



Incidence of fungal diseases at different stages on chilli from Beed district

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Abstract

It had been observed that Chilli crop in Beed district was having incidence of fungi like *Alternaria alternata*, *Cercosporacapsici*, *Colletotrichum capsici*, *Colletotrichum gloeosporioides*, *Fusarium oxysporum*, *Fusarium solani*, *Phytophthora capsici*, *Pythium aphanidermatum*, *Rhizoctonia solani*, and *Verticillium dhaliae* at sapling stage as well vegetative stage of Chilli crop. At the reproductive stage the incidence of *Alternaria alternata*, *Cercospora capsici*, *Colletotrichum capsici*, *Colletotrichum gloeosporioides*, and *Leveillula taurica* were observed.

Keywords: Chilli, Fungi, Sapling stage Vegetative Stage, Reproductive Stage

Introduction

Capsicum is commonly known as Chilli. It belongs to night shade family *Solanaceae*, which is noted for over 9500 years. It is the native of Southern America and was first cultivated in Peru at around 7500 BC (MacNeish, 1964). It is a good source of Capsaicin, Vitamin A, Vitamin C, Riboflavin and Thiamine. It contains about 8.8 gram of carbohydrates, 5.3 gram of sugar, 1.9 gram of protein and 534 micrograms of - carotene per 100 grams (Panda *et al.*, 2010). The climate of India is favorable to cultivate different varieties of Chilli. In the world India is accounting for 11 lakh tons of production

annually and followed by China with a production of around 4 lakh tons. Maharashtra, Gujarat, Andhra Pradesh, Tamil Nadu and Kashmir are major Chilli cultivating states. It was cultivated during the entire year at one or the other part of the country. However, the major cultivated season is from February to April. The Chilli crop is attacked by various fungal diseases at different stages of development. These are mainly Anthracnose, Damping off, Powdery mildew, *Cercospora* leaf spot and Root rot disease. Present paper deals with the fungal diseases at different stages on Chilli from Beed district.

Materials and Methods

A number of Chilli growing field's, local markets of Beed district were visited and diseased samples were collected. A critical study was made on symptoms produced by pathogen on different plant parts of Chilli like leaf, stem and fruits. The samples showing typical fruit rot symptoms were collected in polythene bags from Chilli growing fields and local markets and brought to the research laboratory for isolation and identification of the pathogen, associated with disease.

Isolated fungal forms were identified on the basis of available literature, including manuals and monographs such as A manual of the *Aspergilli*, by Thom and Raper (1945), A manual of soil fungi by Gilman, (1959), Illustrated genera of imperfect fungi by Barnett H. L., Dematiaceus

Hyphomycetes by Ellis M. B., (1971), Hand Book of Soil Fungi by Nagamaniet.al. (2006) and Bary B. Hunter (1965), The Illustration of fungi by Mukadam *et al.*, (2006).

Results

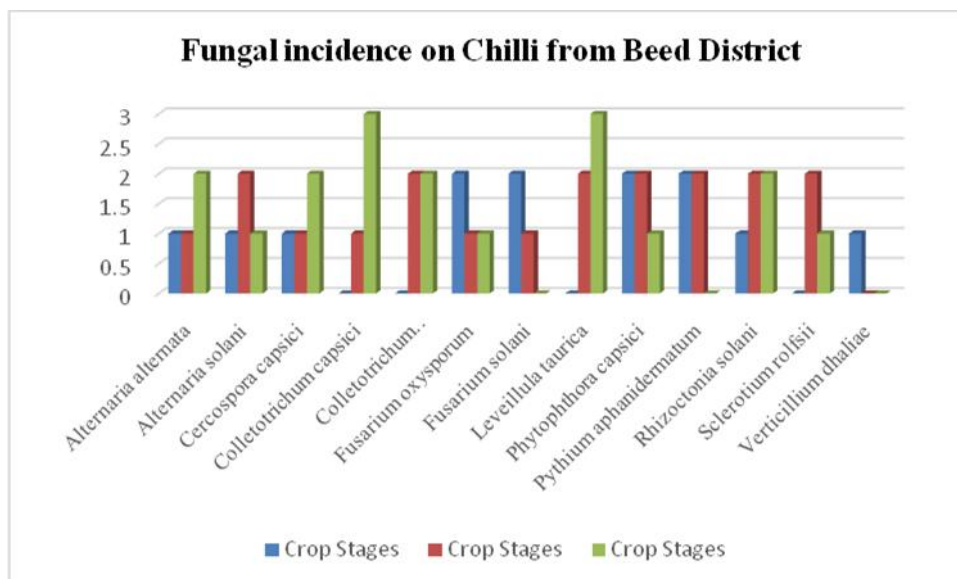
The occurrence of fungi at vegetative stage of crop were studied, at this stage fungi associated with foliar stage were dominant. The commonly reported fungi were *Alternaria alternata*, *Alternaria solani*, *Cercospora capsici*, *Colletotrichum capsici*, *Colletotrichum gloeosporioides*, *Fusarium oxysporum*, *Fusarium solani*, *Leveillula taurica*, *Phytophthora capsici*, *Pythium aphanidermatum*, *Rhizoctonia solani* and *Sclerotium rolfsii*.

Table:1 Fungal incidence on Chilli from Beed District

Name of Fungi	Crop Stages		
	Sapling	Vegetative	Reproductive
<i>Alternaria alternata</i>	+	+	++
<i>Alternaria solani</i>	-	++	+
<i>Cercospora capsici</i>	+	+	++
<i>Colletotrichum capsici</i>	-	+	+++
<i>Colletotrichum gloeosporioides</i>	-	++	++
<i>Fusarium oxysporum</i>	++	+	+
<i>Fusarium solani</i>	++	+	-
<i>Leveillula taurica</i>	-	++	+++
<i>Phytophthora capsici</i>	++	++	+
<i>Pythium aphanidermatum</i>	++	++	-
<i>Rhizoctonia solani</i>	+	++	++
<i>Sclerotium rolfsii</i>	-	++	+
<i>Verticillium dhaliae</i>	+	-	-

(+++)= High, (++) = Medium, (+) = Low, (-) = Absent

Graph: 1 Fungal incidence on Chilli from Beed District



Discussion

At sapling stage fungi like *Alternaria alternata*, *Cercospora capsici*, *Colletotrichum capsici*, *Colletotrichum gloeosporioides*, *Fusarium oxysporum*, *Fusarium solani*, *Phytophthora capsici*, *Pythium aphanidermatum*, *Rhizoctonia solani*, and *Verticillium dhaliae* were found in Beed district. *Verticillium dhaliae* was absent at vegetative state except all reported fungi in Beed. Fruiting stage was dominated by presence of *Alternaria alternata*, *Cercospora capsici*, *Colletotrichum capsici*, *Colletotrichum gloeosporioides* and *Leveillula taurica*.

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