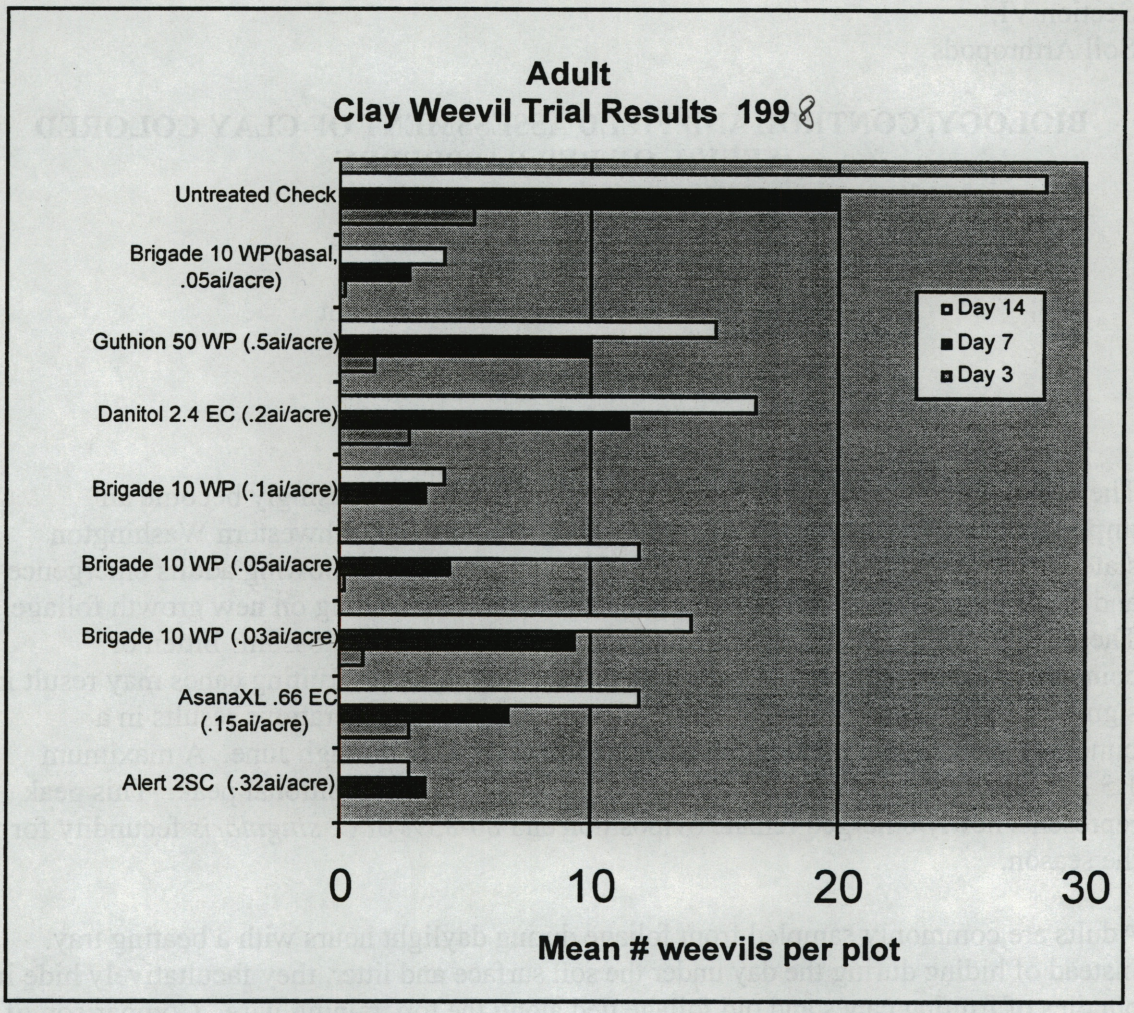
Section VI.
Soil Arthropods

BIOLOGY, CONTROL AND FIELD ASSESSMENT OF CLAY COLORED WEEVIL ON RED RASPBERRY

L. K. Tanigoshi & J. D. Chamberlain
Washington State University
Vancouver Research & Extension Unit
Vancouver, WA 98665-9752
360/576-6030
tanigosh@wsu.edu

The clay colored weevil, *Otiorhynchus singulari* (L.) has increasingly become an important early season problem on red raspberry culture in northwestern Washington state. Overwintering adults emerge in early to mid-March. Following adults emergence and hardening in early April, they commence maturation feeding on new growth foliage. These leaves will appear ragged or flagged and fruit buds and blossoms bitten or completely destroyed. If not controlled, this feeding injury to fruiting canes may result in significant yield reduction at harvest. This overlapping of generations results in a bimodal ovipositional period that extends from early May through June. A maximum 1.5-2.0 eggs/female/day was observed during the second ovipositional peak. This peak represents newly emerged female oviposition and 80-85% of *O. singularis* fecundity for the season.

Adults are commonly sampled from foliage during daylight hours with a beating tray. Instead of hiding during the day under the soil surface and litter, they facultatively hide in bundles of fruiting canes and old foliage tied along the top training wire. Comparison of basal with over-the-row applications of Brigade® provided excellent control of clay colored weevil with no significant differences between the two techniques (Table 1). The basal configuration reduces the amount of formulated material over 50%, an economic savings to the grower, while minimizing toxic impacts to early season natural enemies, pollenizers and reducing pesticide drift. Handpicking and machine harvesting evaluations will be conducted at harvest to measure the economic effects of clay colored weevil feeding on red raspberry blossoms and undeveloped fruit buds.


Adult
Clay Weevil Trial Results 199
Untreated Check
Brigade 10 WP(basal, .05ai/acre)
Guthion 50 WP (.5ai/acre)
Danitol 2.4 EC (.2ai/acre)
Brigade 10 WP (.1ai/acre)
Brigade 10 WP (.05ai/acre)
Brigade 10 WP (.03ai/acre)
AsanaXL .66 EC (.15ai/acre)
Alert 2SC (.32ai/acre)
Day 14
Day 7
Day 3
0
10
20
30
Mean # weevils per plot