

ABSTRACT

Rosita, Aan. 2012 **Isolation and Characteristics of Endophytic Bacteria Tuber Crop Potato** (*Solanum tuberosum*. L) *Using PCR-RAPD Primer*. Theses. Biology Programme Faculty of Science and Technology, The State of Islamic University Maulana Malik Ibrahim Malang.

Promotor: (I) Ir. Liliek Hariani, AR. M.P
(II) Mohammad Imammuddin, M.A

Bacteria associated with plants and live on the network without causing a threat to the plant is defined as endophytic bacteria. Numerous research have been conducted on endophytic bacteria on potato (*Solanum tuberosum*) to determine the potential of endophytic bacteria as biological control agents against a disease that attacks potato plants. Purpose of this study was to determine the isolated endophytic bacteria on potato tubers, and to know the molecular characteristics of endophytic bacteria based on DNA banding pattern of PCR-RAPD technic.

This study implemented dated January 8, 2012 until July 27, 2012 held at the Laboratory of Biomolecular and Genetics of the State Islamic University of Malang. The method used is descriptive exploratory. Where samples of endophytic bacteria grown on media YPDA (Yest Potato Dextrose Agar), DNA was isolated for analyzed by PCR-RAPD. Parameters are seen from this study not only from the morphology of bacterial colonies, gram paint, and the results of culture, but also the DNA banding pattern of endophytic bacteria from the PCR-RAPD.

The isolated of endophytic bacteria from potato tubers obtained six isolates of endophytic bacteria. The six isolates of the endophytic bacteria have variated characters, which form colonies of isolates were dominated by irregular. Elevation of the colony consists 2 Umbonate (additional convex) and convex. Meanwhile, gram staining of bacteria cells are gram-negative isolates obtained form colonies dominated by bacillus. Based on the molecular characteristics of endophytic bacteria DNA band pattern of RAPD-PCR results, indicating the length of different bases. As in the use of specific primers, DNA banding pattern of endophytic bacteria ranged from 1000bp-1200bp. On the use of general primers, DNA banding pattern of endophytic bacteria ranged from 800B. The differences were found in both primers banding pattern is, the emergence of several bands on the U1 when using specific primers. While in general primers only one DNA bands only. Similarly, the U5 and U6, which appears dobleband with the same basa length. However, the use oo general primers is not appears.

Key words: bacterial endophyte, general primers and specific primers, PCR-RAPD pattern ribbon