

**POTENSI KONSORSIUM BAKTERI ENDOFIT DALAM
MENEKAN PERKEMBANGAN PENYAKIT BERCAK
COKLAT (*Helminthosporium oryzae* Breda de Haan),
PEMACU PERTUMBUHAN DAN HASIL
TANAMAN PADI**

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oryzae* Breda de Haan), PEMACU PERTUMBUHAN DAN HASIL
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ABSTRAK

Penyakit bercak coklat disebabkan oleh *Helminthosporium oryzae* dapat menyebabkan kehilangan hasil mencapai 90%. Salah satu pengendalian penyakit dengan memanfaatkan agens hayati seperti konsorsium bakteri endofit. Tujuan penelitian untuk mendapatkan konsorsium bakteri endofit terbaik dalam mengendalikan penyakit bercak coklat (*H. oryzae*), meningkatkan pertumbuhan dan hasil tanaman padi. Penelitian menggunakan Rancangan Acak Lengkap yang terdiri dari 5 perlakuan 5 ulangan dan 3 unit. Perlakuannya adalah A (*Serratia marcescens* ULG1E4 + *Serratia marcescens* JB1E3), B (*Serratia marcescens* ULG1E4 + *Serratia marcescens* JB1E3 + *Serratia marcescens* JB1E2), C (*Bacillus* sp. SJI + *Serratia marcescens* ULG1E4), D kontrol positif dan E kontrol negatif. Parameter pengamatan meliputi perkembangan penyakit (masa inkubasi, kejadian dan keparahan penyakit), pertumbuhan bibit (daya muncul lapang, tinggi, jumlah daun, panjang akar, bobot segar dan bobot kering bibit), pertumbuhan tanaman (tinggi, jumlah daun dan jumlah anakan) dan hasil tanaman padi (bobot gabah segar, bobot gabah kering dan bobot 1.000 gabah kering). Hasil penelitian menunjukkan bahwa semua konsorsium bakteri endofit mampu menekan perkembangan penyakit bercak coklat (*H. oryzae*), memacu pertumbuhan dan hasil tanaman padi. Konsorsium yang memiliki kemampuan terbaik adalah konsorsium B (*Serratia marcescens* ULG1E4 + *Serratia marcescens* JB1E3 + *Serratia marcescens* JB1E2) dengan efektivitas penekanan perkembangan penyakit 91,67%, efektivitas pertumbuhan bibit 52,52%, efektivitas pertumbuhan tanaman 22,68% serta efektivitas hasil tanaman padi 34,42%.

Kata kunci : Efektivitas, Gabah, Kejadian penyakit, Keparahan penyakit, Pemicu pertumbuhan

**POTENTIAL OF ENDOPHYTIC BACTERIAL CONSORTIUM IN
SUPPRESSING BROWN SPOT DISEASE DEVELOPMENT
(*Helminthosporium oryzae* Breda de Haan), SUPPORTING
GROWTH AND RICE YIELD**

ABSTRACT

Brown spot disease caused by *Helminthosporium oryzae* can cause yield losses of up to 90%. One way to control the disease is by utilizing biological agents such as consortium of endophytic bacteria. The purpose of the study was to obtain the best endophytic bacterial consortium in controlling brown spot disease (*H. oryzae*), increasing the growth and yield of rice plants. This study used a completely randomized design consisting of 5 treatments 5 replicates and 3 units. The treatments were A (*Serratia marcescens* ULG1E4 + *Serratia marcescens* JB1E3), B (*Serratia marcescens* ULG1E4 + *Serratia marcescens* JB1E3 + *Serratia marcescens* JB1E2), C (*Bacillus* sp. SJI + *Serratia marcescens* ULG1E4), D positive control and E negative control. Observation parameters included disease development (incubation period, disease incidence and severity), seedling growth (field emergence, height, number of leaves, root length, fresh weight and dry weight of seedlings), plant growth (height, number of leaves and number of tillers) and rice yield (fresh grain weight, dry grain weight and 1,000 dry grain weight). The results showed that all endophytic bacterial consortia were able to suppress the development of brown spot disease (*H. oryzae*), spur the growth and yield of rice plant. The consortium that has the best ability is consortium B (*Serratia marcescens* ULG1E4 + *Serratia marcescens* JB1E3 + *Serratia marcescens* JB1E2) with the effectiveness of suppression of disease development 91.67%, the effectiveness of seedling growth 52.52%, the effectiveness of plant growth 22.68% and the effectiveness of rice yield 34.42%.

Keywords: Effectivity, Grain, Disease incidence, Disease severity, Growth inducer