

Title Effects of chitosan seed treatment on *Colletotrichum* sp. and seedling growth of chili cv. 'Jinda'

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#### **Abstract**

The effects of chitosan on the growth of *Colletotrichum* sp. that caused anthracnose disease in chili (*Capsicum annuum* L.) were investigated. Chitosan was homogenously added to potato dextrose agar (PDA) at pH 5.6. The optimum concentration of chitosan to control mycelial growth was found to be 0.8%. In the following experiments, seeds treated with chitosan solution for 60 min placed on a wet paper surface inoculated with a spore suspension showed reduced fungal infection. Chitosan treatment, particularly at 0.8%, also increased seedling survival to 77% whereas, without chitosan, about 33%. Similarly, seedling survival of in vivo seeds collected from chili fruits and inoculated with *Colletotrichum* sp. increased with chitosan treatments above 0.4%. The lignin content of seedlings obtained from chitosan-treated seeds was higher than that without chitosan treatment. The results demonstrate that chitosan seed treatment could reduce *Colletotrichum* sp. infection and improve seedling performance.