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 poultry manure + 150 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).

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

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