Management of Facial Eczema

A thesis presented in partial fulfilment of the
Requirements for the degree of

Master of Veterinary Studies
In
Epidemiology

at Massey University, Manawatu, New Zealand

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2016

Abstract

Facial eczema is a hepatogenous photosensitisation of ruminants caused by sporidesmin produced by the saprophytic fungus *Pithomyces chartarum*. It is of large concern to the dairy industry, both with its effects on production and the significant animal welfare implications of affected stock.

In 2011 DairyNZ and Sustainable Farming Fund invested in research initially aimed at trying to get a better understanding behind the natural spore count variability in paddocks, between paddocks and between farms and to try and find alternative ways of managing facial eczema without zinc. After this research was completed in 2013 it was deemed necessary to try and understand to what extent management of facial eczema was breaking down and possible reasons for these breakdowns. The overall aim of this research was to try and help farmers improve their management of this disease and reduce incidence of facial eczema.

A study comparing the spore counts from paddocks containing varying quantities of herbs, clovers and tall fescue showed that the addition of chicory, plantain, lucerne and white clover into a ryegrass pasture did not provide any reduction in spore counts. Tall fescue paddocks showed lower spore counts over time than pure swards of ryegrass.

A study comparing the application of lime and nitrogen in comparison to control paddocks showed that application of lime before the risk period for facial eczema (in November), application of lime after a spore count rise, (in March) or urea application (in December) did not affect the number of spores produced by *Pithomyces chartarum*.

A study investigating the variability of spore counts within farm, paddock, grass sample and water aliquot showed that if spore counts are to be used for monitoring purposes to identify when to start and finish facial eczema(FE) prevention programmes, at least three aliquots per wash water should be selected.

Finally, a study looking at the different types of management of FE used and their effectiveness highlighted that FE management on dairy farms in New Zealand could be substantially improved;

principally through farmers getting more information on the success of their FE management programs and responding when tests show that FE management is not effective.

Acknowledgements

It is not until you reach the point of writing the acknowledgements of a thesis that you truly appreciate the number of people that contribute to the completion of such a body of work.

It was almost 5 years ago when I approached Mark Stevenson at an NZVA conference to consider further study in epidemiology. It was very much a situation of being in the right place at the right time as he was the one that set me on this path of facial eczema research, a topic I was already very interested and involved in as a veterinary practitioner. I truly appreciate the opportunity he gave me and his support in designing and reporting the trial work.

Thank you to Veterinary Enterprises Limited management for without their encouragement to better our services as veterinarians, flexibility with both my time and the time of other staff, unwavering support and in the later stages funding, I would have never been able to complete such a large body of work.

I gratefully acknowledge DairyNZ and Sustainable Farming Fund for providing the funding for showing patience with a disease that is very unpredictable to study and continuing to support the research despite changes in the aims of the study as we gathered more information.

Thank you to our amazing technicians at VetEnt, Krista Glover, Justine Brittain, Paul Jarden, Elliot Gloyn, Mark Oakes, Rochelle Flannery and Angela Bartle and veterinarians Mitchell Cooper, Krispin Kannan, Jane McDermott, Tim Cameron and William Cuttance. This team would always stay happy and positive even in the midst of 12,500 spore counts, walking the length of a paddock over and over to hit in wooden pegs or simply helping me constantly throughout the term of the project wherever needed. It is wonderful to work with such a supportive team.

To our wonderful farmers in the Waikato and throughout the country, I thank them for their generosity, open and honest communication and involvement in the studies. I can only hope that what we have concluded will help them in the future.

In the last 6 months I have been privileged to have Richard Laven come on board as a supervisor to guide me, support me, help me expand the data analysis and ultimately allow me to finish this thesis though extremely dedicated and speedy responses. He truly understood the challenges of completing this while working and being a mother of two and I cannot thank him enough for his effort.

Finally, I would like to thank my husband for providing absolutely unshakable support throughout the entire 4 years of study. He has done everything from taking annual leave to be at Massey with me to look after our 4-month-old baby so I could go to lectures, helping me paint and label hundreds of wooden pegs, hitting them into the ground, reading my articles and constantly looking after the children so I could have time to write up this research.

This is has truly been a wonderful experience and I hope it makes a difference within the dairy industry.

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