

Kentucky Fruit Facts

February 2022

<http://www.uky.edu/hort/documents-list-fruit-facts>

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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

It's February and thus begins a rather late start to the Fruit Facts Newsletter for 2022. Most years the first issue comes out in January and covers the two-month period until March. I have been busy with meetings, visits, compiling inventories, and most of all helping with clean up efforts at the station. The tornadoes of December 10-11, 2021 brought devastation across Arkansas, Missouri, Tennessee, and most of all Kentucky. The National Weather Service in Paducah has an interactive damage survey map on their website at: <https://www.weather.gov/pah/December-10th-11th-2021-Tornado>. The UKREC



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was in the direct path of one of these tornadoes which stayed on the ground for 165 miles.

Tornado Damage

The tornado, classed as an EF-4, moving from the southeast to the northwest arrived at the UKREC at about 10:21 am. It crossed Hopkinsville Street at the front of the main station area, then crossed over University Drive at a sharp angle before crossing Sandlick Road (Figure 1). Many buildings were heavily damaged or destroyed, including the historic station office (Masthead and Figure 2) and the main office and laboratory building which had renovations completed in 2019 (Figures 3 and 4). The machine shop, equipment area, and storage buildings were not spared (Figures 5 and 6). These areas were located behind the historic station office and along University Drive.

Tornadoes

Interactive Damage Survey Map - Zoom in and click the points to see damage information and pictures. Damage points are preliminary at this time, and not all damage points have been published yet. Performance of this map may be slow due to heavy internet traffic.



Figure 1. December 10, 2021 tornado path across the main area of the UKREC.

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Disabilities
accommodated
with prior notification.



Figure 2. Historic station office from the back. Photo by Daniel Becker, U.K. Extension Associate



Figure 3. Main office and laboratory building, aerial view. Photo by Matt Barton, UK Agricultural Communications.

Figure 4. Main office and laboratory building. Closeup of middle section of the building where offices were located. Photo by Daniel Becker, U.K. Extension Associate





Figure 5. Looking east towards the equipment, pesticide storage, and shop area. Photo by Daniel Becker, U.K. Extension Associate

At least ten people were sheltered in buildings on station grounds when the tornado struck. Several were injured and one had to be hospitalized, but no fatalities occurred. One of the buildings where a person sheltered in the basement was completely destroyed (Figure 7). Other buildings had windows blown inward, roofs torn off, and parts of walls collapse, but most of the structure remained upright. Those who went to the main office building to seek shelter were able to make it out, but it took them two hours to find their way through debris in the dark. Animal sciences lost ten head of cattle located in fields near the main office.



Figure 6. One of the storage buildings damaged by the tornado. Photo by Daniel Becker, U.K. Extension Associate



Figure 7. View through what used to be the front door of a house on station. Photo by Daniel Becker, U.K. Extension Associate

Off station, at least seven current and former faculty and staff members and their families lost their houses which were in subdivisions south of Princeton. Some suffered mild to moderate injury. Most houses within these subdivisions were either destroyed or are considered teardowns by insurance. It is expected that some rebuilding will begin in May but could take longer.

Cleanup Efforts

All the buildings located along University Drive are considered total losses and are slated to be torn down. Overall, UK officials expect 49 of the center's 58 buildings to be a complete loss. Six have already been demolished, including greenhouses, carpenter shop, small storage buildings, and a house used by student interns. Some computers and office backup drives have been recovered and are in the process of having data extracted. Of 49 vehicles used on station, only nine are considered repairable. The fate of most of the large equipment, including tractors, combines, seeders, tillers, etc. is unknown at the time of writing.

The largest effort by contractors is being put towards tearing down and hauling off debris from what is left of the main office and laboratory building (Figure 8). Removal of damaged trees have been part of the process, of which there are many. Faculty, staff, and farm crew have been working to clean up fields around the station. Larger debris is picked up and thrown in a trailer to be hauled off. Smaller debris requires bending down and picking up by hand or scouring with a garden rake. Of most concern is trying to find nails, screws, and pieces of metal that can puncture tires before grass begins growing again in the spring. Cleanup is expected to continue for several months.



Figure 8. Contractor crew removing debris of the main office building. Photo by Daniel Becker, U.K. Extension Associate

A site for temporary office, laboratory, and storage space has already been chosen. A crew spent the last week of January depositing and spreading many tons of gravel at a location along University Drive (Figure 9). This area will essentially be a "Trailer City", hopefully connected with decking to make for easier access. Most are working from home right now. Any who want to return may be able to move into offices in May, though this is probably optimistic. It sounds like we may be two to three years getting new buildings rebuilt.

Some members of the horticulture staff, myself included, have chosen to have their office located in a climate-controlled room in the orchard pole barn (Figure 10). A mobile internet hotspot was recently installed and there is access to a bathroom and plenty of parking. We are fortunate that this building and all it contained survived with only minor damage, even though it was only half a mile from the path of the tornado. Most trees in past and present apple and peach trials survived, including all experimental trees in the 2019 NC-140 apple rootstock trial (Figure 11). Large sections of the deer fence surrounding the plantings were torn down by the tornado, but with solid effort we re-hung them in four days.

Unfortunately, the containerized blueberry production trial is a complete loss, it was located across the street from the main building. Several volunteers who helped in cleaning up the nursery and landscape trial area went home with free blueberry plants for their efforts. I wish them well and hope they produce fruit for many years to come.

More tornado images and videos are available at <https://ukcafe.canto.com/v/medialibrary/library>, type in tornado in the search box.



Figure 9. Gravel pad along University Drive prepared for office trailers. Photo by Daniel Becker, U.K. Extension Associate



Figure 10. Orchard pole barn. Photo by Daniel Becker, U.K. Extension Associate



Figure 11. 2019 NC-140 apple rootstock trial. Photo by Daniel Becker, U.K. Extension Associate



Outlook on Fertilizer and Pesticides for 2022

Let's move on to other issues, primarily those related to the limited supplies and rising prices of fertilizers and pesticides already impacting Kentucky growers. Stuart Brenneman, Specialty Crops Advisor of Nutrien Ag Solutions considers it a tough marketplace right now. Strong demand for fertilizers in 2021 substantially reduced stock and some companies ran out or nearly ran out of supplies. Overall, supply of most nitrogenous fertilizers looks to be adequate for 2022. Prices will be higher, but suppliers should still be able to meet demand.

Supplies are tight for glyphosate and glufosinate and prices are way above last year, in some cases up to 3-times more. Supply is expected to remain tight for most of this year. "Likely you will get what you want but not when you want it." Most concerning, is the low to non-existent stock of Captan. Shipments are delayed and may arrive in February or March. Expect a 10-12% price increases across the board for most pesticides.

Growers are advised to order early but expect delays in receiving products. Be flexible when designing a spray program, growers may have to make adjustments and substitutions. For instance, paraquat is a possible herbicide substitute for glufosinate, at least for those who have a pesticide applicators license and have been fit tested for a respirator. Pelargonic acid is another. Mancozeb is a recommended early season alternative to Captan, or the two can be tank mixed for control of apple scab and fruit rots. The

2021-2022 edition of ID-232 - <http://plantpathology.ca.uky.edu/files/id-232.pdf> has several tables of generic and alternative pesticide options.

Ammoniacal sources of nitrogen seem to be at the forefront of price increases. Nitrate nitrogen prices have also increased, but to a lesser extent. Calcium nitrate is an option for most fruit crops. Blueberries are an exception as they cannot utilize nitrate fertilizer, and application can cause root damage, especially at high rates. Price conscious options for nitrogen fertilization of blueberries are primarily limited to ammonium sulfate where soil pH is above 5 and urea where the pH is below 5.

Fortunately, fruits have at most moderate annual nitrogen requirements when compared to other horticulture crops. Growers have several options when dealing with limited supply and temporary price increases. Consider making applications during and after bloom when there is more root growth and using split applications. Avoid degradation by environmental conditions, including heat which will cause urea to volatilize. If possible, try not to apply fertilizer prior to heavy rainfall events to avoid having it washed off or out of the root zone. Double check your calculations and accuracy when measuring and spreading. Be sure to calibrate any spreading equipment before use.

A lower nitrogen rate may also make sense, at least for this year. Mature trees and grapevines can tolerate reduced nitrogen rates. The same goes for well-managed blackberries and blueberries. More extensive pruning will encourage regrowth and can take the place of fertilizer with a minor reduction in

crop if it is not too severe. The remaining fruits will be larger, sweeter, and better colored, especially if the canopy does not fill back in too quickly. Because this year's shoot and spur growth will affect future crop development, a reduction in crop load next year is possible. Crop reduction is most likely if plants do not make good growth this year. Don't plan to reduce fertilizer rates for young plants or ones that are stressed or did not receive fertilizer last year. Plasticulture strawberries will require the full rate of fertilizer, as always, for fruit sizing.

Plant Supply

This year brings another one where nursery stock is expected to be low, and it looks like this situation will continue into 2023/2024. If you have waited until now to begin ordering for the spring, it is likely that you will find that certain desired cultivars are out of stock, with few choices for substitution. It used to be that fall was enough lead time for ordering plants; not anymore. Most nurseries that supply volume orders are suggesting that growers start making orders a year in advance, particularly if a specific rootstock/scion combination is desired. Fewer and fewer nurseries are practicing speculative propagation and grafting to supply small orders. If you are sure that you will have a large order in the next few years, make a request. Nurseries will be happy to work with you.

A Final Note

The NOAA's Climate Prediction Center is forecasting a slightly above average chance of cooler and drier weather the first two weeks of February across much of the eastern U.S. This pattern includes Kentucky and surrounding states. Going into the latter half of February and into March, a warm-up is expected along with a slight increase in chances of precipitation.

If the NOAA's prediction comes true, keep an eye on plant development of plasticulture strawberries under covers. If new growth is noticed, be prepared to pull covers off beds to slow development and the emergence of flower buds. But keep those covers ready, either in the field or if you have a small planting, in dry storage, in case of freezes and/or frosts. Barclay Poling, Professor Emeritus, NC State University, recommends the one to two new leaves stage as the appropriate time to remove covers. Leaving covers on can push flowering earlier but this

increases the risk of frost injury. Some growers are in the practice of leaving covers on and taking advantage of earlier potential harvests. However, doing so successfully often requires extra covers or overhead sprinkler irrigation for protection.

Be sure to look at the upcoming meetings section. We have some in-person orchard meetings scheduled for March and May. Elsewhere there are some county-level home and garden meetings. As always, there are state and national meetings to look forward to, including the 2023 Kentucky Fruit and Vegetable Conference.



Upcoming Meetings

All times EDT unless noted.

Thursday, March 17, Fruit Grower Orchard Meeting.

Jackson's Orchard and Nursery

Bill Jackson and Jonathan Price
1280 Slim Island Rd.

Bowling Green, KY 42101

Bill Mobile: 270-792-1936

Jonathan Mobile: 270-792-2261

Website: <https://jacksonsorchar.com/> Jackson's Orchard & Nursery – Come make a memory!

This will be an IN-PERSON meeting.

Directions:

Proceed south on I-65 to the 2nd Bowling Green exit, exit 28 (at the Corvette Museum).

Exit to the right and drive towards the downtown area (mostly on 31W).

At the 4th stop light, turn right on to 6th street.

Proceed under the RR (1 block) to the 1st stop light and turn right on to Rt. 185.

Follow Rt. 185 for about 3 miles across the river.

Roughly 200 yards after crossing the river will be a Jackson's Orchard sign.

Turn left and follow the signs to the orchard.

Program:

All times CST

10:00 a.m. Registration & Tour of Jackson's Orchard and Farm Market - *Bill Jackson and Jonathan Price*

11:30 Raccoons, Possums, and Wild Turkey - *Matthew Springer*

Noon Lunch will be available at cost for those that preregister.
Please preregister as we are very unsure about our lunch estimate.

Preregister for lunch by emailing or calling John Strang
jstrang@uky.edu, 859-396-9311 by Tuesday, March 15 and provide a count for the Fruit Grower Meeting at Jackson's Orchard.

12:45 p.m. CM and OFM Mating Disruption - Ric Bessin

1:15 TBD - *Nicole Gauthier*

1:45 Initiating Bud Growth by Notching and The Use of Growth Regulators - *Daniel Becker*

Feb. 8. Crop Insurance Webinar; Q&A with and Insurance Agent. 12:30-1:00 pm. Details are available at Crop Insurance Webinar: Q&A with an Insurance Agent – Kentucky Horticulture Council (<https://kyhortcouncil.org/>)

Feb. 9. Southern Illinois Fruit and Vegetable School. 8.00 am – 4:00 pm, Double Tree by Hilton, Mt. Vernon, IL. This annual school will be held in-person and offer tracks in tree fruit, vegetable, small fruit, and cut flower production. For more information or to register for this program visit <https://extension.illinois.edu/events/2022-02-09-southern-illinois-fruit-and-vegetable-school> or contact Elizabeth Wahle at (618) 344-4230 or wahle@illinois.edu.

Feb. 17-19. Pick TN Conference. The conference will take place at the Cool Springs Marriott, 700 Cool Springs Blvd., Franklin, TN 37067. Schedule details and registration are available at <https://www.picktnconference.com/>.

Feb. 21-24. North American Raspberry & Blackberry Conference. It has been decided that the NARBA Conference will now be all-virtual. Registrants will be able to view live sessions or watch recorded sessions, available for six months. Program details and registration are available at 2022 North American Raspberry & Blackberry Conference <https://www.raspberryblackberry.com/2021-conference/>

Feb. 25-26. Eastern Kentucky Farmer Conference. Wilkinson Stumbo Convention Center at Jenny Wiley State Resort Park, 75 Theatre Court, Prestonsburg, KY 41653. For details and to register visit 2022 Eastern Kentucky Farmer Conference! <https://www3.thedatabank.com/dpg/360/spdf.asp?formid=EKFC2022&c=2022020414232290542>

Mar. 7. UK Spring Vineyard and Winery Workshop. Schedule TBD. This workshop will be held at the UK Horticulture Research Farm, Lexington, KY. This event will be free, but registration will be required. Contact Patsy Wilson, patsy.wilson@uky.edu, (859) 257-5513, for registration details.

Mar. 9, 2022 IPM Training School. 8:00 am – 3:30 pm CST. The 2022 IPM Training School will be held in person and virtually at the UK Christian County Extension Office, 2850 Pembroke Road, Hopkinsville, KY 42240. A schedule and registration link can be found at 2022 IPM Training School | Kentucky Pest News - <https://kentuckypestnews.wordpress.com/2022/01/11/2022-ipm-training-school/>

Mar. 12. Hopkins County Small Farm & Garden Conference. Hopkins County Extension Office, 75 Cornwall Drive, Madisonville, KY 42431. Schedule TBD. Contact Jay Stone, Hopkins County Extension Agent for Agriculture & Natural Resources for details: jstone@uky.edu or (270) 821-3650.

Apr. 5. Apple Grafting Workshop. Henderson County Extension Office, 3342 KY-351, Henderson, KY 42420. Schedule TBD. Contact Andrew Rideout, Henderson County Extension Agent for Horticulture for details: pandrewrideout@uky.edu or (270) 826-8387.

May 17. Fruit Grower Orchard Meeting. Haney's Appledale farm, 8350 W. Hwy 80, Nancy, KY 4230. Schedule TBD. Contact the Pulaski County Ext. Office (606) 679-6361 for details.

Jan. 2023. Kentucky Fruit and Vegetable Conference. Schedule TBD. Sloan Convention Center, 1021 Wilkinson Trace, Bowling Green, KY 42103. Contact Kentucky Horticulture Council, (859) 490-0889, info@kyhortcouncil.org.

Please contact your workers to confirm they are aware of the new requirement to enter the U.S. You may share a translated copy of the information from CDC: <https://image.s1.sfm-content.com/lib/fe91c73746307/m/1/5758a0e1-a850-4fcc-9a35-6ff72c5f2010.pdf>

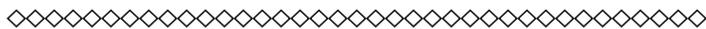


Printing Delayed for the 2022 Midwest Fruit Pest Management Guide

By Ric Bessin, Entomology Extension Specialist

This past year we in the Midwest Fruit Working Group had the ambitious goals of 1) providing all the necessary updates regarding pests, diseases, and pesticide use for Midwest fruit crops, 2) reformatting the remaining chapters similar to what was completed with the Apple and Grape chapters with the last version, and 3) developing a data base that will be used to extract crop by stage by discipline specific pesticide tables for future versions of the guide. Tremendous progress has been made thanks to everyone's hard work, but we are behind on printing this for winter 2022, have not been able to reformat all of the chapters, and still have some necessary cleanup in some of the chapters.

After discussion with Janna Beckerman, we have decided to hold off on printing of the guide until we have time to finish the remaining three chapters to complete the conversion to the new format. Last year's guide indicated it was for 2021-2022, so that helps to take the pressure off of us to force printing before we are ready. We will use this time to upgrade all of the chapters to the new format and provide additional time to make sure all of the proposed edits from the various drafts have been properly incorporated.



Some Principles of Fungicide Resistance (PPFS-MISC-02)

Fungicides are important tools in modern crop production. Unfortunately, one of the risks of using fungicides is that fungi sometimes develop resistance to these products. Resistance development is a concern because the products may become less effective—or even useless—for controlling resistant pathogens and

pests. This is a concern for all pesticides, including fungicides, insecticides, and herbicides. This fact sheet is intended to help pesticide applicators better understand this process.

This year's meeting will be held in Nashville, TN. Registration and conference information can be found at <https://www.nasga.org/n-american-strawberry-growers-conference.htm>



Some Principles of Fungicide Resistance (PPFS-MISC-02) is available online: <https://plantpathology.ca.uky.edu/files/ppfs-misc-02.pdf>. For additional publications on plant disease topics, visit the UK Plant Pathology Extension Publications webpage: <http://plantpathology.ca.uky.edu/extension/publications>.

HAPPY EVERYONE IS SAFE AT UK
RESEARCH AND EDUCATION
CENTER AT PRINCETON!!

Tornado Safety

(Recommended by the CDC

- <https://www.cdc.gov/nceh/features/tornadosafety/index.html>)

To stay safe during a tornado, prepare a plan and an emergency kit, stay aware of weather conditions during thunderstorms, know the best places to shelter both indoors and outdoors, and always protect your head.



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