

Pome Fruits—Biological Control

Rearing and Release of *Anthocoris melanocerus* for Control of Pear Psylla

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A rearing method has been developed that allows production of *A. melanocerus*, a predator of pear psylla in the Pacific Northwest, in sufficient quantities (1,000 to 2,000 insects/week) and with minimal labor (10 to 15 hours/week) for laboratory studies on biology and limited field evaluations of effect on orchard populations of pear psylla. The method is also suitable, with modifications, for rearing another predator of pear psylla, the mirid *Deraeocoris brevis*.

Laboratory studies of *A. melanocerus* comparing biological attributes of a laboratory reared colony (30 to 40 generations) to adults obtained from field collected nymphs showed statistical differences in male longevity (lab reared = 7.4 days  $\pm$  .8, field collected = 13.4 days  $\pm$  2.0, ( $\bar{x} \pm$  S.E.) and percent hatch (lab reared = 62%, field collected = 86% (arcsine transformed for analysis) but no significant differences in female longevity, total eggs laid, or pre-oviposition period.

Field releases of 100 first to third instar *A. melanocerus* nymphs per pear tree at weekly or bi-weekly intervals within a young (4 to 5 years) orchard reduced adult and immature populations of pear psylla 40 to 50% in trees receiving *A. melanocerus* compared to control trees through early July (Figs. 1 and 2). At that time a large immigration of *D. brevis* rapidly depressed the psylla population so any further effects of the released *A. melanocerus* would have been obscured. Control trees were colonized in significantly greater numbers by *D. brevis* than trees which received *A. melanocerus* (Fig. 3).

FIG. 1 Mean Number of Immature Psylla per Leaf

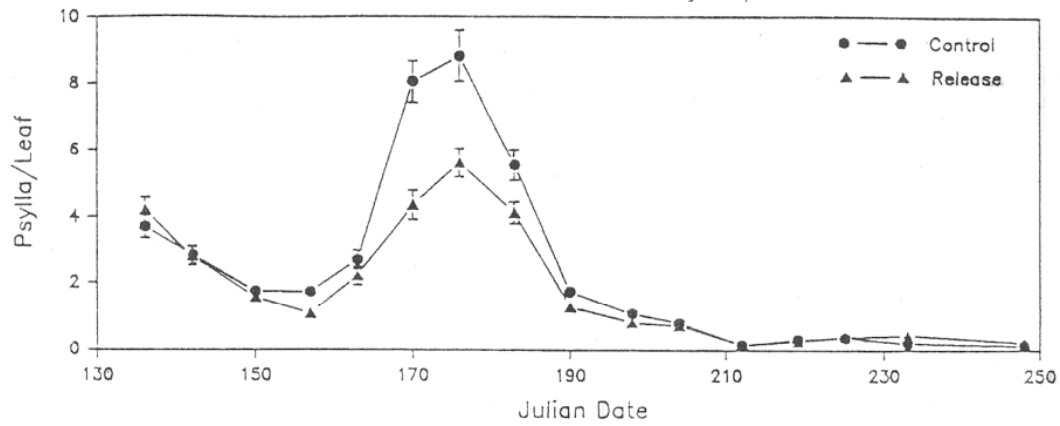


FIG. 2 Mean Number of Adult Psylla per Beating Tray

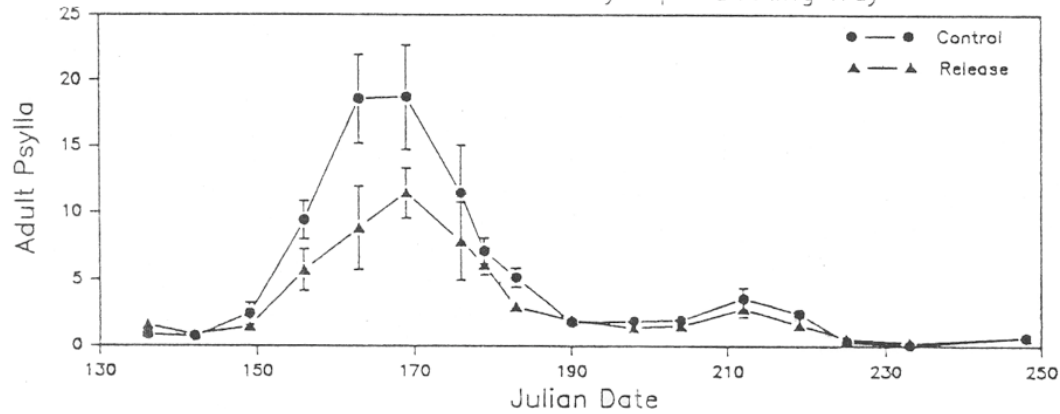


FIG. 3 Mean Number of Predators per Beating Tray

