

new pest alert!

Spotted Lanternfly



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Extension Entomologist
March 2020



THE OHIO STATE UNIVERSITY

Potential pest of fruit crops in Ohio:

Spotted lanternfly



- **Native to China**
- **First find in USA:**
 - **Sept. 2014**
 - **S.E. Pennsylvania**

Spotted lanternfly: what is it?

- *Lycorma delicatula*
- A planthopper
- Sucks sap
- 1" long
- Poor flier
- Strong jumper (1 - 3 m!)

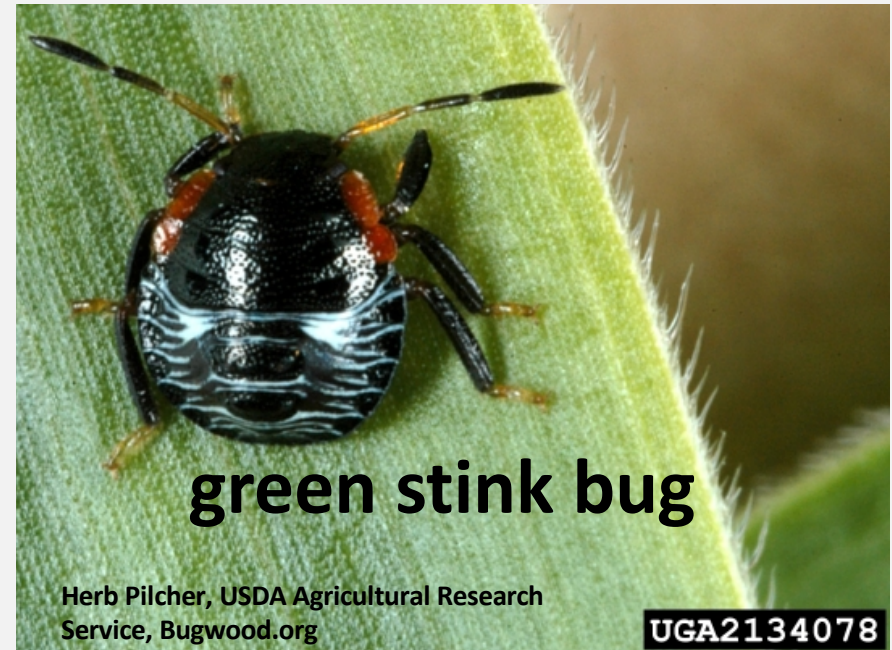


Life stages

- **Adult**
- **Eggs**
- **Young nymphs:**
black with white spots
- **Older nymphs:**
red with white spots



Look-alike young nymphs



Egg masses

- Laid in late September-December
- New masses: gray covering →
- Look like smear of mud
- Older masses: brown after hatching →
- On smooth vertical surfaces: tree trunks, stones, fence posts, vehicles, buildings, furniture



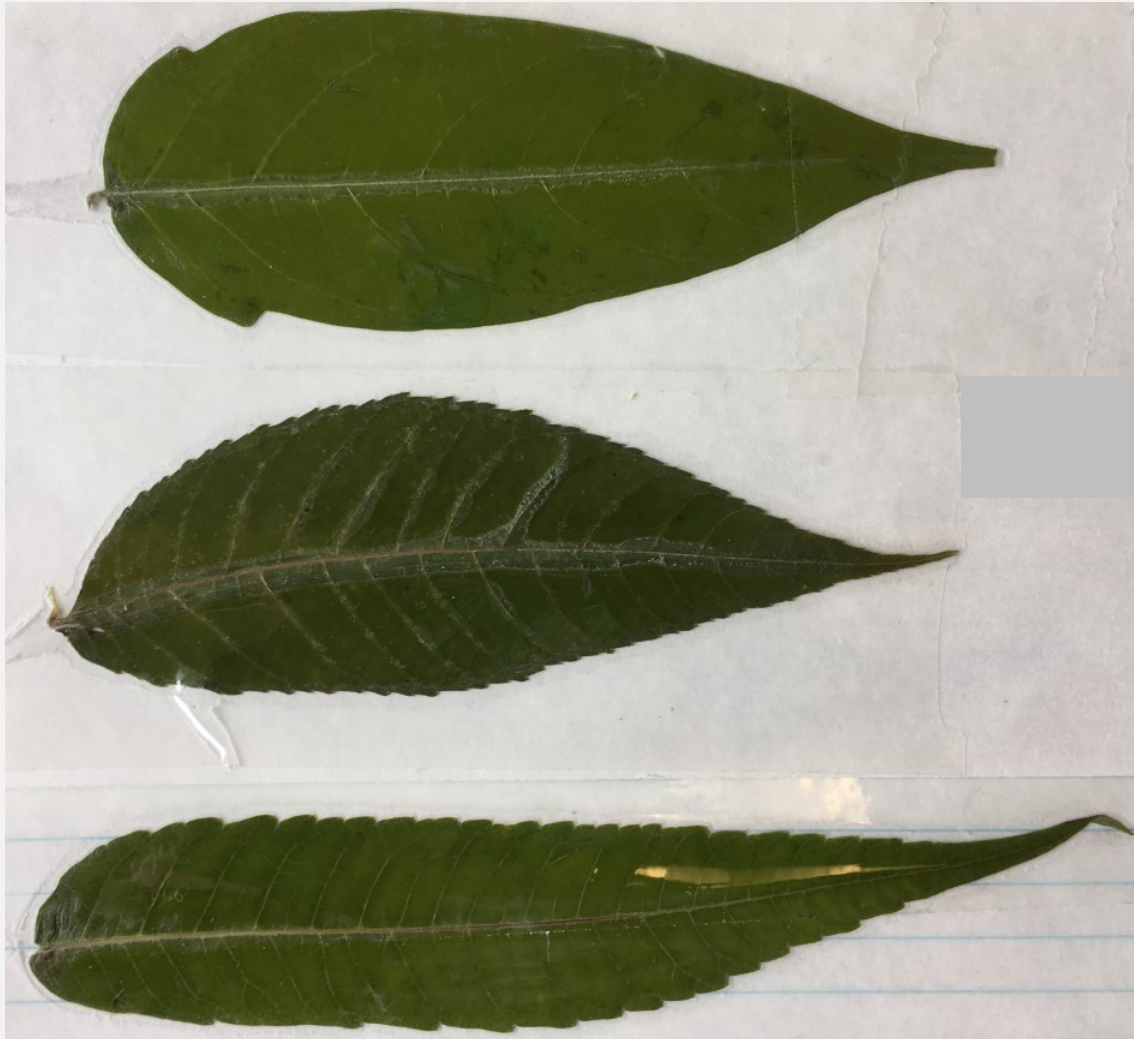
Host plants

- **Major hosts:**
 - Tree of Heaven
 - Grape
 - Chinaberry
- **Other crops:**
 - Apple
 - Cherry
 - Peach
 - Blueberry
 - Hops
- **Forest & ornamental trees:**
 - Oaks
 - Walnuts
 - Poplars
 - Maples
 - Willows



Tree of Heaven

- Common roadside plant
- Leaflets similar to others:



tree of heaven

black walnut

staghorn sumac

Damage

- Suck sap
- Feed on phloem
- Weeping wounds of sap on bark
- Excrete large amounts of sweet fluid (honeydew)
- Sooty mold grows on sweet fluid



Behavior

- Nymphs on leaves, stems
- Adults on branches, trunks
- Aggregate on trunk at base
- Lift forewings to flash red hindwings



Timing

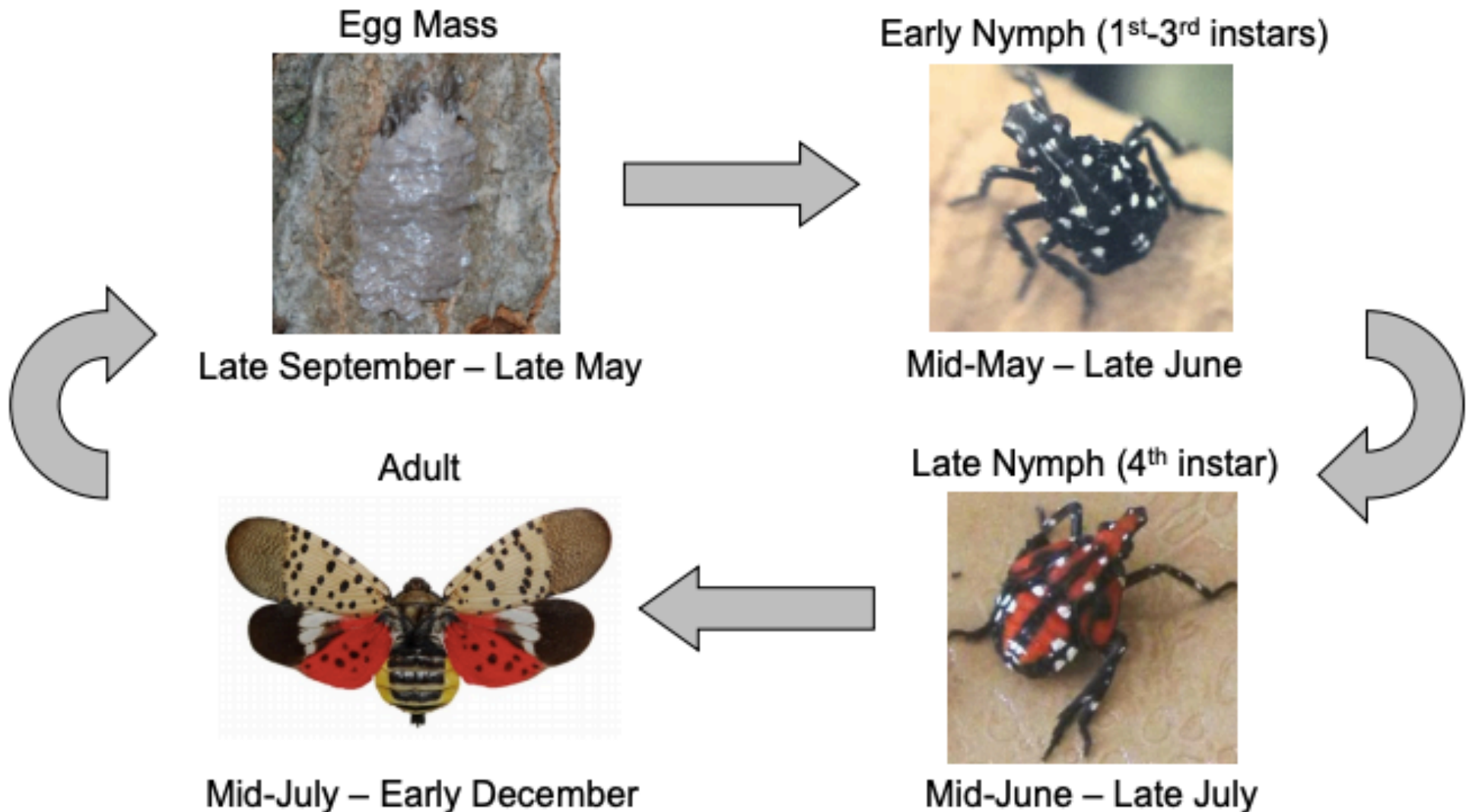
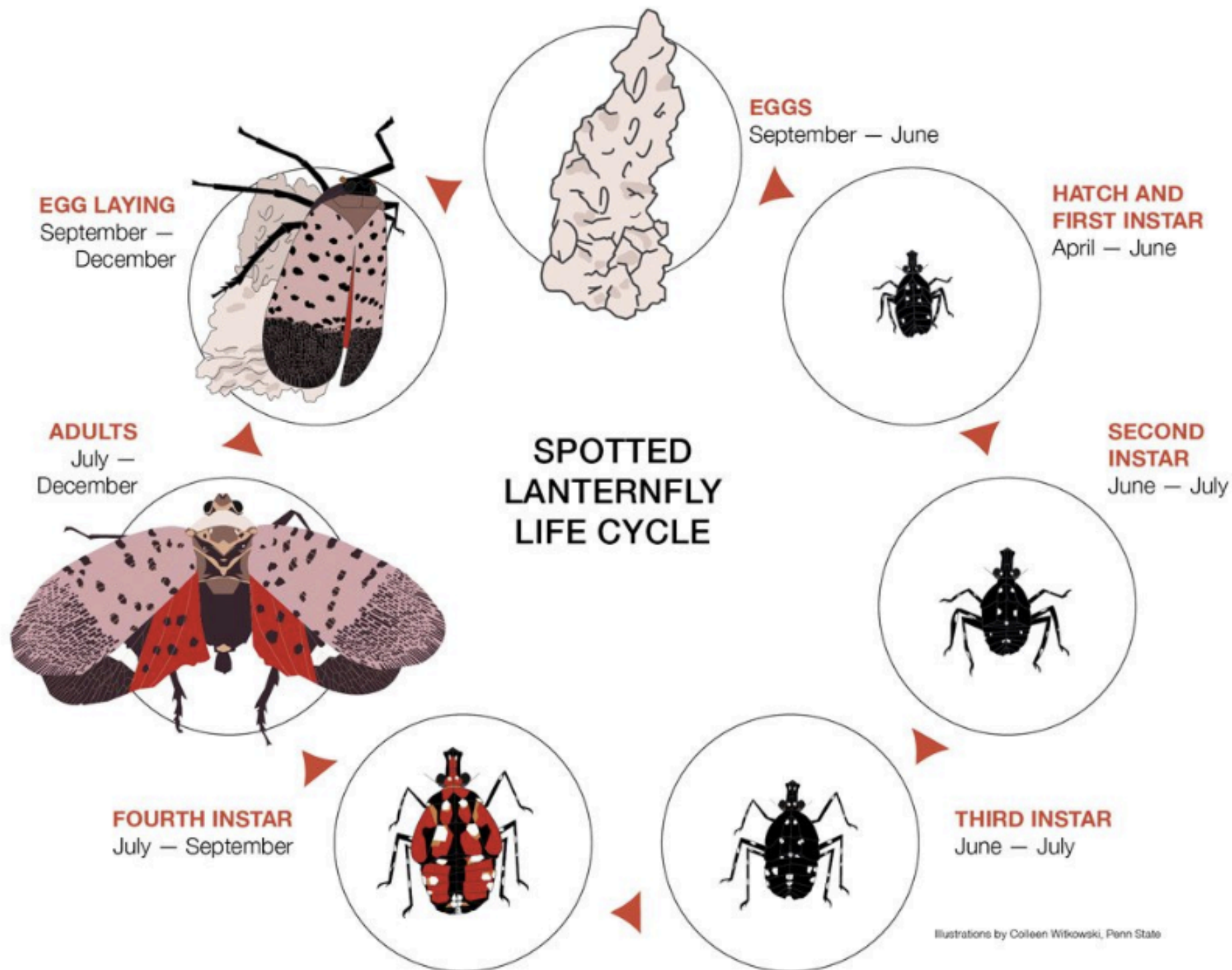


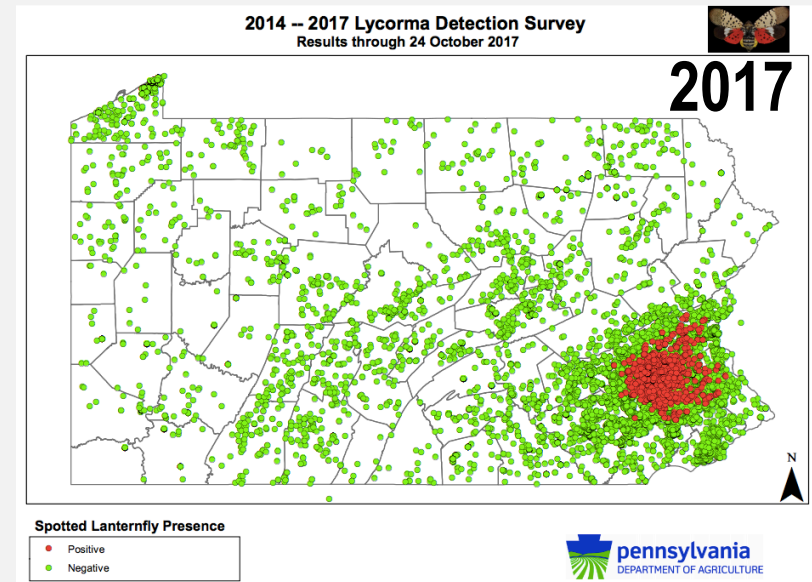
Figure 10. Seasonal phenology of *Lycorma delicatula*, spotted lanternfly (SLF). Photos: egg mass, late nymph, and adult courtesy of Penn. Dept. of Ag.; early nymph courtesy of Miriam Cooperband (USDA-APHIS-PPQ-CPHST).



Illustrations by Colleen Witkowski, Penn State

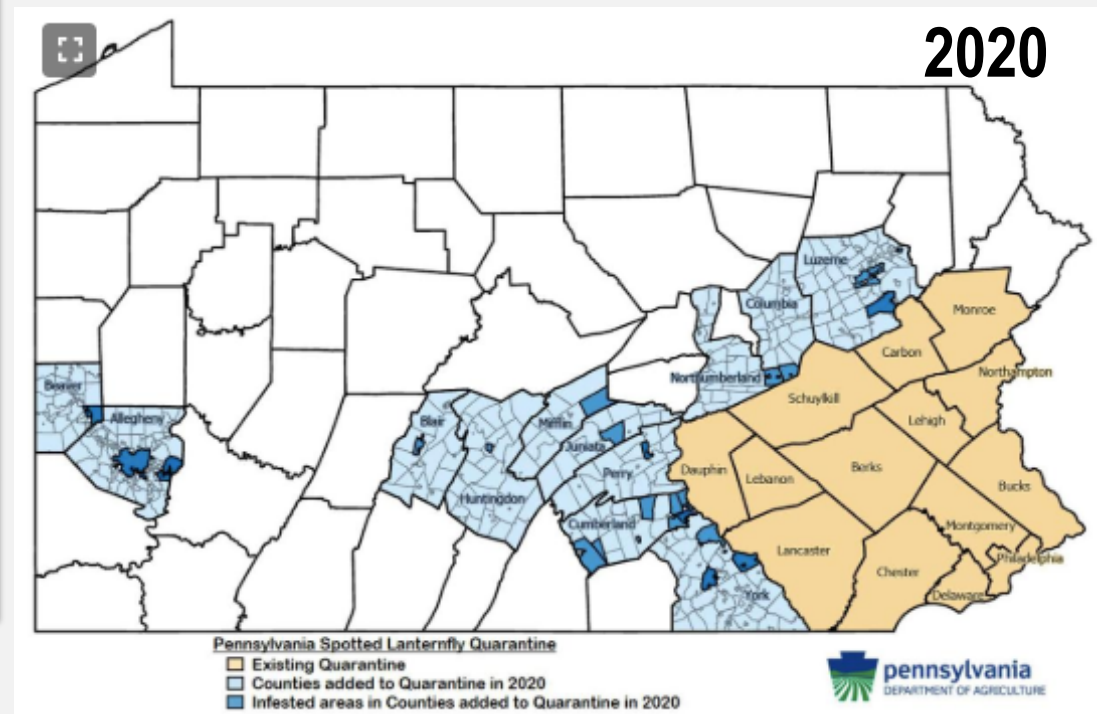
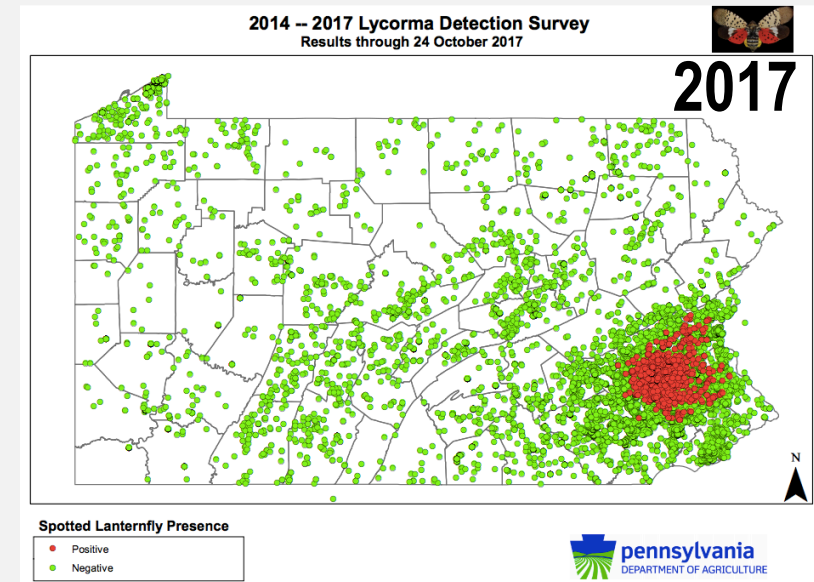
Origin & spread

Year	Number of counties in PA
2014	1
2015	4
2016	5
2017	6
2018	14
2020	26



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How spread?

- **3 – 4 miles per year on their own**
- **Excellent hitchhikers**
- **‘Regulated articles’:**
 - **Stones**
 - **Plants, plant parts, yard waste**
 - **Firewood, lumber, logs, stumps**
 - **Vehicles, railroad cars**
 - **Lawn furniture, grills**
 - **Packing materials**
- **Quarantine set to prevent spread**

Spread?

- Detections in 2017:**

- Delaware
- New York

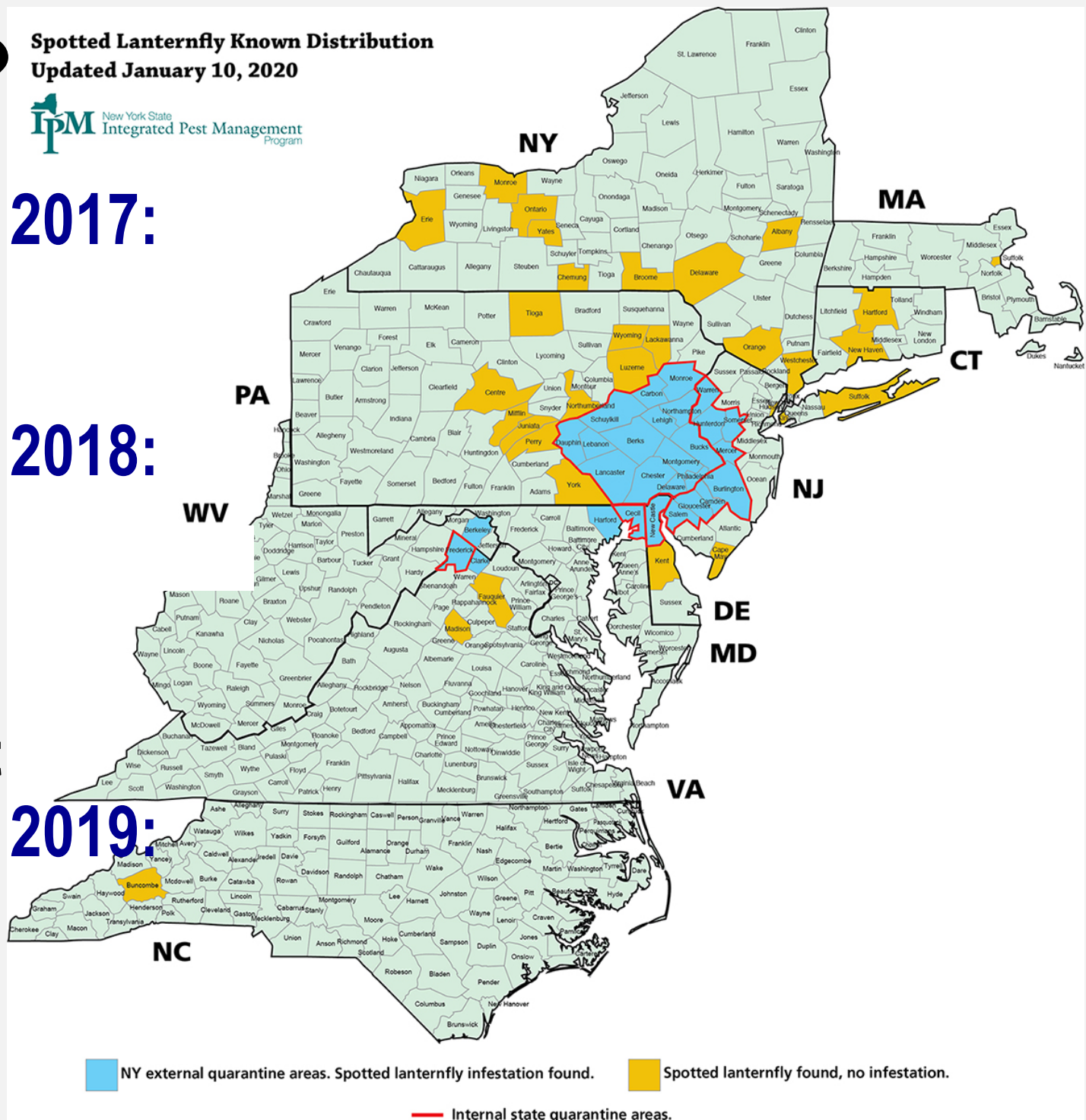
- Detections in 2018:**

- Virginia
- New Jersey
- Maryland
- Connecticut

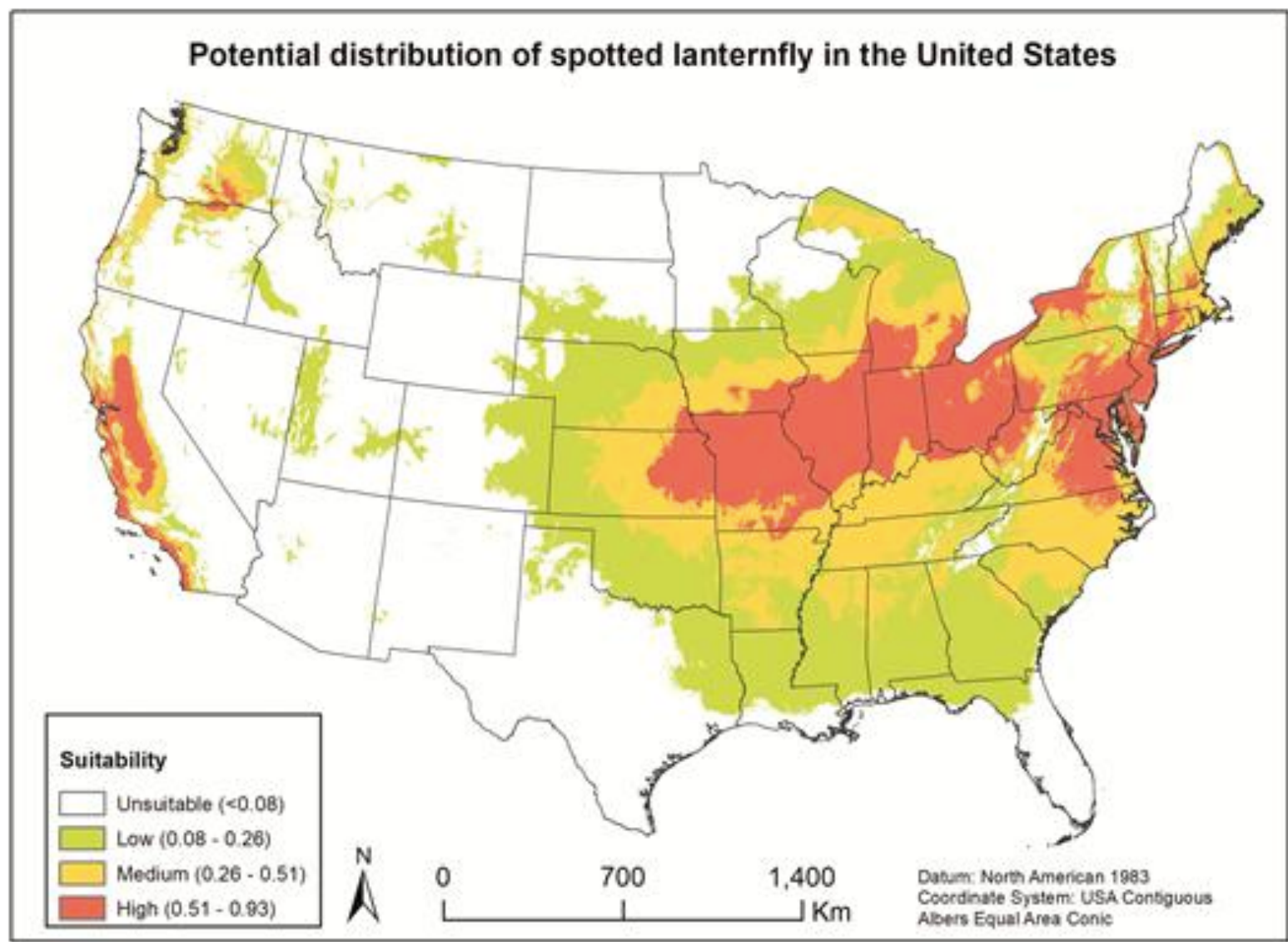
- Detections in 2019:**

- Mass.
- W. Virginia

Spotted Lanternfly Known Distribution Updated January 10, 2020

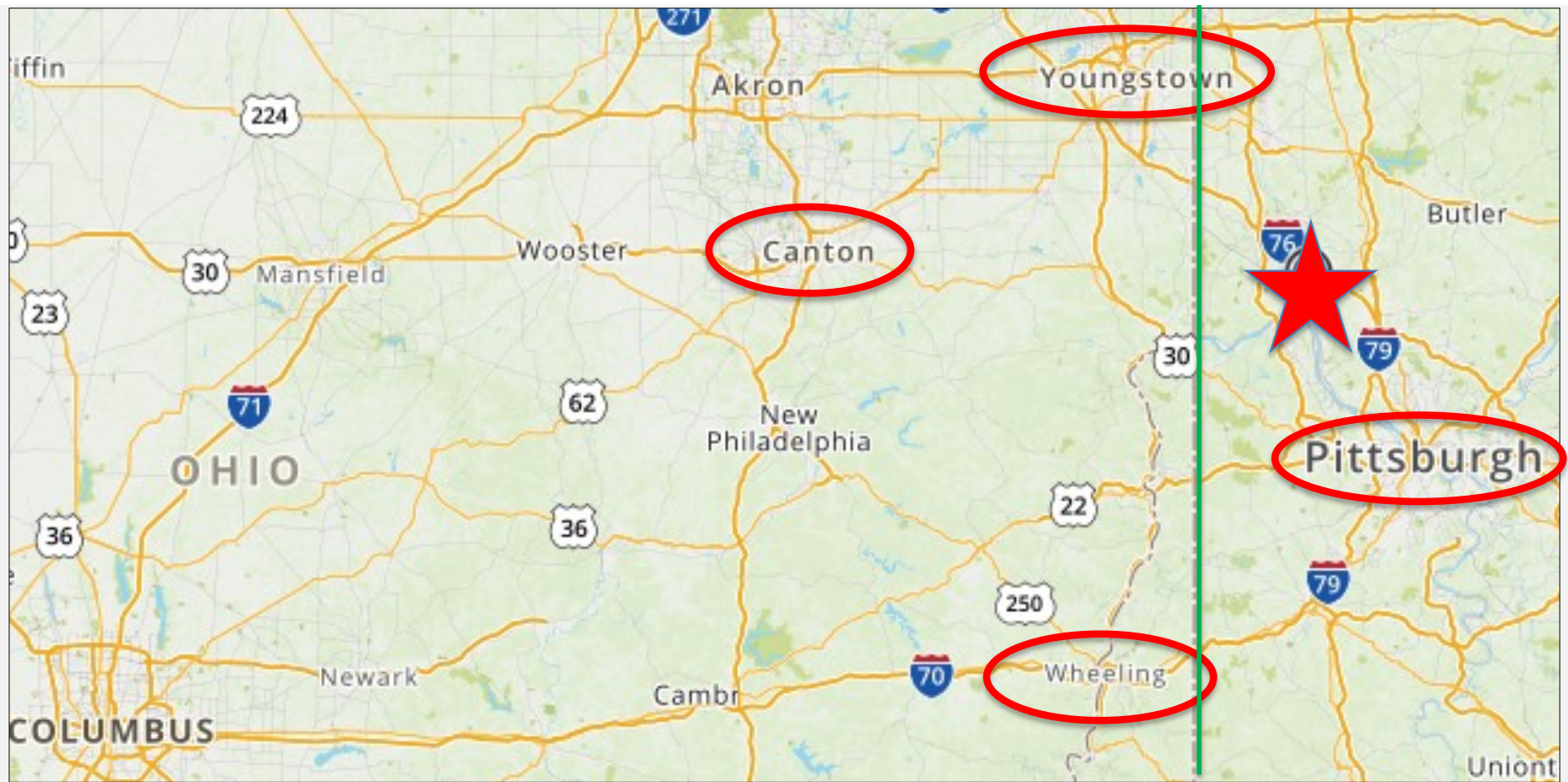


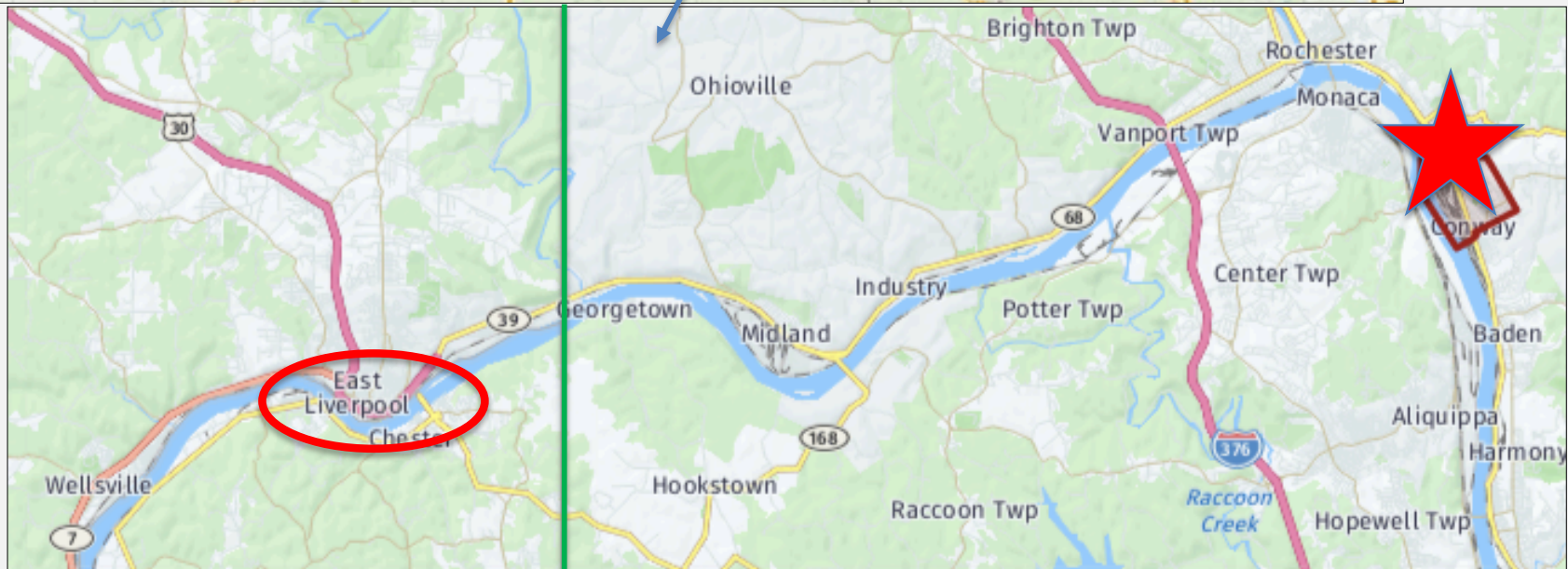
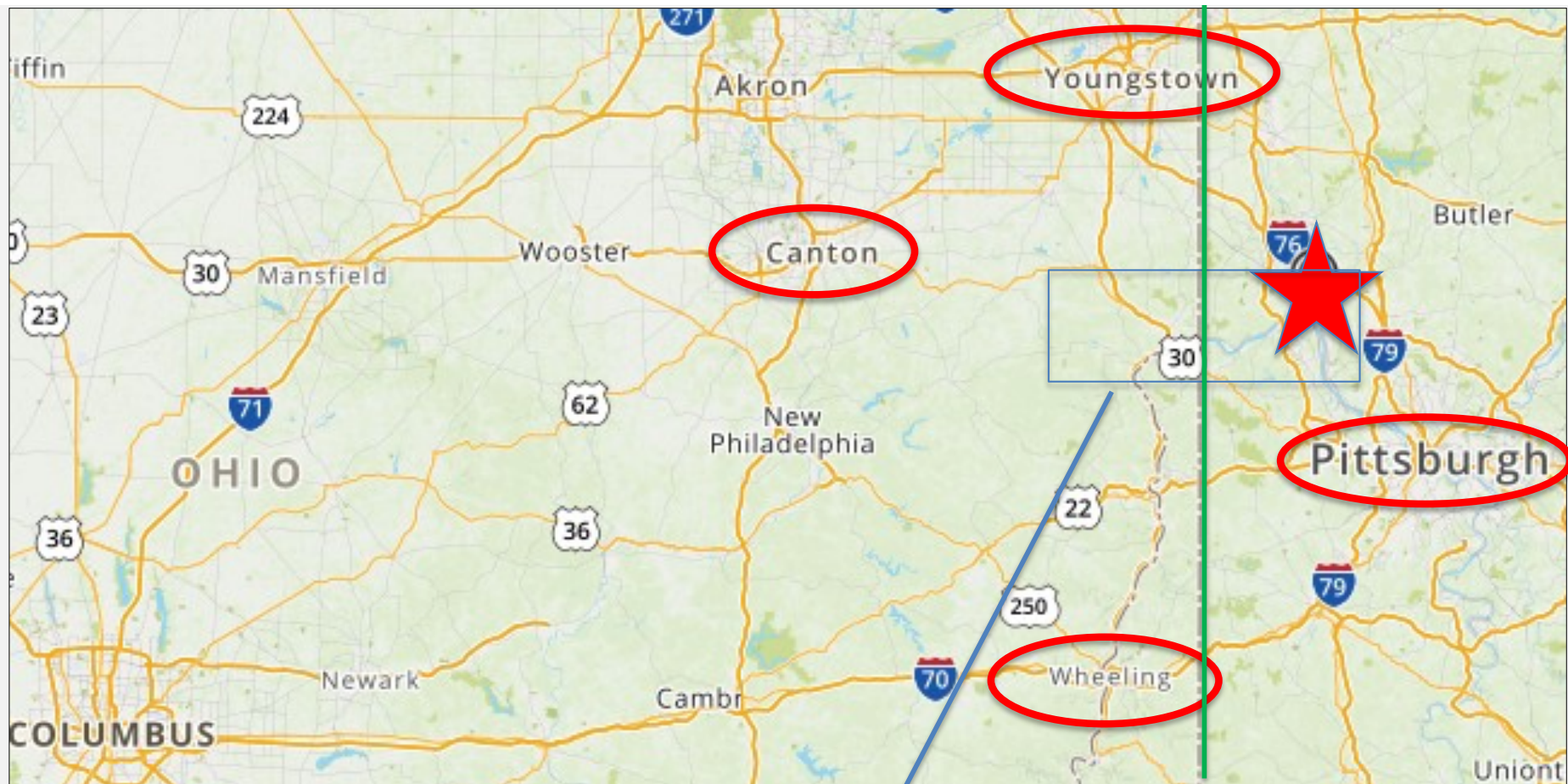
Spotted lanternfly: potential distribution



Recent find near Ohio

- **Egg masses at rail yard**
- **Conway in Beaver County, PA**
 - **23 miles NW of Pittsburgh PA**
 - **15 mi from Ohio state line**
 - **Near East Liverpool in Columbiana County, OH**
- **Action taken: egg scraping**
- **Action planned: spray in spring**



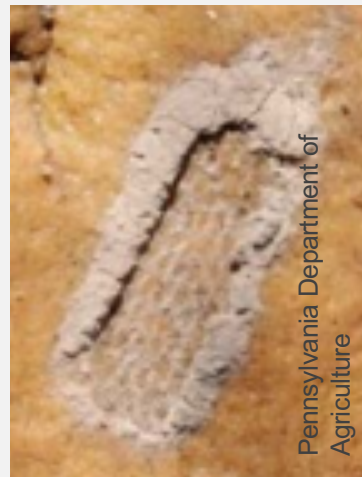


Where to look, Sept - June?

- **Egg masses, on smooth vertical surfaces:**
 - tree trunks, stones, fence posts, vehicles, buildings, furniture



Characteristic 'tire tread' pattern left after eggs scraped off →



← **Brown corky appearance of old egg mass after eggs hatched**

Spotted lanternfly: where to look, April – Dec.?

- In evening or night: on trunk
- In day: at base of plant
- April-May: young nymphs can be hard to find
- June-July: older nymphs easier to find



Control?

- Quarantine
- Egg mass scraping
- Tree banding
- Insecticide

Quarantine for spotted lanternfly

2014

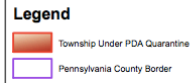
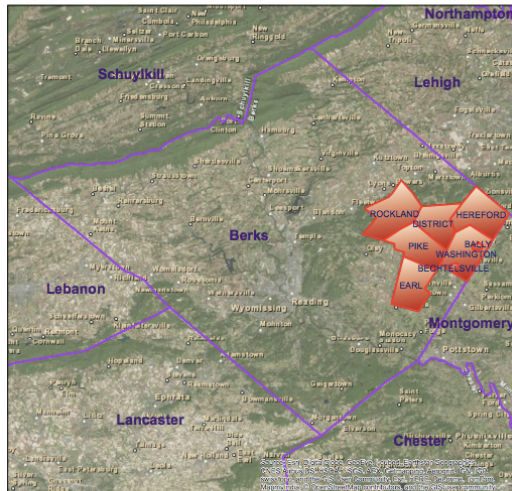
2015

2016

2017

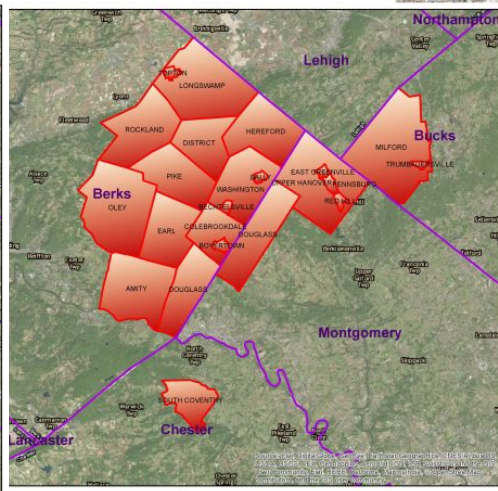
Spotted Lanternfly Quarantine Map

Townships Under Quarantine As of December 13, 2014



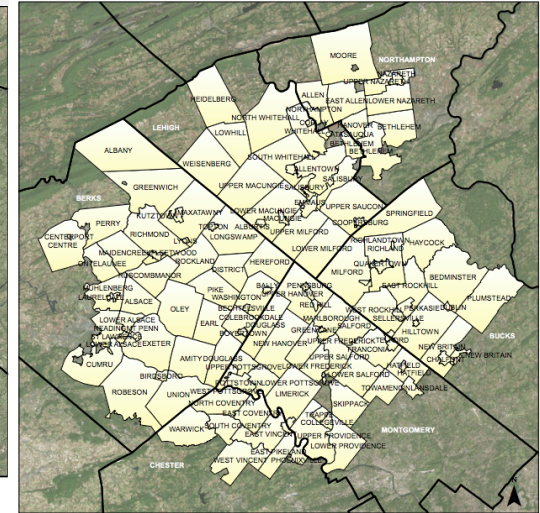
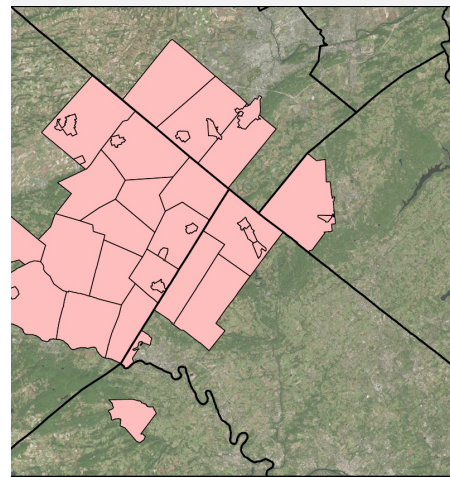
Spotted Lanternfly Quarantine Map

Townships Under Quarantine As of Nov 23, 2015



Spotted Lanternfly Quarantine Map

Municipalities Under Quarantine as of September 22, 2017



Control?

- Quarantine
 - Helps but not adequate!
- Egg mass scraping
 - 603,645 killed as of 12/2015
 - 1,526,770 killed as of 5/2017
- Tree banding
 - Sticky bands catch nymphs
 - 174,390 killed as of 11/2015
 - 932,922 killed as of 8/2017
- Insecticide



PA Dept. of Agriculture



Lawrence Barringer, Pennsylvania
Department of Agriculture,
Bugwood.org

5544787



Lawrence Barringer,
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Insecticides?

- **Excellent for egg control:**
 - chlorpyrifos (Lorsban & generics)
- **Excellent/good, nymph & adult control:**
 - bifenthrin (Brigade)
 - thiamethoxam (Actara)
 - dinotefuran (Venom, Scorpion)
- **Good/fair, nymph & adult control:**
 - carbaryl (Sevin)
 - phosmet (Imidan, high rate)
 - fenpropathrin (Danitol)
 - indoxacarb (Avaunt)
 - oxamyl (Vydate)
 - sulfoxaflor (Closer)
 - zeta-cypermethrin (Mustang Maxx)
 - acetamiprid (Assail)

Insecticides allowed?

Efficacy	Product	Hops	Grape	Blue- berry	Peach	Cherry	Apple
Exc eggs	Lorsban		√		√	√	√
Exc/ good	Brigade	√	√	√			
	Actara		√	√	√	√	√
	Venom, Scorpion		√		√		
Good/ fair	Sevin		√	√	√	√	√
	Imidan		√	√	√	√	√
	Danitol		√	√	√	√	√
	Avaunt		√	√	√	√	√
	Vydate						√
	Closer		√	√	√	√	√
	MustangMaxx		√	√	√	√	√
	Assail		√	√	√	√	√

Spotted lanternfly: Ohio?

- **Any sightings or suspicions?**
- **Collect a specimen, if possible**
- **Take a picture!**
- **Please let us know!**
 - Your OSU county extension educator
 - OSU Dept. of Entomology
 - Ohio Dept. of Agriculture

the end



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Info on fruit & veg. pests
u.osu.edu/pestmanagement

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