

### Abstract

At present, Phitsanulok is developed and the economic grown up each year due to solid waste management is the most problem. If the management is not appropriate and low efficiency it would be lead to the environmental problems. Phitsanulok Municipal was develop and improve the solid waste management system such as municipal landfill and persuaded the people to participate with recycle project then select organic material for composting.

The project aimed to study the method of community composting, quality of fertilizer and characteristics of leachate. The data is use for develop future composting. The process was collect 3 part of data from 11 communities of Phitsanulok municipal, that participated in composting project, i.e. method of community composting, quality of fertilizer and characteristics of leachate between October 2001-March 2002.

It was found that each community used the same method, aerobic method in term of windrow system, that constructed the composting box from cement blocks with size 1.2x1.2x1.1 m. Composting materials were green material such as food, fruits cover and tree leaves (only Jakkapatpatana added cow's dung) another one was dry material such as tree leaves, tree branch and grass. Average of composting time was 3 months but Praongkhaw community spend the longest period. During composting, they turn over the compost 14-15 day/time. Each community could produce fertulizers 2 time except Pratoomuang and Panpee community because lack of take care. The problem was oder at the beginning period. Moreover, the communities that use fertilizer without sieve only in their area but some communities sieve their product before use and sold 2-4 bath/kg. Compare qualities of community fertilizer with 17 parameters from standard the best one was Jakkapatpatana 1st time which pass 10 parameters, on the other hand, Payaseao 2<sup>nd</sup> time was the lowest which can pass 5 parameters. All of community cannot pass the parameters CEC, nitrate, potassium, Ammonia and As but can pass C/N ratio.

Characteristics of leachate from Patoomuang community were high value all parameter. If we let the leachate discharge to surface water it can be produce water pollution.

It can be concluded that the qualities of fertilizer from Phisanulok municipal communities were good but the user must consider about As and pathogen. Use grove and mixed fertilizer with soil to dilute As for safety frist.