

Siwanat Thaipakdee 2013: The Effects of Pineapple Peel and Paddy Soil on Decomposition Efficiency of Organic Garbage. Master of Science (Environmental Science),
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Thesis Advisor: Assistant Professor Suthep Thongpae, Ph.D. 101 pages.

The objectives of this study were to investigate the effects of pineapple peel and paddy soil application on efficiency of garbage decomposition and quality of compost. The experiment was conducted at The King's Royally Initiated Laem Phak Bia Environmental Research and Development Project, Phetchaburi Province. The experiment was done during 18 February to 5 April 2010. It was carried on 2x4 Factorial in CRD with 3 replications. There were 2 main factors in the study which the first factor was mixing pineapple peel in garbage at 4 rates; 0, 10, 20 and 30% by weight. The second factor was paddy soil application which divided to garbage without soil and mixed with soil (soil: garbage 1 : 6 by weight)

The results showed that the mixing of pineapple peel in the garbage at the rates 0, 10, 20, and 30% by weight did not give significantly difference on the content of organic matter, total N, P, K, Ca, Mg and heavy metals (Pb and Cd) in compost and also on the decomposition efficiency of the garbage as determined by using C/N ratio of the compost. However, the mixing of pineapple peel tended to decrease the decomposition efficiency of the garbage. The C/N ratios of the compost were 8.94, 8.87, 9.89 and 10.30 respectively. As for the mixing of soil in the garbage, the compost from the garbage without soil showed higher content of organic matter, total N, P, K and Ca than those with soil highly significantly difference. The decomposition efficiency of the garbage mixing with soil was better than the garbage without soil. The C/N ratios of compost from garbage mixing with soil and without soil were 7.43 and 11.92 respectively. The highest decomposition efficiency was found in the treatment without pineapple peel and mixing with soil.

Student's signature

Thesis Advisor's signature