

## The Influence of Poultry Manure Application and Plant Density on the Growth and Yield of *Egusi* Melon (*Colocynthis citrullus*) on the Nsukka Plains of South Eastern Nigeria

**P. E. Ogbonna and I. U. Obi**  
*Department of Crop Science*  
*University of Nigeria, Nsukka.*

### ABSTRACT

*A two year study, 1995 and 1996, was undertaken to assess the effects of poultry manure, plant density and their interaction on the yield and yield components of "egusi" melon (*Colocynthis citrullus*) under Nsukka ecological conditions of south - eastern Nigeria. It was observed that fruit production  $ha^{-1}$ , average fruit weight, 1000 - seed weight and seed yield  $ha^{-1}$  increased with increase poultry manure application giving seed yield increase of 51% and 41% for 5 and 10t  $ha^{-1}$  rates respectively over the 0 t  $ha^{-1}$  rate. It was also observed that higher plant density gave higher fruit and seed yields compared with low plant density. Seed yield was increased by 31% and 39% in the 10,000 and 40,000 plants  $ha^{-1}$  densities compared with the 4444 plants  $ha^{-1}$  in 1995 and similarly by 41% and 60% in 1996. High plant density and increased poultry manure application also enhanced plant development as was measured by days to 50% flowering, length of stem and number of branches/plant at 30 days after planting. Poultry manure x plant density (MxD) interaction was significant in fruit and seed production and this showed a trend of increased fruit and seed yield as poultry manure use was increased with increased plant density rates.*