

**THE EFFECT OF GANDASIL-D FERTILIZER AND PGPR (*Plant Growth-Promoting Rhizobiasis*) ON PRE-NURSERY NURSERY
OF OIL PALM (*Elaeis guineensis* Jacq.)
D X P SIMALUNGUN VARIETY**

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ABSTRACT

Oil palm (*Elaeis guineensis* Jacq.) is a major vegetable oil producing commodity in Indonesia, but most of the plants are less productive. There are several ways to overcome this problem by using Gandasil-d fertilizer containing complete macro and micro nutrients that can be absorbed through the leaves, while PGPR is a group of bacteria that are useful as biological control agents. The research was conducted at the Seed Technology Laboratory Nursery of Jember State Polytechnic in January–March 2024. This study aims to determine the effect of Gandasil-D fertilizer and Plant Growth Promoting Rhizobacteria (PGPR) on the growth of oil palm seedlings (*Elaeis guineensis* Jacq.) DxP Simalungun variety. This study used a Factorial (RAK) with two factors, namely the dose of Gandasil fertilizer N0 (without treatment), N1 (3 g/L), N2 (6 g/L), N3 (12 g/L) and the dose of PGPR K1 (20 ml/L), K2 (30 ml/L), K3 (40 ml/L). The research data were analyzed using ANOVA. If the results showed a significant effect, a further DMRT test was conducted at a 5% level. The parameters observed included plant height, stem diameter, number of leaves, root fresh weight, and root dry weight. The results showed that the application of Gandasil-D fertilizer had a significant effect on the number of leaves (leaflets), plant height (cm), and stem diameter (mm). Meanwhile, the parameters of root fresh weight (grams) and root dry weight (grams) did not have a significant effect. The best treatment was N1 treatment with a dose of 3 g/l.

Keyword: Gandasil-D fertilizer, PGPR, nursery