



FLYSTRIKE VACCINE RESEARCH UNDERWAY

AWI has announced a \$2.5 million investment in flystrike research that aims to develop a commercial vaccine to protect sheep right across Australia.

The \$2.5 million four-year research investment is a collaboration between AWI, the University of Melbourne and CSIRO to undertake preliminary research into the development of a flystrike vaccine targeting the Australian sheep blowfly.

AWI General Manager for Research, Dr Jane Littlejohn, explained the Flystrike Vaccine project is aimed at delivering an advanced flystrike prevention tool, providing whole animal protection.

"The investigation includes a detailed blowfly population study, led by the University of Melbourne, during the next three flystrike seasons across all Australian states. This research will identify any differences in the genetics of blowflies from different regions of Australia," Dr Littlejohn said.

University of Melbourne researcher Dr Trent Perry said that the population sampling data is essential for any effective control strategies to contribute to our identification of potential candidate antigens, the development of

chemical treatment protocols and monitoring of insecticide resistance.

"The second component of the University of Melbourne project is to detect the proteins and molecules released by both the blowfly larvae and the affected sheep during flystrike, which will determine the type, timing and magnitude of the sheep immune response during a strike," Dr Perry explained.

CSIRO Senior Experimental Scientist and Flystrike Vaccine research lead Tony Vuocolo highlighted the CSIRO has identified a group of candidates that are involved in blowfly larval establishment and growth on sheep.

"We believe that targeting these proteins through a vaccine has the potential to inhibit larval growth and ultimately kill the blowfly larvae," Dr Vuocolo said.

"The candidate antigens identified as inducing a strong immune response in sheep and that severely impact early fly larval development will be developed further with

the aim to develop a commercial vaccine with a VetPharma partner. If successful, this project will culminate in a flystrike vaccine that will protect sheep right across Australia."

Dr Jane Littlejohn added, "A number of previous AWI-funded projects have enabled the advancement of the science and we have committed to the investigation of the development of a flystrike vaccine on the back of this research. A flystrike prevention tool of this kind has never before been realised."



Researchers **Dr Clare Anstead** and **Dr Trent Perry** in the lab at the University of Melbourne.



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