

GROWTH RESPONSE OF ROBUSTA COFFEE (*Coffea Robusta* Pierre) CUTTINGS WITH ALOE VERA AND SHALLOT EXTRACTS

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ABSTRACT

Coffee as one of the plantation crops which has contributed to the country's foreign exchange has experienced a decline over the last 3 years. The reduction in land area and the use of seeds resulting from generative propagation whose growth is not uniform have an impact on coffee productivity. Propagating coffee by cuttings is an alternative. Giving natural ZPT is used to help the process of organ development and growth. Aloe vera and shallots which contain the hormones auxin and gibberellin can stimulate cell growth. The aim of this research was to determine the best growth response of robusta coffee cuttings when given aloe vera extract, shallots, and a combination of aloe vera and shallot extracts. The research was carried out from August to November 2024 at the Jember State Polytechnic Land. The experimental design used in this research was factorial RAK (Randomized Block Design) using 2 factors, the first factor was aloe vera extract (A) with concentrations of 0% (A0), 10% (A1), 20% (A2), and 30% (A3) and the second factor of shallots (P) with concentrations of 0% (P0), 10% (P1), 20% (P2), and 30% (P3). This research was conducted with 16 treatment combinations, 2 replications, and 3 samples. Observation parameters in the study included the percentage of finished cuttings, shoot height, number of leaves, root length, root wet weight, and dry weight of stover. Aloe vera extract with a concentration of 20% had a significant effect on the stem length parameter at 16 WAP and had no effect on other parameters. Red onion extract gave non-significantly different results on all parameters. The interaction treatment of 0% aloe vera extract and 10% shallot extract gave the best results with the smallest concentration on the parameters of stem length and dry weight of stover.

Keywords: Robusta coffee cuttings, Aloe Vera Extracts, Shallot Extracts