2004 BELTWIDE COTTON CONFERENCES, SAN ANTONIO, TX – JANUARY 5-9

EFFECTS OF *RHIZOCTONIA* AND *PYTHIUM* SPP. ON COTTON STAND ESTABLISHMENT IN MISSISSIPPI

Gabriel L. Sciumbato, Bonnie B. Cook, and J. Anna Blessitt
MSU/MAFES/DREC
Stoneville, MS

In 2002 and 2003, three studies were conducted at the Delta Research and Extension Center, Stoneville, MS, to compare seedling survival after inoculation with *Pythium, Rhizoctonia*, none, or both. These studies included the 2002 Beltwide Seed Treatment Trial, 2003 Beltwide Seed Treatment Trial, and the 2003 Cotton Extension Demonstration Trial. Significant differences were seen in all trials and varied between seed treatment. In 2002, the disease pressure was significantly higher than in 2003. Over all results, *Pythium* alone produced results closest to the untreated plots, indicating lower injury. *Rhizoctonia* and the mix of *Pythium/Rhizoctonia* significantly decreased stand counts. In some instances, the mix of *Pythium/Rhizoctonia* showed a slightly antagonistic relationship compared to *Rhizoctonia* alone. *Rhizoctonia* was the main cause of seedling disease loss. In the 2003 Cotton Extension Demonstration Trial, the lowest seedling stand counts were observed with *Rhizoctonia* treated plots. Those inoculated with *Rhizoctonia* and *Pythium* were similar to those inoculated with *Rhizoctonia* alone. Plots inoculated with *Pythium* alone had slightly reduced seedling stand counts over the untreated non-inoculated plots. In the 2003 Beltwide Seed Treatment Trial, the highest seedling survival for non-inoculated controls was obtained with RTU-PCNB (14.5 oz/cwt) at two weeks and with Vitavax PCNB (6.0 oz/cwt) +Allegiance (0.75/cwt) at four weeks. For *Pythium* infested seedlings, best stand counts were obtained from treatment with Apron XL-TL (1.0 oz/cwt) + Nu-Flow M HF (2.5 oz/cwt) + Nu-Flow ND (7.5oz/cwt) at two weeks and Dynasty (3.9 oz/cwt) at four weeks. *Rhizoctonia* infested seedling stand counts were highest with Apron XL-TL (1.0 oz/cwt) + Nu-Flow M HF (2.5 oz/cwt) + Nu-Flow ND (14.5 oz/cwt) at two weeks and L0020 (0.75 oz/cwt) + L0288 (0.2 oz/cwt) + L0189 (3.0 oz/cwt) at four weeks. The seedlings infested with both gave highest seedling survival with Apron XL-TL (1.0 oz/cwt) + Nu-Flow M HF (2.5oz/cwt) + Nu-Flow ND (14.5 oz/cwt) at two weeks and again at four weeks. In the 2002 Beltwide Seed Treatment Trial, the highest seedling survival for non-inoculated controls was obtained with RTU-PCNB (14.5 oz/cwt) at two weeks and with RTU Baytan Thiram (3.0 oz/cwt) + Allegiance LS (1.2 oz/cwt) + L1006 (0.6 oz/cwt) + L1080 (0.5 oz/cwt) at four weeks. For *Pythium* infested seedlings, best stand counts were obtained from treatment with RTU Baytan Thiram (3.0 oz/cwt) + Allegiance LS (1.2 oz/cwt) + L1006 (0.6/cwt) + L1080 (0.5 oz/cwt) at two weeks and Apron XL-TL (1.0 oz/cwt) + Nu-Coat (7.5 oz/cwt) + Weco 0257 (0.5 oz/cwt) at four weeks. *Rhizoctonia* infested seedling stand counts were highest with RTU Baytan Thiram (3.0 oz/cwt) + Allegiance LS (1.2 oz/cwt) + L1006 (0.6 oz/cwt) + L1080 (0.5 oz/cwt) at two weeks and four weeks. The seedlings infested with both gave highest seedling survival with RTU Baytan Thiram (3.0 oz/cwt) + Allegiance LS (1.2 oz/cwt) + L1006 (0.6 oz/cwt) + L1080 (0.5 oz/cwt) at two weeks and again at four weeks. All data was combined on inoculation type. The results showed no significant differences between the *Rhizoctonia* inoculation and inoculation with the *Pythium-Rhizoctonia* mixture. These two treatments had the most depressed seedling counts overall. The *Pythium* inoculation showed slight depression in stand counts over the non-inoculated group.