

The Effect of Various pH Medium on the Secondary Metabolites Production from Trichoderma harzianum T10 to Control Damping Off on Cucumber Seedlings

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Abstract	Damping-off is one of the main diseases in cucumber seedlings caused by Pythium sp. Secondary metabolites of Trichoderma harzianum T10 can conduct the control of the disease. The pH of the medium influences the production of secondary metabolites. The research aimed to determine the effective pH medium on production of T. harzianum T10 secondary metabolites, and the effect of the T. harzianum T10 secondary metabolites application in damping-off disease control also to the growth of cucumber seedling. The research was consist of two steps; 1) in vitro assay with various pH levels 5; 3; 3.5; 4; 4.5; 5.5; 6; 6.5; and 7, 2) In planta treatments consisted of control, fungicide (Mancozeb), secondary metabolites in pH 5 and 5.5 with the concentration of 5, 10 and 15% each. The research showed that: 1) the effective pH medium for the production of T. harzianum T10 secondary metabolites was 5 and 5.5. 2) application of the T. harzianum T10 secondary metabolites on pH 5 and 5.5 with a concentration of 5, 10, and 15% could decrease the disease incidence and support cucumber seedling growth.
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