

ABSTRAK

Agnes Febri Debora Sijabat, NIM 4213220038 (2025). Karakterisasi Morfologi Jamur Blas (*Pyricularia oryzae*) yang Berasal dari Tiga Kabupaten di Sumatera Utara dan Uji Virulensinya Terhadap Beberapa Kultivar Padi

Penelitian ini bertujuan untuk menganalisis karakter morfologi makroskopis dan mikroskopis jamur *Pyricularia oryzae* penyebab penyakit blas serta menguji tingkat virulensinya terhadap tiga kultivar padi. Jenis penelitian ini adalah deskriptif dan eksperimental, dilaksanakan pada Mei–Juli 2025 di tiga kabupaten (Toba Samosir, Simalungun, dan Karo), UPTD Laboratorium Kesehatan Provinsi Sumatera Utara, serta Rumah Kaca Biologi FMIPA Universitas Negeri Medan. Sampel daun bergejala blas dikoleksi dari tiga kabupaten dan ditumbuhkan pada media PDA untuk memperoleh isolat *P. oryzae*. Isolat kemudian dikarakterisasi secara makroskopis dan mikroskopis, lalu diinokulasikan pada bibit padi berumur 21 hari. Pengamatan gejala blas dilakukan pada hari ke-14 dan ke-24, sedangkan tingkat virulensi ditentukan menggunakan metode *SES-blast test standard* (IRRI, 2014). Hasil penelitian mengidentifikasi 10 isolat *P. oryzae* dengan ciri khas blas yang serupa, namun menunjukkan tiga variasi morfologi makroskopis. Variasi pertama (TS01, TS02, SI03, SI04) memiliki koloni bertepi rata, variasi kedua (TS04, SI02, KA04) bertepi bergelombang, dan variasi ketiga (TS03, KA02) memperlihatkan pola lingkaran konsentris. Secara mikroskopis, isolat memperlihatkan variasi bentuk konidia, yaitu *pyriform*, *elips*, dan *obclavate*. Hasil pengujian virulensi isolat jamur terhadap tiga kultivar padi menunjukkan bahwa isolat TS04 (PO1) bersifat avirulen pada Inpari 32, virulen moderate pada Ciherang, dan virulen pada IR64. Sedangkan isolat SI03 (PO2) bersifat virulen moderate pada kultivar Inpari 32, virulen pada Ciherang, dan virulen moderate pada IR64. Adapun isolat KA02 (PO3) bersifat virulen moderate pada kultivar Inpari 32, virulen pada Ciherang, dan virulen moderate pada IR64.

Kata kunci: *Pyricularia oryzae*, penyakit blas, morfologi jamur, virulensi, kultivar padi, Sumatera Utara

ABSTRACT

Agnes Febri Debora Sijabat, NIM 4213220038 (2021). Morphological Characterization of Rice Blast Fungus (*Pyricularia oryzae*) from Three Districts in North Sumatra and Its Virulence Testing Against Several Rice Cultivars

This study aimed to analyze the macroscopic and microscopic morphological characteristics of *Pyricularia oryzae*, the causal agent of rice blast disease, and to evaluate its virulence on three rice cultivars. The research applied descriptive and experimental methods, conducted from May to July 2025 in three districts (Toba Samosir, Simalungun, and Karo), at the Health Laboratory Unit of North Sumatra Province, and the Biology Greenhouse, Faculty of Mathematics and Natural Sciences, Universitas Negeri Medan. Blast-infected rice leaves were collected from the three districts and cultured on PDA medium to obtain *P. oryzae* isolates. The isolates were characterized macroscopically and microscopically, then inoculated onto 21-day-old rice seedlings. Blast symptoms were observed at 14 and 24 days after inoculation, while virulence levels were determined using the SES-blast test standard (IRRI, 2014). The results identified ten *P. oryzae* isolates showing typical blast characteristics but with three distinct macroscopic variations. The first variation (TS01, TS02, SI03, SI04) had colonies with entire margins; the second (TS04, SI02, KA04) displayed wavy margins; and the third (TS03, KA02) showed concentric rings. Microscopically, the isolates exhibited conidial variations, including pyriform, elliptical, and obclavate shapes. Virulence assays revealed that isolate TS04 (PO1) was avirulent on Inpari 32, moderately virulent on Ciherang, and virulent on IR64. Isolate SI03 (PO2) was moderately virulent on Inpari 32 and IR64, but virulent on Ciherang. Meanwhile, isolate KA02 (PO3) was moderately virulent on Inpari 32 and IR64, and virulent on Ciherang.

Keywords: *Pyricularia oryzae*, blast disease, fungal morphology, virulence, rice cultivars, North Sumatra