# Uji Aktivitas Antagonostis Bacillus siamensis LDR Terhadap Kapang Kontaminan Pangan (Fusarium oxysporum, Aspergillus flavus AHM, DAN Aspergillus clavatus ABH) = Antagonistic Activity Assay Of Bacillius Siamenis LDR Against Crops Contaminant Filamentous Fungi(Fusarium oxysporum, Aspergillus flavus AHM, AND Aspergillus clavatus ABH)

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Abstrak

Bacillus spp. berpotensi sebagai agen biokontrol untuk meminimalisir kontaminasi mikroorganisme. Tujuan dari penelitian ini adalah untuk mengetahui aktivitas antagonistis sel dan filtrat Bacillus siamensis LDR terhadap beberapa spesies kapang. Purifikasi dan karakterisasi morfologi dilakukan pada medium PDA. Uji aktivitas antagonistis dilakukan dengan metode dual kultur dan uji antibiosis dilakukan dengan menggunakan filtrat fermentasi B. siamensis LDR yang diperoleh dari panen hari ke-12 dan ke-14. Persentase inhibisi ditentukan berdasarkan perhitungan pertumbuhan radial dan biomassa kapang yang diberi perlakuan, dibandingkan dengan kontrol. Hasil uji antagonistis menunjukkan bahwa Fusarium oxysporum, Aspergillus flavus AHM, dan Aspergillus clavatus ABH berhasil dihambat sebesar 35,92%, 42.75%, 27.18% pada teknik dual disc dan sebesar 92.94%, 87.15%, 85.45% pada teknik pour plate disc. Hasil uji antibiosis menunjukkan inhibisi F. oxysporum, A. flavus AHM, dan A. clavatus ABH lebih tinggi pada filtrat 14 hari, yaitu 41.84—41,94%, 34,83—36,04%, 63.27—63,81% pada medium PDA dan 53,15—76,37%, -151— -11.01, 88.87—90.36% pada medium PDB. Sel dan filtrat B. siamensis LDR memiliki aktivitas antagonistis terhadap Fusarium oxysporum, Aspergillus flavus AHM, dan Aspergillus clavatus ABH dengan ketidakstabilan aktivitas antibiosis terhadap A. flavus AHM, secara in vitro. <hr /> Bacillus spp. are potential biocontrol agent to reduce crop contamination by microorganism. Aim of this research is to screen antagonistic activity of B. siamensis LDR cells and filtrate against few species of filamentous fungi. Purification and morphological characterization were done on PDA. Screening of antagonistic activity was done by antagonistic assay using dual culture method and antibiosis assay using 12 and 14 days fermentation filtrate of B. siamensis LDR. Percentage of inhibition were determined by comparing radial growth and biomass of treated fungi to untreated fungi as control. Result of antagonistic assay showed Fusarium oxysporum, Aspergillus flavus AHM, and Aspergillus clavatus ABH were inhibited for 35,92%, 42.75%, 27.18% by using dual disc technique and 92.94%, 87.15%, 85.45% by using pour plate disc technique, respectively. Result of antibiosis assay showed the highest inhibition activity against F. oxysporum, A. flavus AHM, A. clavatus ABH was found in 14 days fermentation filtrate, which were 41.84—41,94%, 34,83—36,04%, 63.27—63,81% on PDA and 53,15—76,37%, -151— -11.01,

88.87—90.36% on PDB, respectively. Therefore, B. siamensis LDR cell and filtrate has antagonistic activity against Fusarium oxysporum, Aspergillus flavus AHM and Aspergillus clavatus ABH, despite of unstable antibiosis activity against A. flavus AHM, in vitro. 