

ABSTRACT

BIOCOMPOSTING STUDYING OF RICE STRAW BY AcP-7 *ACTINOMYCETES* ISOLATE AS LIGNOCELLULOSE DEGRADATIF AGENT

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Rice straws as agricultural residue available in large quantity in the province of Lampung, with annual increase reaches 30% according to the Statistical Bureau in 2008 (BPS, 2008). Rice straws are rich in lignocellulose, composed of mainly lignine, cellulose, and hemicellulose. This study aimed to treat rice straws into compost using *Actinomyces* to degrade lignocellulose. The study investigated optimum conditions in terms of composting parameters such as temperature, pH, Organic carbon, total Nitrogen and C/N ratio. In addition elemental analysis were carried out to determine K, Ca, Fe, Mg and Zn. The results obtained revealed that optimum composition of 1:1:1 of straws:chicken feces:ground waters, with addition of 20% inoculum and 5 weeks fermentation period. The compost produced was found to have temperature of 29,66°C, pH of 8,86, Organic carbon of 16,00%, total Nitrogen 2,77% and C/N ratio of 6,00. Elemental analysis indicated that the compost contains P of 0,27%, K of 0,08%, Ca of 1,23%, Fe of 0,198%, Mg of 0,33% and Zn of 0,012%.

Keywords : *Actinomyces*, Biocomposting, Rice Straw