

THE SUBLETHAL EFFECTS OF METHOXYFENOZIDE ON THE FIELD  
ORIENTATION AND COURTSHIP BEHAVIOR OF CYDIA POMONELLA  
(LINNAEUS) (LEPIDOPTERA: TORTRICIDAE)

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Abstract

The sublethal effects of ecdysone agonist methoxyfenozide on the mating behavior and field orientation of codling moth, *Cydia pomonella* (Linnaeus), was examined. Five different lure types were placed in the upper canopy of 25 apple trees in a 5-acre orchard block following a latin square design. Traps with caged female moths, both untreated and treated with methoxyfenozide, and commercial lures were placed in the block and monitored throughout the season. During the laboratory bioassay, moths were exposed to seven different treatments then placed in a mating arena to observe the impact on courtship behavior.

After applying methoxyfenozide to the field, all five lure types were statistically equal in their ability to attract males. Methoxyfenozide applications also reduced the relative percent of males caught for all pheromone traps, however, the female baited traps actually saw a rise in relative percent caught. The laboratory bioassay data, when pooled both by sex and treatment type, revealed no difference among behavior between gender or amongst the different treatments. However when comparing treatments types individually amongst each other, significant differences were found in female codling moth displays of wing fanning and movements to and from the male.