

***EFFECT OF PGPR PALM ROOTS AND *Trichoderma* sp.
ON THE GROWTH OF PALM SEEDLINGS(*Elaeis guineensis* Jacq.)
SIMALUNGUN DXP VARIETY AT THE END OF MAIN NURSERY***

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ABSTRACT

*The oil palm plant (*Elaeis guineensis* Jacq.) originates from Nigeria, West Africa. There are two stages in oil palm cultivation, namely pre-nursery and main nursery. The research aims to determine the effect of PGPR application of oil palm roots and *Trichoderma* sp. on the growth of oil palm (*elaesis guinnessis jacq.*) DXP Simalungun variety at the end of the main nursery. The research was carried out in June – August 2023 at the Jember State Polytechnic Field Laboratory. The experimental design used for this research was a non-factorial randomized block design consisting of 4 treatments. Each treatment consisted of 6 replications. The treatment used was treatment P0: without application of PGPR and *Trichoderma* sp. P1: PGPR application (density 106 CFU), P2: *Trichoderma* sp. (density 109 spores/ml), P3: PGPR application (density 106 CFU) + *Trichoderma* sp. (density 109 spores/ml). The parameters observed were plant height, stem diameter, number of fronds, root volume. Based on the results of the analysis and discussion, it can be concluded that the application of PGPR and *Trichoderma* sp. had a very significant effect on the number of fronds at 37 WAP and root volume at 43 WAP, a significant effect on the number of fronds at 35 WAP and 39 WAP, and an insignificant effect on plant height and stem diameter of main nursery oil palm seedlings.*

Keywords: PGPR, *Trichoderma* sp., palm oil seedlings, main nursery