

Research Title The study of physical and chemical characteristics of waste from fresh market and utilization of organic waste for effective micro - organism solution

Researcher Yuwarad Photphisutthiphong

Organization Faculty of science and technology
Suan Dusit University

Year 2015

The objectives of this research were to study of physical and chemical characteristics of waste from fresh market and ways to dispose of organic waste using microorganism activated solution. The results of the characteristics of organic waste were density $256.67 \pm 0.10 \text{ kg/m}^3$, moisture content $66.86\% \pm 0.62$, volatile matter content $73.79\% \pm 0.40$, ash $19.37\% \pm 0.23$, calorific value $4,002.19 \pm 2.60 \text{ kcal/kg}$, Carbon content $47.16\% \pm 0.22$, Hydrogen content $6.64\% \pm 0.03$, Nitrogen content $1.88\% \pm 0.08$, Oxygen content $44.1\% \pm 0.11$, Potassium content $0.57\% \pm 0.15$, Phosphorus content $0.12\% \pm 0.08$, and Sulfur content $0.22\% \pm 0.02$. Organic waste had high moisture and plant nutrients content, tended to make good effective microorganism solution. The effective microorganism solution of organic waste from the fresh market was classified into three types, such as organic waste, vegetable waste, and entrails of fish. They showed the amount of major plant nutrients. Nitrogen Phosphorus and Potassium contents were 0.808 - 1.341, 0.037 -0.181 and 0.768 -1.453 % respectively. In addition, to all types of effective microorganism solution were composed of minor plant nutrients, such as Calcium and Magnesium contents were 00.083 - 1.142 and 0.067 - 0.423%, respectively.