





Can You Spot the Spotted Lanternfly (SLF)?

WWW, March 1, 2021

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Ohio State University Extension, Lucas County




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Session Objectives:



Introduction

What Is The Spotted Lanternfly?

Where Is The Spotted Lanternfly?

Why Should I Care About The Spotted Lanternfly?

What Can I Do?




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Another Invasive Species on the Radar



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Native to China, India, and Indochina (Vietnam, Cambodia, Laos, Myanmar, Thailand)

In 2006 it was discovered in Korea – outside its native range

In 2014 it was discovered in North America in Pennsylvania

It is continuing to spread naturally, and through artificial movement

In 2020 it was discovered in Ohio – individual detections and a reproducing population



Photo by Mike Friel

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The SLF Path

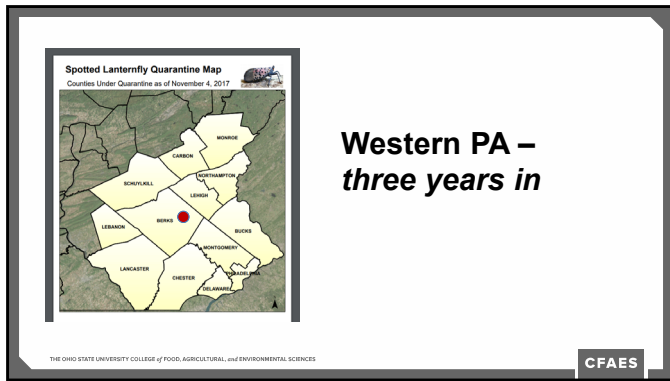


Steps Included: Discovery – Survey – Research – Implementation – Outreach and Awareness – Evaluation – Adjustments – More Discoveries . . . And On and On

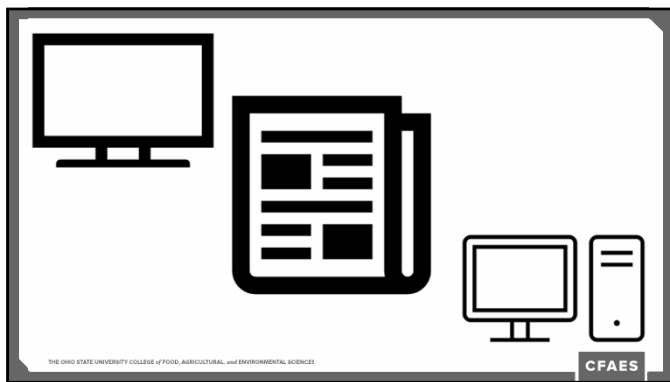
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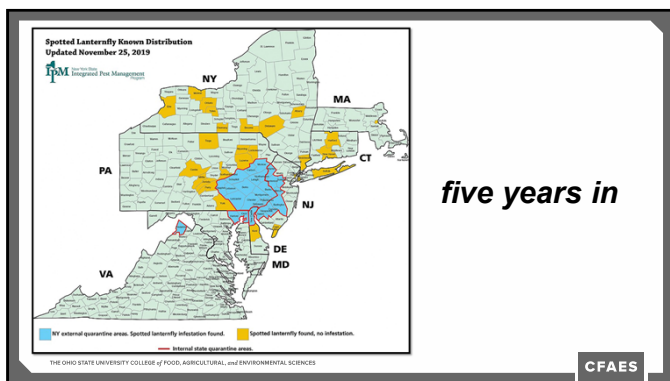
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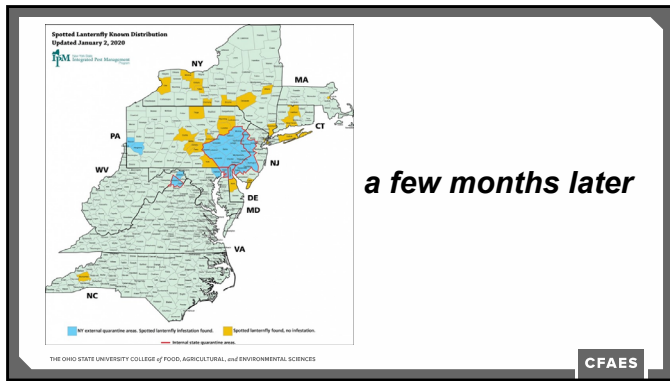
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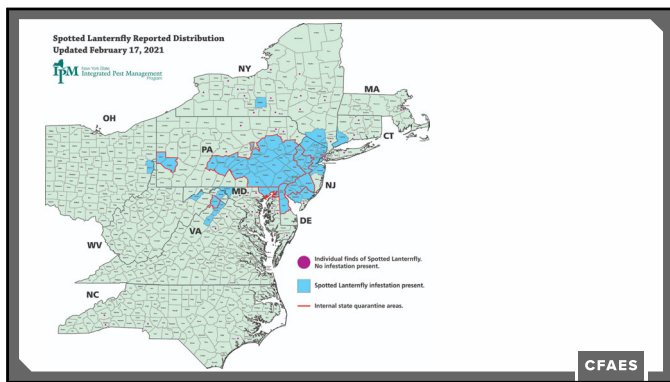
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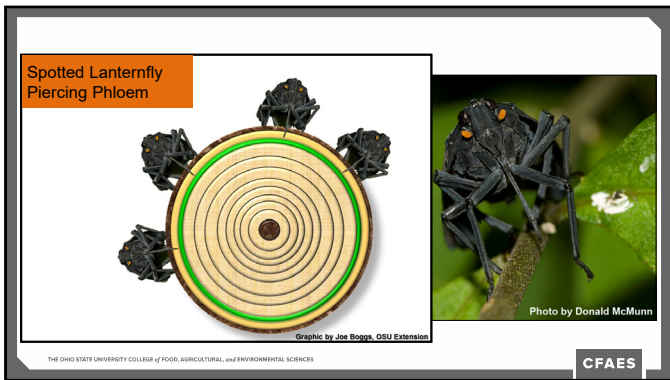
What Can I Do?



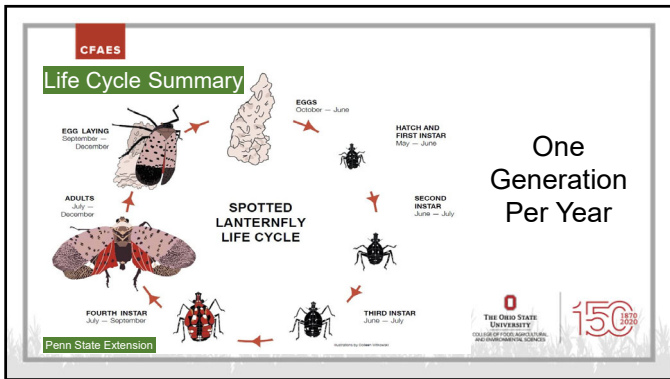

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• Adults:

- Aposomatic coloration: advertises defense chemicals
- "Flash display" when disturbed
- Poor fliers: described as "fluttering flight"
- Appear "moth-like"
- Hold wings "tent-like"

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• Adults: very large!

- 1 inch long
- 1/2 inch wide
- Females are typically larger than the males

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– **Adults:**

- **Appear in late summer**
- **Feed, mate, and lay eggs**





30 - 50 Eggs

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- **Eggs:**
 - **Laid then commonly covered with waxy coating**
 - **Overwintering stage**

Egg Mass:
1 – 1 1/2" long
1/2 – 3/4" wide






Image by Greg Hoover

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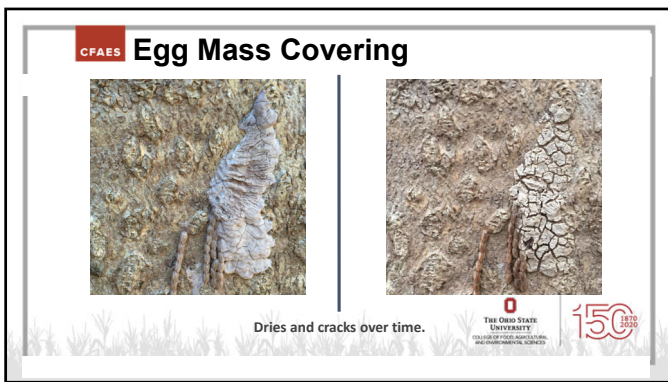


Covered and Uncovered Egg Masses

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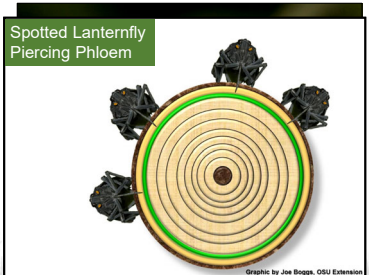


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Spotted Lanternfly (SLF) Impact

- Adults and nymphs:
 - Piercing / sucking mouthparts
- Stem feeders:
 - Mouthparts pierce the bark and are inserted into phloem vessels




Graphics by Joe Ruggs, ODJ Extension

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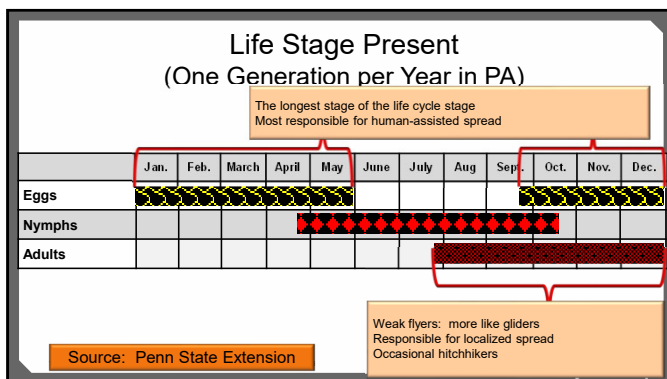
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Spotted Lanternfly (SLF) Impact



Infested trees / shrubs "bleed" sap




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• Preferred Hosts:

- Tree of Heaven (*Ailanthus altissima*)
- Grapes (*Vitis* spp.)

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Spotted Lanternfly Host List: Virginia

Ootheca (eggs) found <ul style="list-style-type: none"> • Tree of heaven • Wild cherry • Black locust • Boxelder • Silver Maple • Red Maple • Elm • Virginia Creeper • Honeylocust • Crabapple • White pine • Concrete (Jersey wall) • Metal 55 gal Drum 	Feeding; ootheca not found <ul style="list-style-type: none"> • Wild grape • Table grape • Hackberry • Multiflora rose • Poison ivy • Smooth sumac • English Ivy • Bush Honey Suckle • Japanese Honeysuckle • Black Walnut • White mulberry
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Source: Eric Day, Virginia Tech Entomology/Virginia Cooperative Extension

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Host	Nymphs			Adults		
	May	June	July	August	September	October
Rose (cultivated, multiflora, etc.)						
Grape (wild and cultivated)						
Tree-of-heaven						
Black walnut, butternut						
River birch						
Willow						
Sumac						
Silver/red maple						

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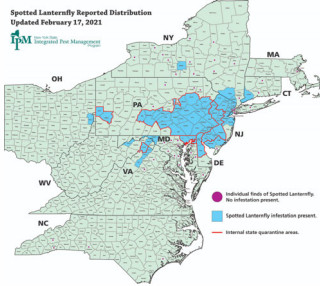
Spotted Lanternfly, Timeline

2014: Initial infestation found in Berks County, Pennsylvania, in 2014. *Thought to have arrived on a stone shipment in 2012.*

Expansion of infestation in PA and surrounding states

Detections found in Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, North Carolina, Virginia, West Virginia


2020: Found in Ohio

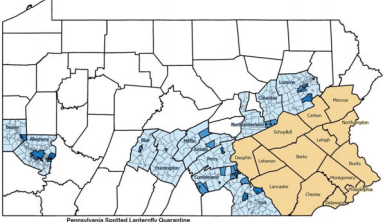


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Pennsylvania Spotted Lanternfly Quarantine

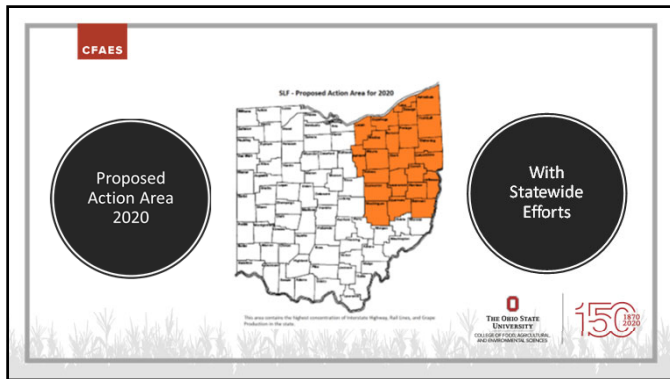
Existing Quarantine

Quarantine added 10/2020

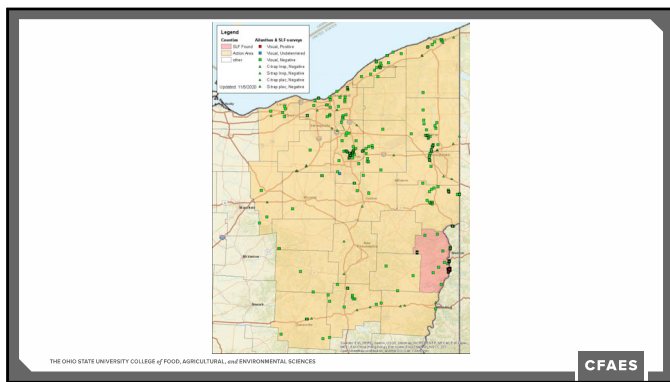
Infested areas in Counties added to Quarantine in 2020



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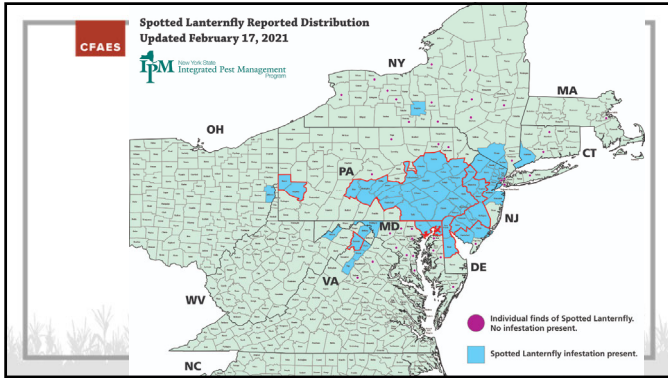


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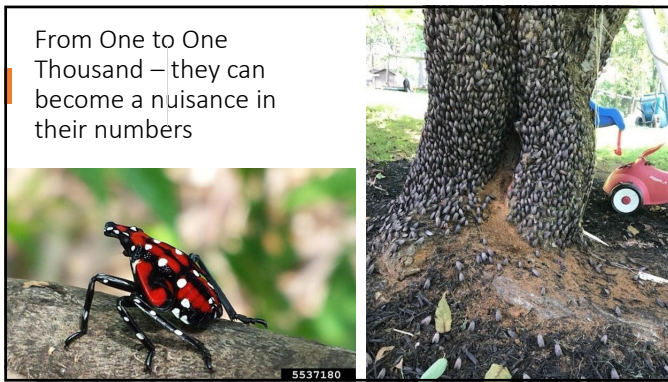
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- What Can I Do?

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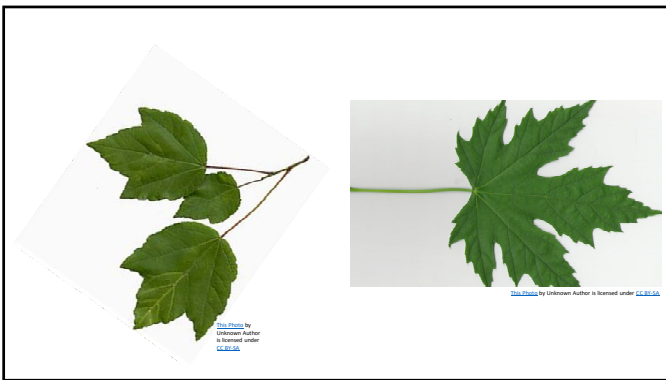
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The Insect is Not Shown
to be Toxic to Pets

Speaking of Pets, Dogs
are Being Trained to
Find SLF



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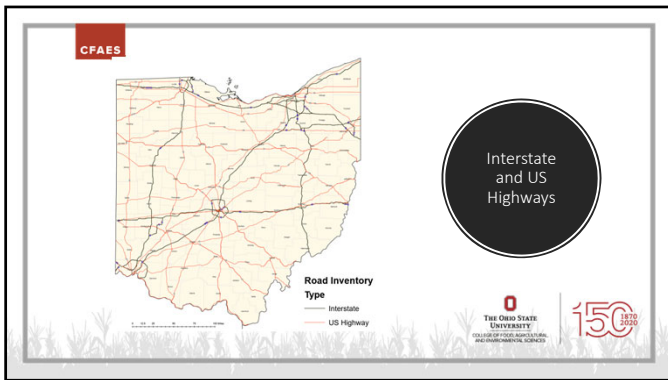
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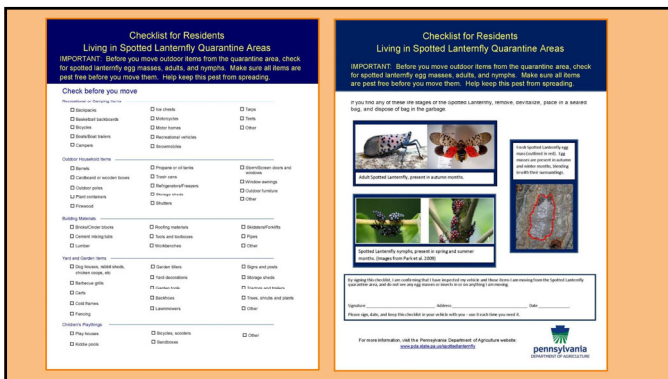
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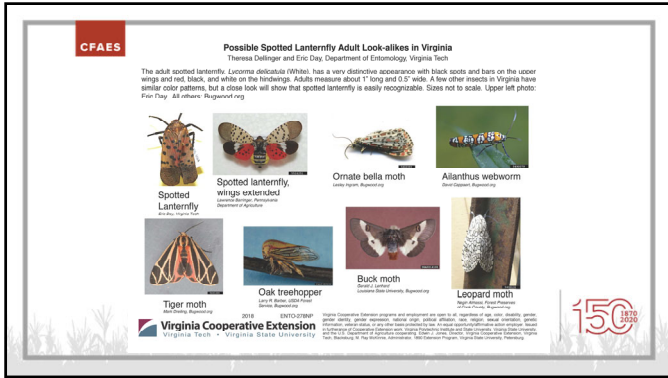
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Reporting

- Great Lakes Early Detection Network App
- OSU Extension
- Ohio Department of Agriculture (ODA)
 - GLEDN App Reports
 - ODA-Online Reporting
 - ODA-Telephone
 - ODA-Email

Exact location, photo / sample, contact info

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Monitor Tree of Heaven

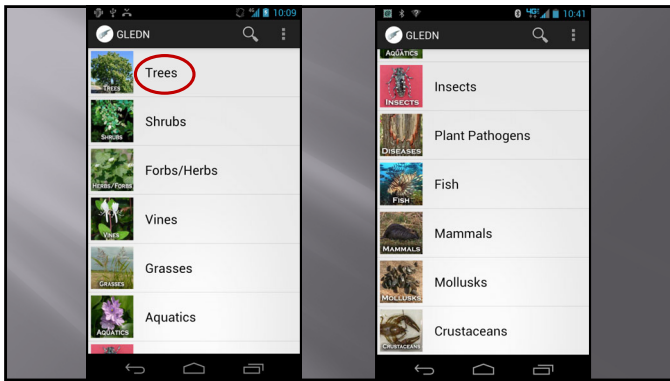


Joe Boggs, OSU Extension©

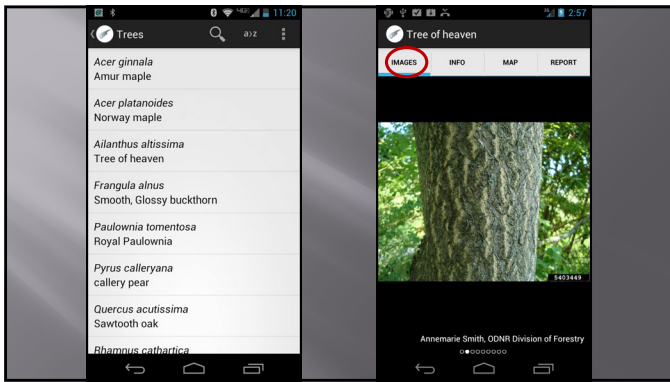
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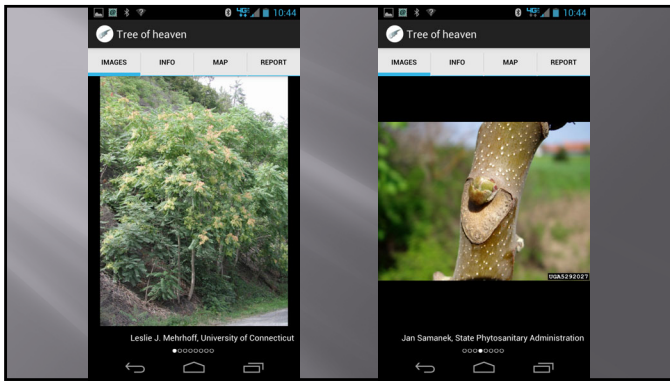
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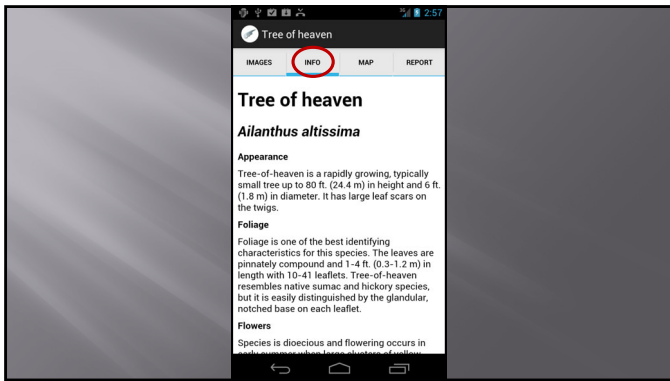
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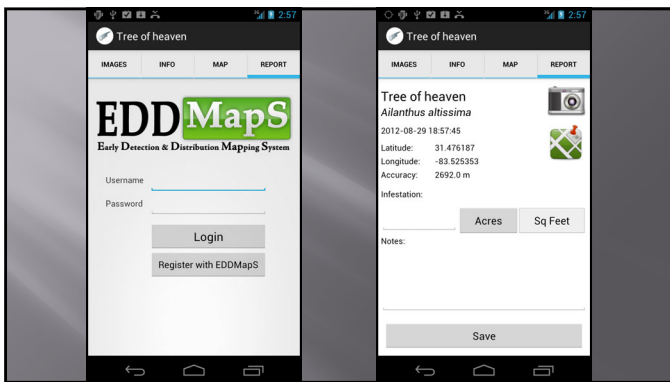
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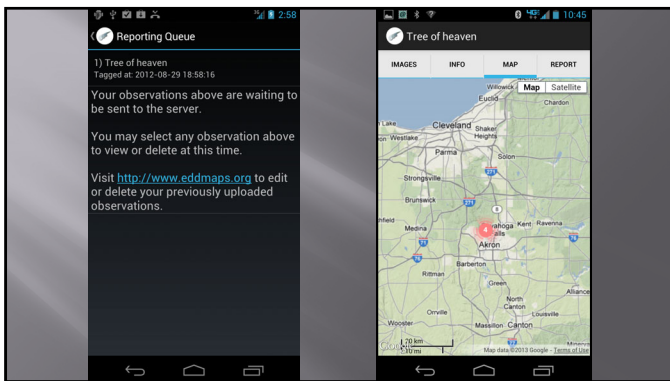
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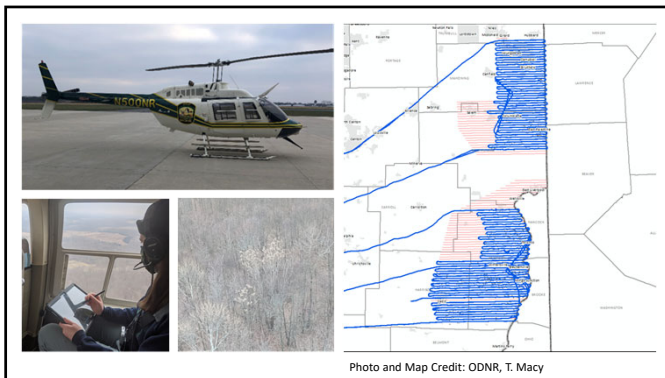


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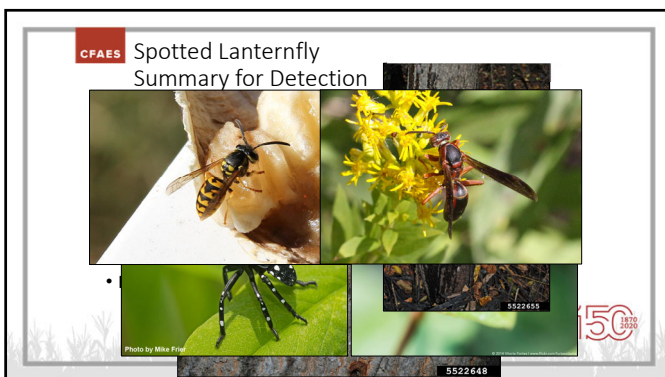
Ways in which we use the app and need your help . . .

- Pest whose population cycles up and down
- Pest that is establishing along a leading edge
- Monitoring pests for new “hot spots” – one that is not established in many locations

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Scraping
and
destroying
egg masses



In – Ohio Report First



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What is Happening in Ohio



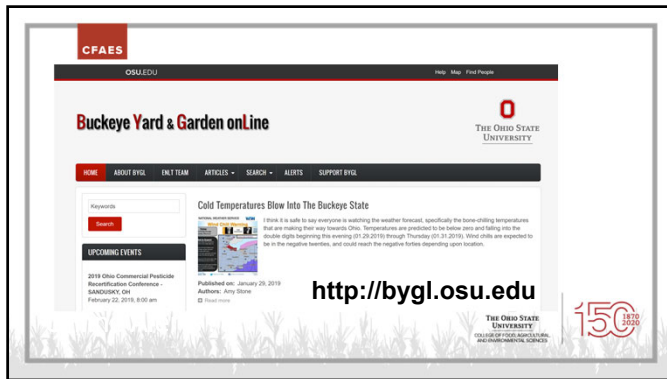


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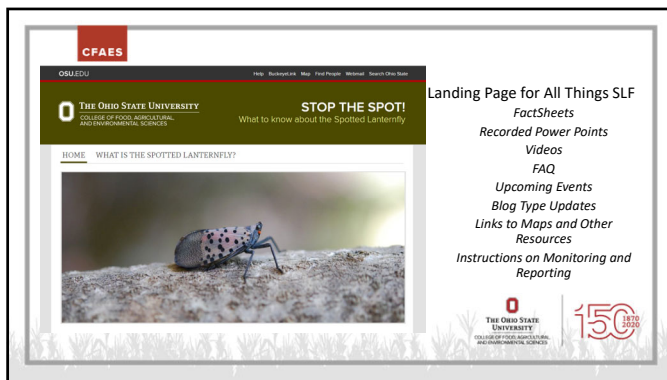


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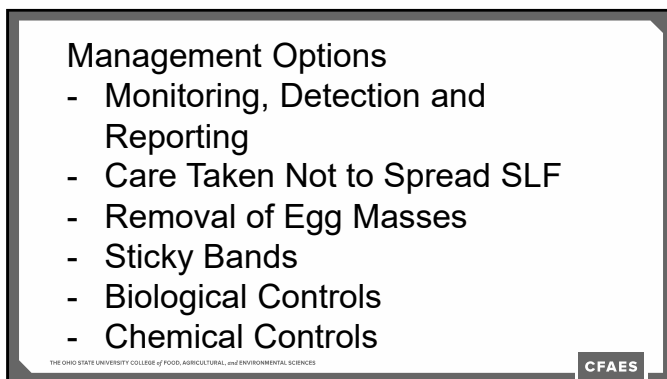
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Table 3. Contact insecticides to control nymph and adult SLF

N = nontoxic; S = slightly toxic; M = moderately toxic; H = highly toxic; — = data not available.
 *Some products allowed for organic production.

*There are many products containing essential oils.

^aThere are many products containing essential oils which vary widely for efficacy against SM. The two products tested against SM were "SM Killer 2" and "Purely Green."

[illegible]

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Table 4. Systemic insecticides to provide longer periods of control on adult SLF

N = nontoxic; S = slightly toxic; M = moderately toxic; H = highly toxic; — = data not available.
This table is based on the experiments we have done to date and should not be considered as

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Active Ingredient	Toxicity to Birds	Toxicity to Fish	Toxicity to Bees	Application Method	Recommended Timing	Activity Against SLF	Residual Activity
Dinotefuran	—	—	H	Soil drench	July to September	Excellent	Excellent
Dinotefuran	—	—	H	Trunk spray	July to September	Excellent	Excellent
Dinotefuran	—	—	H	Trunk injection	July to September	Excellent	Excellent
Imidacloprid	M	M	H	Soil drench	After flower to July	Variable	Variable
Imidacloprid	M	M	H	Trunk injection	July to September	Good	Excellent

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