

INFLUENCE OF PIG MANURE, UREA AND COMBINATIONS OF THEIR REDUCED LEVELS ON THE PERFORMANCE OF *AMARANTHUS CRUENTUS* IN A RAINFOREST *ULTISOL*

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ABSTRACT

The influence of sole and combined application of pig manure and urea on the performance of Amaranthus cruentus at Umudike in a rainforest Ultisol was investigated for two years. The study was laid out in a randomized complete block design with four replications. There were six treatments consisting of pig manure applied at 90 kg N/ha (full dose of manure), urea applied at 60 kg N/ha (full dose of urea), 1/2 dose of manure (45 kg N/ha) + 1/2 dose of urea (30 kg N/ha), 1/4 dose of manure (22.5 kg N/ha) + 3/4 dose of dose of dose of urea (45 kg N/ha), 3/4 dose of manure (67.5 kg N/ha) + 1/4 dose of urea (15 kg N/ha), and control (no manure, no urea). Amaranthus height was not significantly affected by the treatments when compared with the control, though the tallest plant height of 76.30 cm was obtained from the combination of 1/2 manure + 1/2 urea treatments. The overall results showed that the combination, 1/2 manure + 1/2 urea (i.e. 45 kg N/ha of pig manure + 30 kg N/ha of urea) gave significant ($P < 0.05$) increases in stem girth (17.42), number of leaves per plant (44.76), fresh yield (41.51 t/ha) and in the dry matter yield (3.49 t/ha) of Amaranthus than sole application of either of them, and is therefore recommended as the best for optimum production of Amaranthus in the study area.

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