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Management of Facial Eczema

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Emma Boyd

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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.

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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.

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

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