

## A few things from summer 2021

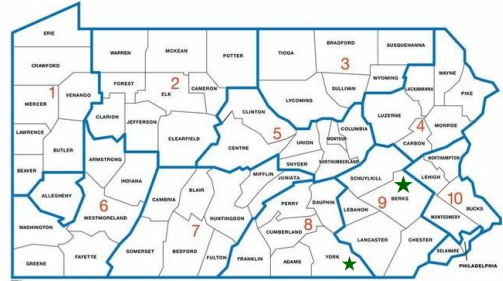


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extension.psu.edu

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## Pennsylvania Extension Areas



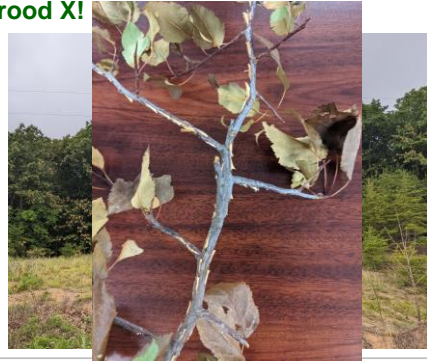
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## Brood X!



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## Brood X!



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## Spotted lanternfly

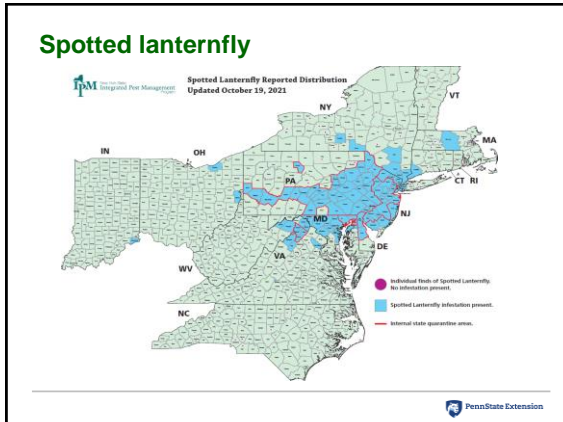


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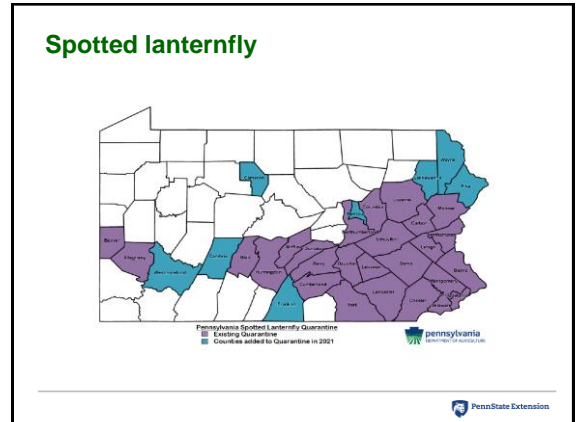
## Spotted lanternfly



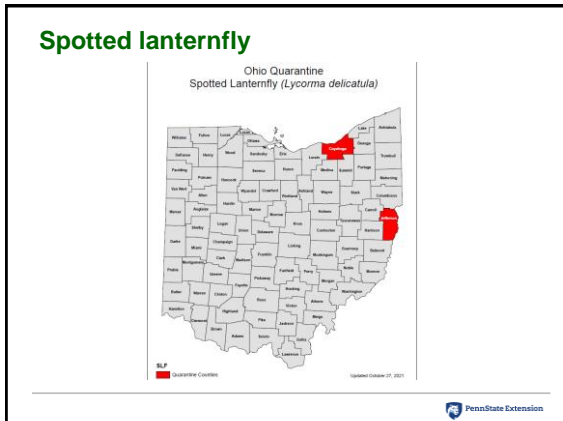
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### Spotted lanternfly

Table 3. Contact products for nymphs and adults.

Active Ingredient	Toxic to Birds	Toxic to Fish	Toxic to Bees	Activity Against SLF	Residual Activity
Beta-cyfluthrin	M	H	H	Excellent	Excellent (up to two weeks of activity)
Bifenthrin	M	H	H	Excellent	Excellent (up to two weeks of activity)
Carbaryl	S	N	H	Excellent	Good (several days of activity)
Zeta-cypermethrin	S	H	H	Excellent	Poor
Malathion	M	H	H	Excellent	Poor
Neem oil	—	H	H	Good	Poor
Natural pyrethrins*	N	H	M	Excellent	Poor
Insecticidal soaps*	N	N	N	Good	Poor
Tau fluvalinate, tauconazole	H	H	N	Excellent	Poor
Paraffinic oil or horticultural spray oil*	—	—	—	Good	Poor

N = nontoxic; S = slightly toxic; M = moderately toxic; H = highly toxic; — = data not available.  
 \*Some products may have organic labeling.  
 This table is based on the experiments we have done to date and should not be considered final or complete. The contact insecticides can include spraying on trunk, branch, and foliage.

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### Spotted lanternfly

Table 4. Systemic products for spotted lanternfly activity.

Active Ingredient	Toxic to Birds	Toxic to Fish	Toxic to Bees	Application Method	Recommended Timing	Activity Against SLF	Residual Activity
Dinotefuran	—	—	H	Soil drench, trunk spray, or trunk injection	July to September	Excellent	Excellent
Imidacloprid	M	M	H	Soil drench or soil injection	After flower to July	Variable	Variable
Imidacloprid	M	M	H	Trunk injection	July to August	Variable	Excellent

N = nontoxic; S = slightly toxic; M = moderately toxic; H = highly toxic; — = data not available.  
 This table is based on the experiments we have done to date and should not be considered final or complete.

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### Spotted lanternfly

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LEARN HOW TO SLOW THE SPREAD OF THE INVASIVE SPOTTED LANTERNFLY >

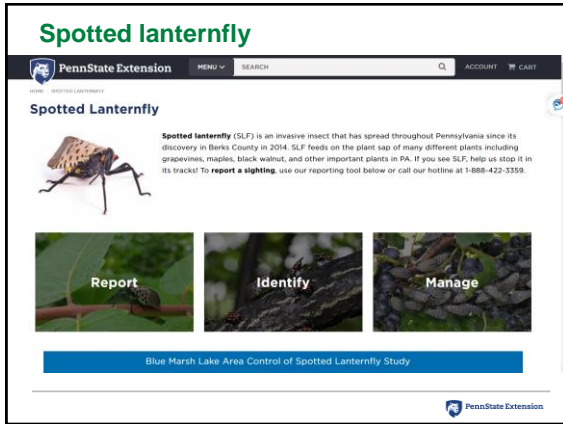
CONJUGIOUS INFORMATION AND RESOURCES FOR THE EXTENSION COMMUNITY >

Practical Forest Management  
Education You Can Trust

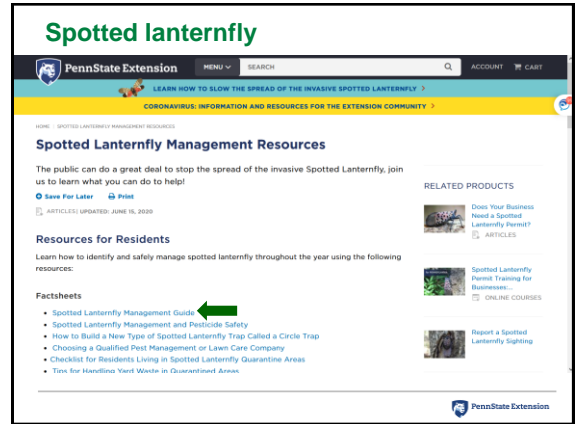
What do you want to learn about?

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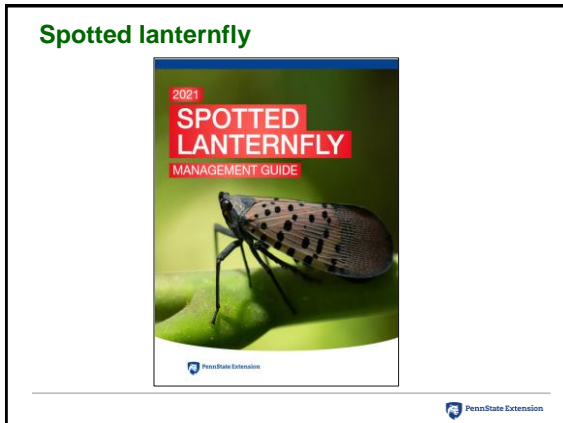
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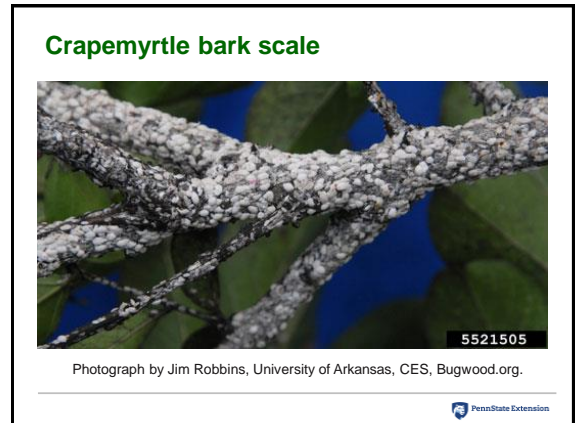
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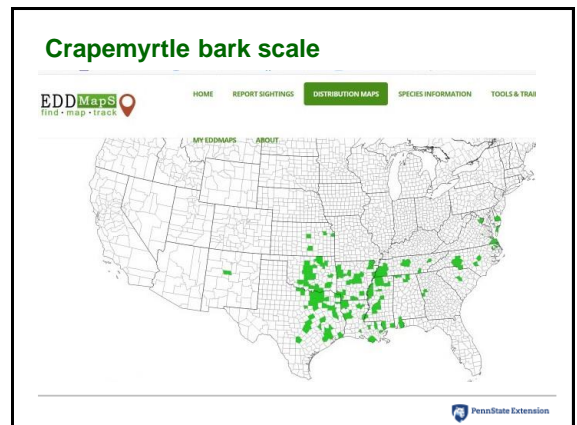
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### Crapemyrtle bark scale

- Richardson, Texas, a Dallas suburb in 2004, now at least one county in 16 states, closest is northern VA and DE.
- Widely distributed in Asia, especially China, which is thought to be its native range. It is also found in Japan, Korea, and India.
- Produces **honeydew**
- imidacloprid, imidacloprid + clothianidin, dinotefuran, and thiamethoxam
- Foliar sprays containing the insect growth regulator (IGR) products pyriproxyfen or buprofezin are also available for application as crawler sprays

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### Box tree moth



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### Box tree moth

- China, Japan, Korea
- Europe (Germany/Netherlands) 2007, Toronto 2018
- Considered an invasive pest in 24 European countries
- All *Buxus* species, no preference *B. sempervirens* or *B. microphylla*



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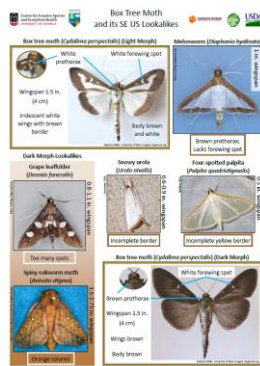
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### Box tree moth

- Between August 2020 and April 2021, a nursery in St. Catharines, Ontario shipped boxwood (*Buxus* species) that may have been infested with box tree moth to locations in six states—25 retail facilities in Connecticut, Massachusetts, Michigan, New York, Ohio, and South Carolina—and a distribution center in Tennessee.
- **At this time, the pest has been identified in three facilities in Michigan, one in Connecticut, and one in South Carolina**, and APHIS is working with state plant regulatory officials to determine whether other facilities may be impacted.

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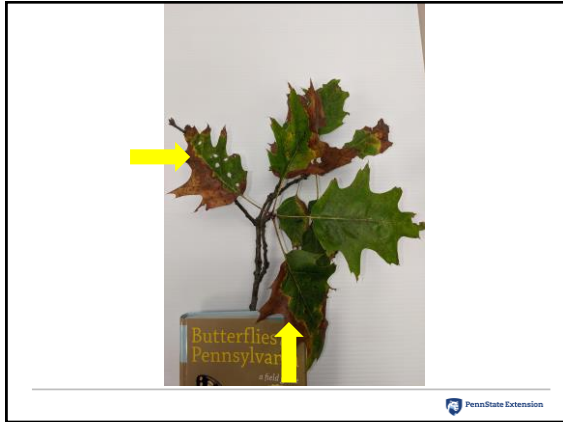
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### Bacterial leaf scorch



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### Bacterial leaf scorch

- *Xylella fastidiosa*, **blocks xylem**, vectored by leafhoppers and spittlebugs
- Affects primarily pin and red oak but has also been found in white oak.
- Leaf margins die and have a **distinct yellow border** separating the dead tissue from the green tissue. The symptoms progress toward the base of the leaf in an undulating front.
- Defoliation is not usually a symptom on red oak but water sprouts (epicormic shoots) develop on red oak as the disease progresses.
- Oxytetracycline (Bacastat), paclobutrazol (Cambistat) improve drought tolerance and build up defensive chemicals. **No cure.**

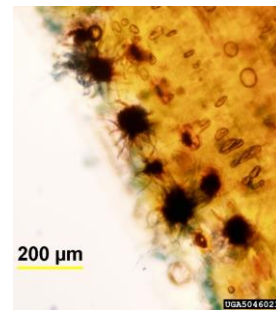
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### Rhizospaera and Stigmina



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### The rise of *Stigmina*



Joseph O'Brien, USDA Forest Service, Bugwood.org

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### *Stigmina*

- Similar in appearance to *Rhizospaera* needlecast
- Infection period in the spring and early fall
- Blue spruce is highly susceptible, also Norway and white
- azoxystrobin (Heritage), chlorothalonil (Daconil), mancozeb (Dithane, Protect), thiophanate-methyl (Cleary's 3336)

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### Beech leaf disease



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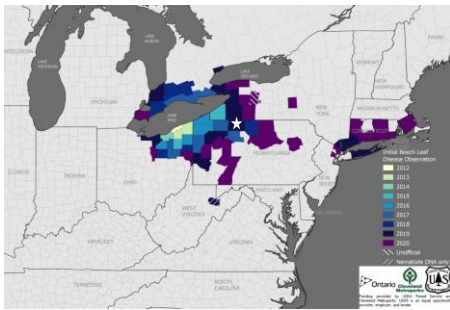
### Beech leaf disease



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### Beech leaf disease



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### Beech leaf disease

- Beech leaf disease (BLD) was first discovered affecting American beech trees in Lake County in northeastern Ohio in 2012.
- Foliar-feeding nematode, *Litylenchus crenatae* subspecies *mccannii*
- Overwinter in the leaf bud
- The disease **may spread** through beech clone clusters along the interlocking roots, rain splash, and biotic vectors such as through contact with songbirds (external or via consumption of plant materials).

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### Beech leaf disease



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### Poison hemlock

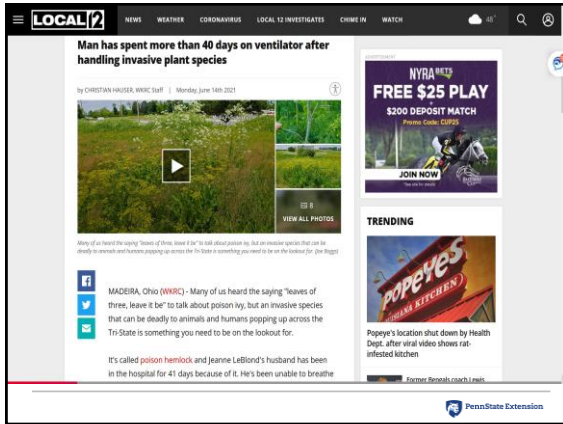
- Biennial



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### Poison hemlock (*Conium maculatum*)

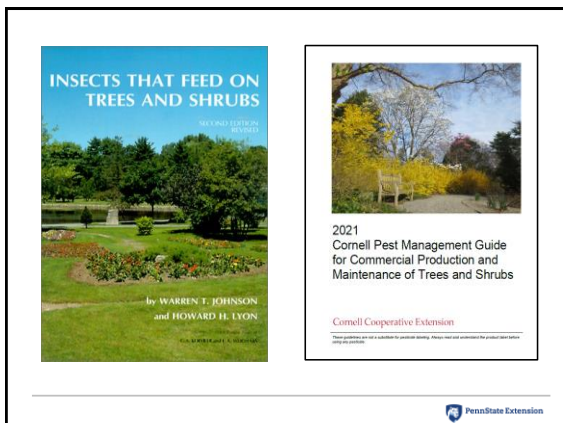
- **Biennial**, which means the first year of growth ends with a low growing (basal) rosette of foliage.
- During the second year, the stem, branches and flowers are produced. Poison hemlock can reach up to 6 feet in height.
- The white flowers are produced throughout the summer from June into August. Individual flowers are small but clustered in an umbrella-like grouping, which makes them noticeable. The plants overall appearance resembles carrot and parsley.
- As the plant puts on vertical growth, the **stem develops purple spots**, which are very distinctive.
- **All parts of poison hemlock are toxic to humans and other animals.** The roots and seeds contain the highest concentration of alkaloids.

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### Poison hemlock (*Conium maculatum*)

- Poison hemlock has a long tap root (10 inches) and extensive fibrous roots. Hand removal is difficult because of the tough root system and the fact that **the plant sap is, along with being toxic, a skin irritant.**
- Use of weed trimmers needs to be conducted using precautions so that plant material doesn't come into contact with the body.
- **No pre-emergent herbicides** to use against poison hemlock in ornamental settings.
- **Post-emergents include:** diquat, pelargonic acid (Scythe, burndown), glyphosate (all are non-selective), and 2,4-D. The most effective approach is to treat the 1<sup>st</sup> year rosettes and not the larger, mature plant.

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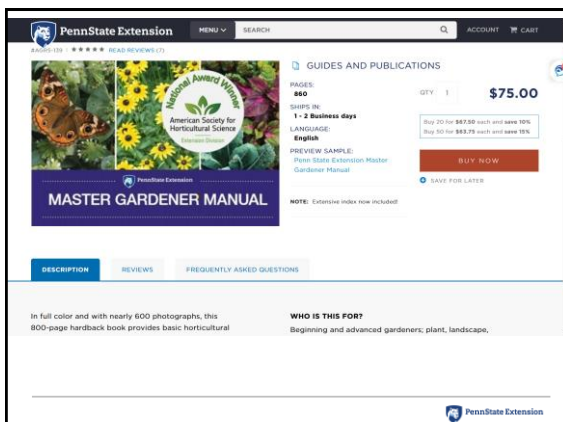
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