Kentucky Fruit Facts

March-April 2025
https://horticulture.ca.uky.edu/ky-fruit-facts

Daniel Becker, Editor

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Fruit Crop News

Daniel Becker, UK Extension Associate

Winter has ended and with it comes longer days and warmer temperatures. Overall, winter 2024/2025 was slightly colder and wetter than normal across the state. February was among the top 10 wettest since climatological records began. Caldwell county received 8.8 inches of precipitation for the month. As of March 15, plant phenology is progressing towards bloom, and for once in the past so many years we are on track to have a near normal timing of flowering and first leaf this spring.

The frequent cold spells, periods of snow, and rainy weather this past winter have pushed back much needed work. Now, with sunnier days one project leads to another. There is cleanup, fence repair, trellising, pruning, sprayer maintenance, calibration, and dormant or delayed dormant pesticide applications to do. Whenever the soil gets dry enough it will need to be worked, fertilized, and seeded.

Spring is typically a windy season in my experience. Frequent frontal systems and steep air pressure gradients common with the changing of the seasons brings blustery conditions, with wind gusts over 30 mph a common occurrence. Anything light weight that is not properly secured or weighed down is subject to being blown away.

Martin-Gatton College of Agriculture, Food and Environment
University of Kentucky

Cooperative Extension Service
University of Kentucky
Horticulture Department
N-319 Ag. Science Ctr. No.
Lexington, KY 40546-0019

Because of the cold I have noticed more frost heaving this winter than I have ever during my time in Kentucky. Frost heave occurs when an ice lens forms above a lower transition layer in the soil which contains a mixture of frozen and semi-liquid water. Unfrozen water gradually moves through the soil towards the ice layer causing it to expand and push a layer of frozen soil, and anything within or above it upward. Rocks and other objects can move towards the soil surface or be pushed out. This includes landscape staples used to pin down fabric ground cover (Figure 1). The process is worse where soil is frequently saturated or in loose mulched beds (Figure 2). Be on the lookout for any staples or any other objects that have worked their way out of the soil and give them a firm push back down. High winds can blow up loose fabric quickly and create a lot of extra work in getting it back into place. Any fall-planted trees or shrubs are also subject to frost heaving and their roots will need to be recovered if exposed.

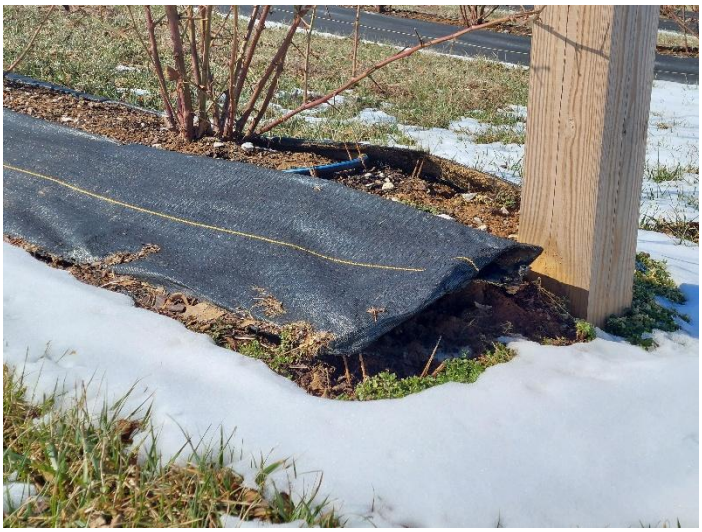


Figure 1. *Bed cover and landscape pins pushed up from soil due to frost heaving.*

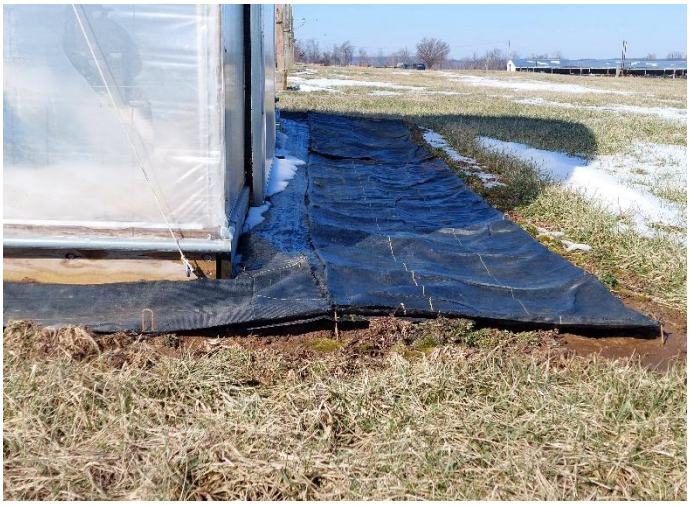


Figure 2. *Landscape fabric and staples pushed up from frequently saturated soil outside a high tunnel.*

Recently, I have heard rumor that Apogee® plant growth regulator production was being discontinued by BASF, and unfortunately this seems to be true. Commercial apple growers are most familiar with Apogee® which has the active ingredient prohexadione calcium. This growth regulator has the ability eliminate the production of gibberellins inside the plant which reduces the rate of shoot growth. It is used to control vigor, aiding in the reduction of pruning costs, and is labeled for fire blight control in apples. When applied at the correct times and concentration it reduces the rate of shoot growth and thickens cell walls which helps limit shoot blight infection. Once the inventory is sold out Apogee® will no longer be available for purchase. So, if anyone is looking to buy some, they should do so sooner rather than later. I believe that stock is still available, but inventory is probably low. There is another prohexadione calcium product called Kudos® produced by Fine-Americas Inc. that can be a replacement, but it may take time to get through supplier channels and become available to Kentucky growers.

There are several excellent grower meetings coming up in the next few months. Take a look at the upcoming meetings section and see if you have time to attend, we would love to see you there. I will be participating in a field discussion of blueberry pruning at the KSHS on March 18. Scheduled times and directions to these events can be found in the next section and in a flier at the end of this newsletter.

Upcoming Meetings

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

Mar. 18 (Tuesday). KSHS Fruit Grower Orchard Meeting. Evans Orchard & Cider Mill. Kevan Evans, owner. 180 Stone Rd., Georgetown, KY 40324. Market: (502) 863-2255, Mobile: (502) 867-3044, Website: https://evansorchard.com/.

9:30 am – 3:00 pm ET. Lunch will be available at cost for those that preregister. Preregister for lunch by emailing brent.arnoldussen@uky.edu or calling (859) 257-4721 by Monday, March 17.

A flier with directions and a full program schedule is available toward the end of the newsletter.

Apr. 19 (Saturday). KY Nut Grower's Association Spring Meeting. Nelson County Extension Office, 317 S. Third Street, Bardstown, KY 4004. 502-348-9204. 9:30 am – 2:00 pm **ET**.

Directions:

From the Bluegrass Parkway take exit 25, US-150, Springfield/Bardstown.

Turn right (approaching from the east or left from the west) onto Springfield Rd. (US-150) towards the Hospital/Bardstown city center. Go 2.2 miles.

Take the 3rd exit from the roundabout onto south 3rd and proceed for 0.3 miles.

The Nelson County Extension Office will be on your left.

Questions? Contact: John Strang, jstrang@uky.edu, (859) 396-9311.

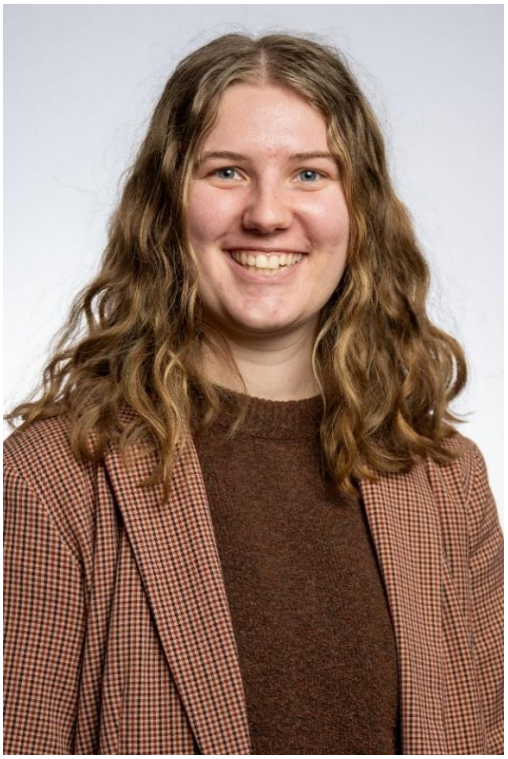
The meeting will feature a scion wood exchange, nut displays, grafting demonstrations, our spring auction, and a talk by Melanie and Brad Jones from United Chestnuts & EBB Farms, Falls of Rough, KY on Chestnuts: *Reviving an Industry and Growing Together*.

There will be a potluck luncheon, and everyone is asked to bring a side dish. Participants are encouraged to bring scion wood and items to donate for the auction.

Anyone that has an interest in nuts, nut trees and grafting is welcome to attend.

May 15 (Thursday). KSHS Fruit Grower Orchard Meeting. Schedule TBD. Hinton's Orchard, 8631 Campbellsville Rd., Hodgenville, KY 42748.

Introducing Elanya Stirn



Hello! My name is Elayna Stirn (elayna.stirn@uky.edu) and I am the new fruit Extension Associate at the University of Kentucky! I just graduated from the University of Wisconsin-River Falls with my bachelor's degree in Horticulture, focusing on fruit and vegetable production. My practical experience is in plant pathology and entomology research of agronomic crops like sugar beets, corn, and peas, as well as roses. Here at UK, I hope to be a strong bridge bet-ween our growers and our research. My primary focus this year is to build relationships with growers across the state. My research will be centered around fruit tree crops, but I cannot wait to learn more about small fruits too! I'm really excited for this next chapter and am thrilled to meet growers and learn about the crops grown here in Kentucky!

Grower Input Needed for Labor Workforce Opportunity Survey

Cindy Finneseth, Community Horticulture, UK

We know labor is a persistent challenge for Kentucky growers. UK is part of a US Department of Labor Workforce Opportunity for Rural Communities (WORC) Initiative, an industry-driven effort to address labor shortages and create sustainable workforce solutions for Kentucky growers. We need your input to ensure training programs align with industry needs. Please scan the QR code or click this link: **bit.ly/KYGWemployersurvey** to complete the survey (Figure 1). It should take no more than 7-10 minutes and responses will be kept confidential. Completing the survey will enter you in a drawing for a $200 gift card to Rural King!

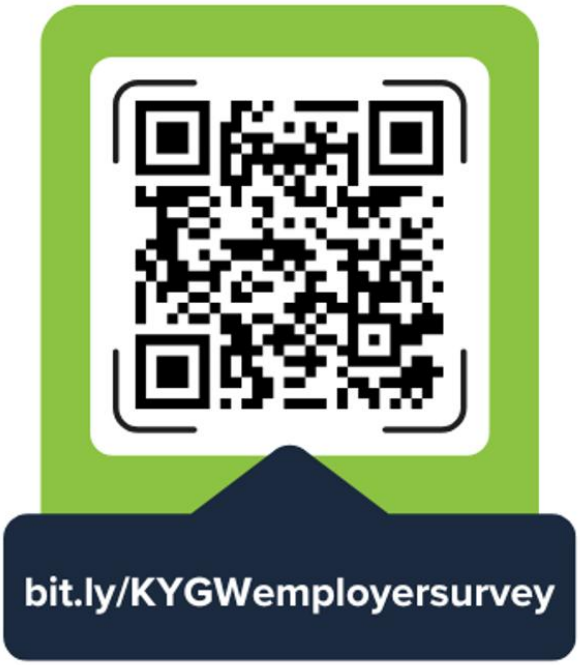


Figure 1. *QR code for Labor Workforce Opportunity for Rural Communities for Rural Communities (WORC) Initiative survey.*

Goals of the program are: industry evaluation to discover and reduce employment barriers; employer training, business planning, and capitalization strategies; develop and promote worker training programs; and to provide reimbursements for job-related trainings, certifications, gear, and more.

Early-Season Strawberry Insect Management

Rick Bessin, Extension Entomologist, UK

There are several insect and insect-related early-season pests of strawberry that need to be monitored and, at times, controlled to prevent losses. This includes spider mites, tarnished plant bug, spittlebug, spotted wing drosophila (SWD), sap beetles, and slugs. While SWD has not been a problem to date in June-bearing strawberries, this insect has been detected earlier each year, so that it should be monitored in commercial strawberry plantings. Of these pests, the most damaging are those that attack the berry, including sap beetles, plant bugs, and slugs.

Management

Cultural controls are the bedrock of Integrated Pest Management (IPM). They are used preventively, before a pest might become a problem. Key cultural controls for strawberry pests include:

Regular and effective weed control around strawberry plantings. This helps to reduce harborages and breeding sites for plant bugs, spittlebugs, slugs, and spider mites. Similarly, reduce other places and clutter where pests might hide during the day. This would include piles of plastic, boards, old tires.

Clean picking and good sanitation is another critically important tool. When picking berries, it is important to not only harvest ripe berries but also remove the unmarketable, damaged, and diseased berries. Leaving these berries in the planting attracts sap beetles and any spotted wing drosophila that might be active in the area and serves as breeding sites where they can increase their numbers.

Weekly scouting of the field is also necessary to catch pest problems in the initial stages before they cause serious damage. The *IPM Scouting Guide for Common Problems of Strawberry in Kentucky* will help identify pests of strawberry when scouting.

Plant bugs: An average of 0.5 nymphs per fruit truss would be the threshold to spray to avoid catfacing of fruit. Tapping fruit trusses over a white dish is used to detect and evaluate plant bug levels.

Spider mites: The threshold for treatment is 25% of the leaflets infested.

Spittlebug: It is good to keep levels below 1 per square foot in U-pick fields as they will discourage pickers with their spittle (Figure 1).

Figure 1. *Spittle from spittlebugs can discourage pickers in U-pick operations. (Photo: Ric Bessin, UK)*

Sap beetles & slugs: While we don't have thresholds for sap beetles and slugs, scouting will be able to detect their early activity.

Spray options for control of all the above pests in commercial plantings are listed in the *Midwest Fruit Pest Management Guide 2021-2022*.

University of Kentucky Extension Resources for Commercial Fruit Production

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

The University of Kentucky Extension team has put together numerous resources for commercial fruit growers regarding production and pest management. The following are resources provided by University of Kentucky specialists in entomology, horticulture, and plant pathology.

College of Agriculture Publications

- Ag Communications

Departmental Websites (publications, fact sheets, videos)

- Ag Economics
- Biosystems Engineering (Ag Weather)
- Center for Crop Diversification
- Entomology
- Horticulture
- Forestry
- Plant Pathology
- Plant and Soil Sciences

Newsletters

- KY Pest News
- Fruit Facts

E-mail Alerts (litserv)

- Separate list servs for apple, peach, grape, blueberry, strawberry, and brambles. Contact Kim Leonberger to be added to a listserv: kimberly.leonberger@uky.edu

Apps & Models

- Ag Models (Ag Weather)
- Weather Alert
- Disease and Insect Models (mobile version)
- Scouting Guides for Problems of Fruit (mobile version)

Social Media

Facebook

- Diseases of Fruit, Vegetables, and Hemp
- Ag Weather
- Spotted Wind Drosophila in KY
- UK Robinson Center

YouTube

- UK Horticulture
- Nicole Gauthier, Plant Disease

Lab Services

- Plant Disease Diagnostic Laboratory (free) submit samples through county Extension offices
- Soil Testing (fees vary) submit through county Extension offices
- Food Systems

County Agents

- UK Extension Service

Kentucky Non-Insured Assistance Program (NAP) Fruit Price Survey

Matt Furtrell, Agriculture/Natural Resources Agent, & Kelly Jackson, Horticulture Agent, Christian County Cooperative Extension

Kentucky participants in the NAP program are required to provide price figures and yields from prior cropping years to their Farm Service Agency office (FSA) to calculate the assistance funding that they receive. If a grower does not have price figures, national wholesale prices are used, which are substantially lower than those that Kentucky growers who market retail receive.

The Kentucky State FSA office will accept prices provided by UK Extension if a Kentucky grower does not have historical price records. Ino order to acquire this data, KHC and UK Extension are collecting annual price records, which will be averaged. The average will be provided to the state FSA office by UK Extension. The information that you supply will only be presented as group averages, and your identity will remain confidential.

Even if you do not participate in the NAP program, if you are willing to provide your average prices for which you marketed your fruit for last year's season, the information gathered would greatly benefit other growers.

Please consider completing the form **at the end of this newsletter** and returning it to your nearest county extension office.

Minimal Impact from Biostimulant Product Use on Strawberry Crop Yield and Postharvest Strawberry Quality

Baker D. Aljawasim[1], Patricia Richardson[1], Guillaume Pilot[2], and Jayesh B. Samtani[1]

[1]Hampton Roads Agricultural Research and Extension Center (AREC), School of Plant and Environmental Sciences, Virginia Tech, Virginia Beach, VA

[2]School of Plant and Environmental Sciences, Virginia Tech, Blacksburg, VA

Biostimulants consist of beneficial micro-organisms or compounds that can improve crop yields by strengthening plants' immune systems and enhancing their tolerance to both biotic and abiotic stresses. These substances are generally classified into seven main groups: humic acid (HA) and fulvic acid (FA), protein hydrolysates (PHs), seaweed extracts, chitosan, inorganic compounds, as well as beneficial fungi and bacteria. Biostimulants are formulated to improve several agricultural aspects, such as (i) nutrient use efficiency, (ii) tolerance to environmental stresses, (iii) enhancement of crop quality attributes, and (iv) increased availability of limited nutrients in the soil or rhizosphere. Nonetheless, studies on their use across different plant species indicate that the effectiveness of biostimulants varies significantly depending on the species and growing conditions. A study was conducted in the 2023-2024 growing season to evaluate the effect of biostimulant products on strawberry crop yield and fruit quality. This was the second growing season in which we tried using biostimulants. Findings from the first season were discussed in a previous article that can be accessed in the Fall 2023 newsletter: Biostimulants did not affect crop yield and postharvest strawberry fruit quality | Southern Region Small Fruit Consortium.

Preplant fertilizers 60 lb of N/acre and 75 lb/acre of potassium were applied during bed preparation. Spring fertigation began March 2024 alternating on a weekly basis with Plantex 20-20-20, calcium nitrate and potassium nitrate at rate of 7 lb /acre of nitrogen. Each replicate was a bed that was 25 linear ft and had a single drip line in the bed center with separate on/off valves for irrigation, treatment injection and fertigation option via Dosatron injector. 'Ruby June' plugs were transplanted on 24 October with 14 plants per replicate spaced 14 inches in two alternating rows of seven. Five treatments with four replicates each were arranged in a randomized complete block design. Biostimulant treatments included Actinovate (rate:177 ml/acre) and TerraGrow Liquid (591 ml/acre) that were applied twice in fall 2023 and three times in spring 2024 at monthly intervals. EZ-Gro N18 (3.5 lb/acre) and iQForte (810 ml/acre) were applied twice in fall 2023 and five times in spring 2024 at biweekly intervals.

Vigor ratings ranging from 1 (low vigor plants in a replicate) to 10 (extremely vigorous plants in a replicate) were documented on a monthly basis, commencing from November 17 until May 22. Fruits were harvested twice a week from April 12 until June 21, 2024 (Figure 1). At each harvest, fruit was categorized as either marketable or non-marketable (weighing less than 10g, deformed, damaged, or diseased), and subsequently weighed accordingly by replicate. The weight of 10 marketable fruits per replicate was measured weekly to estimate fruit size in grams per fruit. Additionally, five marketable fruits were assessed weekly for outer skin firmness using a fruit texture analyzer, then stored at -20 °C for subsequent analysis of pH and total soluble solids (°Brix) using a digital refractometer.

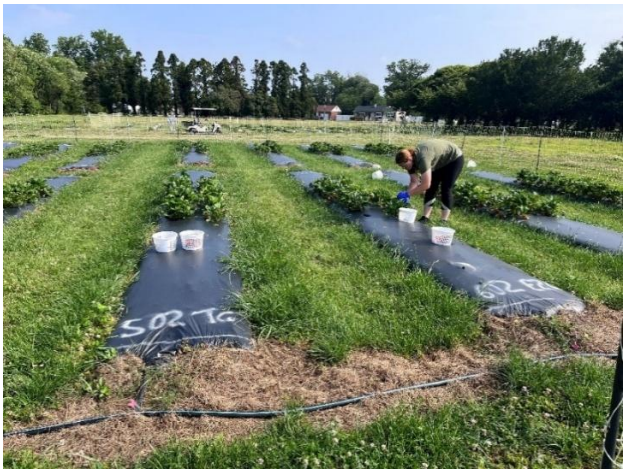


Figure 1. *Harvesting in the study was done twice per week from April 12 until June 21, 2024 (Photo credit: Authors)*

EZ-Gro N18, iQForte and Terra-Grow Liquid resulted in only a numerical increase in total strawberry yield (marketable and non-marketable fruit for the season) yielding in the range of 21,000 to 23,000 lb/acre. In comparison, the untreated control yielded around 19,000 lb/acre. Statistically the treatments did not differ. The application of iQForte resulted in improved plant canopy compared to the untreated control. All biostimulant treatments had no impact on the post-harvest fruit quality such as fruit firmness, pH of the fruit juice, or total soluble solids (°Brix). Despite the potential benefits of biostimulants in enhancing yield, their influence on these specific quality parameters was minimal. These findings suggest that the optimal choice of biostimulant and their rate use may require further investigation to have an impact on fruit quality and yield.

Funding sources: Virginia Ag. Council and USDA Hatch Project Number VA-160194.

Originally published October 25, 2024 in the Fall 2024 issue of Small Fruit News (Vol. 24, No. 4) by the Southern Region Small Fruit Consortium, https://smallfruits.org/.

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:	listerv@lsv.uky.edu
SUBJECT:	Fruit Facts
MESSAGE:	subscribe KY-FRUITFACTS
	Followed by a blank line
	OR to unsubscribe, the lines:
	Signoff KY-FRUITFACTS
	Followed by a blank line

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.

Non-Insured Assistance Program Fruit Crop Price Survey, 2024 Growing Season

As participants in the NAP program, Kentucky growers are required to provide price figures and yields from prior cropping years to their Farm Service Agency office (FSA) to calculate the assistance funding that they receive. If a grower does not have price figures, national wholesale prices are used, which are substantially lower than those that Kentucky growers who market retail receive.

The Kentucky State FSA office will accept prices provided by UK Extension if a Kentucky grower does not have historical orchard price records. In order to acquire this data, KSHS is collecting annual price records, which will be averaged. The average will be provided to the state FSA office.

Please provide the average prices for which you marketed your fruit for the 2024 season below. The information that you supply will only be presented as group averages and your identity will remain confidential.

Name _____
Address _____
City and State _____
Phone (____)_____

		Average selling price for 2024. Please list your selling units if different from those in the units column (e.g. Apple $32/42 lb bu)		
Crop	**Units used to convert to price/lb for NAP**	**Wholesale price $**	**Direct to consumer $**	**Direct to consumer (organic) $**
Apple	42 lb/bu			
Apple cider	gal			
Peach	50 lb/bu			
Nectarine	50 lb/bu			
Pear	50 lb/bu			
Plum	29 lb/0.5 bu			
Cherry, tart	16-20 lb/lug			
Pawpaw	lb			
Blackberry	1.5 lb/qt			
Blueberry	1.9 lb/qt			
Grape (table)	1.5 lb/qt			
Grape (wine)	24-28 lb/lug			
Raspberry	1.5 lb/qt			
Strawberry (matted row)	1.5 lb/qt (9-11 lb/12 pt crate)			
Strawberry (plasticulture)	1.5 lb/qt (9-11 lb/12 pt crate)			
Other (please list)				

Questions? Contact Brent Arnoldussen (Brent.Arnoldussen@uky.edu, (920)659-9536.

Cooperative Extension Service

Fruit Grower Orchard Meeting - Tuesday, March 18
Evans Orchard & Cider Mill
Kevan Evans, owner
180 Stone Rd.
Georgetown, KY 40324
Market: 502-863-2255
Mobile: 502-867-3044
Website: http://www.evansorchard.com/

Directions:
From Lexington take Newtown Pike (Rt. 922) north, 8 miles from I-75/I-64. Turn right just past Stone Road to enter the farm.
I-75 from the south take Georgetown exit 125 and turn right on to Rt. 460. Travel about 3 miles east on 460 and turn right onto Rt. 922. Proceed 0.8 miles and turn left at the orchard entrance.
I-75 from the north take Georgetown exit 126 and turn right off the exit ramp. Follow signs to Rt. 460 through a commercial area. Turn left on to Rt. 460 at the light (don't get on the bypass), travel about 3 miles east to Rt. 922, Proceed 0.8 miles and turn left at the orchard entrance.

Program:
All times EST

9:30-10:00 a.m.	Registration
10:00-10:10	Introductions- *Brent Arnoldussen, Elayna Stirn, Kevan Evans*
10:30	Horticulture Update- *Brent Arnoldussen*
10:50	Insect Pest Update - *Ric Bessin*
11:10	Disease Update -*Nicole Gauthier*
11:30	Grower Roundtable Discussion- *Kevan Evans, Moderator*
Noon	**Lunch will be available at cost for those that preregister.** **Preregister for lunch by emailing (Brent.Arnoldussen@uky.edu) or calling (859) 257-4721 Brent Arnoldussen** by Monday, March 17
1-3pm	Tour of Evans of Orchard with educational demos and discussion including:

- Agritourism and Marketing
- Pruning and Training of apples High- Density apples, blueberry and peaches
- Grower show and tell of electric and pneumatic pruners
- Pest and Disease Management