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 BPCH-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.