

GROWTH AND FRUITING HABITS OF DP 555 BG/RR IN VARIOUS ROW PATTERNS AND PLANT SPACINGS**Herbert T. Miller IV****Mississippi State University****Starkville, MS****Johnie N. Jenkins and Jack C. McCarty****USDA-ARS****Mississippi State, MS****Abstract**

A study to evaluate the response of Deltapine 555 BG/RR at three different row patterns (one planted : one skipped, two planted : one skipped, and solid) and three intra-row plant spacings (3, 6, and 12 inches between plants) was conducted at the Mississippi State University Plant Science Farm in 2003 and 2004. At maturity, boll samples were hand harvested from all plots for analysis of boll weight and lint percent. Boll weight was greater in the 12" plant spacing and 1:1 row pattern compared to the other treatments. Lint percent was affected by all row patterns. Lint percent for the solid, 2:1, and 1:1 was 47.44, 46.78, and 46.0 respectively. The aforementioned yield components were analyzed over 2003 and 2004. The row pattern treatments had a significant impact on lint yield A⁻¹. Lint yield for 1:1, 2:1, and solid were 1318, 1383, and 1474 lbs. A⁻¹ respectively. These yields are based on a land acre basis. The plant spacing treatments resulted in different results each year with respect to yield, so analysis was performed separately each year. In 2003, yield data suggests that plant spacing exhibits essentially no effect on lint yield. The lint yields in 2003 were 1736, 1705, and 1695 lbs. A⁻¹ for the 3", 6", and 12" spacings respectively. Whereas in 2004, all plant spacing treatments differed significantly with respect to lint yield. The lint yields in 2004 were 1154, 1039, and 954 lbs. A⁻¹ for the 3", 6", and 12" spacings respectively. Plants were box mapped before harvest to determine the distribution of yield over the plant. In 2003, the plant spacing had no effect on overall lint yield, but had a significant effect on the distribution. The amount of lint produced by vegetative nodes and second position bolls increased significantly with each increase in plant spacing. In 2004, each increase in plant spacing resulted in a significant decrease in overall yield. However, as in 2003, the percentage of the second position bolls and vegetative contribution to yield increased with each increase in the plant spacing. A higher percentage of yield produced by vegetative nodes and second position bolls will have implications in the way the crop should be managed.