EVALUATION OF BIOCONTROL ABILITY OF ACTINOMYCETES AGAINST *Alternaria* sp. CAUSING RICE GRAIN DISCOLORATION DISEASE

Ly Hung, Le Minh Tuong

Summary

The study was carried out to find out the pathogenicity of *Alternaria* sp. causing the most serious damage for rice grain discoloration disease and the isolated actinomycetes strains having high antagonistic ability against *Alternaria* sp. under laboratory and nethouse conditions. For experiment investigating the pathogenicity of *Alternaria* spp. fungal strains. It was arranged following to a completely randomized design with 10 treatments (10 strains of *Alternaria* spp. was collected and isolated in 5 provinces of Can Tho, An Giang, Tra Vinh, Vinh Long and Soc Trang) and 4 replications under nethouse conditions. The results indicated that among of the 10 isolated fungal strains, *Alternaria*.CK1-TV (collected from rice fields in Cau Ke district, Tra Vinh province) was the most pathogenicity with 64.9% rate of infected grain at 11 days after inoculation. For experiment investigating the antagonistic ability of actinomycetes strains against *Alternaria* sp. also arranged following to a completely randomized design with 7 treatments (TG2.1, TG4.3, VL5.4, DT3.4, AG2.1, CT4.8, HG4.2) and 5 replications under laboratory conditions. The results showed that 3 isolates CT4.8, DT3.4 and TG2.1 was the highly antagonistic ability against *Alternaria*.CK1-TV with radiuses of inhibition zones reached 23.00 mm; 7.00 mm; 5.00 mm and antagonistic efficiency was 57.0%, 30.81% and 32.5%, respectively, at 15 days after the designed experiment. Beside, investigation of the inhibitory ability of 3 actinomycetes isolates, CT4.8, DT3.4 and TG2.1 for the formation and germination of *Alternaria*.CK1-TV spores were examined with 5 replications under laboratory conditions. The results found that 3 actinomycetes isolates, CT4.8, DT3.4 and TG2.1 showed high inhibitory effect of spore formation was 47.8%; 41.9%; 30.4% at 11 days after testing and high inhibitory effect of spore germination was 42.2%; 43.2%; 25.4% at 24 hours after treatment, respectively.

Keywords: *Actinomycetes, Alternaria sp., biological control, grain discoloration disease.*