

# Pengaruh penambahan tepung kulit udang pada medium pertumbuhan terhadap kemampuan *Metarhizium majus* UICC 295 menginfeksi larva *Oryctes rhinoceros* Linnaeus = The effect of shrimp shell powder in growth medium on the pathogenicity of *Metarhizium majus* UICC 295 to infect *Oryctes rhinoceros* Linnaeus larvae

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## Abstrak

*Metarhizium majus* UICC 295 adalah kapang entomopatogen. Penelitian bertujuan menguji kemampuan *M. majus* UICC 295 pada medium Sabouraud Dextrose with Yeast Extract Agar (SDYA) dengan penambahan tepung kulit udang 10% (b/v) dalam menginfeksi larva *Oryctes rhinoceros* serta mengetahui pengaruh preservasi metode freezing pada suhu -80o C menggunakan protektan gliserol 10% (v/v) dan gliserol 10% (v/v) dengan penambahan sukrosa 5% (b/v). *Metarhizium majus* UICC 295 pada SDYA mampu membunuh larva 3,33%--100% dalam 7--11 hari dan dengan penambahan tepung kulit udang 10% membunuh larva 6,67%--40% dalam waktu 12--30 hari. *Metarhizium majus* UICC 295 pada medium SDYA tetap memiliki viabilitas setelah dipreservasi pada suhu -80o C menggunakan gliserol 10% dan gliserol 10% dengan penambahan sukrosa 5%. *Metarhizium majus* UICC 295 pada SDYA dengan penambahan kulit udang 10% kehilangan viabilitasnya setelah dipreservasi pada suhu -80o C. *Metarhizium majus* UICC 295 pada kadaver larva *O. rhinoceros* tetap memiliki viabilitas setelah dipreservasi pada suhu -80o C.

.....*Metarhizium majus* UICC 295 is an entomopathogenic fungus. This research investigated the pathogenicity of *M. majus* UICC 295 from Sabouraud Dextrose Agar with Yeast Extract (SDAY) medium added with 10% (w/v) shrimp shell powder to infect *Oryctes rhinorecos* larvae, and to determine the effect of preservation with freezing method at -80o C with 10% (v/v) glycerol and 10% (v/v) glycerol with addition of 5% (w/v) sucrose as protectants. Application of *M. majus* UICC 295 from SDYA caused 3.33%-100% larval mortality within 7--11 days, whereas addition of 10% shrimp shell powder caused 6.67%--40% larval mortality within 12--30 days. *Metarhizium majus* UICC 295 from SDYA was viable after being preserved at -80o C with 10% glycerol and 10% glycerol with addition of 5% sucrose as cryoprotectant, *M. majus* UICC 295 from SDYA with addition of 10% shrimp shell powder lost its viability after being preserved at -80o C with both cryoprotectants. *Metarhizium majus* UICC 295 on *O. rhinoceros* cadaver was viable after being preserved at -80o C.