## VALUE OF THE USE OF IN-FURROW FUNGICIDES FOR COTTON M. L. Buchanan, Craig S. Rothrock and E. E. Gbur

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## **Abstract Only**

The value of in-furrow and hopper-box (custom seed) fungicide applications was examined by analyzing data from 118 in-furrow and hopper-box studies from Arkansas, Louisiana, and Georgia, conducted at experiment station sites and in growers' fields between 1996 and 2004. Plant stand, seedling disease severity, pathogen isolations, soil pathogen populations, stand uniformity, and yield data were collected from most sites. Environment at or shortly after planting was found to be the major factor affecting cotton seedling disease severity, and predicting the probability of a response from in-furrow fungicide applications. Plant stands significantly decreased as rainfall increased in the first three days after planting. These stand reductions were primarily a result of soil factors other than seedling diseases. Minimum soil temperature the first three days after planting was more important in determining seedling disease severity. At minimum soil temperatures below approximately 60°F, in-furrow fungicide applications improved stands 80% of the time. Rainfall the first three days after planting had a greater impact on yield from in-furrow fungicide applications than minimum soil temperature, probably by improving health and vigor of the surviving seedlings. Hopper-box fungicide treatments were included in only 38 tests and appeared to be less effective or similar to in-furrow fungicide applications, depending on the plant measurement examined. In the 98 studies where yields were recorded, lint yields were increased sufficiently in only 34 in-furrow studies to pay for the cost of the application, emphasizing the importance of spending money for in-furrow fungicides only under environmental conditions when seedling diseases pressure will be severe enough to warrant the investment in additional fungicides.