

# Kentucky Fruit Facts

John Strang, Extension Fruit Specialist, Editor  
Denise Stephens, Newsletter Designer

## Fruit Crop News

John Strang, U.K. Extension Horticulturist and Ric Bessin, U.K. Extension Entomologist

The apple season is picking up while the peach season is beginning to taper off. Fruit color is exceptional this year because of our cool season. Frost rings or russetting (Figure 1) are very apparent on some fruit that sustained injury this past spring. These are caused by ice formation beneath the fruit epidermis or skin which separated the epidermis from the tissue below. In instances where the epidermis failed to heal properly russetting occurred. Russetting is a response to fruit injury from high humidity, caustic pesticides, diseases, insect or mechanical damage and even excessive nitrogen fertility. The wet season has promoted the development of Sooty blotch and Fly speck as well as some of the fruit rots. Dr. Ric Bessin reports on spotted wing drosophila developments in a following article.



Figure 1.  
Frost rings  
on apple

### Inside this Issue:

Fruit Crop News.....	1
Upcoming Meetings.....	2
Spotted Wing Drosophila Update.....	3
Thornless Erect Blackberry Cultivar Trial.....	4
New Publications/FactSheets.....	5
Receiving Fruit Facts on the Internet.....	6



Figure 2.  
Stink bug  
damage on apple

Brown marmorated stink bug (BMSB) numbers have been slow to increase this year, but the pace is picking up in areas where this pest is established. The U.K. Entomology Department has posted the progression of this pest across the state at <http://pest.ca.uky.edu/EXT/BMSB/welcome.html> BMSB is more likely to be a problem in fruit crops where it has been established for more years.

Apple, pear and peach growers should keep this pest in mind as it begins feeding on fruit. During past seasons fruit damage has showed up as populations increased in mid-July and throughout the latter part of the season. I have found that BMSB are difficult to find in the trees, but their damage is very noticeable at harvest, Figures 2 and 3. Commercial growers can find pesticide recommendations on page 22 of the The Midwest Tree Fruit Spray Guide. These pesticides should be used only where stink bugs are a problem as they can upset the pest relationships in the orchard by killing off natural predators leading to mite buildups and other insect concerns. <http://tinyurl.com/SprayGuide>. Home fruit growers may want to think about including the insecticide Malathion in their spray program if they are having BMSB problems.

Rains over the last month have increased soil moisture levels across the state so that we are just about



Figure 3.  
Brown  
marmorated  
stink bug, note  
white areas on  
antennae

normal for this time of the year. The exception is for the farthest portion of the Purchase area, but rainfall over the next several weeks is expected to be above normal for the state and should alleviate any slight drought conditions. NOAA predicts that temperatures will be slightly above normal for most of Kentucky for the next two weeks. The three month outlook is for normal temperatures and slightly warmer conditions in far eastern Kentucky.



### Upcoming Meetings

*(All meetings are Eastern time unless specified.)*

**Sept. 18 Sustainable Agriculture Workshop, “Third Thursday Thing,” Pawpaws & Horticulture,** Kentucky State University Research and Demonstration Farm, 1525 Mills Lane, Frankfort, KY. Contact Dr. Marion Simon Phone: 502-597-6327; email: marion.simon@kysu.edu See program below.

**Sept. 27 College of Agriculture, Food and Environment Field Day,** Robinson Center for Appalachian Resource Sustainability, 130 Robinson Road, Jackson, KY. Contact Chuck Stamper 859-257-9511 ext 237 cstamper@uky.edu

**Oct. 9 Commercial Blueberry Production in Kentucky,** Metcalfe County Extension Office, 422 East St., Edmonton, KY 42129. Contact 270-432-3561. See program below.

**Oct. 16 Commercial Blueberry Production in Kentucky,** Pulaski County Extension Office, 28 Parkway Dr., Somerset, KY 42502. Contact 606-679-6361. See program below.

**Oct. 25 Kentucky Nut Growers Association Fall Meeting,** Henderson County Extension Office, Expo Building, 3341 Zion Rd., Henderson, KY 42420. 9:00 a.m. CDT. Contact Danny Ganno 270-860-8362; danganno@yahoo.com or Henderson Extension Office 270-826-8387. Please note directions below.

**Nov 18-20 2014 Kentucky Small, Limited Resource Minority Farmers Conference,** Capital Plaza Hotel, Kentucky State University and the Kentucky State University Research Farm, Frankfort, KY. For more information call 502-597-6327 or email louie.rivers@kysu.edu

**Jan. 5-6, 2015 Kentucky Fruit and Vegetable Conference and Trade Show,** Embassy Suites Hotel, Lexington, KY. Contact John Strang 859-257-5685; email: jstrang@uky.edu

### Sustainable Agriculture Workshop, “Third Thursday Thing”

Pawpaws & Horticulture - Sept 18, 2014  
 Kentucky State University Farm  
 1525 Mills Lane

Frankfort, Kentucky

Directions: From I-64 Exit 53, take US127 South toward Lawrenceburg to the 4th stoplight, turn left onto Mills Lane, the KSU Farm is 1 ½ miles on the right. (4 miles south of I-64, off US 127)

### Pawpaws and Horticulture

TIME	
10:00-10:10	Welcome and Announcements
10:10-11:10	Growing Primocane-Fruiting Blackberries in Kentucky – Jeremy Lowe, KSU
11:30-11:45	Spotted Wing Drosophila: A New Pest of Small Fruits in KY – John Sedlacek, KSU
11:45-12:00	Spotted Wing Drosophila: Hands-On Identification – Karen Friley and John Sedlacek, KSU
12:00-1:00	LUNCH
1:00-1:15	Update on Small Scale Farm Grant Program – Joni Nelson, KSU
1:15-1:35	Postharvest, Processing, and Cooking with Pawpaws – Sheri Crabtree, KSU
1:35-2:00	Growing Pawpaws in Kentucky – Kirk Pomper, KSU
2:00-2:30	Pawpaw Fruit and Product Tasting
2:30-3:00	Pawpaw Orchard Tours / <i>Adjourn at 3:00 p.m.</i>

### College of Agriculture, Food and Environment Field Day, Sept. 27

Robinson Center for Appalachian Resource Sustainability  
 130 Robinson Road  
 Jackson, KY

### Horticultural Wagon Tour Stops, Tours will run from 10:00 a.m. - 2:00 p.m.

- Raised beds, drip irrigation - Dr. Shubin Saha, Extension Vegetable Specialist
- Plastic layers and water wheel setters – Chad Conway, Knott County ANR
- Ornamental Corn, Farm Diversification - Ted Johnson, Lee County ANR
- Heirloom Beans - Keith Hackworth, Floyd County ANR
- Blueberries, Black Raspberries, Filberts, Rhubarb - Dr. John Strang, Extension Specialist -
- Wildlife Management for Horticulture Production - Stacy

White, Bell County ANR

- Crop Production Considerations - Darrell Slone, RCARS Extension
- Low Cost Guidance System for Vegetable Production - Dr. John Wilhoit, Extension Biosystems & Ag Engineering
- Cover Crops and Sweet Potato Variety Trial – Dr. Shawn Wright, Extension Horticulturist

## Commercial Blueberry Production in Kentucky

Oct 9, 2014 Metcalfe Co., Edmonton, KY

Oct 16, 2014 Pulaski Co., Somerset, KY

The full day workshop will cover topics such as site selection, blueberry growth and development, nursery production, pruning, insect management, and disease control. There will be a special session on Phytophthora root rot.

A \$10 registration fee will be collected at the door, but pre-registration is appreciated. Contact the Metcalfe County Extension Office (270) 432-3561 or Pulaski County Extension Office (606) 679-6361 to RSVP. Lunch is included with registration. All attendees will receive a copy of the Midwest Blueberry Production Guide ID-210.

Times are CST for Metcalf County and EST for Pulaski County

8:00 a.m.	Registration, coffee
8:15	State of the industry, agent welcome
8:30	Blueberry field production, soils
10:00	Break
10:15	Propagation and container production
11:15	Pruning and maintenance
12:00	Lunch
1:00 p.m.	Insect management
2:00	Disease management
3:00	Root rot disease
3:30	Q&A, Round-table discussion

Featuring UK specialists: Drs Ric Bessin, Win Dunwell, John Strang, and Nicole Ward-Gauthier

## Kentucky Nut Growers Association Fall Meeting, October 25

Henderson County Extension Office  
Expo Building  
3341 Zion Rd.  
Henderson, KY 42420.

### Directions:

Henderson County Cooperative Extension -- 3341 State Route 351 East

We are on what is referred to as Zion Road/Hwy 351 or Outer Second Street. We are across from East Heights Elementary and next door to Farm Bureau.

### ***From the South: (Pennyrile Parkway)***

Stay on Pennyrile to Exit 79 (Henderson/Zion/Hwy 351). At the bottom of the exit ramp, turn left. The Extension Office is approximately 1 mile on your left. We share a driveway with the Farm Bureau and we are the middle brick office building.

### ***From the East: (Audubon Parkway)***

Take 60 By-Pass West to Audubon Parkway West. Take Pennyrile/Highway 41 Exit NORTH. Exit at #79 (Henderson/Zion/Hwy 351). At the bottom of the exit ramp, turn left. The Extension Office is approximately 1 mile on your left. We share a driveway with the Farm Bureau and we are the middle brick office building.

### ***From the North: (U.S. Hwy 41)***

Come on U.S. Highway 41, continue South to Henderson on 41/Pennyrile Parkway. Take Exit 79 (Henderson/Zion/Hwy 351). At the bottom of the exit ramp, turn left. The Extension Office is approximately 1 mile on your left. We share a driveway with the Farm Bureau and we are the middle brick office building.

### ***From the West: (U.S. Hwy 60)***

Take U.S. Hwy 425 (Bypass) around to Pennyrile Parkway North. Take this north to Exit 79. At the bottom of the exit ramp, turn left. The Extension Office is approximately 1 mile on your left. We share a driveway with the Farm Bureau and we are the middle brick office building.

The meeting will begin at 9:00 a.m. CDT. The luncheon will be potluck and a kitchen will be available to heat up lunch items. Please bring items to donate for the fall auction and nut varieties to display. Be prepared for entertaining discussions on this year's experiences.

## FRUIT HUMOR



## Spotted Wing Drosophila Update

By Ric Bessin, U.K. Extension Entomologist

Spotted wing drosophila (SWD) is in high numbers in many parts of the state and has overwhelmed control efforts in some areas. Fall red raspberry (Figure 4) harvest

is underway and some growers have not been able to get adequate control. In addition to the problems with damaging fruit in the field, SWD can also become a nuisance pest of farm markets; adults are attracted to the harvested fruits and/or are emerging from infested fruits. I have had reports of producers not able to get control when using the recommended insecticides, so in this article I address the strategies to get the best possible control.



Figure 4. Fall raspberries are very susceptible to spotted wing drosophila. (Photo: Ric Bessin, UK)

#### Management in Plantings

- Trap for SWD and begin spraying when the first adult is detected and the fruit are within 10 days of harvest. Sprays are meant to target SWD adults before they have a chance to lay eggs. Once eggs are laid under the skin of berries, we cannot kill the egg or the larvae inside the fruit with insecticides. Only use recommended SWD insecticides at the proper rates; refer to Spotted Wing Drosophila Management (ENTFACT-230).
- Use a high pressure sprayer and water volume high enough to get thorough coverage inside the canopy. Water sensitive paper can be placed inside the canopy to ensure coverage is thorough.
- Prune canes to allow for excellent spray coverage. SWD adults avoid sunlight and hide in the darkest part of the canopy during the day, so proper canopy management enhances spray penetration and reduces shelter for the adults.
- Reapply sprays after rains. Experience in other states has shown that intense rains, like those we have experienced this summer, can ruin residual control with SWD sprays.
- Never go more than 7 days between sprays. With fall raspberries, plants may be blooming during the harvest period (Figure 5), so producers must protect pollinators by spraying when pollinators are not active.
- Don't leave overripe or damaged fruit in the field (this is very difficult to do, but incredibly helpful). Bag fruit for disposal in clear plastic and leave in the sun. Burying the fruit is not effective.
- Switch modes of action regularly. SWD can complete a generation in just over a week at the ideal temperature. Modes of action need to be switched weekly.

- Refrigerate berries as soon as harvested; the closer to 32 degrees F, the better.



Figure 5. Bloom and harvest overlap with fall raspberries, so producers must protect pollinators while also controlling SWD. (Photo: Ric Bessin, UK)

#### Management at On-farm Markets

In on-farm markets, SWD can also be a nuisance and impact customer satisfaction and sales. Market stores need to pay attention to breeding sites for SWD in and around the outside of the buildings. As with other fruit flies, sanitation is very important. Damaged, overripe, and other culled produce for disposal need to be removed promptly and placed into sealed bags.

- Trash cans should have liners and be emptied regularly.
- Fruit fly traps in markets can be used to identify hot spots.
- Produce not on display should be stored in a cooler.
- Do not place cull piles or neglect management of susceptible crops near on-farm markets.



Figure 6. Intact fruit brought into a market may have SWD larvae. (Photo: Ric Bessin, UK)



#### Thornless Erect Blackberry Cultivar Trial

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

Three thornless erect blackberry named cultivars

(Natchez, Osage, and Ouachita) and two selections (A-2434T and A-2491T) all from John Clark's breeding program at the University of Arkansas are being evaluated at the University of Kentucky Research and Education Center, Princeton, KY. Plants were established in the spring of 2013 in 2.5 x 12.5 ft plots, and bore a small crop this season. Results for 2014 are summarized in Table 1.

Cultivar	Harvest period	Yield (lbs/plot)	Size (grams/berry)	Taste
Ouachita	June 26 – July 21	13.0	5.3	4.75
Osage	June 23 – July 15	8.5	4.1	5.00
A-2491-T	June 26 - July 21	7.0	4.0	5.00
A-2434-T	June 23 – July 15	6.9	5.6	4.50
Natchez	June 20 - July 15	6.9	7.1	4.25
LSD (0.05)	NA	6.1	0.6	0.5

Yields varied from an average of 13.0 lb per plot for Ouachita to 6.9 lbs per plot for Natchez (Figure 7) to 13.0 lbs per plot for Ouachita. Average berry size for the season varied from 7 grams for Natchez down to 4 grams for A-2491T. Berries ripened over about a four-week period from about June 20 through about July 21, with Natchez ripening first. Ouachita and A-2491-T were the latest to ripen coming in a week later than Natchez but were also still ripening a week after Natchez was finished. Berries were rated for taste on a 5 point scale with 1 being undesirable and 5 being excellent. Osage (Figure 8) and A-2491T were rated the highest for taste (5.0), with Natchez being rated the lowest (4.25). This data is preliminary and the trial will be carried on for several more years.



Figure 7. Natchez fruit.



Figure 8. Osage fruit.



## New Publications/Fact Sheets

### An IPM Scouting Guide for Common Problems of Apple In Kentucky

By Nicole Ward Gauthier, Ric Bessin, John Strang, Shawn Wright and Cheryl Kaiser, Editor  
<http://www2.ca.uky.edu/agc/pubs/ID/ID219/ID219.pdf>  
 Contains images of many common diseases, insects, nutrient disorders, physiological problems, wildlife injuries, herbicide injury symptoms, and problem weeds involved in apple production.

### Fungicides for Tree Fruits, PPFS-FR-T-11

By Nicole Ward Gauthier  
[http://www2.ca.uky.edu/agcollege/plantpathology/ext\\_files/PPFShtml/PPFS-FR-T-11.pdf](http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-FR-T-11.pdf)  
 This guide helps growers select fungicides from different chemical classes to help manage fungicide resistance development. ]

### Simple Mist System for Strawberry, Hort Fact -3008

By Shawn Wright, Thom Harker and Brad Bergefurd  
[http://www.uky.edu/hort/sites/www.uky.edu.hort/files/documents/StrawberryMistSystem\\_0.pdf](http://www.uky.edu/hort/sites/www.uky.edu.hort/files/documents/StrawberryMistSystem_0.pdf)  
 Describes the construction of a simple mist system for propagating runner tips for strawberry plasticulture plug production

### Simplified Backyard Apple Spray Guides, PPFS-FR-T-18

By B. Wilson, J. Strang, N. Gauthier, and R. Bessin  
[http://www2.ca.uky.edu/agcollege/plantpathology/ext\\_files/PPFShtml/PPFS-FR-T-18.pdf](http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-FR-T-18.pdf)  
 This is a simplified spray guide for home apple growers that tells growers exactly what to spray for disease and insect control.

### Simplified Backyard Peach and Stone Fruit Spray Guide

By Nicole Ward Gauthier, Ric Bessin and John Strang  
[http://www2.ca.uky.edu/agcollege/plantpathology/ext\\_files/PPFShtml/PPFS-FR-T-20.pdf](http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-FR-T-20.pdf)  
 This guide like the apple guide simplifies the home spray program.

## 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

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