

**“PENGARUH APLIKASI BAKTERI ENDOFIT DAN PUPUK N TERHADAP  
PENINGKATAN PRODUKSI CABAI (*Capsicum annuum* L.) PADA ULTISOL YANG  
DIKAPUR”**

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**FAKULTAS PERTANIAN  
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# **PENGARUH APLIKASI BAKTERI ENDOFIT DAN PUPUK N TERHADAP PENINGKATAN PRODUKSI CABAI (*Capsicum annuum* L.) PADA ULTISOL YANG DIKAPUR**

## **ABSTRAK**

Bakteri endofit dikenal luas peranannya dalam mendukung pertumbuhan tanaman baik dari aspek biokontrol, biostimulasi tetapi sangat sedikit penelitian dalam aspek biofertilisasi. Penelitian pengaruh aplikasi bakteri endofit dan pupuk N terhadap peningkatan produksi cabai (*Capsicum annuum* L.) pada Ultisol yang dikapur telah dilaksanakan pada bulan Juli hingga September 2020. Tujuan penelitian ini untuk mengetahui pengaruh aplikasi bakteri endofit dengan pupuk N 50 % dan tanpa pupuk N terhadap tanaman cabai merah (*Capsicum annuum* L.) pada Ultisol yang dikapur. Penelitian dalam bentuk percobaan polybag dalam pola Rancangan Acak Lengkap (RAL) dengan delapan perlakuan dan tiga kali ulangan. Perlakuan terdiri dari kontrol, isolate endofit akar tanpa pupuk N, isolate endofit akar tanpa pupuk N, isolate endofit batang tanpa pupuk N, isolate endofit daun tanpa pupuk N, tanpa bakteri + pupuk N 50%, isolate endofit akar + pupuk N 50%, isolate endofit batang + pupuk N 50%, isolate endofit daun + pupuk N 50%. Ada 24 unit perawatan yang dialokasikan di rumah kawat berdasarkan RAL. Data pengamatan tanaman di lanjutkan dengan uji Duncan's New Multiple Range Test (DNMRT) pada taraf 5%. Perlakuan aplikasi bakteri endofit akar dengan disertai pemberian pupuk N merupakan perlakuan terbaik dengan tinggi tanaman 124.00 cm, jumlah cabang 17.67 buah, jumlah bunga 41.00 buah, jumlah buah 25,33 buah, dan bobot buah total 36,78 gram.

*Kata kunci : bakteri endofit, cabai, produksi, pupuk N, Ultisol*



# EFFECT OF ENDOPHYTIC BACTERIA AND N FERTILIZER APPLICATION ON INCREASING CHILI (*Capsicum annuum* L.) PRODUCTION IN LIMED ULTISOL

## ABSTRACT

Endophytic bacteria are widely known for their role in supporting plant growth both from biocontrol, biostimulation, but there was very little research in the aspect of biofertilization. A research on effect of endophytic bacteria and N fertilizer application on increasing production of chili (*Capsicum annuum* L.) in limed Ultisols was carried out from July to September 2020. This study was aimed to determine the application effect of endophytic bacteria with 50% of recommended N fertilizer and without N fertilizer application on red chili plant (*Capsicum annuum* L.) crops in limed Ultisols. The research was in form of experiment, it consisted of eight treatments and three replications. The treatments consisted of control, root endophytic isolate without N fertilizer, stem endophytic isolate without N fertilizer, leaf endophytic isolate without N fertilizer, without bacteria + 50% of recommended N fertilizer, root endophytic isolate + 50% of recommended N fertilizer, stem endophytic isolate + 50% of recommended N fertilizer, and leaf endophytic isolate + 50% of recommended N fertilizer. There were 24 treatment units which were allocated in glasshouse based on CRD. The data collected was analyzed the variance using 5% level of significance. The test was continued using Duncan's New Multiple Range Test (DNMRT) at 5 % level if F calculated > F- table. The treatment of root endophytic bacteria application plus 50% of recommended N fertilizer was the best treatment with the plant height was 124.00 cm, number of branches was 17.67 units, flower fruit was 41.00 units, fruit number was 25.33 fruits, and fruit weight total was 36.78 grams.

*Keywords: chili, endophytic bacteria, production, N fertilizer, Ultisol*

