INTERNATIONAL JOURNAL OF PLANT PROTECTION / VOLUME 5 | ISSUE 2 | OCTOBER, 2012 | 346-348

RESEARCH ARTICLE

Epidemiology of post-harvest black mould fruit rot of pomegranate (*Punica granatum* L.) caused by *Aspergillus niger*

■ M. K. KHOKHAR[1]*, GOKUL MEENA[2] AND R.G. JAT[2]

[1]Department of Plant Pathology, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, UDAIPUR (RAJASTHAN) INDIA

[2]Department of Plant Pathology, S.K.N. College of Agriculture, Rajasthan Agricultural University, JOBNER (RAJASTHAN) INDIA

ARITCLE INFO

Received : 30.03.2012
Revised : 10.05.2012
Accepted : 08.09.2012

Key Words :
Black mould,
Pomegranate,
Fruit rot,
Aspergillus niger

*Corresponding author:
khokharmk@rediffmail.com

ABSTRACT

Lab experiment was conducted at Dept. of Plant Pathology, SKN College of Agriculture, Jobner, Jaipur, Rajasthan, during 2008-09 and is was found that all the fruits exhibited symptoms of the rot when fruits were inoculated by cork borer wounding method at unripe, semi-ripe and ripe stage. Severity of the rot was maximum in fruit inoculated at ripe stage. Temperature had a profound effect on development of rot, incidence and severity were lowest in fruits pre-disposed at 0^0C. The maximum severity was found on fruits pre-disposed to 30^oC. Lowest severity of the rot occurred when fruits were pre-disposed at 50 per cent relative humidity. The severity of the rot increased with increasing levels of relative humidity. Maximum severity of the rot was observed on fruits pre-disposed to 100 per cent relative humidity.

How to view point the article : Khokhar, M. K., Meena, Gokul and Jat, R.G. (2012). Epidemiology of post-harvest black mould fruit rot of pomegranate (*Punica granatum* L.) caused by *Aspergillus niger*. *Internat. J. Plant Protec.*, **5**(2) : 346-348.

INTRODUCTION

Pomegranate (*Punica granatum* L.) is an important favourite fruit of tropical, sub-tropical and arid regions. It belongs to the family Punicaceae and is believed to native of the middle East (Iran and adjoining countries) and spread to most tropical and subtropical countries of the world. It is extensively cultivated in Iran, Egypt, Pakistan, Spain, Morocco, Afghanistan and in some place of Myanmar, China, Japan, California, South Italy and Bulgaria (Mitra *et al.*, 1999). Pomegranate fruits are the good sources of carbohydrates and mineral such as Ca, Fe and S and a moderate source of pectin (Waskar, 2006). The pomegranate fruit suffered from several fruit rot diseases (Kanwar and Thakur, 1973). The incidence was found to be 10-20 per cent on pomegranate fruits.

MATERIALS AND METHODS

Mature pomegranate fruits were inoculated with the uniform amount of inoculum by cork-borer wounding method (A hole of 2 mm diameter and 2 mm depth was made with the help of a sterilized cork borer). The inoculum was placed in the hole and the host tissue was replaced on the hole and effect of fruits ripeness (unripe fruits, semi-ripe fruits and ripe fruits stage of maturity), temperature (0, 5, 10, 15, 20, 25, 30, 35 and 40^0C) and relative humidity (40, 50, 60, 70, 80, 90 and 100 per cent) were tested on disease development. Solution of sulphur acid (H_2SO_4) was used to produce different levels of relative humidity according to the procedure described by Buxton and Mellanby (1934). The inoculated fruits were placed in polythene bags (fruit ripeness) and desiccator (relative humidity) inoculated at 25 ± 1^0C in BOD incubators. The experiment was arranged in Completely Randomized Design. Data on incidence and severity of the rot were recorded after