

4. Chemical Control/New Products

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Codling moth: Apple

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Project Title: Use of Tebufenozide for Codling Moth Control: Susceptibility of Life Stages, Timing and Persistence

Tebufenozide has larvicidal and ovicidal activity against codling moth. Eggs are more susceptible when laid on top of the residue. There is little or no activity when eggs are laid on fruit. The oral LC50 for neonates on fruit was 12.09 ppm. The LC50 for the residual toxicity of tebufenozide to codling moth eggs laid on leaves was 4.35 ppm. Codling moth eggs in black head stage were not susceptible when they were sprayed topically. Contact activity against neonate larvae contributes little to the overall control at the rates used in the field.

Tebufenozide affects vitellogenesis. The number of eggs laid by females and the viability of those eggs decrease when moths are sprayed topically or the moths are exposed to the insecticide on treated branches.

Tebufenozide has good persistence in the field, and is active for more than one month after being applied. The choice of adjuvant does not seem to be critical in the performance of this product. However, spray volume seems to affect the effectiveness of tebufenozide in the field. Tebufenozide provided better control when it was applied as a dilute spray at 400 GPA compared with concentrate application at 100 GPA.