

THRIPS PALMI: POTENTIAL SURVIVORSHIP AND POPULATION GROWTH IN NEW ZEALAND

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Thrips palmi Karny does not currently occur in New Zealand but is considered a potentially serious threat to New Zealand's horticultural industries. If an infestation of *T. palmi* were found in New Zealand, it would be advantageous if quarantine agencies were able to predict the insect's population growth in response to New Zealand conditions. The program Dymex was developed using published literature to predict how populations of *T. palmi* might respond to New Zealand conditions. Results suggest *T. palmi* would be able to survive long term in Pukekohe and Levin, although severe winters will restrict the population in Levin. In Christchurch, *T. palmi* is predicted to survive in the short term. In Ashburton, *T. palmi* populations are predicted to become extinct during the first winter. Development times over the winter in areas where *T. palmi* is not predicted to survive the winter were much longer than those where it is predicted to survive, while summer development times were similar in all regions. This result indicates that lack of thermal input over winter would be the key determinant of long-term survival in New Zealand. However, as suitable data could not be sourced, the model has not been fully validated.

MONITORING THRIPS FLIGHT WITH 7.5 METRE HIGH SUCTION TRAPS

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Three suction traps (7.5 m high) in Lincoln (Canterbury), Ngatarawa (Hawke's Bay) and Pukekohe (South Auckland) were used to monitor thrips flights. Samples were collected weekly from spring 2003 to autumn 2004. At all locations, thrips were present throughout the year with highest numbers caught in December, January and February. Peak catches were 9392 thrips/week in Ngatarawa (12 December 2003), 4612 in Lincoln (29 December 2003) and 1160 in Pukekohe (09 February 2004). In another suction trap at Hilton, South Canterbury, about 70,000 thrips were caught for the week ending 5 January 2004. In Canterbury, cereal thrips (*Limothrips cerealium*) and New Zealand flower thrips (*Thrips obscuratus*) were the most common species in spring and summer, with onion thrips (*Thrips tabaci*) and gum tree thrips (*Thrips australis*) more common in autumn. In Hawke's Bay, *T. tabaci*, *T. obscuratus* and *T. australis* were the most common species with similar proportions caught throughout the year. In Pukekohe, the main species were *T. obscuratus* and Timothy trips (*Chirothrips manicatus*) in spring, *T. obscuratus*, *T. tabaci* and American grass thrips (*Anaphothrips obscurus*) in summer and *T. tabaci* in autumn. The data suggest that the suction traps provide useful information on thrips flight activity and species numbers.