SOLID, SKIP, AND WIDE ROW CONFIGURATIONS IN MS COTTON S.P. Nichols and C.E. Snipes MAFES Delta Research and Extension Center Mississippi State University B.A. Burgess, T.P. Wallace, and W.H. McCarty Department of Plant and Soil Science Mississippi State University

Abstract

Low cotton (*Gossypium hirsutum* L.) prices and high production costs have triggered interest in alternative cotton production systems in Mississippi with the predominant goal of increasing returns. Cropping adjustments being used include ultranarrow row, no-till, reduced tillage, skip-row, and wide-row production systems. Fewer linear feet of row per acre suggests potential savings in seed, chemical, and harvest costs and increased returns if yields can be maintained near that achieved on a solid planted basis. Field studies were conducted at the Delta Research and Extension Center in Stoneville, MS and at the North Mississippi Research and Extension Center in Verona, MS to evaluate easily adaptable row spacings compared to 30in. solid row pattern in 2001 and 2002. An early maturing variety, PM 1218BR, and a mid-maturing variety, DP 458BR, were evaluated in 30-in. solid, 30-in. 2x1 skip, and 30-in. 1x1skip (60-in. solid) row spacings in both years. Additionally, the varieties were evaluated in 40-in. solid, 40-in. 2x1 skip, and 40-in. 4x1 skip at the Stoneville location in 2002.

2001 Results

Lint yields were not different on a land basis for PM 1218BR and DP 458BR at the Verona, MS location, averaging 887 and 870 lb/A, respectively. At the Stoneville, MS location, PM 1218BR yielded higher than DP 458BR on a land basis, producing 176 lbs. more lint per acre. Percent lint was higher for PM 1218BR at both locations. In addition, row configuration had a significant effect on lint yields with cotton planted in 30-in. solid rows yielding higher than the alternative row spacings on a land basis at both locations. The 2x1 skip row pattern produced approximately 74% of the solid planted yield on a land acre basis while the 30-in. 1x1 skip row spacing produced approximately 72%. Row configuration did not affect percent lint at either location.

2002 Results

At the Verona, MS location, lint yields were not different on a land basis for PM 1218BR and DP 458BR, averaging 1009 and 969 lbs/A, respectively. Row configuration affected lint yields with cotton planted in 30-in. solid and 30-in. 1x1 skip producing more lint than cotton planted in 30-in. 2x1 skip. There was no difference in lint yield between 30-in. solid and 30-in. 1x1 skip row spacings. Percent lint was 1.5% higher for PM 1218BR compared to DP 458BR, with lint percent averaging 41.0 and 39.5%, respectively.

At the Stoneville, MS location, lint yields were not different for PM 1218BR and DP 458BR averaging 1112 and 1001 lb/A, respectively. There were no differences in lint percent for the two varieties. Averaged across row spacings, cotton planted in 30-in. rows produced higher lint yields than cotton planted in 40-in. rows with a difference of 215 lb lint/A. In 30-in. rows, 30-in. 1x1 skip produced higher lint yields than all other spacings on a land basis. Lint yields were 1084, 1103, and 1306 lb/A for 30-in. solid, 30-in. 2x1 skip, and 30-in. 1x1 skip, respectively. In 40-in. rows, solid planted cotton produced higher lint yields than skip row patterns on a land basis averaging 1052, 956, and 839 lb/A for 40-in. solid, 40-in. 2x1 skip, and 40-in. 4x1 skip, respectively. There were no differences in percent lint due to variety, row spacing, or row configuration.