Section VII
Foliage & Seed Feeding Pests

EVALUATION OF INSECTICIDES FOR THE ECONOMIC CONTROL OF ROOT WEEVILS IN BLUEBERRY

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Several root weevil species pose serious economic injury during the 1-2 year non-bearing period the immature plant is maturing in the field. Field observations indicate the economic threshold for 2 to 3 year-old bare root or container grown plants is one root weevil larva capable of girdling the cambium of large roots. Black vine weevils are readily managed in container-grown nurseries in the US and Europe by incorporating bifenthrin (Talstar® 0.2 G) into potting media to kill their larvae. We tested Talstar 0.2 G at 15 and 25 ppm as a pot media mix (50% peat moss, 50% pumice) and at 12 ppm as a top dressing (sawdust) incorporation and two rates of the soil-applied formulation of thiamethoxam (Platinum® 2SC) as a drench and an untreated check. Treatments were replicated 10 times and infested on 27-28 March. Talstar was incorporated in the soil on 25 March and as a top dressing on 3 April. The two drench rates of Platinum were applied onto the infested pots on 4 April. Each replicate contained 10 late instar black vine weevils that were placed in 2-3 inch holes around a 3 year-old plant and then covered with potting mix. After one month the blueberry plants were top at the soil surface and each pot covered with a square pane of clear glass. The final evaluation occurred on 30 May to compare adult emergence for all treatments with the untreated check.

Compared with the untreated check, all treatments and soil application methods were significantly different (Table 1). Both rates of Talstar applied as a soil incorporation into potting media used in containerized planting could easily translate to the planting technique used in commercial plantings. We imagine that a moist pot media mix containing Talstar would be incorporated in the planting hole. In addition an organic mulch top dressing would further provide root weevil suppression at 12 ppm along with providing weed suppression, soil moisture and increase organic matter. Platinum applied as a transplant drench performed similar to the Talstar soil incorporation. We will expand potting trials next year to further verify the excellent data were obtained this year. Perhaps the non-bearing period for maturing blueberry plants is ideal for the application for a widely accepted tactic to prevent girdling and root browsing by root weevil larvae.

Table 1.

Treatment	Rate	Applications	Mean adults/pot[1]
Platinum 2SC	5 fl.oz/acre	Drench	0.3c
Platinum 2SC	8 fl.oz/acre	Drench	0.5c
Talstar GC	15 ppm	Pot Media Mix	0.0c
Talstar GC	25 ppm	Pot Media Mix	0.0c
Talstar GC	12 ppm	Top Dressing	2.2b
Untreated check			8.8a

Used 100 BVW late instar larva for each treatment.
significantly different (Tukey HSD test, $P<0.05$).
[1]Infested 27-28 March, evaluated 30 May 2002.