SPOTTED LANTERNFLY: NEW PEST IN NORTH AMERICA

*Lycorma delicatula* (WHITE)

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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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_Lycorma delicatula_ (WHITE)

Original photographs from report:
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.
Photographs from original detection sites:
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*Lycorma delicatula* (WHITE)

Photographs from original detection sites:
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
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, Styrax, Populus, and Prunus.

Spotted lanternfly narrows its host range before mating to the preferred host- Ailanthus altissima.
The Pest:
Overwinters in a wax covered egg mass
The Pest:
Egg masses have on average between 30-50 eggs and can be laid on trees or any smooth surface
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
The Pest:
Immature stages migrate up and down trees/plants each day and are active hoppers
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
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
Rapid Response: Survey

40 1km x 1km grids found with positive locations

Heaviest infestation at the original detection site grids
Rapid Response:
Survey
USDA, PDA, DCNR personnel trained in detection
No additional sites detected
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
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
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
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
Where We Stand: Community Involvement

Plans are under way to enlist citizens for tree banding and egg mass scraping
Where We Stand: Community Involvement

Citizens with affected properties and volunteer groups will place bands and provide counts to an on-line database.
Where We Stand: Community Involvement

This is currently being tested at the PA Farm Show
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.
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.
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