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Growth and yield responses of okra (*Abelmoschus esculentus* L.) as influenced by sawdust ash and ammonium nitrate

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In recent years, there are lots of soil problems associated with the use of chemical or minerals fertilizers and also the cost of mineral fertilizers, insufficiency of the commodity supply as well as distribution have not been of advantage of the local farmer. Hence this study tends to investigate the effects of sawdust ash and ammonium nitrate on the performance of okra (*Abelmoschus esculentus* L.) in Lanlate. Field trials were conducted at teaching and research farm of The College of Education, Lanlate, Southwest Nigeria in 2016 and 2017. There were six treatments replicated three times in a Randomized Complete Block Design (RCBD). Treatments were applied three weeks after planting by ring method with ammonia nitrate and sawdust ash mixed. Soil chemical properties, plant nutrients content, growth and yield parameters were evaluated. Data were Analyzed using Analysis of Variance (ANOVA) and Duncan multiple range tests were used to compare the treatment means. The test soil indicated that it was marginal in organic matter, inadequate in available P and slightly acidic. SDA and its combinations with reduced rates of ammonium nitrate significantly increased number and weight of fruits. The 60 kg/ha⁻¹ urea+4.5 t/ha⁻¹ SDA increased pod weight significantly in both years. Relative to control, urea alone, 180 kg/ha⁻¹ AN+1.5 t/ha⁻¹ SDA, 120 kg/ha⁻¹ AN+3.0 t/ha⁻¹ SDA, 60 kg/ha⁻¹ AN+4.5 t/ha⁻¹ SDA, and 6.0 t/ha⁻¹ SDA increased pod weight by 29, 32, 37, 52 and 39% respectively. Combination of 60 kg/ha⁻¹ AN+4.5 t/ha⁻¹ SDA is recommended.

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