

Effect of temperature on the growth of *Geotrichum candidum* and chemical control of sour rot on tomatoes

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Abstract

Geotrichum candidum is an important pathogen causing sour rot in fruit and vegetables. In this study, *G. candidum* was identified as a pathogen causing postharvest tomato fruit rot for the first time in Greece. The effect of temperatures and incubation period on the mycelial growth and conidia germination of *G. candidum* was investigated. It was also found that the optimum temperature for the mycelial growth and conidia germination of *G. candidum* was 25°C, while this pathogen was also very active at temperatures between 15 and 30°C. Incubation at 40°C inhibited mycelial growth and conidial germination of *G. candidum*. Conidia germinated after an 8-h incubation period with a higher percentage after 16h. In addition to the above studies, the effectiveness of fludioxonil and propiconazole against *G. candidum* was evaluated. EC₅₀ values of *G. candidum* isolates for propiconazole ranged from 0.050 to 0.250 µl/ml, while this fungicide inhibited the growth of the fungus on tomatoes. In contrast, the EC₅₀ values for the effect of fludioxonil were 3.057 to 3.891 µg/ml, while this fungicide was not effective against *G. candidum* on tomatoes. Generally, this study showed *G. candidum* as a new threat for tomatoes in Greece. This pathogen can develop in a wide range of temperatures. Propiconazole seems to be an effective fungicide against *G. candidum* in tomatoes.