INTISARI

Strategi pengendalian penyakit busuk akar oleh patogen *Ganoderma philippii* dan *Phellinus noxius* pada tanaman *Acacia mangium* masih terbatas. Pengendalian hayati terbatas pada penggunaan jamur *Trichoderma* spp., belum pernah dilakukan pengendalian hayati dengan jamur Basidiomycetes. Tiga spesies jamur dekomposer saprofitik Basidiomycetes : *Phlebiopsis* sp.1 (Pb), *Cerrena* sp. (Cr), dan *Phlebia* spp. (Pl) yang terdiri dari 20 isolat dengan *good track record* sebagai pengendali hayati untuk patogen akar yang berbeda pada inang lain ditemukan pada plot pengamatan. Penelitian bertujuan menentukan jamur efektif dari ketiga spesies sebagai pengendali hayati patogen *Ganoderma philippii* dan *Phellinus noxius*.

Deskripsi dan karakterisasi morfologi isolat untuk menentukan ciri khas morfologi masing-masing spesies jamur akar dan jamur APH. Uji potensi antagonis untuk melihat potensinya dilakukan melalui beberapa tahapan : (1) uji awal 20 isolat APH pada media MEAS; (2) uji lanjut 10 isolat APH pada media PDA; (3) uji lanjut 3 isolat APH pada media balok kayu. Penghambatan dilihat berdasarkan nilai RG (*Reduction in Growth*) dan tanda reaksi antagonisnya.

Karkater morfologi isolat jamur akar (*Ganoderma philippii* dan *Phellinus noxius*) berbeda khususnya pada pembentukan *crustose*, sedangkan jamur APH menunjukkan pengelompokkan berbeda untuk setiap spesies berdasarkan analisis kluster, kecuali isolat *Phlebiopsis* Pb11 yang masuk dalam kelompok jamur APH *Phlebia* spp. Secara *in vitro* jamur APH *Phlebiopsis* sp.1 berpotensi efektif sebagai kandidat pengendali hayati berdasarkan kemampuannya menggantikan pertumbuhan miselium kedua patogen. Mekanisme penghambatan secara *in vitro* merupakan persaingan agresif terhadap ruang tumbuh dan nutrisi dari jamur APH ditunjukkan dalam dua *mode of action* : (1) *Gross mycelial contact* oleh jamur *Phlebiopsis* sp.1 (kecuali isolat Pb11) dan beberapa *Cerrena* sp, dan (2) Zona bebas berupa *antagonistic at a distance* oleh jamur *Phlebia* spp. dan beberapa *Cerrena* sp.

Kata kunci : *Phlebiopsis* sp.1, pengendali hayati, busuk akar, *Ganoderma*, *Phellinus*

ABSTRACT

Diseases management strategies for root rot disease caused by Ganoderma philippii *and* Phellinus noxius *in* Acacia mangium *plantation are limited. Biological control are limited for using* Trichoderma *spp., biological control with using Basidiomycetes fungi had not been applied. Three species of saprophytic decomposer of* Basidiomycetes *:* Phlebiopsis *sp.1 (Pb),* Cerrena *sp. (Cr), and* Phlebia *spp. (Pl) consisted of 20 isolates with good track record as biocontrol agents for controlling different root pathogen in other host plant had been found on monitoring plot. The aim of this research is to determine the effective fungi as biocontrol for* G. philippii *and* P. noxius *pathogen.*

Description and characterisation of isolate morphology were conducted to determine the character of each species of root fungi and biocontrol agents. Potential antagonistic test was conducted on several tests : (1) initial test of 20 isolate BCAs on MEAS media; (2) further test of 10 isolate BCAs on PDA media; (3) further test of 3 isolate BCAs on woodblock media. Inhibition is determined based on RG (Reduction in Growth) value and mechanism of antagonistic reaction.

*Character morphology of root fungi isolate (*Ganoderma philippii *and* Phellinus noxius*) are different especially on crustose formation, while biocontrol agents isolate are grouped on different group based on cluster analysis, except* Phlebiopsis *Pb11 isolate that been grouped on* Phlebia *spp. BCA isolate of* Phlebiopsis *sp.1 had effective potential as candidat BCA based on their capability to replace mycelium growth of both pathogen on in vitro. Antagonistic mechanism in vitro of BCA as combative interaction of competition for space and nutrient are indicated by two different modes of action : (1) Gross mycelial contact by BCA isolate of* Phlebiopsis *sp.1 (except Pb11 isolate) and several* Cerrena *sp., and (2) Clear zone with antagonistic at a distance by BCA isolate of* Phlebia *spp. and several* Cerrena *sp.*

Keywords : *Phlebiopsis* sp.1, biological control, rootrot, *Ganoderma*, *Phellinus*