



# Kentucky Fruit Facts

Research & Education Center

P.O. Box 469, Princeton, KY 42445

October 1998 (9-98)

Prepared by John Strang, and Jerry Brown, Extension Horticulturists; John Hartman, Extension Plant Pathologist; John Strang, Editor, Marilyn Hooks and Elizabeth Griffin, Secretaries

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## Fruit Situation

We are currently under the La Nina weather system, also termed the wicked sister of El Nino. The long range forecast, based on previous La Nina events according to Tom Priddy, our U.K. meteorologist, is for a particularly cold and wet period up through February followed by above normal temperatures and a drier period through April.....not a particularly good forecast for fruit growers.

Apple sales for most growers have been excellent and many growers have increased their prices slightly over last years.

The wet spring and early summer wet conditions contributed to serious white rot problems for many apple growers. The very dry and hot late summer and fall weather have reduced apple color and flavor for this seasons crop for many growers. Fruit drop has been particularly bad and one observation at our last Apple IPM meeting was that our early harvest was due to excessive drop rather than apple maturity.

Plans for the Annual Fruit and Vegetable Grower Meeting are shaping up nicely. The program and registration materials will be in the November issue of Fruit Facts.

## Meetings

### Oct. 15 - Kentucky State University

**Sustainable Agriculture Meeting**, KSU Farm, 1525 Mills Lane, Frankfort, KY. 10:00 AM to 3:00 PM. The morning program will cover Beef Cattle Weaning Management and Winter Feeding Programs and the afternoon program will be Greenhouse Systems and

Management by Dr. Bob Anderson. Contact Mac Stone 502/564-5871.

**Oct. 24 - Kentucky Nut Growers Association Fall Meeting**, Immanuel Baptist Church, Henderson, KY. Contact Hugh Ligdon, Rt. 1, Box 159, Henderson, KY 42420, phone 502/827-9044. The meeting will feature Hugh Ligdon's Evansville pecan.

**Oct. 24 - Kentucky Vineyard Society Annual Meeting**, Reno's Roadhouse, 507 N. Main Street, Nicholasville, KY. See article below.

**Jan. 4-5 - KVGA/KSHS Annual Meeting**, Holiday Inn North, 1950 Newtown Pike, Lexington, KY.

**Jan. 15-17 - 8<sup>th</sup> Annual Sustainable Agriculture Working Group (SSAWG) Conference and Trade Show**, Clarion Resort Buccaneer Hotel, Jekyll Island, GA. This conference will feature 36 workshops on all aspects of sustainable agriculture. Registration before Dec. 21 is \$65 and after Dec. 21 is \$75. Contact Jean Mills, Conference Coordinator, phone 205/333-8504 or e-mail [jeanmills@aol.com](mailto:jeanmills@aol.com)

## Kentucky Vineyard Society Annual Meeting - A Celebration of the KVS Bicentennial 1798- 1998

Saturday, October 24, 1998 - Reno's Roadhouse, 507 N. Main Street, Nicholasville, KY

### Directions:

Travel toward Lexington, KY. Get on New Circle Road (Circle 4), the beltway around Lexington. Exit at

US 27 to Nicholasville. Exit US 27 to the left onto North Main Street.

#### **E.D.T.**

- 9:30 a.m. Registration of privately-made wines, pick up badges
- 10:00 a.m. "Welcome to KVS' 18<sup>th</sup> Annual Meeting" - Eddie O'Daniel
- 10:15 a.m. Jean-Jacques Dufour, portrayed by Steve Smith
- 11:15 a.m. A presentation of scenes of Kentucky's wine history - a slide show - Eddie O'Daniel
- 11:30 a.m. Informal wine judging of members' privately-made wines - E. J. Schickli, Jr., supervisor
- 12:30 p.m. Lunch / Business meeting / Election of officers /Award presentations
- 2:00 p.m. "New Grape Cultivar Trial Established at the University of Kentucky Research & Education Center" - Dr. John Strang, University of Kentucky

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#### **We must have advance reservations!**

RSVP by: October 15, 1998

Mail this completed form to: Eddie O'Daniel, 7808 Barbour Manor Lane, Louisville, KY 40241  
Please make \_\_\_\_\_reservations (includes lunch) at \$10.00 each for:  
Name(s) for  
badges:\_\_\_\_\_

Late reservations at \$12 each (on a space-available basis) may be made by calling Eddie O'Daniel at 502/426-5972.

## **Apple White Rot - This Year's Fruit Decay**

**W**hite rot appears to be the most prevalent apple fruit disease in Kentucky this late summer. This fruit decay, sometimes also known as Bot rot, is caused by the fungus *Botryosphaeria dothidea*. Like most apple fruit rot diseases, the fungus is also capable of infecting twigs and branches, causing reddish brown cankers. \*

#### White rot fruit symptoms

The fruit decay begins as small spots, but soon overtakes much of the fruit. On the surface of the fruit, an expanding, soft tan spot forms. The decayed interior consists of a soft, watery light tan rot which extends as a cylinder of decay all the way to and surrounding the core.

Other common fruit rots such as black rot or bitter rot have a darker color, firmer consistency, or cone-shaped decay pattern. White rot infections developing during cool weather tend to be firmer and darker and may resemble the other rots in some years. In Kentucky, our warm temperatures in late summer favored the softer, lighter colored decay symptoms.

#### White rot twig and branch symptoms

Branch and twig infections begin as small sunken discolored lesions surrounding lenticels or at the margins of wounds. The bark in the cankers becomes depressed as the cankers enlarge, and blister-like structures may appear. Branch and twig infections are most severe in hot, dry summers when trees are under drought stress. In older cankers the outer bark becomes orange and papery and canker margins become cracked. Tiny, dark fungal fruiting structures may form in the cankered area. Infected branches and mummified fruits left in the tree will become a source of fungal inoculum for infections the next year.

#### Disease development

During the growing season, ascospores and conidia are not only produced in cankers, dead twigs and branches in the apple tree, but also in dead twigs and branches of many species of landscape or forest trees that might be growing nearby. The spores are carried by air currents or splashed by water to other weakened branches or to the fruit. Fruit infection can occur throughout the season in as few as 2 to 4 hours under warm conditions. Rot symptoms usually do not develop until fruit begin to ripen, when soluble solids reach about 10%. Orchards with heavy fruit infections very likely have a problem with dead, canker laden twigs and branches in the orchard.

#### Control

Pruning out dead spurs, twigs, and branches from the orchard is essential for control. The white rot fungus also rapidly colonizes fire blight-infected branches, so they need to be removed as well. Sanitation should also include removal of mummified fruit each year. Apple trees must be irrigated during drought periods. Full season fungicide spray programs containing captan plus either benomyl or thiophanate-methyl can prevent white rot and other fruit decays.

## **Grants for Planting Grapes**

**T**he Kentucky Department of Agriculture is overseeing the state grant program for planting grapes. The guidelines to date are as follows.

- Reimbursable grants are available for up to 50% of the cost of plants, posts, and hardware.
- Plantings of from one to 10 acres are eligible for the grant program.
- Planting site must be inspected and signed off by Murray State University viticulturist.
- Trellis construction (for wine grapes) must accommodate a mechanical harvester.
- Additional requirements may be forthcoming when the Murray State University viticulturist is hired.

For more information call Gerald Dotson, Director of Marketing of Horticultural Crops, Kentucky Department of Agriculture at his office 502/564-6571.

# Control Voles and Rabbits in Orchards During the Dry Weather

The dry weather in recent weeks has reduced succulent vegetation for rabbits and voles (short tailed mice) to feed on. As a result, some of these critters will likely feed on tree bark. To reduce the damage it is important to place tree guards to control rabbits, to keep the orchard clean by mowing regularly, and when the harvest is over to treat with chemicals if the vole population is high.

## Non-chemical controls

Mowing on a regular basis, especially during dry weather, is the most effective treatment for vole control. When mowing an orchard, it is as important to mow between the trees as it is to mow within the row. Any tall grass between the trees will likely be a haven for pine and meadow voles. It is also important to keep a clean area of about 150 to 200 feet around the orchard to prevent any meadow voles from moving into the orchard. Such practices can cut vole population by more than 50% in any given year.

A herbicide strip (or circle) around the tree can also be effective in reducing pine and meadow vole populations. Herbicide strips alone, however, will not eliminate the problem of vole damage, especially of meadow voles. However, when combined with chemical treatment, herbicide strips will reduce vole populations.

Another important non-chemical practice is to encourage vole predators to move into your orchard. A good example is to encourage wild cats to live in and around the orchard. Also build an observation tower for owls, hawks, and other predatory birds. This observation tower can be as simple as a 10 to 15 foot post with a "T" top.

## Chemical baits

Use chemical baits only after harvest is over. At present, there is only one chemical bait available for vole control in apple and peach orchards in Kentucky. This is Zinc phosphide. Zinc phosphide has been shown to be most effective against the meadow vole.

Zinc phosphide baits are marketed either as weather resistant pellets or combined with several types of grains, such as cracked corn and oats. When the vole population is very high, an additional application of zinc phosphide may be made within 1 to 2 months. Zinc phosphide grain baits applied by hand were found not to be very effective against the pine vole, however, better control was achieved when apple slices were coated with zinc phosphide liquid at the rate of one teaspoon per quart of water.

## Methods and Timing of Bait Application

Baits can be applied in several different ways, however, not all of these methods are equally effective.

Hand baiting in the active run. This method involves placing baits in the active runs at each hole. This method is very effective, however this method is not

practical in a large planting with a severe vole population. An alternative method is to place the bait under a bait station, as will be described in the next section. This method is more practical and effective for vole control. It is also less hazardous to other animals and birds in the orchard.

Broadcast baiting - This method is effective for control of the meadow vole, but not for the pine vole. Other animals and birds may be harmed by broadcast bait and, therefore, it is not recommended.

Trail baiting - A trail building machine may be used to apply the bait in furrows. This method is not very effective for control of meadow vole and only slightly effective for pine vole. This method is recommended in areas outside the orchard, but not inside the orchard, because the furrows will serve as a hide out for voles once the bait effectiveness stops.

Spray - A zinc phosphide spray in late fall was found to be somewhat effective against meadow vole populations. This practice is harmful to the environment and to other animals and, therefore is not encouraged.

Placing bait by hand under bait stations is a better way of controlling voles in apple orchards. The best time to apply these chemicals is late summer through early spring when there is little vegetation for voles to feed on.

Bait Stations - The most effective bait station is the one that will provide dark shelter with some ventilation to prevent baits from molding. Shingles, PVC pipes, metal sheets, split tires, and many other types of stations have been used to cover chemical baits. Metal stations may damage the blades of a lawn mower. Ross Beyers from Virginia found that split tires were more effective than other stations that he tested. It is very important to place bait stations in the field by mid summer so the voles will get accustomed to their presence.

## General Recommendations

1. Mowing is critical especially during late summer and early fall to prevent any over growth. Mow between rows and between trees in each row.
2. Remove any shrubs or tall grass from at least 200 feet around the orchard.
3. Never place straw or any type of mulch that will attract voles around the tree.
4. Place bait stations 2 to 3 months before baiting.
5. Check bait periodically for mold.

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6. Move stations to active runs.
7. Avoid placing bait immediately before or immediately after a rain storm.
8. Zinc phosphide is not a good repeat bait.
9. Read the label and follow it carefully.  
(Mosbah Kushad, Illinois Fruit & Vegetable News,  
modified by John Strang for Kentucky)

## Publications

The publication, Ornamental Corn Production in Kentucky (HO-81), has recently been revised and printed. The major change in this publication is the variety recommendations as a result of some of Dr. Terry Jones's trials. This publication should be available through local county extension offices. (Strang)

## Receiving Fruit Facts Electronically on the Internet

Fruit Facts is now 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 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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