

Physical, chemical and biological changes during the composting of oil palm frond

Abstract

An experiment was conducted to evaluate the physiochemical and biological changes occurred during the composting process of oil palm fronds (OPF) composts. Compost A, B and C were prepared by mixing OPF, chicken manure (CM) and rice bran (RB) at ratio of 40:40:20, 40:30:30 and 40:20:40, respectively. After day 21, the lowest C/N ratio and the highest amount of nitrogen (N), phosphorus (P) and potassium (K) were recorded in compost A with the values of 15.79, 2.33, 2.02 and 1.80, respectively. Compost A was also found to contain the highest number of bacteria throughout the composting process than that of other two composts suggesting that after day 21, OPF compost A was matured enough to be used as soil amendments to agricultural fields.