



New Zealand Plant Protection 66 (2013): 387

Effects of garlic oil on tomato-potato psyllid

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ABSTRACT

Tomato-potato psyllid (*Bactericera cockerelli*) (TPP) is a vector for *Candidatus Liberibacter solanacearum* (CLso), a bacterium responsible for causing zebra chip (ZC), a mottled browning discolouration of cooked potato crisps. Organic gardeners have long relied on garlic as part of their pest-control arsenal. Garlic contains sulphur, which, besides being toxic to pests, is also an antibacterial and antifungal agent. BioRepel® (JH Biotech, Inc.) is a natural insect repellent made from garlic oil (10% garlic oil). BioRepel® has been reported to repel several plant insect pests including aphids, leaf hoppers, whiteflies and thrips. A field trial, conducted at Pukekohe to determine the effects of foliar applications of BioRepel® garlic oil on TPP nymphs in potato foliage, found that garlic oil significantly reduced TPP nymph populations. TPP nymph numbers in the unsprayed plots increased during the season from 0.06 nymphs per leaf on 5 January to 12.12 nymphs on 9 March 2010, while on that date the mean number of nymphs per leaf in the BioRepel® oil treatment was 3.05. Further research to determine effects of garlic oil on zebra chip of potato crisps is planned.

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