Links Shared from Ask A Master Gardener Plant Clinic Training
September 2020

- HGIC YouTube Channel
- UME MG Continuing Ed Page
- UME MG Webinars and resources page
- Recording of the presentation, PDFs of slides, and additional resources will be available here
- HGIC Caterpillars Page
- HGIC Bagworms
- HGIC Spider Mites
- HGIC Soft Scales
- Submit your questions to Ask an Expert
- If you see spotted lanternfly, inform the Maryland Department of Agriculture at (410) 841-5920 or DontBug.MD@maryland.gov as soon as possible (please attach photos if sending an email)
- Weed ID HGIC
- Lawn Conditions that Lead to Weeds
- HGIC Mowing Height Recommendations
- HGIC info on lawns
- HGIC Root Rots
- HGIC Smooth Patch Oak
- HGIC Rose Rosette
- HGIC Shrub Diseases
- Mt Cuba Center
- HGIC Brown Patch Lawns
- HGIC Burls
- HGIC Sudden Oak Death
- HGIC Southern Blight
- HGIC Late Blight Tomatoes/ Potatoes
- HGIC IPM web pages- boxwood, dogwood, flowering fruit trees, azaleas and rhododendrons
- Asian longhorned tick
- Periodical cicadas
- Spotted lanternfly
- Spotted Lanternfly Waterbottle Challenge in Cecil County
- HGIC Soil problems
- HGIC Soil basics
- HGIC Soil health
- Black knot on plum
- HGIC Climate Change and Gardening
- UNH factsheet on blossom-end rot
- Cornell study on squash parthenocarpy
- Bulb Mites
- Swede midge

Links Shared from Ask A Master Gardener Plant Clinic Training
September 2020

- Asian jumping worms:
  - Cornell Extension
  - MD Grows blog
  - http://mdinvasives.org/iotm/nov-2019/
- UME- Vegetable & Fruit News
- UDEL Weekly Crop Update
- Rutgers- Plant & Pest Advisories
- Penn State- Fruit and Vegetable Updates
- UMASS- Vegetable Notes
- Please evaluate Jon's presentation: https://go.umd.edu/ENRTEACH
  - select the presenter (Jon Traunfeld)
  - select the date (January 27th)
  - select the program topic (Master Gardener)
  - answer 5 questions
  - press the blue submit button
- HGIC Figs

Weed Management Tips

Kurt Vollmer

Extension Weed Management Specialist

UNIVERSITY OF MARYLAND EXTENSION

Ask a Master Gardener Plant Clinic Training, September 18,2020

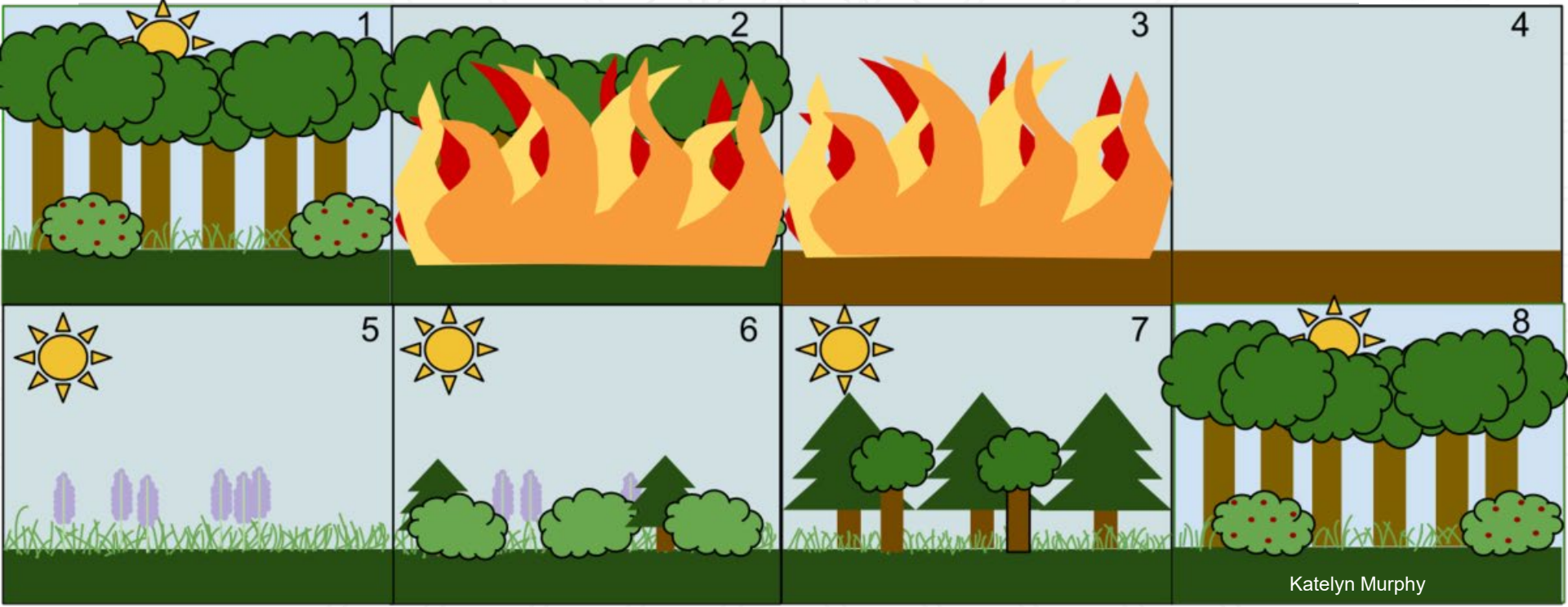
Before we begin…

- How do we define “weed”
  ~ a plant that is unwanted or out of place
  ~ 250,000 plant species
  ~ 8,000 behave as weeds
  ~ 200 to 250 are major problems in worldwide cropping systems

Characteristics of Weeds

- Abundant seed production
  - 10,000-100,000 seeds per plant
- Rapid population establishment
- Seed dormancy/long term survival of buried seed
- Adaptation for spread
- Vegetative reproductive structures
- Ability to occupy disturbed sites

Weeds are pioneers!



Weeds are Symptoms!

- Weeds grow in gaps!
- Simply removing a weed may not solve the problem.

Weeds are Symptoms!

Low pH

red sorrel

High pH

broadleaf plantain

Weeds are Symptoms!

Soil Compaction

goosegrass

pineappleweed

Weeds are Symptoms!

Poor Drainage

yellow nutsedge

Virginia buttonweed

Weeds are Symptoms!

Poor Fertility

white clover

Weeds are Symptoms!

Shade

ground ivy

violet

Weeds are Symptoms!

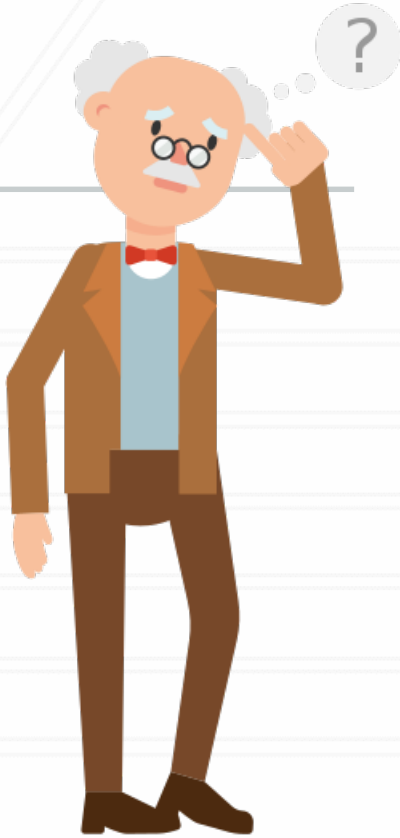
Improper Mowing Height/Frequency

crabgrass

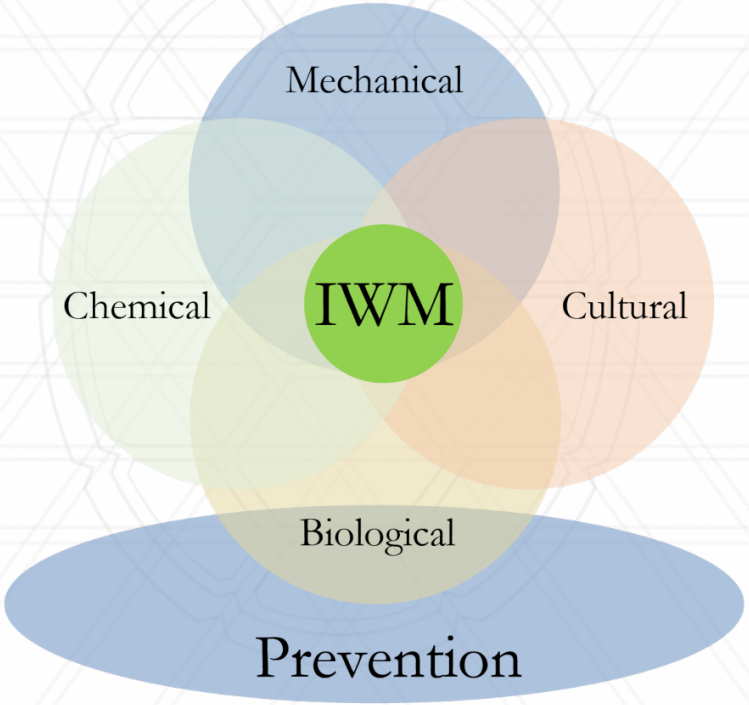
annual bluegrass

Ask?

- What weed(s) need to be controlled?
- How much effort am I willing to spend to correct the problem?



Basic Weed Management Tactics



Prevention

- Start clean (weed free inputs)
- Identification
  - grass vs broadleaf
  - annual vs biennial vs perennial

Cultural

- A healthy garden/ lawn is the best weed control
  - irrigation
  - fertility
- Mulch
  - shade out emerging seedlings

http://1.bp.blogspot.com/-ui8-0RUrK6s/TpO4A0AokEI/AAAAAAAACAw/NkdJ50jzaJc/s1600/lawn-care.jpg

Mechanical

- Mowing
- Chopping/cutting
- Hoeing
- Hand-pulling

Chemical (i.e. Herbicides)

Synthetic

- PRE
  - Balan, Dacthal,Pendulum
- POST
  - 2,4-D, dicamba, glyphosate
  - contact and systemic
- Selectivity

Organic

- PRE
  - corn gluten meal
- POST
  - vinegar, botanical oils
  - contact only
- Non-selective

Chemical (i.e. Herbicides)

Contact

- Only kills what it touches
- Better for control of small weeds
- Coverage is key!
- Not very effective against perennial weeds

Systemic

- Translocated
- Will control larger weeds
  - spraying smaller weeds will provide more effective control
- Effective against perennial weeds

READ THE LABEL!

- Know your active ingredients
- Know your lawn
- Know your application rates and timings

Know the Weed's Lifecycle

- Annuals – live for 1 growing season, fibrous root system (e.g. crabgrass, spotted spurge)
- Biennials – form basal rosette the first year, mature and produce flowers the second year (e.g. musk thistle, wild carrot)
- Perennials – live multiple years, reproduce from taproots, rhizomes, tubers, etc. (e.g. dandelion, nutsedge)

Herbicide Application Timing - Annuals

- Spray prior to flowering/seeding
- Spray seedlings in the spring or summer
- Spray again before weeds reach greater than 4 in.

Herbicide Application Timing - Biennials

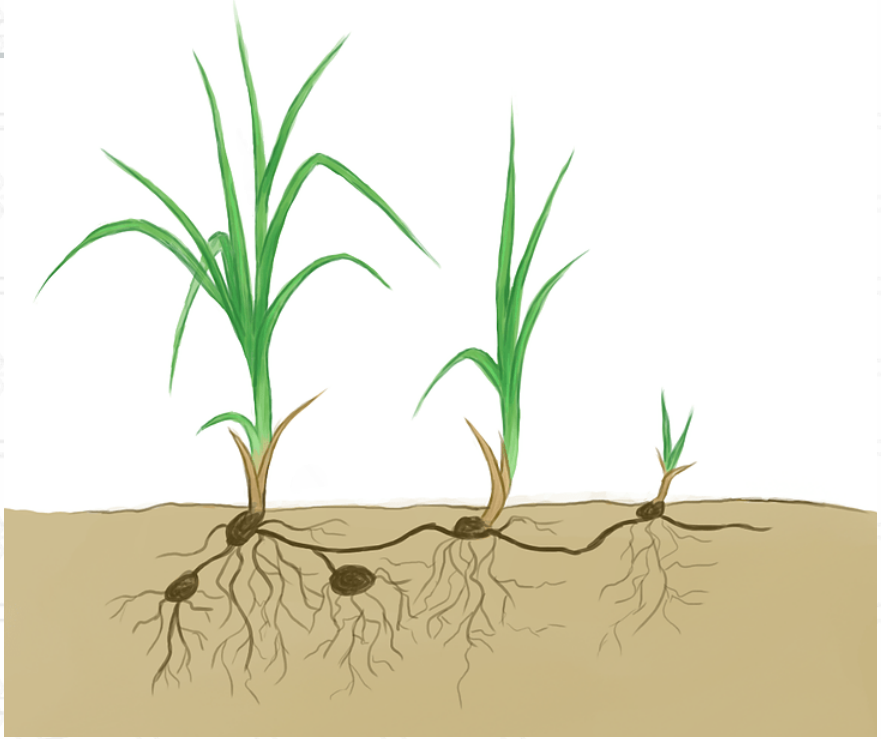
- Spray seedlings – late summer or fall
- Spray rosette – fall or early spring
- Once plants begin to bolt, control is reduced

Herbicide Application Timing - Perennials

- Spray at the early bud stage or in the fall
- Herbicide translocated to taproot

Yellow Nutsedge

- Perennial- nutlets, rhizomes
- Maintain a dense turf –don't mow too short
- Remove entire plant from landscape beds
- Herbicide applications in spring/early summer
  - halosulfuron (Sedgehammer®)
  - sulfentrazone (Ortho Nutdsege Killer for Lawns®)



Broadleaf plantain

- Perennial
- Maintain a dense turf stand—aerate soil and improve drainage
- Eliminate seeds prior to flowering—tolerates close mowing
- Remove entire plant
- Herbicide applications in early spring or early fall
  - PRE: isoxaben (Gallery®)
  - POST: 2,4-D, MCCP, triclopyr

Spotted spurge

- Summer annual
- Opportunistic in open spaces
  - maintain a dense turf stand
  - pull from landscape beds
- Herbicide applications in early summer
  - 2,4-D, dicamba, triclopyr, spot treat with non-selective herbicides

Clover

- Perennial
- Increase fertility
- Increase mowing height
- POST herbicide applications
  - dicamba, clopyralid, fluroxypyr, and quinclorac

Common lespedeza

- Annual
- Maintain a dense turf stand
  - fertility
- Post herbicide applications
  - 2,4-D, dicamba, triclopyr, MCPA

Violets

- Annual or perennial
- Tolerates shade and moist soils
- Fall herbicide applications

  - sequential applications of triclopyr + 2,4-D and/or dicamba

Ground Ivy

- Perennial
- Tolerates shade, wet soils, and poor fertility
- Fall herbicide applications
  - triclopyr (+2,4-D , + dicamba)
  - glyphosate (spot spray)
  - borax

Dandelion

- Perennial
- Increase mowing height
- Fall herbicide applications
  - 2,4-D, dicamba, triclopyr, glyphosate

Crabgrass, foxtails, goosegrass

- Annuals
- Increase mowing height (2 in. or greater)
- Aerate, proper irrigation and fertilization
- PRE herbicide applications
  - Spring (10-14 days prior to the earliest expected germination)
  - benefin, oxadiazon, pendimethalin, corn gluten meal
- POST Herbicide applications
  - quinclorac, fenoxaprop, DSMA, MSMA, glyphosate (spot-spray)

foxtail

crabgrass

goosegrass

Japanese stiltgrass

- Annual
- Mulch/dense lawn
- Hoeing/pulling before seed drop
- Mow just before seed set
- PRE herbicide applications
  - trifluralin, pendimethalin, prodamine
- POST herbicide applications
  - fenoxaprop

Vines: poison ivy, etc.

- Physical: pulling, cutting vines
- Systemic herbicide applications
  - glyphosate, triclopyr
- Larger vines – cut stump
  - triclopyr

Pigweeds

Palmer amaranth

Smooth pigweed

Virginia copperleaf

Summary

- Know what needs to be managed
- Know where it needs to be managed
- Treat the disease not just the symptoms
- Read the Label!
- Happy Weeding!

Additional Materials

- Fall Lawn Care: https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/430/430-520/SPES-223.pdf
- Spring and Summer Lawn Management Considerations for Cool-Season Turfgrasses: https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/430/430-532/430-532_pdf.pdf
- Vegetable Garden Weed Management: https://cmg.extension.colostate.edu/wp-content/uploads/sites/59/2020/03/Vegetable-Garden-Weed-Management-2018-rev.pdf

Thank you!

Kurt Vollmer

Wye Research and Education Center, 124 Wye Narrows Dr., Queenstown, MD 21658

410.827.8056 / kvollmer@umd.edu

2020 Fall Insect Update

Emily Zobel
ezobel@umd.edu
Senior Agent Associate
University of Maryland Extension
Dorchester County

General Tips

- As you install plant material this fall in the landscape or nursery, please look closely for insect pest
- Allows read the label and follow the directions when using any chemical, even organic, in the home or garden.
  - Google name with “Label” to find a pdf copy
- Proper fertilization and irrigation will promote a healthy plant.
  - Do not over fertilize. Excessive fertilizer can increase pest populations, injure foliage and roots and cause other problems.

Hibiscus Sawfly

(Atomacera decepta)

- Creates large holes in the foliage
- Active: May until the first frost
- Feed in groups on the undersides of leaves
- Prune out damaged leaves
- Spinosad - Read label and follow the directions!

John Olive, Auburn University, Bugwood.org

Fall Webworms

(*Hyphantria cunea*)

- Host: Mulberry, walnut, hickory, elm, sweet gum, oak, linden,
- Created “nest” out of webbing
- Control not generally not needed
  - Prune out the webs
  - Open the web

Steven Katovich, Bugwood.org

Mimosa Webworm

- Spin a web around leaflets and fees
  - Mimosa and honeyloucust tree
- 2 generations
  - Mid-June
  - August- September
- Control – Spring population
  - Rake up leaf and other debris
  - Prune
  - Open up webbing

Brian Kunkel, University of Delaware, Bugwood.org
Lacy L. Hyche, Auburn University, Bugwood.org

Stinging Caterpillars

- Puss Caterpillars (Southern flannel moth)
- Saddleback Caterpillar
- Io moth caterpillar

Gerald J. Lenhard, Louisiana State University, Bugwood.org, Lacy L. Hyche, Auburn University, Bugwood.org , Steven Katovich, Bugwood.org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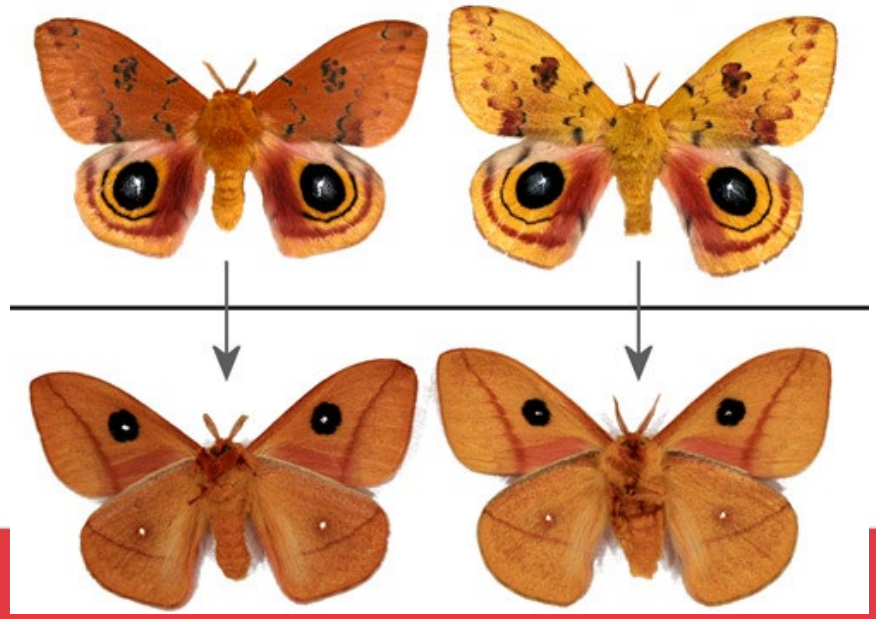


Banded Ash Clearwing

(Podosesia aureocincta)

- Not to be confused with the Banded Ash borer (beetle)
- Host plant: Ash tree
- Adult emerge in early fall
  - Mate, female lay eggs on bark of Ash trees
- Die back, holes, frass and pupal skin
- Control – Difficult
  - Reducing plant stress – trees in good health are less susceptible

Whitney Cranshaw, Colorado State University, Bugwood.org

Bagworms

(Thyridopteryx ephemeraeformis)

- Pest on Conifers
- Males are flying
- Hand remove bag and destroy
  - Females and eggs
- Eggs will hatch and larva will balloon (May)

David J. Moorhead, University of Georgia, Bugwood.org

Spruce Spider Mite

(*Oligonychus ununguis*)

- Conifers pest
- Tiny yellow stipples on needles. The needles turn yellow, and then brown
  - Webbing
- Tap branches over white paper and look for the dark mites
- Control
  - Water
  - Horticultural oil (Not on Blue Spruce)

Petr Kapitola, Central Institute for Supervising and Testing in Agriculture, Bugwood.org

Fall Scale Control

- Prune out heavy infested areas
- Wash the reachable branches with a mild soap solution and a soft scrubbing brush
- When active manage crawler with horticultural oil or Insect Growth Regulator
- Dormant oils : Applied in fall and then again in Feb-March to kill the overwintering nymphs
- Spring time: soil drenches with systemic insecticides

READ and FOLLOW ALL LABEL INSTRUCATIONS

Tuliptree Scale

(*Toumeyella liriodendri)*

- Pest of yellow poplar, or tuliptree, magnolia, and linden
- 6-7 mm in diameter, oval, convex, and have a distinct rim, grayish green or pinkish orange
- Crawlers – Dark red or gray,
  - Late Aug – Early Sept

Tuliptree scale crawlers on female covers

White Prunicola Scale

(Pseudaulalacaspis prunicola)

- *Prunus* species, boxwood, cherry laurel, red twig dogwood, euonymus, magnolia, privet
- Adults- round, white with yellow-brown dot
- Crawler- pink
- 3 generations
  - May, mid-July to mid-August, and September

Brian Kunkel, University of Delaware, Bugwood.org,

Magnolia Scale

(*Neolecanium cornuparum)*

- Magnolia (star and saucer) and Virginia creeper.
  - 1-2 year twigs
- Adults: ½ inch, Shiny tan-brown and smooth, Covered with a white mealy wax
- Crawlers – Dark color
- One generation per year
  - Eggs that hatch in late August

Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org
Lorraine Graney, Bartlett Tree Experts, Bugwood.org

Crapemyrtle Bark Scale

(Acanthococcus (=Eriococcus) lagerstroemiae)

- Found in Texas in 2004
- Native to Asia
- Found in Fredrick County, Carroll County
- Adults – 2mm, white -gray
- Crawlers – pink
- Host plants: Crapemyrtle, apple, persimmon, edible fig, boxwood, American beautyberry, privet, and raspberries

Helene Doughty, Virginia Polytechnic Institute and State University, Bugwood.org

Crapemyrtle Bark Scale

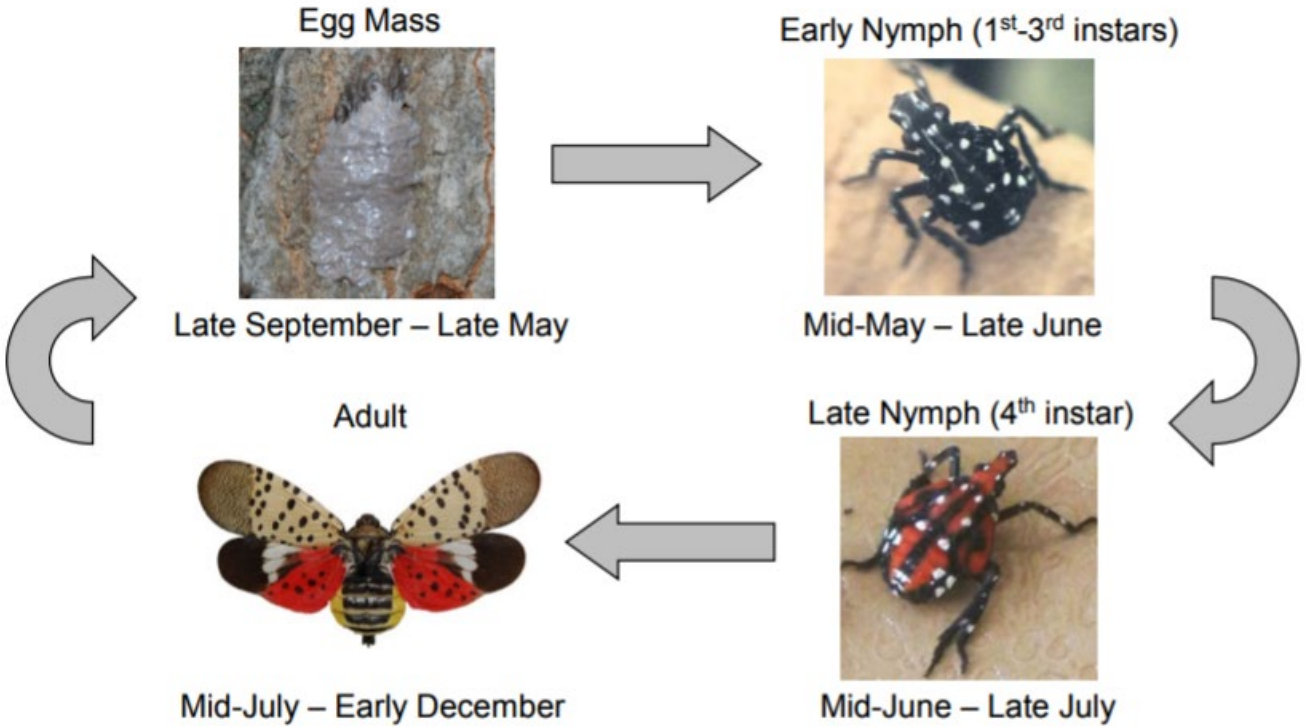
(Acanthococcus (=Eriococcus) lagerstroemiae)

- Truck, branches and twigs
  - aggregate on the underside, away from sun exposure
  - Honey dew & sooty mold
- Check all new plants before planting
- Please report if you find it

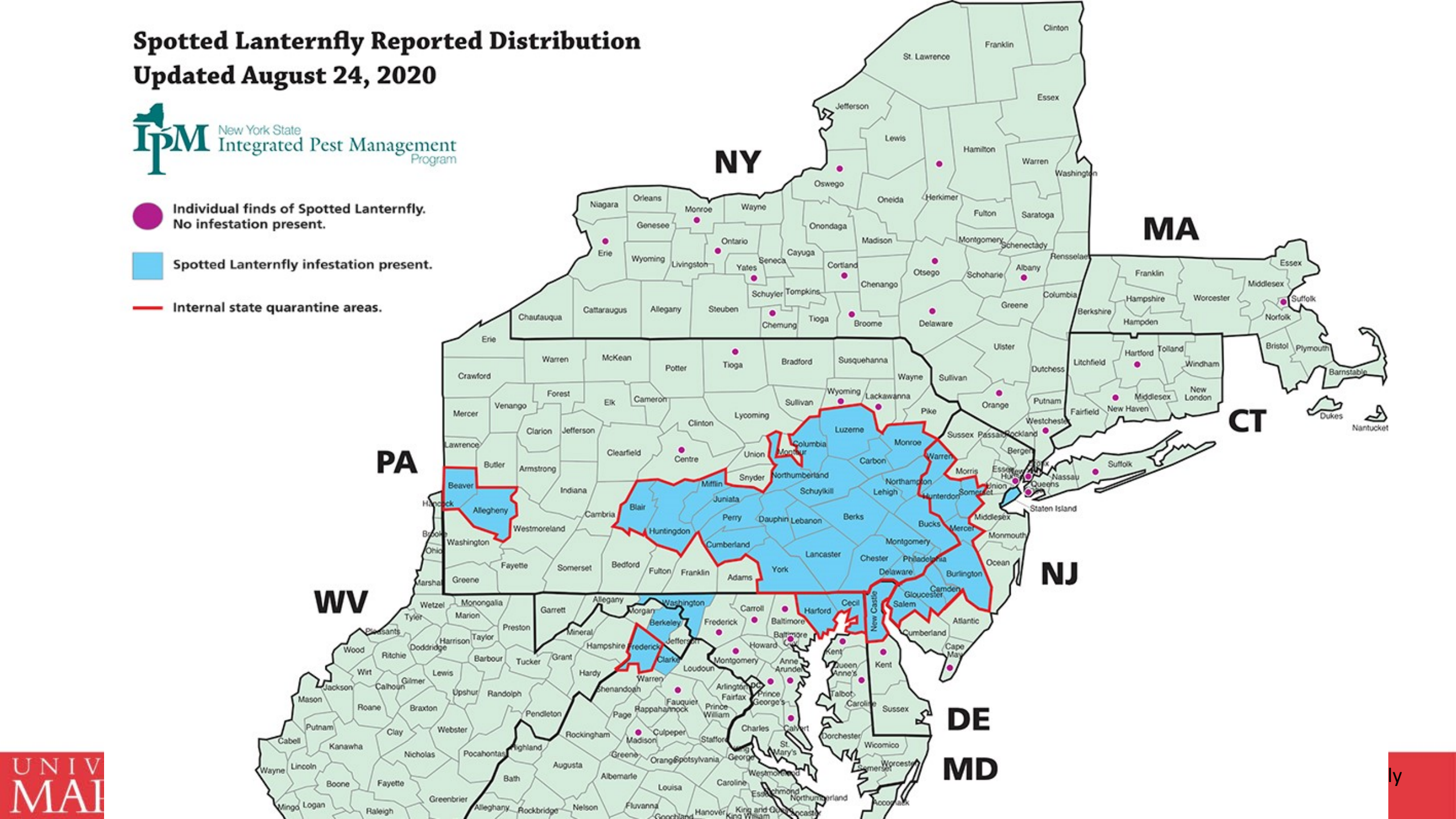
Jim Robbins, Univ. of Ark. CES, Bugwood.org
Mengmeng Gu, Texas A&M AgriLife Extension Service, Bugwood.org

Spotted Lanternfly

(Lycorma delicatula)



Photos: egg mass, late nymph, and adult courtesy of Penn. Dept. of Ag.; early nymph courtesy of Miriam Cooperband (USDAAPHIS-PPQ-CPHST).


Spotted Lanternfly Reported Distribution
Updated August 24, 2020
New York State
Integrated Pest Management
Program
Individual finds of Spotted Lanternfly.
No infestation present.
Spotted Lanternfly infestation present.
Internal state quarantine areas.
NY
PA
WV
MA
CT
NJ
DE
MD
Clinton
Franklin
St. Lawrence
Essex
Jefferson
Lewis
Hamilton
Warren
Washington
Oswego
Oneida
Herkimer
Fulton
Saratoga
Niagara
Orleans
Monroe
Wayne
Genesee
Onondaga
Madison
Montgomery
Schenectady
Rensselaer
Erie
Wyoming
Livingston
Ontario
Seneca
Cayuga
Yates
Cortland
Otsego
Schoharie
Albany
Chenango
Schuyler
Tompkins
Chemung
Tioga
Broome
Delaware
Greene
Columbia
Ulster
Dutchess
Putnam
Orange
Sullivan
Pike
Wayne
Lackawanna
Susquehanna
Bradford
Potter
McKean
Warren
Crawford
Erie
Chautauqua
Cattaraugus
Allegany
Steuben
Berkshire
Hampden
Hampshire
Worcester
Middlesex
Suffolk
Norfolk
Essex
Litchfield
Hartford
Tolland
Windham
New London
Middlesex
New Haven
Fairfield
Bristol
Plymouth
Barnstable
Dukes
Nantucket
Westchester
Rockland
Passaic
Sussex
Bergen
Morris
Essex
Hudson
Union
Middlesex
Monmouth
Ocean
Burlington
Camden
Gloucester
Salem
Atlantic
Cumberland
Cape May
Cecil
Harford
New Castle
Kent
Queen Anne's
Talbot
Caroline
Sussex
Dorchester
Wicomico
Somerset
Worcester
Accomack
Northumberland
Staten Island
Nassau
Suffolk
Queens
Kings
Bronx
New York
Lycoming
Clinton
Centre
Clearfield
Cameron
Elk
Forest
Venango
Mercer
Lawrence
Butler
Armstrong
Indiana
Jefferson
Clarion
Beaver
Allegheny
Westmoreland
Fayette
Washington
Greene
Somerset
Bedford
Fulton
Franklin
Adams
York
Cumberland
Perry
Juniata
Mifflin
Snyder
Union
Northumberland
Schuylkill
Luzerne
Columbia
Montour
Carbon
Monroe
Northampton
Lehigh
Warren
Hunterdon
Somerset
Berks
Lebanon
Dauphin
Blair
Huntingdon
Cambria
Lancaster
Chester
Montgomery
Bucks
Mercer
Philadelphia
Delaware
Burlington
Lackawanna
Wyoming
Sullivan
Pike
Wetzel
Monongalia
Marion
Tyler
Pleasants
Wood
Ritchie
Doddridge
Harrison
Taylor
Barbour
Tucker
Preston
Grant
Hardy
Mineral
Garrett
Allegany
Washington
Morgan
Berkeley
Jefferson
Frederick
Carroll
Baltimore
Howard
Anne Arundel
Harford
Cecil
New Castle
Kent
Queen Anne's
Talbot
Caroline
Sussex
Dorchester
Wicomico
Somerset
Worcester
Accomack
Northumberland
Jackson
Calhoun
Gilmer
Lewis
Upshur
Randolph
Webster
Pocahontas
Highland
Augusta
Rockingham
Shenandoah
Page
Rappahannock
Culpeper
Madison
Greene
Orange
Spotsylvania
Stafford
Fauquier
Prince William
Fairfax
Arlington
DC
Prince George's
Loudoun
Montgomery
Clarke
Frederick
Hampshire
Mason
Roane
Braxton
Clay
Putnam
Cabell
Kanawha
Nicholas
Wayne
Lincoln
Boone
Fayette
Greenbrier
Mingo
Logan
Raleigh
Pendleton
Bath
Albemarle
Louisa
Fluvanna
Goochland
Hanover
King and Queen
King William
Caroline
Essex
Richmond
Northumberland
Charles
Calvert
St. Mary's
Westmoreland
Nelson
Rockbridge
Alleghany

Parasitized Hornworm

Orb Weaver Spider

Becca MacDonald, Sault College, Bugwood.org, Karen Snover-Clift, Cornell University, Bugwood.org

Black Swallowtails Caterpillar

Whitney Cranshaw, Colorado State University, Bugwood.org

Emily Zobel

Ezobel@umd.edu

Teaching Effectiveness **https://go.umd.edu/ENRTEACH**

Vegetable/Fruit Update

Plant Clinic Continuing Education

September 18, 2020

Jon Traunfeld; jont@umd.edu

UNIVERSITY OF MARYLAND EXTENSION

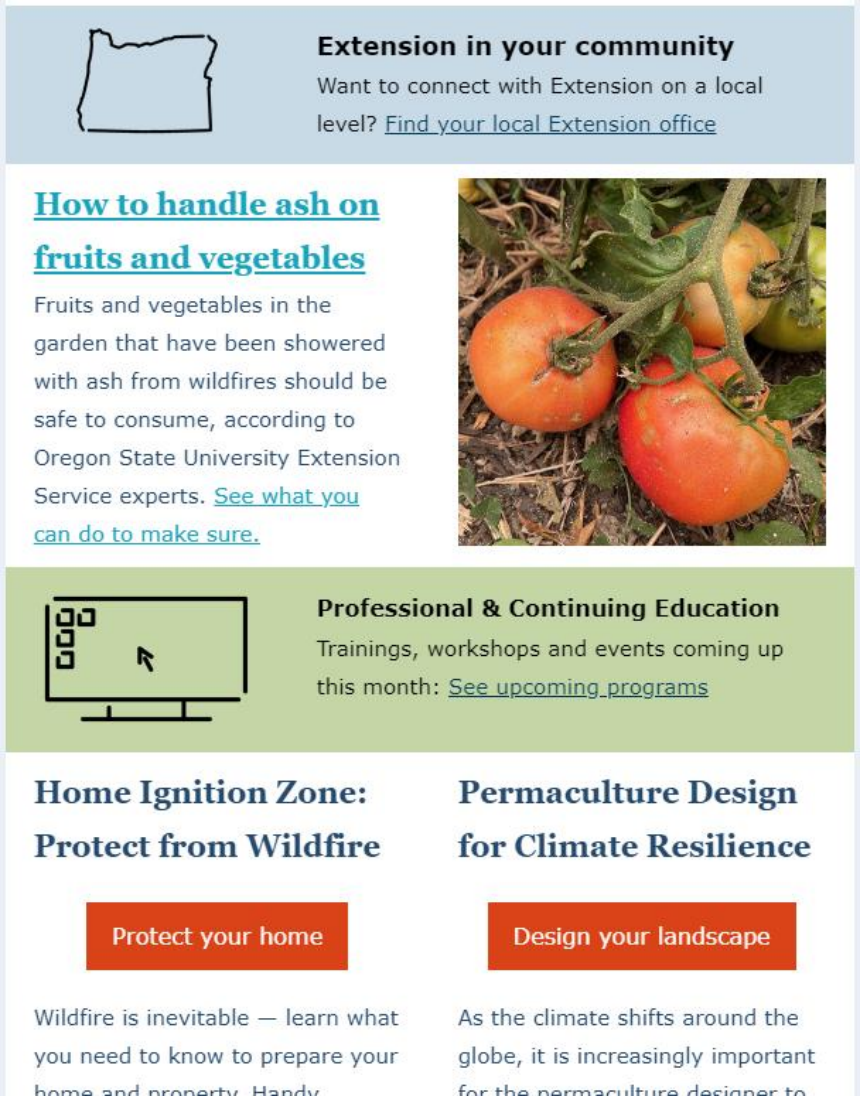
ASK A MASTER GARDENER PLANT CLINIC

A MASTER GARDENER PROGRAM

HGIC website updates

- IPM Series fact sheets becoming web pages
- Insects:
  - Spotted Lanternfly
  - Asian longhorn tick
  - Periodical cicadas (2021is big year for Brood X)
- New Soils / Fertilizer pages
- Revamping vegetable and fruit pages
- “Ask an Expert” soon to be “Ask Extension”

Climate change is having major impacts on farming and gardening



Extension in your community

Want to connect with Extension on a local level? Find your local Extension office

How to handle ash on fruits and vegetables

Fruits and vegetables in the garden that have been showered with ash from wildfires should be safe to consume, according to Oregon State University Extension Service experts. See what you can do to make sure.

Professional & Continuing Education

Trainings, workshops and events coming up this month: See upcoming programs

Home Ignition Zone: Protect from Wildfire

Protect your home

Wildfire is inevitable — learn what you need to know to prepare your home and property. Handy

Permaculture Design for Climate Resilience

Design your landscape

As the climate shifts around the globe, it is increasingly important for the permaculture designer to

Weather in Maryland-2020

- Warmest July on record (Baltimore had 25 days above 90º F.)
- 3rd warmest January-July period
- 4th wettest August

Climate change and garden problems

- Late spring frosts are more damaging following warm temps that push bud devlopment
- High day and evening temps interfere with flower and fruit set
- Accelerated ripening/maturing; fruits soften and sunburn
- Whitefly becoming perennial pest
- Southern pests visit more often (e.g., pickleworm)

Pennsylvania Insect Alert for September 2, 2020: Yellow-Striped Armyworm Outbreak

An outbreak of yellow-striped armyworm has occurred in potatoes along the Susquehanna River, north of Harrisburg. High populations have defoliated fields up to 30 acres in size.

NEWS | UPDATED: SEPTEMBER 3, 2020

Yellow-striped armyworm on potato. Photo: Bob Leiby, Penn State Extension, retired.

The yellow-striped armyworm, *Spodoptera ornithogalli*, overwinters in southern areas and migrate northward each year. Eggs, larva, and adults are killed by freezing temperatures. Pupa can withstand colder temperatures, and this species overwinters in North Carolina and Kentucky. In warm winters, migrants may reach our area earlier and complete more generations. It is not new to have yellow-striped armyworm (YSAW) in our area. What is new is to see it reaching high enough numbers to be considered a pest. The geographic distribution of this species reaching pest status has historically been limited to southern states, the Caribbean, Mexico, and

RELATED P

P

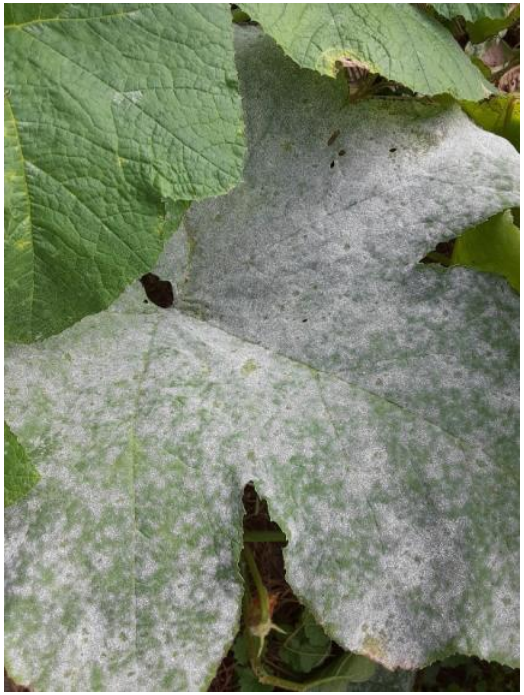
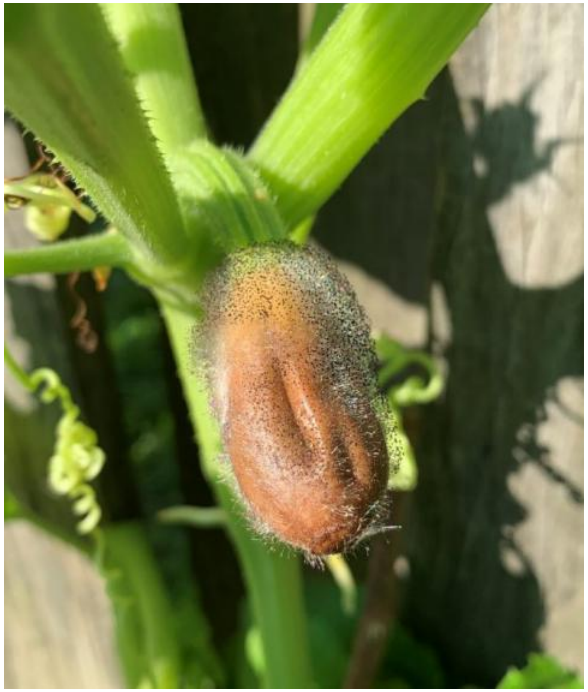
Yellow-striped armyworm

Heat and reflected solar radiation stress

Anthracnose

Internal blossom-end rot

What caused this symptom?


Cucurbitaceae- many questions from gardeners every year

1. Large number of insect pest and disease issues and abiotic problems
2. Pollination and fruit set issues

Tips:
"Grow it right"
Disease-resistant and parthenocarpic cultivars
Plant mid-June

Destructive harvest can help break pest cycles

Bean roots

What caused the swelling, or "galling"?

Nodules produced in response to *Rhizobia spp*.
(plant-microbe symbiosis)

Injury to tomato from manure contaminated with phenoxy herbicide residue

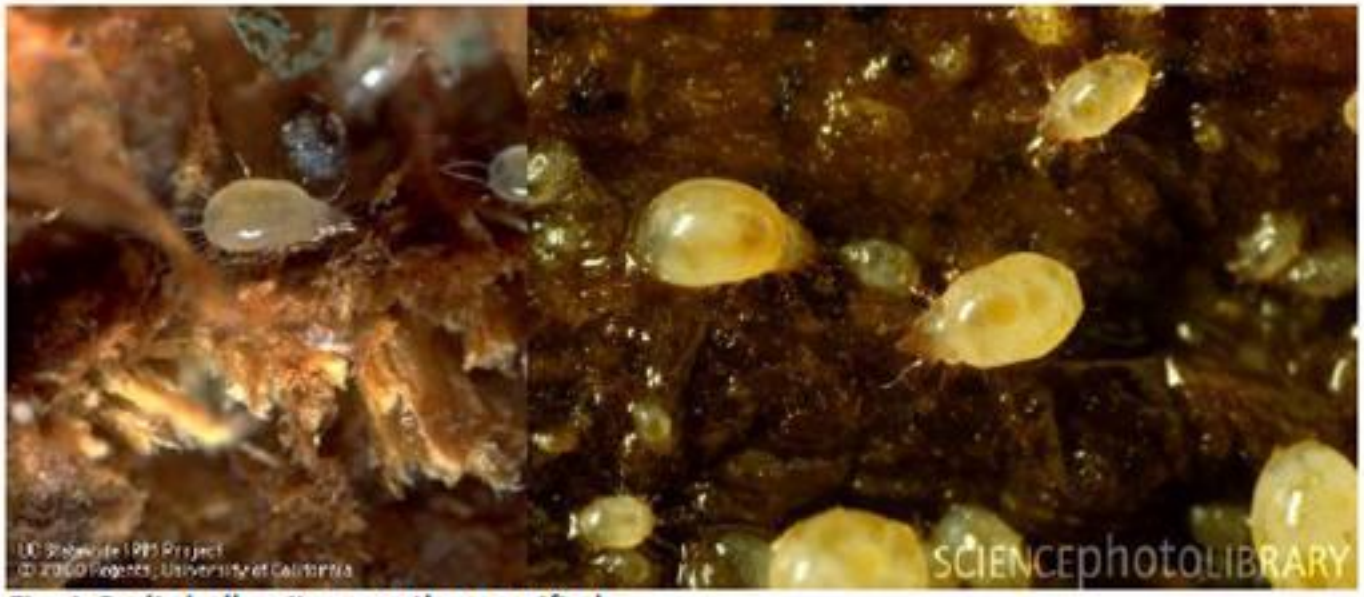


Fig. 1 Garlic bulb mites greatly magnified

- Buy clean seed stock
- Rotate garlic crops
- Remove all plant residue
- Search "bulb mites" on UME website

Swede Midge: Now in Pennsylvania

Another invasive species, the swede midge, has made its way to Pennsylvania. Swede midge is a tiny, 1/16 inch long fly that can be a serious pest of Brassica crops, also known as cole crops, and weeds.

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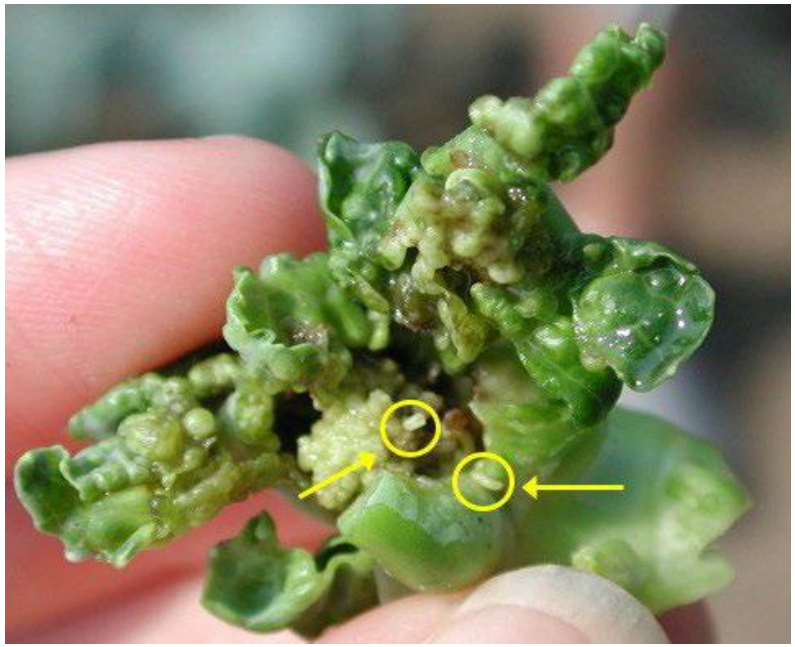
NEWS | UPDATED: JULY 22, 2020

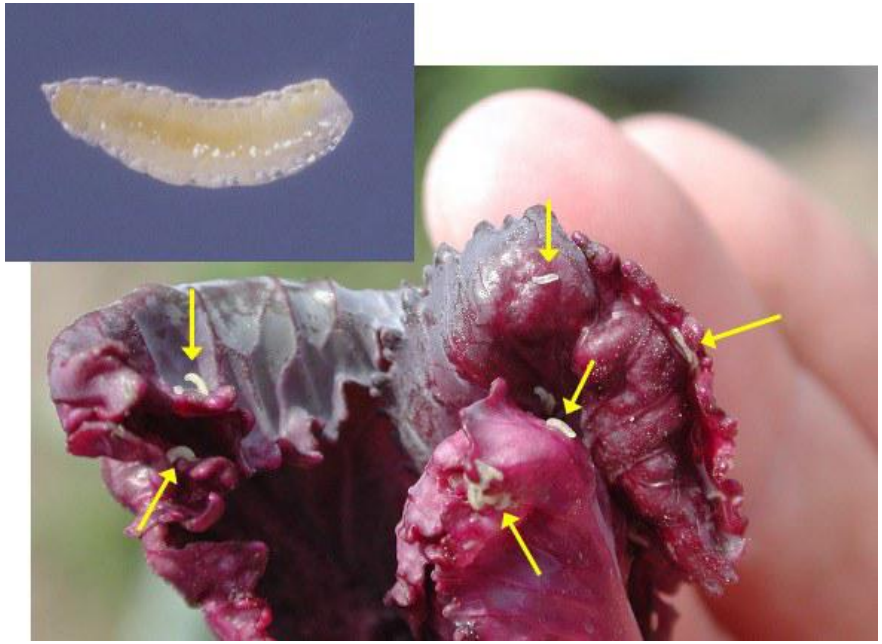
Brown corky scarring is not limited to the growing points and leaf petioles, but can also cause damage in the heads of cauliflower. Image: Cornell University

Native to Europe and parts of Asia, this pest was confirmed in New York about 20 years ago and has spread to additional states and Canada. This midge belongs to a group of insects that are known to be host-plant specialists, often causing galls or other induced plant growth patterns. The swede midge fits this pattern, being tightly connected to a plant family, and larval feeding induces changes in plant physiology, resulting in various forms of distorted growth.

We discovered swede midge by responding to a farmer's problem in broccoli on July 16, 2020, in Bradford County. To the best of



- All Brassica family plants
- Maggot feeding causes scarring, distorted growth, small heads
- Keep an eye out for this pest



Allium leafminer

Management:

1. Row covers April to early May (1st generation) and late Aug. through late Sept. (2nd generation)

2. Spinosad or neem

Photo credit: Christa Carignan

Asian jumping worm reports are up



Fig trees not fruiting / fruits are small and not ripening

1. winter-kill of above-ground wood (protect plant overwinter)
2. excessive shade (move tree; thin interior branches)
3. wrong cultivar for region (plant recommended cultivars)

Best veg/fruit Extension newsletters
(for commercial audience)

- UME- Vegetable & Fruit News
- UDEL- Weekly Crop Update
- Rutgers- Plant & Pest Advisories
- Penn State- Fruit and Vegetable News/Updates
- UMASS- Vegetable Notes

And check out UME's "MD Vegetables" website (Jerry Brust, Vegetable IPM Specialist)

Thanks for participating!

Questions?