

The Effect of KNO₃ Fertilizer and Lemuru Fish-Based Amino Acid on the Seedling Growth of Tobacco Plants (*Nicotiana tabacum L.*)

Varietas H-382

Satria Indra Kusuma, S.E., M.M.

Moch Ricko Fernando

Study Program of Plantation Crop Cultivation

Department of Agricultural Production

ABSTRACT

This study aimed to determine the effect of KNO₃ fertilizer and lemuru fish-based amino acid on the seedling growth of tobacco plants (*Nicotiana tabacum L.*) of the H-382 variety. The research was conducted from May 2023 to June 2023 at the PTPN 1 Regional 4 plantation, Ajung Village, Ajung District, Jember. The study utilized a factorial Randomized Block Design (RBD) with two factors. The first factor was the potassium fertilizer dosage with three levels: K0 = no potassium fertilizer (control), K1 = 10 g potassium fertilizer/polybag, and K2 = 20 g potassium fertilizer/polybag. The second factor was the lemuru fish-based amino acid dosage with three levels: P0 = no lemuru fish-based amino acid (control), P1 = 5 ml/plant, and P2 = 10 ml/plant. Data obtained from the study were analyzed using ANOVA, followed by further testing with a 5% LSD. The results showed that potassium fertilizer had a highly significant effect on the growth of tobacco seedlings in the parameters of plant height and root length, with the best treatment being K2 (20 g/polybag). The study also revealed that lemuru fish-based amino acid significantly affected plant height, with the best treatment being P2 (10 ml/polybag). Moreover, amino acid significantly influenced stem diameter, with the best treatment being P1 (5 ml/polybag), and root length, with the best treatment being P2 (10 ml/polybag). Furthermore, an interaction was observed between potassium fertilizer and lemuru fish-based amino acid in affecting plant height and root length, with the best treatment being K2P2 (20 g potassium/polybag and 10 ml amino acid/polybag).

Keywords: Amino Acid, Potassium Fertilizer, Tobacco