

EVALUATION OF SEVERAL WEEVICIDES FOR THE CONTROL OF ROUGH STRAWBERRY ROOT WEEVIL IN STRAWBERRY, 2014

L. K. Tanigoshi, G. H. Spitler and B. S. Gerdeman

Washington State University

Northwestern Washington Research & Extension Center, Mount Vernon

Mount Vernon, WA 98273

360-848-6152

tanigosh@wsu.edu, spitler@wsu.edu, mitehunter1@hotmail.com

Rough strawberry root weevil, *Otiorhynchus rugosostriatus* (Goeze) (RSRW) is one of four to five species of root weevils that remain perennial pests for strawberry growers in the Pacific Northwest. However, RSRW has emerged as the dominant root weevil pest in Washington and Oregon strawberries over the past decade. Growers commonly overlook RSRW's presence in PNW summer varieties because it normally does not cause characteristic notching of leaves used to detect a weevil infestation. Adult RSRW were collected from a heavily infested 2 year-old 'Totem' field in Salem, OR on 18 June 2014. On 20 June, five 'Totem' leaves were dipped in field solutions of 6 registered insecticides equivalent to 100 gpa. These leaves were individually placed on cotton absorbent pads in 100 x 15 mm Petri dishes. Five adult RSRW were placed on drying foliage/arena and replicated 5 times. Arenas were held at under lab conditions and observed at 24 and 48 hours after treatment (HAT) for adult mortality. Moribund adults were also scored as dead.

After 24 HAT, all adults were dead on the foliar residues of Brigade (Table 1). Other than Athena, the remaining treatments were significantly different from the UTC. Mortality was 100% for both formulations of thiamethoxam (i.e., Platinum, Actara) and unregistered Exirel (cyantraniliprole, IRAC 28). The excellent contact activity for both neonicotinoids and 75% mortality for Admire after 48 HAT were unexpected, given past trends for slower and often incomplete population knockdown in the field. The dual modes of action Athena (bifenthrin + avermectin) was disappointing given its near equivalent concentration of bifenthrin compared with Brigade. We will reevaluate its activity next season with and without a non-ionic or organosilicone surfactant.

Table 1. Efficacy of foliar residues to RSRW adults on strawberry, 2014

Treatment	Rate/acre	24 HAT	48 HAT
Platinum 75SG	4.01 oz	96.5±3.5a	100.0±0.0a
Actara 25WG	4 oz	90.0±5.8a	100.0±0.0a
Admire Pro	14 fl oz	60.0±0.0b	75.0±9.6b
Brigade WSB	32 oz	100.0±0.0a	
Athena	17 fl oz	10.0±5.8c	15.0±5.0c
Exirel	20.5 fl oz	95.0±5.0a	100.0±0.0a
Untreated check		0.0±0.0c	15.0±15.0c

Means within columns followed by the same letter are not significantly different (Fisher's Protected LSD, $P < 0.05$), PRC ANOVA SAS.