EFFECT OF PGPR (*Plant Growth Promoting Rizhobacteria*) WITH AMINO ACID APPLICATION ON THE VEGETATIVE GROWTH OF SUGARCANE (*Saccharum officinarum* L.) PLANTS BULULAWANG VARIETY

Supervised by Irma Wardati, S.P., M.P.

Lintang Kurnia Ramadhani
Plantation Plant Cultivation Study Program
Department of Agricultural Production

ABSTRACT

The purpose of study was to determine the effect of PGPR and amino acids on the vegetative growth of sugarcane plants in Bululawang variety. The implementation of the research entitled 'The Effect of PGPR (Plant Growth Promoting Rizhobacteria) and Amino Acid Application on Vegetative Growth of Sugarcane (Saccharum officinarum L.) Bululawang Variety was carried out from August to December 2023 at the Jember State Polytechnic Land with a land area of 6 metres x 9.5 metres. This study used a Non-Factorial Randomised Group Design (RAK) consisting of 4 treatments. The treatments each of them includes P0: without PGPR and amino acid application, P1: PGPR application (500 ml/polybag), P2: PGPR application (500 ml/polybag) + amino acid (500 ml/polybag), P3: amino acid application (500 ml/polybag). The observation data was analyzed using analysis of variance (anova), and further tested with the 5% Least Significant Difference (BNT) test. The results of the study showed that the application of *Plant Growth Promoting Rhizobacteria* (PGPR) with amino acids, either single treatment or combination, had a significant effect on the parameters of the number of seedlings at the age of 63 HST and root volume parameters, and had no significant effect on the parameters of plant height, stem diameter, and number of leaves.

Keywords: PGPR, Amino Acid, Vegetative Growth, Sugarcane