

Kentucky Nursery LISTSERV Bulletin

University of Kentucky Nursery Crops Team

End of March 2016

Spring is here!

Spring officially began here on March 20th, and despite a few frosts, we have been getting several days of warmer weather. Pest and disease pressures should increase as we move into the seasons. The 8-14 Day Forecast from **UKAg Weather's Long Range Outlooks** calls for cooler than average temperatures and above average precipitation.

Warming temperatures mean more pressure from pests as well as increased release rates for slow and controlled release fertilizers. This month's articles encourage growers to start monitoring their container-grown stock early in addition to keeping an eye out for fire blight among ornamental pears.

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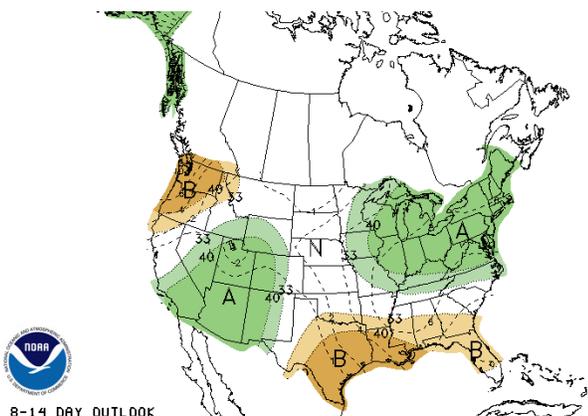
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8-14 Day Outlook, 29 MAR 2016,
Precipitation Probability, Image: NOAA

- **Early Season Pour-through**
- **Fire Blight**
- **Eastern tent caterpillar eggs hatching in Central KY**

Remember early season pour-through

Carey Grable, Extension Associate, Nursery Crops

For growers of container stock, monitoring your fertilizer levels and pH is a very important part your production schedule. A regular pour-through test of your crops can help fine tune your fertilization strategy.

A pre-fertilizer application test can show whether previous season's fertilizer application was too long lasting. It can also help show any issues with pH that may affect plant growth as the growing season begins. Subsequent pour-throughs can ensure that your plants are receiving adequate nutrients from your fertilizer.

The Southern Nursery Association's "Best Management Practices: Guide for Producing Nursery Crops" suggests an interval of two weeks between readings. Also, be sure to check the functionality of your monitoring device. Most meters require that the probe be kept damp at all times. Probes that have dried out may fail and give inaccurate readings.

For those unfamiliar with the pour-through technique, a [video guide](#) is available on the [UKRECHort YouTube channel](#).



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This is also a good time to have your water quality tested. Water testing is available through your county extension office. If you have questions about the pour-through procedure, please contact Carey Grable at cagrab2@uky.edu or (859) 257-0037.

Pour-through demonstration

Image: SNA.org

Don't Get Burned by Fire Blight, Disease Management Begins Now

Kim Leonberger, Extension Associate

Nicole Ward Gauthier, Extension Specialist

Fire blight is the most important disease of crabapple and pear in Kentucky. Symptoms are often not observed until late spring or early summer; however, initial infections occur at bloom. The pathogen survives winter in dead, dying, and diseased wood and in cankers. **Removal of these pathogen sources can reduce spread of fire blight and should be completed in late winter while the pathogen is dormant.**

Fire Blight Facts

- Early symptoms include wilt of flower cluster and blossom death (Figure 1). Disease spreads to shoots or branches where tips wilt and rapidly die (blight) to form a characteristic 'shepherd's crook' (Figure 2). Dark brown, sunken cankers (stem lesions) develop and expand to girdle branches, resulting in branch death (Figure 3).
- Potential hosts include apples, pears, and several landscape woody ornamentals in the rose family.
- Primary infection occurs at bloom and may continue through petal fall or until shoot elongation ends.
- Rainy conditions, periods of high humidity, and temperatures between 65-70°F favor disease development.
- Caused by the bacteria *Erwinia amylovora*.
- Bacterial cells overwinter in dead, dying, and diseased wood.



Figure 1: Apple flower clusters infected with fire blight

Image: Nicole Ward Gauthier, UK



Figure 3: Dark brown, shrunken cankers develop, expand to girdle branches

Photo: Nicole Ward Gauthier, UK



Figure 2

Rapid shoot death from fire blight may result in a 'shepherd's crook' appearance

Photo: Nicole Ward Gauthier, UK

Management Options

Select varieties that are tolerant or resistant to fire blight.

Maintain plant health with proper nutrition and irrigation practices.

Prune to increase air flow through the plant canopy.

Remove infected plant tissues during winter when plants and pathogens are dormant. Do not prune when trees are wet. Burn, bury, or otherwise dispose of diseased material.

Bactericides should be applied preventatively. Once infection occurs, sprays are not effective. Homeowners can apply copper during dormancy to reduce overwintering inoculum. Additional bactericides available for commercial growers are presented in the *Midwest Fruit Pest Management Guide* (ID-232). Always follow label directions when utilizing bactericides.

Fire blight risk throughout the season can be determined by disease development models. Visit the UK Ag Weather Center site for additional information (http://weather.uky.edu/php/fire_blight.php)

Additional Information

Fire Blight (PPFS-FR-T-12)

http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-FR-T-12.pdf

Fruit, Orchard, and Vineyard Sanitation (PPFS-GEN-05)

http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-GEN-05.pdf

Commercial Midwest Fruit Pest Management Guide (ID232)

http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/ID-232.pdf

Eastern tent caterpillar egg hatch begins in Central KY

Holly Weimers

Eastern tent caterpillar egg hatch was reported March 17 in Scott County.

"This year's first observed hatch is seven days earlier than 2015, reflecting the warm spring temperatures," said Lee Townsend, University of Kentucky College of Agriculture, Food and Environment extension entomologist. "The hatch is not synchronized; tiny larvae will continue to emerge over the next two weeks from eggs laid last summer on wild cherry, flowering cherry, apple and related trees. This is a hardy insect so predicted low temperatures in the 30-degree Fahrenheit range late this week should not affect their survival."



Newly hatched eastern tent caterpillars

Photo: Lee Townsend, UK-Entomology

Eastern tent caterpillars spend the winter as tiny, fully developed insects in distinctive egg masses that encircle twigs of wild cherry

and related trees. It is one of the first insect species to become active in the spring and is well adapted to survive Kentucky's erratic winter and early spring weather.

Populations of eastern tent caterpillars have been increasing steadily over the past four to five years.

This trend is likely to continue, producing locally high numbers in some areas, Townsend said. The rise in numbers is normal and mirrors the cyclical aspects of insect populations in general. Eastern tent caterpillar cycles are roughly 10 years in length. After two or three high years, the numbers usually drop again due to diseases or natural enemies.

When mature, the large, hairy caterpillars wander from their developmental sites along fence lines. Consumption of large numbers of caterpillars by pregnant mares precipitated staggering foal losses in the Mare Reproductive Loss Syndrome outbreak of 1999-2001.

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MRLS can cause late-term foal losses, early- and late-term fetal losses and weak foals. UK researchers conducted studies that revealed horses will inadvertently eat the caterpillars, and the caterpillar hairs embed into the lining of the horse's alimentary tract. Once that protective barrier is breached, normal alimentary tract bacteria may gain access to and reproduce in sites with reduced immunity, such as the fetus and placenta.

Townsend said horse owners and farm managers with pregnant mares should begin to monitor fence lines containing wild cherry and other host trees in about 10 days. They should look for small tents produced by developing caterpillars.

If practical, farm managers should plan to move pregnant mares from areas where these trees are abundant to minimize the chance of caterpillar exposure. The threat is greatest when the mature tent caterpillars leave trees and wander to find places to pupate and transform to the moth stage.

Eastern tent caterpillars are also a significant nuisance to people living near heavily infested trees. The caterpillars may wander hundreds of yards in search of protected sites to spin cocoons and pupate.

To get rid of active caterpillars, Townsend recommends pruning them out and destroying the nests if practical. Farm managers can use any one of several biorational insecticides registered for use on shade trees as needed. Spot treatments to the tents and the foliage around them can be applied according to label directions, which vary by product.

For more information about how to assess trees for egg masses, the UK Entomology publication, Checking Eastern Tent Caterpillar Egg Masses is available at <https://entomology.ca.uky.edu/ef449>

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Eastern tent caterpillar egg mass

Photo: Duke Elsner, MSU Extension

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.

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