



Response of Bt cotton hybrids on planting density and fertility levels on growth and yield

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Abstract : The field experiments were conducted at Zonal Agricultural Research Station, Babbur farm, Hiriyur, University of Agricultural Sciences, Bangalore during *Kharif* 2008 and 2009 under irrigated conditions. The site is located in the central dry zone (zone-4) of Karnataka, India. Treatments of the present investigation included three levels of fertility (150, 100 and 75 per cent of Rec. $\text{N}_2\text{O}_5\text{K}_2\text{O}$ kg/ha) and four levels of spacing (120x120cm, 120x90cm, 90x60cm and 60x45cm) with two Bt cotton hybrid viz., Rasi-530Bt (HxH) and MRC-6918 Bt (H x B). Yield loss of cotton was estimated based on linear and quadratic equations. The equation was fitted using leaf area with number of boll dropped at different stages of crop growth. Adoption of cotton Rasi-530 Bt hybrid (H x H) was found significantly superior in respect of higher seed cotton yield (2731.3kg/ha) as compared to MRC-6918 Bt (H x H) (2641.2 kg/ha). Similarly, predicated seed yield based on linear and quadratic equation, lower the seed yield of MRC-6918 Bt by 302.5 kg /ha. Adoption of optimum spacing of 90x60 cm (18158.5 plants /ha) recorded significantly higher seed cotton yield (2803.3 kg/ha) followed by other spacing and higher dense population (24691.3 plants /ha) has obtained lower seed cotton yield (2602.7kg/ha) and predicated yield loss was marginally lesser in recommended optimum spacing 90x90cm (224.7 kg/ha) i.e. 90x60cm. Predicated seed cotton yield in 100 per cent recommended dose of fertilizer was found less yield loss (842.7 kg/ha) over 75 per cent recommended dose of fertilizer (1262.0 kg/ha) as compared to 150 recommended dose of fertilizer.

Key Words : Bt cotton, Planting density, Fertility levels

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