

***THE EFFECT OF APPLICATION OF NATURAL PGR ONION
EXTRACT AND AMINO ACID ON THE GROWTH OF VANILLA
CUTTINGS (*Vanilli planifolia* Andrews)***

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ABSTRACT

*Vanilla (*Vanilla planifolia* Andrews) is a high-value plantation crop widely used in the food, beverage, cosmetic, and pharmaceutical industries. Vegetative propagation through single-node cuttings has a limitation in the form of low food reserves, resulting in relatively slow growth. The use of natural Plant Growth Regulators (PGR) from shallot extract, which contains auxin and rhizocaline, as well as amino acids as an additional nutrient source, is expected to enhance the growth of vanilla cuttings. This study aimed to determine the effect of shallot extract and amino acids on the growth of vanilla cuttings. The research was conducted from June to August 2025 at the Field and Soil Laboratory of Politeknik Negeri Jember using a factorial Randomized Complete Block Design (RCBD) with two factors: shallot extract concentration (0%, 20%, 50%, 80%) and amino acid application (without and with amino acids), resulting in 8 treatment combinations with 4 replications. The observed parameters included survival percentage, shoot length, number of leaves, fresh weight, and dry weight. The results showed that all cuttings had a 100% survival rate at 4 WAP (Weeks After Planting). For shoot length, neither the interaction effect nor the individual factors showed a significant effect. Shallot extract had a highly significant effect on the number of leaves at 90 DAP (Days After Planting), with the best concentration being 50%. The interaction between shallot extract and amino acids also had a highly significant effect on the number of leaves at 90 DAP, whereas amino acids applied individually did not show a significant effect. The single factors of shallot extract and amino acids, as well as their interaction, did not show a significant effect on fresh weight and dry weight parameters at 90 DAP. The interaction between shallot extract and amino acids contributed to supporting the growth of vanilla cuttings.*

Keywords: *amino acids, shallot, vanilla cuttings, natural PGR.*