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Effect of nitrogen and phosphorus on growth, flowering and flower yield of China aster (*Callistephus chinensis* L. Nees) cv. POORNIMA

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ABSTRACT : The present investigation was carried out at Horticulture Research Station, Jambavadi Farm, Junagadh Agricultural University, Junagadh (Gujarat) during October 2014 to March 2015. The experiment was laid out in Factorial Randomized Block Design. The treatments comprised of two factors (1) nitrogen with four level viz., 150 kg N ha⁻¹(N₁), 200 kg N ha⁻¹(N₂), 250 kg N ha⁻¹(N₃), 300 kg N ha⁻¹(N₄) and three levels of phosphorus i.e. 100 kg P₂O₅ ha⁻¹(P₁), 150 kg P₂O₅ ha⁻¹(P₂), 200 kg P₂O₅ ha⁻¹(P₃) with three replications. Both the highest levels of N and P significantly improved growth parameters i.e. plant height (51.56 cm), plant spread (328.67 cm²), secondary branches per plant (17.67), fresh weight (137.22 g) and dry weight (69.78 g) in treatment N₄ (300 kg N ha⁻¹) whereas, in case of phosphorus the plant height (47.08 cm), plant spread (316.00 cm²), number of branches per plant (16.92), fresh weight (132.00 g) and dry weight (72 g) was noted in treatment P₃(200 kg P₂O₅ kg ha⁻¹). Maximum flowering span (79.11 days), number of flowers per plant (24.78) and yield of flowers (22.67 t ha⁻¹) were registered in 300 kg N ha⁻¹ treatment. Similarly, maximum flowering span (71.58 days), number of flowers per plant (23.58) and yield of flowers (22.08 t ha⁻¹) were registered in P₃ (200 kg P ha⁻¹). Thus, cultivation of China aster in medium black soil, the fertilizer application at the rate of 300 kg N ha⁻¹ in two splits (first half as basal application and remaining half at 30 days after transplanting) and 200 kg P₂O₅ ha⁻¹ as basal dose has been found the best.

KEY WORDS : China aster, cv. POORNIMA, Nitrogen, Phosphorus

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