

**INFLUENCE OF FOUR PLANT POPULATIONS ON BOLL RETENTION AND LINT YIELD ON FOUR COMMERCIAL CULTIVARS****Liberty Cash III****Mississippi State University****Starkville, MS****Johnie N. Jenkins and Jack C. McCarty****USDA, ARS****Mississippi State, MS****Abstract**

Plant spacing is more important than ever due to increased cost of seed with value added traits. The objectives of this study were to investigate boll retention and yield components on 4 commercial cultivars using 4 different plant populations. The study was conducted at the Plant Science Research Center, Mississippi State, MS in 2003 and 2004. Four mid-south commercial cultivars were evaluated at 4 different plant populations, for boll retention and lint yield. The four cultivars were Deltapine (DP 555 BG/RR), Deltapine (DP 444 BG/RR), SureGrow (SG 215 BG/RR), and Stoneville (ST 4892 BG/RR) and the 4 plant populations were 3, 6, 9, and 12 inch spacing or 55023, 27511, 18336, and 13756 plants per acre, respectively. Each plot consisted of four rows planted in a 4 planted/2 row skip. Ten plants from each inside row were mapped after plots were defoliated to determine boll retention. Cotton yields were determined with a mechanical picker; hand weighed in 2003 and weighed using load cells on a customized picker in 2004. In 2003, the solid planted overall mean yields ranged from 1471 lbs/A for DP 555 BG/RR to 1270 lbs/A for DP 444 BG/RR. In 2004, the solid planted overall mean yields ranged from 1174 lbs/A for DP 555 BG/RR to 695 lbs/A for DP 444 BG/RR. In 2003, in the solid planted there was no significant difference between the plant spacings with respect to mean yield. In 2004, in the solid planted the 3 inch plant spacing was significantly higher than the other plant spacings with respect to mean yield.