

Title Effect of Chitosan on controlling of anthracnose disease in mangoes cv. Nam Dok Mai  
Author Sudkanung Pumchai, Pongphen Jitareerat, Sirichai Kanlayanara and Somsiri Sangchote  
Citation Abstracts & Program. The Second Asian Conference on Plant Pathology 2005, 25-28 June 2005, National University of Singapore, Singapore. 113 p.  
Keyword: mango; chitosan; anthracnose

### **Abstract**

Effect of chitosan on mycelial growth and spore germination of *Colletotrichum gloeosporioides* was investigated on Potato Dextrose Agar (PDA) containing 0, 0.5, 1.0 and 2.0% (w/v) chitosan dissolved in 0.5% (w/v) acetic acid. The results revealed that 1.5 and 2.0% chitosan were the best concentration for inhibiting the mycelial growth and spore germination, while complete inhibition was found on the medium containing 0.5% acetic acid. Effect of the chitosan coating on artificially *C. gloeosporioides* inoculated mangoes showed that the best concentration of chitosan to control anthracnose disease was at 0.5 and 1.0%. These concentration could stimulate chitinase and beta-1, 3-glucanase activities which were involved in the plant defense mechanism in chitosan treated mango fruits. Additionally, the chitosan coating on mangoes could delay ripening, reduce respiration rates, ethylene production, weight loss, ascorbic acid and total titratable acidity but not maintain the firmness of the mangoes.