool Industry Training and Engagement			
<i>Communication to woolgrowers</i>	<ol style="list-style-type: none"> 1. Paraboss Phase II 2. Flystrike Extension materials 3. Putting Wormboss into Practice. 4. Pain Relief Package 5. Lamb marking training guide 	In progress	<p>Ongoing support for Paraboss, and extension activity, with 20 Publications on AWI website.</p> <p>New version now available to sheep producers</p>
Supply Chain engagement			
	<p>Flystrike RD and E Update Forum</p> <p>AWI Animal Welfare forum</p>	<p>Postponed due to Covid 19</p> <p>Postponed</p>	On-going commitment for transparency and dialogue.