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EVALUATION OF COMMERCIAL AND EXPERIMENTAL SEED TREATMENTS ON COTTON STAND IN ALABAMA AND MISSISSIPPI

Jacobo Cáceres
Mississippi State University
Miss State, MS
Kathy S. Lawrence
Auburn University
Auburn, AL
Gary W. Lawrence
Mississippi State Universtiy
Mississippi State, MS

Abstract Only

Allegiance FL / RTU Baytan-Thiram 1.76, Dynasty CST / Systhane 40 WP, Terraclor Super X 18.8G and combinations of experimental seed treatments were evaluated for cotton stand establishment under enhanced and natural pathogen populations. Tests were conducted at the Tennessee Valley Research and Extension Center in Belle Mina and the E.V. Smith Research Center in Tallassee Alabama and the R.R. Foil Plant Science Research Center at Mississippi State University, MS. Plots consisted of 2 or 4 rows 25 to 40 foot long and 36-40 inch row spacing depending on location and arranged in a randomize complete block design. Half of each plot was infested in the furrow, at planting time, with a mixture of winter rye grown *Rhizoctonia solani* and pearl millet grown *Pythium ultimum*. Blocks were separated by 12 -20 ft. alley. At 28 days after planting significant treatment differences were found in cotton seedling stand in the enhanced pathogen plots at both Alabama locations but not in the natural pathogen populations. Few differences between treatments were found for seedling stand in the enhanced or natural pathogen plots at the Mississippi State University location. Analyzing seedling stands across locations a significant location, treatment and treatment by location interaction was determined indicating treatment response is influenced by environment and pathogen of a given site. At the E.V. Smith Research Center all of the fungicide treatments increased yields over the control ($P< 0.05$). Averaging all fungicide treatment yields together produced an increase of 1004 lb seed cotton per acre compared to the untreated control in the enhanced disease plots. Under natural disease pressure eight of the nine seed treatment fungicides increased yields over the control ($P< 0.05$), yield was increased by 597 lb of seed cotton per acre as compared to the control. At the Tennessee Valley Research and Extension Center in Belle Mina under enhanced disease pressure all the treatments produced and increase in yield over the untreated control ($P< 0.05$), averaging yield increase across seed treatments of 2455 lb of seed cotton. Under natural disease pressure seven of the nine seed treatment fungicides increased yields over the control ($P< 0.05$), yield was increased by 467 lb of seed cotton per acre as compared to the control. At the R.R. Foil Plant Science Research Center in Miss. under enhanced and natural disease pressure all the fungicide seed treatments increased yields, 1039 lb/A and 894 lb/A of seed cotton, respectively, over the untreated control ($P< 0.05$).