

***THE EFFECT OF THE NUMBER OF SEGMENTS AND THE  
PROVISION OF COCONUT WATER AS A NATURAL ZPT ON  
COFFEE CUTTINGS ROBUSTA (Coffea canephora P.)***

*Supervised by Anni Nuraisyah S.TP., M.Si.*

**Muhammad Toyyib Bin Dimas Tuki**

*Study Program of Cultivation of Crops Plantation*

*Department of Agricultural Production, Jember State Polytechnic*

*e-mail : [muhammadtoyyibbindimastuki@gmail.com](mailto:muhammadtoyyibbindimastuki@gmail.com)*

**ABSTRACT**

*The productivity of robusta coffee in Indonesia has decreased from year to year, caused by various factors such as the use of old plants, less effective propagation techniques, and the lack of application of environmentally friendly technology in cultivation. One alternative to overcome this problem is through vegetative propagation using cuttings supported by the use of natural Growth Regulators (ZPT) such as coconut water. Coconut water is known to contain auxin and cytokinin hormones that play an important role in stimulating the growth of plant roots and shoots. This study aims to determine the effect of the number of cuttings and the concentration of coconut water as a natural ZPT on the growth of robusta coffee cuttings (Coffea canephora P.). The research was carried out in Fern Village and the Soil Laboratory of the Jember State Polytechnic from January to April 2022. The data analysis used was a factorial Group Random Design (RAK) with two treatment factors: the number of cuttings (1, 2, and 3 segments) and coconut water concentration (0%, 25%, 50%, and 75%). The observed parameters included the percentage of life, shoot length, number of leaves, root length, root wet weight, and root dry weight. Data analysis using ANOVA and BNT follow-up test at 5%. The results of the study showed that the treatment of the number of segments and the concentration of coconut water had a very real effect on all growth parameters. The best treatment combination is obtained in 2 cuttings with a coconut water concentration of 50%, which results in optimal growth. In contrast, a 75% coconut water concentration tends to reduce growth, allegedly due to an excess of hormones that cause physiological stress in plants.*

*Keywords: robusta coffee, coconut water, stem cuttings*