

A Successful 2022 Kentucky Green Industry Summer Summit Event in Louisville!

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The Kentucky Green Industry Summer Summit, presented by KNLA, was held June 22-23, 2022 in Louisville. With over 100 attendees over the 2-day event, it was a great way to get our in-person events started again. It was great to have everyone back together!

The attendees started the event on June 22 with a bus tour which included stops at Churchill Downs (Figure 1), Waterfront Botanical Gardens and Kentucky Kingdom. Each host site graciously provided an in-depth tour of their facilities and background on how the grounds are managed.

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Figure 1. Participants in the bus tour on Wednesday stop at Churchill Downs for a group photo.

The evening event featured a tour of Yew Dell Botanical Gardens in Oldham County, hosted by Paul Cappiello and his knowledgeable staff. The keynote speaker for the evening, Carol Reese, a retired Horticulture Extension Specialist from the University of Tennessee. She hosted a funny and very informative conversation on Natives: Facts & Fallacies (Figure 2). If you haven't had the pleasure of attending a talk with Carol, we strongly encourage you to!

- **KNLA Summer Summit Recap**
- **Heat Safety Tool Now Available**
- **Elongate Hemlock Scale on Evergreens**

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Figure 1. Carol Reese speaks to the audience on facts and fallacies surrounding native plants.

The long-standing tradition of the KNLA Hall of Fame induction ceremony was held on June 22 at Yew Dell Botanical Gardens. We welcomed the 2022 class including Betty Gill, Brent Grunfeld, Dr. Dewayne Ingram, Richard Weber and Charlie Wilson. Their unwavering commitment to the KNLA and green industry leaves a last impact on our industry, and we are grateful for their support.

June 23 provided attendees with a full day of lectures on Pest Management and Plants/Design. The CEU approved sessions were well attended with active discussion and conversation among speakers and attendees.

We want to extend a special thank you to our bus tour sponsor, Snow Hill Nursery/Melvin & Mason Moffett and to our vendors Bayer Ornamentals, Natorps and Ammon Nursery. Plans are underway for the winter event, details coming soon!

Heat Safety Tool Now Available

Joshua Knight, Senior Extension Associate, Horticulture

The warmer days of the growing season are here, and with them the potential for heat-illness among outdoor workers. Since the human body primarily cools itself through evaporation of sweat, when the air grows nearer to its saturation point, the sweat on our skin takes longer to evaporate and cool us.

The combination of high heat and high humidity (a high heat index) can quickly overwhelm this biological mechanism and create danger for outdoor workers. The US Department of Labor (DOL), Centers for Disease Control (CDC), National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA) have collaborated to develop a free mobile app (available for Android and iOS) to help workers and supervisors calculate the heat index and risk level for outdoor workers at the job site, which updates in real time.

In one click, users can get reminders about recommended protective measures which should be taken at that risk level to protect workers from heat-related illness. These include recommendations on frequency/scheduling of rest breaks, fluid intake, emergency planning, work operation adjustment, monitoring and recognizing heat-illness signs & symptoms, and gradual building of workload for new workers. As a reminder, working in full sunlight can increase heat index values by 15°F.

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For Spanish-speaking farmworkers and supervisors, the Heat Tool is available in English and Spanish and will display in whichever language the phone is set to.

Resources

Heat Safety Tool Homepage <https://www.osha.gov/heat/heat-app>

Department of Labor, OSHA Page for Heat Illness Prevention <https://www.osha.gov/heat>

Check Your Evergreens For Elongate Hemlock Scale

Dr. Jonathan Larson, Extension Specialist, Entomology

Elongate hemlock scale (EHS) is a relatively new scale insect pest for Kentucky. I know it seems like we keep coming up with new ones for you to deal with but this one has been in the US since the early 1900's, it has just taken its time getting to the bluegrass state. As the name implies, it is primarily a pest of hemlocks, but it has been found to feed on firs, spruce, pines, and yews. I have seen samples come to the UK Plant Disease Diagnostic Laboratory that were on pines and firs.

Pest Description

This species is an armored scale, meaning that the pest itself is hiding underneath a waxy outer coating. Scales are nature's greatest couch potatoes; they spend most of their life glued to the plant sucking juices out. The waxy coating of armored scales protects them but also help them to blend in on their host plant. With elongate hemlock scale, the females are about 1/20th inch long when fully grown and the waxy cover that envelops them is orange-brown to brown. If you peel the waxy cover off the insect, you will find a small yellow colored bug underneath. Males are smaller than females and have white, waxy covers. Males will eventually mature into winged adults that can fly around to mate with females. The small, six legged, immatures that emerge from eggs are known as crawlers and are yellow.



Figure 3. Elongate hemlock scales seem to prefer the undersides of needles. Infested needles can contain many scales and the white coated males help to make an infestation stand out. Image by Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org

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As with many armored scale pests, feeding by the EHS can cause leaf yellowing which resemble chlorosis. As the scales feed, they may induce needle loss and branch dieback and if left unchecked, possible mortality. Affected plants may also have thin canopies. If you are scouting for EHS, focus your efforts on the undersides of needles. You may note the females, as they are the larger of the sexes, but males are usually the first noticed. The white waxy coating they develop gives heavily infested trees an off-color appearance, with tree bases seemingly going grey or looking "frosted".

Life cycle in Kentucky

Unfortunately, the elongate hemlock scale has two overlapping generations in the southern portion of its US range. This means that you can often find all life stages of it on trees at any given point in the year, which complicates management of scale crawlers. Peak egg hatch and crawler emergence most likely happens in June in Kentucky, but crawlers can emerge at almost any time, even in warmer parts of winter months.

Management

Armored scale management can focus on either targeting the crawler stage with contact insecticides or can rely on a systemic treatment to manage all life stages. Crawler control with elongate hemlock scale can be difficult due to their overlapping life stages. It requires constant monitoring for small, mobile immatures on the needles and the use of products like bifenthrin, the insect growth regulator buprofezin, or organic options like horticultural oils. Following through on using the IGR and horticultural oil can result in long term management of the pest though! Applying a dormant oil in late winter can also help to prevent a new flush of crawlers in the spring.

Managing this pest is simpler with a systemic application of dinotefuran. Most commonly known as Safari, this systemic neonicotinoid works well against armored scale pests. Its cousin chemistry, imidacloprid (best known as Merit), is usually not effective against armored scale pests. If treating for EHS with dinotefuran, you can apply to the soil or to the base of the trunk for systemic uptake. This is best done before bud break in the spring or in the fall.

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!](#)
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