

# The Backyard Orchard – Citrus– Module 4.4 – Citrus Arthropods: Aphids, Whiteflies, Mealybugs & Scale



LSU AgCenter Backyard Orchard  
Certificate Course

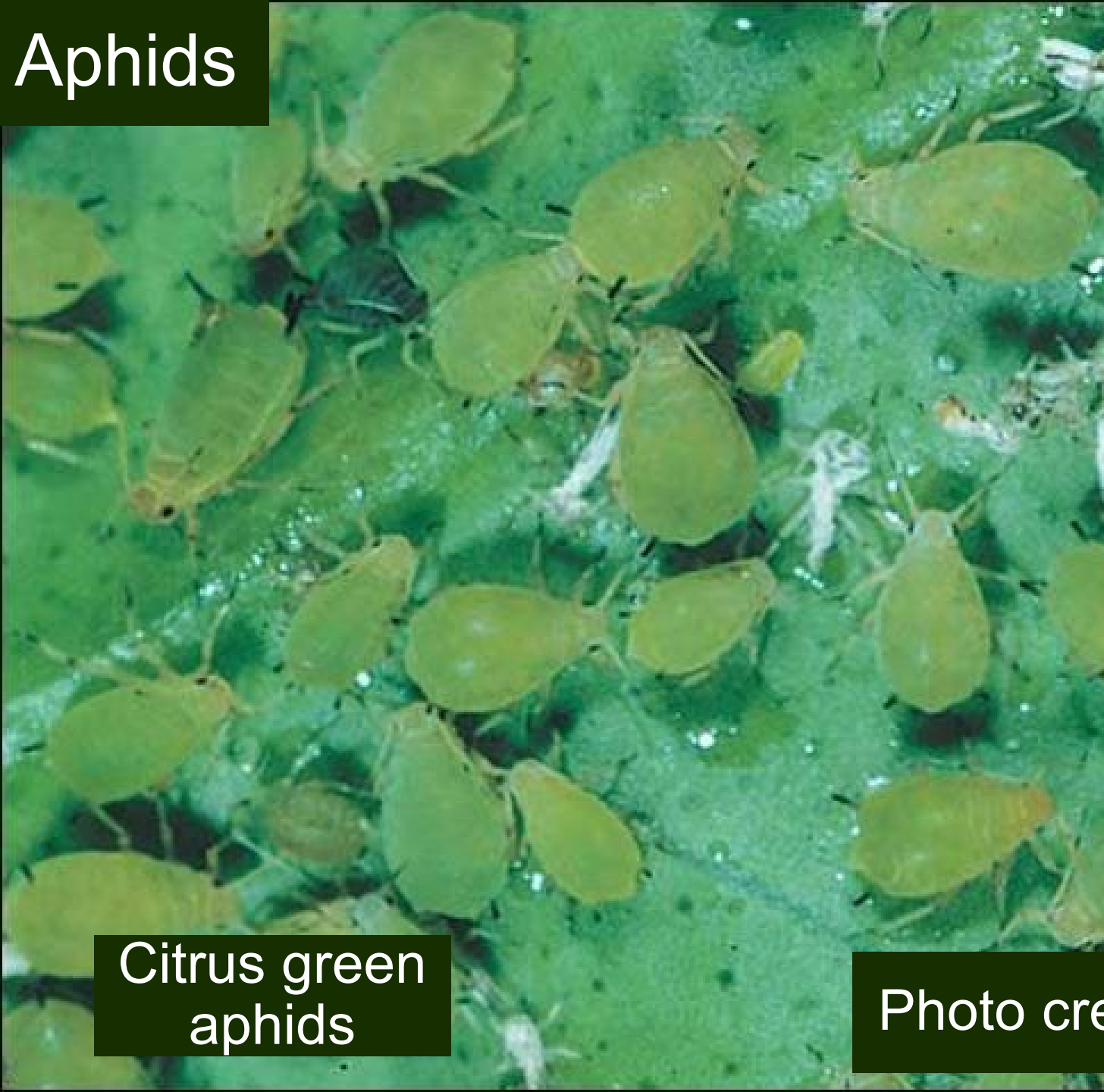
Dr. Raj Singh, Dr. Joe Willis, Anna Timmerman & Chris Dunaway

# Aphids

- Aphids or plant lice are injurious to young trees and can cause severe leaf curling to new growth on all trees, particularly in the fall.
- Five different species of aphids are found on citrus: the green citrus aphid, the cotton aphid, the melon aphid, the black citrus aphid and the green peach aphid.
- All aphids feed with piercing-sucking mouthparts and excrete the excess sugars, honeydew, which promotes sooty mold development.
- Aphids can be recognized by the pair of little tubes located on the rear of the abdomen. These are called cornicles, and only aphids have them.
- The feeding of aphids on foliage causes leaves to roll, curl up and become disfigured. This is usually observed on the young, tender growth, both in the spring and on the last flush of the trees in the fall.



# Aphids



Citrus green  
aphids

Leaf curling caused  
by aphid feeding



Photo credits: UF

# Whiteflies

- These are piercing-sucking feeders in both the nymph and adult stages.
- The eggs are laid individually by the whiteflies, usually are yellow when laid and turn dark before hatching.
- The nymphs are clear when they first hatch and gradually change color as they mature, depending on species.
- The eggs usually are laid on the underside of the leaf surface, and the nymphs develop there.
- The nymphs develop through three instars and then pupate.
- Black sooty mold develops on honeydew produced by whiteflies.



# Whiteflies

Nymph



Eggs



Adult



0.5 mm



# Mealybugs

- Mealybugs are soft, flat, oval, distinctly segmented and covered with white or mealy wax that extends into spikes along the abdomen and posterior end.
- The citrus mealybug has a yellow-orange body covered with a powdery wax. The waxy spikes are not very long on the abdomen or posterior.
- The female lays several hundred eggs within 10 to 20 days in waxy egg sacks attached to the plant and fruit.
- There are two to three overlapping generations a year.
- They overwinter as eggs or in various stages, weather permitting. Since they feed continuously, they excrete the excess sugary plant fluids onto the plant resulting in development of sooty mold.

# Mealybugs



Photo credits: UF



# Scale insects

- Several scale insects feed on citrus trees.
- They have piercing-sucking mouthparts.
- Feed on cell sap and produce honeydew resulting in sooty mold.
- Armored scales
  - Florida Red Scale (*Chrysomphalus aonidum*)
  - Yellow Scale (*Aonidiella citrine*)
  - Purple Scale (*Lepidosaphes beckii*)
  - Glover Scale (*Lepidosaphes gloverii*)
  - Citrus Snow Scale (*Unaspis citri*)
- Soft scales
  - Cottony Cushion Scale (*Icerya purchasi* )
  - Florida Wax Scale (*Ceroplastes floridensis*)

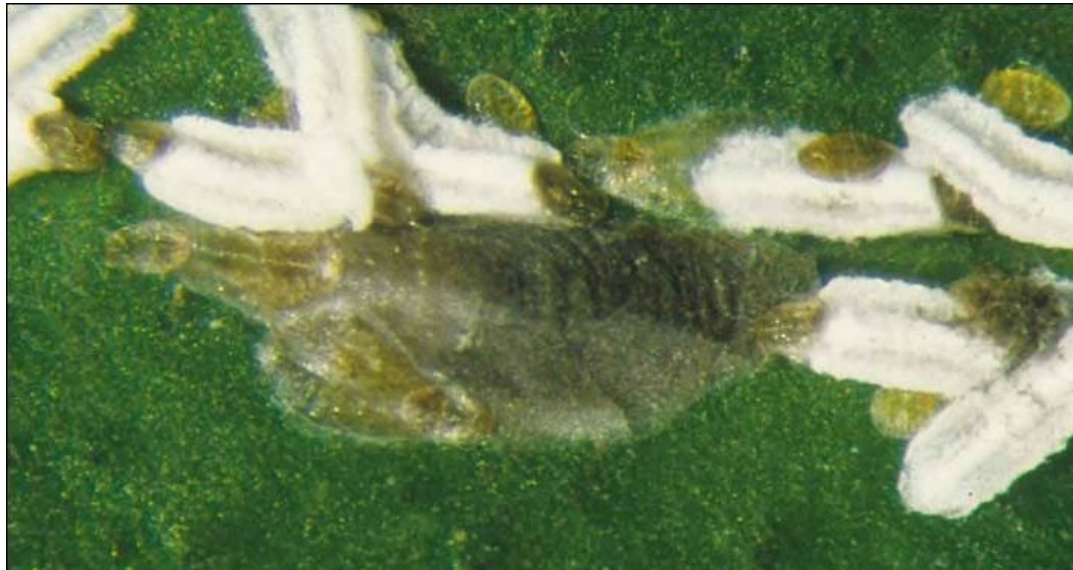


# Scale insects



Cottony Cushion Scale

<http://thecitrusguy.blogspot.com/>



Snow Scale



Florida Wax Scale



Purple Scale

Photo credits: UF



# Sooty mold



Sooty mold developed on honeydew produced by sucking type of insects



# Management

- Malathion 57EC, Vendex 50WP, ultra-fine horticultural oil.
- Imidacloprid is a systemic effective against piercing-sucking insects.



Please post all your questions and results to the message board that was emailed to you.

