

From Forest Nursery Notes, Summer 2009

135. Control of forest nursery seedling diseases of *Pinus* spp. with Proline 480 SC. (ABSTRACT). Starkey, T. E. and Enebok, S. A. *Phytopathology* 99:S200. 2009.

Control of forest nursery seedling diseases of *Pinus* spp. with Proline 480 SC

T. E. STARKEY (1), S. A. Enebak (1)

(1) School of Forestry and Wildlife Sciences, Southern Forest Nursery Management Cooperative, Auburn University, AL, USA.

Phytopathology 99:S200

The availability of fungicides to control specific forest seedling nursery diseases is either nonexistent, limited or faces possible loss of registration. Proline 480 SC (41% prothioconazole) is a broad-spectrum systemic fungicide labeled for the control of ascomycetes, basidiomycetes, and deuteromycetes on numerous field crops. While not registered for forest seedlings; laboratory, greenhouse and field trials have shown Proline to be efficacious against three fungal pathogens that cause significant damage and seedling mortality in forest-tree nurseries. Disease control using Proline has been obtained at a 402 ml/ha application for the control of fusiform rust (*Cronartium quercum* f. sp. *fusiforme*) on loblolly pine (*Pinus taeda*) in the greenhouse and in two nursery field trials. In greenhouse trials, a biweekly application (402 ml/ha) controlled pitch canker (*Fusarium circinatum*) on longleaf pine (*Pinus palustris*) and resulted in an 11% increase in seedling production over non-treated seedlings. In vitro fungal growth studies on media amended with Proline resulted in fungicidal activity against *Fusarium circinatum* at all 3 rates (0.25x, 0.5x and 1x the label) used. A biweekly application of Proline in nursery field tests significantly reduced *Rhizoctonia* foliar blight on loblolly pine when compared to Heritage (50% azoxystrobin) and the non-treated control. In addition to disease control, Proline treated seedlings were significantly larger and appeared much greener than non-treated seedlings.