

INTISARI

Keragaman jamur penyebab penyakit blas (*Pyricularia oryzae*) yang tinggi menyulitkan pengendalian dan mendukung patogen dalam membentuk strain tahan fungisida salah satunya kelompok fungisida strobilurin. Tujuan penelitian ini adalah mengetahui keragaman *P. oryzae* secara morfologi dan genetika serta ketahanan *P. oryzae* terhadap kelompok fungisida strobilurin di beberapa sentra produksi beras di Pulau Jawa. Keragaman secara morfologi diamati pada koloni dalam media PDA dan konidia. Keragaman genetika diamati menggunakan metode Rep-PCR dengan primer Pot2-1 dan Pot2-2. Ketahanan terhadap strobilurin diamati berdasarkan pada keberadaan asam amino alanina pada urutan 143 di dalam gen *cytochrome b*. Isolat AMB6.1 memiliki pertumbuhan koloni paling besar (8,258 cm) dan isolat NGM5.3 paling kecil (3,750 cm). Terdapat lima jenis pola koloni. Terdapat sembilan jenis warna koloni pada bagian atas dan lima jenis pada bagian bawah. Dendrogram keragaman morfologi koloni menunjukkan bahwa seluruh isolat terbagi menjadi tiga kelompok secara acak. Bentuk konidia terdiri dari ovoid, obovoid, pyriform, obpyriform, obclavate, dan cymbiform. Konidium terbesar berukuran 31,095 (20,49 – 41,15) x 8,178 (6,22 – 10,89) μm (SAN3) dan terkecil berukuran 21,691 (15,76 – 30,00) x 5,549 (3,58 – 7,54) μm (NGG3). Keragaman genetika menunjukkan bahwa seluruh isolat dapat dikelompokkan menjadi 6 kluster dan tersebar secara acak. Pengelompokan berdasarkan keragaman genetika tidak sejalan dengan morfologi. Hasil pengamatan ketahanan terhadap strobilurin menunjukkan bahwa tidak terdapat asam amino alanina pada seluruh isolat. *P. oryzae* di beberapa daerah produksi beras di Pulau Jawa memiliki keragaman yang tinggi berdasarkan pertumbuhan koloni, pola koloni, warna koloni, bentuk konidia, dan ukuran konidia yang tersebar secara acak. *P. oryzae* di beberapa daerah produksi beras di Pulau Jawa dapat dikelompokkan menjadi enam kluster dan tersebar secara acak berdasarkan metode Rep-PCR dengan penanda Pot2. Seluruh isolat *P. oryzae* di beberapa daerah produksi beras di Pulau Jawa sensitif terhadap fungisida kelompok strobilurin.

Kata kunci: Blas, Keragaman, *Pyricularia oryzae*, Rep-PCR, Strobilurin

ABSTRACT

The high diversity of rice blast pathogen (*Pyricularia oryzae*) causes difficulty of disease control and supports the pathogen for developing fungicide resistance strains such as in strobilurin fungicide group. This research was conducted to observe the morphology and genetic diversity of *P. oryzae* from some rice production centers in Java Island; observe *P. oryzae* resistance against strobilurin from some rice production center in Java Island. Morphology diversity was observed the colony in PDA medium and conidia. Genetic diversity was observed by using Rep-PCR method with Pot2-1 and Pot2-2 primer. Resistance against strobilurin was observed based on existence of Alanine amino acid in 143 on cytochrome b gene. AMB6.1 isolate had the highest colony growth (8.258 cm) and NGM5.3 isolate was the smallest (3.750 cm). There are five colony patterns. There are nine kind of colors on top colony and five on bottom. Dendrogram of morphology diversity showed that all isolates was grouped randomly in three group. Conidia shapes were consisting of ovoid, obovoid, pyriform, obpyriform, obclavate, and cymbiform. The biggest size of conidium was 31,095 (20,49 – 41,15) x 8,178 (6,22 – 10,89) μm (SAN3) and the smallest was 21,691 (15,76 – 30,00) x 5,549 (3,58 – 7,54) μm (NGG3). Genetic diversity showed that all isolates could be group randomly into six clusters. Grouping based on genetic diversity was not confirmable with morphology diversity. Observation of strobilurin resistance showed that Alanine amino acid did not exist on all isolates. *P. oryzae* from some rice production center in Java Island had high diversity based on colony growth, colony pattern, colony color, conidia shape, conidia size and could be grouped into six clusters based on Rep-PCR method with Pot2 marker and spread randomly. All isolates of *P. oryzae* from some rice production center in Java Island was sensitive to strobilurin fungicide group.

Key words: Blast, Diversity, *Pyricularia oryzae*, Rep-PCR, Strobilurin