IN VITRO MANAGEMENT OF *COLLETOTRICHUM GLOEOSPORIOIDES* CAUSING ANTHRACNOSE OF BLACK PEPPER USING ESSENTIAL OILS

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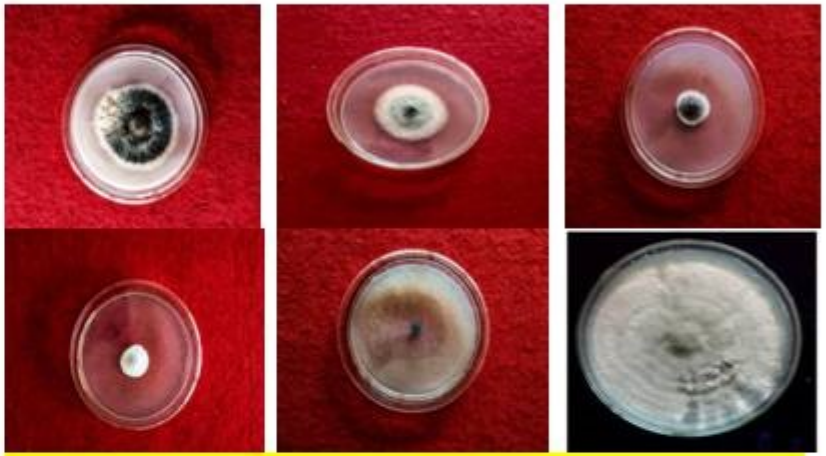
INRODUCTION

For the management of diseases of black pepper farmers depend on chemical pesticides. Improper use of chemical pesticides will harm the environment and leave pesticide residue in pepper berries. Anthracnose is most common disease in black pepper and the aim of this study was to test 4 plant essential oils for the inhibition of mycelial growth of *Colletotrichum gloeosporioides* which is the causal agent of anthracnose of black pepper (*Piper nigrum*).

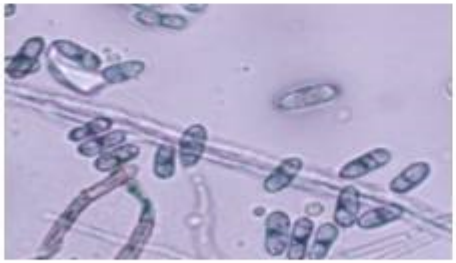
MATERIALS AND METHODS

Atifungal action of Eucalyptus oil (*Eucalyptus camaldulensis*), Citronella oil (*Cymbopogon nardus*), Palmarosa oil (*Cymbopogon martinii*), Mint oil (*Mentha piperita*) were tested from 1 to 500ppm concentrations against *Colletotrichum gloeosporioides*.



Antifungal action of Eucalyptus oil at 1,50,100,200,500 ppm with control plate

Anthracnose symptom



Spores of *Colletotrichum*

RESULTS

Antifungal effect was maximum with eucalyptus and mint oils which had strong inhibition of conditional germination of *C. gloeosporioides* at 500 ppm. It was found that eucalyptus oil could inhibit 100 per cent of pathogen, and also mint oil gave 90 per cent inhibition, palmarosa oil inhibited 88.8 percent but in the case of citronella oil it could inhibit only 87.7 per cent of pathogen at higher concentration. Therefore eucalyptus oil and mint oil @500 ppm can be recommended for management of anthracnose of black pepper.

Reference

Sarkhosh, A., Schaffer, B., Vargas, A.I., Palmateer, A.J., Lopez, P., Soleymani,A and Fazzaneh,M 2017. Antifungal activity of five plant-extracted essential oils against anthracnose in papaya fruit.Biological Agriculture & Horticulture, 34:1, 18-26. (10)

THEME – CROP MANGEMENT