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The effect of organic and inorganic fertilizer sources on the growth and seed yield of Bambara nut (*Vigna subterranean* (L) Verdc) in North East Nigeria

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The research was conducted at the Teaching and Research Farm, of Federal University Wukari, Taraba State Nigeria, during the raining seasons of 2016 and 2017 to assess the effects of organic and inorganic fertilizer sources on the growth and seed yield of Bambara nut varieties. The treatments consisted of two varieties of Bambara nuts, (white and black seed coat varieties) and the fertilizers: organic (10, 20 t ha⁻¹ of poultry manure), and inorganic (30, and 60 kg N ha⁻¹ of Urea) with a control. These were laid out in a Randomized Complete Block Design (RCBD), with four replications. The data collected were on the growth and seed yield parameters of the crop and were analyzed using analysis of variance (ANOVA) and the differences among treatment means were separated using Duncan Multiple Range Test at 5% level of probability. The results showed that N fertilizer application rate of 30 kg N.ha⁻¹ produced a significant number of leaves, nodes, flowers, and plant height. Application of 20 t.ha⁻¹ poultry manure produced a highest significant number of branches while urea application of 60 kg N.ha⁻¹ produced significantly highest pod weight. The control (without fertilizer) gave the significant highest weight of bad seeds while Poultry manure at 10 t.ha⁻¹ produced a significant highest number of seeds, seed weight and a number of pods. Therefore, application of 10 t.ha⁻¹ poultry manure and 30kgN/ha urea are optimum for the production of Bambara nut in the study area.

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