

**APLIKASI BAKTERI ENDOFIT DALAM MENINGKATKAN
PERTUMBUHAN DAN PRODUKSI TANAMAN JAGUNG
(*Zea mays L*) PADA MEDIA ULTISOL**

OLEH:



**PROGRAM STUDI ILMU TANAH
FAKULTAS PERTANIAN
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PADANG
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APPLICATION OF ENDOPHYTIC BACTERIA TO INCREASE GROWTH AND PRODUCTION OF CORN (*Zea mays L*) IN ULTISOLS

Abstract

The purpose of this research was to study to find out the best way to apply endophytic bacteria to increase growth and production of corn (*Zea mays L*) in Ultisols. This research was carried out in January 2018 until July 2019 in the Soil Science Laboratory and in the wire house Agriculture Faculty, Andalas University. The experiment was designed in Completely Randomized Design (CRD) consisting of 5 treatments with 4 replications, those were A = Control (with endophytic bacteria application) ; B = Soaking Seeds with endophytic bacteria solution ; C = Watering endophytic bacteria solution to the ground; D = Spraying endophytic bacteria solution to the leaf + stem and, E = Watering endophytic bacteria solution to the ground and spraying to the leaf + stem. The data resulted were statistically analyzed based on F test at 5% significance level. The result showed that : (1) Application of endophytic bacteria (*Serratiamarcescens ARI*) increased plant height, number of leaves, dry weight of cobs, and dry weight of 100 seeds of corn by 30.5 cm; 3 strands; 201.49 g, and 22.76 g, respectively compared to controls; (2) Application of endophytic bacteria by watering it into the soil and spraying it on leaves and stems as much as 20 ml. or plant increased plant height by 30.5 cm, number of leaves by 3 strands, dry weight by 2.23 g, dry weight of cob by 201.49 g, and the dry weight of 100 seeds by 22.76 g, and K uptake by 0.74 g, and 0.61% for root and stem compared to control.

Keywords: Endophytic bacteria (*S. marcescens ARI*), Corn, Ultisols.

