

PERFORMANCE OF EARLY CONVENTIONAL STRAINS IN THE COASTAL REGION OF TEXAS

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Abstract

In 1996 the cotton industry saw the introduction of the first genetically engineered cotton varieties and a subsequent increase in their use. Although these technologies are and will remain a very important tool in the effort to increase productivity and profits for cotton producers, the foundation still lies in the ability of the base variety to produce high lint yields under varying environmental conditions and management practices. The objective of this study is to effectively evaluate the performance of early conventional strains under varying growing conditions and management practices on coastal region of Texas. This study compared the performance of 22 Sure-Grow early conventional strains to 3 Sure-Grow varieties and 3 competitor checks in five yield performance trails planted at 5 Texas sites during 1997 and 1998. All trials were on-farm sites utilizing 2 row x 40-foot plots in a randomized complete block design, replicated four times. Stand counts and seedling vigor ratings were taken at approximately 10 days after planting and plant mapping was conducted at early square, bloom and harvest. Maturity was determined by open boll counts that were recorded when the field was approximately 30% open. Yield was determined by machine-harvesting each two-row plot in all four replicates. Fifty boll samples were hand-picked from each plot in two of the four replicates to determine lint percent and fiber quality. The information utilized to evaluate the performance of the individual cultivars and strains included seedling vigor, plant stand, final plant height, height-to-node ratio, maturity index, yield, and fiber quality. Seedling vigor, final plant height, height-to-node ratio, maturity, yield, and fiber quality differed significantly among cultivars and strains, while no significant differences were observed for plant stand. Of the 22 strains evaluated, 5 have exhibited a level of performance to warrant continued testing in 1999, while the remainder will no longer be included. One of the 5 strains, SG 747 has performed exceptionally well in this region and additional tests throughout the cottonbelt. It is being released for sale in 1999.