

EVALUATION OF THE ABILITY OF *ACTINOMYCES* SP. IN CONTROLLING FUSARIUM WILT DISEASE (*FUSARIUM OXYSPORUM*) ON SWEET POTATO IN NETHOUSE CONDITION

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Summary

The research was conducted in Laboratory and nethouse of Plant Protection Department, Cantho University to screen actinomycetes able to control Fusarium wilt disease on Sweet potato caused by *Fusarium oxysporum*. Chitinase activity of the TTR4, TL8, TTh15, TL10 and TĐ7 actinomycetes isolates was performed on chitin medium with five replicates. The result indicated that, 6 actinomyces isolates had the chitinolytic activity and TTR4 isolate showed the highest chitinolytic activity with the chitin lyse halo radius of 19.67mm at 7 days after testing. Beside, the testing β -glucanase productivity of these Actinomycetes on β -glucan medium conducted with 5 replications showed that TTR4 isolate was the best with the β -glucan lyses halo radius of 15.80mm at 14 days after testing. On the other hand, the biocontrol ability of 3 actinomycete isolates (TTR4, TL8 and TTH15) was tested in the greenhouse conditions. The results indicated that TTR4 isolates which were applied twice (2 days before and 2 days after pathogen inoculation) gave the highest ability to control the disease through three criteria: low ratio of disease incidence 25.0%; low disease index 21,5% and high efficiency of disease reduction 75.0% and was significantly compared with the other treatments at 10 days after testing on sweet potato in nethouse condition.

Keywords: *Actinomyces*, *chitinase*, *Fusarium oxysporum*, *Fusarium wilt disease on Sweet potato*, β -glucanase.