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Research Article

Evaluation of fungicides, botanicals and bioagents against turcicum leaf blight of maize caused by *Exserohilum turcicum* (Pass.) Leonard and Suggs.

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ABSTRACT

Evaluation of fungicides, botanicals and bioagents against *Exserohilum turcicum*, the causal agent of turcicum leaf blight of maize was conducted at Department of Plant Pathology, University of Agricultural Sciences, Dharwad. The fungicides and phytoextracts evaluated through per cent inhibition of mycelial growth test and poison food technique. Among nine fungicides tested, cristol 56 SL and carboxin 200 FF were most effective with 100 per cent mycelial growth inhibition at 0.025 per cent, 0.05 per cent and 0.1 per cent concentration. Nimbicidin with 71.27 per cent inhibition of mycelial growth was most effective among all the plant extracts. Out of six bioagents tested, *Trichoderma harzianum* was most effective with 70.33 per cent mycelial inhibition.

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INTRODUCTION

Maize (*Zea mays* L.) is a new world graminaceous important coarse cereal crop of the world. . It is cultivated in tropics, sub-tropics and temperate regions under irrigated to rainfed conditions. Maize ranks third in the world after wheat and rice in area and production. Karnataka, Andra Pradesh, Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh and Punjab are the leading states growing maize on large scale. Among various diseases infecting maize, turcicum leaf blight in maize caused by *Exserohilum turcicum* (Pass.) Leonard and Suggs. has been considered as potentially destructive disease in Karnataka. Turcicum leaf blight of maize is a wide spread disease in Karnataka. The loss in grain yield up to the extent of 28 to 91 per cent has been reported due to this disease (Pandurangegowda *et al.,* 1993; Kachapur and Hegde, 1988 and Harlapur *et al*., 2000). Thus, it has been become inevitable to go for fungicidal spray for the management of the disease. In the present study, some of new chemicals, botanical products and bioagents have been tested in the laboratory condition to find out their efficacy against *Exserohilum turcicum.*

MATERIALS AND METHODS

The study was conducted on evaluation of fungicides and botanical products, phytoextracts as well as bioagents against *Exserohilum turcicum* in Department of Plant Pathology, University of Agricultural Sciences, Dharwad during 2008-09. The efficacy of fungicides and botanical products, phytoextracts and bioagents against *Exserohilum turcicum* was assessed by per cent inhibition of mycelial growth and poison food technique. Fungicides and botanical products were evaluated at 0.025, 0.05 and 0.1 per cent concentrations, while plant extracts were evaluated at 5 and 10 per cent concentrations. The plant extracts were prepared by grinding fresh leaves in a pestle and mortar by using distilled water. The extract was filtered through double layered muslin cloth and made to the required concentration by adding distilled water. Fungicide and phytoextracts suspension was prepared in PDA by adding required quantity of fungicide and phytoextracts to obtain the desired concentration on the basis of active ingredient present in fungicides. Twenty ml of poisoned medium was poured in each of the sterilized Petriplates. Mycelial disc of 0.5 cm was taken from the periphery of ten day old culture and placed in the centre and incubated at 28±2^{0}C till growth of the fungus touched the periphery in control plate. In case of bacterium, mycelial discs of the fungus were kept at opposite ends and bacterial streaks at the centre. The details of fungicides, phytoextracts and