

**PENGARUH BAKTERI ENDOFIT *Bacillus* spp. TERHADAP
PERTUMBUHAN BIBIT KAKAO (*Theobroma cacao* L.)**

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ABSTRAK

Keberhasilan usaha budidaya tanaman kakao (*Theobroma cacao* L.) ditentukan dari pembibitan dan salah satu cara untuk meningkatkan pertumbuhan bibit kakao adalah dengan menggunakan bakteri endofit *Bacillus* spp. Penelitian ini bertujuan untuk mengetahui pengaruh bakteri endofit *Bacillus* spp. terhadap pertumbuhan bibit kakao (*Theobroma cacao* L.). Percobaan dilaksanakan berdasarkan Rancangan Acak Lengkap (RAL) dengan 4 perlakuan dan 5 ulangan. Jenis perlakuan yang diberikan yaitu *Bacillus cereus* SLBE1.1BB, *Bacillus cereus* SLBE1.1SN, dan *Bacillus thuringiensis* SLBE2.3BB. Variabel yang diamati terdiri dari variabel tinggi tanaman, jumlah daun, panjang daun, lebar daun, diameter batang, bobot segar tanaman, bobot kering tanaman, panjang akar dan persentase bibit siap salur. Data yang diperoleh dilakukan sidik ragam dan jika berbeda nyata, maka dilanjutkan dengan uji LSD (*Least Significant Different*) pada taraf 5%. Hasil penelitian menunjukkan bahwa pemberian bakteri endofit *Bacillus cereus* SLBE1.1SN memberikan pengaruh terhadap pertumbuhan bibit kakao seperti pada variabel tinggi tanaman, jumlah daun, panjang daun, lebar daun, diameter batang, bobot segar tanaman, bobot kering tanaman, dan panjang akar.

Kata kunci: *Bacillus cereus*, *Bacillus thuringiensis*, bibit siap salur, *Plant Growth Promoting Rhizobacteria* (PGPR), simbiosis mutualisme.

EFFECT OF ENDOPHYTIC BACTERIA *Bacillus* spp. ON THE GROWTH OF CACAO (*Theobroma cacao* L.) SEEDLINGS

ABSTRACT

The success of cacao (*Theobroma cacao* L.) cultivation is determined from seedlings and one way to increase the growth of cacao seedlings is by use endophytic bacteria i.e *Bacillus* spp. The objective of this study was to determine the effect of endophytic bacteria *Bacillus* spp. on the growth of cacao seedlings (*Theobroma cacao* L.). The experiment was designed based on a completely randomized design (CRD) with 4 treatments and 5 replications. The types of treatment were *Bacillus cereus* SLBE1.1BB, *Bacillus cereus* SLBE1.1SN, and *Bacillus thuringiensis* SLBE2.3BB. The observed variables were plant height, number of leaves, leaf length, leaf width, stem diameter, plant fresh weight, plant dry weight, root length, and percentage of seedlings ready for distribution. The data obtained were analyzed of variance and if they were significantly different, then continued by the LSD (*Least Significant Different*) test at 5% level. The results showed that the endophytic bacteria *Bacillus cereus* SLBE1.1SN affected the growth of cacao seedlings on the variables of plant height, number of leaves, leaf length, leaf width, stem diameter, plant fresh weight, plant dry weight, and root length.

Keywords: *Bacillus cereus*, *Bacillus thuringiensis*, ready-to-line seedlings, *Plant Growth Promoting Rhizobacteria* (PGPR), symbiotic mutualism.

