

# Clover root weevil found established near Nelson

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The planning of a South Island response to manage the destructive white clover pest, clover root weevil, is under way after the discovery of an established population on a dairy farm in Richmond, near Nelson.

The find comes after the discovery of three specimens in February which had been caught near Christchurch International Airport, the first in a prototype trap being developed for surveillance which attracts weevils with a chemical lure, and the others during follow-up sampling.

First discovered in Waikato 10 years ago, conservative estimates put the cost of white clover damage caused by clover root weevil at more than \$300 million a year.

Dr Craig Phillips, science leader for the Better Border Biosecurity project, a 12 year FoRST-funded research joint venture aimed at preventing new pests from entering or establishing themselves in New Zealand, said any faint hopes clover root weevil had not yet established itself in the South Island were dashed with large numbers of the weevils being found.

“After finding the first three specimens we had our fingers crossed that they were isolated cases of hitchhikers from the North Island but obviously now that is out of the question and with the latest discovery in the Richmond area there is now clearly no doubt clover root weevil is firmly established in the South Island.”

Dr Phillips said the opportunistic discovery came while sampling for other insects between Christchurch and Nelson during which time his AgResearch team took their opportunity to check for clover root weevil. No other populations were found at several other locations checked between Christchurch and Nelson.

He said the owner of the farm where the discovery was made said his suspicions were raised when he noticed some white grubs in the soil last year.

“It suggests clover root weevil has been there for some time and the number of weevils there certainly backs that up,” Dr Phillips said.

“We can’t yet say it is widespread but it does make us think there could be other well established but localised populations in other areas of the South Island.”

Dr Phillips said it was inevitable that clover root weevil would eventually be found established in the South Island. It would have crossed Cook Strait fairly easily over the past few years by clinging to vehicles and freight travelling from weevil-infested parts of the North Island.

Dr Phillips said the focus was now on planning for a coordinated South Island response to clover root weevil but the extent and timeliness of the response would be dependent on funding.

“Our plans involve conducting more intensive surveys, providing farmers with information and initiating managed biocontrol releases, ideally this winter,” he said.

After being given the green light by ERMA last November, AgResearch has so far conducted three specifically targeted releases of the tiny parasitic wasp, *Microctonus aethiopoides*, a biocontrol agent which attacks only the clover root weevil and renders it sterile before killing it. The releases were in Morrinsville in early January, Hawkes Bay in late January and in Bulls and Fielding in February.

White clover is a crucial component of New Zealand farming systems in terms of nitrogen fixation and feed value for stock and contributes more than \$3 billion to the economy. When clover quality is compromised, extra nitrogen fertiliser is required, and this can have negative economic and environmental impacts.

Dr Phillips said the tell-tale signs of clover root weevil presence are match-head sized, crescent-shaped, notches eaten out of the edges of clover leaves. The notching arises from feeding by adult clover root weevils, but larvae do the most damage to white clover by feeding on its roots and root nodules. Dr Phillips said South Island farmers could provide valuable information by informing AgResearch if they observed notching on clover leaves on their farms.

Dr Phillips worked in a programme with his AgResearch colleagues Dr Stephen Goldson, Dr Pip Gerard, Mark McNeill and John Proffitt, in Europe and the USA that eventually led to Mr McNeill discovering the wasp in Galway, Ireland.

The parasitic wasp, which is totally harmless to humans, kills clover root weevil by injecting it with an egg which makes female weevils sterile. This breaks the weevil life cycle. The wasp larvae go through four stages with the last larval stage killing the weevil as it breaks out of the weevil's body. The larva then turns into a pupa which in turn becomes an adult wasp.

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For further information or to request photographs, please contact AgResearch media advisor, Anthony Clearwater on 029 489 9139.