

THE EFFECT OF VERMICOMPOST FERTILIZER AND RHIZOBIUM INOCULUM ON GROWTH AND YIELD OF SOYBEAN

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ABSTRACT

Soybean is one of the primary commodity in Indonesia and the needs continue to rise every year. Indonesia, with its vast and fertile potential area, supports the increasing of soybean national productivity. The aim of the research was to identify effect of the usage of *Rhizobium* inoculum; and to find optimal dose of vermicompost fertilizer for soybean cultivation. This research was held in Kepuhan village, Argorejo, Sedayu, Bantul from February to June 2018. The method used in this research was factorial design 4x2 arranged in randomized group design by 3 reiterations. The first factor was dose of vermicompost fertilizer consisting of 0 ton/ha, 15 ton/ha, 17,5 ton/ha, and 20 ton/ha. The second factor was *Rhizobium* inoculum, with and without inoculum. There was no interaction between the two factors. Vermicompost application had no effect on the growth and yield of soybean, except on pod weight per plant and the weight of 100 seed. There was no effect of *Rhizobium* inoculation except on the nodule formation and percentage of active nodules.

Keyword: *vermicompost, fertilizer, Rhizobium, soybean,*