# RESPONSE OF IMMERSION OF AUXIN GROWTH REGULATOR SUBSTANCES ON THE GROWTH OF ROBUSTA COFFEE *(Coffea Canephora Pierre Ex A. Froehner)* AND ARABICA *(Coffea Arabica L.)*

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## ABSTRACT

The plantation crops such as coffee thrive in tropical regions and are commodities of significant economic value. This study aims to determine the effect of auxin growth regulators IAA, NAA, and IBA on the growth of robusta and arabica coffee cuttings. The research was conducted at the Politeknik Negeri Jember using a Randomized Complete Block Design (RCBD) with two treatment factors. The first factor involved the application of IAA (Indole acetic acid) at various concentrations, while the second factor included the application of NAA (Naphthalene acetic acid) also at various concentrations, and the application of IBA (Indole butyric acid). Data were collected on several parameters: shoot growth rate, shoot length, leaf length, percentage of cuttings producing shoots, and percentage of surviving cuttings. Analysis of Variance (ANOVA) was used, and significant results from ANOVA were further analyzed using Tukey's Honestly Significant Difference (HSD) test at a 5% level of significance. The application of IBA growth regulator had the most favorable effects on the time of shoot emergence, shoot length, and leaf length compared to all other auxin treatments. For the percentage of surviving cuttings, arabica coffee demonstrated the best growth among the coffee types studied. In conclusion, this research showed highly significant differences in various parameters such as percentage of surviving cuttings, time of shoot emergence, shoot length, and leaf length. However, no significant differences were found in the parameter of percentage of cuttings producing shoots.

**Keywords** : Coffee Cuttings, Auxin Plant Growth Regulators