

**PLANTING DATES AND POPULATIONS
FOR UNR COTTON IN CENTRAL ALABAMA**

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Abstract

Cotton is traditionally planted in Central Alabama in wide (36-40 inch) rows from mid-April to late May. Cotton planted after these dates often suffers yield declines, but early planting limits the use of cover crops and double cropping. Ultra Narrow Row (UNR) cotton at high populations requires only 3-4 bolls per stalk for high yields, which may correspond to a shorter growing season. Ultra Narrow Row cotton has been successfully planted in early June with conservation tillage in the area. However, it is not known what the optimum planting dates are.

Ultra Narrow Row cotton is also grown at relatively high plant populations to facilitate harvesting with a finger-harvester. Recommendations range from 80,000 to 200,000 plants/Acre. Since seed costs, particularly for transgenic varieties, are high, optimum plant populations need to be more precisely defined.

A study was begun at the EV Smith Research Center in Central AL in 1998 to investigate the optimum planting dates and plant populations for UNR cotton. Paymaster PM 1220 BG/RR was planted with a no-till drill in a 4-replication, split-plot design in early May, June and July and thinned to 80-, 120-, 160-, and 200,000 plants/A three weeks after planting. All plots were maintained weed-free, and treated with insecticides and growth regulators as needed. Due to mechanical problems, only the 80- and 120,000 populations planted in May were available for data collection.

There was an interaction of planting date and population for lint yield, with 80,000 plants/A yielding 1008 lb/A vs 1232 lb/A for 120,000 plants/A from the May planting. In June the trend was reversed, with 80-, 120-, 160-, and 200,000 plants/A yielding 1045, 981, 878, and 868 lb of lint/A respectively. Maturity was earlier with higher populations in May, but reversed for June. All July plots yielded less than 140 lb/A lint, due to late maturity, although total boll counts were equivalent to earlier planted plots. Many of these differences can be explained due to extremely hot, dry

weather in late July/early August, and mid-August/September.

Burs and sticks accounted for over 17% of the machine-harvested seedcotton, but lint turnout was still over 32%. In summary, May planting and 120,000 plants per acre gave the highest lint yields, but all May and June plantings yielded over 850 lb/A. July plantings never opened fully and yielded less than 140 lb/A.

Based on one year's data, it appears that May planting of UNR cotton is preferable to later plantings in a dry year. Plant population trends were less clear, with higher populations giving a yield to May planting, but not when planted in June. It also appears that July plantings in this area may be too late for economical UNR cotton production when dry weather inhibits early plant growth.