

GROWTH AND YIELD OF VARIETIES OF SOYBEAN CROPS (*Glycine max* (L.)) AT SEVERAL PGPR (*Plant Growth Promoting Rhizobacteria*) CONCENTRATIONS

By: Marcel Okka Agung Wijaya
Supervised by: Tutut Wirawati

ABSTRACT

Soybeans are a food crop that is a source of vegetable protein which is widely consumed by Indonesian people. However, soybean production in Indonesia is not sufficient, so it is necessary to increase production by using superior varieties and PGPR. The research aims to examine the treatment of soybean varieties with PGPR concentrations on the growth and yield of soybean varieties. The research was carried out in July-September 2023 in Jetis, Kretek, Bantul. The research method uses a Split Plot Design field experiment, the main plot is a variety with 3 levels, dering 1, dering 2, and dering 3. Then the sub plots are PGPR concentration with 4 levels, namely 0ml/l, 5ml/l, 10ml/l, and 15ml/l. The observation data was analyzed using analysis of variance (ANOVA) at the 5% level. Then the data was tested further with the Duncan Multiple Range Test (DMRT) at the 5% level. If there were significant differences, a Trend Comparison Test/Tendency Test was carried out. The results showed that three soybean varieties with a concentration of 15ml/liter PGPR showed the best results in the parameters of plant height and number of leaves aged 21 and 28 HST, number of productive branches, total number of pods, number of seeds planted and weight of sun dried beans per ha. dering 2 variety was significantly better in the parameters of effective root nodules, and the weight of empty pods is the least.

Keyword: *Soybean, Varieties, PGPR*