

Abstract

African indigenous leafy vegetables (AILV's) are known for their importance in providing vitamins and minerals, and are largely grown by small scale farmers. They also play a crucial role in income generation and subsistence. However, their production does not meet the increasing demand. Studies were carried out in farmers' fields in Taita district, to evaluate the effect of chemical fertilizers, farm-yard and poultry manure on growth and yield of *Amaranthus hybridus* and African nightshade (*Solanum scabrum*). The study was carried out in four successive plantings where farm-yard manure at rates of 20 t/ha, 40 t/ha, 60 t/ha, poultry manure at rate of 40 t/ha, farm yard manure at 20 t/ha, 40 t/ha, 60 t/ha each top dressed with CAN at 1.03 t/ha, DAP at 0.2 t/ha top dressed with CAN at 1.03t/ha, farmer practice and a control were evaluated. Results obtained revealed that, incorporation of farm-yard manure (20, 40, 60 t/ha), poultry manure (40 t/ha) and inorganic nitrogen (N), significantly increased plant growth parameters (plant height, canopy width, number of branches, stem diameter) and hence the yields. There was a significant difference ($p < 0.05$) in all growth parameters among treatments. The growth parameters of the vegetables were observed to be higher in plants grown with organic manures and top dressed with inorganic N compared to those from plants grown with the manures alone. There was a significant difference in yields of the vegetables among treatments. The highest yields of 58 t/ha and 72 t/ha in *Amaranthus* and African nightshade respectively were obtained from treatments with 60 t/ha cattle manure top dressed with 1.03kg/ha. The results indicated that adequate soil nutritional supply increases yield of these vegetables thus providing an opportunity for improved health and nutritional status, dietary diversity, food security status, incomes and livelihoods of poor rural and urban dwellers.