

**THE EFFECT OF AMINO ACID APPLICATION ON THE
GROWTH AND PRODUCTION OF VOOR OOGST
TOBACCO (NICOTIANA TABACUM L.)**

Supervised by: Abdurrahman Salim S.Si., M.Si

Kevin Alif Widyatna

*Plantation Crop Cultivation Study Program
Agricultural Production Department, Jember State Polytechnic
e-mail: kevinlifwidyatna@gmail.com*

ABSTRACT

Voor Oogst tobacco (Nicotiana tabacum L.) is an economically important plantation crop whose productivity is strongly influenced by cultivation practices, particularly fertilizer management. Continuous application of inorganic fertilizers may reduce soil fertility; therefore, amino acids have been developed as plant biostimulants to support plant growth and production. This study aimed to determine the effect of amino acid application on the growth and production of Voor Oogst tobacco. The experiment was conducted from July to November 2025 at the Field Laboratory of Jember State Polytechnic using a non-factorial Randomized Complete Block Design (RCBD) with four treatments: P0 (SP-36 fertilizer, ZA, KNO₃, 10 grams of urea per polybag), P1 (250 ml of amino acids per polybag + 5 grams of SP-36, 5 grams of ZA, 5 grams of KNO₃, and 5 grams of urea), P2 (500 ml of amino acids per polybag + 5 grams of SP-36, 5 grams of ZA, 5 grams of KNO₃, and 5 grams of urea), and P3 (750 ml of amino acids per polybag + 5 grams of SP-36, 5 grams of ZA, 5 grams of KNO₃, and 5 grams of urea), with six replications. The observed parameters included plant height, leaf number, stem diameter, fresh weight, dry weight, harvested leaf number, harvested leaf weight, and plant production. Data were analyzed using analysis of variance (ANOVA) followed by the Least Significant Difference (LSD) test at the 5% significance level. The results showed that amino acid application had a highly significant effect on plant height and a significant effect on leaf number, stem diameter, and harvested leaf number. However, it had no significant effect on fresh weight, dry weight, harvested leaf weight, or plant production. The P0 treatment produced the best vegetative growth, whereas the P3 treatment tended to produce the highest harvested leaf weight and plant production.

Keywords: *Amino Acids, Growth, Plant Production, Voor Oogst Tobacco*