

**THE COMPARISON OF ORGANIC WASTE COMPOST QUALITY BETWEEN
AERATED STATIC PILE AND OPEN WINDROW METHOD
IN CAHAYA KENCANA LANDFILL
SOUTH KALIMANTAN INDONESIA**

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Abstract

This research is intended to analyzed composting condition of leaf organic waste (temperature and pH fluctuation), and analyzed the compost quality comparison between aerated static piles (ASP) and open windrow method. Composition of ingredients for one composting pile namely: 20 kg of leaf waste, 0.8 kg lime, chicken manure 0.6 kg, EM-4 20 ml, 20 grams of sugar and 200 ml of water. Variation of aeration rate in this ASP method is 0.4 L/min.kg; 0.5 L/min.kg and 0.6 L/min.kg, open windrow method is using as control. During each aeration, parameters such as carbon-to-nitrogen ratio, temperature and pH were measured. The results of this research showed that the colour of compost is brown to black, odorless and similar the smell of soil, the compost texture similar as soil, particle size between 0.55-25 mm, and the temperature of the mature compost is 30°C which is according to SNI: 19-7030 2004. Based on the temperature fluctuation, aeration rate of 0.5 L / min.kg is the most ideal aeration rate because resulting the highest temperature fluctuation than the other aeration rate. pH parameter of all aeration rate did not showed significant differences, it has the same range between 8,17-8,27. The optimum aeration rate based on carbon-to-nitrogen ratio is 0.6 L / min.kg, it has the lowest carbon-to-nitrogen ratio (11.50). The results of statistical tests can be concluded that there is no significant differences between aeration rate of 0.4, 0.5 and 0.6 L / min.kg in carbon-to-nitrogen ratio of compost.