

PERFORMANCE OF *THEVETIA PERUVIANA* (PERS.) SCHUM. UNDER TWO AGRONOMIC MANAGEMENT PRACTICES (IRRIGATION AND APPLICATION OF IN-ORGANIC FERTILIZERS) IN EDIDI SOUTHERN NIGERIA.

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ABSTRACT

Most studies on T. peruviana have revolved around its clinical, toxicological and pharmacological aspects, while study on its agronomy is scanty. Field experiments were conducted during the 2011 and 2012 growing seasons, at the Research Farms of the Bio-fuel Alternative and Renewable Energy Ltd, Edidi, Kwara State, Nigeria. The study evaluated the effects of supplementary irrigation during the dry season and different rates of nitrogen and phosphorus fertilizers on the growth and yield of the oil crop. The experiment was a 2 x 3 x 3 factorial arranged in split-split plot design. Two levels of irrigation (irrigated and non irrigated) constituted the main plots, three levels of nitrogen fertilizer (0, 30 and 60 kg N ha⁻¹) the sub-plots, and three levels of phosphorous fertilizer (0, 30 and 60 kg P₂O₅ ha⁻¹), the sub-sub-plots. The results showed that irrigating T. peruviana plants significantly improved the vegetative growth parameters, kernel size, number and weight of harvested kernels, but delayed number of days to the first and 50% flower appearance. Nitrogen fertilizer rate of 60 kg N ha⁻¹ produced highest values of growth and yield parameters which were significantly better than those of the control, but similar to those of 30 kg N ha⁻¹; and application of 60 kg P₂O₅ ha⁻¹ resulted in early flower appearance and increased the yield parameters, even though the values were statistically similar to those with the application of 30 kg P₂O₅ ha⁻¹. Thus, it can be recommended that T. Peruviana should be irrigated and given fertilizer at a factorial combination of 30 kg N ha⁻¹ and 30 kg P₂O₅ ha⁻¹ for optimum yield.

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