

**VARIATION IN NUMBER OF TRICHOMES  
ON COTTON STEMS, LEAVES, AND BRACTS  
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**Abstract**

Genetics and effects of trichomes on leaves and stems have been extensively studied. Trichomes on leaves have been associated with increased trash grades in lint. Although the major source of trash in harvested seedcotton is bracts, little attention has been given to trichomes on bracts. The objectives of this study were to determine the variation in bract trichomes associated with cultivars and locations, to determine the relationship of trichomes on leaves, stems and bracts, and to determine if trichomes can be visually rated. For the first objective, trichomes on the margins of bracts for cultivars at multiple locations of the 1999 and 2000 Arkansas Cotton Variety Test were evaluated. For the last two objectives, number of trichomes on leaves, stems and bracts of three segregating populations were counted and rated in 2000. Number of marginal bract trichomes on cultivars varied significantly within and across locations in both 1999 and 2000. A significant cultivar by location interaction for number of bract trichomes was found in 2000 but not in 1999. When one stressed environment was removed, the interaction observed in 2000 became non-significant. Number of trichomes on leaves, bracts, and stems were significantly correlated, but the relative low magnitude of the coefficients suggest some level of independence of the traits. Distinct variation in number of trichomes were found between visual ratings of leaves and stems. However, differences between visual ratings of bract trichomes were not distinct. These results indicate that genetic variation for marginal bract trichomes exist in commercial cultivars. Bract trichomes may be characterized at one location, if stress is minimized. Number of bract trichomes tends to be increase with leaf and stem trichomes, but the linkage is not strong. Leaf and stem, but not bract, trichomes can be visually rated.