

**UJI ANTAGONIS BAKTERI ENDOFIT TERHADAP *Sclerotium rolfsii*
Sacc PENYEBAB BUSUK PANGKAL BATANG PORANG *SECARA IN
VITRO***

SKRIPSI



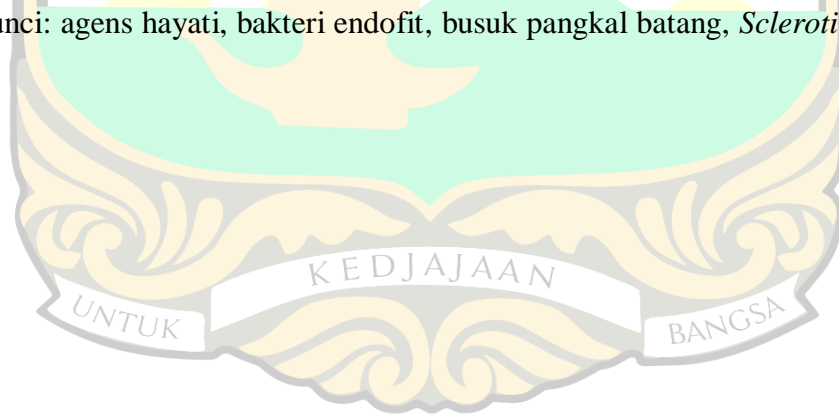
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ABSTRAK

Bakteri endofit merupakan bakteri yang hidup dalam jaringan tanaman tanpa menyebabkan gejala penyakit pada tanaman inangnya. Bakteri endofit memiliki potensi sebagai agens biokontrol terhadap patogen tanaman dengan kemampuannya menghasilkan senyawa metabolit sekunder. Penelitian ini bertujuan untuk mendapatkan isolat bakteri endofit yang berpotensi menekan perkembangan *Sclerotium rolfsii* penyebab busuk pangkal batang porang secara *in vitro*. Penelitian ini merupakan penelitian eksperimen dengan menggunakan Rancangan Acak Lengkap (RAL) yaitu 5 perlakuan 5 ulangan. Perlakuan terdiri atas isolat bakteri endofit LMB7, LMB27, LMD 13, tebukonazol 1 %, dan kontrol (tanpa bakteri endofit). Pengujian dilakukan dengan 2 cara yaitu *dual culture* dan peracunan media. Sumber *S. rolfsii* diambil dari lahan tanaman porang daerah Balai Gadang, Kec. Koto Tangah, Kota Padang, Sumatera Barat. Parameter pengamatannya yaitu persentase daya hambat bakteri endofit, efektivitas metabolit sekunder bakteri endofit, berat basah dan berat kering jamur *S. rolfsii*. Hasil penelitian menunjukkan bahwa perlakuan semua bakteri endofit isolat LMB 7, LMB 27 dan LMD 13 berpotensi menekan pertumbuhan jamur *S. rolfsii* penyebab busuk batang porang secara *In Vitro*. Isolat bakteri endofit yang paling efektif dalam menekan pertumbuhan jamur *S. rolfsii* adalah isolat LMB 27.

Kata kunci: agens hayati, bakteri endofit, busuk pangkal batang, *Sclerotium rolfsii* Sacc.



ANTAGONIST TEST OF ENDOPHYTIC BACTERIA AGAINST *Sclerotium rolfsii* Sacc CAUSES IN VITRO BASE OF PORANG STEM ROT

ABSTRACT

Endophytic bacteria live in plant tissue without causing disease symptoms in their host. Endophytic bacteria have the potential as biocontrol agents against plant pathogens with their ability to produce secondary metabolite compounds. This research aims to obtain isolates of endophytic bacteria that can potentially suppress the development of *Sclerotium rolfsii*, which causes stem rot in porang plants in vitro. This research used an experimental method with a Completely Randomized Design (CRD), namely five treatments with five replications. The treatment consisted of endophytic bacterial isolates LMB7, LMB27, LMD 13, 1% Tebuconazole, and control (without endophytic bacteria). Testing was carried out in 2 ways: dual culture and media poisoning. The source of *S. rolfsii* was taken from the porang plantation area in Balai Gadang area, Kec. Koto Tengah, Padang City, West Sumatra. The parameters observed were the percentage of inhibitory power of endophytic bacteria, the effectiveness of secondary metabolites of endophytic bacteria, and the wet weight and dry weight of the *S. rolfsii* fungus. The results showed that treatment of all endophytic bacteria isolates LMB 7, LMB 27, and LMD 13 could potentially suppress the growth of the fungus *S. rolfsii* which causes porang stem rot in vitro. The endophytic bacterial isolate that was most effective in suppressing the growth of the *S. rolfsii* fungus was the LMB 27 isolate.

Key words: biological agents, endophytic bacteria, *Sclerotium rolfsii* Sacc, stem base rot

