

**Pengaruh Teknik Aplikasi Kocor serta Semprot Asam Amino Terhadap
Pertumbuhan dan Panen Tanaman Tembakau (*Nicotiana tabacum* L.)
Varietas Kasturi (The Effect of Amino Acid Application Techniques Soil
Drench and Foliar Spray on the Growth and Yield of Kasturi Variety Tobacco
(*Nicotiana tabacum* L.). Supervisor : Ir. Triono Bambang Irawan, M.P**

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ABSTRACT

*This study aimed to evaluate the effect of organic amino acid fertilizer application techniques (soil drench vs. foliar spray) and determine the most effective method on the vegetative growth and harvest yield of Kasturi variety tobacco (*Nicotiana tabacum* L.). The field experiment was conducted at the Politeknik Negeri Jember research field from August to November 2026. The experimental method was arranged using an independent two-group comparison design consisting of two treatment application techniques: M1 (Soil drench application to the root zone) and M2 (Foliar spray application to the leaves). Each treatment was replicated 9 times, resulting in a total of 180 experimental plants. Amino acid applications were performed 3 times (at 22, 30, and 50 DAP) with a concentration of 25 ml/liter of water (dosage 500 ml/plant). Data were analyzed using the Independent Sample t-Test at a 5% significance level ($\alpha = 0.05$). The t-test results indicated that the application of amino acids via soil drench (M1) and foliar spray (M2) showed no significant difference ($p > 0.05$) across all observed parameters, Vegetative Growth : Plant height, leaf count, and stem diameter at 36, 50, and 70 DAP. Biomass Accumulation : Plant fresh weight (M1 = 847.41 g vs M2 = 783.70 g) and plant dry weight (M1 = 33.59 g vs M2 = 43.63 g) at 90 DAP. Harvest Yield Components : Harvested leaf count and harvested leaf weight across Priming I (70 DAP), Priming II (80 DAP), and Priming III (90 DAP). In conclusion, the soil drench technique (systemic uptake via xylem) and the foliar spray technique (rapid absorption via stomata/phloem) demonstrate equivalent physiological efficiency and are substitutable in supporting the growth and yield of Kasturi tobacco. The choice of application method by farmers can be flexibly adjusted based on weather conditions, water availability, and field labor efficiency.*

Keywords : Amino Acids, Kasturi Tobacco, Soil Drench, Foliar Spray, t-Test