

Section V  
Soil Arthropods

**CLAY COLORED ROOT WEEVIL CONTROL ON RED RASPBERRY, 2007**

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Clay colored root weevil, *Otiorhynchus singularis* (L.). Clay colored weevils (CCW) were collected from the Lynden area on 'Meeker' red raspberry in mid-May, 2007. Individual red raspberry trifoliolate leaves were placed in water-filled vials capped with a cotton roll plug. Each treatment consisted of 25 weevils placed on 5 individual leaf arenas held in 5 inch diameter Petri dishes held at room temperature. These leaf arenas were each dipped in respective deionized water-insecticide solutions for approximately 4 seconds and air dried for a couple of hours (Table 1). After 4 days Capture™ (bifenthrin) and Malathion provided complete mortality of CCW through contact and ingestion under lab conditions. Under these ideal lab conditions, the results provided no evidence for the onset of resistance to Capture as suggested from last year's results from a field population collected at the same location. Though the knockdown for the high rate of 4 oz/acre for Actara™ (thiamethoxam) was intermediate after 4 days posttreatment, cessation of feeding, metabolic stress and uncoordinated movements results in prolonged morbidity and death beyond 4 days. These post exposure responses are similar for the other species of root weevils when exposed to Actara. Though the target site of Capture differs from the neonicotinoids, population mortality upon exposure often is variably prolonged for 3-5 days as well in adult root weevils.

Table 1.

Treatment	lb(AI)/acre	Percent Mortality			
		1DAT	2DAT	3DAT	4DAT
Actara 25WG	0.06	44ab	52b	60bc	64b
Capture 2EC	0.10	46ab	64ab	80ab	100a
Malathion 8EC	2.00	72a	88a	92a	100a
Success 2SC	0.09	34b	38b	38c	40c
Untreated check		0c	0c	0d	0d

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

Other than spotty clay colored weevil infestations in the north Lynden area, the black vine, strawberry and rough strawberry root weevils were generally economically managed throughout the Whatcom county red raspberry growing regions. These empirical observations suggested the root weevil complex still remains highly susceptible to Brigade/Capture and Malathion, especially if timed for evening application when the adults are known to be actively feeding during their pre-egg laying period.