



# Investigating the cause of buffalo fly lesions in Queensland cattle

The development of skin lesions associated with buffalo fly feeding is a significant welfare issue in northern cattle. This research project is investigating the factors involved in causing buffalo fly lesions. Understanding why some cattle develop lesions while others don't will help us develop better methods of control or to breed for lesion resistance.

In northern Australia, skin lesions in cattle associated with buffalo fly feeding can be a serious concern. These lesions occur most frequently near the corner of the eye and on the neck, dewlap and belly and can range from raised, dry, hairless and scab encrusted areas to severe open bleeding wounds. The lesions cause itching and cattle often scratch the affected parts to relieve irritation.

The lesions have a significant impact on cattle welfare and can cause the cattle to be rejected from export consignments or bring lower prices in the saleyards. However, there are no methods available, other than through controlling buffalo flies, to control lesions and there appears to be a poor relationship between buffalo fly numbers and the development of lesions. Although the recommendation has been made that more allergic cattle should be culled, exactly what this means is unclear and heritability estimates of lesion severity are close to zero, suggesting that genetic progress from direct selection would be very slow.

Buffalo flies transmit a small, microscopic worm (*Stephanofilaria*) that has been speculatively implicated in the formation of these lesions, although whether these nematodes play a key role or just occur opportunistically is currently unclear. In the past, this nematode has been reported both from flies and lesions from northern and central Queensland but not from south Queensland.

We have also detected a bacterium, (*Staphylococcus hyicus*) which we have found widely in lesions and in buffalo flies. However, at this stage we are uncertain whether or not these bacteria are important in the development of lesions

This project is investigating the pathogenesis of lesions and whether the nematodes, bacteria or allergic response of the cattle are most important in lesion development. It is hoped that this research will help us find better methods to control buffalo fly lesions.

Queensland Alliance for Agriculture  
and Food Innovation (QAAFI)

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CRICOS Provider Number 00025B

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Queensland  
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QAAFI is a research institute at The University of Queensland supported by the Queensland Government via the Queensland Department of Agriculture and Fisheries.



# How you can help us

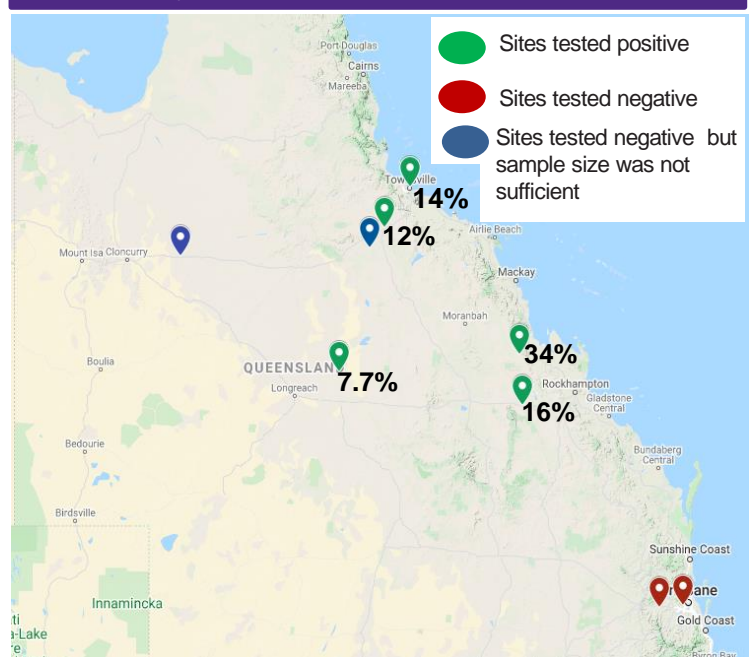
As part of this project, we have developed a quick and sensitive PCR method to identify the presence of *Stephanofilaria* nematodes in buffalo flies and lesions. To clarify the distribution of *Stephanofilaria* in northern Australia and to help develop better controls for this problem we are asking for assistance in collecting samples of buffalo flies and swabs from lesions from cattle in different locations in northern Australia and more southerly regions where buffalo flies occur. **See the QAAFI booth or phone/email the contacts below to collect a free collection kit.**

*This research project is funded by Meat & Livestock Australia (MLA).*

### Note

You can collect gear for buffalo fly and lesion swab collection from the QAAFI booth or you can contact researchers (details given below in the contact section) to organise free collection sample delivery. Contact us if you need any further help regarding sample collection. Once you have collected the samples, call us to organise postage.

### Preliminary Distribution of *Stephanofilaria* in Queensland



## Researcher Profile

### Muhammad Noman Naseem

Currently, Noman is a 3rd year PhD student at Centre for Animal Science, Queensland Alliance for Agriculture and Food Innovation (QAAFI), funded by Australian Research Training Program (RTP) scholarship. He graduated with Doctor of Veterinary Medicine in 2014 and then completed master (MPhil) in Veterinary Pathology in 2017. He has 5 years working experience in veterinary science, has good skills in animal disease diagnosis and expertise in histopathology, ELISA and PCR. In the future, he is eager to work in animal disease diagnosis and prevention.



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