

# Kentucky Fruit Facts

September - October 2021

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

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## Fruit Crop News

*Daniel Becker, U.K. Extension Associate*

Peach harvest is winding down and apple picking is on the upswing. I noticed on a trip to the Fairview Produce Auction in Elkton that 'Encore' peaches are in season. Apple cultivars on the auction block included 'Blondee' and 'Gala'. I also saw a few trays of blackberries and blueberries; I suspect the latter were 'Elliott'. We just finished harvesting and collecting data from the 2019 'Gala' apple rootstock trial. Expect to see the latest results in the upcoming 2021 Fruit and Vegetable Research Report which should be available online in December and in print in January 2022.

In talking with a grower recently, they mentioned that it has been a good season overall so far. The weather was difficult early-on but July onward was more agreeable. Fruit development which was slightly delayed has caught up and is now back on track, possibly even a little ahead of schedule. I can relate. The first picking of our 'Redhaven' on July 6 came off the trees a little hard, but with good size and color. By the next week, heat and ample rainfall rapidly swelled and softened the fruits and we were rushing to get them all picked. Time from first to final harvest was only seven days, rather than a more normal fourteen.

On site visits I have also noticed more peach brown rot and bacterial spot and apple bitter rot than in prior years. The unusually cool and rainy weather during and after bloom made spray timing and achieving lasting protective coverage difficult. Early season infections often go unnoticed and then seem to suddenly appear once fruits begin to ripen. Keep an eye out for mummies after harvest and remove these from the orchard.

Sanitation is an effective practice to reduce active and dormant pathogens and improve disease management from one year to the next (<http://plantpathology.ca.uky.edu/files/ppfs-gen-05.pdf>). Removal of cankers, fireblight infections and dead wood are especially important steps for bitter rot management (<https://plantpathology.ca.uky.edu/files/ppfs-fr-t-24.pdf>). While it is suggested to wait to prune out infected wood during the dormant season, you can flag candidates for removal at any time which makes them easier to spot later-on (see masthead).





## Peach and Nectarine Cultivars at UKREC, Princeton, KY

By Dwight Wolfe, Research Specialist, UK Research and Education Center, Princeton, KY

Two trees each of ‘Contender’, ‘Redhaven’, and eleven named peach and nectarine cultivars from John Clark’s breeding program at Clarksville, Arkansas, were planted in November 2015. Deer, birds, raccoons, and other wildlife, plus frost/freezes in previous years have prevented us from being able to collect yield data from all trees in this planting during a single season. 2021 was the first year that we have been able to collect yield data from all of these cultivars along with their ripening dates and Brix readings (Table 1). All of the nectarine and peach cultivars set full crops in the 2021 season in spite of frosts/freezes during the early part of this year. Flavor and eating quality were generally good across all of these cultivars. Obtaining an acceptable fruit size for the ‘Westbrook’ and ‘Arrington’ nectarines have been a problem for us in spite of our efforts to sufficiently thin these trees. These two cultivars are the earliest ones to ripen in our planting, and early and vigorous thinning is apparently required to get good fruit size for these cultivars. Severe fruit cracking was observed in ‘Amoore Sweet’ and ‘Bowden.’ This cracking may have resulted from the numerous heavy rains sustained this season.

Table 1. 2021 data from the 2015 peach and nectarine planting at UKREC, Princeton, KY.					
Cultivars	Date(s) Harvested	Yield/tree <sup>1</sup> (lbs. / tree)	Fruit size (g/fruit)	Brix <sup>2</sup> (%)	Notes / descriptions <sup>3</sup>
<b>Nectarine Cultivars</b>					
Westbrook	June 15	48.6	63	13.8	Semi-CS, M3
Arrington	June 22	41.4	65	13.8	CS, NM
Bradley	June 30	59.4	109	13.2	CS, NM
Amoore Sweet	July 2	54.6	146	13.6	C, NM, 37% cracked fruit
Bowden	July 4	72.6	115	13.0	CS, NM, 53% cracked fruit
<b>Peach Cultivars</b>					
White Rock	July 6	64.2	133	11.9	CS, NM, low acid
Redhaven	July 6	80.5	161	11.0	FS, M
Souvenir	July 8	73.5	106	11.2	FS, M low acid
White Cloud	July 7	137.3	165	10.4	CS, NM
Contender	July 16	92.0	154	10.5	FS, M
White County	July 16	122.3	138	10.2	FS, M, low acid
White River	July 23	117.3	172	10.4	FS, M
White Diamond	July 28	124.5	189	11.1	FS, M, low acid
<sup>1</sup> Amoore Sweet, Contender, and White River, only had one of their original two trees still alive during the 2021 growing season.					
<sup>2</sup> Average of a ten-fruit sample per tree, 2 sides per fruit.					
<sup>3</sup> CS, FS, M, NM indicate clingstone, freestone, melting, and non-melting flesh, respectively.					

### New Produce Safety Rules

Under legislation passed by the Kentucky General Assembly earlier this year, the Kentucky Department of Agriculture is implementing new produce safety rules. The new rules require vegetable (and fruit) growers averaging \$25,000 or above in annual sales during the last 3 years to complete a farm survey with the KDA and complete the 7-hour Produce Safety Alliance (PSA) Grower Training course. Virtual training hosted by KDA and UK will be online in June and July. Remember that Produce Best Practices Training (PBPT) is not the same

as the PSA grower training. But, the PSA training can substitute for PBPT training for farmers' market sampling certificates. If you haven't yet completed the farm survey or participated in a PSA training, KDA requires completion of the Produce Farm Survey. You can complete the survey on-line or via a mail-in survey card. KDA requires this regardless of farm size or sales. If you have not already completed the survey, you can do so on-line by visiting KDA's Produce Safety website (<https://www.kyagr.com/marketing/plant/fsma-survey.aspx>).

For questions or more information, contact KDA Produce Safety Program Manager Mark Reed at [mark.reed@ky.gov](mailto:mark.reed@ky.gov).

### **Agriculture Water Testing Reminder**

Remember that the ag water components of FSMA go into effect in January, 2022. The Kentucky Horticulture Council (KHC) is still accepting growers for the agricultural water testing program to help produce growers better understand the microbial quality of their surface and ground water sources used for production and post-harvest activities.

KHC's program in partnership with National Farmers Union's Local Food Safety Collaborative (LFSC) provides on-site technical assistance to Kentucky growers. If you would like to participate in the program, please email KHC at: [info@kyhortcouncil.org](mailto:info@kyhortcouncil.org).

Watch for KHC at local farmers markets this season talking about food safety and ag water testing. If you would like to host an ag water food safety event at your local market, send a note to KHC at [info@kyhortcouncil.org](mailto:info@kyhortcouncil.org).

### **Microbial Water Quality Profile**

The Produce Safety Rule (PSR) requires growers to establish a Microbial Water Quality Profile (MWQP) for each untreated agricultural water source used during growing activities of covered produce using a direct water application method and conduct annual surveys for that water source in subsequent years.

The MWQP is based on the levels of generic E. coli in your agricultural water sources. There are different requirements for agricultural water that comes from surface or ground (well) sources.

More information on the Produce Safety Rule and agricultural water can be found here: [www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334114.htm](http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334114.htm).



## **On-farm Water Program Offers Help to KY Growers**

*By Cindy Finneseth, Kentucky Horticulture Council*

Water management is one of your most important production strategies because it is an essential component of photosynthesis and plant development. The crop you are growing, its growth stage, ambient and soil temperatures, and other atmospheric conditions (i.e. wind, relative humidity) influence the amount of water you need for production. Water quality, quantity and timing are key to maximizing your crop potential. Water stress can inhibit germination and stunt plant growth, ultimately limiting your yield.

While water needs vary by crop over the course of the growing season, it is critical you provide the right amount of good quality water at the optimal time to maximize your crop yield and quality. Managing irrigation is important whether you are supplying water through a plasticulture system, overhead sprinkling, or using a subirrigation system.

There are many recognized best management practices that help growers deliver and manage on-farm water.

One or more may be very well-suited to your operation. Several examples include:

- Irrigation infrastructure (i.e. pipes) to deliver water to growing crops,
- Systems, including microirrigation, to maximize water availability at the root zone and minimize water loss,
- Soil moisture monitoring systems that help growers determine when to irrigate,
- Rainwater harvest systems installed on high tunnels or on-farm structures
- Catchment systems used to collect and store harvested rainwater,
- Use of variable rate nozzles to manage flow and application rates,
- Well installation to collect and use ground water, providing a stable water supply for crop irrigation, and

- Stormwater runoff control strategies to prevent excessive water and damage during heavy rain events.

In addition to maximizing your crop yield, capturing, storing and using available water resources can help you reduce drought vulnerability, reduce dependency on municipal water, manage excess runoff, and improve soil health and moisture availability. The primary challenge is that these systems can be very expensive. The Kentucky Office of Agricultural Policy (KOAP) and the Kentucky Division of Water have developed an on-farm water management program to help local growers plan and fund proven water management practices. The program goals include:

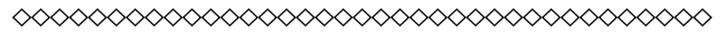
- To promote innovation in on-farm water management,
- To decrease production dependence on municipal water sources,
- To increase on-farm water availability and farm profitability,
- To normalize innovative practices, and
- To improve data on costs/benefits of new practices.

There are three project categories with the Small-Scale Grants (SSG; projects up to \$10,000) and Producer Implementation Projects (PIP; projects up to \$100,000) most appropriate for Kentucky specialty crop growers. At least 50% in matching funds is required and the project must use at least two best management practices, which may include one of those previously identified as well as many other accepted practices.

Program Guidelines are available online: [https://agpolicy.ky.gov/funds/Documents/project-guidelines\\_water.pdf](https://agpolicy.ky.gov/funds/Documents/project-guidelines_water.pdf) and <https://eec.ky.gov/Environmental-Protection/Water/Funding/Pages/OFWMP.aspx>. Project applications are accepted year-round and there are quarterly deadlines when projects are reviewed and considered for funding. The remaining application deadlines for 2021 are July 30th and October 29th.

If you have ideas to manage your operation's water needs, you can always consult with your local county extension agent or your regional Kentucky Division of Water office staff (<https://eec.ky.gov/Environmental-Protection/Water/Pages/Regional-Offices.aspx>). Questions about the On-Farm Water Program can be directed to the KOAP Program

Manager: Martin Williams ([Martin.Williams@ky.gov](mailto:Martin.Williams@ky.gov); 502-782-1763). Technical assistance questions can be directed to Bill Caldwell, Kentucky Division of Water ([Bill.Caldwell@ky.gov](mailto:Bill.Caldwell@ky.gov); 502-782-6906).



## Spotted Lanternfly on our Border

*By Jonathan L. Larson and Ric Bessin, Entomology Extension Specialists, and Joe Collins, State Entomologist's Office*

Last week, some distressing news was delivered regarding spotted lanternfly, a worrisome invasive species. Unfortunately, an infestation of this pest was found in Southeastern Indiana, specifically near the city of Vevay in Switzerland County. The location is about 2.4 miles away from Gallatin County, KY. The Office of the State Entomologist has implemented and checked spotted lanternfly traps on our side of the Ohio River and thus far have found no evidence of this pest in Kentucky. This is something that will be closely monitored for the foreseeable future though.

### What is Spotted Lanternfly?

Spotted lanternfly (aka SLF) is a serious invasive insect pest capable of building large populations. SLF is native to East Asia and was first found in southeastern Pennsylvania in 2014. Since that initial discovery, it has spread to many counties in Pennsylvania, as well as into Virginia, New Jersey, Ohio, Delaware, New York, Connecticut, Maryland, and West Virginia.

SLF is very distinctive in appearance; the adult is about an inch long with strikingly patterned forewings. The upper portion of these wings have black spots and the tips have a latticework of black rectangles. The back wings are contrasting red, black, and white. The immature stages are black with white spots and develop red patches as they age.

Figure 1

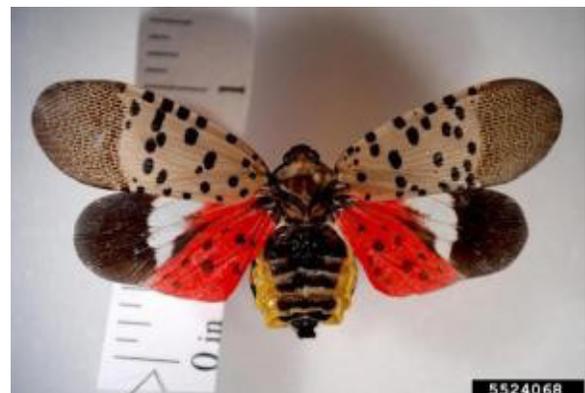


Figure 1: An adult spotted lanternfly has a very distinctive and colorful appearance. The fore wings are half spotted and half reticulated, while the back wings are a mixture of black, white, and red. (Photo: Pennsylvania Department of Agriculture, Bugwood.org)

Figure 2

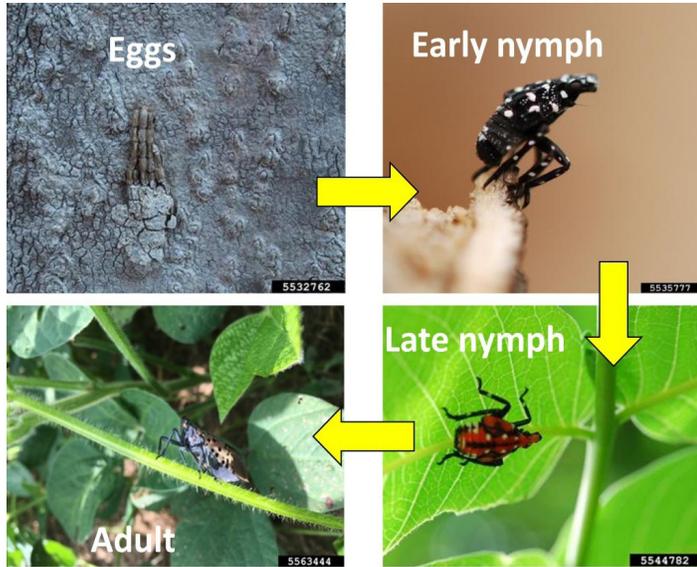


Figure 2: Spotted lanternflies start as eggs, which look like they are covered with brown-grey spackle, and then develop through spotted nymphal stages before maturing into the adult form. (Photos: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org)

### What does it do?

Tree of Heaven (another non-native/invasive species) is the primary host for SLF. However, this pest is also known to feed on over 70 other plant species, including important hosts such as grapes, hops, maple, and black walnut, amongst other hardwoods and fruit crops. SLF is a true bug, part of the order Hemiptera, and 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 issues.

SLF also invades structures in the fall, similar to brown marmorated stink bugs and Asian multicolored lady beetle. Finally, females will lay their eggs on natural and unnatural surfaces alike. While they use trees, the cryptic egg cases have also been found on cars, lawn furniture, firewood, stones, and many other substrates. This causes issues for quarantine and a headache for those that live in infested areas trying to move goods out of the quarantine area.

Figure 3



Figure 3: 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: Richard Gardner, Bugwood.org)

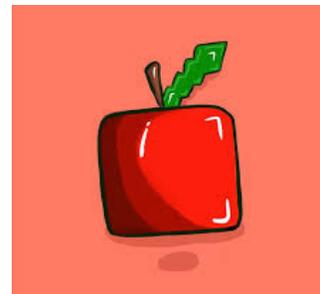
### What can people do to help?

While there is no known evidence of SLF in Kentucky, people should be looking out for this pest and report suspicious insects either to their county Extension office or directly to the UK Entomology Department. The report in Indiana was in association with Tree of Heaven, as this is the preferred host for egg laying in the fall.

## FRUIT & VEGETABLE HUMOR

### What is Square and Red?

**An Apple in Disguise!**



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