

Biological Control

Predation of Codling Moth (Lepidoptera: Tortricidae) Eggs in Mating Disruption and Conventional Orchards in Washington

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Predation of codling moth, *Cydia pomonella* L., eggs was assessed in June and August 1995 in 8 apple orchards in Washington treated with organophosphate (OP) insecticides, 4 orchards treated with mating disruption (MD) plus limited OP insecticide use, and 4 orchards treated with MD and not sprayed with OP insecticides. Sentinel codling moth eggs laid by caged moths on 10 shoots in each orchard were scored as alive, dead, or missing after 7 d, and beating tray samples of insect predators were collected at the beginning and end of each trial. Levels of egg predation (dead + missing eggs) were not significantly different among orchard types in June but varied among orchard types in August (MD alone > MD + OP insecticides > OP insecticides). The percentage of dead eggs in August was significantly higher in the orchards receiving only MD than in orchards treated with OP insecticides. The percentage of missing eggs was significantly lower both months in orchards not treated with MD. Densities of spiders and all predators on both sample dates and for earwigs in August were significantly higher in orchards not treated with OP insecticides. Densities of heteropteran predators did not vary significantly by orchard type. No significant correlations were found among predator densities and egg mortality within an orchard type. However, significant correlations were found for the percentage of dead eggs and dead plus missing eggs and densities of earwigs, spiders, and all predators in tray samples across the 16 orchards.