Insect and Disease Updates

August 5, 2020

What's Eating You?

The Insects in your Vegetables

August 5, 2020

Knowing the *Good* from the *Bad*
and everything in between

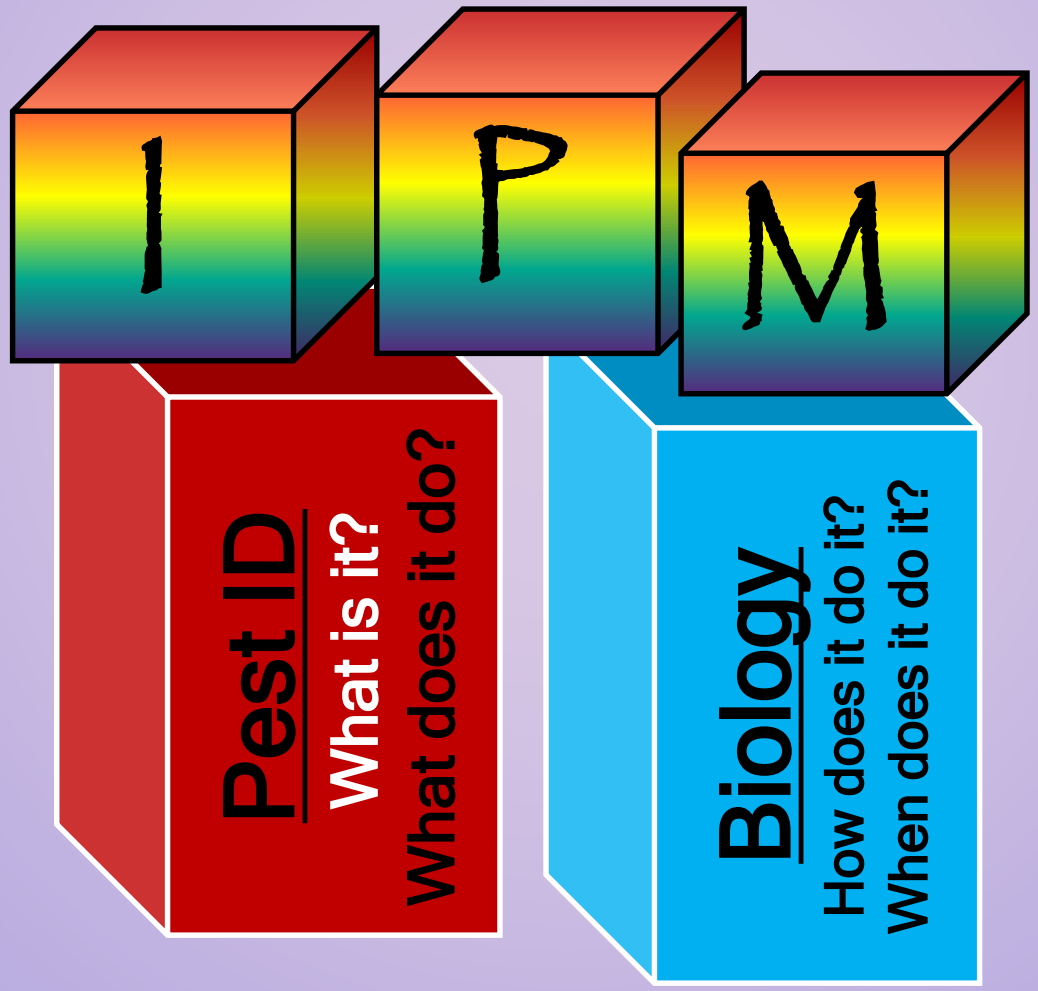
Margaret Skinner, UVM Extension Entomologist
802-656-5440
mskinner@uvm.edu

www.uvm.edu/~entlab/

THE UNIVERSITY OF VERMONT AGRICULTURE & LIFE SCIENCES

THE UNIVERSITY OF VERMONT EXTENSION

The Corner Stones



Parasitic Wasps

Potato Aphid

Green Peach Aphid

Foxglove Aphid

Aphidius ervi

Aphidius colmani

Bacterial symbionts… OH NO!

http://www.uvm.edu/~entlab/High%20Tunnel%20IPM/Presentations/TomatoHighTunnelPests&NatEn-Dec2016Final.pdf

What would YOU do?

Aphid Biocontrols

Aphidoletes (midge)



Coccinellidae (lady beetles)

Syrphid Flies (Hover Flies)

Aphid mummies (parasitized)

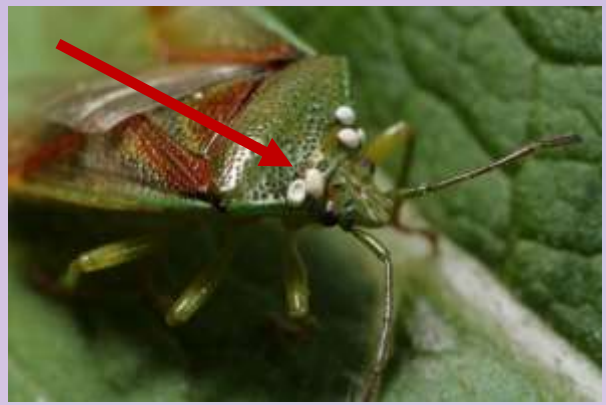
More about Parasitic Wasps

Cotesia congregata

Also attack
Fall armyworm
Cabbage looper

There's always BT,
Bacillus thuringiensis var. Kurstaki.

Parasitic Flies



Stink Bugs!
The Good, The Bad and the Ugly

Brown marmorated stink bug

Halyomorpha halys

Consperse stink bug

Euschistus conspersus

Brown stink bug

Euschistus servus

Green stink bug

Chinavia halaris

Spined soldier bug

Podisus maculiventris

Spined soldier bug

Podisus brevispinus

Squash Bugs, UGH!

Anasa tristis

Anasa repitita

Western conifer seed bug

Leptoglossus occidentalis

Squash Bug

Damage: Piercing & Sucking

- Feed on stems at the base of the plant, disrupting sap and nutrient flow.
- Produce wounds that serve as disease entry points.
- Inject toxin into plant tissue turning it black.
- Feed on unripe fruit disfiguring or killing it.

Squash Bug Biology

Gradual Metamorphosis

Cucurbit Hosts

Squash (esp. Hubbard, butternut and marrow), pumpkin, cucumber, melon

A female lays up to 800 eggs on preferred hosts (pumpkin)

Nymphal phase lasts 4-6 weeks

Adults live 75-130 days

1 generation/yr though present throughout growing season

Feeding continues until frost

Squash Bug Management

Damage threshold: **One egg mass per plant**

- Remove and DESTROY debris during growing season and in the fall to remove overwintering sites
- **Cover young plants with floating row covers**
- Routine inspection to detect pest early
- **Plant resistant varieties (butternut, acorn)**
- Keep plants healthy, watered and fertilized
- **Hand pick and destroy eggs and adults**
- Trap bugs under boards and newspaper and collect
- **Apply chemical insecticides**

Tarnished Plant Bug
(*Lygus lineolaris*)







Peristenus digoneutis

Overwinter as adults
at field edges

Four-lined Plant bug
(*Poecilocampus lineatus*)




Overwinter as eggs in host
plants

Keys to success: Weed management & Sanitation

Integrated Pest Management Worksheet

Date: _____ Crop: _____

Damage (When, Where, What type): _____

_____

Pest Identification: _____

Common Name: _____

Pest Life Cycle:

How many generations/year?_____

How many eggs laid/female? _____

How long to complete one generation? _____

What are the ideal conditions? _____

Other key information on the biology: _____

_____

Recommended Management: _____

_____

Threshold for Action: _____

Cultural Control

Biological Control:

Natural Enemies (naturally occurring or commercially available:

Chemical Control:

Future Prevention:

The IPM Process

Steps towards developing a plan of

ATTACK

Management Strategy Record

Date:_____ Crop: _____ Pest: _____

Scouting Methods Used: _____

Results of Scouting: _____

_____

Natural Enemies Present? ❑Yes ❑No ❑ Don't know _____

_____

Action Threshold Reached? ❑Yes ❑No ❑ Don't have one _____

_____

Action Taken: _____

_____

Cultural Control: _____

_____

Biological Control: _____

_____

Chemical Control: _____

_____

Future Prevention: _____

_____

Level of Success: _____

_____

Other Notes: _____

Keeping Track of your Success

Why reinvent the wheel?

Vegetable Disease Webinar

Ann Hazelrigg
UVM Plant Diagnostic Clinic
August 5, 2020

ann.hazelrigg@uvm.edu

THE UNIVERSITY OF VERMONT EXTENSION

The University of Vermont

Cracking-rapid water uptake

Ripening disorders-yellow shoulder, blotchy ripening, white internal tissue, gray wall-associated with k to fruit and high temps. Blossom drop over 90F

Poor pollination- Temps over 90 with high RH- sticky pollen, bees may not work, more male blossoms than female produced, bitter fruit

Gold Flecking

- Rule out mites/thrips
- High daytime (>88°F) and nighttime (>68°F) temperatures combined with high humidity (dew point temperatures >68°F)
- Some cultivars more prone than others

Blossom end rot-localized Ca deficiency due to moisture fluctuation

BER on Pepper

Anthracnose-

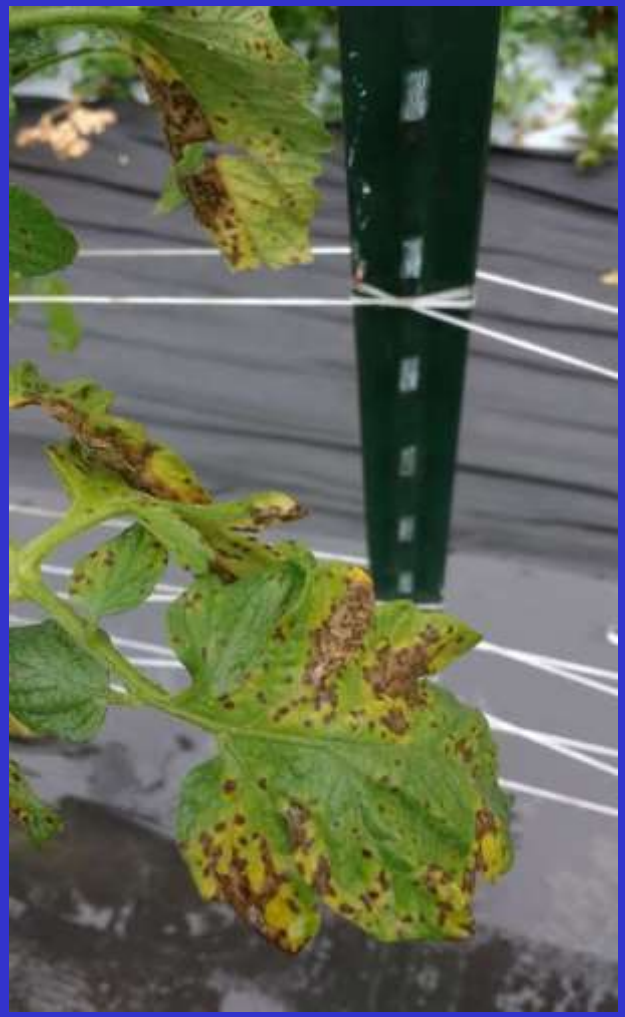
- growth rapid above 80F

Tomato leaf mold-high RH

Powdery mildew-high RH, host specific, will not overwinter, JMS stylet oil/Microthiol Disperss Sulfur alternated

Mg Deficiency

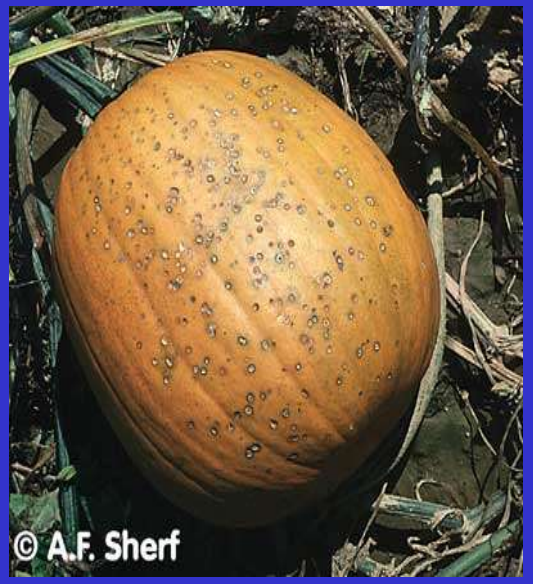
Septoria/Alternaria leafspot



Celery Anthracnose-curling/twisting foliage, scarring on petioles, heart rotting. Warm wet conditions. Seedborne.

Gummy stem blight cucurbits-seed,crop debris

Fruit rot phase



Downy mildew cucurbits

UVM Plant Diagnostic Clinic
https://www.uvm.edu/extension/pdc

ann.hazelrigg@uvm.edu

Thank You!

This presentation was supported by the University of Vermont Extension System and the USDA Extension IPM Program. Any opinions, findings, conclusions, or recommendations expressed herein are those of the author and do not necessarily reflect the view of the US Dept. of Agriculture. This presentation was given in the furtherance of Cooperative Extension work, Acts of May 8 and June 30, 2014, in cooperation with the US Dept. of Agriculture. Univ. of VT Extension and the USDA offer educational and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political believes, sexual orientation, marital or familial status. Mention of any commercial products is not meant to be an endorsement.