



**RESEARCH ARTICLE :**

## Effect of plant geometry on light interception and weed density in cotton under rainfed vertisols

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High density planting system, Weed density, Light interception

**SUMMARY :** Field experiments were conducted to study the influence of high density planting system in cotton genotypes on the growth and yield and its influence on light interception and weed density during *winter* season of 2011-12 and 2012-13. The experiments were laid out in strip plot design and replicated thrice with four cotton genotypes *viz.*, SVPR 3, Anjali, Suraj and LH 900 and four spacings *viz.*, 30 × 30 cm, 45 × 30 cm, 60 × 30 cm and 90 × 30 cm. In the experimental field, broad leaved weeds were the dominant weeds followed by sedges and grasses. In the year 2011-12 and 2012-13, the weed species of *Cynodactylon*, *Panicumrepens*, *Rotobolacochinsinensis* among grasses. *Cyperusrotundus* was the only sedge weed found in the experimental site. *Trianthemaportulacastrum*, *Partheniumhysterophorus*, *Digeraarvensis*, *Amaranthusviridis*, *Corchorusolitorius* and *Euphorbia hirta* were predominant broad leaved weeds flora found in experimental field. The weed density and their dry matter production were lower at closer plant spacing of 30 × 30 cm and 45 × 30 cm. From this study, it could be concluded and recommended that Anjali variety adopted with a closer plant spacing of 30 × 30 cm for higher seed cotton yield and profitability in rainfed condition.

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