

**EKSPLORASI JAMUR DARI RIZOSFER TANAMAN
JAGUNG (*Zea mays*) DAN UJI ANTAGONISNYA TERHADAP
Fusarium verticillioides PENYEBAB PENYAKIT BUSUK
TONGKOL**



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Abstrak

Fusarium verticillioides merupakan salah satu penyebab penyakit busuk tongkol pada tanaman jagung (*Zea mays*). Penggunaan jamur rizosfer untuk pengendalian penyakit busuk tongkol merupakan salah satu alternatif pengendalian yang bisa dikembangkan. Penelitian bertujuan untuk memperoleh jamur-jamur antagonis yang berasal dari rizosfer tanaman jagung dan berpotensi menekan pertumbuhan patogen *F. verticillioides*. Penelitian dilaksanakan di Laboratorium Fitopatologi, Fakultas Pertanian, Universitas Andalas, Padang. Sampel tanah rizosfer tanaman jagung diambil dari tiga kecamatan di Kabupaten Pasaman Barat. Jamur rizosfer diisolasi dengan metode pengenceran berseri dan diuji daya hambatnya terhadap *F. verticillioides* dengan metode biakan ganda menggunakan Rancangan Acak Lengkap (RAL) dengan 14 isolat jamur rizosfer, masing-masing perlakuan diulang 3 kali. Hasil isolasi jamur rizosfer diperoleh 14 isolat dengan karakter morfologi yang bervariasi. Dari 14 isolat didapatkan 8 isolat yang memiliki daya hambat di atas 60% yaitu isolat KBB2 (*Trichoderma* sp.), KJB2 (*Trichoderma* sp.), KPC1 (*Trichoderma* sp.), KPE1 (*Trichoderma* sp.), TLA3 (*Aspergillus* sp.), KPA3 (*Aspergillus* sp.), AKD1 (*Aspergillus* sp.) dan KBA1 (*Fusarium* sp.). Isolat terbaik dalam menghambat *Fusarium verticillioides* yaitu KBB2 dengan daya hambat 84,33%. Hasil identifikasi didapatkan 3 genus jamur yang berpotensi dalam menekan pertumbuhan patogen *F. verticillioides* yaitu *Trichoderma*, *Aspergillus*, dan *Fusarium*.

Kata kunci : *Fusarium verticillioides*, jamur rizosfer, uji antagonis, *Zea mays*

EXPLORATION OF FUNGI FROM THE RIZOSPHERE OF CORN (*Zea mays*) AND ANTAGONISTIC TEST AGAINST *Fusarium verticillioides* CAUSES OF EAR ROT DISEASE

Abstract

Fusarium verticillioides is one of the causes of corn (*Zea mays*) ear rot disease. The use of rhizosphere fungi for controlling ear rot disease is an alternative control method that can be developed. The research aims to obtain antagonistic fungi originating from the rhizosphere of corn plants, which have the potential to suppress the growth of the pathogen *F. verticillioides*. The study was conducted at the Phytopathology Laboratory, Faculty of Agriculture, Andalas University, Padang. Rhizosphere soil samples from corn plants were collected from three districts in Pasaman Barat Regency. Rhizosphere fungi were isolated using the serial dilution method and their inhibitory activity against *F. verticillioides* was tested using the dual culture technique with a Completely Randomized Design (CRD). Fourteen isolates of rhizosphere fungi were used, and each treatment was repeated three times. The isolation of rhizosphere fungi yielded 14 isolates with varying morphological characteristics. Out of the 14 isolates, 8 isolates showed inhibition rates above 60%, namely KBB2 (*Trichoderma* sp.), KJB2 (*Trichoderma* sp.), KPC1 (*Trichoderma* sp.), KPE1 (*Trichoderma* sp.), TLA3 (*Aspergillus* sp.), KPA3 (*Aspergillus* sp.), AKD1 (*Aspergillus* sp.), and KBA1 (*Fusarium* sp.). The best isolate in inhibiting *Fusarium verticillioides* was KBB2 with an inhibition rate of 84.33%. The identification results revealed three genera of fungi with potential for suppressing the growth of the pathogen *F. verticillioides*, namely *Trichoderma*, *Aspergillus*, and *Fusarium*.

Keywords: *Fusarium verticillioides*, rhizosphere fungi, antagonistic test, *Zea mays*.

