

ABSTRACT

Mushoffa. 2012. **Isolation and Identify Cellulolytic of Bacteria from Manure Goat.**
Skripsi, Departement Of Biology State Islamic University Of Malang
Malang. Lecture : (I) Dra. Ulfah Utami,M.Si, (II) Anik Maunatin,MP (III)
Dr. Ahmad Barizi, M. Ag.

Key word: Cellulolytic Bacteria, Screening Test, Identification of Bacteria, Goat
Manure, Microbact 12E

Availability of livestock waste in the form of goat manure are often rarely used that it becomes one of the causes of environmental pollution. When in fact goat manure waste has benefits in the fertility of crops due to high nutrient content contained therein. Cellulose is one of the organic material contained in goat feces. Utilization of waste goat manure as fertilizer ingredients depending on the cellulose component in it degradation. The process of degradation of cellulose must be broken down first into simpler components that can be used as an energy source for microbia. One way is done to speed up the process of cellulose degradation by the addition of a number of cellulolytic bacteria. This study aimed to isolate and identify cellulolytic bacteria by using the media methyl Carboxy cellulose (CMC) and Nutrient Agar (NA) on goat manure waste of Laboratory Animal Resources Lapang Sekar of Batu.

This research is descriptive qualitative. The method involves taking a sample made of goat manure placed in sterile plastic bags. A total of 5 grams of sample is put into the Erlenmeyer containing 45 ml of physiological water. Divortex and dishaker (shaken) for 48 hours. Doing dilution 10^{-2} then it is taken 1ml and inoculated into of a Petri dish containing medium Nutrient Agar (NA) with the pour plate method. Incubation is carried out for 24 hours, colonies that grew performed purification by quadrant streak to obtain pure isolates of bacteria.

Stage of purification obtained 12 isolates of bacteria that later were identified by macroscopic colony morphology, including shape, elevation, edges and color of the colony. Identification of bacterial cells in microscopic characters done by gram staining, staining endospores, and catalase test. A total of 12 bacterial isolates obtained in the purification stage screening test is also done with streaking selulolitik bacterial isolates of bacteria on the media CMC, so then cultures were incubated for 48 h at room temperature. Determination of screening is done by adding a congo red for 15 minutes then washed with 1M NaCl. Colonies that contained in clear zone indicates that these isolates including cellulolytic bacteria. At that stage of the screening test produced 3 isolates that are able to grow and produce clear zones on CMC media, so the continued identification of bacteria by biochemical tests using Microbact 12E to the species level. From the identification, the results obtained is by using Microbact 12E 3 types of cellulolytic bacteria namely *Bacillus sphaericus*, *Yersinia enterocolitica*, and *Echerichia coli*.

