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ORIGINAL ARTICLE

SOME LEAF SPOT DIESEAS OF MEDICINAL PLANTS FROM OSMANABAD DISTRICT OF MAHARASHTRA.

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Abstract:

Medicinal and aromatic plants are facing great trouble by various pathogens, which are natural enemy of the plants. The impact that fungi have with regard to plant health, food loss, and human nutrition is staggering .During the study leaf spot diseases of medicinal plants observed in Osmanabad district were recorded. In all 10 diseases were observed on 08 plants.Thre diseases were caused by different species of fungi .They includes species of Cercospora , Phoma , Pestalotia ,Sphaceloma and Myrothecium .

KEY WORDS:

Medicinal and aromatic plants , plant health, food loss.

1.INTRODUCTION

Since ancient time aurvedic therapy is practiced in India, which is based on removing ill factors from the body. The aurvedic treatment preliminary based on the use of various plants and plant parts as a medicine. In Marathawada region several medicinal plants are observed. Medicinal plants thus form a large group of economically important plants, which provide basic raw material for medicines, perfumes, flavors and cosmetics. These plants and their products serve as valuable source of income for small land holders . Medicinal plants are facing great trouble by various pathogens, which are natural enemy of the plants. These plants suffer from various fungal, bacterial and mycoplasma diseases .Therefore a survey of fungal leaf spot diseases of medicinal plants observed in Osmanabad district was undertaken. During this survey 10 leaf spot diseases were observed on 08 plants.

A survey of fungal Leaf diseases of some medicinal plants was carried out. Observations were made in the field on such aspects weather the diseases occurs on young and old trees, young or old leaves. The leaves were examined carefully in the field and symptoms were recorded. These plant parts were dried in shade in the laboratory. The diseases and pathogens were identified using the relevant literature. The diseases observed during present investigation on leaves are described as follows with respect to the names of the host plants and pathogens along with the symptoms produced by them.

OBSERVATION:

***Abrus precatorius* L.**
Pathogen:- *Cercospora* sp. Fres.

The disease usually appears during monsoon season. The lower leaves are firstly attacked. Initially the disease appears on the leaflets as minute, small spherical to oval spots, dark brown in color

about 2 to 3 mm in diameter. As disease advances, spots enlarge and may coalesce, become irregular in shape and surrounded by yellow halo. Generally the spots were observed near the margin. Premature shedding of the leaflets was also noted on infected leaves.

***Aegle marmelos* (L.) Corr.**
Pathogen:-. *Colletotrichum gloeosoporioides* Penz.f.

Initially oval or irregular grayish brown spot appear on the leaf lamina. These spots increase in size and some may coalesce to cover large area at later stage. Under humid condition the spot increase in size rapidly and form irregular necrotic area. Young leaves were found most susceptible to the infection. The disease occurs during rainy season.

***Aloe vera* L.**
Pathogen: *Phoma sorghina.*

The infection was recorded on leaves as light coloured spots which later become brown in colour. As the spot enlarges, light and dark brown rings developed. The rings were conspicuous, largest spot may develop as some of the spot coalesce. In later stage the spot turn necrotic.

***Caesalpinia bonduc* (L.)Roxb.**
Pathogen:- *Cercospora caesalpinae* Agarwal & Sharma

The disease was initiated as small, brown, isolated spots on lower surface of leaves, but very soon it spread to both the surfaces. The spots enlarge with the advancement of the disease. Spots were light brown in center with dark margin, later the spots turn necrotic and the affected tissue fell down from some lesions. Severely infected leaves fell down. This disease was recorded during the rainy season.

***Datura metel* L.**
Pathogen:- *Cercospora jamaicensis* Chupp

The disease was observed on the leaves during rainy season. Initially the spots develop as minute brown round to oval spots, about 1 to 2 mm in size. This spot enlarged with light coloured center surrounded by yellow colored portion. The spots were irregular in shape.

***Lawsonia inermis* L**
Pathogen:- *Pestalotia lawsoniae* Mund and Kheswalla.

The disease symptoms first appeared as small pinkish spots on foliage of the host plants. Several spots may develop on a leaf, which may coalesce and form blotches. Individual spot may be circular to oval in shape and margin about 2 to 3 mm in size. During severe infection, fruits were also found infected. On unripe fruits, dark pinkish brown spot develop, which may cover the entire fruit surface with the advancement of the disease. The severally affected fruits drop down. Disease was found during early rainy season.

***Semecarpus anacardium* L.f**
Pathogen:- *Sphaceloma semecarpi* wani & Thirum

Firstly the spots are small, minute, red-brown in colour with yellow halo and vary in size and shape. Initially spots are small, as the disease progresses spots coalesce to form large patches, mostly seen on leaf margin. In advanced stage of disease, number of spots increase, causing death of leaf tissue. The infection is usually seen on several successive leaves. This disease occurs with the onset of monsoon.

***Withania somnifera* (L.) Dunal .**
Pathogen:- *Alternaria alternata* (Fr.) Keissler.

During rainy season, initially small light brown spots develop on the leaves. These spots enlarge with the advancement of the disease. The spots were brown in colour. The spot turn necrotic and appear characteristic. The disease was found in rainy season.

***Withania somnifera* (L.) Dunal .**
Pathogen: *Myrothecium roridum* Tode ex. fr

Small brownish spots surrounded by yellow halo develop initially on the leaf lamina. These spots enlarge in size, sometimes coalesce and become brittle. Young as well as old leaves were found infected during the rainy season.

***Withania somnifera* (L.) Dunal**

Pathogen: *Cercospora withaniae* H. & P. Syd.

The disease occurs during winter season. Firstly the infection appears as small yellowish spots on the leaf lamina, which enlarge as the disease progresses. Initially the spots were round to oval in shape, but later turn irregular. The enlarged spots were surrounded by yellowish halo. In severe infection, the spots become necrotic. Due to the infection, in some cases leaf lamina becomes scorched.

RESULT AND DISCUTION:

Rainy season is the most favorable for the fungal infection while in summer season infection on the medicinal plants recorded rare. Disease symptoms were recorded on all the medicinal plants vary seasonwise. *Calotropis procera* and *Aegle marmelos* were seen infected in all three seasons. Winter season was also recorded favorable for the disease development.

During present study 10 diseases were recorded on 08 medicinal plants. On *Aloe vera*, 1 leaf spot disease caused by *Phoma sorghina* and have been recorded during period of study in the district. The first two disease has been recorded earlier by Roy (1976) from Bhagalpur, Bihar. During present study, a leaf spot disease caused by *Cercospora jasmaicensis* has been observed on Datura metal which has been described earlier from Pune, Maharashtra by Mathur et al., (1964). A leaf spot disease caused by *Pestolatia lowsonae* was observed on *Lawsonia inermis*. A leaf spot disease caused *Sphaceloma semecarpi* has been reported on *Semecarpus anacardium* from this area. On *Withania somnifera,* 3 leaf spot diseases were observed during period of present study. These were leaf spot caused by *Alternaria alternata*, *Myrothecium roridum* and *Cercospora withaniae*. This disease has already been reported by Nigam (1984); Rezwana Khan (2007) and Munjal et al., (1959) respectively.

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