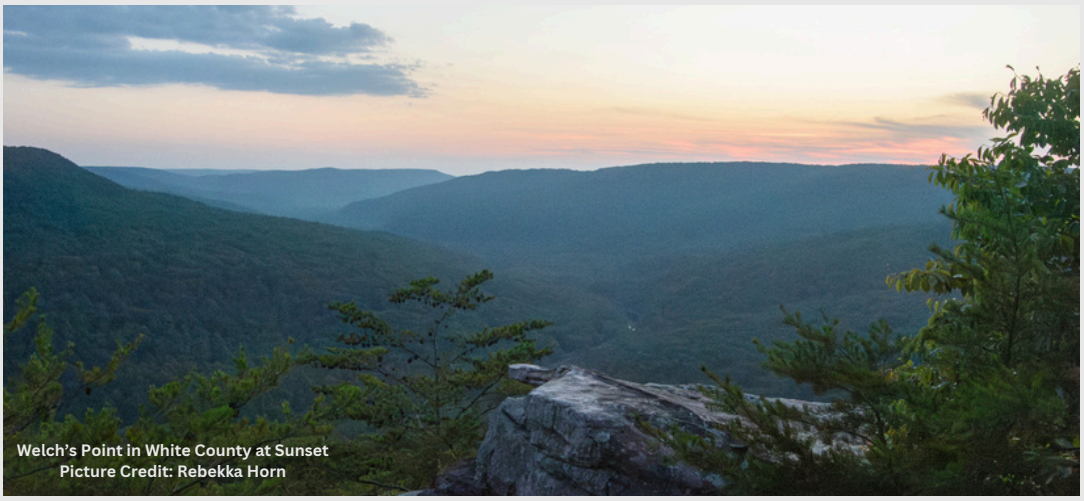
Winter Newsletter
(Jan 2024 - Dec 2024)

SOIL, PLANT & PEST CENTER
UTEXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

December 20, 2024



Welch's Point in White County at Sunset
Picture Credit: Rebekka Horn

2024: A Year To Reflect On

And with that, 2024 is OVER (almost)! It is hard to believe that the end of the year is here, and yet another new year is ushered forth. This newsletter is a way to summarize and celebrate what the Soil, Plant, and Pest Center (SPPC) has accomplished throughout 2024.

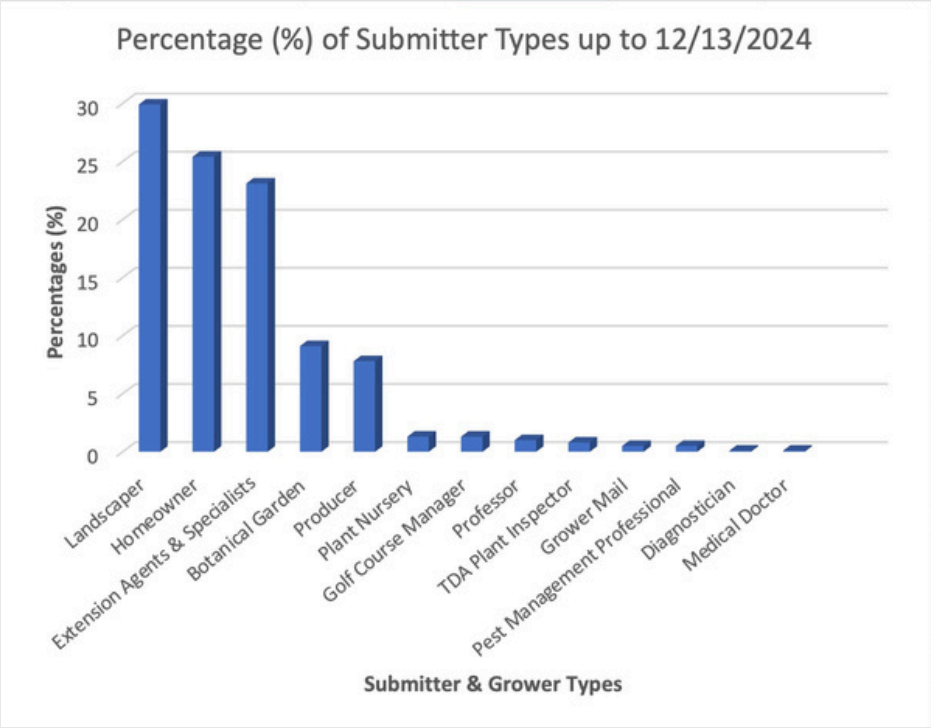
SPPC received a total number of samples from 60 counties. A huge thank you to a all of the extension agents, extension offices, and specialists who have contributed to helping people all over the state of Tennessee.

Keep reading to view 2024 as a whole!

In this newsletter you can expect:

Who sent samples?

Landscaper (29.9%)
Homeowner (25.4%)
Extension Employee - UT (23.1%)
Botanical Garden (9.1%)
Producer (7.8%)
Plant Nursery (1.3%)
Golf Course Manager (1.3%)
Professor (1.0%)
TDA Plant Inspector (0.8%)
Grower Mail (0.5%)
Pest Management Professional (0.5%)
Diagnostician (0.1%)
Medical Doctor (0.1%)



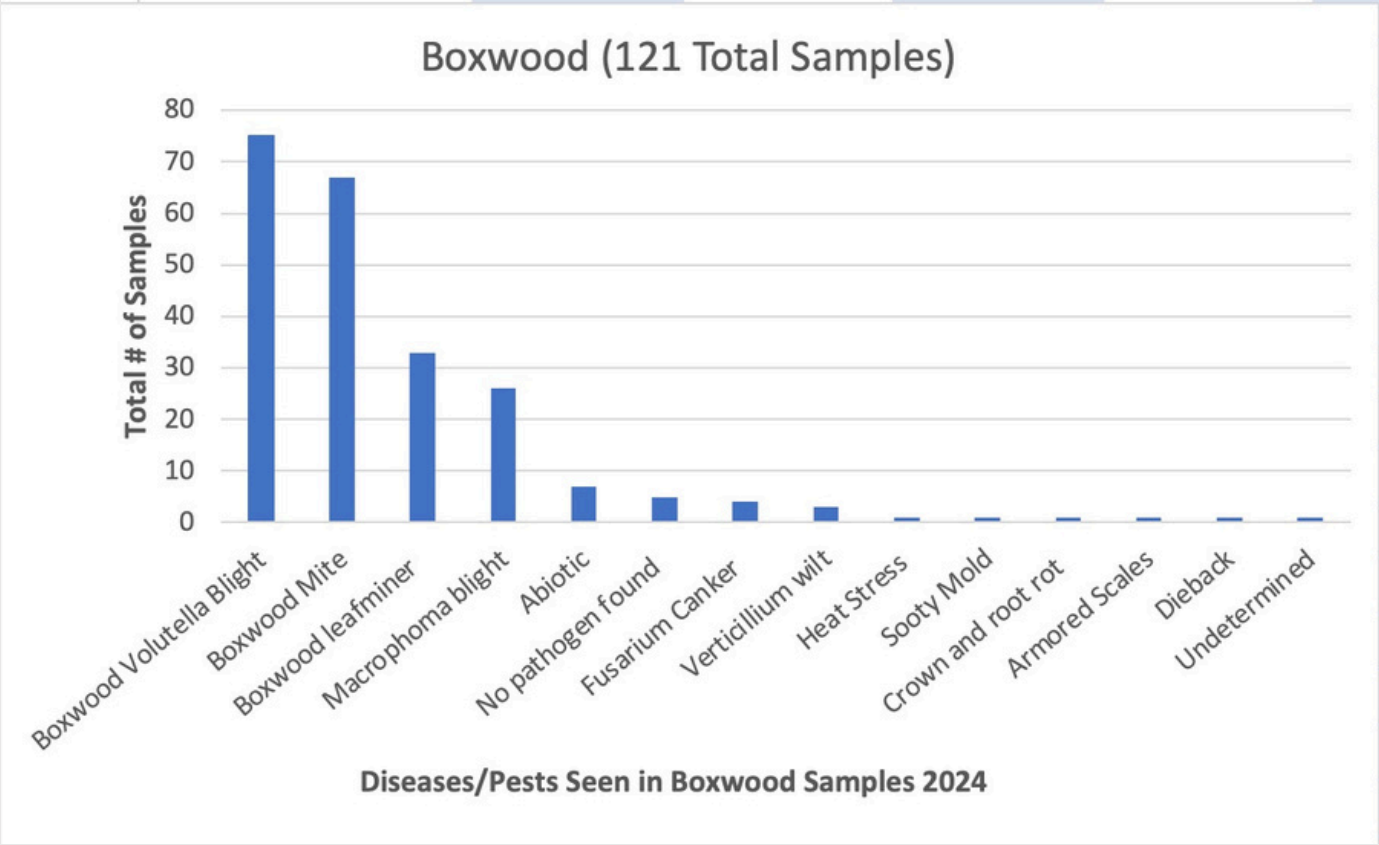
Where did the samples come from in 2024?

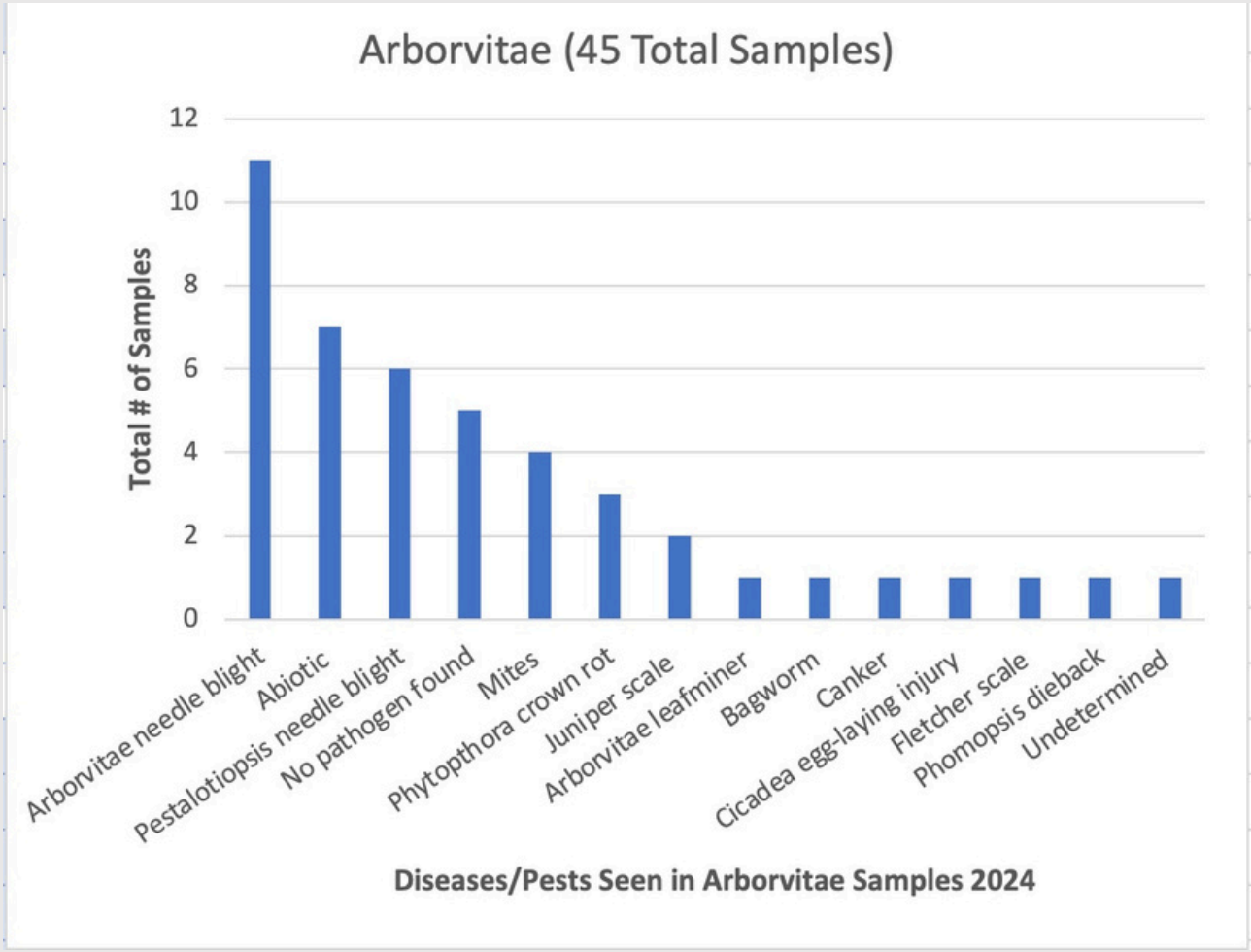
MAP CREDIT: TN.GOV

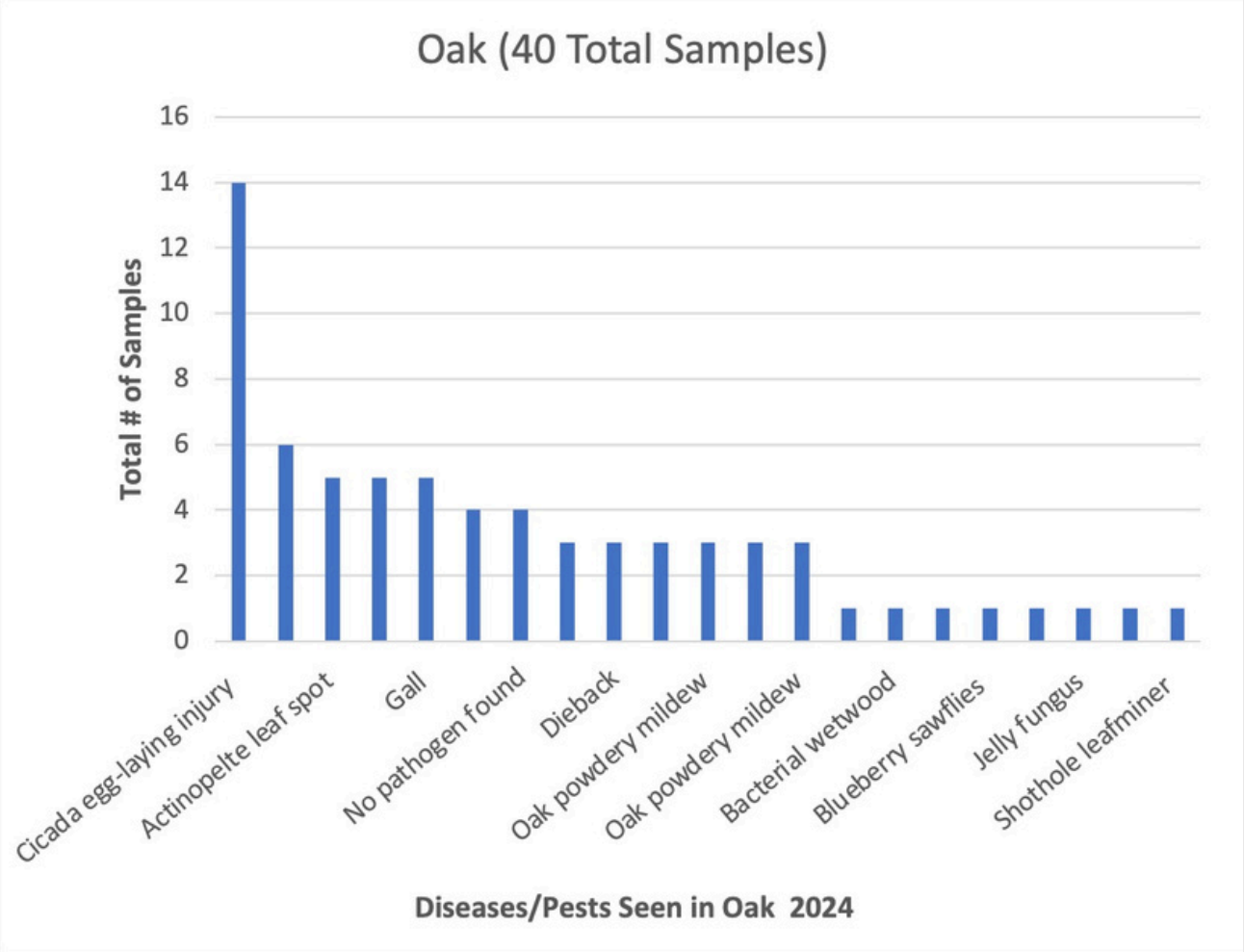
Top 10 Counties Serviced in 2024

MAP CREDIT: TN.GOV

TOP 3 SAMPLES AND THEIR DISEASES/PESTS







"No pathogen found" means that a pathogen was not in the sample brought in. Why?

- The customer would like to ONLY double check if the plant was healthy before they planted it in their garden,
- The part of the plant that did not contain the pathogen was brought in, OR
- The plant has an abiotic/other external issue.

KEEP AN EYE OUT FOR ME IN 2025 - A SPOTTED LANTERNFLY EXCERPT

What is a Spotted Lanternfly? The spotted lanternfly (SLF) is a planthopper (Hemiptera: Fulgoridae) whose nymphs and adults feed on a wide variety of plants. This pest has a needlelike mouthpart that it uses to suck sap from branches and twigs.

Are Spotted Lanternflies in Tennessee? Yes. The initial detection of SLF was made by Tennessee Department of Agriculture (TDA) in September 2023, and has spread to Davidson County, Wilson County, and Sullivan County. SLF were initially detected in 2014, and have since spread across 18 states.

Identification:
Adults are approximately 1" to 1 5/8" long with light brown to gray forewings that have black spots centrally and wing tips exhibiting black dashes arranged in a brick wall pattern (Fig. 1). The hindwings have a red band closest to the body with black spots followed by a white band then a black band at the wing tips. The head and legs are black while the body is yellow with broad black bands (Figure 4).

The first, second, and third instar nymphs are black with white spots while the fourth-instar nymph is red and black with white spots and more colorful (Figures 2 & 3). The egg masses are brown with a gray waxy covering and may contain up to 60 eggs. The waxy covering can weather and disintegrate, exposing the eggs over time (Figure 1).

Host Plant(s): SLF is known to feed on more than 103 species of host plants. The fourth instars and adults tend to have a narrow host range, with the preferred hosts being tree of heaven, grapes, black walnut, silver maple, red maple, and willow.

Damage Caused: SLF utilize piercing-sucking mouthparts to take in plant nutrients. Direct damage occurs when large numbers of adults feed on a single tree causing branch dieback or flagging. SLF also secrete a sugary substance known as honeydew, which encourages the growth of sooty mold.

Management: There are multiple management techniques in place, such as pesticides and physical removal. If egg masses are encountered, smashing or scraping them using a scraper card (or an old credit card) into a container with soapy water or hand sanitizer is highly recommended.

In the event of a heavy infestation, products containing bifenthrin, beta-cyfluthrin, dinotefuran, and imidacloprid are found to be effective on both nymphs and adults. However, care should be taken to ensure that chemical controls are applied precisely to limit risk to non-target organisms, such as beneficial insects. Biological control agents, such as praying mantis, spiders, and wheel bugs are found attacking SLF, but their activity is not high enough to suppress the SLF population.

If an adult SLF is encountered near you, take a picture, smashing the insect, and reporting it to Report A Pest is highly encouraged. Your contribution matters! . To report SLF, use the provided link:

https://www.tn.gov/protecttnforests/resources/report-a-pest.html


Figure 1. SLF Egg Masses on Birch. Picture Credit: Rebekka Horn


Figure 2. Early Instar Nymph. Picture Credit: Rebekka Horn,


Figure 3. 4th Instar Nymph. Picture Credit: Rebekka Horn,


Figure 4. Adult SLF. Picture Credit: Rebekka Horn,

THIS NEWSLETTER WAS PRODUCED BY:

Rebekka Horn
Student Lab Assistant
Department of Entomology and Plant Pathology
rhorn11@utk.edu

Midhula Gireesh, PhD
Assistant Professor & Extension Specialist
Department of Entomology and Plant Pathology
mgireesh@utk.edu

Nar Ranabhat, PhD
Assistant Professor & Extension
Plant Pathologist
Department of Entomology and Plant Pathology
nranabhat@utk.edu

Sylvia Moraes, PhD
Plant Diagnostician & Plant Pathologist
Soil, Plant & Pest Center
University of Tennessee
smoraes@utk.edu

Robert Florence, PhD
Lab Director
Soil, Plant & Pest Center
robertf@utk.edu