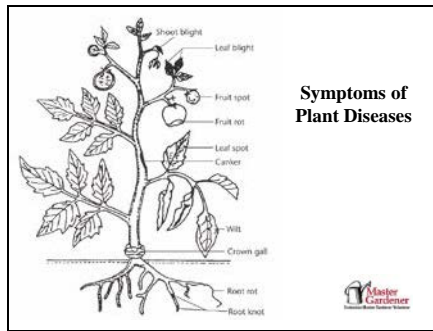



Slide 4



Slide 5

Symptoms versus Signs


- **Symptoms** are wilting, dieback, galls, lesions, mildews, rust, spots, scabs and rot
- **Signs** are the actual disease itself used to make a positive identification..mycelium, ooze, conks, mushrooms. These are identifying traits used to make positive ID on diseases.



Slide 6

Most prevalent plant diseases are caused by:

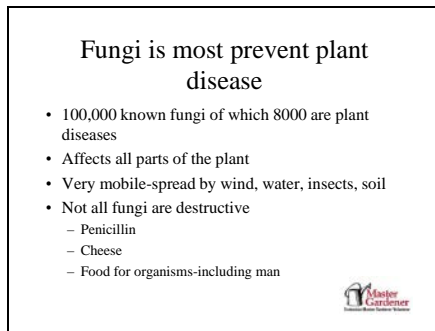
- Fungi
- Bacteria
- Virus
- Nematodes
- Micoplasmas
- Aboitic problems



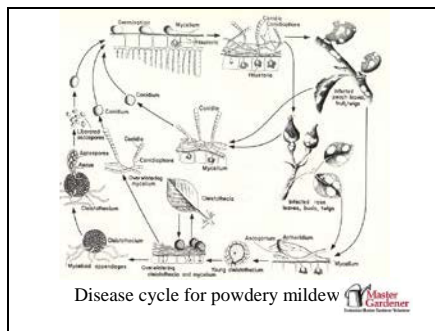
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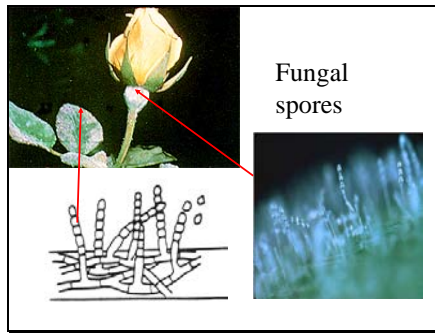
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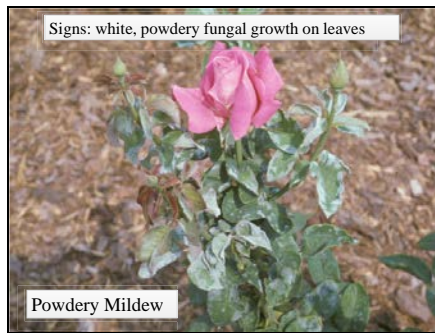
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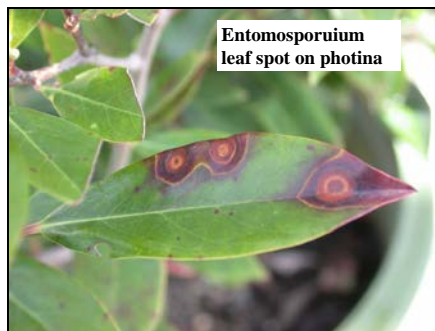
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Slide 11



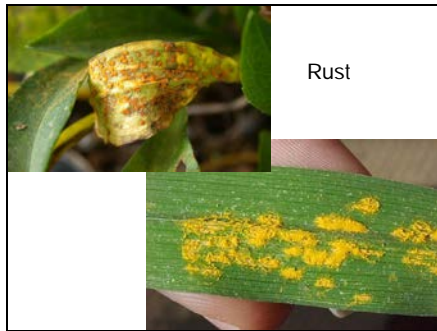
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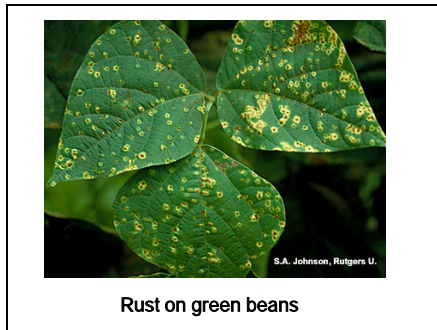
Slide 13



Slide 14



Slide 15



Slide 16



Slide 17



Slide 18



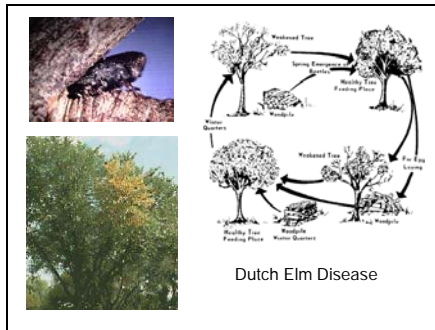
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Slide 21




Slide 22

Bacterial Diseases

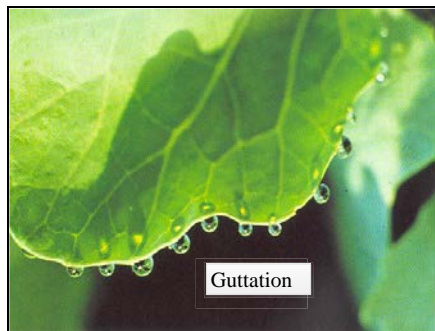
Slide 23

Bacterial plant diseases

- Very small
- Immobile-spread by insects, splashing rain, infected tools, etc
- Usually attacks the vascular system of plants

A microscopic image showing a long, thin, yellowish-brown bacterial cell with several flagella at one end, attached to a plant tissue.

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Bacterial Disease Symptoms

- Leaf spots:
 - Water-soaking
 - Slimy texture
 - Fishy or rotten odor
 - Initially confined between leaf veins
 - Chlorotic halo often surrounds lesion

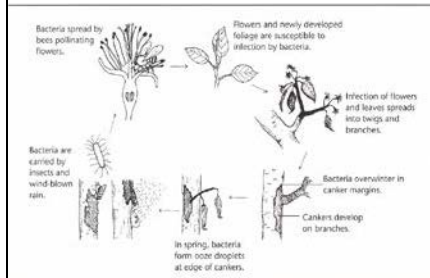
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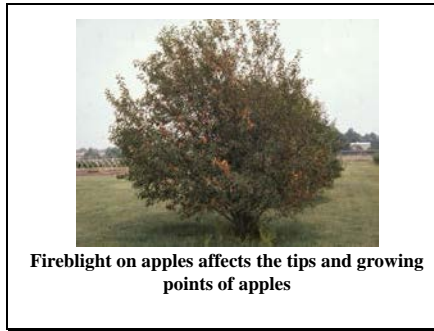
Spots often angular because they are initially limited by the leaf veins

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Bacterial diseases-Fire Blight



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Slide 29



Slide 30



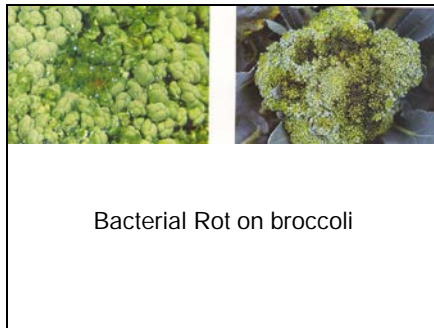
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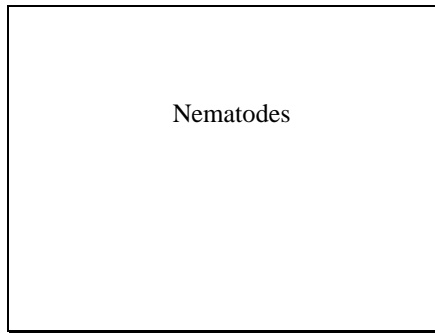
Slide 32



Slide 33

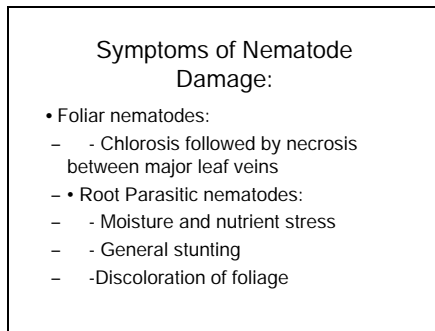


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Nematodes

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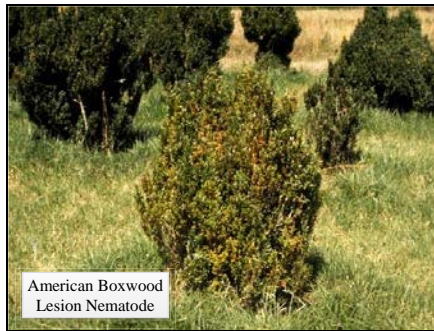
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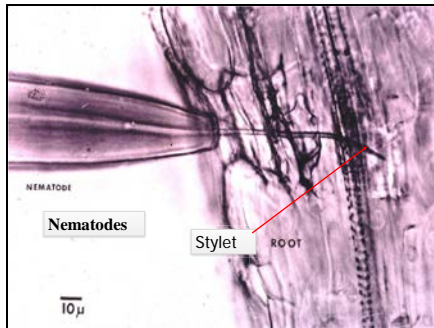
Slide 37



Slide 38



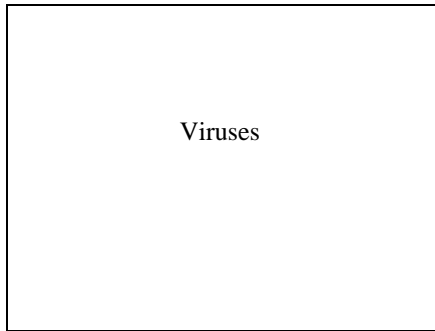
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Slide 40



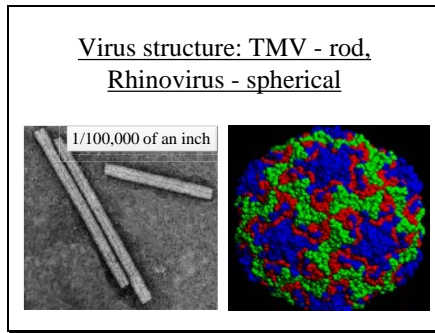
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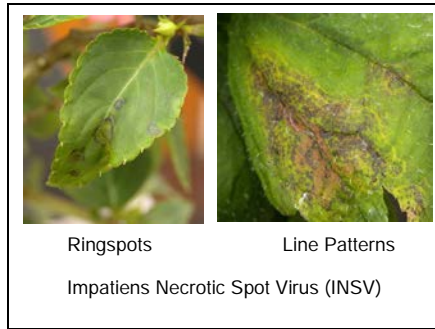
Slide 42



Slide 43



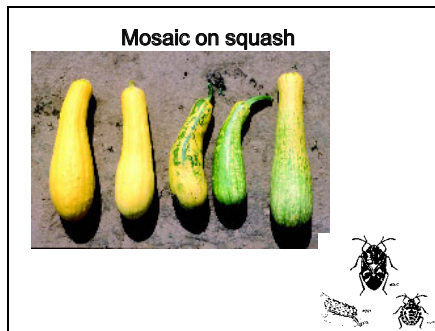
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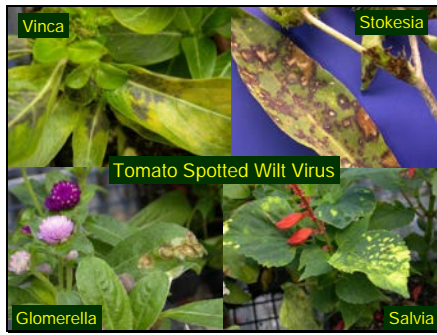
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Phytoplasmas


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Symptoms of Phytoplasma Diseases

- Distortion and abnormal growth patterns
- General loss of green color resulting in "yellows" appearance
- Witches broom (proliferation of buds)


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Aster yellows on Marigold




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Aster yellows on Zinnia



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Diagnosing Plant Problems



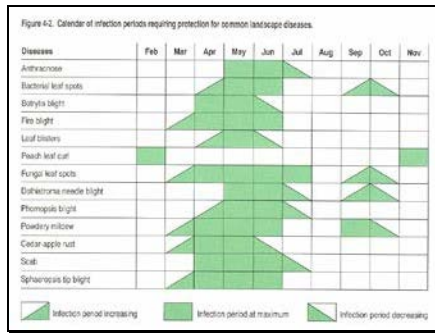
Requires

Putting Together

All of The

Pieces

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**Determine
Probable Cause**

(History) + (Examination of the plant) +
 (Signs and symptoms) +
 (Photographs and descriptions) +
 = Probable Cause

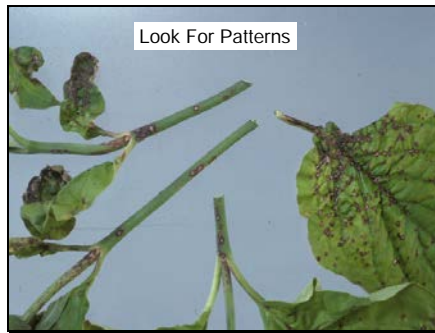
Slide 57



Slide 58



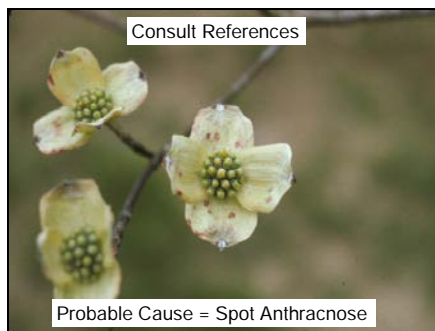
Slide 59



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Slide 61

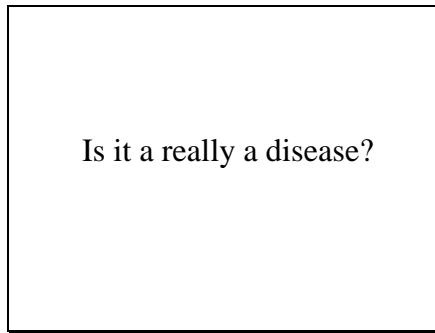


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Controlling Plant Diseases

- Fungicides
 - Some are actually metals
 - New generation fungicides are made from fungi
- Hot water-steam or heat treatment
 - Greenhouses, seed treatment
- Sanitation
 - Remove the sick plant
- Genetics-Resistant Varieties
 - New plants that show resistance are developed

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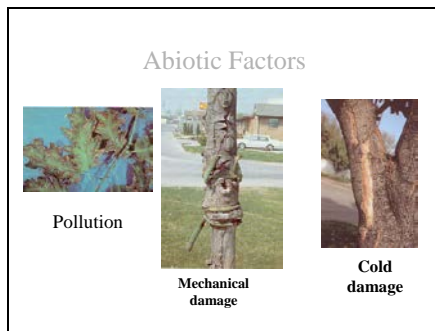
Slide 64



Slide 65



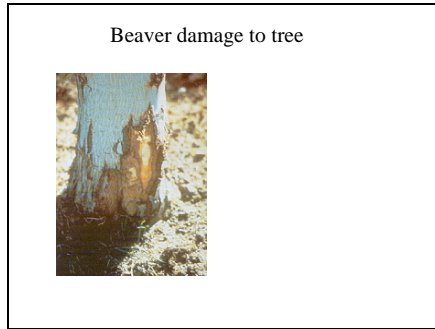
Slide 66



Slide 67



Slide 68



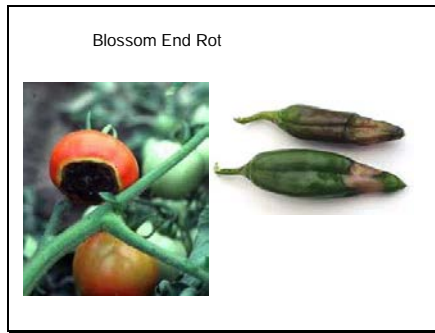
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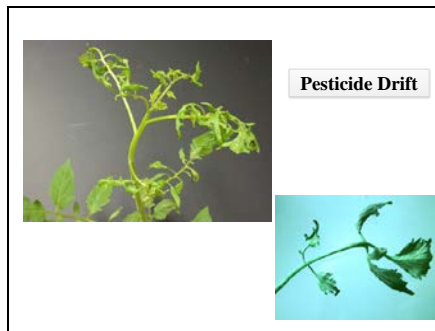
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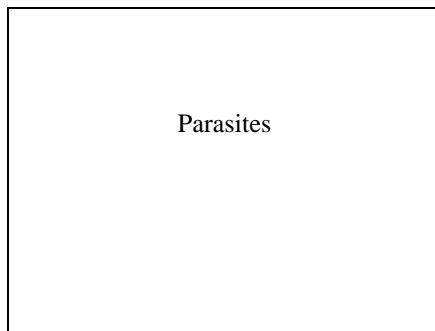
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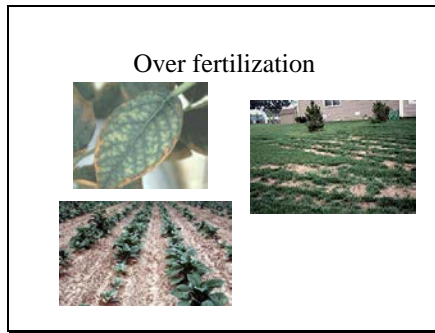
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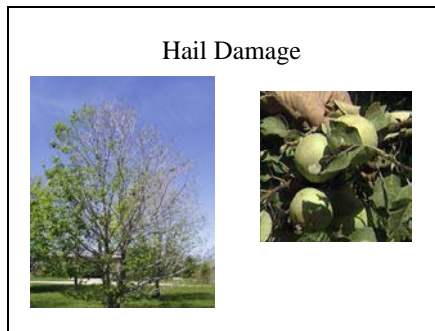
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Slide 74



Slide 75



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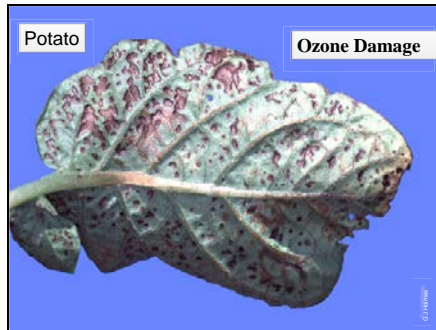
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Non of Chemical Control Diseases

- Use resistant cultivars or varieties
- Rotate crops
- Choose right place for plants
- Optimum planting times
- Remove plant debris
- Remove infected plant
- Remove weeds
- Improve soil
- Mulch soil
- Diversity of planting

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Rowan County Master Gardener Class Plant Diseases

February 6, 2008

