

DIFFERENTIAL INSECTICIDE EFFICACY FOR CONTROL OF ROOT WEEVILS ON EUONYMUS.

Robin Rosetta, Sven Svenson, Thirza Collins, and Jay Paxson

Department of Horticulture, Oregon State University-NWREC, 15210 NE Miley Road,
Aurora, OR 97002-9543, USA

In June 2001, adult stages of black vine (*Otiiorhynchis sulcatus*) or strawberry (*Otiiorhynchus ovatus*) root weevils were established in 2.7 liter containers of *Euonymus* 'Emerald Gaiety' in a randomized complete block design (n=15). Insecticides were foliar-applied, and efficacy was evaluated as percentage of adult mortality and effective kill ratio (EKR) 14 days after treatment. The EKR adjusts the data for the natural mortality of weevils in nontreated pots, assigning an EKR of 0 to nontreated pots. An EKR of at least 21 was needed to be significantly different from nontreated pots. Adult mortality and EKR was higher for black vine compared to strawberry root weevil for all insecticides studied. Acephate, acetamiprid, azadiractin, bifenthrin, deltamethrin, kaolin film, lambda cyhalothrin, pyrethrum, and thiamethoxam provided an EKR of 14, 40, 33, 38, 53, 35, 82, 9, and 20, respectively, for black vine root weevil, and 11, 17, 0, 0, 7, 12, 23, 8 and 38, respectively, for strawberry root weevil. Combining lambda cyhalothrin with thiamethoxam provided an EKR of 96 and 49 for black vine and strawberry root weevil, respectively. Lambda cyhalothrin alone or in combination with thiamethoxam provided acceptable control of black vine root weevil (EKR>80), while none of the insecticides studied provided acceptable control of strawberry root weevil. Reduced damage from foliar feeding by root weevil adults suggests that mortality from kaolin film application was caused by inhibition of feeding.