

Diagnosing Plant Disorders

- Normal vs. abnormal
- Symptoms of abnormality
- Pattern of abnormality
- Sign of causal agent
- 7 insect damage categories

What is normal? Form

- Know your plant
- The balls at the tip of the twigs are the fruit of the bald cypress tree



What is normal? Form

- The abnormal bumps on these base of these spruce twigs are called galls



What is normal? Color

- Know your plant
- Yellow leaf of this coleus is a variety characteristic

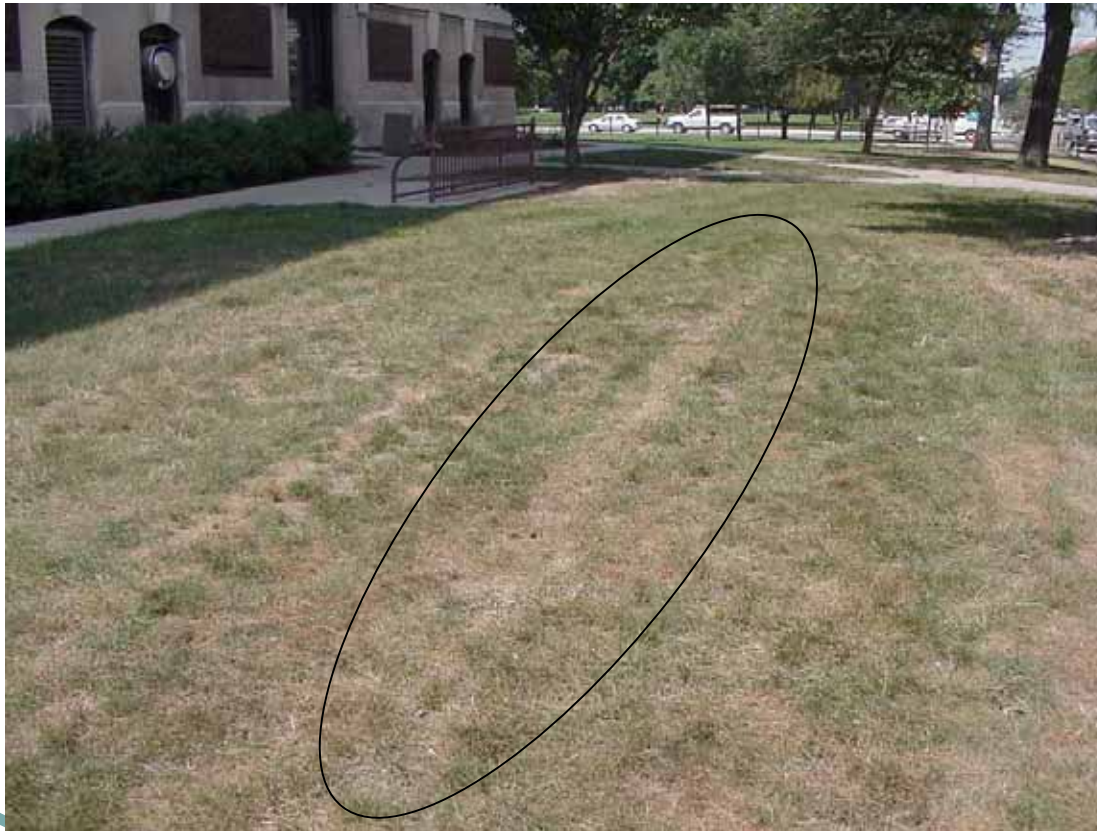


What is normal? –Leaf Senescence

- Know your plant
- Pine needles yellow before they drop
- Linden flower sepals yellow in August



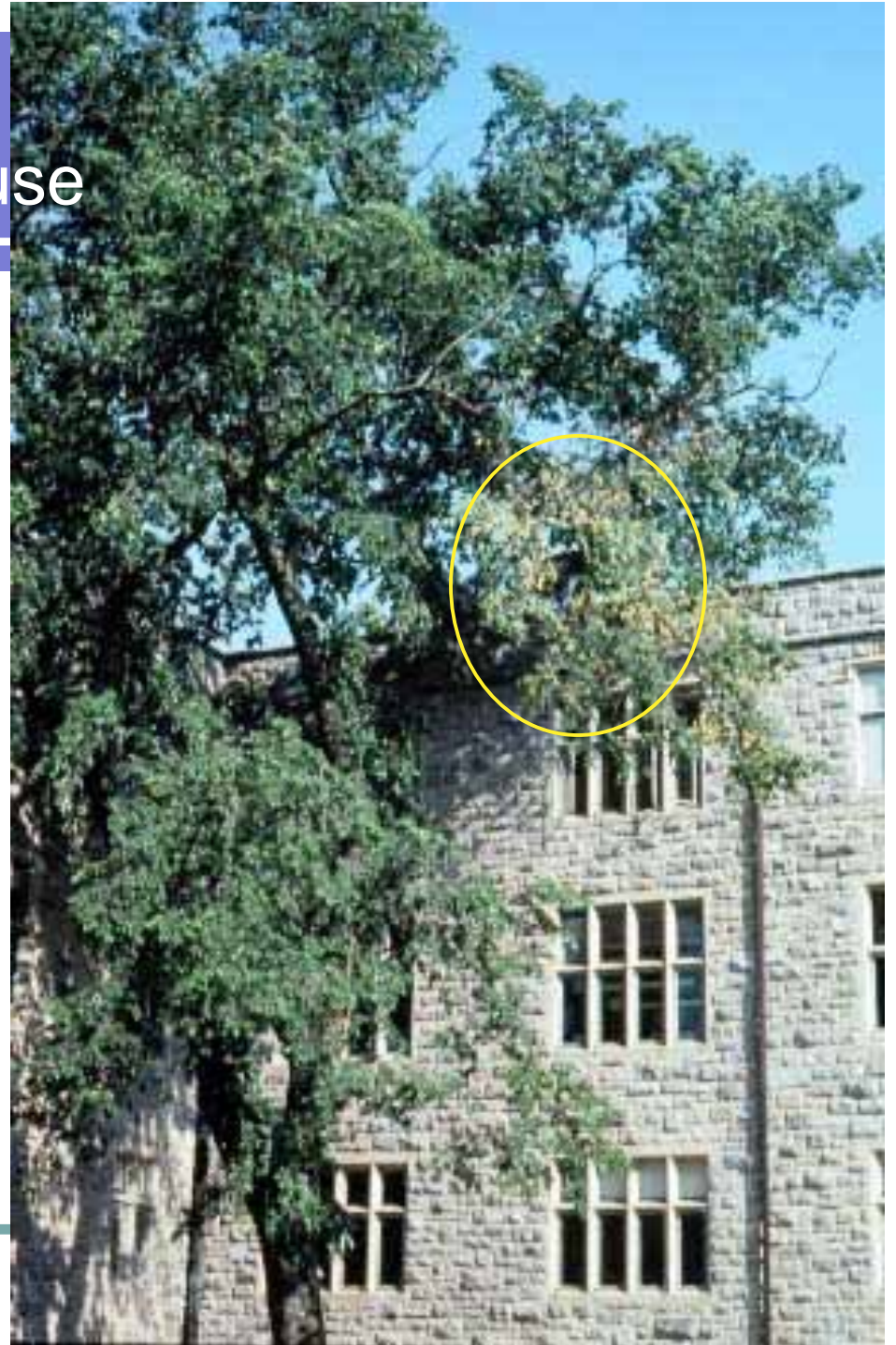
Pattern of abnormality
Uniform discolor Abiotic Cause



Tire tracks in
turf

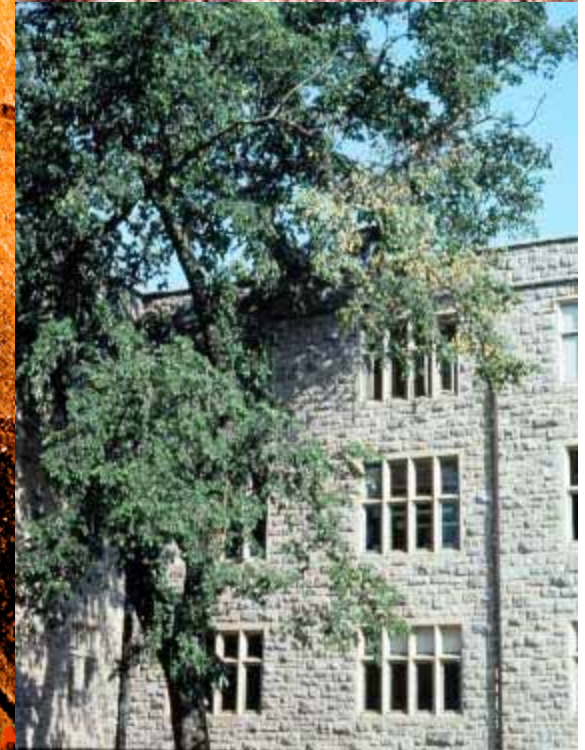
Pattern of abnormality – Clumped discolor Biotic Cause

Flagging from
Dutch Elm Disease



Dutch Elm Disease – Transmitted by Bark Beetle

Flagging from Dutch Elm Disease
(clumped symptom)



Pattern of abnormality –Uniform curl



Wilted terminals
On multiple species

Pattern of abnormality –Uniform curl



Wilted terminals
On group of trees

Leaf Symptoms- Interveinal discoloration

- Pigment removed between leaf veins



Leaf Symptoms- Stippling

- Specks of leaf tissue discolored



Leaf Symptoms- Discoloration

- Entire leaf is discolored



Leaf Symptoms- Defoliation= Parts missing

Skeletonization
(all veins remain)

Complete
defoliation
(all leaf tissue
consumed)

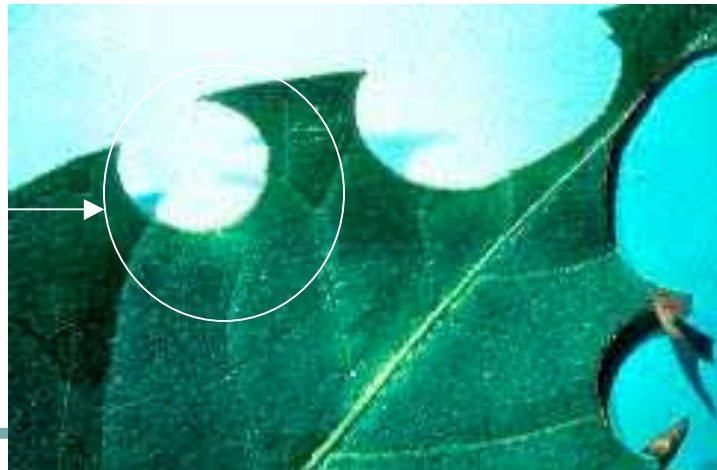


Leaf Symptoms- Leaf notching

Irregular pattern



Circular pattern



Leaf Symptoms- Stunting distortion

Stunted new growth



Leaf Symptoms- Scorch



Leaf Symptoms- Galls



Leaf Symptoms- Leaf mining



Trunk and branch symptoms- Dieback



Trunk and branch symptoms- Holes

Wood borers



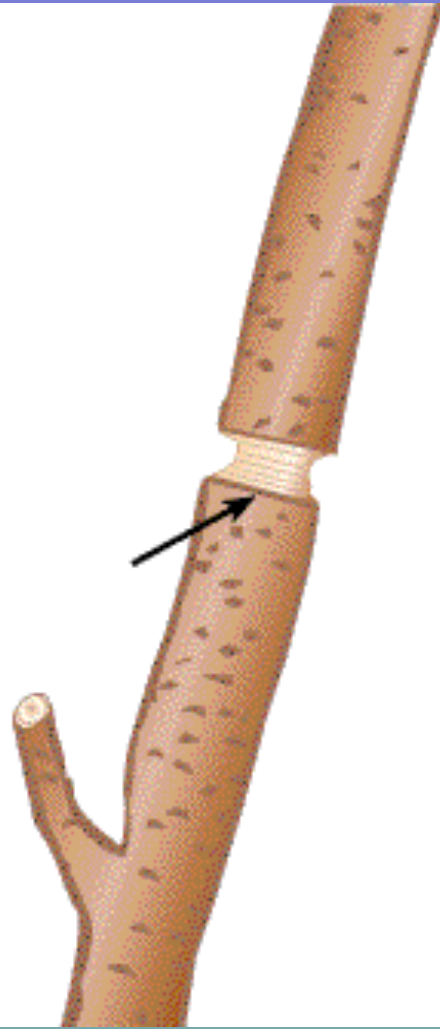
Trunk and branch symptoms- Hollowed stems or petioles



Trunk and branch symptoms- Peeled bark



Trunk and branch symptoms- Girdling



Trunk symptoms

Rows of holes in trunk

Sapsucker injury



Signs- Fruiting Bodies= Fungal Disease



Signs- The Insect Itself



Signs- Shed Insect Skin



Signs- Liquid Excrement of Sucking Insects and Sooty Mold



Signs- Insect Webbing



Signs- Insect Excrement Pellets



Signs- Insect Eggs



How Insects Injure Plants

- Discolor by sucking plant sap
- Distort by damaging growing tissues
- Lay eggs in plant (Oviposition)
- Defoliate by chewing
- Feed between upper and lower leaf surfaces
- Cut off vascular tissue by feeding in stems
- Transmit disease

Seven Categories of Insect and Mite Pests

1. Agents of leaf distortion and discoloration
2. Producers of honeydew, spittle, unsightly wax and insect remains
3. Producers of bumps or swellings on twigs
4. Defoliators
5. Leaf miners
6. Twig leader and trunk feeders
7. Agents of disease transmission and rapid decline