



# Kentucky Fruit Facts

Research & Education Center

P.O. Box 469, Princeton, KY 42445

July 2000 (7-00)

Prepared by John Strang, Horticulturist; John Hartman, Extension Plant Pathologist; Ric Bessin, Extension Entomologist; John Strang, Editor, Marilyn Hooks and Karen Shahan, Staff Assistants

Fruit Facts can be found on the web at: <http://www.ca.uky.edu/HLA/fruifact/>

## Fruit Crop and Weather Situation

We are currently well into blueberry, blackberry and peach harvest. Most areas have benefitted from the thunderstorms that continue to sweep across the state and have adequate soil moisture. Codling moth and for corn and pepper growers, corn borer and corn earworm populations continue to remain high. Growers are advised to monitor their local populations. Sooty blotch and flyspeck are beginning to show up in apple orchards. (Strang, Bessin, Hartman)

## Meetings

**Jul. 15 - Kentucky Nut Growers Association Grafting and Budding Workshop**, Wilmoth Nursery, 5960 Bacon Creek Rd, Elizabethtown, KY. Contact Leslie Wilomth 270/369-7493. See directions below.

This will be an all-day meeting with a pot-luck luncheon. The meeting and social activities will be on the Wilmoth's back lawn and patio area by the swimming pool. Bring folding lawn chairs and swim gear if you desire to take a dip. The meeting will be held rain or shine as there is a large covered patio.

**Directions:** From the East, take Exit 86 from I-65 West on KY 222. Proceed about five miles West to KY 1904. At this junction, turn left and go about 1.5 miles. Look for KNGA signs.

From the West, take US 62 to KY 222 East (about 7 miles West of Elizabethtown). Travel East on KY 222 about 2.5 miles and turn right on KY 1904. Follow KY 1904 for about 1.5 miles and look for the KNGA signs.

**Jul. 19-21 - American Society for Enology and Viticulture, Eastern Section Symposium, Synergy of Food and Wine, The Science of Creating and Marketing Wine as Food and 25<sup>th</sup> Anniversary Annual Meeting.** Clarion University Hotel, Ithaca, NY. Symposium is \$200/person + meals and ASEV/ES registration is \$45-\$80 depending on membership type before June 18th. Contact Ellen Harkness, Treasurer ASEV/ES, 765/494-6704 or e-mail [Harkness@foodsci.purdue.edu](mailto:Harkness@foodsci.purdue.edu)

**Jul. 20 - University of Kentucky College of Agriculture 2000 Field Day**, U. K. Research and Education Center, Princeton, KY. 8:00 A.M. - 3:00 P.M. (CDT) The UKREC is located on KY 91S 1.5 miles southeast of the Princeton Courthouse. The Horticulture tours will consist of the Orchard/Vineyard Tour (Integrated Pest Management Practices, High Density Apple Production and Apple and Peach Rootstock Trials, Grape Research and Production, and Pawpaw Research) and the Ornamentals/Small Fruit Tour (UKREC Botanic Garden, Butterfly/Herb Garden, Annual Perennial Trials, Daylily Evaluations, Blueberry and Blackberry Cultivar Trials, Pot-in-Pot Nursery Production, and Pruning Ornamentals and Hydrangeas for Cut Flowers). There will be many educational

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UNIVERSITY OF KENTUCKY, KENTUCKY STATE UNIVERSITY, U.S. DEPARTMENT OF AGRICULTURE, AND KENTUCKY COUNTIES, COOPERATING

exhibits and youth activities, as well as a diagnostic services area where growers can bring problem plant specimens for diagnosis. Contact Jim Herbeck 270/365-7541.

### **Aug. 10-11 - Fundamentals of Wine**

**Chemistry**, Offered by, Midwest Viticulture and Enology Center, Southwest Missouri State University-Mountain Grove. Course will be held in Hermann, MO.

Participants must be 21 years of age or older to enroll and attend. Registration by July 28, \$100 per person, and \$80 per additional person from the same company. This course is designed for individuals with a wine making background, but no formal training in wine chemistry. On the first day the basics on acids, sulfur dioxide in wine, and crush chemistry will be examined. On the second day fining and stabilization reactions and spoilage and its treatment will be studied. This course is taught by Clark Smith, a consulting winemaker with Vinovation in Santa Rosa, CA who offers this course at UC-Davis. Contact Kimberly Rey e-mail [kdr033t@mail.smsu.edu](mailto:kdr033t@mail.smsu.edu) or call Lori Krizan 417/926-4105

### **Sep. 21 - Grapes Berries, Tree Fruits;**

**Pawpaw Production and Tasting**, Kentucky State University Farm, Frankfort, KY. Contact 502/564-5871.

### **Oct. - Fall Kentucky Vineyard Society**

**Meeting**, Louisville area.

### **Jan. 8-9, 2001 - Annual Fruit and Vegetable**

**Grower Meeting**, Holiday Inn North, Lexington, KY. Contact John Strang 859/257-5685.

## **Lorsban Status**

As part of the FQPA goal of reducing the potential exposure of children to all pesticides, the EPA has made an agreement with Dow AgroSciences to restrict the use of all materials containing chlorpyrifos, which most of us in agriculture know as Lorsban. This agreement will have a profound effect on the apple industry. The use of Lorsban 4EC and 50W/WS in apples will be restricted to pre-bloom applications only, as of Dec. 31, 2000. The chlorpyrifos apple residue tolerance, which is currently 1.5 ppm is to be reduced to 0.1 ppm on Jan. 25, 2001. Restricted Entry Intervals (REI's) will be extended on some fruit crops. Lorsban 4E and (Lorsban 50W packaged in containers smaller than 25 lbs) will become Restricted Use Pesticides on Feb. 1, 2001. More detailed information on the chlorpyrifos risk issues can be found at:

<http://www.epa.gov/pesticides/op/chlorpyrifos.htm>

(Adapted from an article written by Art Angello in Scaffolds Fruit Journal, Geneva, NY) (Strang)

## **Foliar Analysis**

July is the month for collecting foliar analysis samples for a number of fruit crops. The following are the sampling times for the listed crops.

Apples	8-10 weeks after full bloom
Pear,	Mid-season
Plum,	Mid-season
Cherry,	Mid-season
Grape	Jul. 1-Aug. 1
Brambles	Aug. 1-20
Blueberries	Jul. 15-Aug. 15
Peach	12-14 weeks after bloom

Foliar analysis is the only way to determine if the fruit crop is obtaining sufficient amounts of nutrients to maximize production of quality fruit. The cost is \$29 per sample though the University of Georgia and Plant Analysis Laboratory. Foliar analysis kits are available through your local county extension office via Bill Thom in the UK Department of Agronomy. A soil test should be taken from the same area as the foliar analysis and analyzed through the UK Soils Laboratory. (Strang)

## **Federal Crop Insurance Program Changes**

Recently President Clinton signed into law the \$8.2 billion Agricultural Risk Protection Act of 2000. This bill will improve crop insurance programs for fruit, vegetable and specialty crop growers. It will provide incentives to develop new insurance programs and provides income assistance to growers. More information on this program can be obtained from local FSA offices. The bill can be found on the web at <http://www.rma.usda.gov/>

## **Problematic Tree Fruit Summer Diseases**

### Stone Fruit Brown Rot

Stone fruits such as peaches, plums, apricots, nectarines, and cherries are highly susceptible to brown rot. Brown rot disease results in a soft, brown decay of stone fruits. Warm, wet, humid summer weather conditions this month will favor infections by the brown rot fungus. As fruit softens during the ripening process, it becomes more susceptible to brown rot. Disease management will be improved by using sanitation to reduce sources of inoculum, avoiding fruit injury, and improving orchard drying conditions. Mummies and small fruit left over from earlier thinning operations and simply lying on the ground can be sources of inoculum. Insect damage to the fruits can open up wounds that allow entry by the brown rot fungus. Densely planted orchards or those partially shaded or surrounded by a

woods could have problems with reduced air movement and slow drying, leading to greater brown rot outbreaks. Effective brown rot fungicides such as Elite (tebuconazole), Indar (fenbuconazole), or Orbit (propiconazole), often referred to as DMI fungicides, can be alternated with Benlate (benomyl) or Topsin-M (thiophanate-methyl) to manage DMI fungicide resistance. The DMI fungicides can be applied up to harvest whereas Benlate and Topsin-M have 3 and 1-day waiting periods. See ID-92, 2000 Kentucky Commercial Tree Fruit Spray Guide, for information on fungicides for managing brown rot.

### Apple Fruit Rots and Blemishes

Symptoms of sooty blotch and flyspeck are already appearing in some orchards. Look for the dark sooty smudges and clusters of black specks which are signs of the fungi causing the disease. Rainy periods in latter June were conducive for infections of apple fruits. Other fruit diseases such as bitter rot, black rot, and white rot are not yet appearing, however, during moist periods throughout the summer fruits will be vulnerable to attack. The threat from sooty blotch and fly speck and other fungal infections of apple fruits can further be reduced through cultural practices that lower humidity and promote rapid drying. Dead limbs and branches that harbor some of these fungi should have been removed in winter. Remove reservoir hosts, particularly brambles, from the orchard and surrounding fence rows to help reduce the level of incoming spores. Continue to maintain fungicide applications on a regular schedule throughout the summer months. The mixtures of Captan or Ziram combined with Benlate or Topsin-M have worked well in the past. The new strobilurin fungicides Flint (trifloxystrobin) and Sovran (kresoxym-methyl) are expected to be effective in managing these and other summer diseases. Mancozeb is also effective but because of the 77 day preharvest interval it is probably too late to use it on most varieties. For suggestions of fungicide use, see ID-92. (Hartman)

## **Strawberry Leaf Spots Appearing**

As the harvest season ends, some strawberries in Kentucky are showing symptoms of strawberry leaf spot diseases. Strawberry leaf spot, caused by the fungus *Mycosphaerella fragariae*, is the most common of these diseases followed by strawberry leaf blight (*Phomopsis obscurans*) and strawberry leaf scorch (*Diplocarpon earliana*). A bacterial leaf spot, called angular leaf spot (*Xanthomonas fragariae*), occurs in

Kentucky, but it is relatively uncommon. Growing seasons with cool, moist weather could favor angular leaf spot. If leaf diseases build to high levels, plants become weakened and often yield poorly the next year.

*Symptoms.* Strawberry leaf spot starts out as small purple spots which enlarge to form purple spots with light tan centers, usually less than 1/4 inch across. Leaf blight starts out as small purple spots, but quickly enlarges to much larger irregular or "v" shaped spots with concentric dark and light brown rings on the edge of the spot. As adjacent spots coalesce, the entire leaf may become blighted. Leaf scorch disease is characterized by numerous tiny purple spots which do not develop tan centers, but may develop dark brown centers. When these spots are numerous, the leaf may dry up and appear scorched. Bacterial spot infections produce angular spots delimited by small leaf veins. These spots may at first appear to be water soaked, and sometimes show viscous bacterial exudate on the leaf undersides.

*Spread.* The pathogens causing strawberry leaf spots overwinter on infected or dead leaves from the previous year. Spores or bacterial cells produced in the diseased spots are spread to healthy leaves in splashing water. The scorch and leaf spot fungi may also produce special spores that are carried by air currents from overwintering sources of the fungus to healthy plants. The fungal leaf spots are most active at temperatures in the range of 65-75 degrees while bacterial leaf spot is active at cooler temperatures. Leaf spot diseases are more severe when there are prolonged rainy periods following harvest.

*Control.* Growers of leaf spot susceptible strawberries should consider fungicide sprays throughout the summer, especially during rainy periods. Fungicides such as captan, thiram, benomyl (Benlate), or thiophanate-methyl (Topsin-M) are all effective for fungal leaf spot diseases. To prevent fungicide resistance from developing, avoid using benomyl or thiophanate-methyl as the only fungicide throughout the season. Mix or alternate with captan or thiram.

Strawberry growers with varieties such as Allstar, Cardinal, Delite, Honeoye, Jewel, Marlate, and Ozark Beauty should not have to spray as much for leaf spot diseases, because these varieties are more tolerant to leaf spots. However, growers with susceptible strawberries such as Annapolis, Delmarvel, Earliglow, Guardian, Latestar, Midway, Noreaster, Raritan, Redchief, Scott, Sparkle, and Surecrop should consider a preventive spray schedule. Sprays for varieties not listed should be made based on how much leaf spot was observed last season just after harvest. (Hartman)

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## New Grape Plantings in Kentucky

As a result of the Kentucky Vineyard Assistance Program, 21.78 acres of grapes were planted in 1999 and 115.4 acres were planted this past spring. This makes a total of 137 acres of new wine and fresh market grapes that were put out by 39 growers and three Universities. These plantings were all approved by the Grape Industry Advisory Committee and Garth Vinson, Viticulturist at Murray State University.

## Bees, Wasps and Hornets in Grapes

While wasps and hornets do not seriously reduce yields, they are a problem as they pose a threat to pickers and they increase the time needed to clean and sort the fruit. They are difficult to control at harvest for several reasons. First, these are social insects and by mid-summer the colonies are large with possibly hundreds of workers. These workers actively seek sugary foods to feed their developing larvae. As the sugar concentration increases in the grapes, the wasps begin to concentrate their foraging in vineyards. Because of this, problems occur near or during harvest.

This presents an additional problem as insecticides, such as carbaryl (Sevin), endosulfan (Thiodan), and phosmet (Imidan), that are effective against wasps have long waiting periods until harvest. Carbaryl is the most effective against wasps and it has a 7-day preharvest interval.

So wasp control needs to rely on more than just using insecticides after the problem arises. Sanitation of damaged fruit helps to prevent problems, but has little effect after the wasps become a problem. Wasp and hornet traps can capture large numbers of wasps, but the impact on reducing the numbers of wasps feeding

on the clusters of berries is minimal unless they are placed into the vineyard early in the season. Elimination of the wasp and hornet nests will also reduce wasp activity in the vineyard, but the wasps may be from a dozen or more nests. (Bessin)

## Receiving Fruit Facts Electronically on the Internet

Fruit Facts is available on the web in the pdf format. To get notification of the monthly Fruit Facts posting automatically and approximately two weeks earlier than it would normally be received via mail, you can subscribe to the UK College of Agriculture's Majordomo list processor.

New subscription requests and requests to unsubscribe should be addressed as follows. To subscribe type "majordomo194@ca.uky.edu" in the To: line of your e-mail message. Please enter a subject in the Subject: line - the system needs for the Subject line not to be empty (blank).

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