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Influence of tillage and organic manure sources on termite infestation, sprouting of cassava cuttings and plant growth in a termite infested soil in Owerri, south-eastern Nigeria

Timothy T. Epidi[2], Kennedy.O Ogbedeh[1]

[1]*Department of Crop Science and Technology, Federal University of Technology Owerri, Nigeria*

[2]*Department of Crop Production Technology, Niger Delta University, Nigeria*

tepidi@yahoo.com

Abstract

Termites have been identified as one of the major pests of field-grown cassava in Nigeria. The study investigated the influence of tillage and organic manure sources on termite infestation, sprouting of cassava cuttings and plant development in a termite infested soil in Owerri, South-Eastern Nigeria. Field trials were conducted in 2007, 2008 and 2009 at the Teaching and Research Farm of the Federal University of Technology Owerri. The experiments were laid out in a 3x6 split-plot factorial arrangement fitted into a randomized complete block design (RCBD) with three replications. The cassava cultivar used was TMS 4 (2) 1425. Treatments consisted of three tillage methods (Zero, flat and mound), two rates of municipal waste (1.5 and 3.0 tonnes/ha), two rates of *Azadirachta indica* (neem) leaves (20.0 and 30.0 tonnes/ha), control (0.0 tonnes/ha) and carbofuran (chemical check). Data were collected at planting (2WAP), growth and maturing phases of the plant. These were analyzed using a Mixed-model procedure of Statistic Analysis System (SAS). Means were separated using least significance difference (LSD) at 5% level of probability. Results showed *A. indica* leaves at 30 t/ha produced highest sprouting percentage (43.5-80.6%) of planted cassava cuttings, followed by zero tillage (43.46-75.93%). Also termite incidence and severity (infestation) were significantly depressed with the application of carbofuran; *A. indica* leaves at 20 and 30 t/ha, and zero tillage especially at 16 to 22 WAP. However, termite infestation remarkably increased at 2 to 8 WAP, but decreased at 10-16 WAP and finally increased again at 18-30 WAP.