**Abstract**

Landfills and incineration have until now been the most widely used means of solid waste disposal throughout the world. The land filling of biodegradable waste is proven to contribute to the environmental degradation, mainly through the production of highly polluting leachate and methane gas. A large amount of Areca nut leaf sheath waste was dumped by the areca nut plate manufacturing industry. Thus the present investigation was carried out to find out the sustainable technology to make wealth out of waste. Therefore, five different composts were developed with the combinations of soil, areca nut waste, effective microbes, vermicompost and studied their nutrient value as an organic manure using Vigna unguiculata L. Several physicochemical parameters such as pH, C/N ratio, protein, carbohydrate, and chlorophyll are studied after compost maturation. Among five different combinations of compost, S4 (Areca nut+ soil) compost shows the following parameters: pH: 5.4, C/N ratio (24.8: 1), chlorophyll (3.002 mg/g), carbohydrate (3.21 µg/mg), and protein (13.95 µg/mg).