College of Agriculture, Food and Environment
Cooperative Extension Service

Kentucky Nursery LISTSERV Bulletin

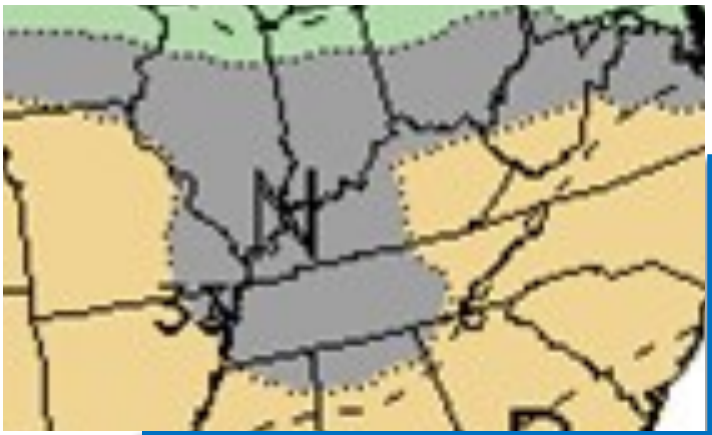
University of Kentucky Nursery Crops Team **End of April 2021**

Drier than Average Start in East, Warmer/Wetter Overall

A drier than average pattern is predicted to affect most of the southern half of the united states in the first half of may, which includes the eastern third of the commonwealth. Overall in May, conditions in Midwest, the Ohio River Valley, and Southeastern US are forecast to be wetter than average so we should see increased precipitation in the second half of May.

The forecast for temperatures is simpler: warmer than average. Warmer than average is the trend for the first part of May, the entire month of May, and the months of May, June, and July. It should be noted the National Weather Service is will be using the 30-year period from 1991-2020 for averages, and no longer calculating averages with data from 1981-2010. This shift forward happens every 10 years and has been the process since the inception of international meteorological standards in 1935. You can read more about this here.

See **UKAg Weather's Long Range Outlooks** for a variety of forecasts of temperature and precipitation probabilities.



May 05-11, 2021 Precipitation Probability
Image: NOAA Climate.gov, 27 APR 2021

Nursery Crops Extension & Research Team

Winston Dunwell
Extension Professor
270.365.7541 x209

Joshua Kight
Extension Associate
859.257.0037

https://NCER.ca.uky.edu/

Joshua Knight, Senior Extension Associate & Managing Editor

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Avoid Introduction of Boxwood Blight into the Landscape

Kimberly Leonberger, Extension Associate, Plant Pathology
Nicole Ward Gauthier, Extension Professor, Plant Pathology

Boxwood blight can be devastating to American boxwood cultivars, which are common in the Kentucky landscape. Complete defoliation can occur within a week and plants can die within a single growing season. Use of tolerant cultivars, cultural practices, and fungicides can reduce incidence and spread of boxwood blight.

Figure 1. Early symptom of boxwood blight include the development of circular leaf spots with dark borders. (Photo: Nicole Ward Gauthier, UK)

Boxwood Blight Facts

- Symptoms on leaves can appear as light or dark brown circular leaf spots with darker borders (Figure 1). These symptoms often go unobserved due to rapid defoliation. Defoliation of the lower plant canopy is often the first obvious symptom of boxwood blight (Figure 2).
- Dark brown or black streak-like lesions appear on infected stems (Figure 3).
- Favored by warm, humid weather.
- Caused by the fungus *Cylindrocladium buxicola*.
- The pathogen can survive buried in soil for 1 year and on plant debris for at least 6 years.
- The disease may be spread by splashing water, wind, tools, clothing, and wet hands. Long distance movement is reliant upon the transport of infected plants, infested soil, or contaminated equipment.

Figure 2. Defoliation of the lower portions of the plant is often the first noticeable symptom of boxwood blight (Photo: Nicole Ward Gauthier, UK)

Avoid Introduction of Diseased Plants

- Careful selection of healthy plant material is the first step to prevent spread.
- Inspect nursery plants carefully; do not purchase unhealthy or symptomatic plant material.
- Discuss concerns with landscape contractors before new landscapes are installed.
- Nurseries and garden centers should communicate plant history with suppliers before receipt of new material. All shipments should be inspected before unloading.

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Cautiously Introduce New Plants into Established Landscapes

- Protect established landscapes, especially if valuable boxwood are on site.
- Introduce only symptom-free plants into landscapes.
- If valuable or established boxwood already exist, avoid hasty introduction of new boxwood plants. Move new plants in slowly by setting up a transitional site or quarantined area that can serve as a holding area for four weeks. If plants remain vigorous and symptom-free, they are likely safe to introduce to landscapes.

Figure 3. Symptoms of boxwood blight on stems may appear as dark brown or black streak-like lesions. (Photo: Nicole Ward Gauthier, UK)

Table. 1. Susceptibility of 23 commercial boxwood cultivars to boxwood blight

(Compiled from research by Ganci, Benson and Ivors, North Carolina State University, 2012. Refer to latest cultivar trial results at http://plantpathology.ces.ncsu.edu/pp-ornamentals/)

Highly susceptible	*B. sempervirens* 'Suffruticosa' *B. sinica* var. *insularis* 'Justin Brouwers'
Susceptible	*B. microphylla* var. *japonica* 'Morris Dwarf' *B. microphylla* var. *japonica* 'Morris Midget' *B. sempervirens* 'Jensen' *B. sempervirens* 'Marginata' *Buxus* X 'Glencoe' (Chicagoland Green) *B. sempervirens* 'American' *B. sempervirens* 'Elegantissima'
Moderately susceptible	*Buxus* X 'Green Mound' *Buxus* X 'Conroe' (Gordo) *B. microphylla* 'Green Pillow' *B. microphylla* 'Grace Hendrick Phillips' *B. microphylla* 'Jim Stauffer' *Buxus* X 'Green Mountain'
Moderately resistant	*B. microphylla* 'Winter Gem' *B. sempervirens* 'Dee Runk' *B. sempervirens* 'Fastigiata' *Buxus* 'Green Gem' *B. microphylla* 'John Baldwin'
Most resistant (recommended for new plantings)	*B. microphylla* 'Golden Dream' *B. harlandii* *B. sinica* var. *insularis* 'Nana' *B. microphylla* var. *japonica* 'Green Beauty'

Source: Ganci, Benson, and Ivors, North Carolina State University, 2012 via Best Management Practices for Boxwood Blight, Virginia Cooperative Extension Publication, PPWS-29NP

Management Options

- If boxwood blight is suspected, contact your local Extension agent, who may submit a sample to the UK Plant Disease Diagnostic Lab for confirmation.
- If boxwood blight is confirmed, the following management options are recommended:
- Diseased boxwoods in landscapes should be removed immediately to prevent spread.
- Replant landscapes with boxwoods that have disease tolerance. Some recommended cultivars are listed in Table 1.
- Diseased boxwoods grown for commercial sale should be destroyed and not sold.

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Once boxwood blight has been diagnosed in the landscape or nursery, take these steps to prevent infections to nearby healthy boxwoods:

- Increase plant spacing and prune dense shrubs/trees within the landscape to allow for air movement, reduced humidity, and rapid leaf drying.
- Minimize overhead watering and sources of leaf wetness that can increase fungal spore production.
- Fungicides do not cure boxwood blight. Use of fungicides can help protect nearby healthy plants, but residual protection lasts only 7 to 14 days.
- Homeowners can utilize fungicides containing chlorothalonil to protect plants from infection or suppress disease development. Always follow label directions when utilizing fungicides.
- Commercial growers and retail centers should contact UK Extension Agents and/or Specialists for specific fungicide recommendations.

Additional Information

- Boxwood Blight (PPFS-OR-W-20)
- Homeowner's Guide to Fungicides (PPFS-GEN-07)
- Landscape Sanitation (PPFS-GEN-04)
- Susceptibility of Commercial Boxwood Varieties to *Cylindrocladium buxicola* (North Carolina State University)
- Best Management Practices for Boxwood Blight (Virginia Cooperative Extension)
- New Generation Boxwoods https://www.newgenboxwood.com/ *(Editor's Note: This additional resource provided by Dr. Win Dunwell, Extension Professor of Horticulture)*

Mapping Brood X Periodical Cicadas in Kentucky

Jonathan L. Larson, Extension Professor, Entomology

What is happening with cicadas in 2021?

2021 will feature the emergence of Brood X, one of the groups of periodical cicadas that lives in Kentucky. Brood X is a 17-year brood, meaning that the insects that will be aboveground as adults this year were born in 2004 and have been developing in the soil ever since. The below ground nymphs have been siphoning off sap from their host trees and now that they are surly teenagers, they are ready to become adults. The adult cicadas should begin to appear around the beginning of May, more specifically when the soil 8 inches below ground reaches 64°F, which often coincides with the blooming of outdoor irises.

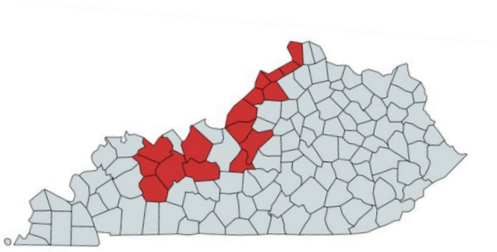
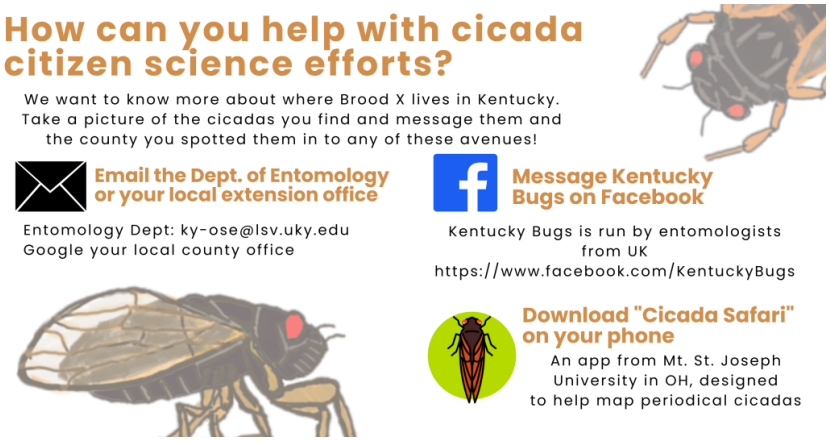


Figure 1. The counties that should expect to see the most cicadas in 2021 are found mostly in northern Kentucky, near river corridors.

Where will this happen?

If you have been in Kentucky for a while, you have probably experienced periodical cicada emergences before. The history of these cicadas in the state has been chronicled by researchers in the past and you can see some of the maps generated by them in the extension publication, ENT-52. If you look at those maps you will notice that Broods X (10), XIV (14), and XXIII (23) are the ones with the widest historical distribution in the state.

However, when we look at sources, such as Cicada Mania and the University of Connecticut, we will notice that the expected areas with the most cicadas in Kentucky is considerably smaller than the historical maps might indicate. According to these sources, the **counties that should expect to see the most cicadas are Boone, Breckenridge, Bullitt, Carroll, Daviess, Gallatin, Grayson, Henry, Jefferson, La Rue, McLean, Muhlenberg, Nelson, Ohio, Oldham, Trimble.**



That does not mean that there won't be cicadas in any other counties, and in fact, we have a lot of interest in knowing exactly where people are seeing them in the state. We would appreciate it if folks who spot a periodical cicada in Kentucky could report that sighting as part of a citizen science effort to map these critters in our state. There are multiple avenues to do this, including using Cicada Safari, a mapping app you can download on your phone. Users can take a photo or video of the cicadas they see and upload it to a database where they will note the location of the cicadas and confirm their species identification. This will help with a national effort, as well as the Kentucky effort, to better map the periodical cicadas and improve understanding of their emergences. This is technology we didn't get to use the last time Brood X was aboveground, and we hope that Kentuckians will use it. Alternatively, people can also take a picture and note the location of their find in an email message to the Office of the State Entomologist or to Kentucky Bugs on Facebook

Snow and Cold in April

Josh Kight, Extension Associate, Nursery Crops

It appears that mother nature has decided to throw Kentucky a curve ball in late April and decided to low temperatures and snow in most of the state. Although this is not uncommon in Kentucky it is rather aggravating to say the least. Bad weather delays shipping and setting out liners. Damage to plants will not be known for a month at the very least least.

The Good news after talking and visiting with nurseries the last month, it appears that most all nurseries have finished Spring digging, and some have even set out all liners. The drastic change in weather, although not ideal may allow for the opportunity for nurseries to resume digging to fulfill any extra orders or missed trees, that would normally have to wait until the fall.

The year 2021 may have its own set of challenges, it seems that every year there is new problem that the nursery industry is dealing with, but the industry seems to pivot and make changes on the fly and continually rises to meet the challenges presented with great success. Demand for plant material is still very high, and the pandemic is ending 2021 could be the best year ever.

Valley Hill Nursery

Photo: Josh Kight

The University of Kentucky's **Nursery Crop Extension Research Team** is based out of two locations across the bluegrass to better serve our producers.

The **University of Kentucky Research and Education Center (UKREC)** in **Princeton** serves western Kentucky producers while our facilities and personnel on main campus in **Lexington** serve central and eastern Kentucky producers.

Check out our YouTube Channel!

Contact Us

Western Kentucky
UK Research & Education Center
1205 Hopkinsville Street
P.O. Box 496
Princeton, KY 42445
270-365-7541

Central / Eastern Kentucky
UK Main Campus
Horticulture Department
N-318 Ag. Science Center North
859-257-1273

Visit us on the web at
https://NCER.ca.uky.edu/