Effect of Rhinoceros Beetle (Oryctes rhinoceros) larvae compost and vermicompost on selected soil chemical properties

ABSTRACT

This study aimed to investigate the effect of Oryctes rhinoceros larvae compost and vermicompost on the selected soil chemical properties. The soil was incubated with 0, 0.05, 0.10 and 0.15 % of these composts arranged in a Completely Randomized Design (CRD) with three replications. The experiment was carried out at the Faculty of Sustainable Agriculture, Universiti Malaysia Sabah. 100 mL of distilled water were added regularly to the soil-compost mixture throughout the incubation period. The soil-compost were sampled after one and four weeks of incubation. The samples were analysed for soil pH, soil electrical conductivity (EC), available P, total N and total C. Application of composts induced a positive effect on soil pH, and available P; soil pH increased from 6.29 (initial) to range 6.31-6.55, while available P of the soil increased from 1.39 mg kg-1 to range 1.73-2.02 mg kg-1. It was found that the capability of rhinoceros beetle larvae composts on the soil chemical properties have a similar effect with vermicompost. It made the insect compost are potentially beneficial for farm and can be profitable if commercially produced. It would also help in reducing rhinoceros beetle pests' problem in oil palm plantation if this insects' larvae were hunted for composting process.

Keyword: Vermicompost; Soil fertility; Soil pH; Available P; Soil electrical conductivity; Rhinoceros Beetle compost