



TESTING SOIL FERTILITY AND BEETROOT (*Beta vulgaris L.*) PRODUCTIVITY WITH MIXTURES OF BASALT DUST, POULTRY MANURE AND NPK 20-10-10 IN DSCHANG (CAMEROON WESTERN HIGHLANDS)

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TESTING SOIL FERTILITY AND BEETROOT (*Beta vulgaris* L.) PRODUCTION WITH MIXTURES OF BASALT DUST, POULTRY MANURE AND NPK 20-10-10 IN DSCHANG (CAMEROON WESTERN HIGHLANDS)

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ABSTRACT

Faced with constraints like low productivity caused by low soil fertility, there is need to look for eco-friendly low cost technologies to improve soil fertility and boost crop production. This work aims to compare the effects of basalt dust, poultry manure and NPK 20-10-10 on soil fertility and the production of Beetroot (*Beta vulgaris*). Thus, fieldwork was preceded by laboratory analysis of soil samples. A completely randomized block design (CRBD) on a 128 m² experimental plot was used to investigate the effects of ten treatments (dose): T₀(0), T₁ (0.8 t.ha⁻¹ basalt dust), T₂ (1.6 t.ha⁻¹ basalt dust), T₃ (basalt dust 3.2 t.ha⁻¹), T₄ (0.5 t.ha⁻¹ NPK 20-10-10), T₅ (5 t.ha⁻¹ poultry manure), T₆ (2.8 t.ha⁻¹ basalt dust + 2.5 poultry manure), T₇ (2.8 t.ha⁻¹ basalt dust + 0.25 t.ha⁻¹ NPK 20-10-10), T₈ (0.25 tons ha⁻¹ NPK 20-10-10 + 2.5 tons ha⁻¹ poultry manure) and T₉ (2.8 t.ha⁻¹ basalt dust + 0.25 t.ha⁻¹ NPK 20-10-10 + 2.5 t.ha⁻¹ poultry manure). T₀ was very acidic but treatment increased the pH for basalt dust and poultry manure but reduced it for NPK 20-10-10. For yields, the following trend was observed T₅>T₆>T₇>T₉>T₃>T₀ >T₄>T₁>T₂>T₈. The economically viable treatments were such that T₅>T₆>T₇>T₃>T₉, suggesting a reduction in the use of chemical fertilizer and the vulgarization of natural fertilizers poultry manure.



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