

## EVALUATION OF *TITHONIA DIVERSIFOLIA* FOR SOIL IMPROVEMENT IN CELOSIA (*CELOSIA ARGENTEA*) PRODUCTION.

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### ABSTRACT

Field experiments were conducted between June and September in the 2007 and 2008 cropping seasons at the teaching and experimental field of the National Horticultural Research Institute (7<sup>0</sup>25''N and 3<sup>0</sup>52''E), Ibadan, Oyo State, Nigeria. To evaluate the growth and yield of *Celosia argentea* L. using different rates of *Tithonia diversifolia* and also to evaluate the effect of the amendments on soil chemical properties. The experimental design was a Randomized Complete Block Design (RCBD) with three replicates with plot size of 4m<sup>2</sup>. *Tithonia diversifolia* was chopped, (fresh leaves and young stem) applied at 0, 2.5, 5, 7.5, 10 and 20 tons ha<sup>-1</sup> on fresh weight basis. These were incorporated into the soil two weeks before planting. Results indicated that soil P, Ca, CEC, K and soil organic matter content were significantly ( $P < 0.05$ ) improved by the addition of *Tithonia*. There were significant treatment effect on soil pH, N, P, K, Mg and Zn ( $P < 0.05$ ) which were improved with the use of *Tithonia*. Growth parameters: number of leaves, plant height and stem girth increased significantly ( $P < 0.05$ ) with the application of *Tithonia diversifolia*.

### KEYWORDS

Amendment, *tithonia diversifolia*, *celosia argentea*.