

TSU NURSERY NEWS TO USE

ISSUE 8
NOVEMBER 1, 2019



HORNBEAM RUST UPDATE!! Rust has been found on *Carpinus betulus*, the European hornbeam, in Warren County. At this time, Dr. Fulya Baysal-Gurel (TSU NRC), Dr. Jason Smith (UF/IFAS) and Dr. Denita Hadziabdic-Guerry (UT/EPP) are all working to confirm the identify of the rust pathogen utilizing molecular biology. Updates will continue. Treat as you would other rust diseases.

The spotted lanternfly (SLF), *Lycorma delicatula*, is an invasive plant hopper that is native to China. SLF prefer *Ailanthus altissima*, known to most as “tree of heaven”, however, they will feed on a very wide host range. SLF has been reported from over 70 species of plants, including: American beech (*Fagus grandifolia*), American linden (*Tilia americana*), American sycamore (*Platanus occidentalis*), black birch (*Betula lenta*), black cherry (*Prunus serotina*), black gum (*Nyssa sylvatica*), black walnut (*Juglans nigra*), dogwood (*Cornus* spp.), Japanese snowbell (*Styrax japonicus*), maple (*Acer* spp.), oak (*Quercus* spp.), paper birch (*Betula papyrifera*), pignut hickory (*Carya glabra*), sassafras (*Sassafras albidum*), serviceberry (*Amelanchier canadensis*), slippery elm (*Ulmus rubra*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), Pine (*Pinus* spp.), Apple (*Malus* spp.) Plum, cherry, peach, apricot (*Prunus* spp.) and willow (*Salix* spp.).



LEFT: SLF female depositing an egg mass; **RIGHT:** SLF ‘community’ feeding on the trunk of a Maple; both photos originate from Lancaster, PA; **PHOTO CREDIT:** Ryan Bridge, “the BugMan”

SLF are sap suckers that weaken and damage the plant by sucking sap from woody tissues, leaving behind a sticky, sweet residue, known as honeydew. Honeydew attracts other insects and promotes sooty mold, causing aesthetic damage and further potential damage to the plant. SLF will lays eggs on almost any surface, including vehicles, trailers, outdoor equipment, plastic, metal, etc. and can be spread long distance if hitchhiking on infested material. Early detection is critical to prevent economic and ecological losses. Scout all incoming material, trucks, trailers, pots, baskets, etc. from locations of infestation.

UPCOMING EVENTS AND PROGRAMS

THERE'S STILL TIME TO REGISTER if you're interested in a boxwood management program! Each workshop has 3 pesticide points attached in categories 1, 3, 10 and 12.

register at <https://forms.gle/1f1knjqQoFfW2tr6>.



BOXWOOD DISEASES & PESTS

NOVEMBER 13TH, 9am - 12pm
The Pavilion at TSU Farm
1946 Ed Temple Blvd
Nashville, TN 37208

9:00 am CLOUDING BOXWOODS
Joshua Lockard, Joshua Lockard & Associates
9:45 am BOXWOOD DISEASES
Dr. Fulya Baysal-Gurel, TSU NRC, Plant Pathologist
11:30 am BOXWOOD INSECT PESTS
Amy Dismukes, TSU NRC, Nursery Extension Specialist
12:00 pm QUESTIONS and adjourn

NOVEMBER 14TH, 9am - 12pm
Wilson County Fairgrounds
945 E Baddour Pkwy
Lebanon, TN 37087

9:00 am BOXWOOD DISEASES
Dr. Fulya Baysal-Gurel, TSU NRC, Plant Pathologist
10:45 am Management Practices for BOXWOODS
Lucas Holman, TSU Wilson Co. Extension
11:30 am BOXWOOD INSECT PESTS
Amy Dismukes, TSU NRC, Nursery Extension Specialist
12:00 pm QUESTIONS and adjourn

NOVEMBER 15TH, 9am - 12pm
Montgomery County Extension Office
1030 Cumberland Heights Road, Ste. A
Clarksville, TN 37040

9:00 am BOXWOOD DISEASES
Dr. Fulya Baysal-Gurel, TSU NRC, Plant Pathologist
10:45 am Management Practices for BOXWOODS
Karla Kean, TSU Montgomery Co. Extension
11:30 am BOXWOOD INSECT PESTS
Amy Dismukes, TSU NRC, Nursery Extension Specialist
12:00 pm QUESTIONS and adjourn

REGISTRATION REQUIRED! To register, please complete the link at <https://forms.gle/1f1knjqQoFfW2tr6>

Phytophthora is present in almost every nursery and is easily introduced. It is caused by several of Oomycetes. Phytophthora, however, *Phytophthora cinnamomi* is usually credited with causing the greatest damage to nursery stock. If the environment is favorable, infection can occur at almost any point of the production cycle. Phytophthora destroys plant roots, reducing the size of the root system, and in turn, decreasing the amount of water and nutrients the system can absorb from the soil, causing a visible decline above ground. Due to the recent drought and already limited root abilities, above ground symptoms have been more prominent. Serious to complete losses have been observed on many species due to this plant disease.

In Tennessee, this pathogen overwinters as resting structures and mycelia in plant tissue and can spread by infected plants, soil movement, recycled irrigation, runoff, splashing water, etc. Spore production occurs in warm, water-saturated soils and media, with the same mode of action in regards to spread. Phytophthora is most commonly observed in poorly drained, waterlogged soils that are prone to flood or on flat, poorly draining sites, where water is allowed to stand around container bases. Excess Nitrogen fertilization has been shown to increase host susceptibility as the new succulent root tissue is more responsive to infection. Overwatering and unsanitary site conditions will also contribute to losses from the disease. Above ground symptoms - yellowing foliage at shoot tips, defoliation, slowed growth and limb dieback - will appear on one plant first, following by surrounding plants. These symptoms are easily confused with a nutrient issue, overwatering, drought stress, or many other abiotic disorders, however, Phytophthora infection will result in a quick, permanent wilt and eventual plant death. Established field stock may show decline for several years before succumbing to the disease. Drought conditions worsen symptoms. Phytophthora will generally concentrate at the crown of the diseased plant, often girdling the stem or trunk at the soil line, resulting in a brown to reddish-brown discoloration of the tissues just below the bark which may extend above the soil line. On some plants, water-soaked, gum oozing cankers may develop at the soil line. Symptoms will vary according to the degree of colonization, age of plant, host susceptibility and environmental stress.

Prevention is the key to controlling Phytophthora. Once symptoms begin, most of the damage is already done. No single control measure will ensure protection. It is important to have protocol in place that focuses on prevention as well as ensuring current practices are not creating a conducive environment for infection to occur. Keeping the area clean of debris, using proper establishment and production practices, using resistant plants and chemical and biological control all play a role in this multi-system approach. For more information, contact Dr. Fulya Baysal-Gurel at fbaysalg@Tnstate.edu.



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