

ABSTRACT

Sweet corn (*Zea mays saccharata* Sturt.) is one of the horticultural commodities widely cultivated in Indonesia due to its sweet taste, ease of processing, and high nutritional content, including carbohydrates, fructose, water, vitamins, and amino acids. The low productivity of sweet corn is partly caused by cultivation on land that has experienced degradation due to the use of inorganic materials. One approach to address this issue is by applying biological fertilizers such as *Plant Growth Promoting Rhizobacteria* (PGPR) at the appropriate concentration. This study aims to examine the effect of PGPR application on the growth and yield of sweet corn. The research was conducted at the Experimental Farm and Laboratory of the Faculty of Agriculture, Malikussaleh University, from November 2024 to February 2025. This study used a non-factorial Randomized Block Design (RBD) with four replications. The treatment levels included P0 (control), P1 (bamboo root PGPR 20 ml/l), P2 (bamboo root PGPR 40 ml/l), P3 (reeds root PGPR 20 ml/l), and P4 (reeds root PGPR 40 ml/l). The result showed that the application of PGPR from different sources had a significant to highly significant effect on the variables of plant height, leaf number, stem diameter, time of male flower emergence, and root weight. The application of PGPR from different sources that had a significant effect with the highest average value was at the P2 level (bamboo root PGPR 40 ml/l).

Keywords: Bamboo, Bonanza F1 variety, concentration, PGPR, reeds