

POSTER PRESENTATION

CONTROL OF ACORN WEEVILS IN A BUR OAK SEED ORCHARD

Philip A. O'Connor

Indiana Department of Natural Resources, Division of Forestry
Vallonia State Nursery, P.O. Box 218
Vallonia, IN 47281

Acorn weevils in the genus *Curculio* present a ubiquitous problem. In seed orchards that are managed to promote increased cropping and reduced alternate bearing, populations of these insects are seldom in decline. The weevils overwinter and pupate in the soil. In mid-summer adults begin to emerge and crawl or fly to the trees where they chew through the acorn's seed coat and deposit one to several eggs. Developing larvae feed on the cotyledonary tissue and often render the acorns unviable.

No chemical controls are currently registered for use in controlling acorn weevils. This study evaluated the efficacy of a single application of each of four chemicals:

- Safari® (Dinotefuran) at two rates applied basally with a penetrant
- Merit® (Imidacloprid) applied as a soil drench
- Orthene® (Acephate) applied both basally with a penetrant and as a foliar spray
- Dursban® (Chlorpyrifos) applied as a foliar spray

A mid-summer application of the first three insecticides was made in an 8-year-old grafted bur oak (*Quercus macrocarpa* Michx.) seed orchard. The orchard was supporting a bumper crop of acorns. Simultaneously, conical wire-screen weevil traps were set out in areas of the orchard that had produced seed the prior year. Weevil emergence was monitored semiweekly with the traps. At peak emergence a foliar application of Dursban was made.

At maturity, the acorns from each treatment were collected, dissected, and evaluated for weevil infestation. All treatments were statistically better than the control. All the systemic treatments (Safari, Orthene, Merit) performed better than the contact and surface residual treatment (Dursban).

This study is also ongoing in a northern red oak (*Q. rubra* L.) planting, however, later seed maturation in that species has precluded those results from being reported here.