

## ABSTRACT

### THE EFFECT OF INOCULATION *Rhizobium* spp. AND VERMICOMPOST ON ROOT NODULE FORMATION AND YIELD OF PEANUTS (*Arachis hypogea* L.)

By

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One of the efforts to increase the yield of peanuts is by fertilization. Peanuts are less responsive to nitrogen fertilization because it can be in symbiosis with *Rhizobium* bacteria which can fix free nitrogen from the air, therefore to increase the population of *Rhizobium* in the soil required inoculation of *Rhizobium* spp. Before infecting the host plant, *Rhizobium* requires an energy source in the form of organic materials including is vermicompost. The aims of this research is to study the influence of interaction was dosage of *Rhizobium* inoculum and was dosage of vermicompost on root nodule formation and yield of peanuts. This study was conducted at the Experimental Garden of the Faculty of Agriculture, Siliwangi University, Mugar Sari Campus, Tamansari District, Tasikmalaya Municipality from April to July 2022. The method used in this study was a factorial randomized block design with 2 factors where the main factor was dosage of *Rhizobium* inoculum (I) which consisted of 3 levels are ( $i_0$  = kontrol,  $i_1$  = 10 g/kg and  $i_2$  = 15 g/kg) and the second factor was dosage vermicompost which consisted of 3 levels are ( $v_0$  = kontrol,  $v_1$  = 10 t/ha and  $v_3$  = 20 t/ha). Each treatment was repeated 3 times so that the total experimental plot was 27. The data were analyzed using variance with the test followed by Duncan's Multiple Range Test with a significant level of 5%. The results showed that there is no interaction between inoculation of *Rhizobium* inoculum and vermicompost on root nodule formation and yield of peanuts. However, inoculation of *Rhizobium* take effect to all observation parameters, while vermicompost take effect to the number of pods, number of pithy pods, weight of wet pithy pods, weight of dry pithy pods per plant, and pods yield per plot.

Keywords: peanut, *Rhizobium* spp. inoculation, vermicompost