Investigation of the effect of fungicides on mycelium growth of *Botrytis cinerea*, the cause of gray mold disease in tomatoes

M. Ghasemi Damghani¹, M. Maleki²* and S. Farahani³

Received: 14 Apr., 2018                                      Accepted: 11 Sep., 2018

ABSTRACT

Tomato (*Lycopersicum esculentum* Miller) is one of the most popular crops in the world. The cultivation of this plant is always exposed to harmful factors, especially blight caused by the fungus *Botrytis cinerea*, which in favorable environmental conditions (high humidity and temperature up to 15°C) in cultivars and tomato hybrids are common. Fungicides can prevent disease by controlling germination and spore infiltration, but due to the pathogen's resistance to fungicides, it is necessary to alternate spraying programs with the appropriate doses and at the appropriate times. This study examined the effect of several fungicides on the pathogenic mycelial growth.

For this purpose, various fungal isolates were collected from greenhouses and tomato farms. Purification and proof of pathogenicity and pathogenicity of fungal isolates were performed on disease-sensitive cultivars named PETOERLI with fungal spores suspension at $2 \times 10^5$ spores per ml on leaves in greenhouses. The severity of the disease index was determined after 15 days and to determine the effect of fungicides on mycelial growth, Captan, Ipirudion + Carbendazim, Thiram, Agrofar and Thiophanate methyl fungicides were used at a rate of one per thousand in the culture medium. Among the used fungicides, Iprodione + Carbendazim with 89.5% inhibition and then Agrofar with 83.76% with a concentration of one per thousand were successful in controlling mycelial fungal growth control, respectively.

**Key words:** *Botrytis cinerea*, Fungicide, Gray mold

---

¹ and 2. Former MSc. Student and Assistant Professor, respectively, Department of Plant Pathology, College of Agriculture, Varamin-Pishva Branch, Islamic Azad University, Varamin, Iran

³. Former PhD Student, Department of Plant Pathology, College of Agriculture, Varamin-Pishva Branch, Islamic Azad University, Varamin, Iran

*Corresponding author*: mojdehmalesi@yahoo.com