A field experiment was conducted during 2015-16 and 2016-17 at Agricultural Research Institute, Rajendranagar, Hyderabad to assess the performance of two cotton cultivars Bt (MRC 7201 BGII) and non-Bt (WGCV-48) in response to plant densities (P₁: 18,518 plants ha⁻¹, P₂: 55,555 plants ha⁻¹ and P₃: 1,48,148 plants ha⁻¹) and nitrogen fertilization (120, 150 and 180 kg N ha⁻¹). The results revealed that, during 2015 and 2016, among the two cultivars (V₁: MRC 7201 BG II, V₂: WGCV-48), MRC 7201 BGII cultivar showed higher plant height, crop dry matter plant⁻¹, leaf area index, number of main stem nodes plant⁻¹, number of sympodial branches plant⁻¹ over V₂: WGCV-48 cultivar in all growth stages.

Among the plant densities, even though the plant density of P₁: 18,518 plants ha⁻¹ showed more crop dry matter plant⁻¹, number of main stem nodes plant⁻¹, number of sympodial branches plant⁻¹ in all growth stages, but the plant density of P₃: 55,555 plants ha⁻¹ significantly more kapas yield (3319, 2726 kg ha⁻¹) with more number of bolls m⁻² (131, 116). However, remaining two plant densities P₂: 18518 plants ha⁻¹ and P₃: 1,48,148 plants ha⁻¹ were showed comparable yields. Regarding nitrogen levels (N₁: 120 kg ha⁻¹, N₂: 150 kg ha⁻¹ and N₃: 180 kg ha⁻¹) did not show any significant effect on growth and yield components in any stage of crop growth.

SUMMARY: A field experiment was conducted during 2015-16 and 2016-17 at Agricultural Research Institute, Rajendranagar, Hyderabad to assess the performance of two cotton cultivars Bt (MRC 7201 BGII) and non-Bt (WGCV-48) in response to plant densities (P₁: 18,518 plants ha⁻¹, P₂: 55,555 plants ha⁻¹ and P₃: 1,48,148 plants ha⁻¹) and nitrogen fertilization (120, 150 and 180 kg N ha⁻¹). The results revealed that, during 2015 and 2016, among the two cultivars (V₁: MRC 7201 BG II, V₂: WGCV-48), MRC 7201 BGII cultivar showed higher plant height, crop dry matter plant⁻¹, leaf area index, number of main stem nodes plant⁻¹, number of sympodial branches plant⁻¹ over V₂: WGCV-48 cultivar in all growth stages. Among the plant densities, even though the plant density of P₁: 18,518 plants ha⁻¹ showed more crop dry matter plant⁻¹, number of main stem nodes plant⁻¹, number of sympodial branches plant⁻¹ in all growth stages, but the plant density of P₃: 55,555 plants ha⁻¹ significantly more kapas yield (3319, 2726 kg ha⁻¹) with more number of bolls m⁻² (131, 116). However, remaining two plant densities P₂: 18518 plants ha⁻¹ and P₃: 1,48,148 plants ha⁻¹ were showed comparable yields. Regarding nitrogen levels (N₁: 120 kg ha⁻¹, N₂: 150 kg ha⁻¹ and N₃: 180 kg ha⁻¹) did not show any significant effect on growth and yield components in any stage of crop growth.