Yield and Fiber Quality Parameters of *Bt* Cotton (*Gossypium hirsutum* L.) Genotypes Under Water Stress and Non-Stress Conditions

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ABSTRACT

A two-year field study was carried out at the Agricultural College Farm, Bapatla in *kharif* 2009 and *kharif* 2010, with the aim of evaluating 12 *Bt* cotton hybrids for yield and fiber quality parameters under irrigated (non-stress) and rainfed (water stress) conditions.The results revealed that significant differences were observed between irrigated and rainfed treatments and also among *Bt* cotton hybrids for seed cotton yield and all fiber quality parameters. Cotton hybrids under rainfed condition recorded 39.32 and 25.62 per cent reduction in seed cotton yield compared to irrigated condition in both the years respectively. Tulasi 9 BG-II, Tulasi 9 BG-I and Bunny BG-I produced higher seed cotton yield under rainfed (water stress) conditions, while Tulasi 9 BG-II produced higher seed cotton yield under irrigated (non-stress) conditions also than the other hybrids in both the years. Fiber quality parameters were also negatively affected by rainfed (water stress) treatment. 2.5 per cent span length, bundle strength, uniformity ratio, fiber fineness and fiber elongation decreased under water stress (rainfed) compared to non-stress conditions.

Key words : Cotton, Fiber quality parameters, Irrigated condition,Water stress (rainfed), Yield.