INTRODUCTION:
One approach to improving cotton yield and quality is to identify crop management practices that may exploit the most basic (i.e. within-boll) yield components. One of the parameters that may influence within-boll yield components is plant density.

OBJECTIVES:
The objectives of this investigation were to determine how yield components in cotton are altered through plant density management.

MATERIALS AND METHODS:
Two cotton cultivars were over seeded and hand thinned to 3.6, 9.0, 12.6 and 21.5 plants per square meter in 2001 and 2002. Prior to machine harvest, plants from 6 meter of one row were removed from each plot and hand harvested by fruiting position. After hand harvest, seed cotton from each fruiting position was ginned separately. Boll number, lint mass, seed number, seed mass, seed surface area and fiber properties were determined for each fruiting position. These data were then used for yield component calculations.

RESULTS:
Lint mass per boll, individual seed mass and seed number per boll decreased as plant density increased while total seed surface area per square meter of land area increased, which resulted in increased lint yield per square meter of land area. Lint mass per square centimeter of seed surface area and fiber number per seed did not consistently respond to plant density.

CONCLUSIONS:
These results indicate that plant density management may influence total seed surface area per unit land area. Most within-boll yield components, however, appear to be controlled more by cultivar than crop management.