PROTECTION OF INDIVIDUAL TREES IN PINE SEED ORCHARDS FROM ATTACKS BY CONE AND SEED INSECTS

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Abstract: Two approaches for protecting individual trees are presented. A single tree spray system consisting of irrigation spray nozzles permanently mounted on PVC pipes was used to control the white pine cone beetle and reduced seed damage caused by the leaffooted and the shieldbacked pine seedbugs in an eastern white pine seed orchard in western North Carolina. A second installation of this single tree spray system also reduced cone attacks by the webbing coneworm on loblolly pines in a seed orchard in eastern North Carolina. Trunk implants of the systemic insecticide, acephate, protected individual loblolly pines from attacks by coneworms and seedbugs in a loblolly pine seed orchard in central Georgia. Criteria such as controlled breeding operations, genetic value, cone crop size, and inherent susceptibility to attacks can affect the need for protection and the allocation of control efforts for cone and seed insect pests on individual orchard trees.

Keywords: *Conophthorus coniperda, Dioryctria* spp., *Leptoglossus corculus,* Orthene, *Pinus strobus* L., *Pinus taeda* L., *Tetyra bipunctata.*