



## SOME LEAF SPOT DISEASES OF AROMATIC PLANTS –III FROM OSMANABAD DISTRICT OF MAHARASHTRA.

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### ABSTRACT :

**A**romatic plants form a large group of economically important plants, which provide basic raw material for medicines, perfumes, flavors and cosmetics. These plants and their products not only serve as valuable source of income for small land holders and entrepreneurs, but also earn valuable foreign exchange by way of export. 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 aurvedic plants observed in Osmanabad district were recorded. In all 06 diseases were observed on 04 plants .The diseases were caused by different species of fungi .They includes species of ,*Phyllostica*, *Cercospora* , *Alternaria*. *Rhizoctonia* and *Curvularia*.

**KEYWORDS:** *Aromatic plants , basic raw material , medicines, perfumes, flavors.*

### INTRODUCTION

Medicinal and aromatic plants have been used in all cultures as a source of medicine for the treatment of various diseases including stomach complaints, malaria, cancer and AIDS ( Hoareau and Da Silva, 1999). Of about 2,50000 flowering plants in the world (Thorne, 2000), more than 50,000 are used for medicinal purposes (Schippmann et al. 2002).

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. Aromatic



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 holder's .Medicinal and aromatic 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 off fungal leaf spot diseases of aromatic plants observed in Osmanabad district was undertaken. During this survey 06 leaf spot diseases were observed on 04 plants.

A survey of fungal leaf diseases of some aurvedic 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:**

##### **1) *Jasminum auriculatum* Val.**

**Pathogen:** *Phyllosticta jasminicola* Rao, V.

The disease was observed during winter season. Symptoms of this disease appeared on leaves of all ages. Initially the spots were small, reddish, oval to irregular in shape. Later the spots increase in size and may remain isolated or may coalesce. Finally the spot turn necrotic. The area surrounding the spot was found chlorotic.

##### **2) *Jasminum officinale* L.**

**Pathogen:** *Cercospora jasminicola* Muller and Chupp.

During rainy season, initially small brownish spots develop near the leaf margin. Later the spots enlarged in size, spread irregularly on the leaf lamina, surrounded by light yellow to brown coloured area. The spots turned necrotic, the affected area became brittle in latter stage.

##### **3) *Jasminum sambac* (L.) Ait.**

**Pathogen:** *Alternaria alternata* (Fr.) Keissler.

Initially symptoms of disease were observed on upper side of the leaves, which were brown to yellow in colour, regular to irregular in shape. In later stage, the spots turn necrotic and spread near the margin of the leaves. The affected portion dry, become brittle. The disease was recorded during rainy season.

##### **4) *Annona squamosa* L.**

**Pathogen:** *Rhizoctonia bataticola* (Taub.) Butler

The disease symptoms appear on the aerial parts of the plant. The fungus develops spots on the leaf tissues, which are limited by the veins. The necrotic spots were present on epiphyllous sides appearing as circular to oval, arising from the leaf margin and gradually proceeding towards the leaf lamina. These spots coalesce and become dark brown in colour. When the infection is severe, wilting of leaves starts and defoliation may occur. The infected fruits are immature, tough, reduced in size and rind becomes hard like stone. The disease was observed during monsoon, followed by winter season

##### **5) *Lantana camara* L.**

**Pathogen:** *Cercospora lantanae* Tilak & Kale

During rainy season, small dark to black spots appear on the leaf lamina. As the disease progresses, the spot increase in size and some spots may coalesce. The affected area turn chlorotic. However the infection was sporadic. The infected leaves persisted on the plants.

##### **6) *Mentha spicata* L.**

**Pathogen:** *Curvularia lunata* (Wakker) Boed.

The typical symptoms appear in the form of small dirty brownish spots, scattered all over the leaves, in initial stage. These spots were minute, which increase in size later on and formed big irregular patches. In the advanced stage, the spots coalesced and formed large dark brown patches of irregular size. The symptoms of the disease appeared on the leaves of all ages, but the bigger spots generally appeared on the older and lower leaves. The disease was observed during rainy season.

## RESULT AND DISCUSSION :

Three species of *Jasminum*, observed in the present study area, were found suffering from leaf spot disease. The leaf spot caused by *Phyllosticta jasminicola* on *Jasminum auriculatum* has been reported earlier from Maharashtra by Rao (1962). The leaf spot disease caused by *Alternaria alternata* was observed on *Jasminum sambac*. Its report on *Jasminum* species has been reported earlier by Srivastava and Mathur (1979). *Cercospora jasminicola* causing leaf spot on *Jasminum officinale*, recorded during present study, have been reported earlier from Maharashtra by Chiddarwar (1962). The leaf spot caused by *Pestalotia annonicola* and *Rhizoctonia bataticola* have been reported earlier from Maharashtra. Rao (1966) have observed these two diseases from Pune and Todawat (2011)

During present study, one leaf spot disease caused by *Cercospora lantanae* on *Lantana camara* has been recorded from the study area. Earlier Tilak and Kale (1969) reported the infection by the pathogen on twigs of the host. Two fungal diseases were observed on *Mentha spicata* during the period of investigation. A leaf spot disease caused by *Curvularia lunata* has been recorded during present study. In the absence of its earlier report, the *M. spicata* appears to be a new host for *C. lunata*.

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