

Agronomic Response of Fluted Pumpkin (*Telfairia occidentalis* Hook. f.) to Planting Densities and Fertilizer Application

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Abstract : The objectives of this study were to investigate the yield, nutrient concentration, and uptake of fluted pumpkin (*Telfairia occidentalis* Hook. f.) in response to spacing and fertilizer application. Two fluted pumpkin plant populations (10,000 and 20,000 plants ha⁻¹), D1 and D2, were evaluated at three levels of NPK fertilizer (F₁, 20 t ha⁻¹ poultry manure, F₂, 300 kg ha⁻¹ NPK 15:15:15 and F₃, 10 t ha⁻¹ poultry manure + 150 kg ha⁻¹ NPK 15:15:15) using a factorial arrangement in a randomized complete block design (RCBD) with three replications. Leaf length, breadth, and the number of leaves were significantly increased at a lower plant population of 10,000 plants ha⁻¹ while herbage yield increased with a higher plant population of 20,000 plants ha⁻¹ using 300 kg ha⁻¹ inorganic NPK 15:15:15 or a combination of 10 t ha⁻¹ poultry manure + 150 kg ha⁻¹ inorganic NPK 15:15:15. Potassium (K) concentration was significantly ($p < 0.05$) higher at 10,000 plants ha⁻¹ and Iron (Fe) uptake was higher with combine application of organic and inorganic fertilizer (F₃). To maximize the good herbage yield of fluted pumpkins, farmers in this locality should adopt a plant population of 20,000 plants ha⁻¹ using 300 kg ha⁻¹ inorganic NPK 15:15:15 (D2F2) or a combination of 10 t ha⁻¹ poultry manure + 150 kg ha⁻¹ inorganic NPK 15:15:15 (D2F3).

Keywords : fertilizers, fluted pumpkin, herbage yield, plant population

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