



Kentucky Fruit Facts

Research & Education Center
P.O. Box 469, Princeton, KY 42445

May 1998 (5-98)

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<http://www.uky.edu/Agriculture/HLA/> follow the link to Extension programs & Publications and click on Fruit Facts

Fruit Situation

This spring's persistent rain/storms and cool temperatures have challenged growers' abilities to maintain a good spray program. Western Kentucky growers have had to really scratch their heads to develop an acceptable thinning program on apples. Most growers have heavy sets on apple trees and adequate to good crops on peaches, depending on the variety and site. Strawberries, European pears, blackberries, raspberries, grapes and blueberries generally look good. Some fruit plantings on poorer sites have had some injury to the primary buds on grapes and to blueberry flowers. Asian plums have lost their crops as have many Asian pear trees.

This has been a relatively light fire blight season on apples due to cold temperatures, despite the almost 25 day bloom period in some areas. In general in the central and eastern part of the state there were a few times when the potential for infection was high, but inoculum levels were low. Princeton had fire blight infection periods on Apr. 9, 14, 15, and 16; Somerset on Apr. 16; the central KY Lexington area ranged from 0 to 2 infection periods on Apr. 15 and 16 and Covington had no infection periods.

Growers can expect that fungicides applied before or between rains will have weathered faster this past month. At the first opportunity, trees should be resprayed for continued control of scab and rust diseases. Problems with apple collar rot and peach root

rot caused by Phytophthora fungi may increase following the rainy period. Infections by Phytophthora and other water mold fungi increase during saturated soil episodes. Phytophthora root rot is present in some plantings of blackberry and raspberry; a worsening of the disease can be associated with saturated soils. Red stele (Phytophthora) infections in strawberries will occur on susceptible strawberries during wet periods. The effects of red stele disease will be noticed later in the season. Botrytis will also be a problem due to the rainy weather.

The Rosy apple aphid came on strong early in the season on apple in several areas, but seemed to have been cleaned up by the Multi-colored Asian lady beetle. There has been little activity with Plum curculio up to May 7, but these should show up when night temperatures get into the 60°F range. (Strang, Bessin, Brown, Hartman, Smigell)

Meetings

May 20 - Commercial Apple IPM Meeting,
Schlei's Orchard, Hopkinsville, KY. See program below.

May 27 - Strawberry Field Day at Virginia

Tech, 1-4 PM, Kentland Research Farm, V. Tech's strawberry research plots will be open for field day. Charlie O'Dell and Jerry Williams will be on hand to explain their research and results with 9 hardy Eastern cultivars grown on plastic mulch by hill system culture, comparing performance of plants set as dormant bare

roots vs. plug plants of the same cultivars. Contact Donna Long 540/231-5445, e-mail donna@vt.edu

Jun. 4 - Commercial Apple Cider Production and Pasteurization Equipment Workshop, Jackson's Orchard, Bowling Green, KY. 10:00 a.m. CDT. Contact John Strang 606/257-5685 or Jerry Brown 502/365-7541 ext. 204. See program below.

Jun. 6 - Beginning Beekeeping Workshop, Getting Started Session 2, 1:00 to 4:00 PM, Kentucky State University Farm, Frankfort, KY. This session will emphasize mites, diseases, pests and swarm control. Beekeeping techniques will be demonstrated and hives will be opened, weather permitting. Bring your bee veil! Contact Tom Webster 502/227-6351.

Jun. 14 - Kentucky Herb Festival, Lakeview Park, Frankfort, KY. Contact Sue Clifford 606/234-1452.

Jun. 18 - Strawberry Field Day at Virginia Tech, 1-4 PM, Kentland Research Farm, See bare root strawberry transplants set through plastic and other equipment used for plasticulture strawberry production. Contact Donna Long 540/231-5445, e-mail donna@vt.edu

Jun. 23-26 - Kentucky's Fruit Industry Tour of Ohio. See the April Fruit Facts for the itinerary and registration form. Registration is \$142 per person if received before May 5 and \$160 per person if received after May 5. Contact Jerry Brown 502/365-7541 ext. 204 or John Strang 606/257-5685.

July 16-19 - International Herb Association Annual Conference, "Herb Smart Day" open to the public, July 19. Contact International Herb Association 847/949-4372, www.herb-pros.com

July 25 - Beginning Beekeeping Workshop, Getting Started Session 3, 1:00 to 4:00 PM, Kentucky State University Farm, Frankfort, KY. This session will emphasize honey harvesting and preparation for winter. Beekeeping techniques will be demonstrated and hives will be opened to remove honey, weather permitting. Bring your bee veil! Contact Tom Webster 502/227-6351.

Sept. 6 - Central Kentucky Harvest Festival, Noon to 6:00 PM, The Red Mile, Red Mile Rd., Lexington, KY.

Sept. 13 - Ohio Valley Harvest Festival, Noon to 6:00 PM, Riverfront Plaza/Belvedere, Louisville, KY
See article below.

Commercial Apple IPM Meeting, May 20

Schlei's Orchard, Owner John Schlei, 6175 Sisk Lane, Hopkinsville, KY.

Directions

Coming from the North: From Western KY Parkway take Pennyridge Parkway South, continue on Pennyridge Parkway to Exit 12 (Bypass 1682) - first Hopkinsville Exit, take 1682 West (left to US 68/80 West, go 3.4 Miles - turn left on Petsch Lane (Petsch Lane is first paved road on left past cemetery), go 1 mile-turn right on Sisk Lane, Orchard is 3/10 of a mile on left.

Coming from the East: Take US 68/80 West to Hopkinsville (going toward Cadiz), Petsch Lane is approximately 4 miles, turn left on Petsch Lane, go 1 mile-turn right on Sisk Lane, Orchard is 3/10 of a mile on left.

Coming from the West: Take 68/80 East to Hopkinsville, Travel through Gracey 4.5 miles to Petsch Lane, turn right on Petsch Lane, go 1 mile-turn right on Sisk Lane, Orchard is 3/10 of a mile on left.

Program

9 am-2:00 pm Central time

9:00

Orchard Tour - John Schlei

9:30

Apple Round Table Discussion led by Don Haney, President, Kentucky State Horticultural Society.

10:30

Pumpkin Production, Varieties, Weed Control and Equipment - John Strang

10:50

Pumpkin Insect IPM - Ric Bessin

11:10

Pumpkin Disease IPM - John Hartman

11:30

Marketing Apples and Pumpkins - Dale DePoyster

11:40

Pumpkin IPM Demonstrations - Chris Smigell

Noon

Lunch will be available at cost for those that preregister. The cost will be in the \$6.00 range. **Preregister by calling Mary Ann Kelley at 502/365-7541 between 8:00 AM and 4:30 PM CDST weekdays before May 18 and give her a count for the Apple IPM meeting at Schlei's Orchard.**

12:30

Apple Thinning and Apple Cider Update - Jerry Brown

12:50 (In the orchard)

Disease Situation - John Hartman

1:10

Scale and Insect Control - Ric Bessin

1:30

Foliar Analysis - John Strang

1:50

Foliar Analysis Sampling and Foliar Analysis Program Sign Up - Chris Smigell

Questions? Contact Jerry Brown 502/365-7541 Ext. 204 or John Strang 606/257-5685.

All UK Cooperative Extension Service Meetings are open to everyone.

Commercial Apple Cider Production and Pasteurization Equipment Workshop, June 4

Jackson's Orchard, Owner Bill Jackson, Slim Island Rd., Bowling Green, KY Phone 502/781-5303.

Most Kentucky apple growers are concerned about new proposed FDA regulations (see article below) for cider producers and several are considering investing in cider pasteurization equipment. This workshop has been set up to help answer grower questions on HACCP, E. coli 0157:H7, and to help growers evaluate cider production and pasteurization equipment.

Directions:

Proceed south on I-65 to exit 22 (31W at the Corvette museum) exit to the right and drive towards the downtown area. At the 4th stop light turn right and proceed under the RR (1 block) to the 1st stop light and turn right on to Rt. 185. Follow Rt. 185 for about 3 miles across the river. Roughly 200 yards after crossing the river will be a Jackson's Orchard sign. Turn left and follow the signs to the orchard.

Program (CSDT)

9:30 am	E. coli 0157:H7, The Hazard Analysis and Critical Control Point (HACCP) System and What These Mean for Your Operation - Joe O'Leary, UK Animal Sciences Dept., Microbiologist
10:30	Understanding the Pros and Cons of Pasteurization and Ultra Violet Radiation Equipment - Fred Payne, UK Biosystems and Agricultural Engineering Dept., Food Processing Questions
11:30	

Questions? Contact Jerry Brown 502/365-7541 Ext. 204 or John Strang 606/257-5685

FDA Juice Proposal Is Public

According to a just-released statement from the FDA, the agency's regulatory proposal regarding fresh juices was made public today — and is, in fact two proposals.

In the statement, FDA estimates that there are between 16,000 to 48,000 cases of juice-related illnesses each year, though the risk from fresh juices was characterized in the release as small, and consumers were assured that 98% of juices are pasteurized. This number was arrived at by multiplying the number of *reported* cases to CDC and the states by a factor developed by the Council for Agricultural Science and Technology to arrive at this number of

estimated cases, including those not reported to public health agencies.

The following information on the proposals is drawn from the statement. The actual proposal is available online via the Federal Register Online and latest developments through the FDA's website <http://vm.cfsan.fda.gov/~news/whatsnew.html>

Proposal #1: HACCP + Kill Step

This proposal would require domestic and foreign juice processors to implement hazard control programs at their plants to prevent microbiological, chemical and physical contamination of their products — that is, would require HACCP. Part of this proposal requires manufacturers of unpasteurized juices to achieve a 100,000-fold (i.e. 5-log) reduction of harmful pathogen populations that might be present. Treatments other than pasteurization, including washing, scrubbing, antimicrobials, alternative technologies or a combination of these, are allowed.

The comment period for this proposal is 75 days. Once the HACCP reg is final, there will be a phase-in period for implementation: large manufacturers have 1 year to comply; 2 years for "small" businesses, 3 years for "very small" businesses (large, small and very small weren't defined in the statement).

This proposal does not apply to juice bars or food service operators, or hobbyists.

Proposal #2: Labeling

This proposal would require warning labels on all juices that are not pasteurized or otherwise treated. Labels would not be required on juices processed under HACCP systems, or that are treated to reduce harmful microbes by 100,000-fold.

The comment period for this proposal is 30 days, as FDA "expects to finalize the labeling provision in time for the apple harvest season this fall". (Julia Stewart Daly, Director of Communications, U. S. Apple Institute, April 21, 1998)

SpinTor Insecticide Receives Federal Registration

Dow AgroSciences has just received federal registration for SpinTor 2 SC. This product belongs to a new class of insecticides. It contains the active ingredient spinosad, which is produced commercially by fermentation of the soil actinomycete

Saccharopolyspora spinosa. Spinosad acts as a nerve poison attacking the nicotinic acetylcholine receptors. SpinTor is used for control of lepidoptera larvae, Colorado potato beetle larvae, leafminers, and thrips on apples, cole crops, eggplant, ground cherry, tomatillo, leafy vegetables, peppers, and tomatoes.

SpinTor, a general use insecticide, bears the signal word of CAUTION, and has a 4 hour Restricted Entry Interval after application. There is a 7 day Pre-harvest Interval with apples, but on vegetables the Pre-harvest Interval is only one day. Because this is the first in a new class of chemistry, SpinTor provides us with an

additional tool to combat insecticide resistance and can be used in rotation with insecticides from other classes. Insecticide resistance has been a serious problem with the control of Colorado potato beetle and some of the pests attacking cole crops. (Bessin)

Ohio Valley Harvest Festival to be Held September 13, 1998

Growers and producers hardly need to be told that the role of farmers is directly linked to good nutritional health and sound local economics. But a group of farmers, chefs, and other concerned citizens in the Ohio Valley region are taking a unique marketing approach to make this fact a reality for more consumers.

Each grower will be linked with a chef at the Ohio Valley Harvest Festival held on the Belvedere Plaza in Louisville, Kentucky, from 12:00 noon until 6:00 p.m. on Sunday, September 13. The chef will purchase the grower's produce and prepare a farm-fresh dish for tasting. The grower and chef will sell side-by-side to the public, farmers' market style.

Chefs, caterers and bed and breakfast operators from Louisville, Lexington, and smaller surrounding communities are being invited to participate with Kentucky and Indiana growers.

Over 10,000 consumers attended last years festival and larger crowds are expected this year. This festival gives you a chance to promote your produce, develop working relationships with chefs and to sell directly to the public.

The project is sponsored by Kentucky Farm Bureau, Kentucky Department of Agriculture, and the City of Louisville.

To participate in the Ohio Valley Harvest Festival, contact:

J.K. Henshaw, Kentucky Farm Bureau Federation, 9201 Bunsen Parkway, P.O. Box 20700, Louisville, KY, 502/495-5000

or

Roy Ballard, County Extension Agent for Agriculture, New Albany, IN, 812/948-5470

Freeze Damage May Lead to Stone Fruit Perennial Canker

Predisposition to disease.

On March 12, this year, temperatures dropped from the 70's to under 10° F. in many parts of Kentucky just



as peaches, plums, nectarines, and cherries were beginning to bloom. In some locations, injury to cambial and phloem tissues occurred. When stone fruits are subjected to environmental insults such as damaging cold temperatures, drought, or defoliation, their vigor is impaired and the trees are predisposed to invasions by canker producing fungi. These fungi are opportunistic, quick to colonize dying twigs or bark and use these as staging areas for attack on healthy tissues. Some growers may now be noticing the branch and twig girdling effect of the canker fungi.

Cause. Two fungi, *Leucostoma cincta* and *L. persoonii*, (formerly *Valsa*) (conidial state, *Cytospora*), cause perennial canker, a disease also known as Cytospora canker, peach canker, and gummosis.

Symptoms. Perennial canker on limbs and branches is characterized by oval or linear cankers which eventually become surrounded by a roll of callus at the margins. Cankers gradually enlarge until infected limbs are girdled and then die. Similarly, when small twigs are attacked, an area of dead bark may girdle the twig, causing leaves on the end of the twig to turn yellow and die. Perennial canker is one of the most destructive peach diseases in Kentucky. Gummosis is usually associated with the cankers.

What is gummosis? Gummosis is a general, nonspecific condition of stone fruits, in which gum is exuded and deposited on the bark of trees. Gum is produced in response to any type of wound, regardless of whether it is due to insects such as the peach tree borer, mechanical injury such as winter damage and poor growing sites, or diseases such as perennial canker, bacterial canker, *Botryosphaeria* canker, or certain viruses.

Disease and fungus development. The canker fungi overwinter in active cankers in living wood or in dead wood. In moist circumstances, the fungus is moved from cankers to infection sites by splashing rain, insects, pruning tools, and workers. Infection occurs where the bark is damaged or injured. Infection following cold injury frequently occurs in the crotch angles of affected trees. Other ports of entry for these fungi include pruning wounds, mechanical damage, insect damage and leaf scars.

The rate of canker development following infection depends on temperature and the species of fungus involved. When temperatures do not favor fungal activity, the tree forms callus tissue. Canker activity resumes when temperatures again favor the fungus. This back and forth battle between the tree and the fungus often ends with the fungus winning.

CONTROL - Reducing or eliminating perennial canker from a commercial or home orchard is extremely important because once the disease becomes established, it becomes increasingly difficult to control. Disease control must be based on several practices which help by reducing ports of entry for the canker fungi, by moderating tree stress, and by reducing levels of the infectious fungi.

1. Delay pruning activities until growth starts in the spring since callus formation starts quickly at this time. Fall pruning can severely weaken and stress trees and can set them up for winter injury and subsequent infection.
2. Prune branches to leave the swollen collar at its base. Do not leave stubs and avoid a very close flush cut. Do not leave weak-angled crotches when shaping trees as these are potential sites of infection.
3. Prune out and destroy (e.g. burn) badly cankered limbs.
4. Spraying with fungicides immediately after pruning may reduce infections in spring; normally, the protectant fungicides applied in spring for brown rot or scab control would serve this need.
5. Select a planting site with good air and water drainage.
6. Fertilize trees according to soil test recommendations.
7. Avoid unnecessary injury and control insect pests. (Hartman)

Uses of Apple Varieties in France

Last year, while researching the epidemiology of apple scab disease, I worked and lived in the Loire Valley, a region rich in Horticulture, often called the "Garden of France." The Loire, France's longest river, flows roughly east to west through central France past cities such as Orleans, Tours, Angers, and Nantes before discharging into the Atlantic Ocean. Although apples are grown in the Rhone Valley, Provence, and elsewhere, the Loire region is the top producer; France is a net exporter of apples. Table 1 lists some of the more common apples grown in the Loire region.

Table 1. Examples of some apple varieties* and their percent of total production in the Loire Valley, France.

- 1 - Early Varieties (less than 1%) Akane, Arkcharm, Cybelle, Delbarestivale, Sunrise.
- 2 - Yellow "Golden" Types (41+) Delblush, Earligold, Golden Delicious (41%), Golden Supreme, Newgold, Ozark Gold, and Primgold.
- 3 - Bicolored Varieties (30.9+) Arlet, Belle de Boskoop, Braeburn (6.5%), Cox's Orange Pippen, Delbard Jubile, Elstar (4.2%), Falstaff, Fiesta, Fuji (1.1%), Gala (7.7%), Harmonie, Idared (4.9%), Jonagold (4.7%), Melrose (1.8%), Meran, Pinova, Querina, Regali, Suntan.

- 4 - Red Varieties (5.5+) Delbartardive, Delicious Rouge (Red Delicious) (5.5%), Gloster, Redwinter.

- 5 - Green Varieties (10+) Baujade, Granny Smith (10%).

- 6 - Reinette type varieties (8.1+) Belchard, Reine des Reinettes (3.5%), Reinettes Blanche, Reinettes Grise du Canada (4.6), Rubinette.

* There are, in addition to the fresh market apples, 180 different cider apple varieties grown for "cidre," a fermented, low-alcohol beverage.

Apples are sold in the supermarkets and in outdoor markets held regularly in every city and town. The tradition of outdoor markets dates from medieval or earlier times and one can buy breads, cheeses, spices, and meats as well as fruits and vegetables. French apple growers are attempting to educate their customers on the use of different apple cultivars. (Hartman)

Food Quality Protection Act

President Clinton signed the Food Quality Protection Act in 1996. This act is intended to safeguard public health and especially that of children. The act was passed with broad bipartisan support and initiated a systematic effort to identify and reduce potential risks posed by pesticides. Many growers are concerned about how this act will affect them. Direct access to the wording of this act is available through an EPA web page - <http://www.epa.gov/opppsps1/fqpa/>.

Among the provisions of the Food Quality Protection Act (FQPA) of 1996 is a requirement for the EPA to reassess all pesticide tolerances (9,700+) within ten years of passage of the Act. During the first phase, EPA plans on reviewing the tolerances of the organophosphate (OP), carbamate and B-1/B-2 carcinogen pesticides. This puts a number of agricultural and home garden pesticides on the line.

Among those included that are significant to varying degrees to Kentucky fruit growers are azinphos methyl (Guthion), chlorpyrifos (Lorsban), phosmet (Imidan), diazinon, and malathion (Cythion). The carbamate insecticides carbaryl (Sevin), and methomyl (Lannate) mechanisms of action rather than as distinct products.

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Some companies are already dropping organic phosphate insecticides and shifting to synthetic pyrethroids, however there are specific situations where there are currently no suitable replacements. In recognition of this Vice President Gore, on behalf of President Clinton requested that the EPA Administrator and the Secretary of Agriculture work together to ensure that the regulatory decisions be based on the best science and data that are available, with appropriate input from affected members of the public and with due regard for the needs of the Nation's agricultural producers. Furthermore, the EPA will facilitate the transition to new and more protective pest management strategies by expediting approval of new products. The EPA and USDA should implement the FQPA in a way that ensures that affected pesticide users and others affected constituencies have the time, technical assistance, and support they need for transition to new and effective pest management strategies.

SpinTor is one product that should help fruit growers in this respect. No significant use cancellations are planned for this growing season. (Townsend)

Receiving Fruit Facts Electronically on the World Wide Web

Fruit Facts is now available on the web. 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 Almanac Server.

To subscribe, send an e-mail message to "almanac@ca.uky.edu". Be sure that your from: address is correct. The body of the message must contain the line, "subscribe fruitfacts" with a blank line after it, nothing more.

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John Strang, Extension Horticulturist