

Study of three fungicides to control anthracnose (*Colletotrichum capsici*) in chilli (*Capsicum frutescens*): case study from Songkhla province, Thailand

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Abstract

In vitro and in vivo fungicidal activity of three selected fungicides were studied against mycelial growth of *Colletotrichum capsici*, the causal agent of anthracnose in chilli fruits, and to determine the optimum timing for application. The first experiment was designed and analyzed in a completely randomized design (CRD) with 10 treatments and 10 replications. Three fungicides were incorporated individually at different concentrations (benomyl: 600, 500, and 400 ppm; captan and maneb: 2,000, 1,500, and 1,000 ppm) to mycelial cultures of the causal agent for 15 days. Benomyl and maneb, at all concentrations, gave the greatest inhibition ($P < 0.05$) of mycelial growth. A second experiment was designed to investigate two factors with five replications. The first factor was applying the different fungicides to chilli fruits at different concentrations, as in the first experiment. The second factor was to use three different times of fungicide application to chilli fruits (3 days before pathogen inoculation, simultaneously with pathogen inoculation, and 3 days after pathogen inoculation). The results showed that benomyl at concentrations of 600 and 500 ppm applied 3 days before pathogen inoculation had a significant effect on delaying anthracnose development on chilli fruits by at least 7 days.