



United States
Department of
Agriculture

**Agricultural
Research
Service**

1995-3

July 1995

Sustaining Pecan Productivity Into the 21st Century

Second National Pecan Workshop Proceedings

**Wagoner, Oklahoma
July 23–26, 1994**

FUNGI ASSOCIATED WITH TWIG AND LIMB DIEBACK OF PECAN IN CENTRAL GEORGIA

C.C.Reilly¹, K.L. Reynolds² and B.W. Wood¹

Biotic and abiotic factors associated with twig and limb dieback of pecan were investigated. The dieback was most obvious after bud break and was characterized by moist, reddish-brown necrotic tissue about 0.5 to 1 cm in width beneath the bark which was slightly sunken and shriveled with the remainder of the necrotic tissue lighter brown and extending to the tip of the twig. Isolations of microorganisms were conducted from specimens obtained at the interface of healthy and necrotic tissue. Nine genera of fungi and two bacteria forming yellow or white colonies were consistently isolated from twigs and limbs with dieback symptoms. The frequency of isolation of a species of *Phomopsis* from fourteen cultivars of pecan was greater than 90%, whereas all other organisms were isolated at frequencies of less than 10%. Twig dieback was less than 10 cm on all cultivars prior to bud break in early March but increased to 30 cm or more by June. Pecan seedlings inoculated with the *Phomopsis* sp developed lesions similar to those on twigs with dieback. The fungus was isolated from the inoculated lesions. Trees subjected to water stress had significantly higher incidence of shuck disease and more twig dieback relative to new shoot growth the next season.

¹Research Plant Pathologist and Research Horticulturist, respectively. USDA-ARS, Southeastern Fruit and Tree Nut Research Laboratory, 111 Dunbar Road, Byron, GA 31008

²Plant Pathologist, Department of Plant Pathology, University of Georgia, Athens, GA 30602-7274.