INTERNATIONAL JOURNAL OF PLANT PROTECTION / VOLUME 5 | ISSUE 2 | OCTOBER, 2012 | 304-307

RESEARCH ARTICLE

In vitro management of anthracnose of pomegranate incited by *Colletotrichum glocosporioides* (Penz.) Penz. and Sacc.

■ K. JAYALAKSHMI*, V. B. NARGUND, J. RAJU AND V. I. BENAGI

Department of Plant Pathology, College of Agriculture, University of Agricultural Sciences, DHARWAD (KARNATAKA) INDIA

ARITCLE INFO

Received : 20.04.2012
Revised : 28.05.2012
Accepted : 25.08.2012

Key Words :
Anthracnose,
Colletotrichum, glocosporioides
Fungicides,
Bioagents,
Plant extracts

*Corresponding author:
jayalakshmipat@gmail.com

ABSTRACT

Anthracnose disease caused by *Colletotrichum glocosporioides* (Penz.) Penz. and Sacc. was observed in severe form on pomegranate leaf and fruits. An investigation was carried out to screen the different fungicides, bioagents and botanicals to inhibit the growth of pomegranate anthracnose pathogen. Among the six non-systemic (one combi) and six systemic fungicides tested at different concentrations, carbendizim + mancozeb (0.3 per cent) and propiconazole (0.15 per cent) were found to be effective among the over all the tested fungicides. Among the different botanicals, extract of datura leaves at 30 per cent found to be superior (61.70 %) followed by garlic extract (50.00 %) and among the bioagents, *Trichoderma viride* was found to be superior to all the tested bioagents.

How to view point the article : Jayalakshmi, K., Nargund, V.B., Raju, J. and Benagi, V.I. (2012). *In vitro* management of anthracnose of pomegranate incited by *Colletotrichum glocosporioides* (Penz.) Penz. and Sacc. *Internat. J. Plant Protec.*, **5**(2) : 304-307.

INTRODUCTION

Pomegranate (*Punica granatum* L.), an ancient and commercially important fruit of both tropical and subtropical countries, is native of Iran. Pomegranate is regarded as "Fruit of paradise". The fruit is prone to many diseases, among which anthracnose caused by *Colletotrichum gloeosporioides* (Penz.) Penz. and Sacc. is an important destructive disease. Diseases are traditionally managed by chemical fungicides. Hence the present study was undertaken to evaluate efficacy of fungicides, bioagents and plant extracts against *Colletotrichum glocosporioides* causing leaf and fruit spot of pomegranate.

MATERIALS AND METHODS

Poison food technique (Nene and Thapliyal, 1982) was used in present assay. The study was conducted at Plant Pathology Department, Uinversity of Agricultural Sciences, Dharwad during 2009-10. The efficacy of six non-systemic (one combi) and six systemic fungicides were tested against *C. gloeosporioides* for radial growth inhibition on the Potato dextrose agar media using poisoned food technique under *in vitro* conditions. *viz.,* Captan, Carbendizim + Mancozeb, copper oxyxhloride, Chlorothalonil, Mancozeb, Propineb, Azoxystobin, Difenconazole, Carbendazim, Hexaconazole, Iprobenfos, Propiconazole were assyed. The non-systemic fungicides and combi product were tried at 0.1, 0.2 and 0.3 per cent concentrations, whereas systemic fungicides were tried at 0.05, 0.1, 0.15 per cent concentrations.

The quantity of fungicides was calculated for 100 ml medium separately. The requisite quantity of fungicides was added to each flask at 45 °C. the fungicides were thoroughly mixed before solidification and poured into sterilized Petri plates. The mycelia disc of 5 mm diameter of twelve days old culture was cut with the help of sterile cork borer. Each disc was transefered aseptically to the centre of each Petri plate, already poured with poisoned medium.The PDA plates without fungicides were also inoculated and maintained as control.