# GROWTH AND YIELD RESPONSE OF SOYBEAN PLANTS (*Glycine max* (L.) Merrill) TO VARIOUS DOSES OF MYCORRHIZAL BIOFERTILIZER AND LEGIN

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## ABSTRACT

An important issue in the effort to increase soybean crop yields is the inappropriate use of fertilizer dosages. This research aimed to determine the best interaction between the application of mycorrhizal biofertilizer and legin doses for growth and yield. The research was conducted at the experimental farm of the Faculty of Agriculture, UPNVY, from September to December 2023. The treatment design used was a factorial design consisting of 2 treatment factors with 3 replications. The environmental design used was a Completely Randomized Block Design (CRBD). The first factor was the dosage of mycorrhiza, consisting of 4 levels: 0, 5, 10, and 15 g/plant. The second factor was the dosage of legin, consisting of 3 levels: 0, 15, and 20 g/kg of seeds. Data were analyzed using ANOVA at a 5% significance level and followed by DMRT at 5% level. The results showed an interaction between the combination of mycorrhiza dosage of 10 g/plant and legin dosage of 20 g/kg of seeds (M2R2) in the time of pod formation and the number of pods. Mycorrhiza dosages of 10 and 15 g/plant produced good results for the number of effective root nodules, root dry weight, flowering time, the number and weight of seeds per plant, per plot, and per hectare, as well as 100-seed weight. The legin dosage of 20 g/kg of seeds produced good results for productive branch number, effective root nodules, root dry weight, root length, weight of 100 seeds, and seed weight per plot and per hectare.

**Keywords**: Soybean, Mycorrhizal Biofertilizer, Legin