Proceedings published at http://www.m.elewa.org/econferenceIeCAB.php

Influence of rates of organic manure and frequency of application on growth, yield and some biochemical composition of *Solanum melongena* L (cv, Ngwa local)

Abstract ID: IeCAB011-408

Agbo, C.U. Chukwudi, P.U. and Ogbu, A. N.
Department of Crop Science, University of Nigeria, Nsukka
Corresponding author: Christian.agbo@unn.edu.ng, c_agbogenetics@yahoo.com

ABSTRACT

Objective: Field and laboratory studies were carried out to ascertain the optimal rate of organic manure and the frequency of its application on the growth, yield, and some vitamins and mineral composition of the fruits of *Solanum melongena* L.
Methodology and results: Four rates of organic manure (0, 10, 20, and 30 t/ha) were applied at three varying frequencies namely: single, split, and split-split. The field study was a 3 X 4 factorial laid out in a randomized complete block design while the laboratory biochemical analysis was laid out in a completely randomized design with three replications. Data were collected on the growth, yield and some vitamins and minerals attributes of the crops. Days to flowering, plant height, number of trusses per plant, and number of leaves per plant increased with increase in rate of organic manure. At maturity 30 t/ha gave the highest mean value on number of leaves per plant, and plant height which was not significant ($P<0.05$) when compared with 20 t/ha. Increase in frequency of application increased both the fresh and dry weight of the fruits, and leaves per plant of *Solanum*

melongena. The application of 30 t/ha gave significant higher number and weight of fruits from the second month of harvest (July) to the last month (October). Single and split-split application of manure gave significantly higher number and weight of fruits in the months of June, July and September, October respectively. Manure rate of 30 t/ha applied as split-split dosage gave significantly higher levels of most of the vitamins and minerals determined.
Conclusion and application of finding: We conclude that Split-split application of 20 t/ha is recommended in favor of 30 t/ha in production of *Solanum melongena* (cv Ngwa local) since there was no significant $(p<0.05)$ difference between the rates in most of the attributes measured.

Keywords: *manure rate, frequency of application, yield, vitamins, Solanum melongena*