DEVELOPING PEST MANAGEMENT STRATEGIES FOR ROOT WEEVILS

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Results of various field trials conducted from 1993 through 1995 to control black vine weevil (BVW), strawberry root weevil (SRW), rough strawberry root weevil (RSRW) and obscure root weevil (ORW) in small fruit crops are reviewed. Cultural (cultivation, flooding), applied biological (nematodes, fungi) and chemical (OP's, SP's botanically derived and sodium aluminofluoride formulated as a bait) controls provided varying degrees of adult or larval suppression.

Delays in new product pesticide registration, re-registration of existing products, induced spider mite problems and exacting requirements for application have greatly compromised control of weevils with insecticides.

Marginal and/or erratic results with azadirachtin and insect parasitic nematodes have been experienced both in research trials as well as commercial use. Poor to no control with parasitic fungi has been our experience in field plots with 2 strains undergoing commercial development.

Cranberry producers currently have available flooding (for larval control), insect parasitic nematodes (for larval, pupal control) as well as Orthene and an apple fiber/cryolite bait for adult control. This crop represents an excellent example of how a growers' cooperative has greatly expedited the use of pest management techniques by growers. Liberal funding of their own as well as university research, close working relationship with the EPA through the Cranberry Institute and implementing techniques with the help of a salaried pest management professional has helped the southwestern cranberry growers minimize BVW problems.

Biological attributes (reproductive potential, broad host range, longevity) behavioral characteristics (nocturnal activity, ability to overwinter and oviposit early in the season) ecological factors (vertical distribution of larvae in soil, creation of soil cells to overwinter/pupate, few predators) and difficulties in reliably/efficiently detecting and monitoring populations contribute to their "key pest status".