Mapping the abundance and distribution of *Bactericera cockerelli* in Hawke's Bay

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Since its discovery in New Zealand in 2006 the tomato/potato psyllid (TPP), *Bactericera cockerelli*, and its associated pathogen, *Candidatus Liberibacter solanacearum*, have caused serious yield losses and significantly increased management costs to cultivated solanaceous crops. Hawke's Bay, New Zealand, is a major growing region for outdoor tomato crops and is also an area that experiences high TPP numbers. This project aims to map TPP distributions in Hawke's Bay using geographical information systems (GIS), a tool useful for displaying where significant pest populations have occurred. Between the years 2008 and 2012, TPP was monitored using standard yellow sticky traps and plant monitoring by a major processing company in commercial tomato crops in Hawke's Bay. TPP abundance and distribution data were imported into a GIS software package and will then be linked to corresponding mapped sites throughout Hastings, Havelock North and Napier (Hawke's Bay). This information may assist tomato and potato growers in the region with crop location decisions and where best to focus management efforts.

The interactions between natural enemies and their role in controlling *Bactericera cockerelli* in potatoes

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The impacts of naturally occurring predators for control of *Bactericera cockerelli* (tomato-potato psyllid; TPP) have been assessed in potatoes at Pukekohe for 3 years. Results indicate that the most commonly found predator species are *Micromus tasmaniae* (brown lacewing) and *Melanostoma fasciatum* (small hoverfly) with populations of small hoverfly eggs and larvae reaching up to almost 200 per plant in unsprayed plants over January and February. Continuing with intensive studies on TPP, these naturally occurring predators appear to be important biological control agents. In laboratory "choice" and "no choice" assays results indicate these two predator species eat all life stages of TPP even in the presence of aphids. The intra-guild interactions between predator species are now being investigated to ascertain from a suite of predators on potatoes which are likely to be the best allies in developing an Integrated Pest Management (IPM) programme for potatoes. Laboratory studies indicate that larvae of small hoverfly and larval and adult life stages of *Coccinella undecimpunctata* (11-spotted ladybird) may be displacing brown lacewings.