Kentucky Fruit Facts

January-February 2024
http://www.uky.edu/hort/documents-list-fruit-facts

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Inside this Issue:

Note: We have ceased publishing Fruit Facts as a hard copy or mailed newsletter. If you would like to continue receiving Fruit Facts, please sign up for email delivery as described at the end of this newsletter or contact your County Extension Office to have them print a copy for you.

Fruit Crop News

Daniel Becker, U.K. Extension Associate

As days lengthen and temperatures warm, the desire to get outside and practice some pruning increases. Delia Scott, UK Extension Associate for Beginning Farmers, has worked with Emeritus Extension Professor, Dr. John Strang to produce new apple pruning videos. Links can be found in her article later in this newsletter. For peach pruning, this is a good video from Penn State Extension: https://extension.psu.edu/the-peach-pruning-blueprint. For blueberries, I really like this pruning video by Bill Cline, Blueberry Specialist, North Carolina State University: https://www.youtube.com/watch?v=E_fglEl9mVo. For a hands-on demonstration of blueberry and blackberry pruning, see these videos at https://www.youtube.com/watch?v=a_GQI7ROac0 and https://www.youtube.com/watch?v=AAeWAktjwaU.

The University of Arkansas has a new web page dedicated to recommendations for the rotating cross-arm (RCA) trellis (https://www.uaex.uada.edu/farm-ranch/crops-commercial-horticulture/horticulture/commercial-fruit-production/rca-trellis-blackberry.aspx). There has been increasing interest in this new training system for blackberries in recent years. The web page has a video series explaining the RCA system and includes a new RCA handbook that contains recommendations developed from trials over the last six years.

I suggest that anyone thinking about trying out the RCA trellis to start small, with maybe only a single row. The learning curve is steep compared to the T- or V-trellis and more labor is necessary to properly manage. In University of Arkansas trials, RCA management using the standard primocane bending method required a 76% increase in labor hours compared to a T-trellis. Fan training of primocanes can reduce labor by 26% compared to the standard method, but still requires 50% more labor than the T-trellis. Labor increases with RCA management are offset by an estimated 33-40% increase in harvest labor efficiency and 6-11% reduction in culled fruit due to pest damage and abiotic disorders.

I have found much the same labor intensity in my own experience working with the RCA trellis. Most of the extra labor comes during the summer months (July-September) after harvest when primocanes must be frequently trained to direct growth. Using twine to create “catch wires” to train primocanes rather than clipping each one to the canopy wires helps reduce labor expenditures with standard training practices, but still requires 47% more hours compared to the T-trellis. Having an experienced and dedicated source of summer help is necessary for this training system to work.

Upcoming Meetings

*Times are listed in **Central Time (CT)** or **Eastern Time (ET)** depending on location.*

Jan. 17-19. Illinois From Food to Flowers: Everything Local Conference. Crowne Plaza, 3000 S. Dirksen Parkway, Springfield, IL 62703. Registration is now open at https://www.specialtygrowers.org/everything-local-2024.html.

Jan. 23-24. Indiana Horticulture Conference & Expo. Hendricks County Fairgrounds, 1900 E. Main St., Danville, IN 46122. Register at https://www.indianahortconference.org/.

Jan. 25-27. Organic Association of Kentucky Annual Conference. Kentucky State University Harold R. Benson Research and Demonstration Farm, 1525 Mills Ln., Frankfort, KY 40601. For schedule and registration, visit https://www.oak-ky.org/registration.

Feb. 6. Southwestern Illinois Commercial Tree Fruit School. Knights of Columbus Hall, 19899 Illinois River Road, Hardin, IL 62047. For more information or to pre-register visit https://extension.illinois.edu/events/2024-02-06-2024-southwestern-illinois-commercial-tree-fruit-school or contact Ken Johnson at kjohnso@illinois.edu, 217-243-7424.

Feb. 7. Southern Illinois Fruit and Vegetable School. Doubletree Meeting & Event Center, 222 Potomac Boulevard, Mt. Vernon, IL 62864. For more information or to pre-register visit https://extension.illinois.edu/events/2024-02-07-2024-southern-illinois-fruit-and-vegetable-school or contact Chris Lueking at leuking@illinois.edu, 618-548-1446.

Feb. 15-17. PickTN Conference. Cool Springs Marriott, 700 Cool Springs Blvd., Franklin, TN 37067. $150 early bird registration ends Feb. 1. After Feb. 1, registration is $175. For registration and hotel information, visit https://www.picktnconference.com/.

Feb. 26-28. North American Raspberry & Blackberry Conference. This year's conference will be at the Wilmington Convention Center, 10 Convention Center Dr., Wilmington, NC 28401. Registration, event schedule, and hotel booking can be found at 2024 Wilmington - NARBA (raspberryblackberry.com).

Mar. 7 (Thursday). KSHS Fruit Grower Orchard Meeting. Schedule TBD. Stepping Stone Farm & Reed Valley Orchard. 1674 Cynthiana Rd., Paris, Ky 40361. Brandon Barnette (email: steppingstonefarm2@gmail.com, mobile: 859-588-3622) and Dana Reed, hosting.

Apr. 30 (Tuesday). KSHS Fruit Grower Orchard Meeting. Schedule TBD. Eckert's Country Store and Orchard. 1390 Pickard Pike, Versailles, KY 40383. Megan Fields hosting: megan.fields@eckerts.com, 859-509-7228 (mobile).

USDA NAP Pricing Survey Now Available for Grower Input

By Daniel Becker, Extension Associate, Vegetables and Small Fruit Crops

The Noninsured Crop Disaster Assistance Program (NAP) provides financial assistance to producers of non-insurable crops when low yields, loss of inventory, or prevented planting occurs due to natural disasters. A fact sheet giving an overview of the program can be found at fsa_nap_noninsuredcropdisasterassistance_factsheet_2023.pdf (usda.gov). The Kentucky Horticulture Council also has a web page dedicated to various forms of insurance available for specialty crop growers that includes links to videos and other resources at https://kyhortcouncil.org/cropinsurance/. Insurance payments are updated annually and are based on average market value. Grower participation is necessary to report pricing of insurable crops. Without Kentucky specific data, growers will have to use national data that may be significantly lower than local prices. A link to the fruit survey is below. There is also a flier at the end of this newsletter with QR codes for the fruit and vegetable surveys that when scanned will direct you to the survey sites. NAP coverage is not required to take the survey. The deadline for reporting is March 1.

NAP Fruit Survey: https://www.surveymonkey.com/r/NAPFruit2023. Crops: apples, apple cider, peaches, nectarines, pears, plums, tart cherries, pawpaw, blackberries, blueberries, table grapes, wine grapes, raspberries, strawberries (matted row/plasticulture).

KY Berry Grower Surveys

By Nicole Gauthier, UK Plant Pathology Extension Specialist

Happy New Year Kentucky Farmers!

Do you grow berries commercially? If so, the University of Kentucky Extension Specialists need your help! In order to determine future priorities and growers needs for disease, insect, and weed management, we need more information about the current challenges that growers face. Information can be submitted through a survey for blueberries, brambles, and strawberries, independently. Each survey is quick and takes approximately 5-7 minutes to complete. All submissions are

anonymous. Responses to these surveys will assist in the development of new resources and trainings for growers.

Blueberry Growers Survey - https://uky.az1.qualtrics.com/jfe/form/SV_739YOWEjiqB8QYK

Bramble Growers Survey - https://uky.az1.qualtrics.com/jfe/form/SV_6fgkeBHHSiHHZhI

Strawberry Growers Survey - https://uky.az1.qualtrics.com/jfe/form/SV_eb5nmo54tJLxCBw

Thanks so much for helping us prioritize our programs and plan for 2024!

New Pruning Videos Available from UK Fruit Extension

By Delia Scott, UK Extension Associate for Beginning Farmers

Apple pruning season will be in full swing soon. If you need a refresher, check out these two new pruning videos that have been posted to the Martin-Gatton College of Agriculture, Food and Environment's YouTube channel! (https://www.youtube.com/user/UKAgriculture). Extension Associate Delia Scott and Emeritus Extension Professor Dr. John Strang discuss Pruning Tall Spindle Apple Trees (https://www.youtube.com/watch?v=GRUVSkXeJ40) and Pruning Central Leader Apple Trees (https://www.youtube.com/watch?v=LqGhPMWqGak). The tall spindle is a high-density supported training system with trees planted on dwarf rootstocks. Trees can produce a crop in as little as a year after planting. Central leader apple trees are pruned to a classic pyramid or oval shape, with a dominant shoot (or leader) in the center of the tree.

New Pesticide Labeling and Endangered and Threatened Species

By Ric Bessin, UK Entomology Extension Specialist

Over the next years and decades, the Environmental Protection Agency (EPA) will begin to add endangered and threatened species protections to pesticide labeling. This will occur as new products are approved or during the registration review process. I have seen several herbicide labels that now list the new endangered species protection requirements. The goal of EPA's Endangered Species Protection Program (ESPP) is to carry out EPA's responsibilities under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in compliance with the Endangered Species Act (ESA), without placing unnecessary burden on agriculture and other pesticide users. All pesticide products that EPA determines "may affect" a listed species or its designated critical habitat may be subject to the ESPP.

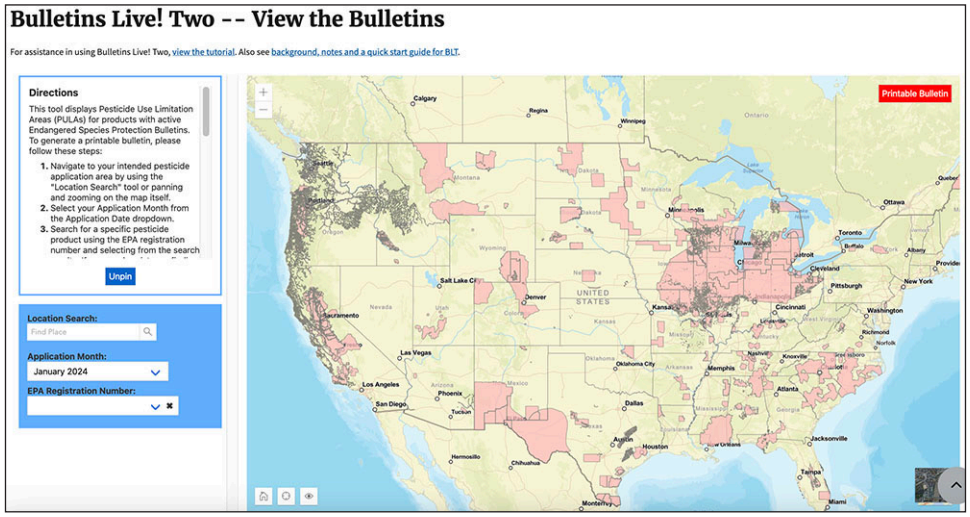

Figure 1. When directed by the label, applicators must visit the Bulletins Live! Two website to identify use limitations for the product and area of application no earlier than 6 months prior to application.

If the pesticide label directs you to use an Endangered Species Bulletin, then you are required to obtain a product-specific bulletin found in the Bulletins Live! Two system no earlier than 6 months prior to using the product (https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins). On this website, the applicator will need to indicate the area of application and EPA registration number(s) of the product(s) they will use in order to generate a bulletin. Applicators must follow any restrictions on these bulletins, as well as on the pesticide labelling for the application area, pesticide product, and application month. When referenced on a pesticide label, bulletins are enforceable use-limitations under the FIFRA. Often, there may not be any geographically specific use limitations for the product you are applying even if your label directed you to this website because either: 1) EPA has not yet completed the process of identifying whether additional geograph-

ically specific use limitations are needed, or 2) There are no additional geographically specific use limitations required for the time period and location you plan to apply the pesticide product.

EPA continues to complete Endangered Species Act consultations and update the 'Bulletins Live! Two' system with additional geographically specific use limitations that may be applicable to your pesticide product in the future. Therefore, before you apply a pesticide, check to see if new or additional directions for the product have been added to 'Bulletins Live! Two.' It's important to note, you have a 6-month window to obtain a bulletin before you apply a pesticide (e.g., you can obtain a bulletin January 1 to July 1 if you plan to apply the pesticide on July 1). If the product will be used again the following year, a new bulletin must be obtained.

Spotted Lanternfly Has Arrived in Kentucky

By Jonathan L. Larson, Entomology Extension Specialist

The spotted lanternfly (aka SLF) is the newest invasive species that has found its way to the Bluegrass State. In early October, a homeowner in Gallatin County noticed the adult form of this insect on their property and worked with their local county Extension agent to submit photos to reportapest@uky.edu. Thanks to this, the Kentucky Office of the State Entomologist was able to visit the site and collect specimens to submit for federal confirmation, officially certifying an infestation. Thus far, no other county has reported lanternflies. As with all invasive species, the spotted lanternfly causes trouble in the areas that they move in to, and Kentuckians should expect to see this pest more frequently in the coming years.

What is the Spotted Lanternfly?

SLF is very distinctive in appearance; the adult is about an inch long, with strikingly patterned forewings that mixes spots with stripes (Figure 1). The back wings are contrasting red, black, and white. The immature stages are black with white spots and develop red patches as they age. They are a type of planthopper; they are capable of jumping and can be quite fast.

Spotted lanternflies develop through a process called incomplete metamorphosis. This means that the female lays eggs, which will hatch to reveal "nymphs," immature insects that vaguely resemble the adult. They gradually get larger during the growing season, eventually developing their wings and becoming adults. SLF starts

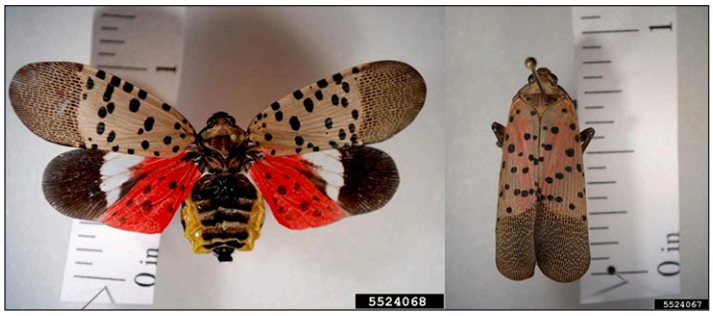

Figure 1. Adult spotted lanternflies are distinct looking insects; their forewings are half spotted and half reticulated, while the back wings are a mixture of black, white, and red. On the left, the wings are open and showing all of the color; on the right is how the insect is most likely to be encountered – with the wings closed over its back (Photos: Pennsylvania Department of Agriculture, Bugwood.org).

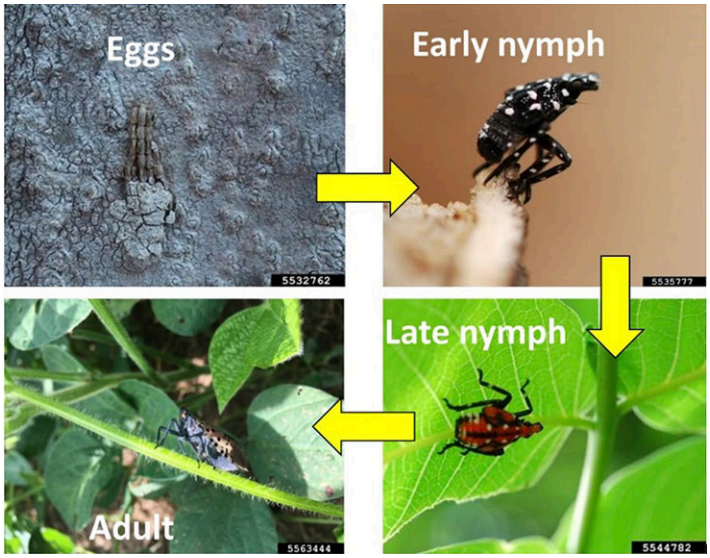

Figure 2. Spotted lanternflies start as eggs, which look like they are covered with brown-grey spackle, and then they develop through spotted nymphal stages before maturing into the adult form (Photos by Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org).

off black with white dots, and then before becoming adults, develop red markings (Figure 2).

How did it get to Kentucky?

The spotted lanternfly is a non-native insect that is from East Asia. The first confirmed infestations were found in Pennsylvania in 2014. Following that discovery, the pest has steadily made progress in infesting other states, such as New Jersey, Ohio, Delaware, New York, Connecticut, Maryland, and West Virginia. In 2021, an infestation was confirmed in Switzerland County, Indiana (directly across the Ohio River from Gallatin County, Kentucky). Further movement in Indiana has been confirmed in 2022 and 2023. In 2022, there was also confirmation of SLF in Cincinnati, OH, with the problem growing in 2023.

In late summer of this year, sites of SLF were con-

firmed in Illinois and Tennessee, as well. Just when it seemed that the insect might be in every state that touches Kentucky (but not actually in Kentucky), the local infestation was also discovered. Thus far, the number of insects discovered in Kentucky doesn't rival the infestations you might see images of online or in news reports from states in New England. It is possible that the Gallatin County population arrived via natural movement from Indiana. SLF can jump and fly, and their natural spread can take them 3 to 4 miles from an infested site in a given year. It is also possible that they were accidentally brought into the state on infested goods or on a car, truck, or other means of transport.

What does it do?

This pest is known to feed on more than 70 plant species, including specialty crops like grapes, apples, peaches, and hops, as well as trees such as maple and black walnut amongst other hardwoods, and fruit crops (Figure 3). Their preferred host for a portion of their life cycle is the tree of heaven (another non-native/invasive species). SLF is classified as a true bug, part of the order Hemiptera. They feed using piercing sucking mouthparts. As they feed, they excrete honeydew, a sugary fecal material that accumulates on nearby plants and surfaces and can attract black sooty mold fungi. Honeydew can also be slippery for people and unfortunately can attract stinging insects looking to feed on it. Another unique problem is that beekeepers near SLF infestations report that their bees will forage so heavily on the honeydew that they end up with honey made from SLF fecal material rather than nectar.

Figure 3. Spotted lanternflies feed on tender growth as nymphs before moving on to feed on the trunk and branches of trees as these bugs get larger and stronger (Photo by Emelie Swackhamer, Penn State University, Bugwood.org).

Finally, females lay their eggs on natural and unnatural surfaces alike (Figure 4). Eggs are laid as autumn settles in, and they will overwinter in that stage. While they use trees, the cryptic and hard-to-see egg cases have also been found on automobiles, trains, lawn furniture, firewood, stones, and many other substrates. It's possible that Kentuckians who travel to Gallatin County or to Cincinnati, OH could pick up hitchhiking female lanternflies that will come back to uninfested parts of Kentucky and lay eggs there.

Figure 4. A mass of spotted lanternfly eggs has been laid on this vehicle. The eggs will hatch the following spring if not removed (Photo courtesy of WPMT Fox 43).

What can people do to help?

Kentuckians should be on the lookout for this pest (Figure 5). Report suspicious looking bugs and egg cases to the Office of the State Entomologist at reportapest@uky.edu . When making a report, please include an image or a sample of the suspect, otherwise it will be difficult to confirm the problem. It is also important to include geographic information. It is true that this is a difficult pest to eliminate, but with the help of citizens monitoring for populations, there is hope that their spread can be slowed to allow communities more time to prepare.

Figure 5: Be on the lookout for the weird looking adults and for the egg masses spackled onto surfaces, as seen here. Don't bring home any unwanted hitchhikers and help us by reporting odd sightings! (Photo by Richard Gardner, Bugwood.org)

New Grower Resource: 2023 Fruit IPM Webinar Video Series

By Kim Leonberger, Plant Pathology Extension Associate, and Nicole Gauthier, Plant Pathology Extension Specialist

The 2023 Fruit Integrated Pest Management (IPM) webinar series was conducted during the summer of 2023. Sessions from these webinars are now available online. These videos provide information for growers of all experience levels.

This series includes presentations from specialists from the University of Kentucky Departments of Entomology, Horticulture, and Plant Pathology. Videos provide information about the role of plant health in IPM, disease management (Figure 1), and insect management for fruit crops. The complete video series can be accessed online through YouTube at the link: https://www.youtube.com/playlist?list=PLFS9oa3lB0bkzU-64noP7jWJAzPCcP2rfD.

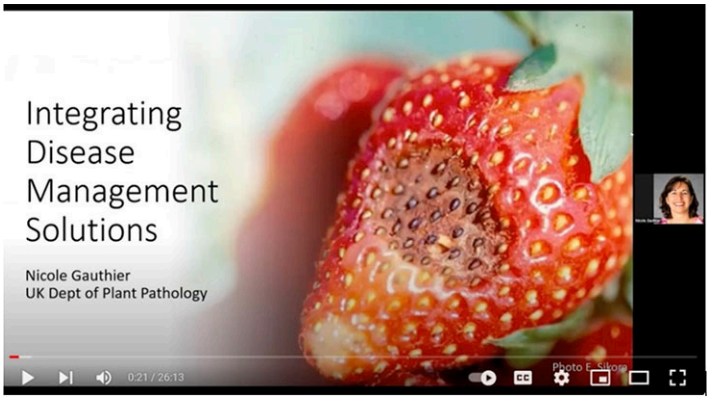

Figure 1: 2023 Fruit IPM Webinar plant disease management video. (Photo by Kim Leonberger, UK)

2023 Plant Hardiness Zone Map Published

By Joshua Knight, Senior Extension Associate, Horticulture

The USDA Plant Hardiness Zone Map (https://planthardiness.ars.usda.gov/) is a standard for gardeners and growers to determine which perennial plants are most likely to thrive at a location (Figure 1). The map is calculated and modeled using average annual extreme minimum temperatures over a 30-year period (1991-2020) and is updated about every 10 years since first developed. The two most recent revisions have been prepared by the PRISM Climate Group at Oregon State University, which also makes the GIS data publicly available for generating additional maps (https://prism.oregonstate.edu/projects/plant_hardiness_zones.php).

The map divides the country into zones representing

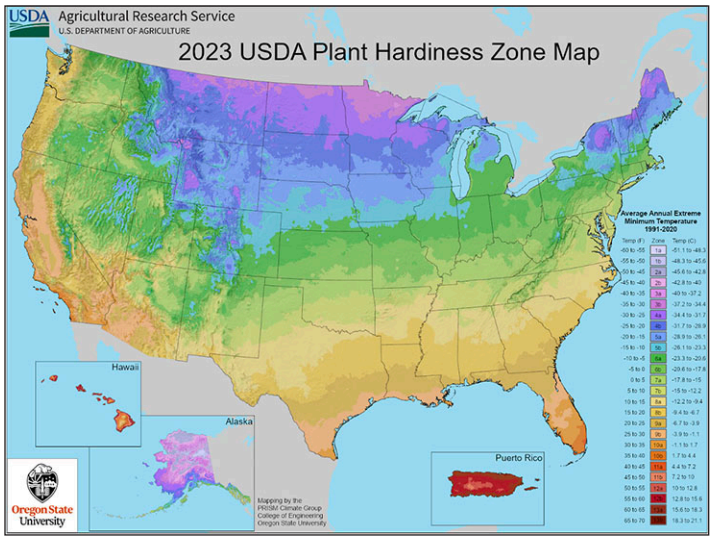

Figure 1. 2023 USDA Plant Hardiness Zone Map (Courtesy U.S. Department of Agriculture).

a spread of 10°F (zones 1-13), each subdivided into two half-zones with 5°F spreads (e.g., zone 6a and 6b) with resolution down to a little under 0.5 miles across the entire country. The lower the number of the zone, the lower the average annual extreme minimum temperature.

If we use this data and focus exclusively on Kentucky, we can see how the climate patterns have shifted in the last 10 years (Figures 2 and 3).

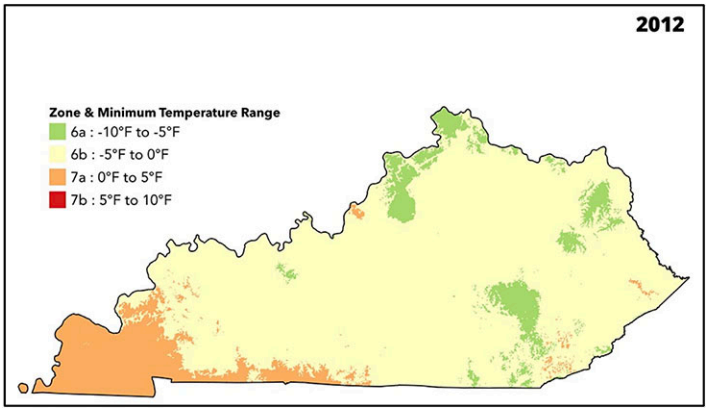

Figure 2. 2012 Hardiness zone map for Kentucky, based on 1981-2010 weather data (Courtesy Joshua Knight, Senior Extension Associate, Horticulture).

Clearly, the zones have shifted to reflect warmer annual extreme minimum temperatures across the commonwealth. This does not represent the coldest temperature ever recorded or expected in an area but is an average of the lowest winter temperature for a given location from 1991-2020.

For more detailed information about how Plant Hardiness Zone Maps came about or how they can be applied to horticultural production, see Horticultural Applications of a Newly Revised USDA Plant Hardiness

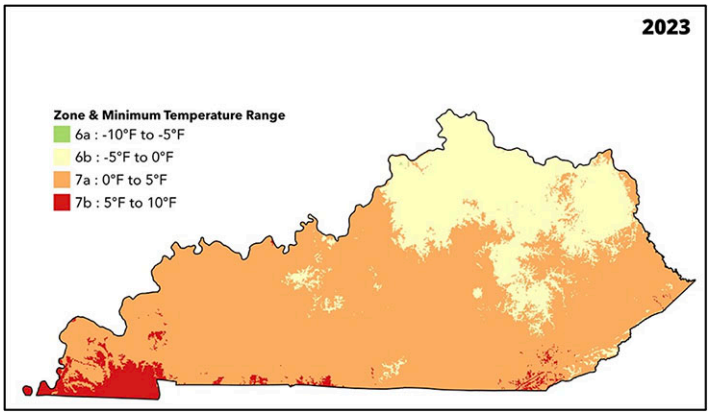

Figure 3. 2023 Hardiness zone map for Kentucky, based on 1991-2020 weather data (Courtesy Joshua Knight, Senior Extension Associate, Horticulture).

Zone Map (iastate.edu). Though originally published for the 2012 map, the strategies for risk management or survival prediction for the cultivation of woody and herbaceous perennial plants are the same.

An updated map focusing on Kentucky data is now available at the Center for Crop Diversification Printable Maps page (https://www.uky.edu/ccd/content/printable-maps).

Receiving Fruit Facts on the Internet

By subscribing to the email notification service you will receive an email announcement when each new issue is posted on the web with a link.

To subscribe, send an email message:

TO:	listserv@lsv.uky.edu
SUBJECT:	Fruit Facts
MESSAGE:	subscribe KY-FRUITFACTS Followed by a blank line
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You should receive confirmation by return email. If you have a problem, or if you wish to communicate with a person about "fruitfacts", the owner's address (the TO: line of the message) is: owner-ky-fruit-facts@lsv.uky.edu

TAKE THESE NAP* PRICING SURVEYS

*NONINSURED CROP DISASTER ASSISTANCE PROGRAM

Help KY fruit & vegetable growers set a local pricing basis for crop insurance claims!

Without KY specific data, growers will have to use national data that may be significantly lower than local prices.

No NAP coverage required to take the survey!

NAP FRUIT SURVEY

NAP VEGETABLE SURVEY

SCAN THE CODES TO TAKE THE QUICK SURVEYS