UK COOPERATIVE EXTENSION SERVICE
University of Kentucky – College of Agriculture

Lexington KY 40546

Kentucky Fruit Facts

Feb/Mar 2008 (2&3/2008)
Fruit Facts can be found on the web at: http://www.ca.uky.edu/fruitfacts/

John Strang, Extension Fruit Specialist, Editor
Karen Shahan, Administrative Assistant

Fruit Crop News

Buds are swelling and flower bud, wood and cane survival continues to look good for all Kentucky fruit crops. On March 7, just prior to our major winter snow storm peach, blackberry, grape and a few blueberry buds were evaluated for injury. 'Redhaven' peaches at Lexington and Princeton showed 47 % and 39 % flower bud injury respectively. Thus, a full peach crop is still in the cards. Highbush blueberry flower buds do not show any injury. 'Triple Crown' thornless blackberries at Lexington and Quicksand showed no injury. No bud injury was found on 'Cabernet Sauvignon', 'Chambourcin' and 'Norton' grapes.

Fruit tree pruning has been proceeding at a slower than normal pace for most growers. We have had a few very nice days for pruning, but in general the weather seems to be less cooperative than normal. Pruning can be performed on all of our fruit crops now. Prune youngest trees last.

Strawberries - The best time to remove straw from matted row strawberry plantings is when the 4 inch soil temperature averages 40-43°F. This is usually in mid to late March in Central Kentucky. Plasticulture strawberry growers should be thinking about removing floating row covers about the end of March to delay floral development as much as possible. Preparations should be in place to reapply the

row cover and start overhead sprinkers for frost control if the temperature drops too low. Chateau herbicide can be applied to matted row strawberries now and generally provides excellent weed control until harvest.

In the area of web site developments, the Kentucky Vegetable Growers Association has launched their new web site and it is up and running at http://ww.kyvga.org We owe our thanks to Tim Coolong, U.K. Extension Vegetable Specialist and Pat Dillon of Cats Cradle Design our web developer for this major effort. Kirk Pomper, USDA National Clonal Repository for Pawpaw at Kentucky State University Curator has also spent some serious time revising and updating the Pawpaw website at: http://www.pawpaw.kysu.edu Take a look at these sites when you have a chance as they both are excellent. We are still working on bringing up the KSHS web site.

Mancozeb and Mancozeb-based fungicides are expected to increase and additional 25% from current prices in the next several months due to increased fuel and raw material costs. Many distributors have purchased what is available and will make this supply available at the current price until the stockpile is exhausted.

Joe Huber, one of the extraordinary fruit and vegetable leaders in the midwest passed away March 10th from complications after battling cancer. Joe's initiative helped transform the Starlight, Indiana area into a you-pick and roadside market agri-tourism center. Joe and Bonnie's five children currently run the 260 acre Huber family business. Joe has been an inspiration for many fruit and vegetable growers and will be missed.

Inside This Issue:

1 - Fruit Crop News
2 - Upcoming Meetings
2 - NARBA Membership
3 - Spring Viticulture Field Day
4 - Fruit Grower Orchard Meeting
4 - Why Should I Get GAP Certified?
5 - How Will Fruit Crop Diseases Respond to the Drought of 2007?
5 - Grape Mildews Developing Fungicide Resistance
6 - The Cicadas are Coming! - Brood XIV Emergence
7 - Delayed Dormant Spray for Diseases of Grapes, Blueberries and Brambles
8 - Update on the Status of Iodomethane in Kentucky
8 - New Publications
8 - CoCoRaHS Comes to Kentucky
9 - Minimizing Disappointing Bottle-to-Bottle Variations in Wine!

Upcoming Meetings

Mar. 24 Home Strawberry Production, Estill County Cooperative Extension Office, 6:30 p.m. Contact Eric Baker 606-723-4557.

Mar. 27 Apple and Small Fruit Pruning, Hickman, KY (Fulton County) 3:00 p.m. Contact Cam Kenimer 270-236-2351.

Mar. 28 Tree Fruit Pruning, Edmonton, KY (Metcalfe County) 1:00 p.m. Contact Brandon Bell 270-432-3561.

Mar. 29 Spring Viticulture Field Day, University of Kentucky Good Barn Conference Facility, Lexington, KY. 10:00 a.m.-5:00 p.m. For registration information call: 859-257-6635. See program below.

Apr. 3 Grape Pruning, Russellville, KY (Logan County) 9:00 a.m. Contact Chris Milam 270-726-6323.

Apr. 12 Kentucky Nut Growers Spring Meeting, Hardin County Extension Office, Elizabethtown, KY. Contact Carl Ray 270-281-4800.

Apr. 12 Kentucky Winegrowers Commercial Competition, TBA, Nicholasville, KY 40356. Contact Brenda McCulley 859-219-2718.

Apr. 15 Fruit Grower Orchard Meeting, Paul Tokosh's Hillview Farm & Orchard, Pleasureville, KY (Henry County) contact: Steve Moore 502-845-2811 or John Strang 859-257-5685.

Apr. 19 Kentucky Winefest Competition, Nelson County Extension Center, 317 South third Street, Bardstown, KY 40004. Contact Robbie Smith 502-348-9204.

Apr. 24 Apple Grafting Workshop, Logan County Extension Office, Russellville, KY. 10:00 a.m. C.D.T. Contact Chris Milam 270-726-6323.

May 10 Northern Kentucky Commercial Wine Competition, Campbell County Extension Center, 3500 Alexandria Pike, Highland Heights, KY 41076. Contact Tricia Houston 513-379-9321.

May 17 Central Kentucky Wine Fest Competition, 417 Stanford Ave., Danville, KY 40422. Contact Andre Brousseau 859-236-1808.

Jun. 3 Fruit Grower Orchard Meeting, Jeremy Hinton Orchard, Hodgenville, KY (LaRue County) Contact David Harrison 270-358-3401 or John Strang 859-257-5685.

Jul. 31 Horticulture Research Farm Twilight Field Day, Lexington, KY. Contact John Strang 859-257-5685.

Sept. 6 Pawpaw Workshop. KSU Research Farm, Frankfort, KY. Contact Kirk Pomper phone: 502-597-5942; email: kirk.pomper@kysu.edu

Sept. 25 U.K. Robinson Station Field Day, 130 Robinson Road, Jackson, KY 41339. Contact Terry Jones 606-666-2438 X 234.

Jan. 5-6, 2009 Kentucky Fruit & Vegetable Conference & Trade Show, Embassy Suites Hotel, Lexington, KY. Contact John Strang 859-257-5685 email: jstrang@uky.edu

Jan. 12-14, 2009 Mid-States Horticultural Expo (MSHE). Kentucky Fair & Exposition Center, Louisville, KY. Sponsored by Kentucky Nursery and Landscape Association, Tennessee Nursery and Landscape Association, and Southern Nursery Association. Contact: SNA (Show Management); 770-953-3311; Fax, 770-953-4411; e-mail, mail@mshe.org; url, http://www.mshe.org

NARBA Membership

by Cal Blake, Lexington, KY strawberry, blackberry and blueberry grower

NABGA (North American Bramble Growers Association) has recently changed its name to NARBA (North American Raspberry and Blackberry Association). The change came about primarily because the previous name was confusing to anyone outside the industry, and even a few within it.

The three primary objectives of the organization are ..."1) to promote the production and marketing of raspberries and blackberries in North America through communication, education, and research 2) to provide a unified voice to promote the industry and 3) to promote blackberries and raspberries to the general public."

Members include growers, nursery operators, processors, researchers, suppliers, extension centers and regional and state affiliate organizations.

Benefits of membership include The Bramble, NARBA's quarterly newsletter, proceedings of the annual conference, discount or free fruit magazine subscriptions, links to your website on the NARBA website, an annual membership directory, support and information from the NARBA network of growers and researchers and access to special "Members Only" resources, such as recipe cards, consumer handouts, and a Members-Only E-forum.

For more information, visit www.raspberry-blackberry.com A first year introductory membership is only $50 plus $5/acre of bramble production for growers and $40 for researchers and extension.

Subscribers to "Fruit Facts" may also contact Cal Blake at (859)272-3936 for more information or an application.

Spring Viticulture Field Day

Saturday, March 29, 2008
10:00 a.m to 5:00 p.m.
Location: University of Kentucky
E.S. Good Barn Conference Facility

Sponsored by:
UK Viticulture & Kentucky Vineyard Society
For Registration information
Please call 859 527 6635

Agenda

9:15 am	Registration opens
10:00	Welcome address *Dr. Dewayne Ingram*, UK Horticulture
10:10	Dormant pruning for crop level management in vineyards *Dr. Kaan Kurtural,* UK Horticulture
10:40	Spring Vineyard Disease Management *Dr. Annemiek Schilder* Michigan State University, Plant Pathology
11:30 am	Spring Vineyard Insect Management *Dr. Ric Bessin,* UK Entomology
12:00 pm	Catered lunch (included with registration)
12:45	Board bus, travel to UK Horticulture Research Farm*
1:15	Spring Vineyard Pre/Post Emergence Weed Management *Dr. Joe Masabni*, UKREC, Princeton
1:45	Applied Vineyard Dormant Pruning Basics *Brandon O'Daniel,* UK Horticulture
2:30	Vineyard Airblast Sprayer Safety/Calibration *Chris Smigell,* UK Horticulture
3:00	Board bus , travel back to E.S. Good Barn
3:30	Enology/Wine Tasting Break-out session (included with registration) *Dr. Tom Cottrell, and Patsy Wilson*, UK Horticulture
5:00 pm	Adjourn

Register by March 21, 2008 to receive the early-bird discount

***Due to construction at the UK Horticulture Research Farm, visitors are discouraged from driving their own vehicles. UK is not responsible for ANY damages to personal vehicles.**

Registration Form

Name(s) As you would like it on your Name Tag

_____

_____

_____

_____

Total Amount Enclosed $_____

Please make checks payable to:
Kentucky Vineyard Society

Mail completed registration form to:
Ms. Pamela Compton,
UK Horticulture
N308 Ag. Science North
Lexington, KY 40546-0091

Early-Bird Registration by March 21, 2008

Early-Bird Registration	Cost	Number Attending	Total Cost
KVS Member	$27.50/person		
Non-Member	$32.50/person		

Registration after March 21, 2008

After March 21, 2008	Cost	Number Attending	Total Cost
KVS Member	$34.00/person		
Non-Member	$37.50/person		

-Meal and Wine Tasting included with Registration-

Meal Choices	How Many	Total
Ribs		
Catfish		
Vegetarian		
Wine Tasting		

Fruit Grower Orchard Meeting

Tuesday, April 15
Hillview Farm & Orchard
4161 Franklinton Rd.
Pleasureville, KY 40057
Paul Tokosh, owner
502-845-0043

Directions: Exit I-64 at exit 35, turn north approx 19 miles through New Castle on highway 55, then right onto highway 202. Take 202 approx. 5 miles, turn right onto Bullitt Hill Road. Take Bullitt Hill Rd approx. 2 miles to intersection with 1360. Turn left, proceed approx. one half mile to Tokosh's Hillview Farm & Orchard on left.

Program:
All times EDT

10:00 a.m.	Registration
10:15	Tour of Hillview Farm and Orchard *Paul Tokosh*
10:45	Early Spring Fruit Diseases *John Hartman*
11:05	Early Season Insects *Ric Bessin*
11:35	Flower Bud Formation *John Strang*
12:00	Lunch A box lunch will be available at cost ($8.00) for 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. CDT weekdays by Friday April 11 and give her a count for the Fruit Grower Meeting at the Hillview Farm & Orchard.

1:00 p.m.	Kentucky Soil Types, Fertility and Understanding Soil Test Results *Greg Schwab*
1:30	When is Weed Control Too Good? *Joe Masabni*
1:45	Apple Grower Round Table Discussion *Maurice Fegenbush*, moderator
2:30	Adjourn

Why Should I Get GAP Certified?

By Dr. Tim Woods, U.K. Extension Agricultural Economist

UK Cooperative Extension and KDA have been pushing hard on training and certification for growers for standardized good agricultural practices. These standards include record keeping for farm sanitation, rodent control, worker sanitation, isolating non-compatible farm practices, and other practices that follow common sense. The issue for many, though, is why the record keeping? Why certify that these things are in place and practiced on the farm?

There are at least three good reasons.

Marketing quality assurance – Ready or not, the food sector is putting quality assurance controls throughout the supply chain. Although a relatively small number of food safety problems originate from the farm, supply chain leaders recognize that programs like Good Agricultural Practices (GAP) have to be implemented with careful record keeping through the entire supply chain – farms included. Buyers looking up the supply chain to those who they would select as preferred suppliers will look first to those individuals that have some credible measure of quality assurance. Most large scale farm operations already have third party certifications for HACCP and verified implementation of other quality assurance programs. Having this kind of certification even in a direct marketing setting, is becoming an increasingly important selling point.

Fragile industry reputation – It only takes one bad experience to negatively impact a whole supply chain. The recent scares with e-coli and spinach and listeria and bottled milk substantially shape consumer concern about product safety and, subsequently, entire demand for the product. Whole regions and producer groups are tied, typically, to quality assurance breakdowns. Again, many of the producers that focus on direct marketing may think they are exempt from being impacted. All it would take would be for one bad incident traced to a farmers market and it will impact them all. GAP doesn't provide 100% quality assurance. Nothing does. But the record keeping of good management practices being implemented helps reduce the overall frequency and risk of bad things happening.

Management awareness – Many farmers have a management plan in their own mind and may, indeed, be very conscientious. The advantage of having a formalized GAP management and record

keeping system in place, is that farmers are able to better connect their employees to the quality assurance plan. More practically, there is great value in formalizing something like this into a practical management plan. Great worksheets are available to track these practices. Busy farmers can benefit from taking a moment to check off when certain practices have been implemented and strengthen their own management system. Right now it's voluntary and easily implemented.

GAP training is being offered in many locations. County agents are gearing up to offer the training in collaboration with the Kentucky Department of Agriculture. Farmers that are involved in production and marketing where quality assurance is of the essence should not look at this as optional, for the reasons stated above. GAP just makes good marketing and management sense.

How Will Fruit Crop Diseases Respond to The Drought of 2007?

by John Hartman, U.K. Extension Plant Pathologist

Drought effects on diseases of perennial plants can be very dramatic. In the case of fruit crops, the drought has not only affected the pathogen but also the physiology of the host from one year to the next. Host plant condition affects its reaction to disease.

Most of us are familiar with wilting and leaf scorch symptoms associated with dry weather. This past year, leaves of drought-stressed plants closed their stomata which reduced their rate of photosynthesis. Reduction in photosynthesis may not kill a tree or shrub, but it means fewer carbohydrates are made and stored for future use. New plantings were at greatest risk, because they lacked extensive root systems.

With drought, there are some fungal diseases that often do not show symptoms until the following season, after the drought has passed. The role of water stress in encouraging opportunistic plant pathogens is unclear. It is possible that the stress condition interferes with the plant's defense against such pathogens, or possibly, the reduced carbohydrate reserves allows the plant little energy to fight invasion by pathogens.

Expect certain fungi such as Armillaria, which attacks many woody plants, to appear in 2008 because of the 2007 drought stress. In addition expect symptoms of diseases caused by other fungi such as Cytospora or Valsa, causes of cankers on prunus; and Botryosphaeria and Nectria cause of cankers of many woody plants such as rhododendrons, apples, dogwoods, maples, and others to appear the season following the dry weather.

In searching for water, some fruit crops could have sacrificed surface roots to the drought while relying more heavily on roots that were deeper in the soil. When the excessive rains return, partial flooding could render these deeper roots more prone to root rot diseases, thus leaving the plants with few functional roots. Thus, expect additional plant death when the drought breaks.

One possible benefit of the drought could be the reduction in foliar diseases. In the year 2008. There should be less carry-over inoculum from anthracnose diseases, apple scab, cherry leaf spot and powdery mildew, for example. The benefit could be short-lived, however if spring weather is wet and rapidly repeating cycles of these diseases occur. Looking ahead even farther, the rust infections of cedar that should have occurred, but didn't, during the dry 2007 summer might result in fewer cedar galls in the spring of 2009 and less rust on apples that same summer.

Blueberries and brambles are especially susceptible to fungal cankers, and grapes also can become cankered. Reduced fruit and foliar diseases such as grape black rot could also be expected for these crops, at first. Strawberries that were not watered probably died last summer from lack of water or from the black root rot complex which is usually more severe on drought-stressed crops. On the other hand, if they did survive, this season could bring a reduced threat from leaf spot and anthracnose diseases, at least at first.

Grape Mildews Developing Fungicide Resistance

by John Hartman, U.K. Extension Plant Pathologist

The fungi causing downy mildew and powdery mildew of grape are developing resistance to strobilurin fungicides according to a recent report in Plant Health Progress, one of the journals found in the on-line Plant Management Network (PMN). The research, reported by A. Baudoin, et. al., is entitled "QoI resistance of Plasmopara viticola and Erysiphe necator in the mid-Atlantic United States. As reported

here before, U.K. Extension Agents and Specialists have access to the PMN.

Downy mildew (Plasmopara viticola) and powdery mildew [Erysiphe (Uncinula) necator] commonly occur in Kentucky grapes. In the Midwest Commercial Small Fruit and Grape Spray Guide (U.K. Cooperative Extension publication ID-94), several fungicides are listed for management of these two diseases. Strobilurins (also known as QoI compounds) are among those fungicides that are labeled for both diseases. Four strobilurin fungicides are registered for use on grapes in Kentucky and all four have good activity against grape powdery mildew. For downy mildew, azoxystrobin (Abound) and pyraclostrobin (in combination with boscalid in the package mix Pristine) are considered to have good activity, whereas kresoxim-methyl (Sovran) and trifloxystrobin (Flint) are apparently less active. Strobilurin fungicides have been used in Kentucky almost a decade. The 2008 spray guide contains important notes on powdery mildew and downy mildew fungicide resistance.

The researchers reported on 2005 and 2006 pathogen collections made in Virginia, Maryland, Pennsylvania, and North Carolina vineyards. In one year, 75% of downy mildew isolates sampled were resistant to strobilurin fungicides and over 90% of powdery mildew collections were also resistant. The resistant pathogen strains were obtained from vineyards where strobilurin fungicides had been used an average of 2 - 3.4 times per year over several years. The label suggests no more than 4 applications per year. Where these fungicides were not used, these grape pathogens were still strobilurin-sensitive.

These results document that resistance of downy and powdery mildews to strobilurin fungicides is widespread in the mid-Atlantic states and suggest that fungicide resistance could be occurring in Kentucky as well. In light of this, some mildew disease fungicide management suggestions for Kentucky growers are presented here.

Check spray and disease records to determine if fungicide control failure is occurring. For chemical disease management, consider other fungicides to alternate with or substitute for strobilurin fungicides. Publication ID-94 lists 11 other fungicides for powdery mildew, in addition to strobilurins and 8 additional fungicides for downy mildew. Be aware that some of the alternative fungicides could develop resistance problems of their own.

Apply fungicides for powdery and downy mildews in a timely way. In addition to the fungicide application critical period between pre-bloom to 3-4 weeks after bloom, these two diseases still may require management through the rest of the growing season.

The Cicadas are Coming! - Brood XIV Emergence

by Ric Bessin and Lee Townsend, UK Extension Entomologists

Here are a few significant dates from a study of the emergence of this Periodical cicada brood back in 1991 at Robinson Forest by Dr. Paul Kaliz, UK Forestry Department. Emergence began on May 4 with wide spread activity by May 10. There was a 9-day difference between dates of peak emergence from upper south slopes and lower slopes. The last nymph was caught leaving the soil on May 31. The last adult was heard calling on June 16, apparently there was no answer.

In 1991 cicadas were found in 87 Kentucky counties. They are locally heaviest near wooded areas and established neighborhoods. Large numbers emerge for a 2 to 3 week period and populations can reach 350 per sq yard or 43,000 per large tree. Adults are active for 7 to 9 weeks, do not bite, sting or carry diseases. Egg laying on woody plants begins two weeks after singing. They do not care for evergreen shrubs or leafy non woody plants.

Smaller trees are the most susceptible to damage, so delaying new fruit plantings in areas where this insect was a problem in 1991 until 2009 is not a bad idea. Periodical cicadas lay eggs in mostly pencil diameter twigs, causing many of these to break and die. This makes it difficult to develop desirable limb structure in young trees. This injury also provides a site for woolly apple aphid development in 2009. The more serious damage is caused by the eggs that hatch, producing nymphs that feed on the tree roots for the next 17 years.

There are several control options. Small trees can be protected with netting (1/4” or less) when the first male singing is heard. Netting is removed when cicada activity ends. Since periodical cicadas do not feed on fruit crops stomach poisons do not work and contact insecticides must be relied on. Applications of pyrethroid insecticides (Ambush, Ammo, Asana, Bathroid, Brigade, Capture, Danitol, Pounce, Warrior) will provide some protection for commercial growers. These are restricted

use materials. These are not cleared on all of our fruit crops, so check the pesticide labels. Be aware that many of these will increase aphid and mite problems. Home fruit growers can use the carbaryl or Sevin insecticide. Sevin will also increase mite problems.

Delayed Dormant Spray for Diseases of Grapes, Blueberries and Brambles

by Chris Smigell, U.K. Hort Extension Associate and John Hartman, U.K. Extension Plant Pathologist

Application of liquid lime sulfur is an important and inexpensive way to manage many fungal diseases of grapes, blueberries and brambles. This chemical, or other similar materials are intended to be used while plants are still dormant or better yet, when they have just broken dormancy (delayed dormant). The fungicide works by suppressing overwintering fungal colonies and spores on twigs and bud scales. This important spray will reduce "primary inoculum, or the first spores released in the spring, that cause initial fungal infections on plant leaves and green shoots. By eliminating or minimizing these infections, secondary infections will be less of a problem. This spray is particularly important to help "clean up" or eradicate overwintering fungal colonies from a planting that had disease loss last year.

Liquid lime sulfur is best applied at bud swell (delayed dormant) but before leaves begin to emerge. The chemical will burn leaves if they are exposed at the time of application. Thus, if more than one-half inch of green tissue is showing in spring when it is applied, the emerging leaves may have burned edges. Application of liquid lime sulfur when the shoots have emerged much farther could place floral parts at risk. Furthermore, do not apply liquid lime-sulfur within 14 days (before or after) an oil spray to control scale or other insects, or when the temperature is above 75°F.

Some growers may have difficulty finding liquid lime sulfur. Sulforix (also used on mites and insects) is a suitable replacement. Both compounds have the same active ingredient, calcium polysulfide. Copper hydroxide formulations, e.g., Kocide 101, Kocide DF and Blueshield 50WP, can also be used as dormant sprays for brambles, blueberries and grapes. These copper-containing compounds may also have some effectiveness for managing foliar diseases.

Growers are urged to read the label for details of delayed dormant applications. Liquid lime sulfur, Kocide and Sulforix have "Danger" (not "Warning" or "Caution") on the labels. They will burn the eyes and skin. Kocide formulations also react with aluminum piping or containers, and care needs to be taken not to let overspray get on vehicles or buildings.

Listed here are some of the sulfur and copper dormant sprays available, and what diseases they are labeled to control. See the Midwest Commercial Small Fruit and Grape Spray Guide (ID-94) for other recommendations and application rates: (http://www.hort.purdue.edu/hort/ext/sfg/).

Liquid lime sulfur is labeled for use on:

- **Blueberry:** phomopsis cane and twig blight; with some activity against mummy berry.
- **Blackberry:** anthracnose, cane blight.
- **Red, black and purple raspberry:** anthracnose, cane blight, spur blight; with some activity against yellow rust and powdery mildew.
- **Grape:** anthracnose; may also have activity against phomopsis cane and leaf spot and powdery mildew

Sulforix is labeled for use on:

- Blueberry: Phomopsis cane and twig blight, mummy berry.
- Blackberry: anthracnose, cane blight.
- Red, black and purple raspberry: anthracnose, cane blight, spur blight; with some activity against yellow rust.
- Grape: powdery mildew.

Kocide 101 and Kocide DF can be effective as a dormant spray, especially for brambles. These copper-containing chemicals are also sometimes used as foliar and fruit sprays. They are labeled for use on:

- Blueberry: Phomopsis cane and twig blight, with some activity against fruit rot; Kocide 101 can be applied at bud swell and every 10-14 days afterward, until bloom.
- Blackberry: anthracnose, cane blight; with some activity against Septoria leaf spot.
- Red, black and purple raspberry: anthracnose, cane blight; some activity against yellow rust.
- Grape: Some activity against black rot, downy mildew, powdery mildew, and Phomopsis cane and leaf spot; see cautions on p.21 of U.K. Cooperative Extension Service publication ID-94 "Midwest Commercial Small Fruit and Grape Spray Guide 2008" when using Kocide or other copper-containing fungicides on grapes.

► **Strawberry:** some activity against angular (bacterial) leaf spot, leaf spot, leaf scorch, and leaf blight.

Delayed dormant sprays will be much more effective in the fruit planting if good sanitation is accomplished. Dormant pruning is an important practice to remove fungal primary inoculum. Pay special attention to remove any hanging, mummified fruit, dead wood, and branches or canes with cankers or other signs of infection. Remove these infected prunings from the planting and bury or burn them.

Update on the Status of Iodomethane in Kentucky

by Kenny Seebold, U.K. Extension Plant Pathologist

The U.S. Environmental Protection Agency granted approval to Arysta LifeScience for the use of iodomethane, also known as methyl iodide, for one year on strawberries, tomatoes, peppers, ornamentals, turf, trees, and vines. Arysta's product will be marketed as Midas 50:50 (50% iodomethane, 50% chloropicrin) or Midas 98:2 (98% iodomethane, 2% chloropicrin) and appears to be a relatively environmentally friendly replacement for methyl bromide.

Several producers and agents have asked about the potential for the use of Midas in Kentucky in 2008. I learned in a recent phone conversation with a representative of Arysta that Midas has been registered for use in 29 states, including Kentucky. The product is labeled for pre-plant fumigation on the previously mentioned crops only for the control of soilborne pests (insects, nematodes, pathogens, and weeds).

There are no distributors of Midas located in Kentucky at this time, so producers wishing to use this material will have to purchase it from an out-of-state dealer. According to Arysta, the nearest distributor for Kentucky is Reddick Fumigants (www.reddickfumigants.com), Williamstown NC. Contact Reddick at (252) 792-4615 for more information on pricing and availability of Midas. I don't have a firm idea of the cost of this product, but am certain that it will be a relatively expensive option for many growers in Kentucky. The fumigant will be packaged in bulk (cylinders); small-sized containers will not be available. Costs of material, shipping, and equipment needed to apply Midas may only be affordable to large-scale producers of higher-value crops.

It is important to understand that, while an effective fumigant, iodomethane is a dangerous, potentially lethal material if applied incorrectly. Because of potential hazards to humans and animals, Midas is a restricted use pesticide and can be used only by state-certified applicators. Additional certification from Arysta, in the form of an online course, will be required in order to purchase and use Midas. Following successful completion of the course and an examination, a downloadable certificate will be awarded that must be presented to the dealer prior to the sale of Midas. Contact the KY Department of Agriculture's Division of Environmental Services (pesticide regulation) for more information.

New Publications

Bushway, Loei, M. Pritts and D. Handley, Editors, 2007. Raspberry & Blackberry Production Guide for the Northeast, Midwest and Eastern Canada. Natural Resource, Agriculture and Engineering Service. (NRAES- 35) 156 p. To order contact NRAES, Cooperative Extension, P.O. Box 4557, Ithaca, New York 14852. Phone: 607-255-7654; e-mail: NRAES@cornell.edu ; web site: www.nraes.org The list price is expected to be $37. This is an excellent publication and covers raspberry and blackberry production in great detail and will be first available in March. It has 14 chapters and 134 color photos.

CoCoRaHS Comes to Kentucky

by Tom Priddy, U.K. Extension Agricultural Meteorologist (859) 257-3000 x245)

CoCoRaHS is an acronym for the Community Collaborative Rain, Hail and Snow Network. CoCoRaHS is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). By using low-cost measurement tools, stressing training and education and using an interactive Web site, CoCoRaHS' aim is to provide Kentucky and your county with the highest quality data for natural resource, education and research applications. Anyone can volunteer and participate. Volunteers record precipitation results in a database online.

The cost of the rain gage is $22.00 dollars plus shipping and handling. The database generates, organizes and displays reports for anyone to apply to daily situations ranging from water resource analysis and severe storm warnings. Every Kentucky county will have a precipitation map with daily updates. Having a network of volunteers will capture a true precipitation picture across Kentucky that can be very important, especially in drought years where every little bit of moisture matters. CoCoRaHS will provide the National Weather Service with high resolution rainfall data that will be used to provide more accurate flood and flash flood warnings. Kentucky CoCoRaHS is a collaboration of the UK College of Agriculture, Kentucky Climate Center at Western Kentucky University, Kentucky's National Weather Service offices and Kentucky Farm Service Agency.

For more information or to become a CoCoRaHS observer visit the web site at http://www.cocorahs.org

Minimizing Disappointing Bottle-to-Bottle Variations in Wine!

by Tom Cottrell, U.K. Extension Enologist

Recently we have been running some taste panels on wines made at the Horticultural Research Farm in Lexington. In order to train our 28 panelists we purchased a number of Kentucky wines.

Finding a commercial wine good enough to use as a varietal example was difficult: 3 wines out of a group of 14 were acceptable, initially. One of the 3 wines, on opening a second bottle, slipped from "Excellent" to "Acceptable". The third bottle of that wine was, unfortunately "Unacceptable" for having excruciatingly high free SO_2!

This is not the first time this error has shown up in Kentucky, or the rest of the country for that matter. Similar errors have occurred, giving us sweet wines that should be nearly dry, or dry wines that should be sweet, and other odd problems.

Buyers of your wines will see little humor in these oddities, and will very likely shy away from buying your wine again. Since I feel my job is "to help Kentucky wineries make consistently good wines", I am passing on the following solutions to you.

The steps to take to avoid these peculiarities are simple. Take whatever action is necessary to guarantee the batch of wine is uniform.

First Scenario: One tank is the whole batch to be bottled:

Rack the wine to a different container.
OR
Stir the wine with a paddle, or a propeller or with a "Guth mixer.
OR
Stir the wine by "rolling" it with an inert gas.

If possible, bottle the entire contents of the tank in one day, or on consecutive days.

If you are going to bottle a wine using the same label on several different occasions you need to be sure that the separate lots are as identical as you can make them.

Holding a back portion of the batch in a separate tank practically guarantees noticeable differences in taste between the first and subsequent bottlings.

Second Scenario: The batch to be bottled is comprised of two or more containers of wine:

The best thing to do would be to consolidate the wine into one tank. If that is not possible: For wine lots that come from one fermentation all stabilities may be established, all sugar, free SO_2 and other additions may be made to the starting containers. Then equivalent batches can be made by pumping from the first container to two or three others by using tees to split the flow to the final blend tanks. Then pump the second container though the same set-up, etc.

If the wine lots come from separate fermentations, the blend process should be done first, and all stabilities should be established, all sugar, free SO_2 and other additions should be made to the temporary blend containers. To really assure uniformity, a re-mix or a re-blend must be done. In either case, the splitting of the wine batches may be done down stream from a filtration step.

To re-cap: Make sure wine is mixed up before bottling. You don't want your customers to feel mixed up afterwards.

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