

**GROWTH RESPONSE OF OIL PALM SEEDS (*Elaeis guineensis* Jacq.) DxP
SIMALUNGUN VARIETY ON THE APPLICATION OF PGPR AND
Trichoderma sp. IN PRE-NURSERY**

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ABSTRACT

The purpose of this study was to determine the effect of PGPR and *Trichoderma* sp. on the growth of oil palm seedlings in the pre nursery phase. The implementation of the research entitled “Growth Response of Oil Palm Seeds (*Elaeis guineensis* Jacq.) DxP Simalungun Variety to the Application of PGPR and *Trichoderma* sp. In Pre-Nursery.” It will be held from July to November 2022 at the Plant and Field Protection Laboratory, Department of Agricultural Production, at an altitude of 104 meters above sea level. This study used a non-factorial randomized block design (RBD) consisting of 4 treatments. As for each treatment, P0: without the application of PGPR and *Trichoderma* sp. P1 : application of PGPR (density 10^5 CFU) P2 : application of *Trichoderma* sp. (density 10^8 spores/ml) P3 : PGPR application (density 10^5 CFU) + *Trichoderma* sp. (density 10^8 spores/ml). Observational data were analyzed using analysis of variance (ANOVA), then it was tested further with LSD (Lessest Significant Difference) 5%. The results of this study indicate that the application of PGPR + *Trichoderma* sp. significant effect on the parameters of plant height at 11 WAP, stem diameter at 5, 7, 11 WAP, root volume at 11 WAP and highly significant effect on the number of leaves parameter at 9 and 11 WAP. The best treatment was the application of PGPR (density 10^5 CFU) + *Trichoderma* sp. (density 10^8 spores/ml) (P3).

Keywords: PGPR, *Trichoderma* sp., Palm Oil, Pre Nursery