



Kentucky Fruit Facts

Research & Education Center

P.O. Box 469, Princeton, KY 42445

June 2001 (6-01)

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/>

This is your last issue of Fruit Facts if you have not renewed your subscription. If you would like to continue receiving the hard copy of Fruit Facts, please mail in the renewal form on the back of this newsletter. Renewal is not necessary for those that receive Fruit Facts via the list serve on the web.

NOTE: *This issue contains a Crop Losses to Wildlife Survey. Please take a few moments to fill out and return.*

Fruit Crop and Weather Situation

In the fruit disease area, fire blight has been a severe problem this spring for many apple and pear growers. The good news is that it has about run its course for the season. Powdery mildew had been a problem on susceptible apple varieties such as Jonathan for many home orchards. Where Nova or another strobilurin fungicide was used powdery mildew has been kept under control. This is the time to control sooty blotch, fly speck and the summer fruit rot diseases on apples. A mancozeb containing fungicide will work well on these diseases if the varieties are within 77 days of harvest. If the variety will be harvested within 77 days, Sovran, Flint, Benlate + Captan, Benlate + Ziram, Topsin M + Captan or Topsin M + Ziram are good choices.

The first week of June is generally the time to put on a lesser peach tree borer spray. However, the timing can be more accurately gaged for your location by the use of pheromone traps. By the time this printed version of Fruit Facts is received it will be time to apply the second generation codling moth spray on apples and pears. Watch for white apple and potato leaf hopper and Japanese beetle buildups in the orchard and treat accordingly.

We are seeing quite a few "frost kissed" fruit, or apples with frost rings. Frost rings are caused by ice crystal formation just below the skin and the russetting is a wound repair response.

If you are planning to do any foliar analyses this season, this is the time to acquire foliar analysis kits. These are available through local County Extension Offices. Extension Offices should obtain the kits through Dr. Bill Thom in the Agronomy department. An analysis costs \$18 for a basic analysis w/o nitrogen and sulfur and \$26 for an analysis including nitrogen, but without sulfur.

As of early June the Central, Bluegrass and Eastern areas of the state were in moderate hydrologic drought and the West was in severe hydrologic drought. (Strang, Hartman, Bessin, Priddy)

Coming Events

Jun. 23 - Kentucky Vineyard Society Summer Meeting, Springhill Winery, (Eddie and Phyllis O'Daniel) 3205 Springfield Road, Bloomfield, KY 502/252-9463, e-mail: kywine@aol.com Contact Dave Loney 606/763-6120. See program below.

Jun. 30 - Central Kentucky Harvest Festival, Phoenix Park, Lexington, KY. This will be held in conjunction with the Lexington Fourth of July Activities and the Lexington Farmers Market from 10:00 am to 3:00 pm downtown. There is a \$25.00 registration fee for growers that would like to sell produce, flowers or their value added products. This activity was an outstanding success last year and growers were very happy with their sales. Contact Sue Weant 859/233-3056.

Jul. 19 - Robinson Station Field Day, Quicksand, KY. Contact Terry Jones 606/666-2438 ext. 234.

Jul. 24 - Commercial Apple IPM and Cider Sanitation Workshop, Jackson's Orchard, Bowling Green, KY. Contact Michelle Johnson 270/842-1681 or John Strang 859/257-5685.

Aug. 7 - University of Kentucky Horticultural Research Farm Twilight Vegetable Tour, 6:00 p.m., Lexington, KY Contact Brent Rowell 859/257-3374.

Sept. 20 - Small Farm Field Day, Sustainable Agriculture Workshop, "Third Thursday Thing," Kentucky State University Farm, Frankfort, KY. 9:30 a.m. - 5 p.m. Contact 502/597-6310; e-mail: msimon@gwmail.kysu.edu

Sept. 21-22 - Second International Pawpaw Conference, Frankfort, KY. Advance registration required. Contact Kirk Pomper 502/227-5842, e-mail: kpomper@dcr.net See April Fruit Facts for program particulars.

Oct. 18 - Brambles and Grapes, Sustainable Agriculture Workshop, "Third Thursday Thing," Kentucky State University Farm, Frankfort, KY Contact 502/597-6310; e-mail: msimon@gwmail.kysu.edu

Oct. 20 - Annual Meeting of the Kentucky Vineyard Society, Clubhouse, Buffalo Trace Distillery, Frankfort. Contact John Pitcock 502/564-7360 ext. 343.

Oct. 27 - Kentucky Nut Growers' Fall Meeting, Kentucky State University, Frankfort, KY. Contact Hugh Ligon 270/827-9044 or Kirk Pomper 502/227-5842, e-mail: kpomper@dcr.net

Jan. 7-8, 2002 - Annual Kentucky State Horticultural Society, Kentucky Vegetable Growers Association and Kentucky Grape and Wine Short Course meeting. Holiday Inn North, Lexington, KY. Contact John Strang 859/257-5685.

The Kentucky Vineyard Society Summer Vineyard Meeting

Saturday, June 23, 2001
SpringHill Winery, Bloomfield KY

Events of the Day - Eastern Daylight Time

- 8:45 am Register/pick up badge(s)
- 9:00 Ky Vineyard Soc. Board of Directors Meeting.
- 9:45 Welcome - Eddie & Phyllis O'Daniel
- 9:55 Greeting from Dave Loney, KVS President
- 10:00 Dr. Ric Bessin, UK Entomologist
- 10:30 Dr. John Hartman, UK Plant Pathologist
- 11:00 am Dr. John Strang, UK Fruit Specialist and Raymond Meyer, award-winning home winemaker will conduct a tasting of the wine made in 2000 from the experimental European wine grape vineyard at UK Research Ctr, Princeton KY
- NOON Catered lunch: Roast beef/Swiss, or turkey/Swiss sandwiches on homemade bread, pasta salad & fresh fruit cup, plus a glass of SpringHill wine/other beverages.
- 1:00 pm Ben Valentino (Prospero, Inc.) Equipment for large and small wineries
- 2:00 pm Tour of SpringHill winery and vineyard with Eddie O'Daniel, John Strang, Ric Bessin, John Hartman, & Ben Valentino

❖ To make reservations after June 14 (@ \$14 ea), call 502-252-9463

Fire Blight - What Now?

John Hartman, Extension Plant Pathologist

Fire blight symptoms have appeared in flowering pears (i.e., 'Bradford' and 'Aristocrat' pears) in nurseries and landscapes throughout Kentucky. Many backyard apples and crabapples are also affected. The plant disease diagnostic laboratories have been reporting high numbers of fire blight samples from apples and pears for the last several weeks. Many growers wonder why the disease is widespread and yet sporadic this year.

1. Fire blight is widespread because for much of this spring, conditions were ideal for infections, especially during bloom when primary infections take place. Frost in some areas may also have played a role.
2. The disease is sporadic because not all trees faced ideal fire blight conditions this spring. With an April drought occurring in some areas, weather may have been too dry for good

development of bacterial populations and for invasion of the bacteria. Small differences in microclimate based on the tree location or exposure can make a critical difference in disease potential. In addition, timing of bloom in relation to the weather affected whether or not fire blight would be a problem.

3. Fire blight has been a threat over an extended period because some trees produced many "trailing blooms." Indeed, some apple trees are still putting out an occasional bloom which would be ripe for infections now. In nurseries, dormant liners may be placed in the field over a period of several months and some of these liners may bloom, thus extending the primary infection period even more.

Growers and gardeners with infected trees are often tempted to remove infected branches. In many cases, this would be the wrong strategy, because removing branches can encourage new shoots to develop and these new shoots would also be susceptible to new infections. If fire blight strikes are discovered early, before leaves have turned completely brown, timely removal of infected shoots can help slow the spread of the disease. However, most growers do not discover the disease early enough for this to be helpful. So what should one do with infected trees now?

4. Most growers should just let the disease run its course, allowing the tree defenses to stop fire blight spread within the tree. Dead shoots and branches should be removed in winter when there is little chance of spreading the disease.
5. What should growers do if they feel compelled to cut out fire blight infections? If pruning is begun after obvious symptoms appear, cut back to a healthy internode of at least two-year-old wood, leaving a stub several inches long. Rely on the tree's natural defenses to prevent further movement into the branch. If needed, paint the stub with bright paint to make it more obvious. This stub can then be safely removed in the winter. Leaving infected stubs reduces the chances for development of undesirable water sprouts in response to pruning.
6. The reason not to prune infected branches back to a spur or crotch in summer is because it may not be noticed in winter and could be overlooked. It should not be necessary to sterilize cutting tools between cuts if only blighted shoots are being removed.
7. Do not engage in normal summer pruning and training at the same time as fire blight removal without wiping the cutters with sterilizing

solutions like 70% alcohol or 10% bleach. Don't forget to remove the infected stubs along with dead shoots and cankers next winter.

8. Do not apply chemical controls such as streptomycin. They are only effective if used during the normal bloom period.
9. Remove trailing blooms to prevent late spring and summer infections.

Crop Losses to Wildlife

John Strang, Extension Horticulturist and Tom Barnes, Extension Wildlife Specialist

Fruit and vegetable grower crop losses to wildlife have continued to increase over the years. Deer, wild turkey and coyote populations in the state continue to increase annually. Fruit and vegetable crops are well known to be highly desirable food sources for wildlife. However, growers receive nothing for their losses and the licenses purchased for hunting deer and wild turkey are the primary source of funds for the Kentucky Department of Fish and Wildlife.

State law allows growers to eliminate wildlife that are destroying their crops and growers fund the full cost of this. However, wild turkeys are not recognized as a wildlife pest and can't be controlled by growers despite the fact that they eat grapes and blackberries.

Currently we do not have good data on the extent of fruit and vegetable crop losses and what growers are doing to reduce these losses. This survey is intended to be used to summarize our wildlife pest problems to be shared with the Kentucky Department of Fish and Wildlife. The intent is then to work with the Kentucky Department of Fish and Wildlife to come up with solutions to alleviate these problems. If you were one of the 20 individuals that filled out this survey at our Annual Fruit and Vegetable Grower meetings in January, thank you. If you have not completed this survey, we need your help. If we do not get enough responses we will not have enough support to influence the Kentucky Department of Fish and Wildlife.

⇒ **Please take 20 minutes to complete this survey and drop it off at your local County Extension Office to be returned to me or send it directly to me at:**

**John Strang
Department of Horticulture
N-318 Ag. Science Bldg. North
University of Kentucky
Lexington, KY 40546**

Kentucky Deer & Wildlife Survey

1. How many acres are under production at your facility?
 Less than 5 5-10 20-100 More than 100
2. How would you describe the location of your facility? Urban Suburban Rural
3. Do your neighbors allow deer hunting on their property? Yes No Unknown
4. What crop(s) have been damaged by deer in the last 3 years. Check all that apply.

| Fruit | Vegetables | |
|---------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> Apples | <input type="checkbox"/> Beans | <input type="checkbox"/> Squash |
| <input type="checkbox"/> Blueberries | <input type="checkbox"/> Broccoli | <input type="checkbox"/> Sweet Corn |
| <input type="checkbox"/> Grapes | <input type="checkbox"/> Cabbage | <input type="checkbox"/> Watermelon |
| <input type="checkbox"/> Peaches | <input type="checkbox"/> Cantaloupe | <input type="checkbox"/> Other Vegetables |
| <input type="checkbox"/> Pears | <input type="checkbox"/> Cauliflower | _____ |
| <input type="checkbox"/> Strawberries | <input type="checkbox"/> Peppers | _____ |
| <input type="checkbox"/> Other | <input type="checkbox"/> Pumpkins | _____ |
| Fruit _____ | | |

5. What type of damage? Check all that apply.
 Browsing Consumption of marketable part of crop. Rubbing Trampling
 Other _____

6. Estimate the **worst annual % crop loss** and **gross \$ loss** from deer damage over last 3 years by crop affected.

Fruit

| | | |
|--------------------------|---------------------------|--------------------------|
| %___ \$_____ Apples | %___ \$_____ Peaches | %___ \$_____ Other Fruit |
| %___ \$_____ Blueberries | %___ \$_____ Pears | _____ |
| %___ \$_____ Grapes | %___ \$_____ Strawberries | _____ |

Vegetables

| | | |
|-------------------------|--------------------------|-------------------------------|
| %___ \$_____ Beans | %___ \$_____ Cauliflower | %___ \$_____ Sweet Corn |
| %___ \$_____ Broccoli | %___ \$_____ Peppers | %___ \$_____ Watermelons |
| %___ \$_____ Cabbage | %___ \$_____ Pumpkins | %___ \$_____ Other Vegetables |
| %___ \$_____ Cantaloupe | %___ \$_____ Squash | _____ |

7. What months of the year was deer damage the worst?
 (Circle) Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

8. Please indicate which control methods that you have tried for deer and rate their success.

| Control Method | Effectiveness | | | | Estimated Cost |
|--|---------------|---------------|-----------------|-------------|----------------|
| | <i>None</i> | <i>Slight</i> | <i>Somewhat</i> | <i>Very</i> | |
| Electric Fence | [] | [] | [] | [] | _____ |
| 8' Woven wire fence | [] | [] | [] | [] | _____ |
| Other fencing | [] | [] | [] | [] | _____ |
| Commercial Repellent <i>(hot pepper sauce, Big Game Repellant, Ropel, Hinder, etc.)</i> | [] | [] | [] | [] | _____ |
| Home remedy <i>(human hair, soap, tankage, etc.)</i> | [] | [] | [] | [] | _____ |
| Hunting | [] | [] | [] | [] | _____ |

(continued on other side)

8. (Continued)

| | | | | | |
|--|-------------|---------------|-----------------|-------------|-------|
| | <i>None</i> | <i>Slight</i> | <i>Somewhat</i> | <i>Very</i> | |
| Noise or other auditory repellent <i>(propane cannon, loud noise, etc.)</i> | [] | [] | [] | [] | _____ |
| Visual repellent <i>(aluminum foil, pie tins, owls, etc.)</i> | [] | [] | [] | [] | _____ |
| Other _____ | [] | [] | [] | [] | _____ |

Comments or concerns

9. Have you sought help from the Department of Fish & Wildlife for deer problems/reported damage?

- 9a. Yes - proceed to question 9b. No - proceed to question 10.
 9b. If so please describe the help offered and it's effectiveness.
-

- 9c. Did you implement Fish & Wildlife recommendations? Yes No
 9d. Were you satisfied with the Fish & Wildlife recommendations? Yes No

10. Have you had any other wildlife damage? Check all that apply.

| Pest | [] | Crops | _____ | \$ Loss | _____ |
|-------------|-----|--------------|-------|----------------|-------|
| Birds | [] | | _____ | | _____ |
| Coyotes | [] | | _____ | | _____ |
| Elk | [] | | _____ | | _____ |
| Groundhogs | [] | | _____ | | _____ |
| Raccoons | [] | | _____ | | _____ |
| Turkeys | [] | | _____ | | _____ |
| Other _____ | | | _____ | | _____ |

11. Who have you contacted for assistance for wildlife problems other than deer? Check all that apply.

- Dept. of Fish and Wildlife County Extension Agent USDA APHIS Wildlife Service
 Other _____

Were you satisfied with the advice that you received? Yes No

12. Have you participated in KY Dept. of Forestry Wildlife Assistance Program for deer control? Yes No

13. If you have quit growing any fruit or vegetable crops due to excessive wildlife damage what were the crops and the problem animal?

Crop: _____

Animal: _____

14. Gender Male Female

15. How many years have you been growing fruits and/or vegetables? _____

Name _____ County _____

(Your name will be kept confidential.)

Thank you for taking the time to fill out this survey. Your responses are greatly appreciated.

Fire Blight Definitions

Scaffolds Fruit Journal, Cornell University.

Blossom blight starts in spring when flowers become infected. The blossom blight phase of fire blight includes shoot death and develops as a result of bacterial invasion from the flower clusters.

Shoot blight develops from secondary infections that originate on young terminal shoots. Shoot blight usually develops in late spring or early summer. In years when blossom infections do not occur, the primary source of inoculum for the shoot blight phase are the overwintering cankers. Particularly young water sprouts near these cankers become infected as the bacteria move into them systemically from the canker margins. In the absence of blossom infections, the development of shoot blight infections is often localized around areas with overwintering cankers.

Trauma blight is a term used to describe infections that occur when blight is initiated at leaf or bark injuries resulting from hail or severe windstorms.

Rootstock blight occurs when bacteria from infected blossoms or shoots moves internally through symptomless trunks and infects roots. There the canker develops and girdles the tree. Trees on M.26 and M.9 rootstocks are often, but not always, killed when the roots become infected. Trees affected by rootstock blight generally show symptoms of decline and early death by mid- to late season. Sometimes symptoms may not be apparent until the following spring.

Pesticide Update Actara™

From Fruit Times Vol. 20, No 8,
The Pennsylvania State University

The foliar insecticide Actara™ was just recently registered by the Syngenta Crop Protection Inc., for use on apples, crabapples, quince, and pear fruit. Actara's active ingredient (thiamethoxam) is a second generation neonicotinoid insecticide belonging to the thianicotinyl subclass of chemistry. Thiamethoxam interferes with a unique receptor site in the insect nervous system called the nicotinic acetylcholine receptor. The compound is registered

for control of many chewing and sucking insects: aphids, leafminers, leafhoppers, plum curculio, and pear psylla. Actara™ exhibits rapid translaminar penetration into plant surfaces, and is rainfast as soon as the spray dries. Actara™ should be used from 2.0 to 5.5 oz per acre per application depending on target pest. Use rates exceeding 2.75 oz/A may not be applied closer than 35 days before harvest. Lower rates may be applied up to 14 days before harvest. No more than 8.0 oz per acre can be applied during a single growing season. The restricted-entry interval is 12 hours. Actara™ should be applied with a minimum of 50 gallons of water per acre. The compound is toxic to bees exposed to direct treatment.

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John Strang, Extension Fruit Specialist