

FIRST REPORT OF FUNGAL DISEASE AT NURSERY OF SOCIAL FORESTRY DEPARTMENT, JALGAON (M.S.) INDIA

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ABSTRACT

During the extensive and intensive survey in order to collect and observe the severe fungal disease of nursery of social forestry department J. K. Park, Jalgaon, out of 20 trees plants, 16 plants were found affected from severe fungal diseases. These plants were – *Azadirachta indica*, *Albezia procera*, *Albezia lebbeck*, *Madhuca latifolia*, *Pongamia pinnata*, *Tectona grandis*, *Termenilia arjuna*, *Termenilia bellerica*, *Ficus religiosa*, *Ficus benghalensis*, *Dalbergia sisso* and *Cassia fistula*. About 8 leaf spot, 3 rust, 3 powdery mildew and 2 wilt diseases were observed during two years 2015-16, 2016-17. Pathogens were identified with the help of available literature and confirmed by experts.

Figure : 00

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Table : 01

KEY WORDS : Fungal disease, J.K. Park, Jalgaon

Introduction

Forests are one of the most important renewable natural resources. Obviously, they play an important role in the country ecosystem development and growth in various ways and maintain the ecological balance and stability of nature. The forest serves as a source for timber, fuel, fodder and minor forest produce to human along with conserving soil and water, moderating climate, offering food and shelter for wildlife and adding to the aesthetic value and recreational needs of man¹⁻⁵. There is a close relationship of plants and the environment.

Material and Method

Sampling sites – Only one spot, Nursery of Social forestry, J.K.Park, Mehrun, Jalgaon

Collection and identification :

1. A survey was conducted in nursery of Social forestry department. J. K. Park Jalgaon.
2. The symptomlogy and other information such as place of collection, locality, local names of the plant and date of collections were noted.
3. The sample was kept in the polythene bag and brought in the laboratory.
4. In the laboratory, host name was confirmed with the help of herbarium, Dept of Botany, H. J. Thim College of Arts and science, Mehrun, Jalgaon
6. Tentative identification was done with the help of monographs and, reference book

Result and Discussion

Suggestion to prevent and control on the pathogenic outbreak

Rust or fungal is very hard to treat. Fungicides such as Mancozeb or Triforine may help but may never eradicate the disease. Some organic preventative solutions are available and Sulfur powder is known to stop the growth of rust and any other fungal species. In the studies going on at our center showed significant pesticide activity against rust by a Neem oil based bio-pesticide.

For the wilt disease before planting the seedling, soil should be treated with hot water to kill the soil borne fungi. Villagers and farmers generally use ash powder with butter milk to control powdery mildew of the crops. It may also be treated in the forest nursery.

Conclusion

This study was based on 2 continuous surveys of a nursery of social forestry department of Jalgaon, Maharashtra. About 16 plants in the nursery of important trees of variable importance were found affected by various fungal diseases. These diseases were leaf spot, leaf rust, powdery mildew, wilt etc. They cause significant loss to the trees in the earliest stages at the seedling stage. Foliage diseases are very important because they occur even in plantations and tree stage. To control these diseases is very important. Suggestions have been given to control the pathogens.

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TABLE - 1 : Plant species with pathogens and disease.

	Trees sp	Pathogen	Nursery	Period of occurrence	Symptoms
1	<i>Azadiracta indica</i>	<i>Psuedocercospora meliae</i>	J. K. Social forestry, Nursery	September to December	Black and brown symptom appears leading to short hole formations.
2	<i>Azadiracta indica</i>	<i>Phom jolyana</i>	— ,, —	September to December	Black spot round on the upper surface initially. Finally in the both surfaces.
3	<i>Albezia procera</i>	<i>Ravenelia sessilis</i>		October to February	Rust in the lower surface. Compound Teleuto spores
4	<i>Albezia procera</i>	<i>Ravenelia indica</i>		October to February	Rust in the lower surface. Compound Teleuto spores
5	<i>Madhuca latifolia</i>	<i>Scopella echinulata</i>		September to January	Rust on lower surface. Dark Brown Teleuto spores on lower surface.
6	<i>Pongamia pinnata</i>	<i>Fusicladium pongamiae</i>		October to January	Brown and black spots on the lower surface of leaf surrounded by necrosis spot.
7	<i>Pongamia pinnata</i>	<i>Ravenelia hobonii</i>		October to January	Rust on lower surface. Dark Brown Teleuto spores on lower surface.
9	<i>Tectona grandis</i>	<i>Uncinula tectonae</i>		October to February	Powdery mildew symptoms on the upper surface of the leaf. Mycelium is ectoparacyte.
10	<i>Termenilia arjuna</i>	<i>Sphaceloma termanaliae</i>		October to February	Leaf rust. fruiting of the rust presented on the lower surface of the leaf..
11	<i>Tectona grandis</i>	<i>Olivea tectonae</i>		October to February	Rust
12	<i>Dalbergia sissoo</i>	<i>Phyllactina dalbergia</i>		October to February	Powder mildew symptom on the upper surface of the leaf.
13	<i>Termenelia bellerica</i>	<i>Asteroma</i>		September to December	Leaf Spot Brown to Black causing early defoliations.

	Trees sp	Pathogen	Nursery	Period of occurrence	Symptoms
14	<i>Ficus religiosa</i>	<i>Phoma sp</i>		September to January	Brown spot to black spot, circular.
15	<i>Ficus benghalensis,</i>	<i>Coniothyrium olivaceum</i>		August to February	Oval and dark brown empheginous spot in the lamina and on the margin of the leaf,.
16	<i>Cassia fistula</i>	<i>Fusarium solani</i>		August to September	Wilt symptoms leading to complete death of the plants.

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