



Notes with Answers for Plant Pathology Module

Disease development

Name the three factors that must be present for a disease to develop.

1. *Susceptible host plant- a plant at risk of infection determined by its genetic makeup.*
2. *Pathogen - the disease causing organism.*
3. *Favorable environment - the environmental conditions that influence disease development including temperature, light and moisture.*

For each factor of the disease triangle, name a way that you could reduce or eliminate the presence of disease by modifying the factor.

Susceptible host	<i>Plant disease resistant varieties.</i>
Pathogen	<i>Remove and dispose of diseased plant materials to remove sources of pathogens (disease causing organisms).</i>
Favorable environment	<i>Pruning plants to increase air flow. Avoid overwatering.</i>



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Causes of plant disease

Name the five major groups of pathogens that cause plant diseases.

1. *Fungi: Most important group. 8,000 species of the over 200,000 known species cause diseases. Reproduces through spores.*
2. *Bacteria: Second most important group. Virtually impossible to identify without growing on specialized media in a lab and viewing with a microscope.*
3. *Viruses: Even smaller than bacteria. Many are mechanically transmitted (i.e., handling an infected plant). Some transmitted by insects. Others transmitted by seed, pollen, and/or grafting.*
4. *Phytoplasmas: Smaller than bacteria, live and reproduce in the plant's phloem (food conducting tissue). Transmitted by insects that are phloem feeders.*
5. *Nematodes: Tiny, round worms. Can spread by water, wind, cultivation on equipment, or in soil.*

Look for signs and symptoms

What is a sign of a plant disease?

Physical evidence of the pathogen that is causing the disease.

Name two common diseases that can easily be identified based on signs.

Powdery mildew and rusts.

What is a symptom of a plant disease?

The visible, physical characteristics of a disease expressed on plant parts.



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Name the five categories of plant symptoms.

1. *Necrosis: Death of plant tissue. Examples include spots, lesions, blights, cankers, and rot.*
2. *Overdevelopment: Symptoms of plant diseases where plant parts are overly large or are produced in larger-than-normal numbers. Includes galls, warts, and brooming.*
3. *Underdevelopment: Symptoms of plant diseases where the entire plant is smaller than normal. Most common symptom is stunting.*
4. *Discoloration: Symptoms involve abnormal color changes. Can be caused by any type of pathogen.*
5. *Wilting: Symptom where leaves or an entire plant has a droopy appearance. Indication of not enough water (due to under or over-watering).*