

## Common Strawberry Diseases and Their Management

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### INTRODUCTION

Strawberry is a valuable crop, but it is very delicate and easily attacked by many diseases. These diseases not only reduce the yield but also spoil the quality of fruits. Farmers can save their crop if they learn to identify the symptoms early and take timely measures. Below are the four major diseases of strawberry, their symptoms in simple terms, and management practices.

#### 1. Red Stele Disease (*Phytophthora fragariae*)

**Symptoms:** Red stele occurs mostly in heavy soils where water remains standing, especially during late winter and spring. Infected plants grow slowly and look weak. The older leaves dry up while new leaves that appear are small and soft, growing on short stalks. The leaves often turn bluish-green instead of fresh green, which is a clear sign of this disease. When such plants are pulled out, their roots show “rat’s-tail” symptoms. In this condition, the long main roots remain, but the small side roots are completely rotten and missing. If the roots are cut lengthwise, the inner portion looks reddish-brown while the outer part remains whitish, which makes the disease easy to identify. Such plants produce very few flowers, and the small fruits that appear often shrink and dry up.

#### 2. Grey Mould (*Botrytis cinerea*)

**Symptoms:** Grey mould is a common disease that causes rotting of strawberry fruits, especially during cool and humid weather. The disease often starts on flowers. Infected flowers turn brown, shriveled and sometimes dry up completely. Later, when the fruits develop, soft brown spots appear which quickly spread. Soon the whole fruit gets covered with a fuzzy, grey powder of the fungus. Such fruits become soft, lose their sweetness and are not fit for sale. Sometimes, fruits may look healthy at harvest but rot during storage or transport, causing big losses.

#### 4. Leaf Spot (*Mycosphaerella fragariae*)

Leaf spot is a very common strawberry disease that reduces the health of the plant and spoils the look of the fruits. On young leaves, the disease appears as tiny purple spots. As the leaves get older, the centers of these spots change color from brown to gray and finally white, with a reddish-purple border around them. When the disease is severe, the spots coalesce and the leaves dry up and fall, reducing plant growth. On fruits, the disease causes small black spots, which are called “black seeds.” These spots do not usually rot the fruit completely but make them look ugly, reducing their market value.

Integrated disease management:

1. Do not plant strawberries in heavy or waterlogged soils, as these conditions favor serious root diseases.
2. Always prepare raised beds so that excess water drains away quickly and roots remain healthy.
3. In fields where *Phytophthora* has appeared, practice crop rotation for at least 1-2 years with other crops before planting strawberries again.
4. Maintain proper spacing between plants to ensure good air movement, which reduces disease spread.
5. Avoid applying too much nitrogen fertilizer, because it produces soft growth that is easily attacked by diseases.
6. Use straw or plastic mulch so that fruits do not touch the soil and remain clean and disease-free.
7. Remove and destroy flowers and fruits infected with grey mould immediately, as they act as a major source of infection for healthy plants.
8. For chemical control, always take proper advice from extension workers or experts for effective management. Ensure adoption of pre-harvest index so that no harmful chemical residues remain on the fruits at the time of harvest.