# MANAGEMENT OF COTTON SEEDLING DISEASE COMPLEXES

**S. Fichtner, T. A. Wheeler, H. W. Kaufman, T. Isakeit and S. Yang**
**Texas Agricultural Experiment Station**
**Lubbock, TX**

## Abstract

The objective of this research was to evaluate combinations of approaches for management of seedling diseases of cotton caused by soil-borne pathogens, including the use of resistance. An experiment was conducted to test combinations of seedling disease management tools for control of seedling disease complexes in fields naturally infested with the seedling disease pathogens. Treatments for each field included all available management tools: fungicide seed treatments (Baytan 30 + Allegiance + Thiram versus Vitavax-PCNB + Allegiance); an in-furrow fungicide (Ridomil PC +/-) at planting; varieties (Paymaster [PM] 2326RR, PM 2200, 94t#49 1524-1); and a nematicide (Temik 15G +/-). A susceptible cultivar with no seed applied fungicides was included as a control. Seed treated with a fungicide active against *Thielaviopsis basicola*, although slower to emerge, had better control (P=0.0001) of *T. basicola* in several of the fields. The variety 94t#49 1524-1 had much lower emergence (P=0.0001) when Temik was applied as compared to no Temik. Overall emergence of this variety was much lower than the others but this was likely due to the seed having come from a previous dryland study while the other varieties came from selfed seed. No significant increases in emergence were observed with the addition of an in-furrow fungicide in any of our trials in the Texas High Plains. Other sites for our trials were selected throughout the state to observe any variability based on location. Our trial in central Texas was the only site that we observed a significant improvement (P=0.0002) in emergence with the addition of an in-furrow fungicide. This was likely due to much higher densities of the pathogens in the moist blackland soils of central Texas. The overall yields from all four sites showed a significant increase (P=0.0005) in yield with the addition of Temik, the greatest response was observed with PM 2326.

Reprinted from the *Proceedings of the Beltwide Cotton Conference*
Volume 1:144-145 (2001)
National Cotton Council, Memphis TN