

Large Scale SDI Cotton Variety Test (Field 6A-F)

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Objective: Determine lint yield response to high yielding cotton varieties irrigated by SDI tape in a field scale experiment.

Methodology: Four high yielding cotton varieties were planted in 8-row x 1650 ft long SDI plots replicated 12 times. Planting occurred on May 5 on stale seed cotton seedbeds. Nitrogen was applied during irrigation. A growth regulator (2 applications x 8 oz of Pential/application) was applied at appropriate times in all plots except those of the PM2200BR variety. Seasonal irrigations totaled 12.7 inches. Cotton was harvested with a 4-row John Deere 4550 stripper. Yields were determined by weighing burr cotton from a 4-rows by 1650 feet area in each plot using a calibrated, weighing boll buggy and estimating lint yields using the turnout of smaller stripper harvested samples from each plot. Fiber analysis was conducted at the International Textile Center and cotton loan values were determined on fiber quality.

Results: There has been much concern over harvest losses of the less stormproof cotton varieties on the South Plains as producers have switched to these cultivars in an effort to improve yield and water use efficiencies. However, cotton yields in 2004 were very high considering the cool temperatures in August and the 12-inch snowfall and 5-inch rainfall event in November. The figure below compares four of these varieties. Although harvest losses may have reached 200 lb lint/ac, all yields were extremely high.

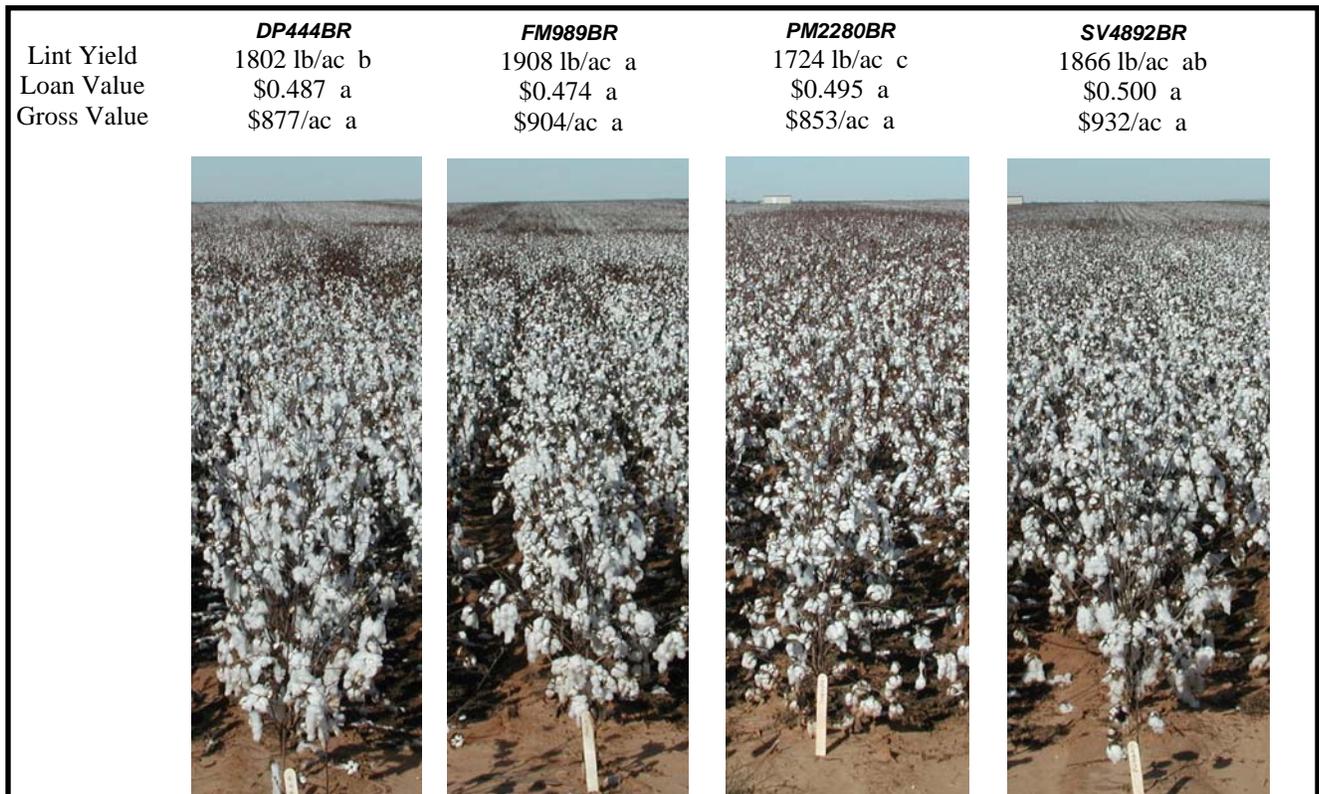


Fig. 1. Comparison of high production cotton varieties, lint yields, loan values, and gross values irrigated in a farm scale subsurface drip irrigated experiment at the Helms Research Farm, 2004.