

**The Effect of Plant Growth Promoting Rhizobacteria (PGPR)
Sugarcane Roots and Fish Amino Acid (FAA) on the Initial
Growth of Sugarcane
(*Saccharum officinarum* L.)**

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ABSTRACT

Sugarcane is needed by the community so, that demand continues to increase in line with the increasing of Indonesia population. However, in fact sugar production decrease every year due to low sugarcane productivity. Given the importance role of sugarcane in the sugar industry, it necessary to carry out intensive continuous research to be able to help increase productivity and alternate sugarcane cultivation. One of its latest breakthroughs is the administration of Rhizobacteria or known as PGPR and FAA in the sugarcane cultivation. This research was carried out from February until May 2022 on the land of Jember State Polytechnic. The experimental design used factorial complete randomized design consisting two factors and three tests. The first factorial is PGPR with concentration K0 (0%), K1 (5%), K2 (10%) and K3 (15%). The second factor is FAA with concentrations M1 (0%), M2 (1%) and M3 (2%). The observed parameters are plant height, stem diameter, number of leaves, number of saplings, root wet weight, and root dry weight. The data were analyzed with ANOVA, the real treatment was continued using duncan multiple distance test with a level 5%. The result showed that PGPR had no noticeable effect on the parameters of plant height, stem diameter, number of leaves and number of saplings. PGPR concentration of 15% has an effect on the wet and dry weight of root. Whereas the FAA had no noticeable effect on all observational parameters.

Keywords: *sugarcane, PGPR, FAA*