

EFFECT OF FLUTRIAFOL RATE AND APPLICATION METHOD ON COTTON ROOT ROT AND LINT YIELD**J. E. Woodward****Texas Tech University****Lubbock, TX****J. H. Ramirez****Texas A&M AgriLIFE Extension Service****Vernon, TX****G. D. Morgan****Texas A&M AgriLIFE Extension Service****College Station, TX****Abstract**

Cotton root rot, caused by the soilborne fungus *Phymatotrichopsis omnivora* (Dugger) Hennebert, is an economically important disease of cotton (*Gossypium hirsutum* L.) in many production areas of Texas. Severely infested fields exhibit large areas of dead cotton, which limit yield and may affect harvest efficiency. Recent studies have shown, that in-furrow applications of the fungicide flutriafol have led to enhanced disease control and yield increases; however, reports of phytotoxicity have also been made with such applications. Field studies were conducted during the 2012 and 2013 growing seasons to evaluate the effect of various flutriafol rates and application methods on disease control yield. Flutriafol was applied in-furrow at rates of 16, 24 and 32 fl oz ac⁻¹ and compared to a non-treated control using a T-band applicator. Similar rates were evaluated in 2013 applied via T-band and Y-split applicators. Treatments were arranged in a randomized complete block design with four replications. Final stand counts, disease incidence and lint yield were used to compare treatments. Data were subjected to Analysis of Variance and means were separated using Fisher's Protected LSD ($P \leq 0.05$). In the rate trials, emergence was generally delayed with higher rates compared to the non-treated controls; however, final stands were not different among any treatments. The application of flutriafol reduced disease incidence in both studies; however, yields were only increased in 2012. Yields for the non-treated control averaged 1198 lb ac⁻¹ and were increased by 144, 189 and 219 lb ac⁻¹ for the 16, 24 and 32 fl oz ac⁻¹ rates, respectively. Phytotoxicity was observed for all rates when applied via the Y-split method. Substantial disease (45.8%) developed in the non-treated control; whereas, the application of flutriafol reduced the amount of disease <5% regardless of rate or application method. A corresponding yield increase of approximately 268 lb ac⁻¹ was observed for all flutriafol rates and application methods. These data show that flutriafol can be used to manage cotton root rot; however, additional studies investigating the potential phytotoxic effects may be warranted.