Quarterly Newsletter
(Jan 2025 - Mar 2025)

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

May 20, 2025

Puddling swallowtail butterflies from White County, Tennessee

Picture credit: Rebekka Horn, University of Tennessee

New Year, New Beginnings

2025 is a third of the way done, which means it is time to kick off spring with a quarterly newsletter! January 2025 - March 2025 were productive months for the UT Soil Plant & Pest Center (SPPC), with 83 total samples arriving from 17 different counties across Tennessee.

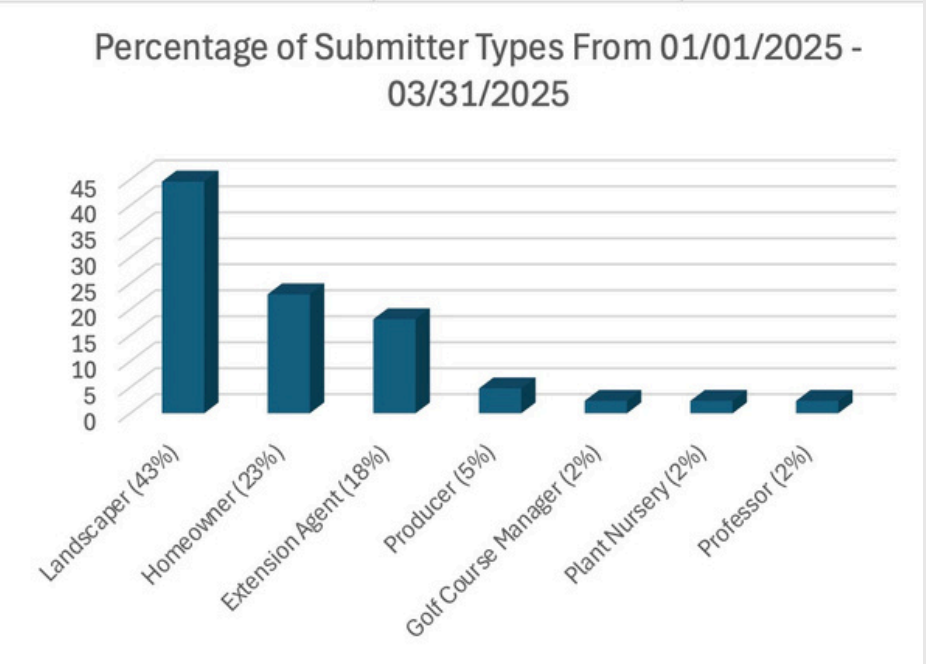
SPPC received numerous samples from ornamental crops, and home gardens from a variety of submitters. A detailed description of the submitters, plants, and their pests/diseases will be provided later.

In this newsletter you can expect:

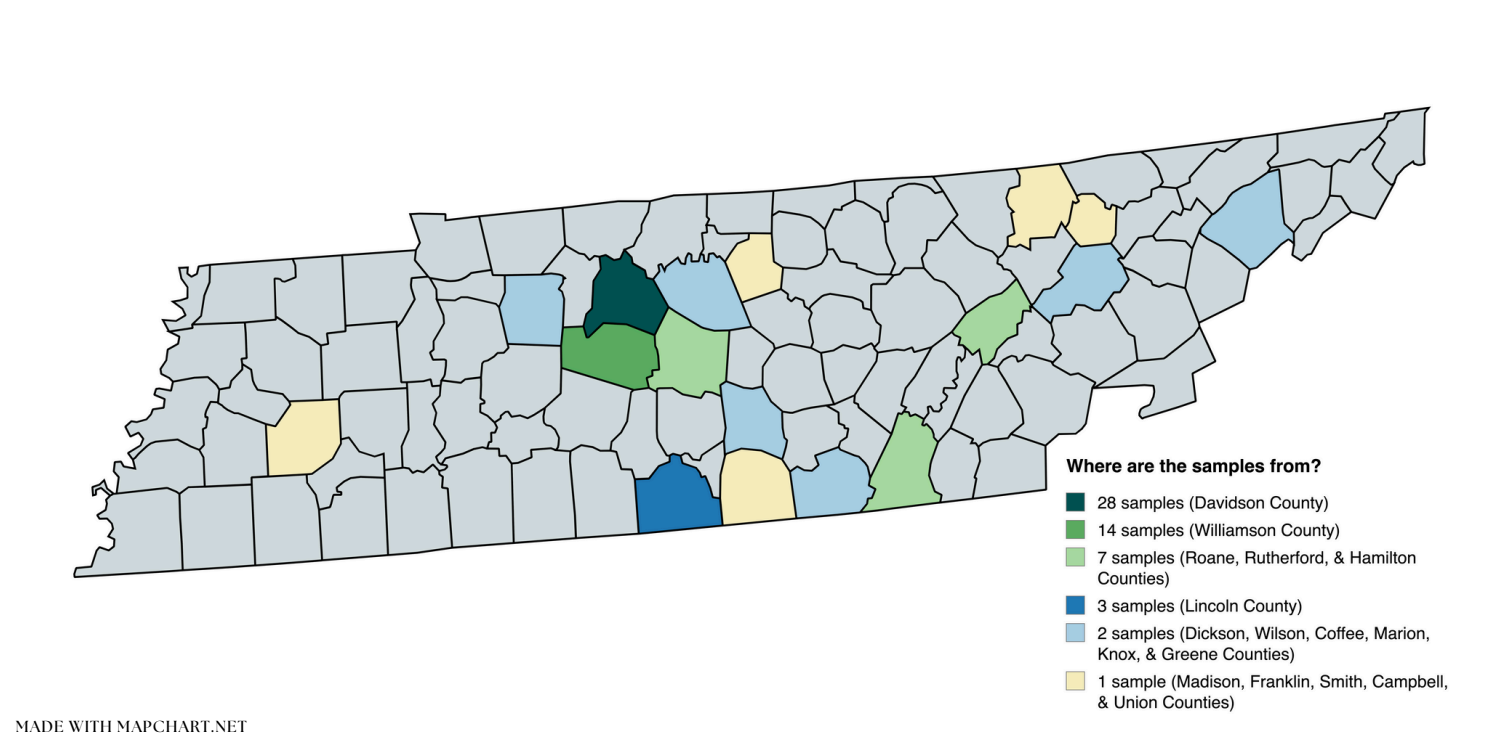
- Last Quarter: An Overview
- Submitters of Samples
- Counties Serviced in Tennessee
- Top Ornamental and Garden Samples
- Ornamental Samples: Pests and Diseases
- Garden Samples: Pests and Diseases

Who sent samples?

Landscaper (43%)
Homeowner (23%)
Extension Agent (18%)
Producer (5%)
Golf Course Manager (2%)
Plant Nursery (2%)
Professor (2%)



WHERE ARE THE SAMPLES FROM?



HELP! WHAT IS ON MY ORNAMENTALS?!

Picture credit: Sylvia Moraes, University of Tennessee

Boxwood Dieback

Host Plant(s): English, Japanese, & Korean cultivars of boxwood are the most at risk (1, 5).

Cause(s): Boxwood dieback is caused by the fungal pathogen, *Colletotrichum theobromicola* (1, 5).

Signs/Symptoms: Boxwood dieback symptoms include random dieback of twigs with tan colored foliage. Leaves that are affected stay attached to the branches. Another symptom of boxwood dieback is the black discoloration on the bark extends into the center of the woody tissue (5). This symptom is noticeable when the twig is cross-sectioned. The other symptoms caused by this pathogen include leaf spots with white centers containing black fruiting bodies.

Picture credit: Javier E. Mercado, Bark Beetle Genera of the US, USDA APHIS PPQ, Bugwood.org

Ambrosia Beetle

Identification: Ambrosia beetles are extremely tiny, rusty brown beetles. Infestations are indicated by the thin strands of sawdust coming out of small holes in tree bark (2).

Host Plant(s): Thin barked, deciduous trees including but not limited to: pecan, ornamental cherry, Japanese maple, crapemyrtle, magnolia, etc (3).

Signs/Symptoms: In early spring, females choose trees based on the amount of ethanol the stressed tree exhibits (3). This stress is caused by overwatering of trees, or frost damage. Females then bore into the tree and make tunnels. As they dig the tunnel, the ambrosia fungus is introduced, and eggs are laid (3). Visible symptoms of ambrosia beetles includes wilted foliage, a thin/fragile strand of boring dust (about the size of pencil lead), and tree death in severe cases. The introduction of the fungus also acts as a vector for other fungi that kill plants, such as *Fusarium spp* (3).

Picture credit: Rebekka Horn, University of Tennessee

Brood XIV Periodical Cicadas

Have you seen any periodical cicadas again this year? Be sure to be on the lookout for Brood XIV, which is emerging after 17 years (6). Adults are roughly 1-1.5 inches long, and are mostly black in color. Their eyes and wing veins are a reddish-orange coloration (4). Periodical cicadas are different from annual cicadas, which are larger and have greenish wing veins (4).

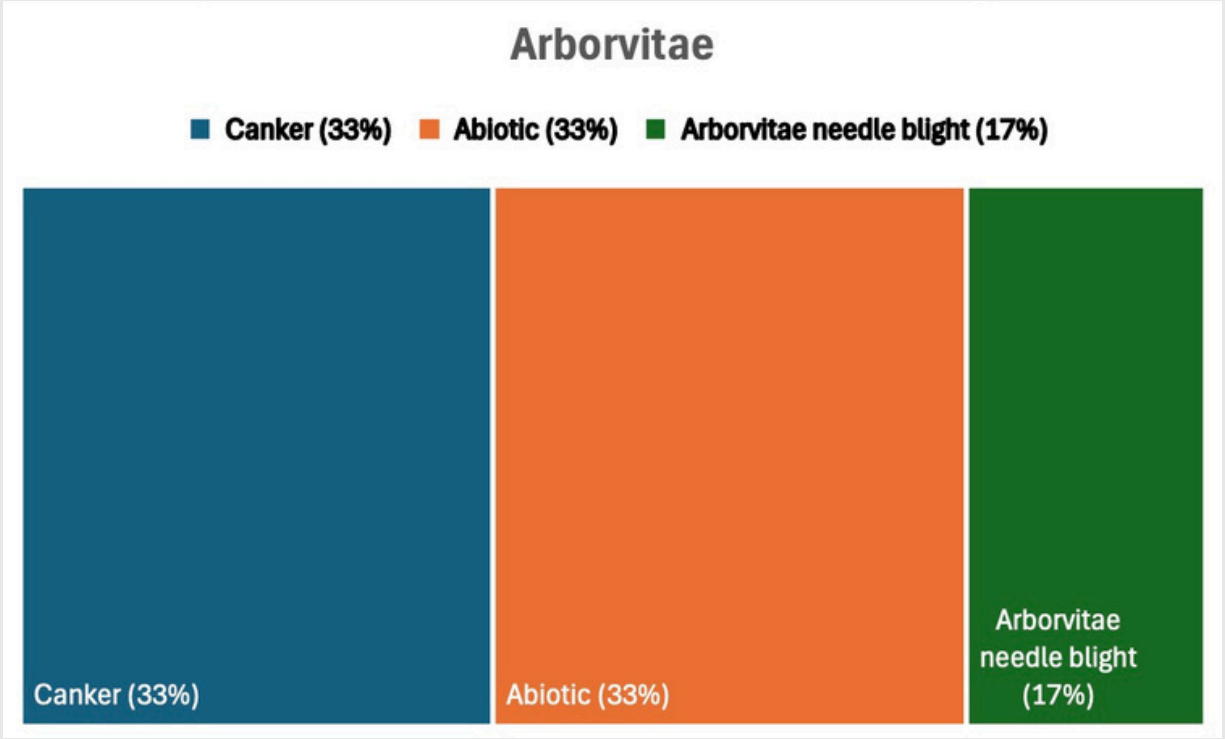
Periodical cicadas emerge when the soil temperature 8 inches deep hits 64 degrees Fahrenheit. Once they emerge, they attach to trees and shed their nymphal exoskeleton. They develop into adults within a few hours. They are poor fliers, which makes them easy prey for other organisms (4). Females damage trees when they make slits in branches while laying eggs. ***Only male periodical cicadas can sing, fun fact!***

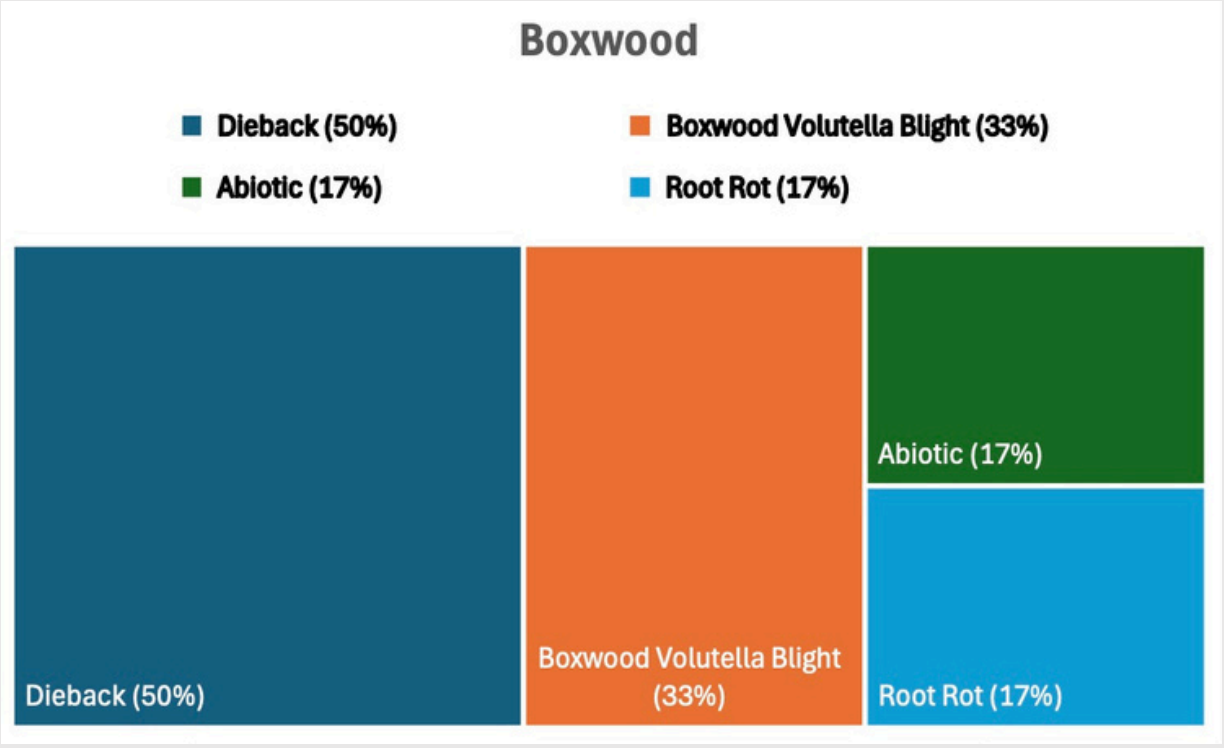
Additional information:
Additional information and maps can be found in the following links:

https://utia.tennessee.edu/publications/wp-content/uploads/sites/269/2023/10/SP341.pdf

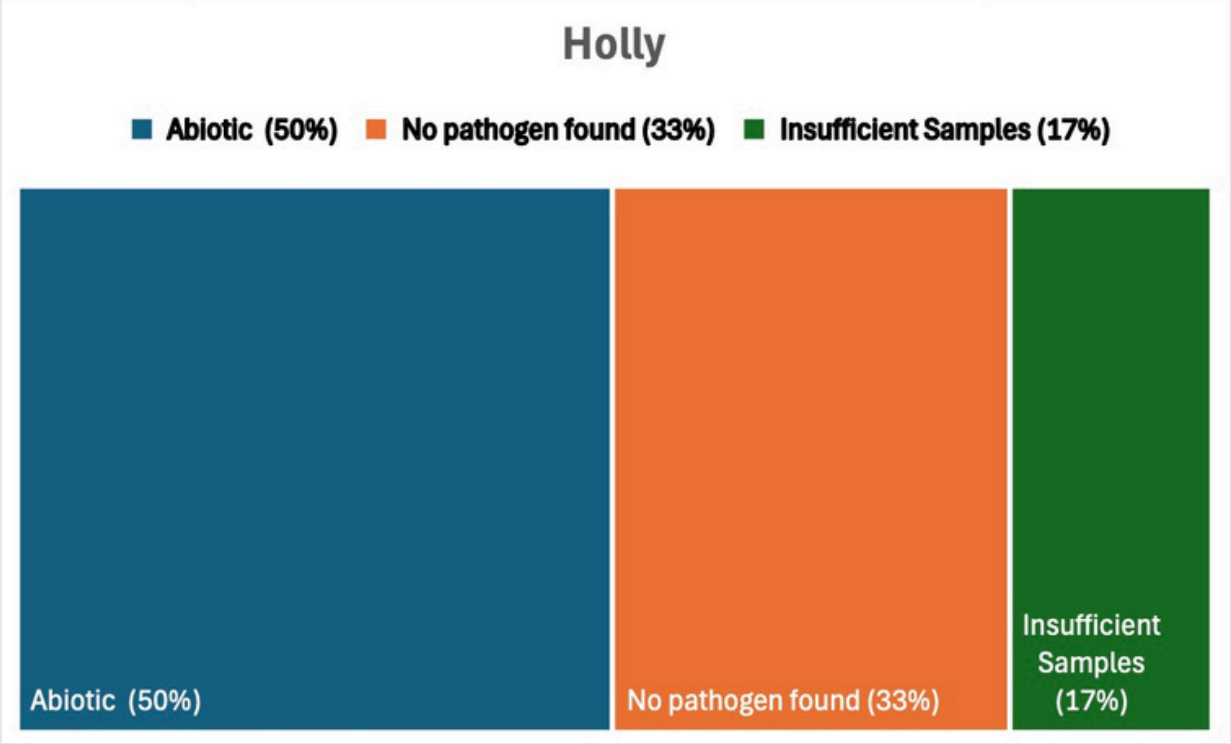
https://tnstate.edu/extension/04102024_Cicada%20Extension%20.pdf

TOP 3 SAMPLES AND THEIR DISEASES/PESTS





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 was submitted in did not contain the pathogen, OR
- The plant has an abiotic/other external issue.

Sometimes, the SPPC receives insufficient samples and/or images to provide an accurate diagnosis, especially when submitted through the Distance Diagnostic system. For guidance on how to take effective photos for remote diagnosis and how to properly collect and submit your plant samples, please refer to the following link:
https://soillab.tennessee.edu/plant-pests/plant-disease-diagnosis/

THIS NEWSLETTER WAS PRODUCED BY:

Rebekka Horn

Graduate Research Assistant
Department of Entomology and Plant Pathology
University of Tennessee Knoxville
rhorn11@utk.edu

Midhula Gireesh, PhD

Assistant Professor & Extension Specialist
Department of Entomology and Plant Pathology
University of Tennessee Knoxville
mgireesh@utk.edu

Nar Ranabhat, PhD

Assistant Professor & Extension
Plant Pathologist
Department of Entomology and Plant Pathology
University of Tennessee Knoxville
nranabhat@utk.edu

Sylvia Moraes, PhD

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

Robert Florence, PhD

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

References

1. Singh, R. 2022. Boxwood Dieback. National Pest Alert USDA. Accessed 04/17/2025. https://store.extension.iastate.edu/product/National-Pest-Alert-Boxwood-Dieback

2. Joseph, S. V., Hudson, W. 2021. Granulate Ambrosia Beetle: Biology and Management. University of Georgia Extension. Accessed 04/17/2025. https://extension.uga.edu/publications/detail.html?number=C1160&title=granulate-ambrosia-beetle-biology-and-management#:~:text=Damage,breeding%20sites%20for%20future%20infestations.

3.Frank, S., Bambara, S., & Baker, J. Ambrosia beetle pests of nursery and landscape trees. NC State Extension Publications. Accessed 04/17/2025. https://content.ces.ncsu.edu/granulate-asian-ambrosia-beetle-1

4. Skvarla, M. J. Periodical Cicada. PennState Extension. Accessed 04/17/2025. https://extension.psu.edu/periodical-cicada#:~:text=Identification,cicadas%2C%20which%20emerge%20every%20year.

5. Singh, R., & Doyle, V. P. Boxwood dieback caused by Colletotrichum theobromicola: A diagnostic guide. Accessed 05/04/2025. https://apsjournals.apsnet.org/doi/epdf/10.1094/PHP-04-17-0024-DG

6. Hale, F. A. 2021. Periodical Cicadas. UTIA: SP 341. Accessed 5/04/2025. https://utia.tennessee.edu/publications/wp-content/uploads/sites/269/2023/10/SP341.pdf