KAJIAN ASOSIASI *Rhizobium* sp.-MIKORIZA-*Rhizobacteri INDIGENOUS* MERAPI TERHADAP PERTUMBUHAN DAN HASIL TIGA VARIETAS KEDELAI DI TANAH PASIR PANTAI

Study of Rhizobium* sp.-*Mycorrhizae- Rhizobacteria Indigenous of Merapi Association to Growth and Yield of Three Cultivars Soybean on Coastal Sandy Soil

Linda Kusumastuti, Agung_Astuti dan Sarjiyah
Program Studi Agroteknologi Fakultas Pertanian UMY

ABSTRACT

The experiment purposed to examine the effect of Rhizobium sp., mycorrhizae and Rhizobacteria indigenous of Merapi inoculation on the 3 of soybean cultivars, study the inoculum association and soybean cultivars to growth and yield which was planted on coastal sandy soil and decide which one the best inoculum and cultivars for soybean development on coastal sandy soil. The research was conducted in Agro-biotechnology and Research Laboratorium, experiment area of Agriculture Faculty, Universitas Muhammadiyah Yogyakarta at September 2015 until June 2016.

The research was conducted by field and 4 x 3 factorial experiment, arranged in completely randomize design and using coastal sandy soil as planting medium. The first factor is inoculation treatment which consist of 4 levels: Rhizobium sp.- mycorrhizae, Rhizobium sp.- Rhizobacteria indigenous of Merapi, Rhizobium sp.-mycorrhizae- Rhizobacteria indigenous of Merapi and without inoculation. The second factor is soybean cultivars which consist of 3 levels: Grobogan, Detam-1 and Petek. Observation was done to nodulation, mikoriza effect, Rhizobacteri population dynamics, plant growth and yield.

The result showed that Rhizobium sp.*–mycorrhizae inoculated on Petek increased root growth, leaf area and yield (5,97 ton/ha). Rhizobium* sp.*–mycorrhizae inoculation only increased diameter of nodule and the best cultivar for coastal sandy soil is Petek.*

***Keywords**: Grobogan, Detam-1, Petek soybean cultivars, Rhizobium sp., Mycorrhizae, Rhizobacteria indigenous of Merapi, coastal sandy soil*