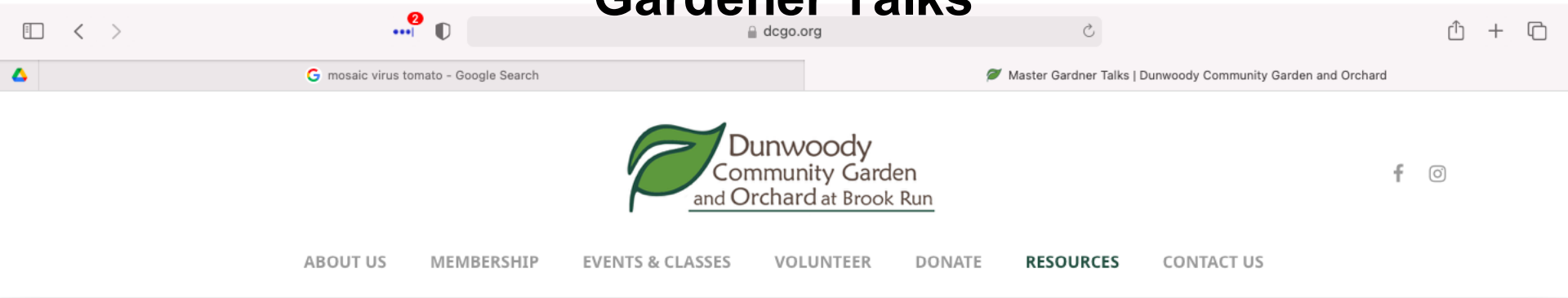
# Managing Common Garden Problems - *Organically*

Dunwoody Community Garden Workshop
May 10, 2025

**Cyndi McGill**
**DeKalb County Master Gardener Extension Volunteer**

# DCGO.org > Resources > Master Gardener Talks



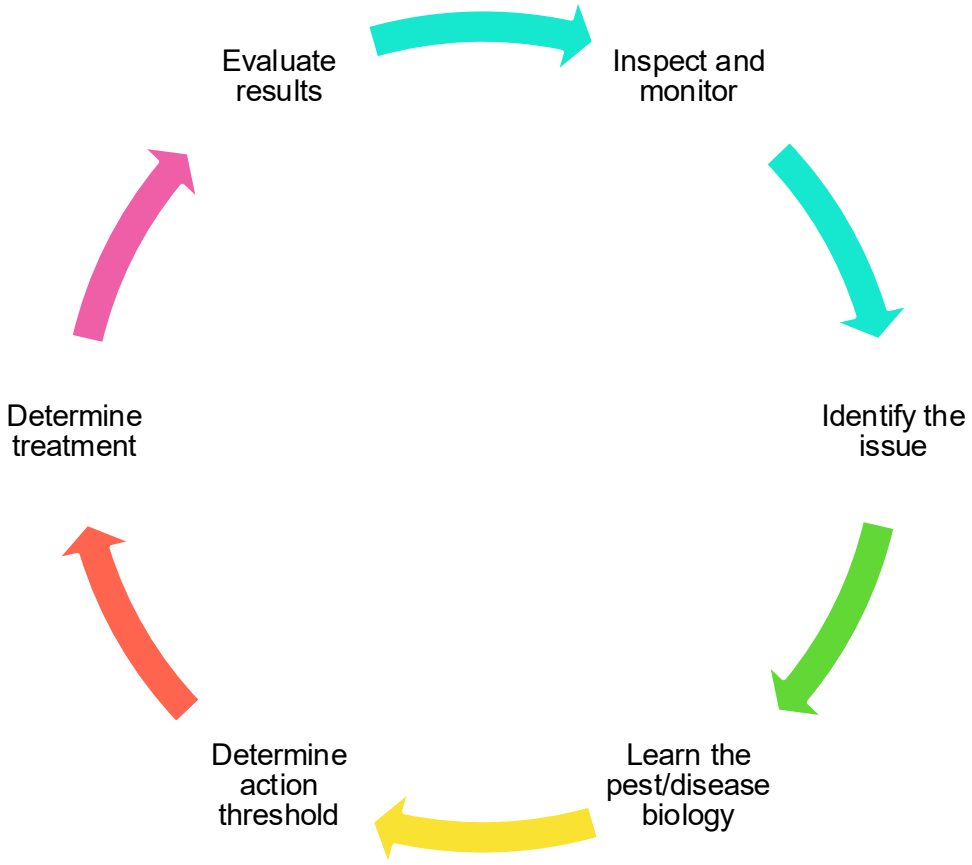
# What We'll Cover

- Diagnostic Basics
- The Usual Suspects in Dunwoody Gardens
  - Plant Diseases
  - Pests
- Resources

# Start Strong!

- Good Soil
- Healthy Plants
- Right Plant/Right Place/Right Time
- Good Air Circulation
- Food and Beverage
- Keep it Clean!

# Integrated Pest Management (IPM)

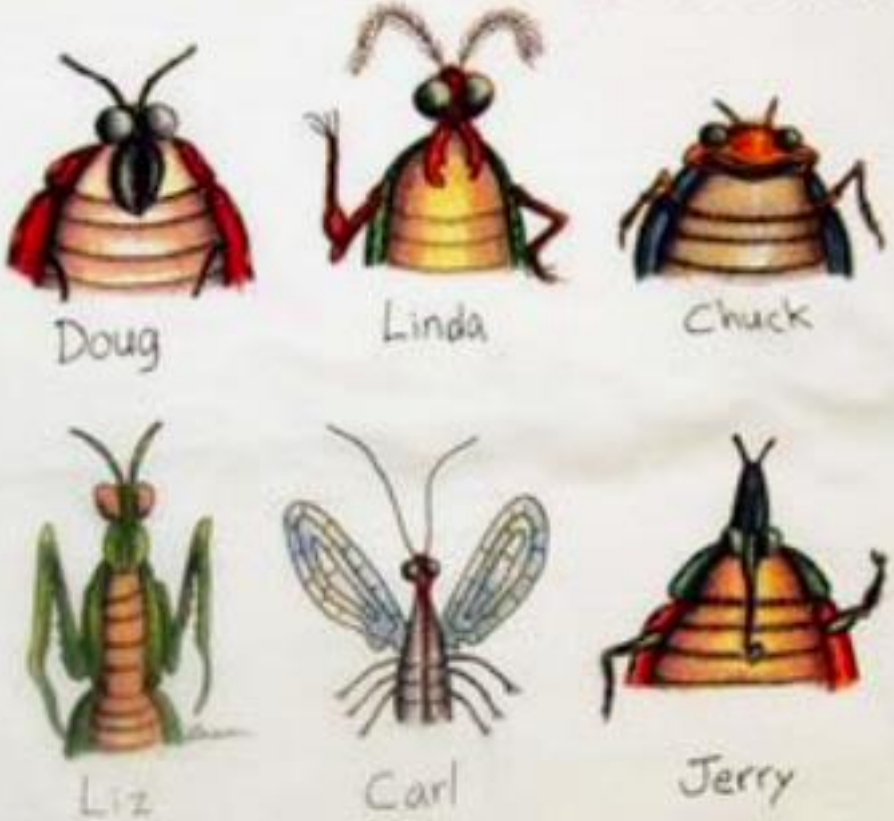


# WWSA?

# (What would Sherlock ask?)

- What did your soil test say?
- What has the recent weather pattern been?
- How often are you watering?
- What's going on in your neighbor's yard?
- Is it a problem with one plant or many?
- What's been sprayed?  Applied?
- Have drainage conditions changed?
- Are pollinators present?
- Are leaves/fruit damaged?  How?
- Are insects present?

# Know Your Insects



| Good Bugs | Bad Bugs |
| --- | --- |
| **Hunters (other insects, nectar and pollen)** | **Gatherers (plant eaters)** |
| **Loners** | **Large Groups** |
| **Not Plant Picky** | **Plant Picky** |
| **No Plant Damage** | **Evidence is Clear** |

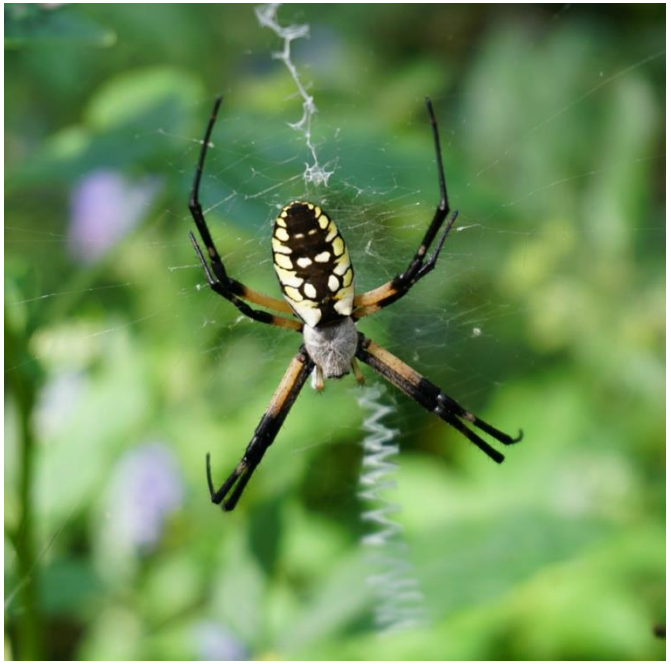
LADY BEETLE

MULTICOLORED ASIAN LADY BEETLE

# More Good Guys


Aggie-horticulture.tamu.edu

Citybugs.tamu.edu



clemson.edu

# Soft-bodied Insect Predators

UKY.edu

Lacewings

Wikipedia

UKY.edu

Lady Beetle Larvae

UKY.edu

Hoverflies (Syrphid flies)

# Repelling the Bad Guys
# Attracting the Good Guys

- *Repel plant-eating insects* with scented plants :  Lavender, basil, thyme, mint, alliums, petunias

- *Attract predators* with plants with flat, open flowers:  Yarrow, dill, marigolds, fennel, sunflowers, clover

Milkweeds

Tulip trees, Magnolia

Passionflower Vine

Carrot, Dill, Fennel

**Milkweeds**

**Tulip trees, Magnolia**

**Passionflower Vine**

**Carrot, Dill, Fennel**

# Soft-bodied Pests: Small but Fierce

# Aphids


Aleksandr Rybalko | Adobe

**Missouri Botanical Garden**

# Aphids

Ronald S. Kelley, Vermont Department of Forests, Parks and Recreation, Bugwood.org

David B. Langston, University of Georgia, Bugwood.org

# Whitefly

# Thrips and Thrip Damage


**Photos: University of California IPM**

# Scale Insects


Lesley Ingram, Bugwood.org


Lorraine Graney, Bartlett Tree Experts, Bugwood.org


Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org

# Mealybugs

Cyndi McGill

# Sooty Mold?
# Look up!

Gerald Holmes, California Polytechnic State University at San Luis Obispo, **Bugwood.org**

**Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org**

# Spotted Squash Lady Beetle
# Mexican Bean Beetle

X

Whitney Cranshaw, Colorado State University, Bugwood.org

# Flea Beetles

James Castner, University of Florida


Lyle J. Buss, University of Florida

# Squash Vine Borer

**UGA Extension**

# Japanese Beetles

# Tomato Hornworm


Whitney Cranshaw, Colorado State University, Bugwood.org

Michigan State University Extension

Michigan State University Extension

Michigan State University Extension

X

# Tomato Fruitworm


Clemson University, Bugwood.org

bugwood.org

bugwood.org

bugwood.org

X

Ward Upham, Kansas State University, Bugwood.org

John L. Capinera, University of Florida

University of Minnesota Extension

# Cabbage Looper

Whitney Cranshaw, Colorado State University, Bugwood.org

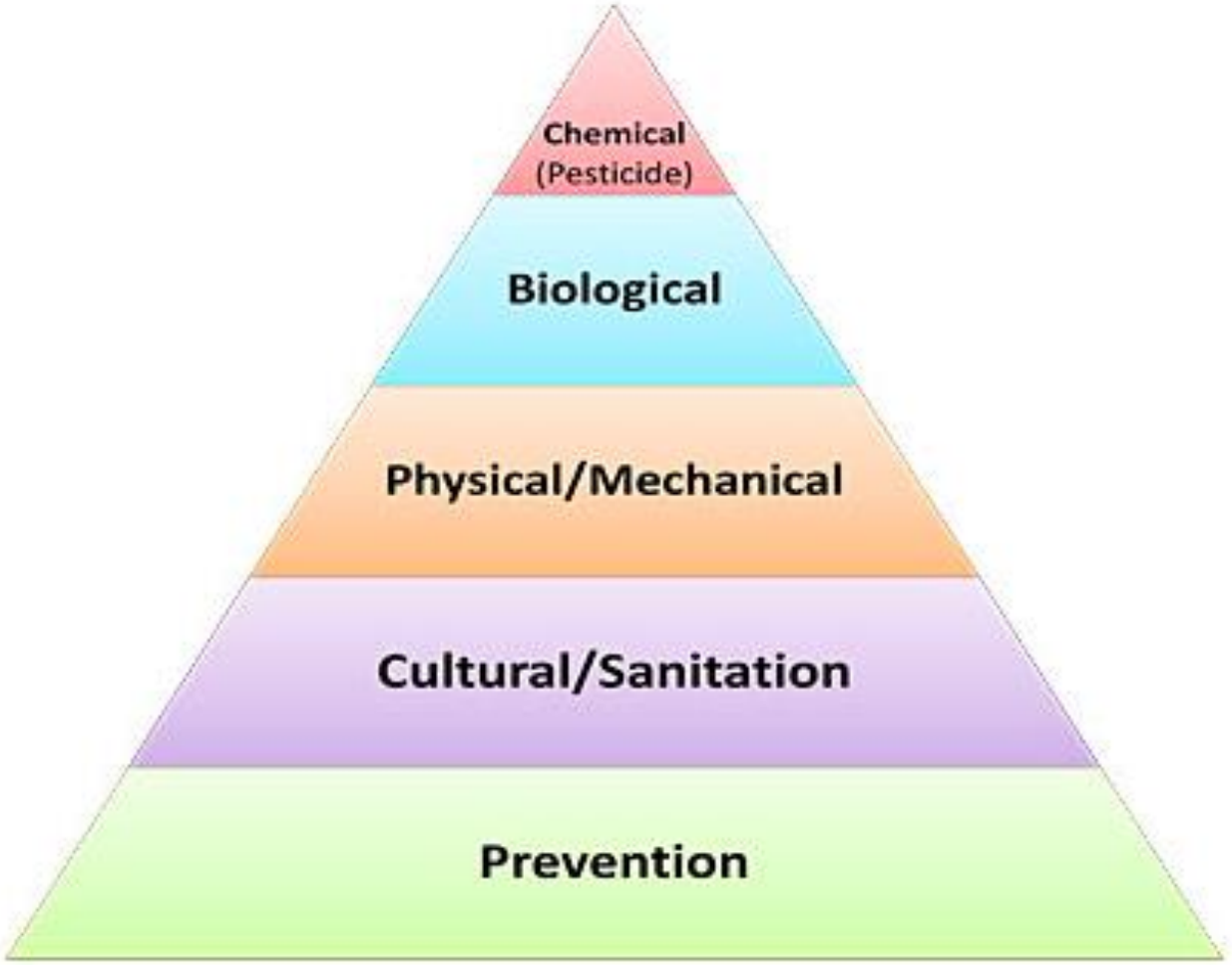

James Castner, University of Florida

# Cabbage Worm

# Kudzu Bugs

**Photos: Bugwood.org**

# IPM Treatment Methods



# Basic Organic Treatments: An Introduction

| Pesticide/ Brands | How It Works | Pros | Cons |
|---|---|---|---|
| Insecticidal Soap: Safer, Bonide, Nature's Care, homemade | Suffocates<br>Removes Waxes | Low impact to beneficials<br>Effective on soft bodied insects | Must come in direct contact<br>No residual effect<br>Don't use in high temps |
| Neem Oil: Bonide, Monterey, Natria | Reduces feeding<br>Affects insect growth and reproduction.<br>Acts as a repellent. | Low impact to beneficials<br>Safe for use on edibles | Takes 3-4 days to work<br>Must be reapplied |
| Pyrethrins: Dr. Earth | Affects the nervous system | Quick knock-down | Unsafe for beneficial pollinators, aquatic life and cats |
| Spinosad: Captain Jack's Deadbug Brew | Affects the nervous system | Effective on caterpillars and thrips | Toxic to all caterpillars!<br>Toxic to bees when wet |
| Bacillus thuringiensis kurstaki (Btk) | Creates toxins in **larvae and caterpillar** digestive systems | Non-toxic to beneficials | Very target-specific |
| Horticultural Oil | Suffocates | Only effective when wet | Timing is key<br>Toxic to fish and bees |

# Organic Treatments: Soft-Bodied Insects

| Insect | Method | Treatment (s) |
|---|---|---|
| All | Cultural | Weekly inspections!<br>Companion Plants: marigolds, etc. |
| Aphids | Mechanical | water hose blast |
| | Biologic | Lady Beetles, Lacewings, Syrphid Flies |
| | Chemical | insecticidal soap, neem oil, pyrethrins |
| Kudzu Bugs | Mechanical | Knock into soapy water or rubbing alcohol |
| Scale & Mealybug | Mechanical | hand pick, prune infected branches |
| | Biologic | Lady Beetles, Lacewings |
| | Chemical | horticultural oil |
| Whitefly | Mechanical | yellow sticky-traps, water hose |
| | Chemical* | insecticidal soap, neem oil |
| Thrips | Chemical | neem oil, spinosad |

# Controlling Mexican Bean Beetles/ Squash Beetles/Flea Beetles

- Daily inspection is best!!!
- **Sanitation: Get rid of badly infected plants and plant debris at end of season**
- Cultural: Interplant with nasturtium, garlic, potatoes
- Mechanical: hand pick with gloved hands and drop in soapy water or rubbing alcohol. Smash egg clusters.
- Chemical: Spray with neem – especially on undersides of leaves. Use spinosad as a last resort.

# Controlling Squash Vine Borers

- Prevention:  Inspect for adults.  Use yellow bowl with soapy water to attract and kill.
- Cultural:  Plant resistant types such as butternut squash
- Sanitation:  Remove and dispose of affected plants and plants that have finished producing ASAP!!!
- Mechanical:  Use floating row covers to prevent adults from laying eggs on the soil
- Mechanical:  Wrap seedling stems with aluminum foil or paper
- Mechanical:  Remove larvae ASAP and cover stem with soil/water regularly

# Controlling Japanese Beetles

- Prevention/Mechanical:  Inspect plants for adults.  Hand pick and drop in a jar of soapy water or rubbing alcohol.
- Prevention: Inspect lawn for signs of grubs.  Treat with biologic or organic pesticides (milky spore).
- Chemical:  Insecticidal soap, neem
- Don’t use Japanese Beetle traps!!!

# Controlling Tomato Worms

- Cultural: **Remove and dispose of affected fruit**
- Cultural: Regularly inspect leaves for eggs and destroy
- Mechanical: Hand-pick and dispose of hornworms (unless they're parasitized)
- Biologic/Chemical: bT, neem oil, or pyrethrins

# Controlling Cabbage Worms

- Prevention:  Remove all old plant material at the end of the growing season and closely monitor plants for eggs or signs of caterpillars (frass)
- Cultural:  Plant in different areas each year
- Physical:  Use floating row covers to prevent adult moths from laying eggs
- Biological:  Bacillus thuringiensis kurstaki (Btk)

# Insecticidal Soap Recipe

- 2.5 Tablespoons pure soap (such as Dr. Bronner's)
- 2.5 neutral vegetable oil
- Mix with one gallon warm water
- Mix only what's needed
- Do not use if temperatures are above 90°F


# The Label is the Law!


# Slugs

Missouri Botanical Garden

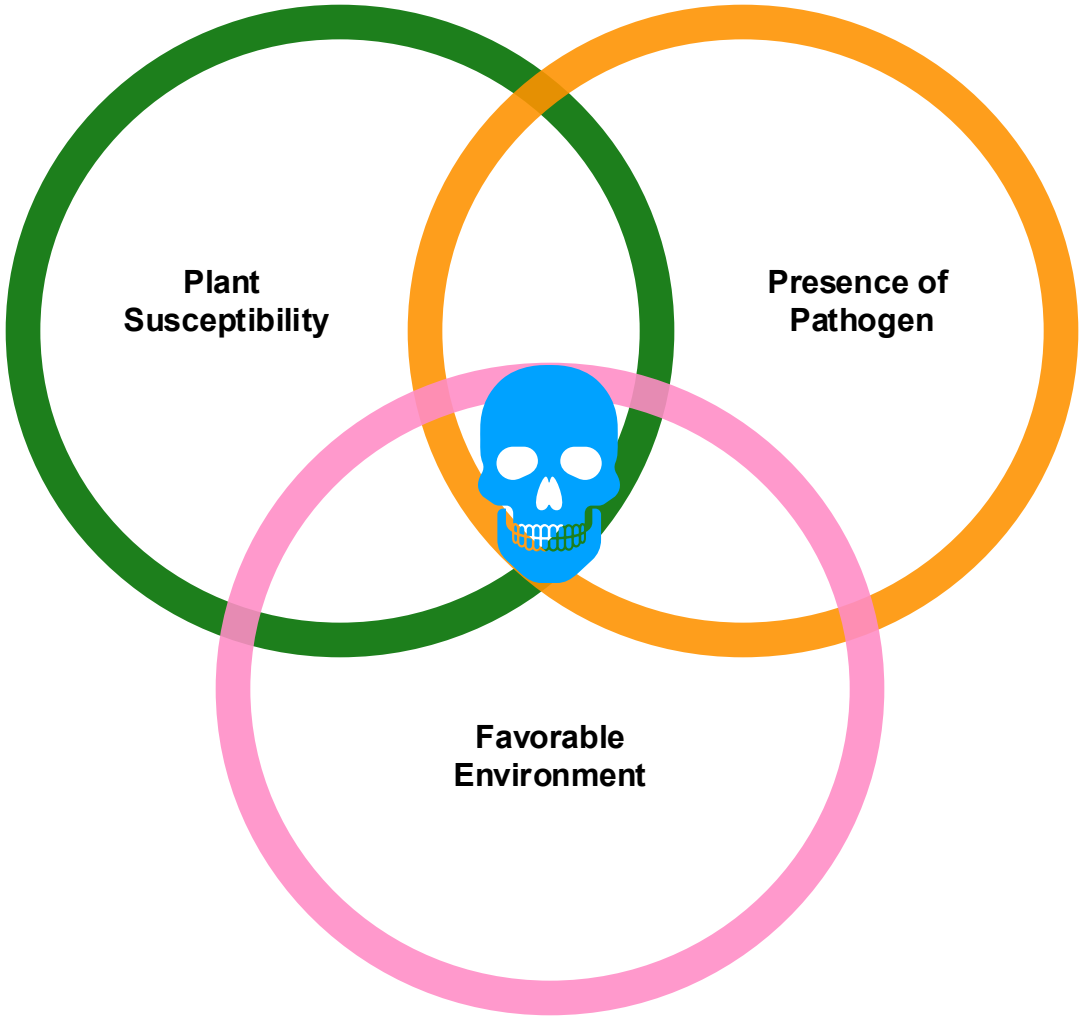
Missouri Botanical Garden

Garden Myths - Robert Pavlis

# 2 and 4-Legged Pest Control

- **P**revention:  Eliminate the habitat and remove food source
- **E**xclusion:  Create physical barriers
- **R**epel:  Create a ‘hostile’ environment:  scents, predators
- **C**ontrol:  trap and relocate

# Plant Disease Probability



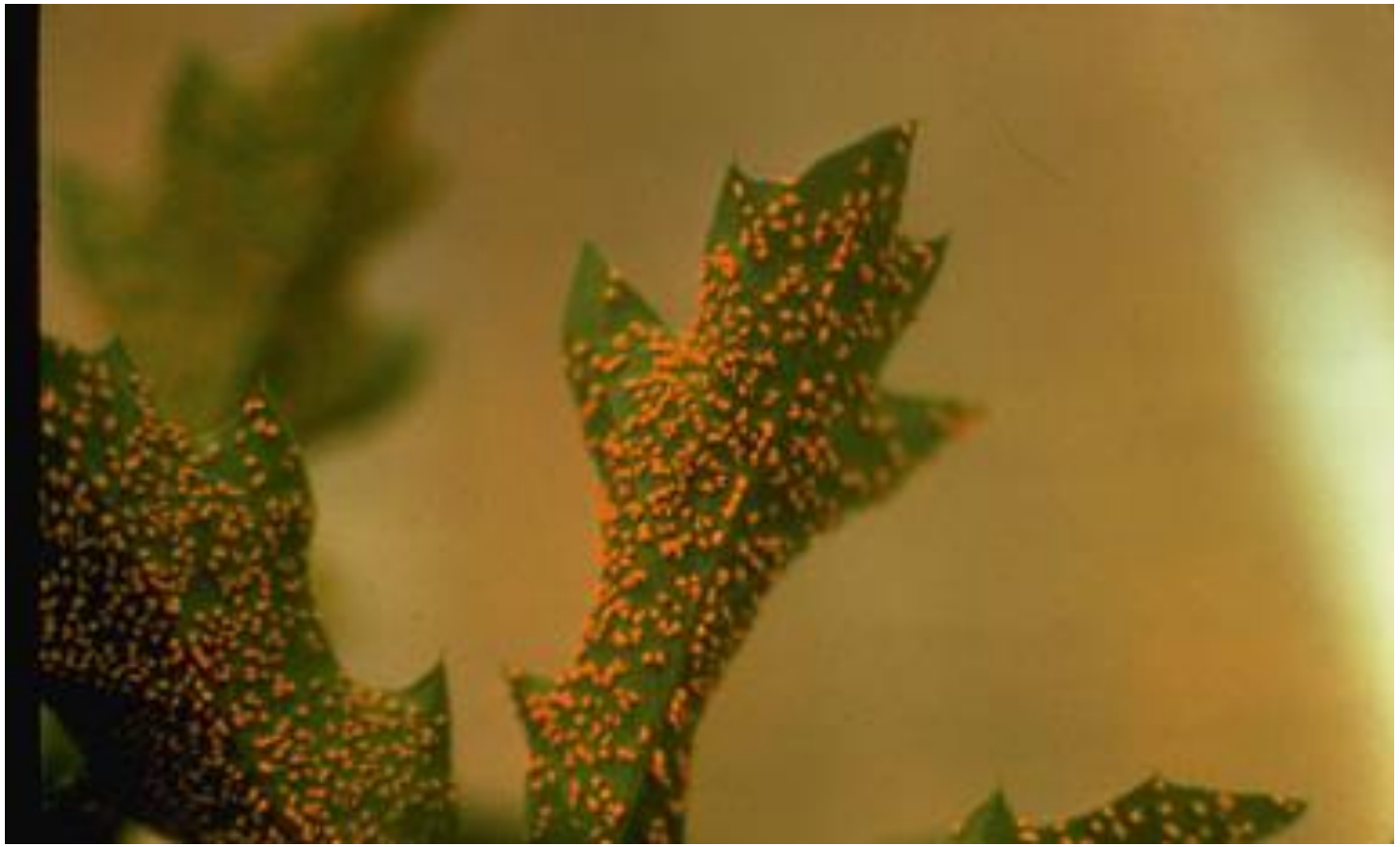
University of Missouri Extension


Rebecca A. Melanson, Mississippi State University Extension, Bugwood.org

# Early Blight on Tomatoes (Alternaria)

Colorado State University Extension

# Powdery Mildew



Robert L. Anderson, USDA Forest Service, Bugwood.org

# Rust

May be treated with neem, sulfur or copper

**John Hartman, University of Kentucky, Bugwood.org**

# Black Spot

# Fungus/Bacteria Control

- Rotate planting areas
- Ensure proper air circulation
- Plant in sterilized pots with fresh soil
- Plant disease-resistant hybrids
- Trim bottom leaves and any diseased leaves (sterilize tools)
- Use ground covers (landscape fabric, newspaper) to prevent backsplash
- Spray with organic fungicides:  neem, copper


# Biologic Control

**Active ingredient: Bacillus amyloliquefaciens**

**Preventive treatment for fungal and bacterial diseases**

**Foliar spray and soil drench**


REVITALIZE
Biofungicide
Triggers plant immune response
CAUTION
REVITALIZE
Biofungicide
Ready to Use
Triggers plant immune response
CAUTION

# Cucumber mosaic virus


DISINFECTS, CLEANS
& DEODORIZES
Lysol
KILLS 99.9% OF VIRUSES & BACTERIA*
Concentrate
Disinfectant
Makes 9 Gallons
Original
scent
12 FL. OZ. (354mL)

# When a problem isn't a pest... or a disease...

Brenda Kennedy, University of Kentucky, bugwood.org

# Blossom End Rot

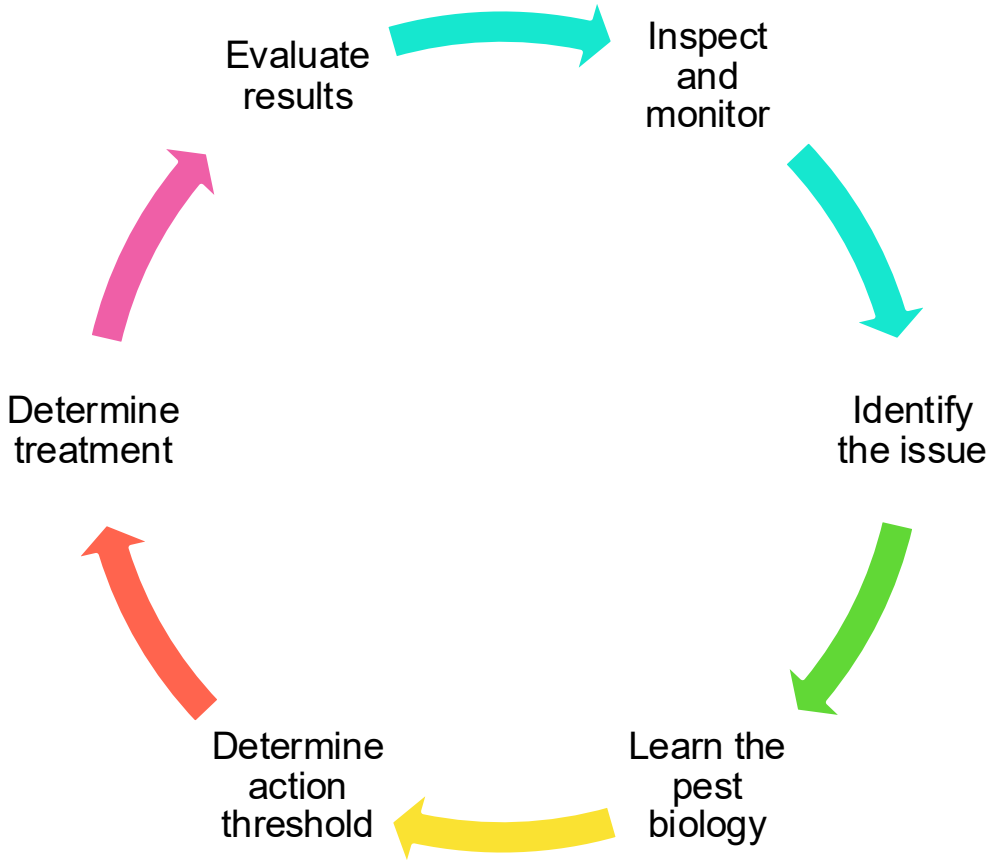
## Calcium Issue
## Uneven/inadequate watering

# Catfacing

Excessive Nitrogen, Excess Water

**Poor/incomplete pollination**
**Extreme heat**
**Not enough water**

# Integrated Pest Management (IPM)



# Resources

- University of Minnesota Extension:  unm.extension.edu > Solve a Problem > Insects
- “Organic Strategies for the Garden and Home Landscape”, UGA Extension  (extension.uga.edu)
- The Organic Gardener’s Handbook of Natural Disease and Pest Control (a Rodale Organic Gardening Book)
- Good Bug Bad Bug, Jessica Walliser
- Arbico Organics (arbico-organics.com)