

**VARYING COTTON PLANT DENSITIES IN CALIFORNIA  
ULTRA-NARROW ROW COTTON  
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**Abstract**

The rising costs of cotton (*Gossypium hirsutum* L.) production and the subsequent low returns for the commodity have spurred renewed interest in ultra-narrow row cotton (UNRC) production. UNRC has the potential to reduce production costs by shortening the growing season without sacrificing yield. A one-year field study was conducted on the Tulare lake bottom of California to document the differences in crop development, maturity, yield, and quality of cotton grown in ultra-narrow and conventional row spacing. Cotton grown in 15-inch row spacings with densities ranging from 70,000 to 14,000 plants A<sup>-1</sup> were compared to cotton grown in conventional 30-inch row spacings. Plant height and total main-stem node counts tended to be reduced throughout the growing season in the ultra-narrow row spacing. The highest node with a harvestable boll and the number of nodes with harvestable bolls were significantly altered. As the population densities increased within the 15-inch row spacing, the highest harvestable boll was set on lower nodes. The number of nodes with a harvestable boll also decreased as the population densities increased. Despite the differences observed in fruiting patterns there were no differences in crop maturity rates. Yields were in excess of 1433.5 pounds A<sup>-1</sup> in all treatments with no significant differences. The fiber quality parameters of micronaire, strength, and length were not adversely affected by the treatments. The data from this study indicates that production is not compromised with ultra-narrow row production. The data also indicates that elevating the plant densities above 70,000 plants A<sup>-1</sup> does not appear to be advantageous.