

**POTENTIAL FOR COTORAN CARRYOVER
TO FLUE-CURED TOBACCO**

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Abstract

Research was conducted at two locations over three years to determine the potential for Cotoran to carry over to flue-cured tobacco. Four two- year cotton/tobacco rotations were established, beginning in 1995 and 1996. Two were established at the Upper Coastal Plain Research Station near Rocky Mount, NC and two at the Lower Coastal Plain Research Station near Kinston. Cotton plots were 8 wide rows x 60 feet. The following year, tobacco plots were 6 rows transplanted in the center 40 feet of the previous year's plot. Treatments consisted of Cotoran applied preemergence either broadcast at 1.5 lb ai/a or as a 50% band at 1.5 lb ai/a (0.75 lb ai/planted acre) followed by none, one, or two POST-directed applications of Cotoran in a 50% band at 1.5 lb ai/a (0.75 lb ai/planted acre). Early POST-directed applications were made when cotton was 4-6 inches tall and late POST-directed applications were made to 8-12 inch cotton. After cotton harvest, fields were disked once. Prior to tobacco transplanting, fields were disked twice and bedded. All tillage operations were parallel to cotton rows.

Visual injury and chlorosis were estimated at 2, 4, and 6 weeks after transplanting. Tobacco yield, quality indices, and value were also recorded. No statistical differences were seen between the methods of preemergence application for any of these parameters. Only POST-directed application effects were present. Although both visual injury and chlorosis were present at 4 weeks after transplanting, they were most severe at the 6-week evaluation. At that time, statistically significant injury was observed at three of the locations, with no differences observed at the Kinston site in 1997. However, the highest numeric injury value was less than 13%. Percentage of plants showing chlorotic symptoms was also significant at three locations; the Kinston site in 1997 again showed no differences. Percent of plants with significant chlorosis ranged from 23 to 29. However, chlorosis on individual plants was mild. Data for tobacco yield, quality, and value were pooled across locations as well as preemergence application methods. No significant differences occurred among treatments for any of these parameters.