

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

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



(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 Adesso (kaddesso@tnstate.edu)

Check out the New TSU Factsheet!



Or Use the Link >

[Phytophthium Factsheet](#)

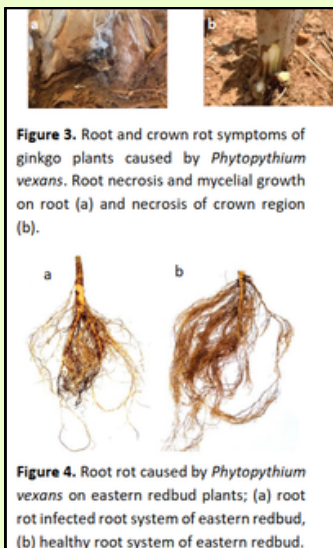


Figure 3. Root and crown rot symptoms of ginkgo plants caused by *Phytophthium vexans*. Root necrosis and mycelial growth on root (a) and necrosis of crown region (b).



Figure 4. Root rot caused by *Phytophthium 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: Phytophthium Root and Crown Rot Caused by *Phytophthium vexans*

Sneha Rashtupal Patel, Canus Oksal, Terri Simmons, Kaitlin Barrios and Fulya Bayraktar-Gurel

Tennessee State University
Otis L. Floyd Nursery Research Center, McMinnville, TN

FACTS AT A GLANCE:

CAUSAL AGENT
Phytophthium 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

A hidden threat beneath the soil
Phytophthium 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 *Phytophthium* diseases
Phytophthium 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 *Phytophthium vexans* have been marked in red.

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

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Upcoming Events

Otis L. Floyd
Nursery
Research Center

FIELD DAY-
OPEN HOUSE
SCHEDULE

MAY 7,
2026

8 AM	REGISTRATION AND WELCOME <small>TNLA President & NRC Center Director</small>
8:30 AM	PEST PROBLEMS ON THE HORIZON <small>Dr. Karla Adesso</small>
9 AM	TIMING PRE-EMERGENT HERBICIDE APPLICATIONS FOR NURSERY FIELDS <small>Dr. Anthony Witcher</small>
9:30 AM	ROBOTIC SPRAYING IN SPECIALTY CROPS <small>Dr. Chenchen Kang</small>
10 AM	BREAK, PLUS LABS OPEN FOR VISITS
10:30 AM	VASCULAR STREAK DIEBACK UPDATES <small>Dr. Fulya Baysal-Gurel</small>
11 AM	AMBROSIA BEETLE MANAGEMENT FOR NURSERY PRODUCTION <small>Dr. Jason Oliver</small>
11:30 AM	IRRIGATION SYSTEM DESIGN TO IMPROVE DISEASE PREVENTION & UNIFORMITY IN NURSERY CROPS <small>Dr. Jake Shreckhise</small>
12 PM	LUNCH, PLUS LABS OPEN FOR VISITS
1-2 PM	HANDS-ON DEMOS
AND	<ul style="list-style-type: none"> A. Irrigation System Design for Nursery Crops <small>Dr. Jake Shreckhise</small> B. Robotic Spraying & Drones for Specialty Crops <small>Dr. Chenchen Kang</small> C. Plant Pollination Techniques - <small>Dr. Lisa Alexander</small>
2-3 PM	

THE TENNESSEE NURSERY & LANDSCAPE ASSOCIATION, INC.

TO REGISTER

TENNESSEE STATE UNIVERSITY
Cooperative Extension

TSU-20-00189(B)-12b-61065 — Tennessee State University is an AA/EEO employer.

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

Sponsored By: Tri-Green of McMinnville, TN



Middle Tennessee Nursery Association

Field Day 5.15.26

See you there!

Exhibitors, please complete the contract and pay no later than April 30, 2026. You may pay online at mtna.com or by using the QR Code above.

305 Shngri La Lane
McMinnville, TN 37110

move-in: Thurs. 5/14 9-4

Exhibits: 5/15-8:30-2:30
Seminars: between 8:30-3:30
Move-Out: 2:30-5:00



Phone: 931-507-7322 | 1410 Sparta St. Ste. 10, McMinnville, TN 37110

Please **Register**

Certified Pesticide Applicator CEUs

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

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TSU's Otis L. Floyd Nursery Research Center

