# PERTUMBUHAN DAN PATOGENISITAS ISOLAT *Rhizoctonia solani* Kühn PENYEBAB HAWAR PELEPAH PADA VARIETAS PADI (*Oryza sativa* L.) LOKAL DAERAH ISTIMEWA YOGYAKARTA

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## INTISARI

Tanaman padi (*Oryza sativa* L.) merupakan tanaman budidaya dan menjadi komoditas strategi nasional serta digunakan sebagai makanan pokok sepertiga penduduk dunia, termasuk Asia. Di Indonesia, padi dijadikan sebagai komoditas pangan strategis pertama dan menjadi prioritas dalam pembangunan pertanian. Keberadaan padi sangat penting dalam memenuhi kebutuhan pokok masyarakat Indonesia, sehingga upaya peningkatan produksi padi perlu terus dilakukan. Namun, dalam prakteknya upaya peningkatan tersebut masih mengalami berbagai kendala, salah satunya disebabkan oleh serangan patogen (*Rhizoctonia solani*) yang dapat menyebabkan penyakit hawar pelepah yang kemudian menurunkan produksi padi. Penelitian ini bertujuan untuk mengetahui karakter morfologi dan pertumbuhan isolat *R. solani* penyebab penyakit hawar pelepah pada tanaman padi, mengetahui tingkat patogenisitas isolat *R. solani* pada beberapa varietas padi lokal DIY, serta mengetahui kategori ketahanan beberapa varietas padi lokal DIY. Dalam penelitian ini digunakan empat isolat yaitu RS MS2, RS MKP2, RS UMB, dan RS PN serta delapan varietas padi DIY meliputi Menthik Susu, Ciherang, IR64, Cempo Merah, Cempo Hitam, Segreng, Menoreh, dan Hitam Makaryo. Karakterisasi morfologi dilakukan berdasarkan karakter kultural koloni, hifa, dan sklerotia. Keempat isolat menunjukkan karakter warna koloni putih kecokelatan, kuning kecokelatan, dan cokelat muda; laju pertumbuhan *moderate* dan *fast*; pola pertumbuhan *abundant-aerial*, *moderate-aerial*, dan *slight-aerial;* hifa bersekat, percabangan 90$^o$, penyempitan hifa di titik percabangan, dan pada isolat RS MKP2 ditemukan sklerotia berwarna cokelat tua dengan jumlah 40-60 per petri. Uji patogenisitas dilakukan dengan metode *Detached Leaf Inoculation* dan memberikan hasil keempat isolat memiliki tingkat patogenisitas yang bervariasi pada setiap varietas padi yang diuji. Varietas Menthik Susu, Cempo Hitam, dan Hitam Makaryo termasuk dalam kategori tahan. Varietas Cempo Merah dan Segreng termasuk dalam kategori agak tahan. Varietas Menoreh termasuk dalam kategori agak rentan. Varietas Ciherang dan IR64 termasuk dalam kategori rentan.

Kata Kunci : Padi lokal, Daerah Istimewa Yogyakarta, *Rhizoctonia solani,* karakter morfologi, patogenisitas, hawar pelepah

# GROWTH AND PATHOGENICITY OF *Rhizoctonia solani* Kühn ISOLATES CAUSES SHEATH BLIGHT IN RICE (*Oryza sativa* L.) LOCAL VARIETIES OF SPECIAL REGION OF YOGYAKARTA

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## ABSTRACT

*Rice plants (Oryza sativa L.) are cultivated crops and become a national strategy commodity and are used as a staple food of one-third of the world's population, including Asia. In Indonesia, rice is used as the first strategic food commodity and a priority in agricultural development. The existence of rice is very important in meeting the basic needs of the People of Indonesia, so efforts to increase rice production need to continue. However, in practice, efforts to increase it still experience various obstacles, one of which is caused by the attack of pathogens (Rhizoctonia solani) that can cause blight disease that then decreases rice production. This study aims to determine the character of morphology and growth of isolate R. solani causes blight disease in rice plants, know the degree of pathogenicity of isolate R. solani in some local rice varieties DIY, and know the category of resilience of some local rice varieties DIY. In this study, four isolates were used, namely RS MS2, RS MKP2, RS UMB, and RS PN as well as 8 varieties of DIY rice including Menthik Susu, Ciherang, IR64, Cempo Merah, Cempo Hitam, Segreng, Menoreh, and Hitam Makaryo. Morphological characterization was carried out based on the cultural character of colonies, hyphae, and sclerotia. The four isolates showed the color character of the colony's whitish-brown, yellowish-brown, and light brown colonies; moderate and fast growth rates; abundant-aerial, moderate-aerial, and slight-aerial growth patterns; hyphae sealing, branching 90$^o$, narrowing of hyphae at the branching point, and at isolate RS MKP2 found dark brown sclerotia with the amount of 40-60 per petri. Pathogenicity tests were conducted by detached leaf inoculation method and gave the results of all four isolates having varying pathogenicity levels on each rice variety tested. Menthik Susu, Cempo Hitam, and Hitam Makaryo were categorized as the resistant category. Cempo Merah and Segreng were categorized as the moderate-resistant category. Menoreh varieties was categorized as moderate-susceptible category. Ciherang and IR64 were categorized as the susceptible category.*

*Key word : Local rice, Special Region of Yogyakarta, Rhizoctonia solani, morphological characteristic, pathogenicity, sheath blight*