



RESEARCH ARTICLE :

Growth and yield of *Rabi* popcorn hybrid at varied plant densities and nitrogen levels

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SUMMARY : A field experiment was conducted during *Rabi* seasons of 2011-12 and 2012-13 at Maize Research Centre, ARI, Rajendranagar, Hyderabad to study the influence of varying plant densities and nitrogen levels on growth parameters and yield of BPCB-6, the first popcorn hybrid released by PJTSAU at national level. The experiment was laid out in Randomized Block Design with factorial concept with three plant densities (P_1 -1,11,111 ha⁻¹ (60 x 15 cm), P_2 -1,11,111 ha⁻¹ (45 x 20 cm) and P_3 -83,333 ha⁻¹ (60 x 20 cm) and four nitrogen levels (N_1 -80 kg ha⁻¹, N_2 - 120 kg ha⁻¹, N_3 -160 kg ha⁻¹ and N_4 -200 kg ha⁻¹) and replicated thrice. Mean data over 2 years indicated that plant height was significantly higher with high plant density of 1,11,111 ha⁻¹ (45x20 cm) and leaf area index was significantly higher with plant density of 1,11,111 ha⁻¹ (60x15 cm) whereas dry matter production (g plant⁻¹) was significantly higher with 83,333 ha⁻¹ (60x20 cm). Cob, grain and fodder yields were significantly higher with a plant density of 1,11,111 ha⁻¹ (60x15 cm). Application of 200 kg nitrogen ha⁻¹ gave significantly higher growth parameters and yield but it was on par with 160 kg N ha⁻¹ and both were superior over 120 and 80 kg N ha⁻¹. Interaction effect of plant densities and nitrogen levels on grain yield showed that significantly higher grain yield (6.0 t ha⁻¹) was obtained at a plant density of 1,11,111 ha⁻¹ (60x15 cm) with 200 kg N ha⁻¹ but it was on par with 160 kg N ha⁻¹ with the same plant density.

KEY WORDS:

Popcorn, *Rabi*, Plant densities, Nitrogen levels, Growth parameters, Yield

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