

Cornell University

John Sanderson

Cornell University

Email: jps3@cornell.edu

Whiteflies

Pest & Natural Enemy ID

Greenhouse Scout School

Session 4: March 6, 2025

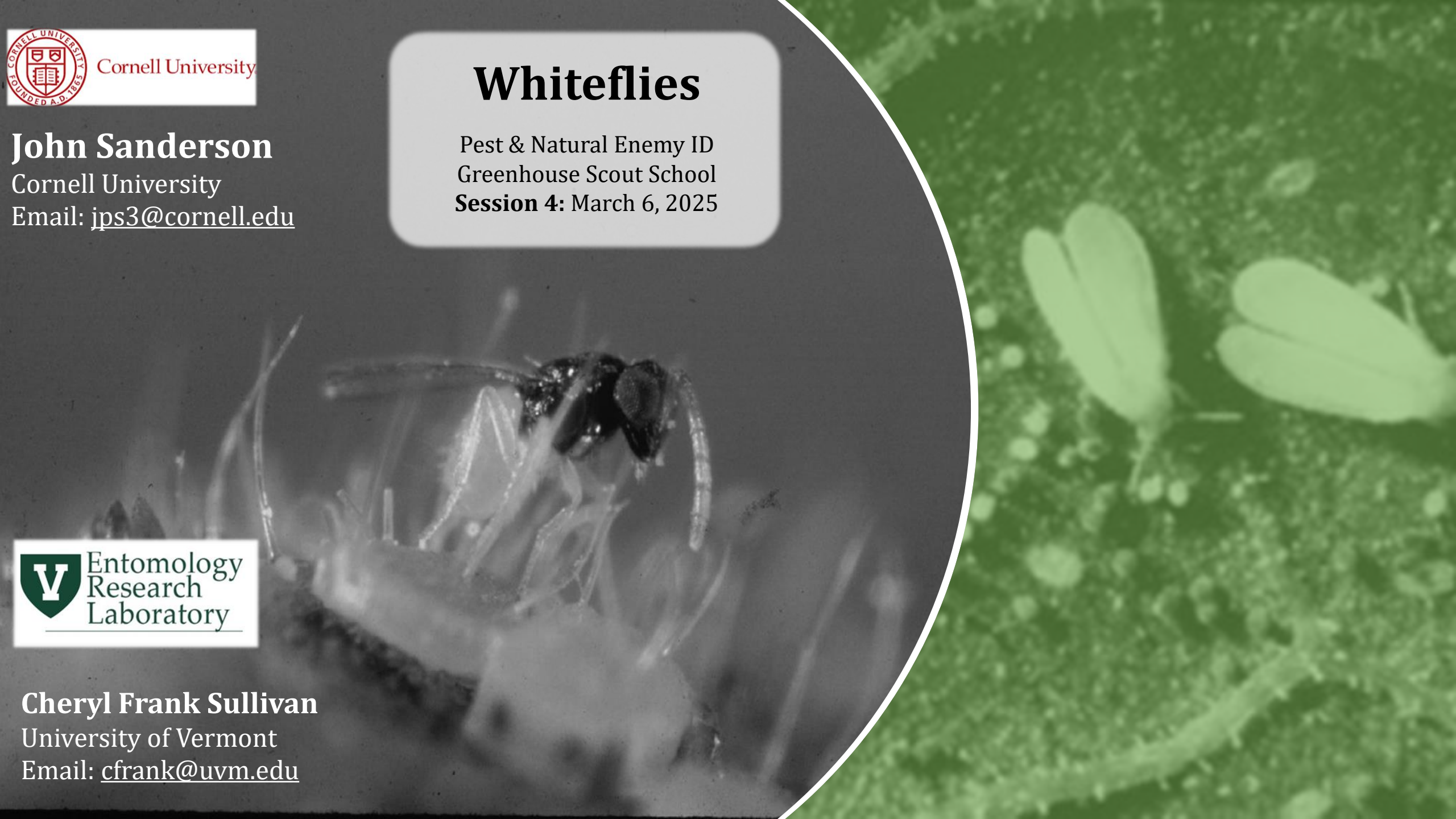


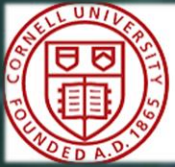
Entomology
Research
Laboratory

Cheryl Frank Sullivan

University of Vermont

Email: cfrank@uvm.edu





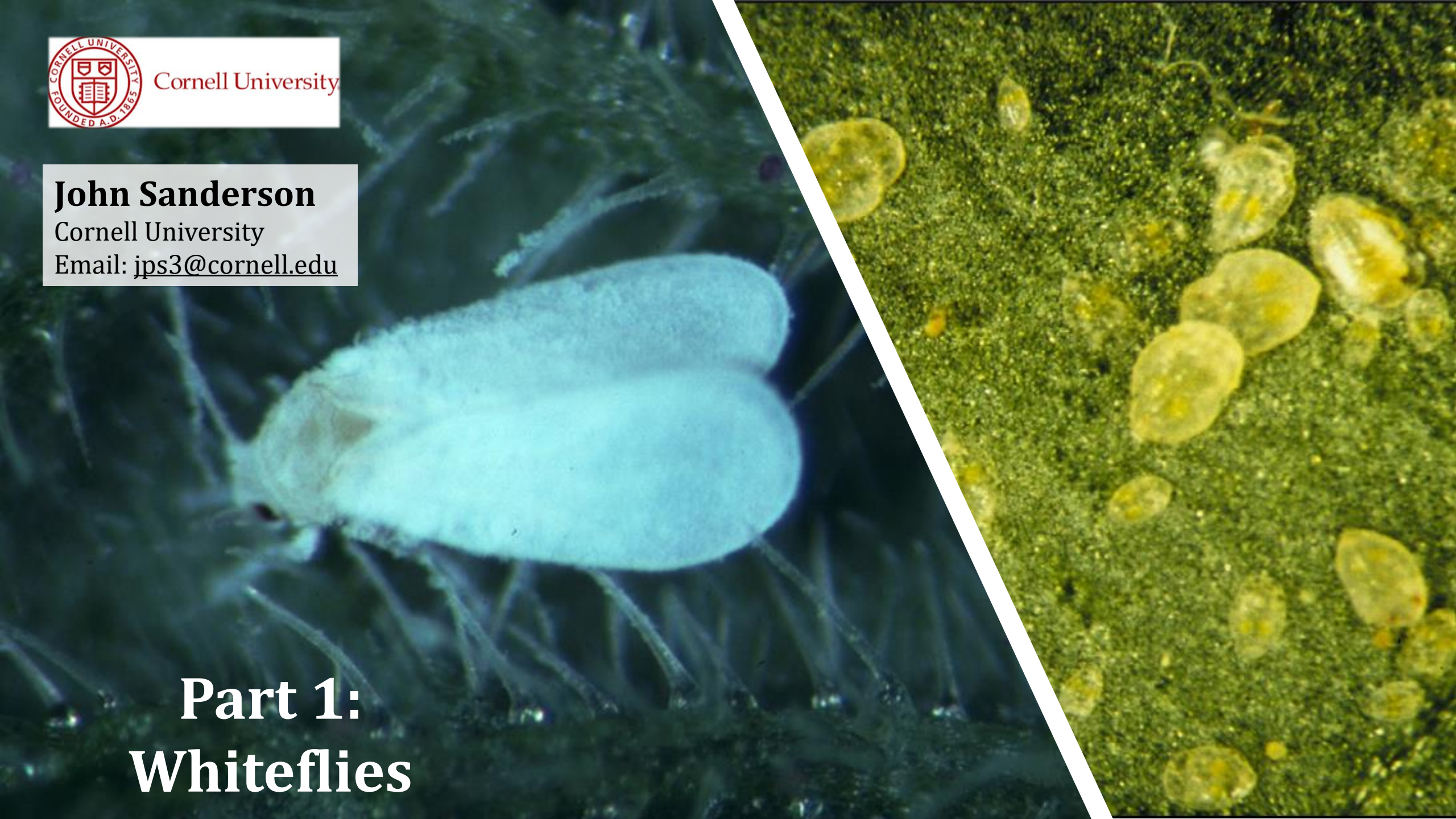
Cornell University

John Sanderson

Cornell University

Email: jps3@cornell.edu

Part 1: Whiteflies



What are whiteflies?



Whitefly Damage

- Sticky honeydew
- Sooty mold
- People don't want to see bugs on their plants!



Sooty mold growing
on honeydew



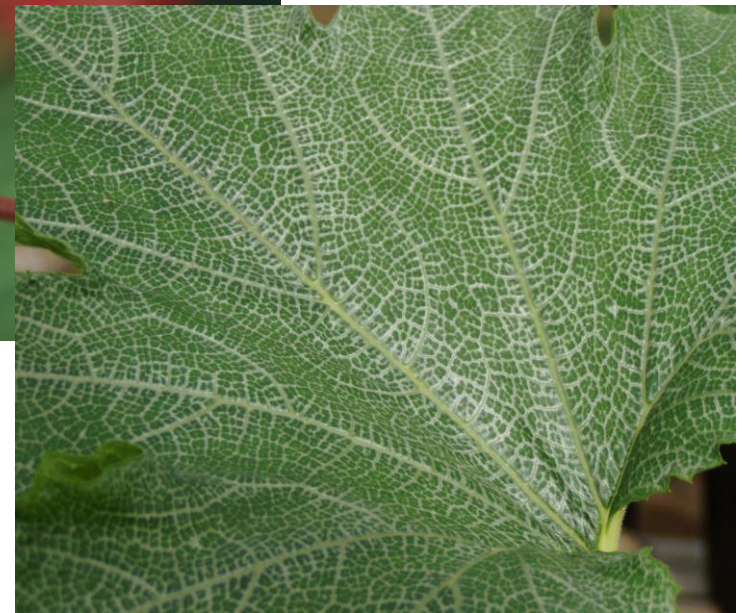
Silverleaf whitefly injury



Bract/stem whitening



Squash silver leaf

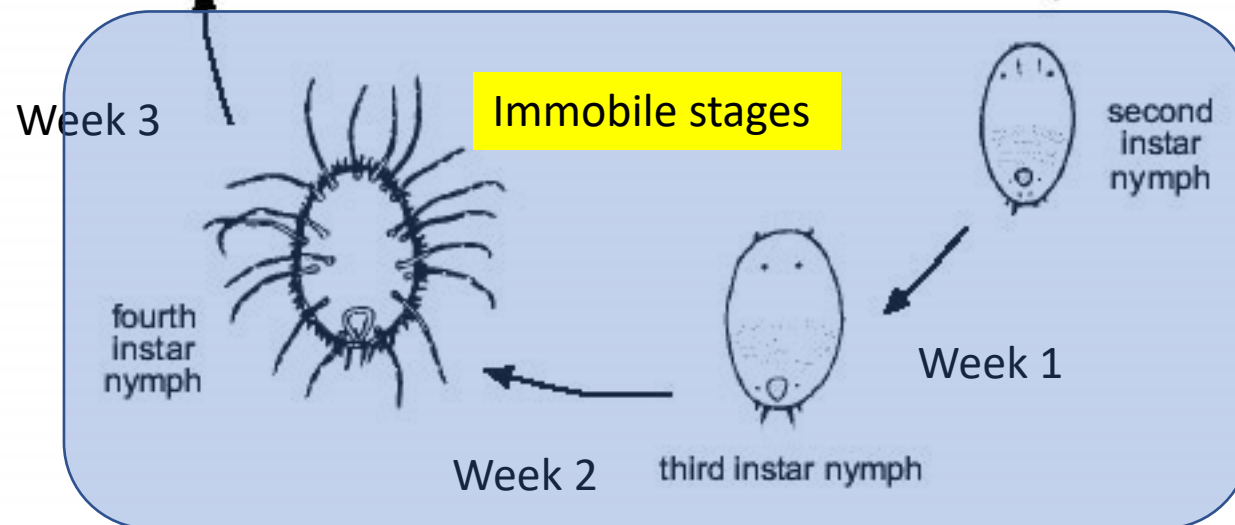
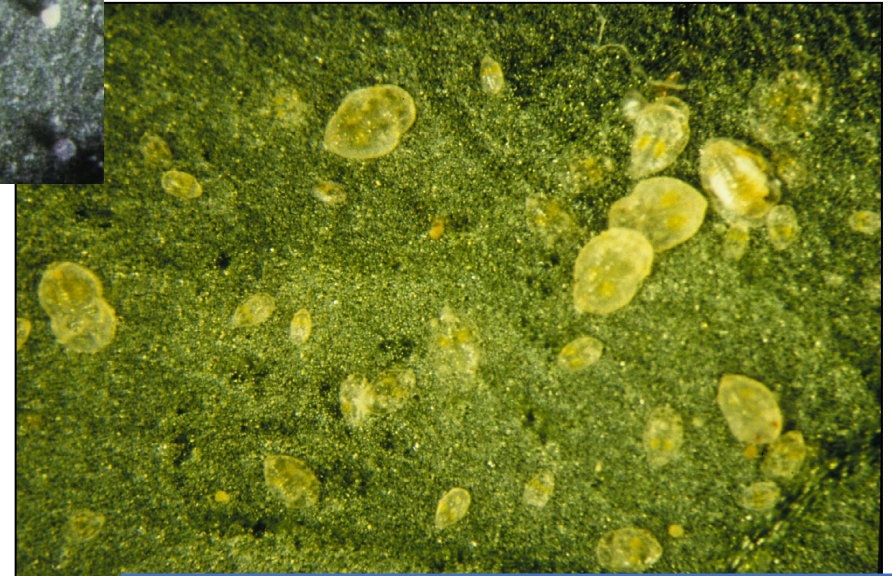
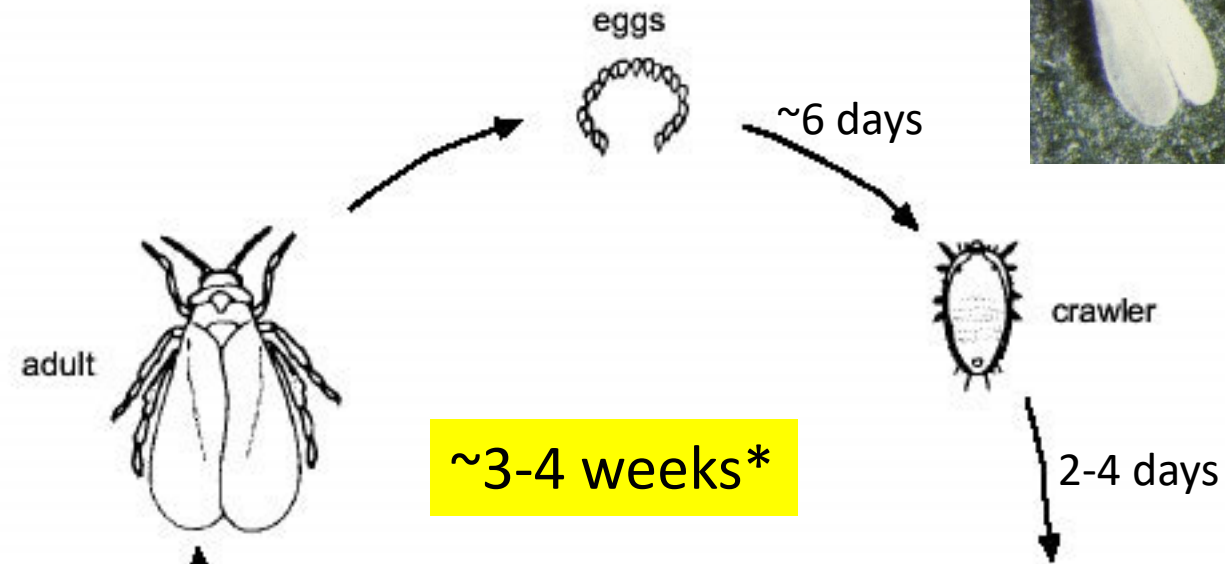




How do whiteflies
feed?

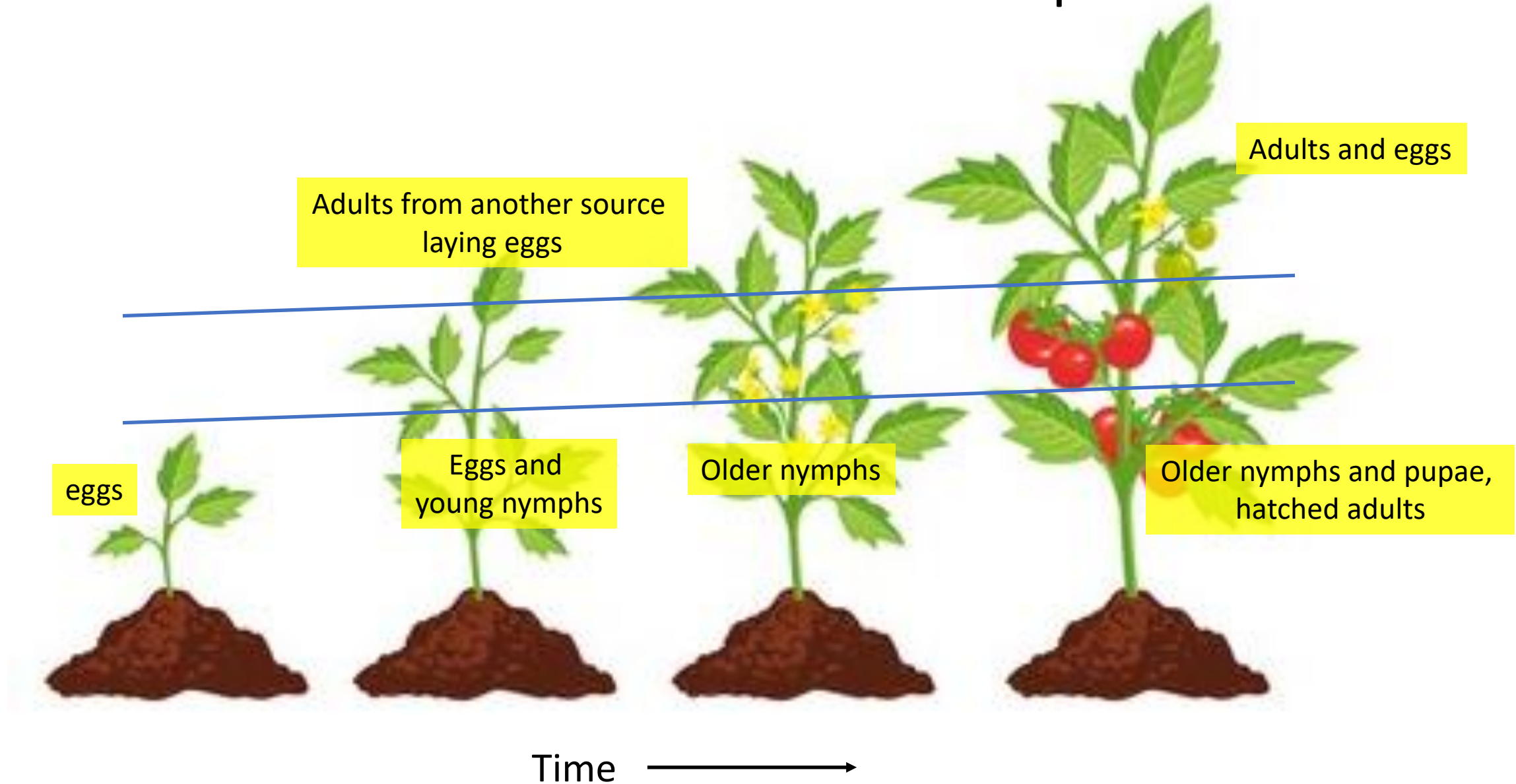
Where do whiteflies
feed on a plant?

Whitefly life cycle



*faster at warmer temperatures

Where to look for whiteflies on a plant?





Common Whitefly Pests in Greenhouses

Silverleaf (=Sweetpotato) Whitefly

Bemisia argentifolii / *B. tabaci*



Greenhouse Whitefly

Trialeurodes vaporariorum



Eggs (GHWF)



Various GHWF Immature Stages



Crawlers, pupae, others

Red-eyed Pupa

Eyes of
developing adult





Adult GHWF

- Larger than SLWF
- Wings held flat over abdomen

Adults (SLWF)



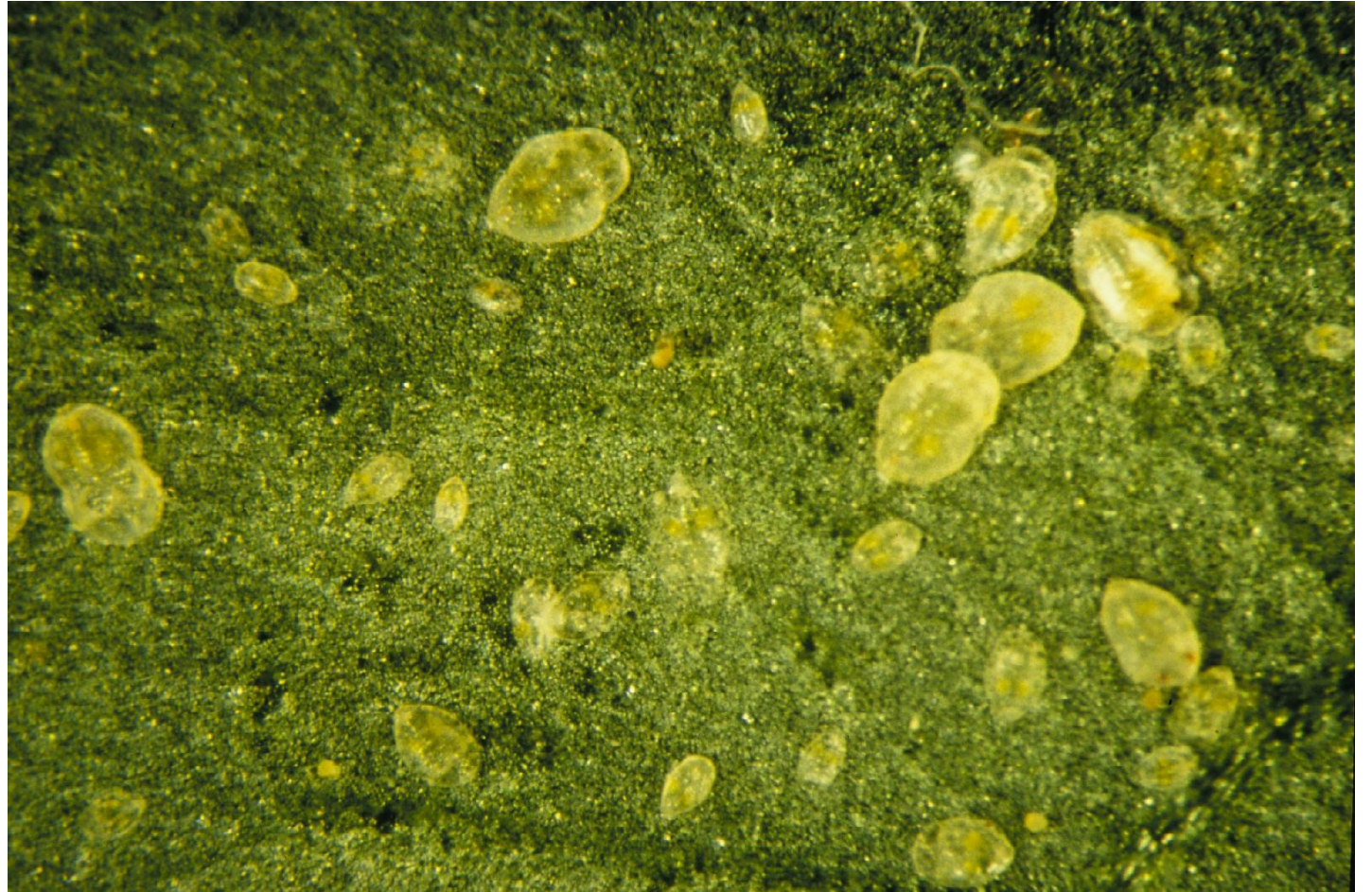
- Smaller than GHWF
- Wings held more roof-like over abdomen

Eggs (SLWF)



Same shape as GHWF in side view but tend to be amber then grey

Various SLWF Immature Stages



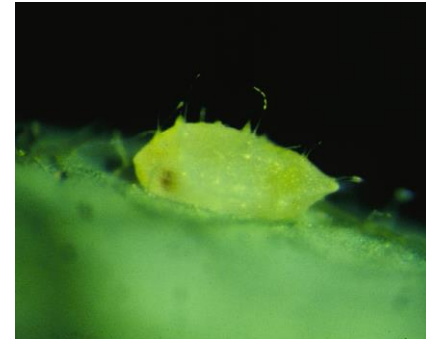
Tend to be more yellow than GHWF

Greenhouse vs Silverleaf Whiteflies

GHWF

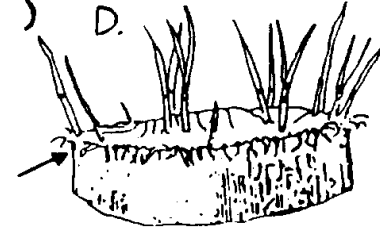
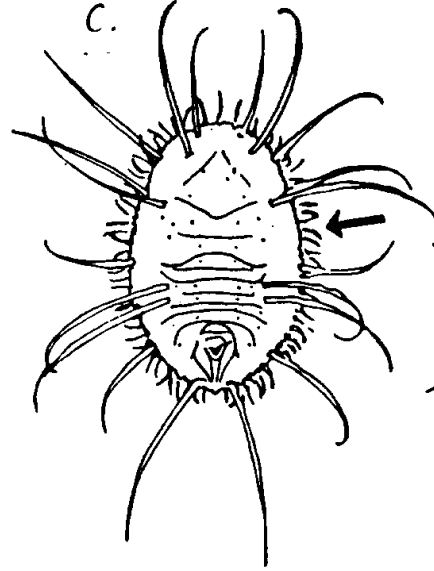
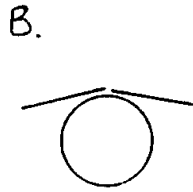
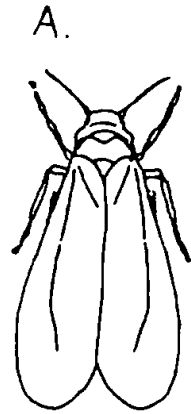


SLWF

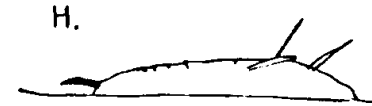
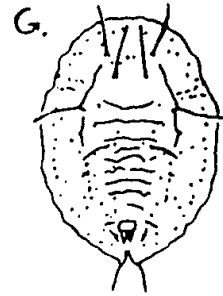
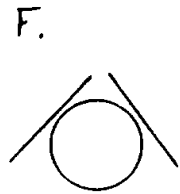


Greenhouse vs Silverleaf Whiteflies

GHWF



SLWF



Bandedwing Whitefly



Adult



Pupa

Rarely a pest. May find on sticky traps in the Fall.

Monitoring for Whiteflies



- Plant inspection is crucial
Top, middle, bottom leaves
- Look for immature stages



Yellow sticky
traps
for adults

Note: can't tell
GHWF vs. SLWF
on a sticky trap

Monitoring for Whiteflies

Tips on WF on sticky cards

Not sure if it's a WF?

- touch it
- if you feel anything it is not a WF

Trouble seeing them?

- look at the edge of a card
- they are easier to see that way
- always have the sun at your back

Bandedwing WF seem to melt into the cards

-but even when they disappear you can see the bands

Source: Elise Lobdell



Besides poinsettias, on which crops are whiteflies most often found?

WF will overwinter in the greenhouses on weeds & perennials

Fresh ones come in on the Mandevillas, Hibiscus & other tropicals

then bounce right to the lantanas, fuchsias, & verbenas.

Very common on eggplants, gerberas, dahlias, and kale.

Heliotrope, herbs (esp. sages), Crassandra, scented geraniums