

## **Production of food waste compost and its effect on the growth of dwarf crape jasmine**

### **ABSTRACT**

The main objective of this study is to investigate the physical, chemical and biological effects of compost made from food waste and unshredded dry leaves and to evaluate the performance of food waste compost on the growth of dwarf crape jasmine (dwarf *Tabernaemontana divaricata*). Food waste and dry leaves with a ratio of 3:1 have been added to the passive aeration-static bioreactor. The composting was carried out for 40 days. The physical, chemical, biological and morphological changes that occurred during the composting process were identified and evaluated. The plants were grown in media containing nine different proportions of compost and the plant growth was measured after 150 days. The results show that a maximum composting temperature of 47.8 °C and a decrease in the moisture content were achieved. The pH value increased while the electrical conductivity decreased during the composting process. The TOC decreased from 56% to 42%. The nutrient value of the composts was all within the recommended range. Among the treatments, the 5%-20% compost mixture shows the greatest growth development. Results in this study indicate that food waste composting with high EC compost value can be used to promote dwarf crape jasmine growth, provided that the mixture contains low compost dosage.