P - 10

Effects of different types of organic fertilizers on growth and yield of *Solanum melongina* and *Centella asiatica*

Sudarshani, R.A. and Subasinghe, S.

Department of Crop Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka.

✉ subasinghe@crop.ruh.ac.lk

As ecological farming systems are environmental friendly, costly effective and sustainable compare to high input conventional farming systems, there is a global trend to shifting from high input conventional farming systems to ecological farming systems. Therefore, a study was conducted to find out effective organic fertilizers instead of chemical fertilizers for selected vegetable crops (i.e. *Solonum melongina* and *Centella asiatica*). Different types of organic fertilizers (i.e. Fermented fruit juice, Bokashi compost, Lactic acid bacterium serum and Vermiwash) were used to compare with the recommended conventional fertilizers on growth and yield performances of Brinjal and Gotukola. The experimental design was RCBD with four replicates and Bokashi compost (a fermented fertilizer made by mixing organic materials such as oil cake, rice bran, chicken manure, fish meal, bone powder, rice husk charcoal and forest sub soil) was applied in two weeks interval and other fertilizers (Fermented fruit juice, Lactic acid bacterium serum and Vermiwash) were applied once a week. Conventional fertilizer mixture (300Urea:325TSP: 170MOP Kg/ha for Brinjal and 215Urea:130TSP: 115MOP Kg/ha for Gotukola)) was applied in recommended intervals. Data collection was done 5 weeks after planting for *Solonum melongina* and 6 weeks after planting for *Centella asiatica*. Plant height, numbers of leaves, number of shoots were taken as growth parameters and economic yield was taken as yield parameters for both crops. Significantly highest growth and yield parameters of both crops of Brinjal and Gotukola were recorded in plants applied with Bokashi compost while other organic fertilizers were negatively affected compare to conventional fertilizer. Under field conditions Bokashi compost applied Centella gave significant performance in appearance, colour and vigor. Also they gave high sensory performances as taste, smell and palatability than other fertilizer applied Centella plants. The application of Bokashi compost can be used as a good alternative organic fertilizer instead of inorganic fertilizers to improve growth and yield of *Centella asiatica* and *Solonum melongina*.

Keywords: bokashi compost, ecological farming, fermented fruit juice, lactic acid bacterium serum, vermiwash