

Non-crop host plants: prime real estate for the tomato potato psyllid in New Zealand?

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The tomato potato psyllid, *Bactericera cockerelli* (TPP), and the bacterium it vectors, *Candidatus Liberibacter solanacearum* (CLso), are collectively responsible for significant economic losses across New Zealand's horticulture industry. Crop host plants of TPP include potatoes, tomatoes, capsicums/chilli peppers, tamarillos and tobacco, along with less-obvious species outside the Solanaceae family, such as kumara (Convolvulaceae). Most of these plants are short-lived summer annuals, which raises the question: what happens to TPP when crops are absent? Many less conspicuous non-crop plants also play host to TPP, some of which are perennial and therefore present year-round, potentially acting as reservoirs of both TPP and CLso in the absence of a crop. A pilot study in 2012 and subsequent vegetation surveys in Canterbury and Hawke's Bay in 2013-14 confirmed the presence of all TPP life stages on multiple non-crop species year-round in both areas, despite adverse climatic events such as winter frosts and snowfall. These results have far-reaching impacts on the way growers should manage the borders surrounding their crops and their land in the off-season.

The application of 980 degree days as a trigger for rapid increases in *Bactericera cockerelli* in Hawke's Bay solanaceae crops

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During 2007-08, the tomato potato psyllid (TPP, *Bactericera cockerelli*) was observed in outdoor tomato and potato crops in Hawke's Bay. Many crops were heavily infested, resulting in severe yield losses and in some cases crop abandonment. Since then, growers have been proactive in plant monitoring and sticky trap use, but these methods are expensive and quite often a calendar spray programme is begun once the first adult TPP have been observed in traps. It has been proposed that 980 degree-days (DDs) from 1 July is used as an indicator of when TPP numbers are about to increase rapidly in North Island crops. This study describes the application of 980 DDs to recent sticky trap data from Hawke's Bay. For most sites, 980 DDs occurred just before rapid increases in adult TPP numbers. However, there were a small number of sites where this was not so. The presence of non-crop TPP host plants bordering these sites may explain rapid increases in TPP trap catches well before reaching 980 DDs.