

THE SUBLETHAL EFFECTS OF ECDYSONE AGONISTS ON THE
ATTRACTIVENESS, RESPONSIVENESS, FERTILITY AND FECUNDITY OF
ORIENTAL FRUIT MOTH, AND A COMPARATIVE EXAMINATION WITH
CODLING MOTH ON LARVAL FEEDING DAMAGE

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ABSTRACT

The ecdysone agonists methoxyfenozide and tebufenozide are designed to affect the larval stage of Lepidopteran pests. Recent studies have reported sublethal effects on the adults of several tortricid apple tree pests exposed to these insect growth regulators. These effects include changes in mean fecundity and fertility and reduced mate-finding abilities. Here we report sublethal effects of these insect growth regulators on the oriental fruit moth, *Grapholita molesta* (Busck). Wind tunnel assays showed a reduction in mate finding capabilities of the moths when exposed to methoxyfenozide. Mating assays showed a reduction in mean fecundity but, generally, not mean percent fertility when females were exposed to either tebufenozide or methoxyfenozide. Median female longevity was also reduced. In another study presented here the feeding patterns of the oriental fruit moth were compared to that of codling moth, *Cydia pomonella* (L.). Differences in sites of entry as well as visible tunneling and frass were observed. Differences were also detected in the internal fruit damage between the two moth species.