

# Kentucky Fruit Facts

April-May Newsletter 2019

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

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## Fruit Crop News

John Strang, U.K. Extension Horticulturist and Matt Dixon, U.K. Ag. Meteorologist

Growers are juggling jobs to keep up with the rapidly warming temperatures. At the Horticulture Research Farm we are tying the last branches down on the tall spindle training system for our cider apple planting, masthead photo. Pears are blooming and apple bloom is beginning. Eastern tent caterpillar eggs are hatching, so watch for these on orchard trees. The U.K. Ag Weather Center Fire Blight Prediction Model is very helpful in determining when to spray to minimize bactericide applications for this disease that is an annual source of worry and aggravation for apple and pear growers. Go to the U.K. Ag Weather Center and follow the directions at [http://weather.uky.edu/plant\\_disease.html](http://weather.uky.edu/plant_disease.html). Once your county and current date are entered the program pulls the data from the nearest Kentucky Mesonet or NWS site and integrates this with the local weather forecast. A fire blight table is generated providing a daily infection risk of Low, Caution, Moderate, High, Exceptional or Extreme for the coming week. Streptomycin is then applied before a rain or heavy dew if the results are above the Moderate risk level. If the model indicates a Moderate risk level a bactericide application is recommended if



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warm rainy weather is predicted. The model should only be run during the bloom period for pears and apples. Streptomycin provides four days of protection after which the model is rerun on a daily basis to determine when the next spray is to be applied. This publication explains the process in more detail PPFS-FR-T-07 - <https://plantpathology.ca.uky.edu/files/ppfs-fr-t-07.pdf>

We have noted a little more peach flower bud winter kill than expected at Princeton and in Lexington, however this still left plenty of surviving flower buds for a full crop. We are not positive as to when this damage occurred. The temperature dropped to 2.4 and 9.5°F at Lexington and Princeton respectively with the polar vortex on January 31, but buds were fully hardened at this point. We suspect that the damage occurred on February 9 when the temperature dropped to 15.6°F and 17.4°F at Lexington and Princeton. The temperature drop was preceded by five days in the 60's and we reached 70°F in Lexington. The other possible date for injury was March 5 when the temperature dropped to 9.7°F and 12.3°F in Lexington and Princeton.

The freeze on the morning of April 1 likely killed more peach flower buds and flowers (Figure 1). This was more of an advective freeze with a cold air mass moving in from the north involving wind that mixed the air column making most frost protection techniques ineffective. Plasticulture strawberry growers had plants in full bloom and covering plants with one or two floating row covers is very effective if the temperature does not drop too low.

While we are on strawberries, work in Kentucky strawberry plantings is picking up. Plasticulture strawberries growers are actively

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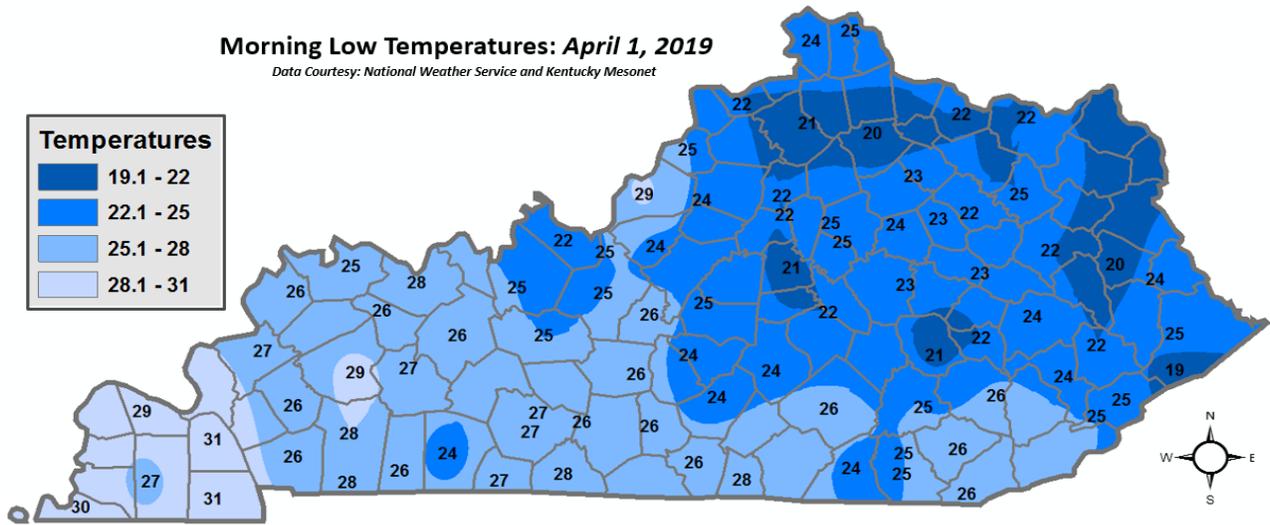


Figure 1. Lowest temperatures ( $^{\circ}$ F) experienced across the state on the morning of April 1, 2019 from WKU KyMesonet.org.

### Lexington GDD Accumulations Base 50 (2007, 2016-2019)

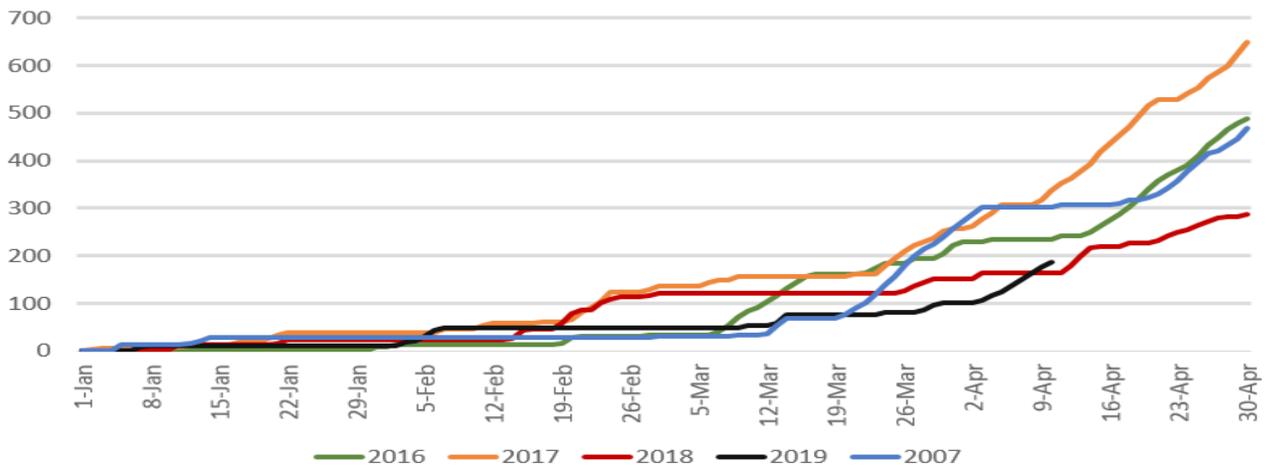


Figure 2. Growing degree day accumulations (base  $50^{\circ}$ F) for 2019 and past years.

monitoring night temperatures and rainfall to determine when to cover their planting with row covers for frost protection. Weekly nitrogen fertigation starts when these plants begin blooming. Soil temperatures at the four-inch depth are well above  $43^{\circ}$ F across the state. This indicates that matted row strawberries should have most of the straw used for winter protection raked into the row middles. Leave a little straw in the rows to help keep fruit off the ground and reduce fruit disease incidence. Leaving the straw over the plants too long reduces yield.

I have seen several blackberry plantings where cane blight is more prevalent this year. Last season's very wet conditions contributed to this problem. Lime sulfur at bud break and Sulforix have been the products of choice in the past for cane blight control. It is very difficult to find lime sulfur anymore and Sulforix is not labeled for use in home plantings. For the future wettable sulfur is probably the best delayed

dormant spray choice to control cane blight in home blackberry plantings. Growers should not summer tip primocanes when they are wet as this spreads cane blight. It is even better to pinch or snap the tips off as opposed to cutting them.

Figure 2 shows Growing Degree Days (GDD) accumulations for this season and several previous seasons including the 2007 Easter freeze season. The faster growing degree days accumulate the more rapidly trees bud out and bloom. I consider 2018 to be an average season with respect to fruit harvest dates. So this year we are running slightly behind the 2018 season.

The U.K. Ag. Weather Center reports that we will probably be somewhat warmer than normal with normal rainfall for the next month. Interestingly our March precipitation was below normal.

The fruit industry recently lost another of its sage leaders. Jerome (Jerry) Lehman, 82 of Terre

Haute passed away on April 1, 2019. Jerry was a member of the Indiana Nut and Fruit Growers Associations as well as the Northern Nut Growers Association. He was a very astute persimmon and pawpaw breeder and released a number of excellent varieties. He graciously provided tours of his operation and was a frequent speaker at association meetings. Jerry will be missed.



## Upcoming Meetings

*All times EST unless noted*

### Apr. 15 Plasticulture Strawberry

**Production Twilight Tour**, Jake Shadowen's Farm, 1391 Old Olive Road, Benton, KY. 4:30-6:30 p.m. CDT. Meeting will include spring field management, frost prevention strategies, flower stage cold tolerance, fertility and pest control. Contact the Marshall County Extension Office for more information. 270-527-3285.

**Apr. 16 Allen/Simpson County Fruit Tree Grafting Workshop**, Allen County Extension Office, 200 East Main St., Scottsville, KY 42164. 5:00 p.m. CDT Contact 270-237-3146.

**Apr. 26 Spring Vineyard Workshop: Managing Soil and Plant Nutrition for Quality Vineyard Production**, U.K. Horticultural Research Farm, 4321 Emmert Farm Lane, Lexington, KY 40514. View Map - <https://www.eventbrite.com/e/managing-soil-and-plant-nutrition-for-quality-vineyard-production-tickets-59773595433#map-target>. 8:30 a.m. – 5:00 p.m. EDT. Featuring John Kempf the founder of Advanced Eco Agriculture, a plant nutrition and biostimulants consulting company. For more information on his work please visit <https://www.advancingecoag.com/> The workshop registration is \$50 per person. Please register on or before April 23rd. Registration Link: <https://2019springvineyardworkshop.eventbrite.com>

**Apr. 27 Kentucky Nut Growers Association Spring Meeting**, Hardin County Extension Office, 201 Peterson Dr., Elizabethtown, KY 42701, 9:00 a.m.-3:00 p.m., Contact Danny Ganno Phone 270-860-8362; email: [danganno@yahoo.com](mailto:danganno@yahoo.com) See article below.

**May 2 Fruit Grower Orchard Meeting, Hinton's Orchard and Farm Market**, Jeremy and Joann Hinton, 8631 Campbellsville Rd., Hodgenville, KY 42748 10:00 a.m. Phone 270-325-3855. See

program below.

**May 18 Regional Pecan Grafting Workshop**, Vaughn Family Pecan Farm, 120 W. Craig Rd., Scottsburg, IN 47170. Start 9:00 a.m. EDT. Open to anyone interested in nut tree propagation and learning field and bench grafting techniques. Speakers include Dr. William Reid, Emeritus Pecan Research and Extension Specialist, Kansas State University and Missouri State University and Ralph Voss, Clinton County Illinois pecan grower who manages 250 acres of pecans. Registration includes a catered lunch \$14.00 per person. Check or money order must be received by May 1, 2019 payable to Indiana Nut Growers Assoc. Please include names and addresses of attendees. Phone: 812-752-4929. For more information go to: <https://www.infga.org/>

**June 13-15, Riverhills Elderberry Conference**, Lincoln University Carver Farm and Local Farms, Jefferson City, MO Registration and program information coming soon at: <https://www.riverhillsharvest.com/comprehensive-elderberry-workshop-s>

**July 28-31, Northern Nut Growers Association/North American Fruit Explorers Conference**, Graduate Hotel, 210 South Dubuque St., Iowa City, IA 52240. For meeting specifics and registration see: <https://nutgrowing.org/nnga-2019-annual-meeting/>

**Jan. 6-7, 2020 Kentucky Fruit and Vegetable Conference**, Embassy Suites Hotel, 1801 Newtown Pike, Lexington, KY 40511. Contact John Strang Office phone: 859-257-5685; Email: [jstrang@uky.edu](mailto:jstrang@uky.edu)

## KNGA Spring Meeting Program

### - Saturday, April 27

Hardin County Extension Office  
201 Peterson Dr.  
Elizabethtown, KY 42701  
9:00 a.m.-3:00 p.m.

### Directions

#### From Bowling Green:

Take I-65 North to Exit 91 (Fort Knox, Elizabethtown). Take the WESTERN KENTUCKY PARKWAY (WK) to Exit 136. This is the 31W By-Pass. Take the cloverleaf exit for Hwy. 62. At the bottom of the ramp make a RIGHT. After the BP Station/Five Star Food Mart at the stoplight, PETERSON DRIVE is the second street on your right. Make a RIGHT. We are the first driveway on the

RIGHT.

From Paducah:

Take the WESTERN KENTUCKY PARKWAY (WK) to Exit 136. Turn LEFT at the end of ramp. This is the 31W By-Pass. Take the cloverleaf exit for Hwy. 62. At the bottom of the ramp make a RIGHT. After the BP Station/Five Star Food Mart at the stoplight, PETERSON DRIVE is the second street on your right. Make a RIGHT. We are the first driveway on the RIGHT.

From Lexington:

Take the BLUEGRASS PARKWAY all the way to I-65 (the end). Take I-65 NORTH to the first exit (EXIT 94 - Elizabethtown HWY 62). Make a LEFT onto HWY 62. Follow Hwy 62 all the way through Elizabethtown (about 4.1 miles). After the BP Station/ Five Star Food Mart at the stoplight, PETERSON DRIVE is the second street on your right. Make a RIGHT. We are the first driveway on the RIGHT.

**9:30 am-2:00 pm**

**KNGA Nut Display.** One of the main attractions at our meeting is the nut display. These exhibits afford our members the opportunity to see and examine first-hand the fine nuts that are grown in Kentucky and adjoining states.

**KNGA Swap-Shop and Scionwood Exchange.** These spring meetings offer a great opportunity to obtain scarce scionwood for nut tree cultivars and other plant material. Please bring a good supply of scionwood from your best producing pecans, hickories, black walnuts, Persian walnuts, persimmons, pawpaws, and various fruit cultivars. Please bring plastic bags or moisture proof wrappings, rubber bands, and labels for the scionwood. Please take care to label everything carefully for distribution at the meetings to avoid scionwood mix ups.

**9:45 am. KNGA Board of Directors Meeting.**

**10:45 am. General Business Meeting**

**12 Noon. Potluck Luncheon.** If you bring something that will need to be heated or warmed, there is a well-equipped kitchen that can be used for that purpose.

**12:30 pm. The KNGA Annual Spring Auction**

**Sale.** In order to make the traditional spring sale the best ever, we request members bring items from their orchards, yards, farms or nurseries that they wish to donate for this occasion. Almost any items are appropriate - seeds, plants, nuts of any kind, and especially grafted fruit and nut trees. Please label the items that you donate to auction. Your donations are greatly appreciated by the KNGA. Many members, nurserymen and others donate plant material and other items for door prizes.

**Fruit Grower Orchard Meeting**

**- Thursday, May 2**

**Hinton's Orchard and Farm Market**

Jeremy and Joanna Hinton Owners

8631 Campbellsville Rd.

Hodgenville, KY 42748

Market: 270-325-3855

Jeremy Mobile: 270-268-5333:

Website: <https://hintonsorchar.com/>

**Directions**

From I-65:

Take exit 91/Lincoln Parkway (KY 61) to Hodgenville. RIGHT onto Hwy 210 and market is 7 miles on the right.

From Bluegrass Parkway:

Take exit 21/US31E to Hodgenville. Turn LEFT with US 31E in Hodgenville. Take a LEFT on Lincoln Parkway. Follow directions above.

From Campbellsville:

At Hwy 68/210 junction, take Hwy 210 approximately 22 miles, market on left.

Program:

All times EST

- |            |  |
|------------|--|
| 10:00 a.m. | Registration & Tour of Hinton's Orchard and Farm Market – Jeremy & Joanna Hinton |
| 10:50      | Managing Secondary Insect Pests - Ric Bessin                                     |
| 11:20      | Three Invasive Orchard Weeds to Watch for and Control - John Strang              |
| 11:50      | 2018 Kentucky Fruit Prices - Chris Smigell                                       |
| Noon       | Lunch will be available at cost for those that preregister.                      |

Preregister for lunch by calling Pam Compton at 859-257-2909 between 8:00 a.m. and 4:30 p.m. EST weekdays by Monday, May 1 and give her a count for the Fruit Grower Meeting at Hinton's Orchard.

- 12:45 p.m. Pesticide Update - Ric Bessin
- 1:05 Climate Change and Implications for Kentucky Fruit Production  
- John Strang
- 1:20 Grower Round Table Discussion  
- Matt Gajdzik, moderator



## Kentucky Fruit Grower Retail Prices for 2018

By Chris Smigell, UK Extension Associate for Small Fruits & Vegetables and John Strang, UK Extension Fruit Specialist

Kentucky growers that sign up and participate in the Noninsured Crop Disaster Assistance Program (NAP) 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 his or her own price figures national wholesale prices are used, which are substantially lower than those that Kentucky growers that market retail typically receive.

The Kentucky State FSA office accepts average Kentucky fruit prices provided by U.K. Extension if a Kentucky grower does not have historical price records. Consequently, we surveyed growers and collected farm market, Kentucky produce auction and farmers' market prices for the 2018 growing season.

The prices shown in tables 1 and 4 are retail market fruit prices combining grower on farm market and \*farmers' market prices. These tables list average tree and small fruit prices as well as the highest and lowest prices that were reported as a price per-unit and price per-pound. Tables 2 and 5 show average tree and small fruit prices per-unit and per-pound allowing a comparison of prices for 2018, 2017 and 2016. Table 3 shows average, low and high apple cider prices for 2018, 2017 and 2016.

Generally, the highest prices were obtained from Lexington, Louisville and Bowling Green area farmers' market reports. The 2018 average prices, increased from those in 2017 (Tables 2 and 4) for

pears, blueberries, raspberries and strawberries, but decreased for apples, peaches, plums, blackberries and apple cider.

The NAP program provides financial assistance to producers of non-insurable crops that have signed up for the program when low yields/grazing loss, loss of inventory or prevented planting occur due to natural disasters including drought, freeze, hail, excessive moisture, excessive wind or hurricanes. More information can be found at: <https://www.fsa.usda.gov/state-offices/Kentucky/index>

\*Farmers market price reports can be found at: <http://www.uky.edu/ccd/pricereports/KYFM>

Table 1. Farm Service Agency 2018 Ky Grower NAP Tree Fruit Prices (Retail)

| Crop         | Sales Unit | Avg (\$/unit) | High   | Low   | Avg. (\$/lb) | High | Low  |
|--------------|------------|---------------|--------|-------|--------------|------|------|
| Apple        | bu         | 56.70         | 126.00 | 24.00 | 1.35         | 3.00 | .57  |
| Pear         | bu         | 95.40         | 125.00 | 72.00 | 1.90         | 2.50 | 1.44 |
| Peach        | bu         | 88.50         | 160.00 | 18.00 | 1.77         | 3.20 | .36  |
| Nectarine    | bu         | -             | -      | -     | -            | -    | -    |
| Plum         | ½ bu       | 58.00         | 58.00  | 58.00 | 2.00         | 2.00 | 2.00 |
| Cherry, tart | Qt         | 3.00          | 3.00   | 3.00  | 2.00         | 2.00 | 2.00 |
| Pawpaw       |            | -             | -      | -     | 2.65         | 4.00 | 2.00 |

Table 2 .Farm Service Agency 2018 Ky Grower NAP Tree Fruit Prices (Retail)

| Crop         | Sales Unit | 2018 Avg | 2017 Avg | 2016 Avg | 2018 Per lb. Avg. | 2017 Per lb. Avg. | 2016 Per lb. Avg. |
|--------------|------------|----------|----------|----------|-------------------|-------------------|-------------------|
| Apple        | bu         | 56.70    | 64.27    | 69.80    | 1.35              | 1.53              | 1.65              |
| Pear         | bu         | 95.40    | 84.64    | 75.40    | 1.90              | 1.69              | 1.50              |
| Peach        | bu         | 88.50    | 97.75    | 86.90    | 1.75              | 1.96              | 1.75              |
| Nectarine    | bu         | -        | 75.75    | 63.10    | -                 | 1.52              | 1.25              |
| Plum         | ½ bu       | 58.00    | 66.67    | 56.00    | 2.00              | 2.30              | 1.95              |
| Cherry, tart | Qt         | 3.00     | -        | -        | 2.00              | -                 | -                 |
| Pawpaw       |            | -        | -        | -        | 2.63              | 2.00              | 2.00              |

Table 3. Farm Service Agency Ky NAP Apple Cider Prices, 2016-18

| Cider         | 2018  | 2017  | 2016 |
|---------------|-------|-------|------|
| Average/Gal   | 8.55  | 10.10 | 7.70 |
| Highest Price | 12.00 | 16.00 | 9.00 |
| Lowest Price  | 6.85  | 6.85  | 6.00 |



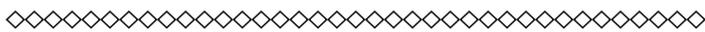
technology will not be available. Registrants will submit label changes and new product registrations for the closed system packaging by March, 2019, and will have 12 months from EPA's label approval date to adopt the closed system packaging.

As with any pesticide application:

- Read and follow all label directions
- Keep the product in its original packaging, and
- Never transfer the materials into any type of food container.

Poisonings have occurred because paraquat has been illegally transferred into drink containers. Since the year 2000, there have been 17 deaths due to paraquat poisoning; several of those resulted when this pesticide was transferred to beverage containers. A single sip can be fatal.

Paraquat-specific training is available for paraquat users at their convenience at How to Use and Handle Paraquat-Containing Products - <https://kentuckypestnews.wordpress.com/2019/03/19/new-mandatory-paraquat-training-requirements-for-applicators/>. Once the user successfully completes the training, a certificate will be automatically generated. Applicators are required to retain certificates of training completion.



## Complying with EPA Worker Protection Standards

*By Ric Bessin, U.K. Extension Entomologist*

Pesticides used on farms have requirements in order to protect the health of employees; these are the Worker Protection Standards (WPS). WPS requires owners and employers on agricultural establishments and commercial pesticide handling establishments to protect employees on farms, forests, nurseries, and greenhouses from exposure to agricultural pesticides. WPS requires that owners and employers annually train agricultural workers and pesticide handlers who enter areas that have been treated with pesticides within the last 30 days before they begin their work; there is no grace period. Workers who are certified pesticide applicators do not need to be trained and are qualified to provide WPS training, so long as the training meets the EPA requirements for content. In 2015, the EPA revised the WPS to implement

stricter protections for agricultural workers, handlers, and their families. The revised WPS rule is fully implemented and must be followed:

- annual pesticide safety training must cover the expanded content;
- pesticide safety information (posters) must meet the revised standards; and
- handlers must suspend applications if workers or other people are in the expanded application exclusion zone of 100 feet (for most applications).

To help employers comply with these expanded requirements, the Pesticide Education Resources Collaborative (PERC) has updated its WPS [Compliance Assistance Library](#) to meet the new federal regulations. This website houses a collection of videos, booklets, flip-charts and presentations which meet EPA's new standards. Materials are in both English and Spanish. The site is well organized including the following guides:

- Protections for Workers
- Protections for Handlers
- Exceptions and Exemptions
- Posting Warning Signs
- Respiratory Protection Guide
- Hazard Communication
- Training Requirements
- Decontamination Requirements
- Personal Protective Equipment
- Application Exclusion Zone (AEZ).

The PERC WPS web site also clearly describes the responsibilities of agricultural employers, commercial pesticide handler employers, trainers of workers, trainers of pesticide handlers, labor contractors, crop advisors, workers, and pesticide handlers.



## 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:

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