



# Integrated Pest Management (IPM)

- Combines multiple strategies for controlling insect pests and disease
- IPM always begins with accurate pest identification. Good bug or bad bug?



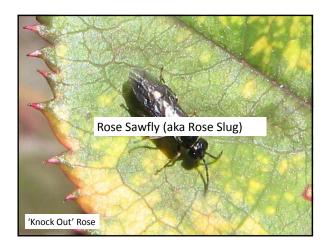
#### Integrated Pest Management (IPM)

- Use pesticides only if nonchemical controls aren't effective.
- If pesticides are needed, use least toxic products first (soaps, oils, microbials such as Bt and spinosad).
- Less toxic to beneficial organisms.







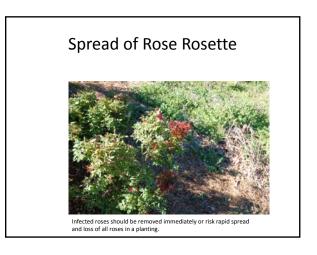




















## Bigleaf Hydrangea **Leaf Spot**

- Provide adequate plant spacing for good air circulation
- Avoid watering late in the day
- Remove fallen leaves
   Apply fungicide at first sign of disease
   Spectricide Immunox
- Garden Tech Daconil, Ortho Garden Disease Control

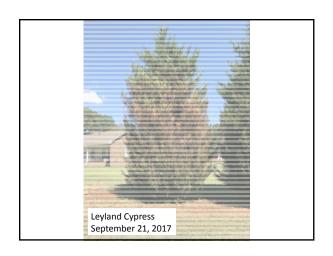












### Passalora Needle Blight Control Options

- Remove and dispose of infected branches or heavily disease trees
- Fungicides: Spectricide Immunox Garden Tech Daconil, Ortho Garden Disease Control
- Begin Fungicide applications by July 1 continue through October. Every 7-14 days

















#### **Emerald Ash Borer**

- Small insect 1/2" long x 1/16" wide
- Wing covers, abdomen and head are iridescent
- Coppery purple/red body under the wings



#### **EAB Larvae**

- Tunnels beneath bark
- Distinct, S-shaped paths Larval galleries filled with frass
- D-shaped exit holes

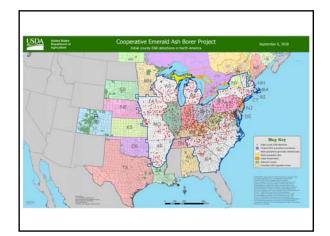


David R. McKay, USDA APHIS PPQ, Bugwood.org



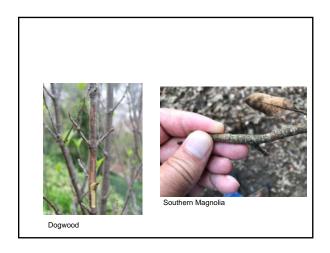
# **D-Shaped Exit Holes**















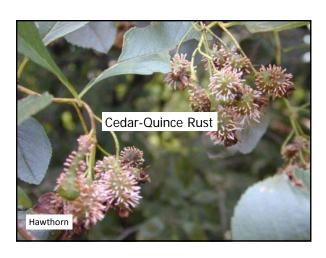


























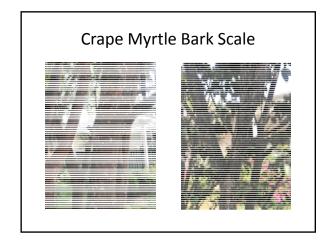














# Tea Scale

- Most common on camellia, holly, and anise
  Horticultural oil targeting crawlers during growing season
   First crawler emergence is April-May (2-3 generations/yr.)
  Bonide Systemic Insect Control (acephate)
  Acetamiprid (Ortho Flower, Fruit, and Vegetable Insect Killer) Translaminar Systemic Ortho Tree & Shrub Insect Control (Dinotefuran)





