EFFECT OF VARIOUS MECHANICAL SCARIFICATION AND KNO_3 CONCENTRATION ON THE GERMINATION AND GROWTH OF OIL PALM (*Elaeis guineensis* Jacq.)

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ABSTRAC

Oil palm is a leading crop in Indonesia, but the availability of seeds is not sufficient to meet demand due to the dormancy period, so pretreatment is needed to break the dormancy. The purpose of this study was to determine and get the right mechanical scarification and KNO3 concentration in breaking the dormancy of oil palm seeds. This study used a completely randomized design (CRD) with 2 factors. Factor I mechanical scarification method, S1: Sanding, S2: Stabbing. The second factor is KNO3 concentration consisting of K0: control, K1: 0.2% KNO3 concentration, K2: 0.4% KNO3 concentration, K3: 0.6% KNO3 concentration, and K4: 0.8% KNO3 concentration. The results of the experiment were analyzed for variability with ANOVA at the 5% level and continued with the DMRT test and Polynomial Test. The results showed that there was an interaction between mechanical scarification treatment and KNO3 concentration. Combination of S1 scarification treatment at the optimal KNO3 concentration of 0.37% - 0.47% on the variables of germination, maximum growth potential, plant height at 2, 4, 6 weeks of age, number of leaves at 2 and 6 weeks of age, leaf area, and root length. S1 scarification and optimal KNO3 concentration of 0.40% - 0.51% gave the best results on the variable number of leaves at 4 weeks of planting, root volume and seedling dry weight.

***Keywords**: Oil palm, scarification, KNO_3*