

ABSTRAK

Winata, Rifful C.A. 2011. **Study Compost *Eichornia crassipes* and Straw with Additive Biodecomposer**. The advisor, Suyono, M.P and Ach. Nashihuddin, M.Ag.

Keyword: Compost, *Eichornia crassipes*, straw, Biodecomposer.

Compost is a process decomposes had been done by agent decomposes (bacteria, actinomycetes, fungi, and ground organism) to organic waste product which biodegradable. Compost from composting produce organic substance can be used for substantiating serious soil structure, loosening rice field, and decrease using inorganic chemical. Organic substance was using to this composting are *Eichornia crassipes* and straw. *Eichornia crassipes* and straw have very high selulosa and lignin so this substances difficulty to composted and needed long time to process decomposes. Biodekomposer was used content genus bacteria that is *Bacillus*, *Lactobacillus*, *Pseudomonas*, *Micrococcus*, *Escherichia* and *Aerococcus*.

This research is descriptive research with influence study between composting result and adult compost according to International Quality Standards. And to determine the bacterial activity during composting and to knowing change mixing basic of substance *Eichornia crassipes* and straw before and after were composted. This research had been done at March – July 2010. In Microbiology laboratories, Green House Maulana Malik Ibrahim Islamic University of Malang, UPT Compost Brawijaya University and Perum Jasa Tirta Laboratories of Malang.

The result of research was showing the composting *Eichornia crassipes* and straw with addition biodekomposer have time 32 days with C/N ratio 2, 67, coal color, smell of ground, and have particles size 6mm. This composting was living with temperature 37- 60°C and pH 5,6-7,9 with a depreciation of 40% and the rate of decomposition 0.67. This result got chemical substance Nitrate (NO₃) 53,695ppm, Na 21,716ppm, K 150,75ppm, Mg 18,808ppm, Ca 66,344ppm, NO₂ 0,048ppm, N total 192,5ppm, P total 107,61ppm, C total 509,94ppm.