

Inoculation and Incubation of Rhizobium spp Bacteria on Mixture Medium of Soybean and Maize

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ABSTRACT

Rhizobium spp has function to increase the productivity of legume crops, especially soybean. So it needs to be developed and propagated as biological fertilizer. The purpose of this research is to identify the effect of artificial medium on bacterial growth, to detect the level of adaptation of *Rhizobium spp* inoculation, and to find the best grow medium supporting bacterial growth. The research was conducted in a sterile room with a temperature of $\pm 37\text{ }^{\circ}\text{C}$ from October 2019 until January 2020 at Biosain Laboratory State Polytechnic of Jember. Artificial medium that used in this research is a mixture of young soybean and corn seeds. This experiment was arranged in CRD (Complete Randomized Design) with 6 treatments and 4 replications, so there is 24 experimental units. The result showed that the best growth of *Rhizobium spp.* is on a mixture of 40% soybean and 100% corn medium. The growth speed of bacteria in the dominant medium of young corn (± 48 hours after incubation). The morphology is same in all medium, that is 1.00-6.00 mm in soybean and 0.5-1.5 mm in corn. According to the data, analysis show that the physical appearance *Rhizobium spp* in various medium does not differences.

Keywords: *Mixture medium, Rhizobium spp Growth, Rhizobium spp*