
EXPERIMENT 9 IDENTIFICATION OF ROOT DISEASES OF MULBERRY

Structure

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9.1 INTRODUCTION

Root system in plant plays an important role in absorption of water required for the plants. The root system of mulberry plant is attacked by various diseases. Nursery diseases, root knot and root rot are the root diseases reported in mulberry. They are soil-borne in nature and poses serious damage to plantation both in early stages (nursery) as well as in established gardens. Understanding these diseases better helps in controlling them. In this experiment, you will learn about the identification of disease through visual observations of the affected portions.

Objectives

After studying and performing this experiment, you should be able to:

- identify different root diseases of mulberry through visual observations of the affected portions; and
- identify different root diseases of mulberry through the symptoms that appears on the top due to root infection.

9.2 EXPERIMENT

9.2.1 Principle

Root diseases are soil-borne in nature. The primary infection occurs through contaminated soil and farm implements. The secondary infestation takes place by plantation of infected cuttings/saplings in the field. These diseases are infectious in nature having ability to become epidemic and very difficult to eradicate. Hence, identification of these diseases is very much essential for adopting the suitable control measures for protecting the plantation.

9.2.2 Requirements

- Mulberry garden
- Infected cuttings and root

- Hand lens

9.2.3 Procedure

- Collect the diseased samples from field by digging out the affected root system and cuttings and observe the symptoms.
- Record the disease based on their symptoms.
- Also, observe visually, above ground, symptoms of the diseases.

9.2.4 Observations

Disease	Causal Organism	Observed Symptoms
Nursery Diseases		
Stem canker		
Cutting rot		
Collar rot		
Die-back		
Root knot		
Root rot		

9.2.5 Results

- In the given sample, based on symptoms on root/foilage, the disease is identified as _____
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9.3 PRECAUTIONS

- Uproot the plant carefully for observing the symptoms on root.
- The symptoms on the leaves should not be confused with foliar diseases.
- The diseased samples used for identification should be suitably disposed-off.