# GROWTH AND YIELDS OF COTTON VARIETIES UNDER ULTRA-NARROW AND WIDE-ROW SPACINGS

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## Abstract

Ultra narrow row (UNR) production methods for cotton may provide opportunities for cotton growers to improve their profitability. Basic agronomic factors such as the best varieties, optimum nitrogen rates and plant populations need to be established for the Mississippi Delta. Field studies were conducted in 1998 and 1999 on the Southern Weed Science research farm to compare the yields of 11 non-transgenic varieties and determine optimum nitrogen rates for UNR cotton. UNR cotton was planted on ten inch rows at a population of 200,000 seed per acre in 1998 and 125,000 seed per acre in 1999. Seed cotton yields were estimated from handpicked plots. Seed cotton yields were not significantly different under UNR and wide row conditions in both years although in most cases the seed cotton yield was higher for wide row cotton. The average yields across all varieties in 1998 and 1999 were 605 and 1011 pounds per acre, respectively, for UNR, and 738 and 1114 pounds per acre, respectively, for wide row. Under UNR conditions, boll retention for each variety was similar with most bolls found between the sixth and fourteenth nodes. Boll set occurred over a five-week period. Nitrogen rate influenced boll retention. As the nitrogen rate increased, boll retention increased between nodes twelve and sixteen. The optimum rate was approximately 100 pounds of N per acre. These results show that UNR methods are comparable to wide row methods in yield. Furthermore, plant populations of 85,000 and nitrogen rates of 100 pounds per acre were sufficient to obtain maximum yields in these years.

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