CONTROL OF ONION THRIPS (*THRIPS TABACI*) ADULTS AND EGGS WITH PHOSPHINE

C.W. VAN EPENHUIJSEN, S.K. WIMALARATNE,
K.G. SOMERFIELD, D.I. HEDDERLEY, B.B.C. PAGE and D.W. BRASH

*The New Zealand Institute for Plant & Food Research Limited,
Private Bag 11600, Palmerston North 4442, New Zealand*

Corresponding author: vanepenhuijsenk@crop.cri.nz

Onion thrips are a major pest of New Zealand onion and asparagus exports. Onions are generally treated with methyl bromide if export shipments are contaminated with thrips. Phosphine is a possible alternative fumigant for disinfestation, particularly as it is less likely to have phytotoxic effects on onions than methyl bromide. This research aimed to identify a short duration (2–3 day) phosphine treatment protocol using cylinderised phosphine that gave complete control of onion thrips adults and eggs without causing a decline in onion bulb quality. Adults and egg life stages of onion thrips were treated with two concentrations of phosphine (700 and 1100 ppm) for either 48 or 72 h at a mean temperature of 20°C. Phosphine was applied directly to adult thrips that had been collected and held in jars as well as to infested onions. None of the treated adults survived, and none of the treated eggs hatched and survived after 48 h exposure to phosphine fumigation at a mean concentration of 706 ppm. There were no visible signs of phytotoxicity following phosphine treatment. It is recommended that this treatment regime is tested at a larger scale on stored onions infested with onion thrips.

TESTING THE EFFICACY OF FLORAGAS® AGAINST THE EGGS OF LIGHTBROWN APPLE MOTH (*EPIPHYAS POSTVITTANA*)

N.E.M. PAGE-WEIR and L.E. JAMIESON

*The New Zealand Institute for Plant and Food Research Limited, Private Bag
92-169, Auckland 1142, New Zealand*

Corresponding author: NPage@hortresearch.co.nz

In September 2008, lightbrown apple moth (*Epiphyas postvittana*) (LBAM) eggs were found in a shipment of flowers grown in the South Island, which were destined for California, USA. This prompted a ban on New Zealand flower exports to the USA. The aim of this investigation was to determine the efficacy of the insecticidal aerosol Floragas® against LBAM eggs. LBAM eggs (~2 days) were treated with Floragas® as per the label instructions. Egg batches were assessed 5 and 12 days after fumigation. Results indicated that fewer LBAM eggs were fertile following the fumigation treatment (71.2%) than untreated eggs (89.7%) 5 days after fumigation. Only 15.4% of fumigated eggs hatched compared with 63.1% of untreated eggs 12 days after fumigation. Fumigation with Floragas® resulted in 84.6% mortality of all LBAM eggs.