

**CHARACTERIZATION OF THE PGPM (*Plant Growth Promoting
Microbes*) ENDOPHYTE OF THE JAVA GINSENG PLANT (*Talinum
paniculatum Gaertn.*) AND ITS APPLICATION ON THE VEGETATIVE
GROWTH OF CORN**

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ABSTRACT

The phenomenon of agricultural practices using chemicals continuously can not increase agricultural yields but causes environmental damage. Utilizing the root endophytes of Javanese ginseng plants as Plant Growth Promoting (PGP) are one solution to reduce chemicals and increase agricultural yields. In its application, it is necessary to know the characteristics of endophytic microbes that act as PGP to get optimal results. This research method were carried out descriptively and experimentally with in-vitro and in-vivo tests. In-vitro tests are carried out by testing the characteristics of endophytic microbes which can dissolve phosphate, potassium, nitrogen, produce HCN, ammonia, IAA, protease enzymes, catalase enzymes, amylase enzymes, pectinase enzymes, and cellulase enzymes. The in-vivo test was carried out by testing endophytic microbes in the vegetative growth vase of cor. The experimental method used the 3 best types of endophytic microbes with a Completely Randomized Design (CRD), including Control (A), Javanese ginseng root endophyte code GJ-8 (B), Javanese ginseng root endophyte code GJ-7 (C), Javanese ginseng root endophyte code GJ-4 (D), Javanese ginseng root endophytes code GJ-8, GJ-7 and GJ-4 (E). The results of the study showed that Javanese ginseng root endophytes had characteristics of PGP. Independently, administration of Javanese ginseng root endophytic microbial isolates coded GJ-8, GJ-7, and GJ-4 had a significant on plant height, vegetative growth of corn at 7 DAP and 14 DAT observations, but had no significant at 21 DAP observations. In general, application endophytes to corn does not have a significant on the vegetative growth of corn.

Keywords: Java ginseng, endophytic microorganism, *Plant Growth Promoting* (PGP), corn.