

Section V.
Soil Arthropods

ROOT WEEVIL LARVAE CONTROL IN OREGON STRAWBERRIES

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A field trial was conducted in a 3-year old field of 'Totem' strawberries located at OSU's North Willamette Research and Extension Center near Aurora, OR, to determine effects of soil-applied insecticides on root weevil larvae populations. Experimental design was a randomized complete block with four replications. Each plot was comprised of one strawberry row, 25 feet long by 40 inches wide. Untreated plant rows, serving as buffers, separated the treated rows. Treatments were broadcast applied using a CO₂ - powered backpack sprayer equipped with a 2-nozzle boom at 40 psi, delivering 50 gallons of water per acre.

After strawberry renovation, treatments were applied to pre-irrigated strawberry plots on 27 Jul 2000. Plots were irrigated again immediately after treatment applications with approximately 1.5" of irrigation (overhead sprinklers). Treatments were evaluated in early Mar 2001 for efficacy in controlling root weevil larvae by digging four strawberry plants per plot, screening soil and strawberry crowns and roots through a series of sieves, and counting number of larvae. The root weevil complex in this field was roughly 55% strawberry root weevil (*Otiorhynchus ovatus*), 30% black vine weevil (*Otiorhynchus sulcatus*), 10% rough strawberry root weevil (*Otiorhynchus rugosostriatus*), and 5% *Barypeithes pellucidus* (no common name).

Thiamethoxam and carbofuran had significantly fewer root weevil larvae than the *Beauveria bassiana* treatment or the untreated check. These results are comparable to a similar field trial we conducted in 1999; in that trial, thiamethoxam provided 73.5% control, carbofuran 71.8% control and *Beauveria bassiana* 0% control.

Treatment	Rate/A	# Larvae	% Control
<i>Beauveria bassiana</i> (Naturalis-L)	43 fl.oz. prod	42.5 b*	1.0 8.0
Carbofuran (Furadan 4F)	2.0 lb. ai	8.0 a	83.0 82.7
Thiamethoxam (Cruiser 2SC)	0.2 lb. ai	10.5 a	78.0 77.3
Untreated check		46.2 b	---

* Means followed by the same letter within a column do not differ significantly, based on Fisher's protected LSD ($P \leq 0.05$)