April 2026 Issue 49

MIDDLE TN NURSERY EXTENSION

nursery e-news

SPRUCE SPIDER MITE

You may have seen an orange-yellow cast or tinge to some of your conifer plants recently. It could be due to the Spruce spider mite (*Oligonychus ununguis*) (SSM).

- They're considered a cool weather (spring & fall) mite. They overwinter as eggs, hatch in April/May and feed on the foliage, growing from larvae to nymphs to adults. Adults typically die under hot temp.'s (80-90F+), but eggs survive and hatch when temp.'s cool in the fall.
- Host plants: spruce, arborvitae, Douglas fir, Fraser fir, hemlock, juniper, pine and other conifers
- Their feeding damage appears as stippling and gives foliage a bronzed look.
- Tap/shake a branch over white paper sheet and use a hand lens or at least 10x magnification to identify. If unsure, bring in sample to the NRC or Extension agent.
- Recommended management: apply a hort. oil and allow natural predators to attack SSM. Seven to 14 days later, apply bifenazate (22.6% a.i.) (group 20D) or a group 10 miticide (etoxazole 5.0% a.i. or clofentezine 42% a.i.). Rotate group #, if make subsequent applications. Scout for activity a week after application.

(above) Spruce spider mite on arborvitae foliage (Photo: Purdue Univ. Cooperative Extension)

(above) Close up of stipling damage from Spruce spider mite feeding (Photo: John A. Weidhass, Virginia Polytechnic Institute & State Univ., Bugwood.org)

(above) Close up of Spruce spider mite adult & eggs (Photo: Ward Strong, BC Ministry of Forests, Bugwood.org)

or

NCSU Infosheet on Spruce spider mite

For SSM questions contact: Kaitlin Barrios, Ph.D. (kbarrios@tnstate.edu) or Dr. Karla Addesso (kaddesso@tnstate.edu)

Check out the New TSU Factsheet!

Or Use the Link >

Phytopythium Factsheet

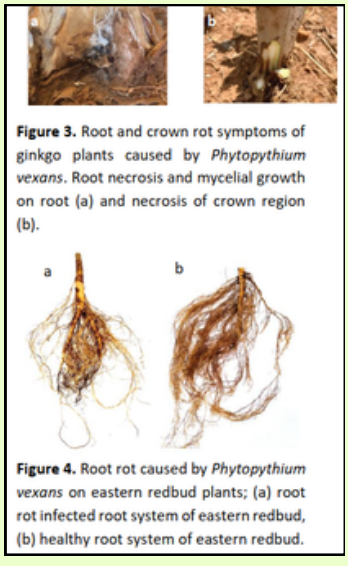

Figure 3. Root and crown rot symptoms of ginkgo plants caused by *Phytopythium vexans*. Root necrosis and mycelial growth on root (a) and necrosis of crown region (b).

Figure 4. Root rot caused by *Phytopythium vexans* on eastern redbud plants; (a) root rot infected root system of eastern redbud, (b) healthy root system of eastern redbud.

A New Threat In Nurseries: Phytopythium Root and Crown Rot Caused by *Phytopythium vexans*

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FACTS AT A GLANCE:

CAUSAL AGENT

Phytopythium vexans

SYMPTOMS

- Root rot
- Crown rot
- Reduced root system
- Plant stunting and wilting
- Death of plant

FAVORABLE CONDITIONS

- Poor drainage, water logged soils
- Excessive irrigation or rainfall

SPREAD

- Irrigation water
- Crop debris
- Contaminated soil, tools and planting materials

SURVIVAL

As oospores in soil and crop debris

MAJOR HOST

Broad host range including fruit crops, forest trees, ornamentals and vegetables

A hidden threat beneath the soil

Phytopythium vexans is an oomycete plant pathogen, commonly referred to as a water mold, exhibiting characteristics intermediate between *Phytophthora* and *Pythium*. It is responsible for root and crown rot, wilting, and damping-off of seedlings in a wide range of economically important plants. The pathogen is common in nurseries, orchards, and forest ecosystems.

A disease without borders: Global occurrence of Phytopythium diseases

Phytopythium vexans is a cosmopolitan pathogen reported across **Asia** (China, India, Iran, Japan, Taiwan, Thailand, Turkey, and Vietnam), **Africa** (Morocco, Rwanda, South Africa, and Tunisia), **Europe** (Italy, Spain), **Australia**, **South America** (Brazil), **Central America** (Panama) and **North America** (several states of the United States, including California, Hawaii, North Carolina, and Tennessee) (Figure 1).

Figure 1. Countries with reported occurrence of *Phytopythium vexans* have been marked in red.

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Upcoming Events

Please Register

Certified Pesticide Applicator CEUs

- Private Applicator: 3 points
- Commercial Applicator:
  - C01, C02, C03, C06, C09, C10 & C12: 4 points

Warren County Extension is providing educational sessions for Certified Pesticide Applicator CEUs

Location: Warren Co. Admin. Bldg. 201 Locust St. McMinnville, TN 37110 Magnolia Room

Dates:

- Tuesday, May 12th 6:00 PM
- Tuesday, May 26th 6:00 PM
- Tuesday, June 2nd 6:00 PM - Early Voting Room

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TSU's Otis L. Floyd Nursery Research Center

TSU-20-00189(B)-12b-61065

https://www.tnstate.edu/agriculture/nrc/