

Morpho-Physiological parameters and fiber qualities of *Bt* cotton hybrids as influenced by foliar application of plant growth regulators and macronutrients

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ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla, during *Kharif* 2013-14 and 2014-15 to study the influence of plant growth regulators and nutrients on growth parameters and quality of *Bt* cotton. Significant differences were observed among the parameters studied during two years. Morphological parameters of cotton such as plant height, and physiological parameters *viz.*, leaf area, and total dry matter production at various stages of crop growth were greatly influenced by foliar application of NPK with NAA@ 30 ppm and GA₃@ 30 ppm. The fiber quality parameters (Ginning percentage, Span length 2.5 %, Bundle strength and Micronaire value) were significantly influenced by the use of nutrients and growth regulators. Spraying of GA₃ @30ppm in combination with KNO₃ @ 2 % recorded highest ginning percentage (37.74 and 38.39 %) , higher 2.5 % span length values (35.08 and 35.84 mm) in 2013 and 2014 respectively. GA₃ @ 30ppm in combination with urea @2%+ DAP @ 2%+ KNO₃ @ 2% (T₁₄) recorded highest mean bundle strength (25.41 g/tex) in 2013 and GA₃@30ppm in combination with KNO₃@ 2% recorded highest mean bundle strength (25.56 g/tex) 2014 .Higher seed cotton yield of 2470 kg ha⁻¹ in 2013 and 2916.7 kg ha⁻¹ in 2014 was obtained in cotton receiving GA₃ @ 30ppm in combination with KNO₃ @ 2 % (T₁₃).

Key words : *Bt Cotton hybrids, Growth regulators, Growth, Macro nutrients, quality and yield*