

SPOTTED LANTERNFLY: NEW PEST IN NORTH AMERICA

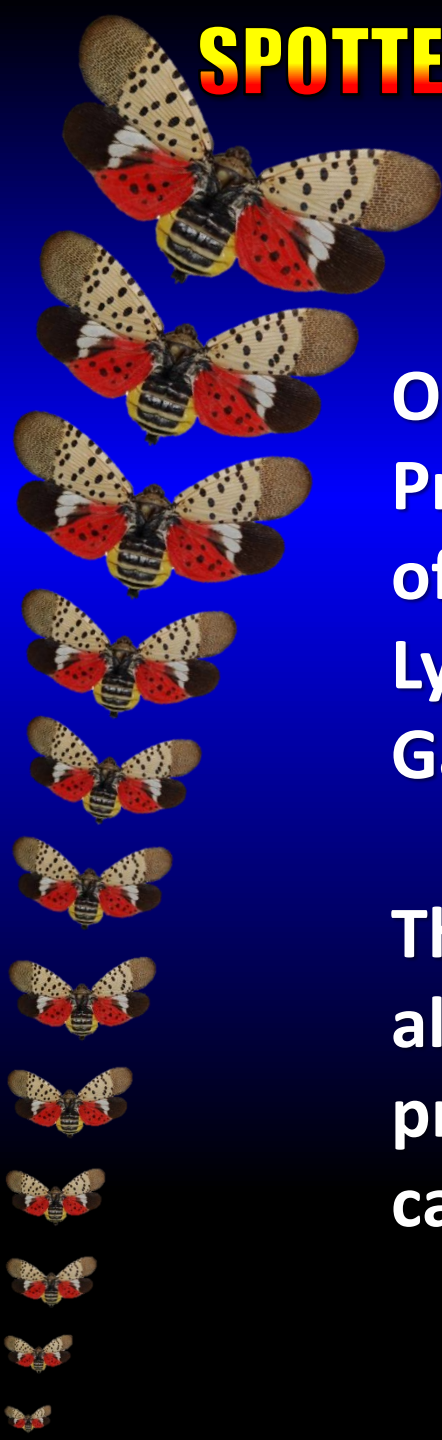
Lycorma delicatula (WHITE)



Sven-Erik Spichiger, Entomology Program Manager

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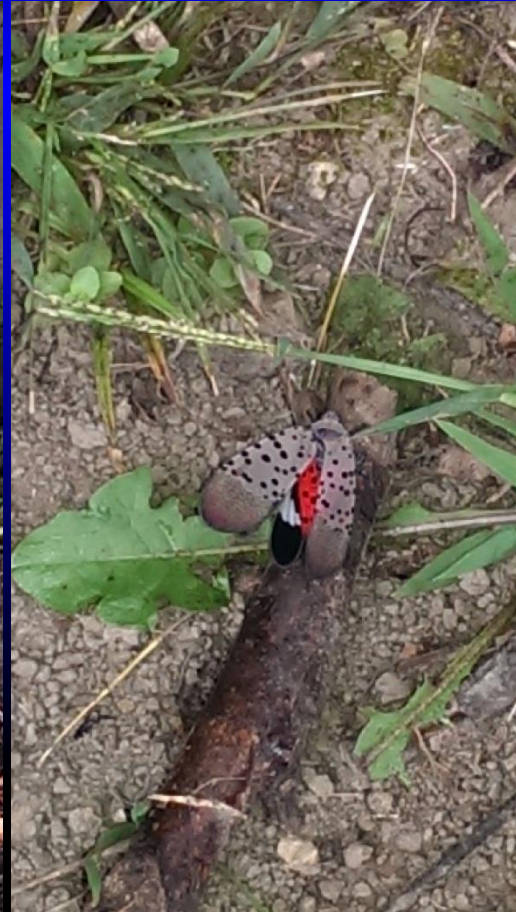
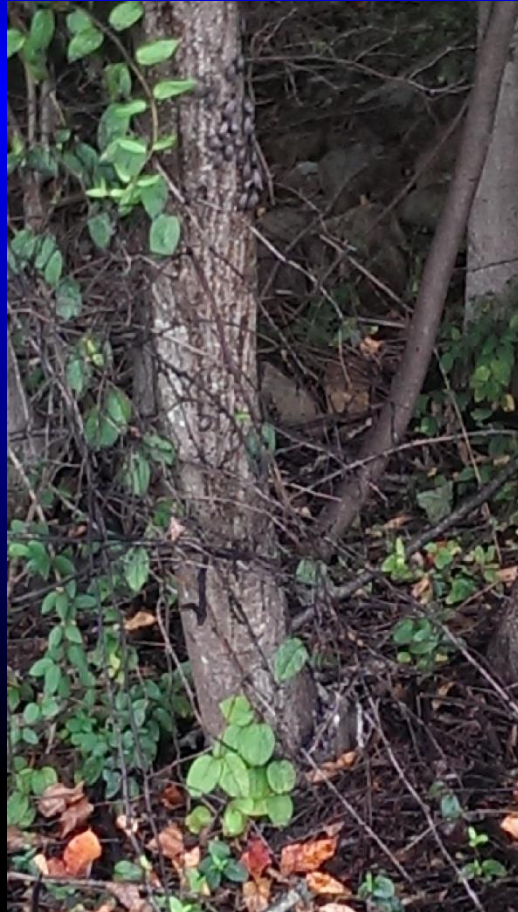
On September 22, 2014 the Entomology Program of the Pennsylvania Department of Agriculture received a report from Dan Lynch and Dave Henry of the Pennsylvania Game Commission

The report detailed damage to *Ailanthus altissima* (Tree of Heaven) on private property in Eastern Berks County, PA being caused by an unknown insect

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Original photographs from report:



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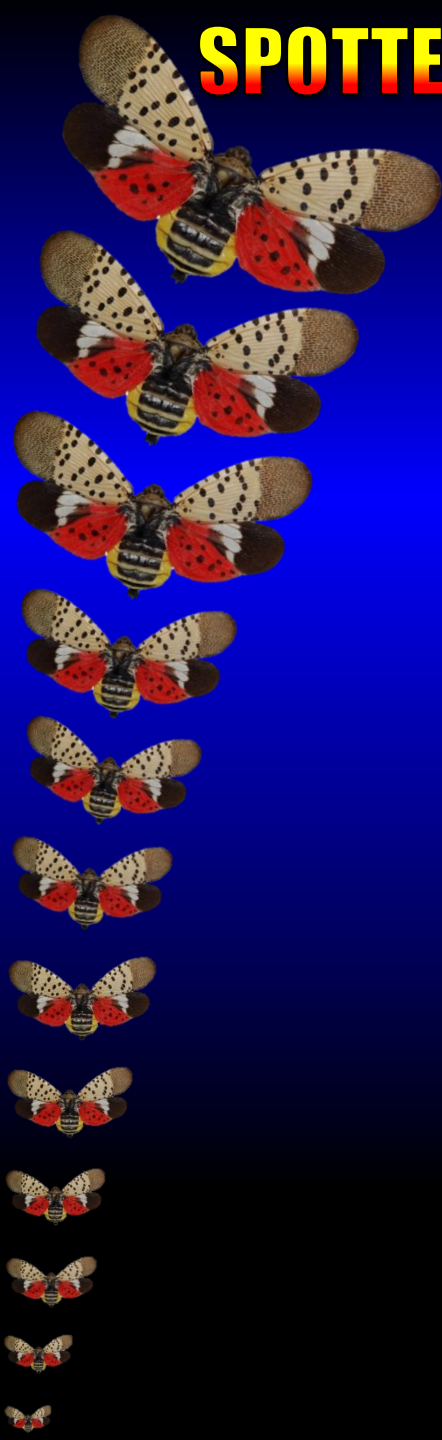
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Entomology employees met Mr. Lynch that day and were able to collect several hundred specimens which were identified by Leo Donovall of PDA as:

FULGORIDAE: *Lycorma delicatula* (White)

A brief interview revealed that a company that imports stone from Asia was located near the property

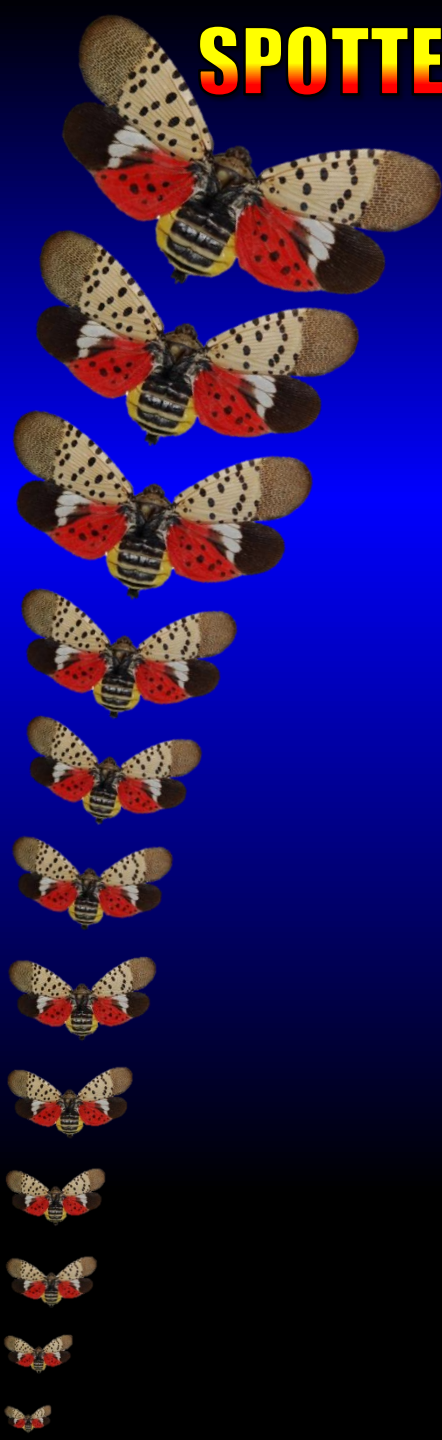
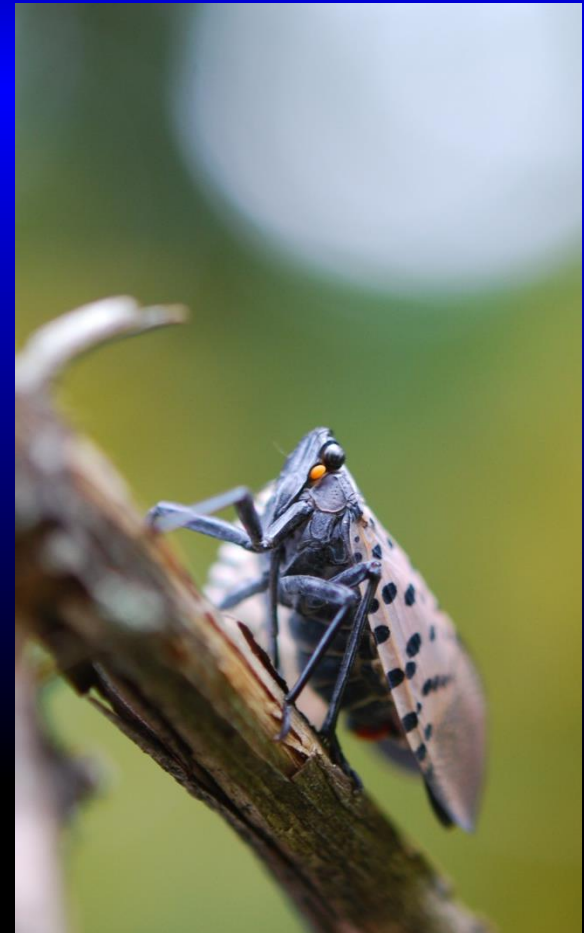
An inspection of the stone dealer resulted in additional specimens



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Photographs from original detection sites:



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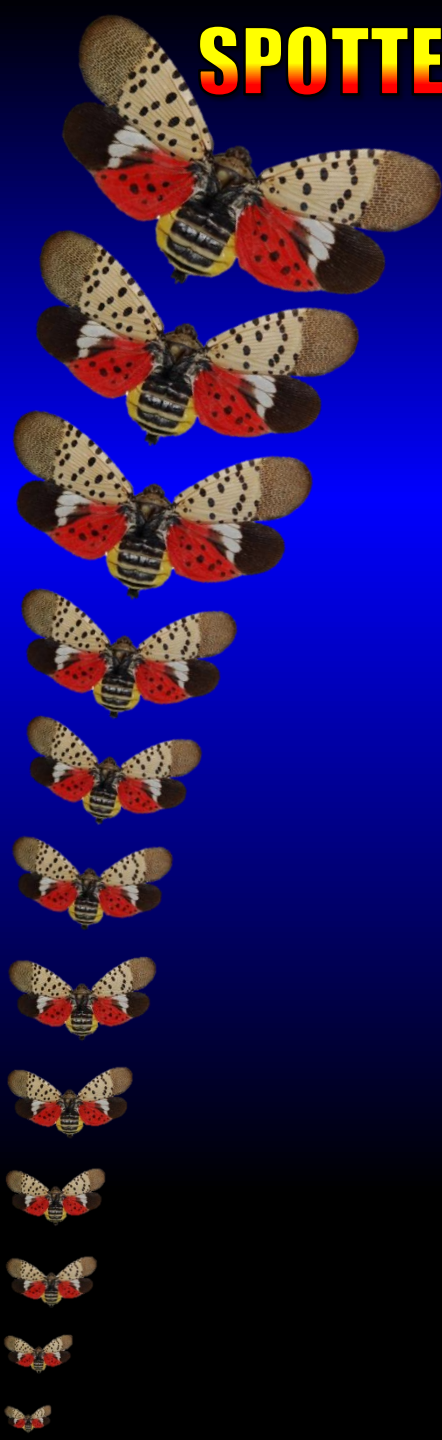
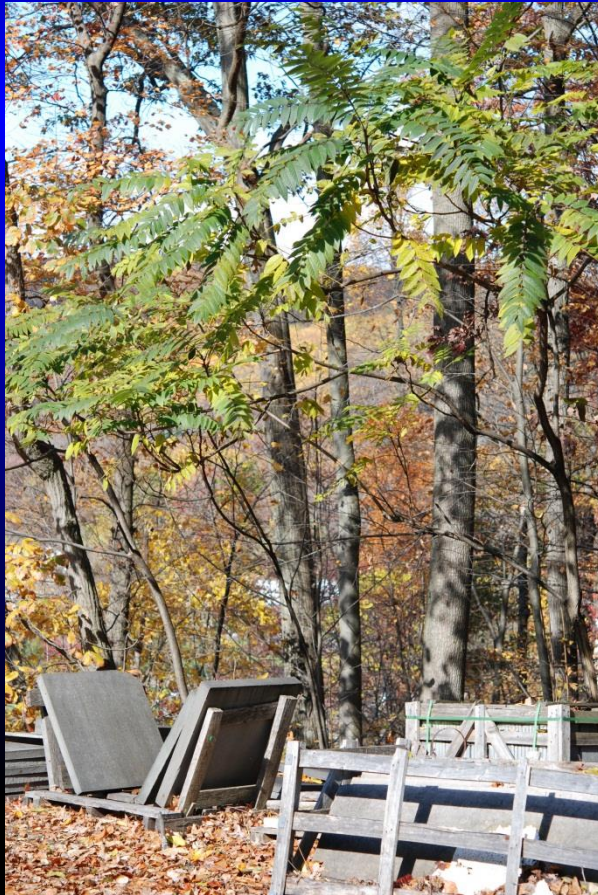
Photographs from original detection sites:



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Photographs from original detection sites:



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Lycorma delicatula (WHITE)

The Pest:

The spotted lanternfly is native to Asia and is found in China, India, Vietnam

It was introduced to South Korea and Japan

In South Korea, it is considered an invasive pest and impacts grapes and peaches

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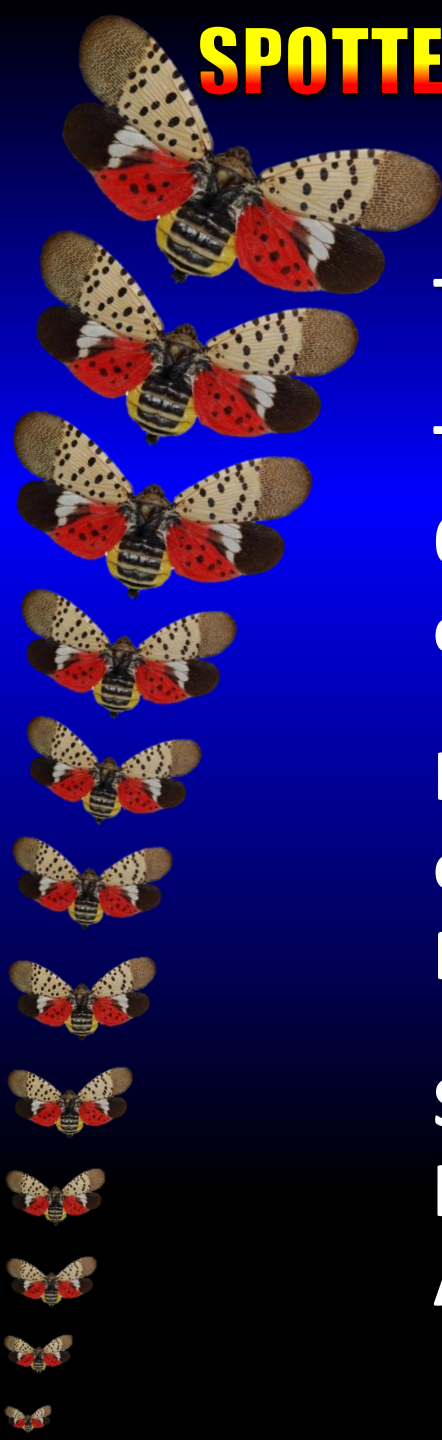
Lycorma delicatula (WHITE)

The Pest:

The spotted lanternfly is recorded on over 65 different plants including hardwoods, ornamental trees, fruit trees, vines

In Pennsylvania feeding has been recorded on: Ailanthus, Salix, Vitis, Acer, Phellodendron, Styxax, Populus, and Prunus

Spotted lanternfly narrows its host range before mating to the preferred host-
Ailanthus altissima



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The Pest:

Overwinters in a wax covered egg mass



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The Pest:

Egg masses have on average between 30-50 eggs and can be laid on trees or any smooth surface



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The Pest:

Immature stages hatch out in May???

There are four instars, with the early instars appearing black with white spots and turning red as later instar nymphs



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The Pest:

Immature stages migrate up and down trees/plants each day and are active hoppers



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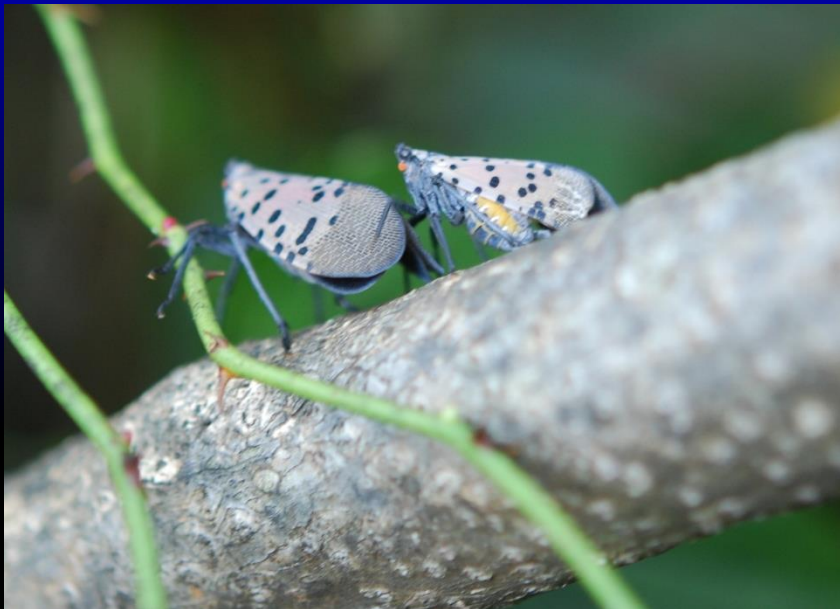
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The Pest:

Adults begin to appear in late summer,
feed, mate, and lay eggs

In South Korea females lay eggs twice
before dying

Males and females mate multiple times



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Rapid Response:

New Pest Advisory Group was formed

Technical Working Group was formed

Delimiting survey was implemented

Quarantine was put in place

Ports were notified

Stone company employees were trained

Trace forwards were investigated

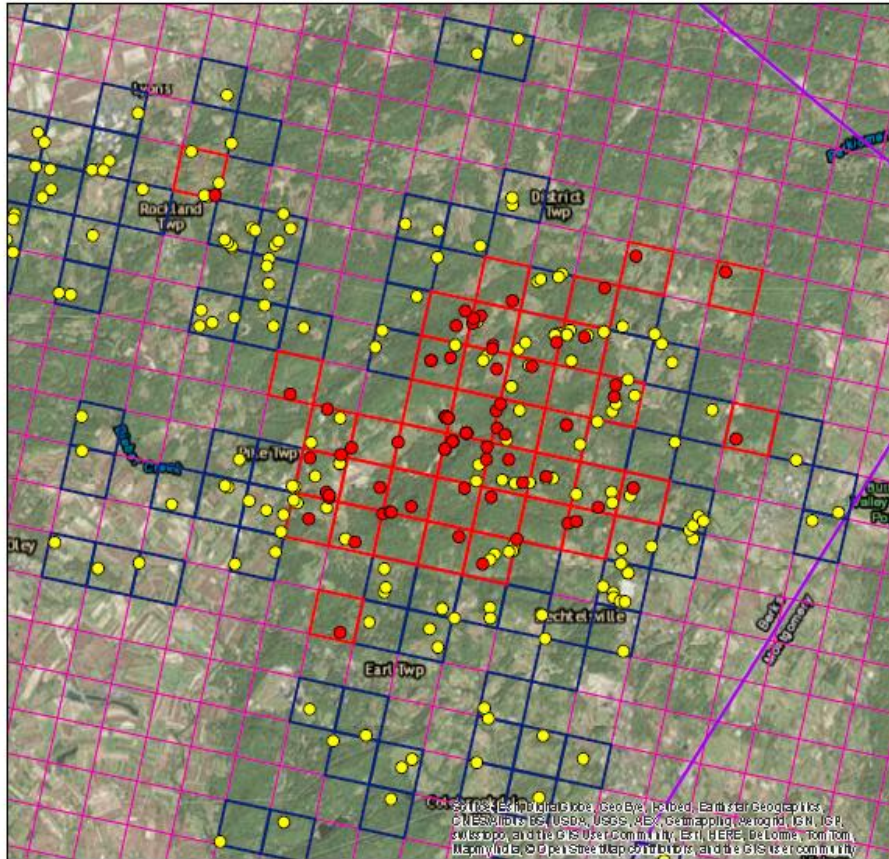
Plans for eradication are being implemented

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Lycorma Delimitation Survey

Results Through 1 December 2014



Rapid Response: Survey

40 1km x 1km grids
found with positive
locations

Heaviest infestation at
the original detection
site grids

Legend

- Positive
- Negative
- Surveyed - Positive
- Surveyed - Not Found

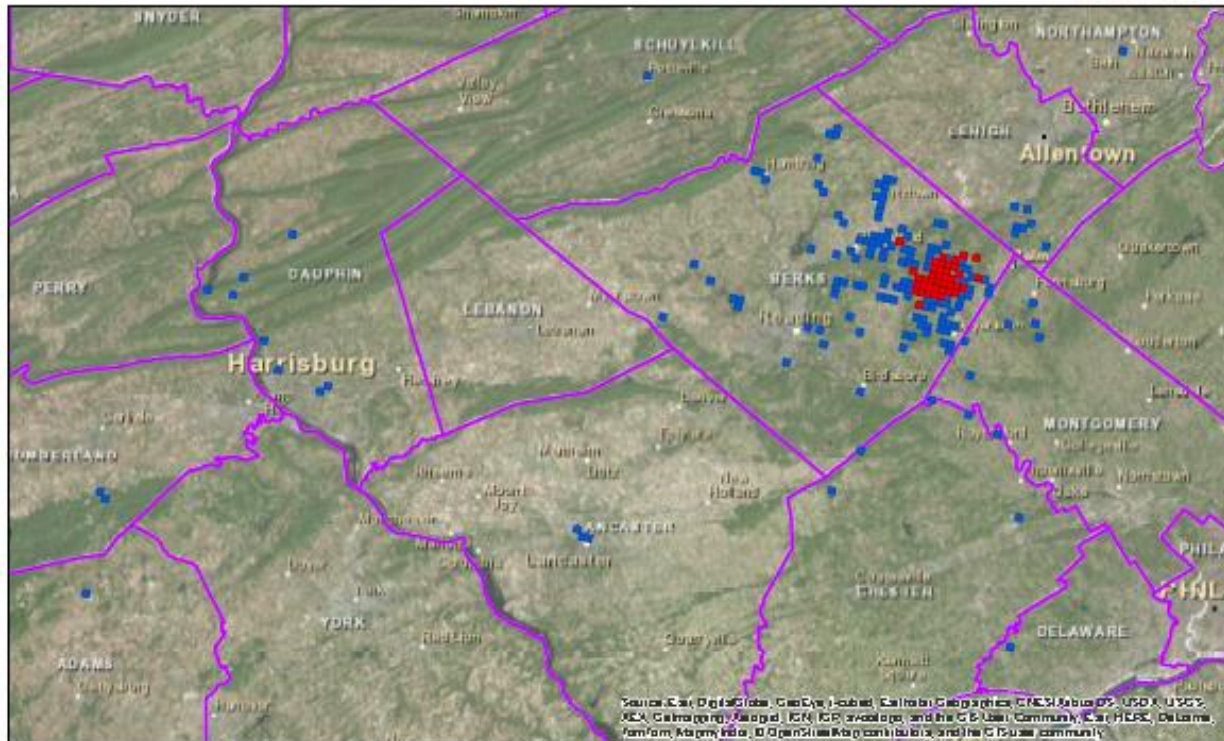


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Lycorma Detection Survey

Results Through 1 December 2014



**Rapid Response:
Survey**

**USDA, PDA, DCNR
personnel trained
in detection**

**No additional
sites detected**

Survey Grids

- Surveyed - Positive
- Surveyed - Not Found



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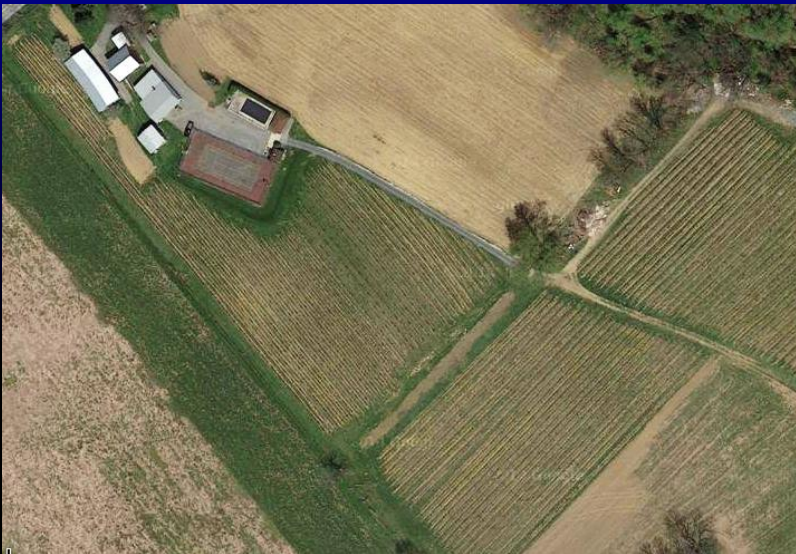
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Rapid Response: Survey

Have inspected vineyards and orchards in and near the quarantined area

No producers are heavily infested yet

Most grape producers are extremely concerned and wish to assist in any way



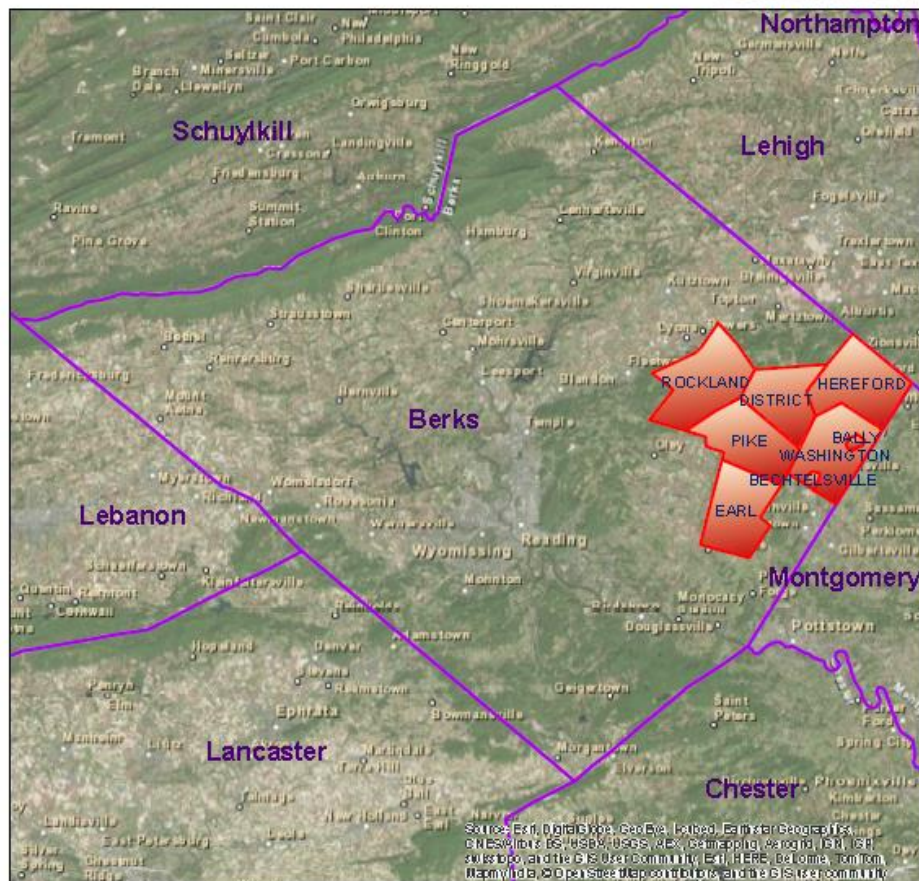


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Spotted Lanternfly Quarantine Map

Townships Under Quarantine As of December 13, 2014



Legend

-  Township Under PDA Quarantine
-  Pennsylvania County Border



Rapid Response: Quarantine

Covers six townships in Eastern Berks County

Restricts the movement of the pest and products that might have egg masses

Similar to gypsy moth quarantine



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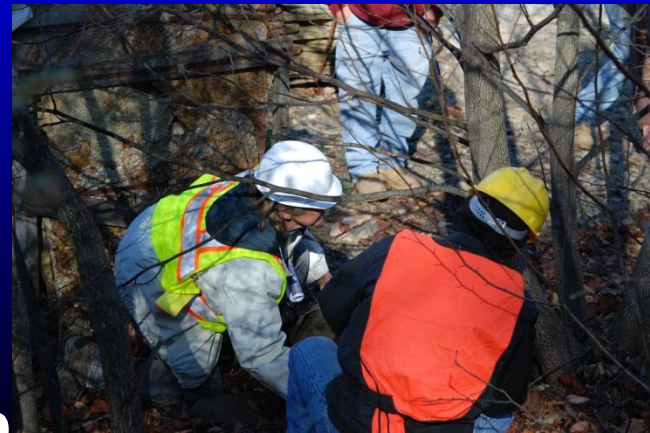
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Rapid Response: Education

Produced pest alerts,
inspection tips, scraper cards
Have held multiple town hall
meetings and public
presentations

Have provided reference
specimens to many States
and Museums

Have given on-site training to
other agencies and private
industry



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Where We Stand:

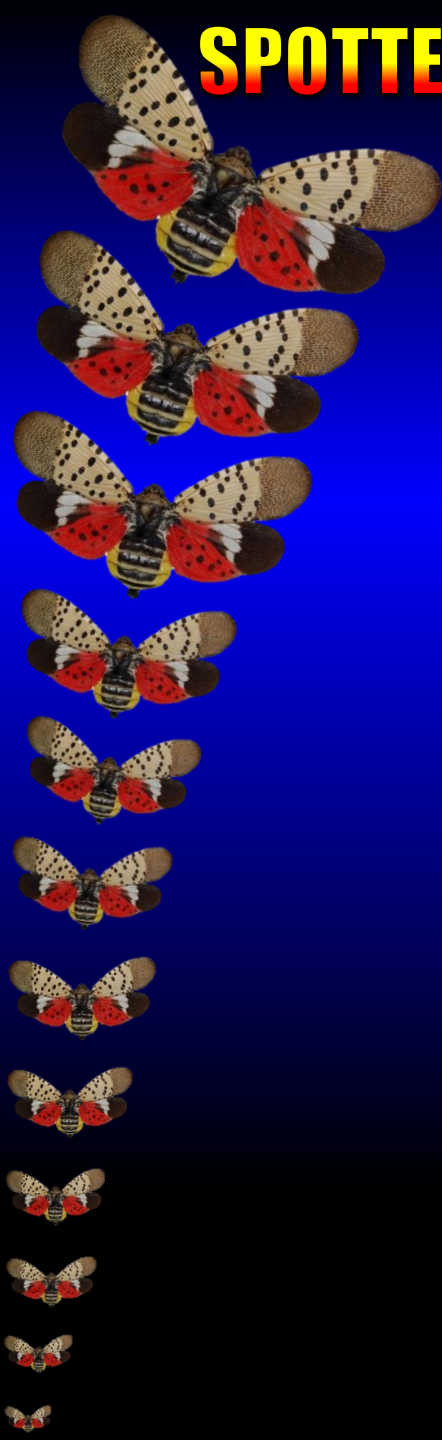
This is an early, relatively contained detection

The community and industry have been extremely cooperative

The Federal response has been great

Plans are in place to attempt eradication

The approach is multifaceted including quarantine, chemical control, mechanical control, education, community involvement



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Where We Stand: Community Involvement

Plans are under way to enlist citizens for tree banding and egg mass scraping

"Banding Together to Stop Spotted Lanternfly"



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Where We Stand: Community Involvement

Citizens with affected properties and volunteer groups will place bands and provide counts to an on-line database



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Where We Stand: Community Involvement

This is currently being tested at the PA Farm Show



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Where We Stand: Testing if tree chipping kills egg masses

The last week of January, the OTIS lab will set up a study

Tree cutting and a heated barrel storage area has been donated by the stone company

A local tree company Faust Tree Service is donating the chipper crew



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Where We Stand: Temperature and emergence data

We are fortunate to have Rick Turcotte of the USFS install six temperature recording devices around the core infested area on January 8th.



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What is needed:

Research:

North American Host Range

Cold tolerance

Pesticide efficacy

Commercial crop control measures

Seasonal occurrence

Native parasitoid potential

Environmental impact

Development of monitoring tools

Egg mass mitigation methods

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THANK YOU

