

**The Effect of Various Growing Media Ratios on Alluvial Soil on the Growth of Robusta Coffee (*Coffea canephora* Pierre ex A. Froehner) Seedlings**  
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**ABSTRACT**

*Nursery is a crucial stage in robusta coffee (*Coffea canephora* Pierre ex A. Froehner) cultivation that determines seedling quality in the field. Alluvial soil has good nutrient potential but requires soil conditioners like rice husk charcoal and cocopeat to improve its physical. This study aimed to determine the effect of growing media ratios on alluvial soil on the growth of robusta coffee seedlings, identify the best treatment, and find operationally efficient media. The research was conducted at the Politeknik Negeri Jember nursery from November 2025 to April 2026, using a non-factorial Randomized Block Design (RBD) with seven treatments and four replications. Observed parameters included plant morphological traits and growing media characteristics. Data were analyzed using ANOVA and orthogonal contrast tests at the 5% significance level. The results showed that the growing media ratio significantly affected stem diameter, root length, media pH, and media weight. The M5 treatment (alluvial soil:sand:conditioner = 1:1:1) yielded the best stem diameter of 4.33 mm and stable pH. The M4 treatment (alluvial soil:sand:husk charcoal = 1:1:3) produced the longest roots (27.80 cm). Meanwhile, the M7 treatment (alluvial soil:sand:cocopeat = 1:1:3) resulted in the lowest media weight (2,44 kg/polybag), which is advantageous for distribution. The use of rice husk charcoal and cocopeat-based media on alluvial soil effectively supports seedling growth while increasing operational efficiency in distribution.*

**Keywords:** *Alluvial soil, Cocopeat, Nursery, Rice husk charcoal, Robusta coffee.*