Effect Of Various Pgpr Concentrations Of Coffee Roots And Amino Acid On Growth Robusta Coffee (Coffea canephora **L.***)*

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ABSTRACT

In coffee plants, vegetative plant propagation is generally carried out using cuttings techniques. Propagation by cuttings is one way to maintain the genetic quality of the new parent plant to produce new plants. Rhizobia can encourage growth to increase the success of coffee cuttings. Amino acids are proteins that have been broken down through metabolic processes into small molecules. This research aims to determine the effect of coffee root pgpr, amino acids and interactions between the two on the growth of robusta coffee (coffea canephora L.*) cuttings. This research was carried out from August to December 2024 on the grounds of the Seed Production Technology Laboratory, Jember State Polytechnic. Factorial Randomized Block Design (RAK) is the research methodology used in this study, with pgpr of coffee roots as the first factor and amino acids as the second factor. The Pgpr used in this study consisted of P0: 0%, P1: 2%, P2: 3%, P3: 4%. For amino acids, it consists of P0: 0%, P1: 2%, P2: 3%, P3: 4%. This research has a total of 144 experimental units. If the result data is significantly different, then continue using the mean difference test according to the Duncan method at 5% level. Observation variables include survival percentage (%), plant height (cm), stem diameter (mm), number of shoots, number of leaves (pairs), root volume (ml), root wet weight (g), and root dry weight (g). The results showed that pgpr treatment had no significant effect on the growth of robusta coffee (Coffea canephora L.). Amino acid treatment had a significant effect on the parameters of live cuttings and root volume, A2 treatment (3%) had the best treatment. The interaction of adding PGPR and amino acids had a significant effect on the parameters of percentage of life and root volume, giving P3A3 treatment (PGPR 4% and amino acids 4%) had the best treatment.*

Keywords*: PGPR Coffee roots, Amino Acids, Robusta Coffee*