Variation in Cotton Fiber Quality as a Function of Fruiting Position and Population Density. (C03-bednarz070051-Poster)

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Abstract:

One approach to potentially influence magnitude and variation of fiber properties lies in varying plant populations and/or row widths, thus manipulating where the cotton plant produces most of its yield. This strategy exploits the natural capability of cotton to produce many more fruiting forms than it has the capacity to mature. Numerous studies throughout the 20th century have investigated effects of plant density (between row distance and within-row plant spacing) mostly to address maximizing yield and fewer on magnitude of fiber properties. In summary, as plant density increases either through closer within row spacing and/or between row spacing, the cotton plant produces fewer bolls per plant and the length of the fruiting period is condensed. As the length of the fruiting period decreases, more of the fiber develops under similar environmental conditions, which could promote uniformity of fiber length and maturity, the properties of fiber that largely dictate success and quality of yarn and textile manufacture. The objectives of this study were to determine if plant density and fruiting sites that contribute to yield can modulate magnitude and variation in fiber properties.

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1323

Keywords:

Cotton, Fiber Quality, Population Density