

Kentucky Fruit Facts

April 2003 (4/03)

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

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Fruit Crop News

by John Strang and John Hartmant

We flashed through quite a few growth stages over the last several weeks and it has been hard to keep up with the spray schedules. The good news is that we have gone through stages so rapidly that growers have been able to reduce the number of sprays, because of the short time period between stages.

We have had fireblight infection periods at Princeton and Lexington on apple and pears that were in bloom on April 4th. Fireblight has built up on the margins of previous years' cankers and can be spread to flowers and other plant parts. Growers that are still pruning their trees now run the risk of spreading fire blight to fresh pruning wounds.

Those growers that sprayed streptomycin during the last two seasons had substantially reduced fire blight.



Please note the following article written by Ric Bessin on scale control on apples and peaches. Billy Reid was one of the few Kentucky growers that used Esteem last season for scale control. He indicated that this product did an excellent job in controlling scale.

Grape growers should be getting the weeds and grass beneath their vines under control, watching for flea beetles and maintaining an excellent spray schedule for black rot, phomopsis cane and leaf spot, downy mildew, and powdery mildew.

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Upcoming Meetings

Apr. 16 Commercial Apple IPM Meeting, The Bramble Ridge Orchard, 2726 Osborne Rd., Mt. Sterling, KY. Contact John Strang 859/257-5685. See program below.

Apr. 24 Fruit Tree Budding and Grafting Workshop, Boone County Extension Office, Burlington, KY 7:00-8:30 p.m. Contact Mike Klahr 859/586-6101.

Apr. 26 Kentucky Nut Growers' Association Spring Meeting, Hardin County Extension office, Elizabethtown, KY. Contact Hugh Ligon 270/827-9044.

Jun. 10 Commercial Apple IPM Meeting, Reid's Orchard, Owensboro, KY

Jun. 20 Grape Field Day, Connie Queen's Vineyard, Lawrence County. Contact John Sparks 606/638-9495.

Jul. 8-11 American Society for Enology & Viticulture - Eastern Section, 28th Annual Conference, Radison Hotel Corning, Corning NY. For program and registration information visit the ASEV- Eastern Section website: <http://www.nysaes.cornell.edu/fst/asev> or contact Ellen Harkness: phone:765/494-704; e-mail: harkness@foodsci.purdue.edu

Jul. 15 Commercial Apple IPM Meeting, Princeton Research & Education Center, Princeton, KY. Contact Joe Masabni 270/365-7541 ext. 247.

Jul. 17 Small Fruit (Blackberries and Blueberries) Workshop, Robinson Station, Jackson, KY. 10:00 a.m. - 3:00 p.m. Contact Terry Jones 606/666-2438 ext. 234 to preregister. Program will be printed in the May Fruit Facts issue.

Jan. 5-6, 2004 Kentucky Annual Fruit and Vegetable Conference and Trade Show, Holiday Inn North, Lexington, KY. Contact John Strang 859/257-5685.

Control San Jose Scale Now or Wait for Crawlers

by Ric Bessin, U.K. Extension Entomologist

With the advent of warm weather we are progressing very quickly through the early apple stages. San Jose scale is one insect that has become a serious threat in many commercial apple and peach orchards. This is partly due to the loss of the use of Lorsban post-bloom and PennCap-M for control of scale crawlers. San Jose scale numbers have been increasing in most orchards. This insect is particularly damaging, as it injects a toxic saliva into the trees. Left uncontrolled in commercial orchards, this pest can kill trees in a matter of just a few years.

One indication of the problem was the noticeable scale on fruit harvested last fall. The scale cause a red halo around the site of feeding due to the toxin they inject. This is very apparent on light-colored apples.

Management of scale begins with a dormant application of oil. In addition to the oil,

Esteem has been recently registered for both pome and stone fruits for application from green-tip through pink (pome fruits) and delayed-dormant (stone fruit). Another option with pome fruit is to wait to spray until crawler emergence. Generally crawlers emerge in late May and growers can use double-sided, black tape on infested limbs to signal crawler emergence.

Commercial Apple IPM Meeting

The Bramble Ridge Orchard
2726 Osborne Rd., Mt. Sterling, KY 40353
Terry and Cindy Peake, Owners
859/498-0502

Directions:

Take I-64 towards Mt. Sterling and get off at exit 113 proceeding west on US 60 towards Mt. Sterling. At the first traffic light (approx. 1.5 miles) turn left on the bypass.

Proceed 1/4 mile to the blinking yellow caution light and turn left on Old Owingsville Rd.

Turn right (150 yards) on Osborne Rd.

Proceed 1.5 miles to The Bramble Ridge Orchard (2726 Osborne Rd.), which will be on your right. Look for the barn and sign.

<u>Program</u>	All times EST
10:00 a.m. Registration	
10:15 Apple grower round table discussion	
11:00 Insurance options for apples and peaches - Jeremy Hinton	
11:30 Managing early season apple insects - Ric Bessin	
12:00 Lunch (available at cost - in the \$6.00 range or those that preregister)	

Preregister for lunch by calling Mary Ann Kelley at 270/365-7541 Ext. 216 between 8:00 a.m. and 4:30 p.m. CST weekdays by April 14 and give her a count for the Apple IPM meeting at The Bramble Ridge Orchard.

1:00 p.m.	Tour of The Bramble Ridge Orchard Terry and Cindy Peake
1:30	Managing apple scab and fire blight - John Hartman
2:00	Early season weed control in apples - Joe Masabni
2:30	Frost Control and Thinning - John Strang

Funds Available to Aid in Development of New Horticulture Markets

by Jim Mansfield, Director Division of Horticulture & Aquaculture, Kentucky Department of Agriculture

During the growing season, cantaloupes from south-central Kentucky are sold up and down the East Coast and western Kentucky sweet corn can be found in stores nationwide.

To further the expansion of horticulture markets, the Kentucky Department of Agriculture is offering cost-share funding to help Kentucky farmers meet potential wholesale buyers located in other states. The money comes from a \$2.4 million grant awarded by the state Agricultural Development Board. The funds are derived from the state's share of the master tobacco settlement and passes through the Kentucky Horticulture Council to the Kentucky Department of Agriculture to help horticulture marketing efforts.

Fruit, vegetable, greenhouse and nursery businesses can apply for cost-share money that will partially reimburse them for trips taken to develop new markets. "These monies will provide matching funds for producer groups and cooperatives to meet with wholesale buyers and potential partners in markets and production areas outside the state," said Kentucky Agriculture Commissioner Billy Ray Smith. "Some members of our vegetable marketing cooperatives have signed contracts with food-marketing companies in Florida to market their produce nationwide. Last year, produce grown by Kentucky farmers was sold not only here at home but in stores located in nearly every state."

Cost-share matches of up to \$2,500 per funding round will be awarded on a competitive basis with priority being given to producer associations, cooperatives and projects that impact multiple farms, said Jim Mansfield, Director of KDA's Division of Value-Added Horticulture and Aquaculture. Applicants must provide at least a 50 percent cash match for all travel proposals. "Kentucky's horticulture industry markets its products far and wide. Developing marketing alliances with producers in other production areas has been a successful strategy," Mansfield said. "These cost-share funds will be instrumental in finding additional marketing options for Kentucky growers."

For guidelines and applications, log onto KDA's Web site at www.kyagr.com <<http://www.kyagr.com>> , or contact Kim Mullins of the Division of Value-Added Horticulture and Aquaculture by phone at (502) 564-7274 or by e-mail at kim.mullins@kyagr.com.

A Serious Weed in Orchards

by Joe Masabni, Extension Fruit Specialist, Princeton KY

Honeyvine milkweed (*Ampelamus albidus*) is a vining perennial weed that is giving Kentucky fruit growers a serious headache. I have been asked many times how to control, if not eradicate it. This is not a problem for Kentucky fruit growers only. Fruit growers in southern Indiana and Illinois have also expressed serious problems with this weed.

The main reason this weed is a serious pest in fruit orchards is its growth habit. It germinates a little later in the season after many preemergence herbicides have been applied to an orchard, and long before many postemergence herbicides are applied. As a young plant, honeyvine milkweed doesn't have a large leaf area to intercept herbicide application. Once active growth starts, this climbing vine can grow up to 10 ft and twines its way to the top of the tree by mid summer where 3-4" pods can be easily seen. In an apple orchard, seed escapees seem to germinate right next to the tree trunk where herbicides don't normally reach and normal weeding is difficult if not impractical.

On a positive note, this weed will not choke or kill your tree, even if left unchecked. The two main problems associated with this weed are the reduction of fruit quality due to shading and making harvesting difficult.

Control Methods:

There are many control options, if and when herbicides fail to prevent germination. In order of importance, I suggest the following cultural practices:

1. Hoe young seedlings as they appear. This may seem impractical or expensive, but in the long run is very beneficial. Herbicide application using a wiper application is safest to avoid trunk injury and easiest for the applicator. Non-selective herbicides such as Roundup or Touchdown are excellent candidates for spot

application with a wiper stick. The best time to do this is before the vine starts climbing the tree.

2. For larger plants that haven't seeded yet or plants that are already climbing the tree, cut the plant stem close to the ground. This will dry up the plant and prevent seed pod formation.

3. If seed pods are present, cut the stem at ground level and remove the seed pods. Mature seed pods will continue to develop and shed seeds even if the stem is cut off. In the long run, removing seed pods is as important as killing the whole plant in order to reduce future seed populations.

Herbicide control methods:

As mentioned before, this weed is a serious pest due to its growth habit that makes herbicide control difficult. The honeyvine milkweed is not resistant to non-selective herbicides such as Roundup or Gramoxone. In reality, multiple applications of these herbicides can provide significant suppression of this weed. In an orchard situation, even growth suppression is desirable. By suppressing growth, you keep the vine from climbing the tree and from producing fruit pods that release more seeds.

Other herbicides are available that provide good control if not suppression of growth of honeyvine milkweed, such as Banvel, Permit, Distinct, Sempra, and Fuego. Unfortunately, none of these herbicides are labeled for use in an apple orchard.

Of the herbicides currently labeled for use in apples, details on Gallery, Princep Caliber 90, and Touchdown are provided below:

Gallery can be used on non-bearing trees, i.e. trees that will not bear within 1 year of application. At 1.33 lb/acre preemergence application of Gallery, weed suppression is achieved. A fall application of a Gallery and Roundup mix can provide both short term and long term control of this weed.

Princep Caliber 90 at 2.2 – 4.4 lb/A can provide partial control of honeyvine milkweed if applied in the spring (between January and April) to trees at least 12 months old. One application / year is the maximum limit of Princep on apple. Avoid contact with leaves or trunk. Princep can also be applied in the fall as a premix with Gramoxone.

Touchdown is a non-selective herbicide that can be applied either as a spot spray at 2% v/v or as a broadcast application at 2-4 qt/acre. Don't forget to calculate the equivalent rate for band application. Best results are achieved if applied at late to early flower stage. Multiple applications may be necessary for season-long control since Touchdown does not provide residual control.

Finally, this weed is not well adapted to cold temperate climates. Its northern range covers northern Illinois, Indiana, and Ohio where the level of infestation is not as high as that found in Kentucky or Tennessee (see figure 1, source: Weeds of the North Central States, North Central Regional Research Publication No. 281, Bulletin 772, University of Illinois at Urbana-Champaign).



Figure 1 --
Range of
honeyvine n
infestation in the North Central States.
Dark shade indicates heavy infestation and
light shade indicates moderate infestation.

So, a cold winter, like the one we experienced this year, will kill more roots and more seeds of this pest than a mild winter. I predict that the infestation level of this weed will be reduced compared to last year. I would appreciate your input by proving or disproving this prediction by contacting me at jmasabni@uky.edu or by phone at 270-365-7541 Ext. 247 and letting me know what you are observing in the field. Moreover, I am interested in conducting weed control experiments in your orchards with honeyvine milkweed infestations to test the effectiveness of currently labeled herbicides. If interested, please contact me as soon as possible.

Manage Anthracnose of Blackberries and Raspberries in Spring

by John Hartman, U.K. Extension Plant Pathologist

Blackberries, raspberries and black raspberries grown in Kentucky are susceptible to anthracnose, a serious fungal disease. Crop yields are reduced due to cane infections girdling the stems leading to wilting and dieback or due to partial girdling of stems resulting in loss of vigor and reduction in fruit size and quality. Black raspberries are especially susceptible to anthracnose. Other diseases such as cane blight, spur blight, and Septoria cane and leaf spot may cause some similar symptoms.

Symptoms. Anthracnose symptoms are most striking on canes but can also occur on leaves, petioles, flower buds, and fruit. In the spring, reddish purple spots appear on young canes. As the disease progresses, the spots enlarge into an oval shape and the tan to gray centers become sunken with purplish raised margins. Diseased tissue extends down into the bark and partly girdles the stem. By late summer or early fall, the diseased tissue often cracks. Within these lesions spores are produced which are spread by running water, splashing rain, and wind. Canes weakened by anthracnose are more susceptible to winter injury and eventually may die.

On leaves, anthracnose appears as small, irregular, yellowish-white spots. As spots enlarge, they may have a tan center with reddish margins. Spots sometimes drop out, giving a shothole symptom. Fruit infections are not common unless there is a high level of anthracnose in the plantings. Infected fruit is typically dry and seedy.

Disease cause and life cycle. Anthracnose is caused by the fungus *Elsinoe veneta* which overwinters on the bark or within lesions on floricanes infected the previous season. In early spring, just as the canes are leafing out, fungal spores are produced on these diseased canes. These spores are blown, rain-splashed, or vectored by insects to young, rapidly growing, succulent green primocane tissue where infection occurs. Symptoms appear as small tan lesions in about a week. The primary damage to plants is caused by these early infections.

Disease Management. Control can be achieved by sanitation and spraying. Although sanitation is labor-intensive, it is an effective management practice for the control of anthracnose. The fungus can survive on dead canes that have been pruned off. If pruned canes are left in or near the planting, the disease can spread back into the planting. Removing the pruned canes reduces the potential for disease development. Early spring application of lime-sulfur fungicide is a useful preventive measure.

A fixed copper spray, while not quite as effective, can be used if the plants are leafed out too far for liquid lime sulfur use.

See U.K. Cooperative Extension publication "Midwest Commercial Small Fruit and Grape Spray Guide 2003 (ID-94) for rates and timing. It is important to plant clean, disease-free nursery stock. Cut out all diseased canes, cane "handles," and any infections observed on new plants. Provide good air movement through the planting by removing weeds and spindly canes. If possible, all wild brambles within the vicinity should be rogued, for these wild plants will also harbor the pathogen.

Musk Thistle in Kentucky Pastures and Hayfields

by J. D. Green, U.K. Extension Weed Specialist

Musk thistle, also called nodding thistle, is the most common type of thistle plant found in Kentucky. It is considered a noxious weed because of its ability to reproduce rapidly and limit pasture production. Musk thistle only reproduces by seed. Therefore, the major aspect of any control efforts is to prevent or limit seed production.

The primary growth period of the plant is generally in the spring through the early summer months. However, most seed germinate in the fall and form a rosette which grows close to the ground, often growing unnoticed until the spring months. The leaf surface is waxy in appearance and contain spines along the leaf margins. Flower stalks develop in the spring followed by bright purple to reddish flowers, which bloom in late May to early June. The seed, which are produced for the next generation, develop soon

after flowering and are easily carried by wind and spread to other areas as well.

The most important step in long-term control of musk thistle is to prevent flowering, and the production and spread of new seed. This can be accomplished by using various mechanical, biological, or chemical control methods.

For mechanical control efforts mowing, clipping pastures, or even hand-grubbing can be used. These control methods should be initiated before flowers begin to open. Some regrowth and production of flowers can occur after mowing, but seed production will be notably less than if a mechanical control method had not been used. Thistle plants mowed or removed by hand after flowers have bloomed contain enough energy reserves that these plants will still produce viable seed.

A reduction in musk thistle populations can also be obtained through biological control methods. Two different insects are known to inhibit thistle growth and development, the Thistle-Head Weevil and the Thistle Rosette Weevil. The Thistle-Head Weevil can be found during the spring in many counties throughout central Kentucky. These insects feed on the maturing seed inside the developing flower head. The impact of the Thistle-Head Weevil will not eliminate all seed production, but can significantly reduce the amount of seed produced by individual plants in areas where the insect has become established.

Broadleaf herbicides labeled for use in pastures can be applied in grass pastures and non-crop land areas for control of musk thistle rosettes. However, for herbicides to be effective the timing of the application is critical. Best results can be obtained if herbicides are applied to plants that are in the early rosette stage of growth and actively growing. Therefore, the best times for herbicide application is in the early spring or in the fall. Application of herbicides in the spring should be made during March and April when thistle plants are actively growing. In the fall, apply herbicides in October or early November following new seed germination. When plants are in the rosette stage they are more susceptible to herbicide applications.

Herbicides which can be used in pastures include 2,4-D, Banvel, Crossbow, Redeem R&P, and Weedmaster. For spring herbicide applications apply when air temperatures are

above 55 F for 2 to 3 days. Complete spray coverage of the plant is also important. When herbicides are applied after flower stalks elongate, control will be less effective and inconsistent. When using herbicides for control, consult the waiting period on the product label for livestock grazing restrictions following herbicide application. Avoid spraying near crops such as tobacco, fruit (grapes in particular), vegetables, or ornamental plantings. Also, avoid spray drift by not spraying on windy days or days with extremely high temperature and high humidity.

Jammin' with Kentucky Blueberries 2002

Sarah Ball Brandl, Martha Yount, and Terry Jones

Expanded Food and Nutrition Education (EFNEP) Coordinator, Breathitt County Family and Consumer Science Agent, Summer Horticulture Intern, UK Student, and Extension Horticulturist respectively.

During the summer of 2001, 6 blueberry varieties grown at the Robinson Station were used in home food preservation trials (jam production and freezing quality).

In the summer of 2002, 5 additional varieties of blueberries were used in home food preservation trials -jam production. Freezing quality was not looked at due to the lack of available berries.

Jam Production: The berries from individual varieties were evaluated using an identical standard jam recipe. Each jam produced was sampled and yield was recorded. The finished jams were then evaluated in blind taste tests at several Extension events. Overall, about 100 people participated in the jam evaluations. The chart below shows how the 5 blueberry varieties ranked according to jam yield, appearance, texture and flavor.

In the summer of 2001, 6 other varieties were evaluated in the same manner. The overall favorite berry for jam in all testing groups was the "Duke" variety. Unfortunately, this year, we did not have this variety available to test against the 5 new cultivars.

For 2002 trials, the overall favorite was the jam made from the “Blue Gold” berries, while the ‘NC 2675’ variety came in a very close second.

Variety	Yield	Appearance	Texture	Flavor
Blue Crop	6.5 - 8 oz. jars	watery, thin	grainy, thin	weak, bland
Nelson	6.5 - 8 oz. jars	lumpy, thick	grainy, course	too sweet, bland
Blue Gold	7.5 - 8 oz. jars	good	lots of fruit	good berry flavor
Brigitta	7.5 - 8 oz. jars	good, smooth	seedy, grainy	too sweet
NC 2675	6.5 - 8 oz. jars	good and thick	full berries, good	fruiter, good taste

Recipe for Blueberry Jam - Cooked

4 Cups Crushed Blueberries
 4 Cups Sugar
 1 Box Pectin

Wash jars and lid bands in hot soapy water; rinse with warm water. Put jars in boiling water until ready to use. Pour boiling water over flat lids in saucepan, do not boil lids. Let stand in hot water until ready to use.

Prepare fruit as directed. Wash and crush with a masher, crushing one cup at a time. *Do Not puree fruit.*

Measure exact amounts of fruit and sugar and put into separate bowls. Do not reduce sugar or use substitutes.

Bring mixture (fruit and pectin) to a full rolling boil on high heat stirring constantly. Stir in sugar all at once and return to a full rolling boil. Boil mixture for 1 minute stirring constantly. Remove from heat and skim off the foam.

Ladle quickly into prepared jars, filling to 1/4 inch of the top. Wipe jars and threads clean and cover with flat lids. Screw on band, do not over tighten. Process 10 minutes in a boiling water bath. Yield: 6- 1/2 pints.

*Nutritional Analysis: per 1 tablespoon serving:
 35 calories, 0 g fat, 0 g protein, 9 g carbohydrate, 0 mg sodium.*

Receiving The Fruit Facts Newsletter Electronically on the Internet

Fruit Facts is available electronically 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 University of Kentucky Listserve.

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Addressed to: listserv@lsv.uky.edu

Subject: Fruit Facts

Message: subscribe ky-fruitfacts, followed by a blank line

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John G. Strang,
Extension Fruit & Vegetable Specialist