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The Spotted Lanternfly in Gettysburg and Public Mobilization Through an Awareness Campaign

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Abstract

The invasive Spotted Lanternfly poses a significant risk to the environment and fruit industry of Adams County PA. This project involves the creation of an informational poster campaign to inform the geographically diverse daily population of Gettysburg about the spotted lanternfly and mobilize them to take action against it.

Keywords

Lanternfly, Lanternflies, public awareness, poster, invasive

Disciplines

Environmental Policy | Environmental Studies

Comments

This poster was created based on work completed for FYS 108-1: Policy Change through Agency and Activism, and presented as a part of the ninth annual CAFE Symposium on February 7, 2024.

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The Spotted Lanternfly in Gettysburg and Public Mobilization Through an Awareness Campaign

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Abstract

- The invasive **Spotted Lanternfly** poses a significant risk to the **environment and fruit industry of Adams County PA**.
- This project involves the creation of an **informational poster campaign** to inform the geographically-diverse daily population of Gettysburg about the insect and mobilize them to take action against it.

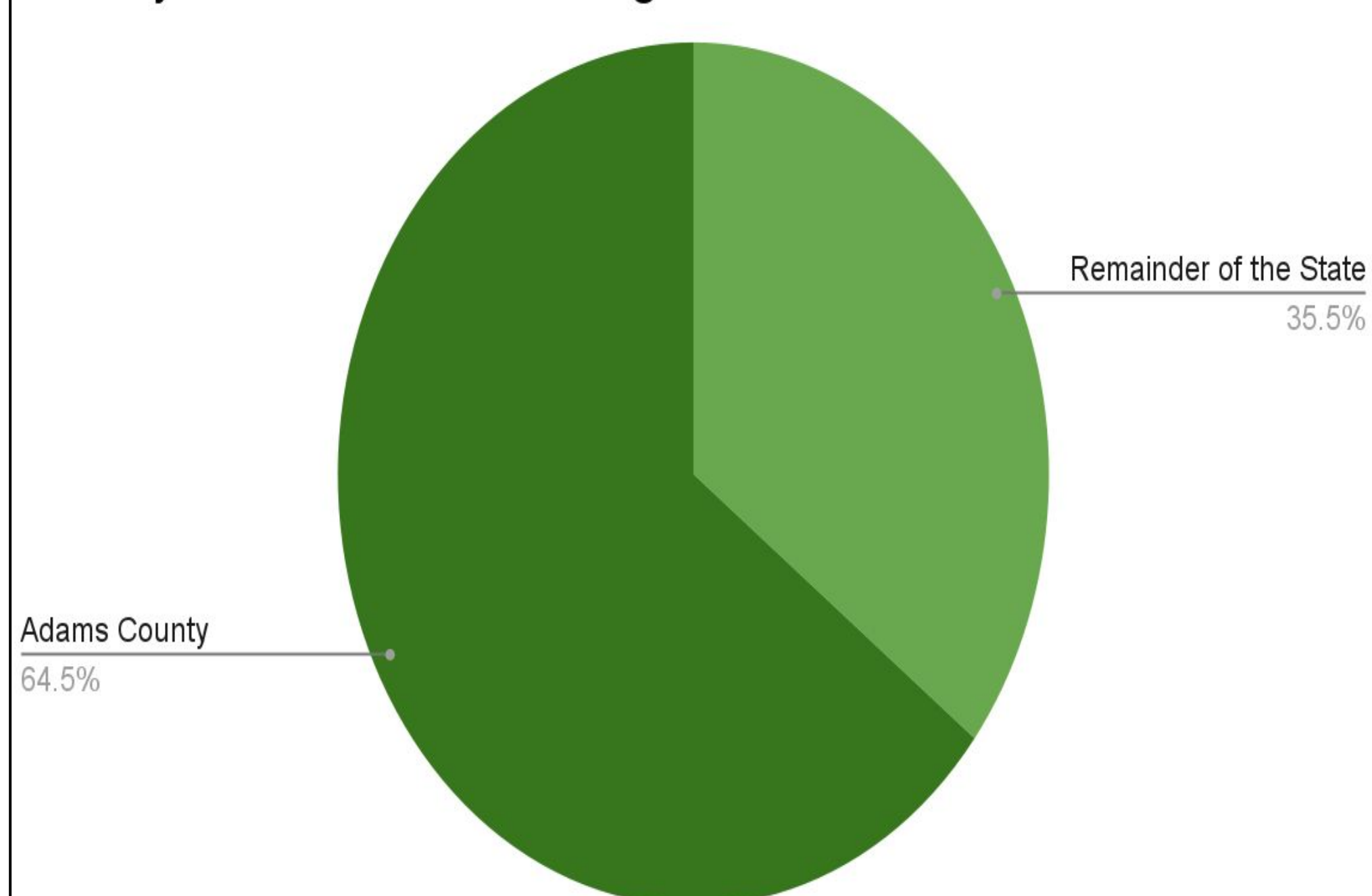
The Spotted Lanternfly

- The spotted lanternfly (*Lycorma delicatula*) is an **invasive insect** that has proliferated across the Mid-Atlantic United States since it was first discovered in the U.S. in Berks County, Pennsylvania in 2014 (*Spotted Lanternfly*, n.d.-a).
- The insect is originally native to China, and the Pennsylvania environment have not adapted to its presence. The introduction of an invasive species from an ecosystem of veritable difference presents a **challenge to existing species of the area** (Baker et al., 2019).
- The insect feeds on the sap from a wide variety of plants but has a clear preference for plants that are important to the Pennsylvania economy including grapevines, fruit trees, maples, black walnut, birch, and willow. It feeds on sap at a high rate, causing **damage that stresses plants**, making them more susceptible to **disease and death**.
- In 2019, the Pennsylvania Department of Agriculture estimated that the lanternfly would be responsible for the **loss of over \$324 million annually and 2,800 jobs** (*Spotted Lanternfly*, n.d.-a).

Adams County Considerations

- The **Adams County fruit industry** comprises 20,000 of the state's total 31,000 fruit-producing acres and accounts for about **70% of its total apple production** (Hendricks, 2017).
- Many people across the state depend on this industry as a source of food as about half of fruit produces is taken to other parts of the state for processing (Hendricks, 2017).
- In addition, the fruit economy of Adams County contributes over **\$16.4 million in local taxes**, funding critical public programs upon which many people rely (Hendricks, 2017).
- The lack of cohesive agricultural organization in the county has made it difficult to assess the exact impact that the insect has had on these figures, however, it is undoubtedly a matter of concern, as the PA Department of Agriculture has listed Adams County as a **quarantine zone**, ensuring that specific measures are taken to combat the insect and limit its spread to other areas (*Spotted Lanternfly Quarantine and Permitting*, n.d.).

Pennsylvania's Fruit-Producing Acres



Adams County comprises a significant majority of Pennsylvania's fruit industry, upon which many people across the Mid-Atlantic rely for fresh produce (Hendricks, 2017). The spotted lanternfly poses an exceptional risk to the fruit-growing abilities of the county.

STOP THIS INVADER!

The Spotted Lanternfly is an **INVASIVE** species that poses a risk to the environment and agriculture of Adams County

Do Your Part:

SPOT It!
SNAP It!
STOMP It!

- Be sure to **identify the insect correctly**
- Report a picture of it using the QR Code or call **1-888-4BADFLY**
- Carefully squash it

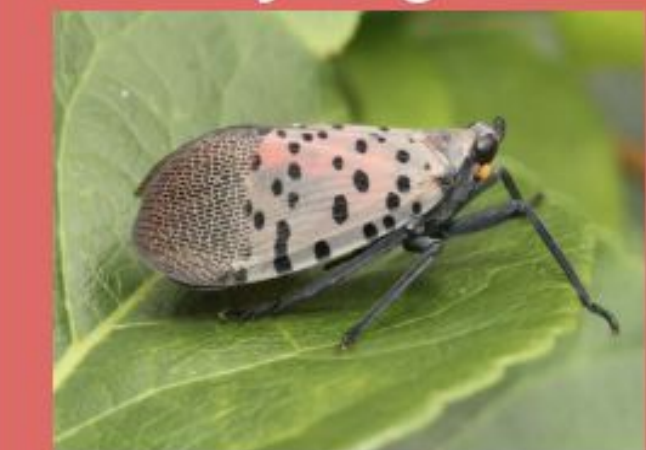
To assist with the effort in Gettysburg, email Feybr01@gettysburg.edu



1st-3rd Instars: ~1/4" April-July



4th Instar: ~1/2" July-August



Adult Insect: ~1" July -November



Photos courtesy of PennState Extension

Universal Design

- This design is universally applicable to a **wide demographic of people** and several partnering businesses.
- This design is to be the **primary** one for Gettysburg College distribution.
- Can also be distributed with relevance to other parts of Adams County.

Poster Design Considerations

- Direct and concise** wording shares the most pertinent information, allowing for large and inviting text.
- Clear images** of the insect at each **developmental stage** (instar) with corresponding pictures and dates. This makes the posters applicable year-round and discourages false identification of the insect.
- The **QR code** to the **PA Department of Agriculture's online reporting platform** encourages participants to assist the state by reporting where they encounter the lanternfly. This also leads to more information about the insect. The **PennState Extension reporting/information phone number** is also provided for those who would prefer it instead.
- The addition of the organizer's school **email address** on the bottom of the posters provides an additional option for people to ask questions, request posters, and help to spread further awareness.

THE SECOND INVASION OF GETTYSBURG!

The Spotted Lanternfly is an **INVASIVE** species that has ambushed the environment and agriculture of Adams County

Do Your Duty:

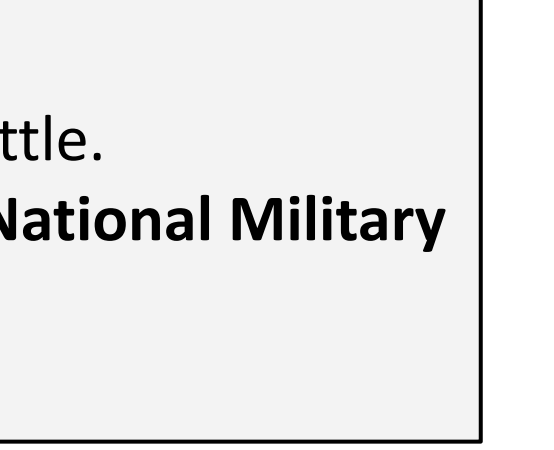
- Take Aim!** Carefully Identify the Insect
- Shoot!** Report a photo of the insect using the QR code or call 1-888-4BADFLY
- Charge!** Carefully stomp on it



1st-3rd Instars: ~1/4" April-July



4th Instar: ~1/2" July-August



Adult Insect: ~1" July-November

Photos courtesy of PennState Extension

To assist with the war effort in Gettysburg, email Feybr01@gettysburg.edu

Civil War Design

- This design is **specific to Gettysburg**, relating to the history of the battle.
- Posters of this design are already to be displayed at the **Gettysburg National Military Park**.
- It corresponds with the theme of **several businesses** in the town.

Action Plan

- This project plans to **increase public awareness of the spotted lanternfly in the Gettysburg area and mobilize people against it**.
- Gettysburg is a tourist town that attracts over one million visitors every year to its famous battlefield. Many come from places where the lanternfly is not present and are therefore unfamiliar with the insect and do not know how they can assist in stopping it from spreading (Gettysburg & Us, 2023). Because of this, a **large portion of the Gettysburg daily population is constantly uninformed**.
- The primary approach to this plan is through an **informational poster campaign**. This consists of three progressive stages:
 - The initial step is to establish a **poster campaign at Gettysburg College**. Gettysburg College is an ideal location for a poster campaign on the spotted lanternfly due to its relatively small student body of about 2,400, which congregates in the same few public centers. It is also connected by a common chain of community announcements and resources. Like the Gettysburg Borough, Gettysburg College is geographically diverse, attracting students from all 50 U.S. states and 41 foreign countries, many of whom are from places where they would likely be unaware of the threat lanternflies pose to the local environment (*Gettysburg College Diversity*, 2023).
 - The poster campaign is then **extended to the town of Gettysburg**. The most effective way of presenting the poster to unfamiliar tourists is through **partnerships with local businesses** within the town, where there are the majority of shopping and dining venues.
 - The following stage consists of a **volunteer-informative booth** that can actively engage the public and allow people to ask questions and take posters/handouts. This would be present at relevant community events, such as the Gettysburg Farmers' Market and the Gettysburg College Sustainability Fair.

Research

This project was researched through a variety of **local sources**.

- The **PA Department of Agriculture and PennState Extension** are the two foremost organizations involved in the current effort to control the lanternfly in PA. Their information served as the basis for understanding the ecological factors of the problem.
- Correspondence with a **local ecologist** of Pine Grove Furnace State Forest in Gardners, PA provided information about methods ecologists employ to combat the lanternfly at an expert level in Adams County.
- Grounds and Landscape Services at Gettysburg College** shared information about the insect's presence on campus and steps the College has taken to control their presence.



Image of a dead spotted lanternfly at Gettysburg College. Taken on September 28th, 2023.

The Measurability of Effectiveness Spotted Lanternfly Public Awareness Campaigns

- It is **difficult to assess** the isolated impact public awareness campaigns have on the control of the insect, as lanternflies are constantly moving and there are **several natural and artificial factors** that contribute to changes in their population.
- This can be somewhat mitigated through **online reporting** images to the PA Department of Agriculture, hence the attached QR code on the poster designs.
- Despite the difficulties involved with measuring the effectiveness of information campaigns such as the proposed poster effort, it is believed that they have been **highly beneficial**. This is because South Korea (similar in size to Pennsylvania), which lacked a cohesive public awareness effort, experienced a country-wide propagation of the insect in 3 years. In comparison, it has been about ten years since the lanternfly was discovered in Pennsylvania and it still has not spread to the entirety of the state as of 2024 (*Spotted Lanternfly Reported Distribution Map*, 2021).

Implementation Resources

- This project has partnered with the **Gettysburg College Center for Public Service (CPS)**, which has generously agreed to **fund the project** and assist with the recruitment and coordination of student volunteers to distribute posters.
- The posters are being produced by **Ricoh Printing Services of Gettysburg College**. The first batch of posters consisted of both 8.5"x11" and 11"x17" prints in both designs.
- Volunteers from the CPS attach posters to highly frequented areas on the **Gettysburg College campus**. They also assist in establishing partnerships with local businesses by providing printed samples in both of the available sizes.
- The Center for Public Service has expressed further support with **creating an informational booth** about the lanternfly for the Gettysburg Farmers' Market and Gettysburg College Sustainability Fair.
- The CPS also provides its local sustainability connections.

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