

ABSTRACT

Saputra, R. A. (2014). Isolation and Identification of Bacteria Rhizobium From Plant Roots alfalfa (*Medicago sativa* L.). Thesis. Department of Biology. Faculty of Science and Technology Islamic University of Maulana Malik Ibrahim STATE, POOR. Supervisor I: Ir. Lili Harianie, M.P. Supervisor II: Umaiatus Syarifah, M.A

Keywords: bacteria Rhizobium, alfalfa, Identification, Microbact 12B.

Alfalfa is a legume crop types that have an important role in supplying fodder cheap food with nutritional value and high digestibility which has been widespread in the world. The name alfalfa comes from the Arabic which means father of all plants. Alfalfa plant is a plant that is able to fix nitrogen in the air because the roots of alfalfa plants in symbiosis with Rhizobium bacteria. In the alfalfa plant high protein content, up to four times compared with other vegetable crops, making it useful for livestock and human health, leaves of alfalfa plants contain saponins lot, Coumestrol, vitamins, minerals, antioxidants, protein, and high fiber is suitable used as forage. In addition to the content of the alfalfa plant are excellent plants to utilize nitrogen gas as much as 80%, in the form of N₂ that can not be used by other plants.

This study aims at the isolation and identification of bacteria Rhizobium alfalfa plant roots using selective media Yeast Mannitol Agar (YMA) or media Rhizobium. This study is descriptive qualitative. The stages of the isolation and identification of Rhizobium bacteria in this study conducted by several tests, namely: Gram stain test, test endospore staining, catalase test is then performed test Microbact 12B.

Results obtained 5 gram staining test isolates and round rod-shaped bacteria with gram-negative. In the fifth catalase test isoalat with catalase positive results. Then continued with staining endospores with negative results. According to the test results of gram stain, catalase test, and staining endospores obtained five samples have similar characteristics and can be sure that these are the five isolates of bacteria Rhizobium. Taken as a representative sample for test 2 test Microbact 12B continued in because of all the characteristics of previous ones of the same test. The results show that the identification of BA4 and BA5 identified as *Rhizobium leguminosarum*.