

Ohio Fruit ICM News

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Apr. 19 Commercial Fruit Grower Meeting, Bennett's Orchard, Buffalo, KY 42716.
Registration begins at 10:00. For more information contact John Strang 859-257-5685;
e-mail: jstrang@uky.edu

Apr. 22, Kentucky Nut Growers' Association Spring Meeting, Elizabethtown
Extension office, Elizabethtown. Contact: Kirk Pomper 502-597-5942, e-mail:
kpomper@dcr.net

June 11-17, International Fruit Tree Association Summer Orchard Tour to Mexico
www.ifta.org.

Aug. 1 UK Horticultural Research Farm Twilight Tour, Horticultural Research Farm,
Lexington, KY. Contact John Strang 859-257-5685; e-mail: jstrang@uky.edu

Aug. 30-Sept.1 North American Fruit, Explorers (NAFEX) and SFF Annual Meeting,
Holiday Inn North, Lexington, KY. Contact John Strang 859-257-5685; e-mail:
jstrang@uky.edu

Jan. 8-9 Kentucky Fruit and Vegetable Conference and Trade Show, Holiday Inn
North, Lexington, KY. Contact John Strang 859-257-5685; e-mail jstrang@uky.edu

Comments from the Editor

Despite the onset of some cold, windy weather Spring has finally arrived. It looks like we will be in bloom in our ornamental crabapple trial next week if the weather pattern holds as predicted. We are at pink already in some varieties. Our other chores are progressing well here at the South Centers. The crew has worked hard and completed our pruning and got lime sulfur sprays applied. Two more nights of applying and removing row cover in our high tunnel strawberries and that will hold us for the next 15 days. There are a few reports of plasticulture strawberries with some bloom in southern Ohio and we will remove our row cover here at Piketon before the weekend.

I still haven't heard from anyone willing to send me updates on the status of your crop development so that project is on hold.

Urea for Scab Inoculum Reduction in Problem Orchards? by Dave Rosenberger, Plant Pathology, Highland (source: SCAFFOLDS Fruit Journal, Geneva, NY Volume 15, No. 3)

A year ago I suggested that growers who experienced apple scab control failures in 2004 should consider inoculum-reduction strategies prior to the 2005 spray season. (See Scaffolds 14(1):3-5 or <http://www.nysaes.cornell.edu/ent/scaffolds/2005/050321.html#disease>). Many fruit growers from within New York State as well as from other states told me during winter meetings that they had applied urea sprays prior to the 2005 season. Most felt that it really helped them to regain control of apple scab, but it is always difficult to determine if improved control resulted from their inoculum reduction practices or from other changes in weather and/or spray programs in 2005.

Some growers who successfully utilized urea sprays in spring of 2005 have asked if they should repeat the urea applications again in spring of 2006. The answer is that inoculum reduction practices are of no value in orchards that were scab-free the previous season. Thus, inoculum reduction treatments for apple scab are somewhat similar to getting medical care at an emergency room: They are last-resort options that are chosen only under dire circumstances and when immediate correction/attention is needed.

Where scab was severe in 2004 but was controlled in 2005, growers should be able to resume spray programs typically used in low-inoculum orchards. If the scab failure in 2004 was triggered by SI-resistant scab, then control programs for 2006 and beyond will always need to be more conservative than in orchards where SI fungicides are still working. Nevertheless, the biggest hurdle following a scab control failure is reestablishment of low-inoculum conditions. Once that task has been accomplished, maintaining scab control is much easier than in high-inoculum orchards.

For orchards with SI-resistant apple scab, the most critical factor in achieving good scab control is ensuring that the first fungicide is applied BEFORE the first scab infection

period. Copper applied for fire blight control will suffice as the first fungicide, or a mancozeb spray at 1 lb/100 gal will provide good protection against green tip sprays. So long as early-season scab infections are prevented, major economic losses are unlikely in low-inoculum orchards.

For orchards where scab was noticeable at harvest in 2005, growers may wish to consider the options for scab inoculum reduction that we outlined in the Scaffolds article last year: Overwintering scab inoculum can be significantly reduced either by applying a urea spray sometime before green-tip or by shredding leaf litter with a flail mower. Urea works by stimulating microbial breakdown of overwintering leaves and by softening leaves so that they can be removed more quickly by earthworms that feed on the leaf litter. Urea may also directly suppress ascospore formation in the surviving leaf litter. Shredding leaf litter with a flail mower causes leaves to decay more quickly and also reorients much of the leaf litter so that ascospores released from those reoriented leaf pieces will discharge into the ground rather than into the air. In a study in New Hampshire, either of these sanitation measures (spring urea sprays or flail chopping leaves in spring) could reduce ascospore production by 70-80%.

When using urea for inoculum reduction, treat each acre of orchard with 40 lb of urea fertilizer dissolved in 100 gallons of water. Applications can be made either with air blast sprayers that have the upper nozzles turned off or with boom sprayers rigged to spray both the sodded row middles and the areas beneath the trees. The portion of the urea spray that falls within the herbicide strip beneath the tree canopy (or inside the drip-line) will ultimately contribute to nitrogen fertilization of the trees whereas the portion of the spray that is applied to the sodded row middles will be utilized primarily by the ground cover. Nitrogen fertilizer rates should be adjusted accordingly for orchards where urea applications are used for scab control.

Effective leaf shredding can be accomplished only with a flail mower that is set low enough to contact leaf litter on the orchard floor. If the flail mower cannot be offset to reach most of area beneath trees, then leaf litter beneath trees should be blown or raked into the sodded row middles where it can be accessed with the flail mower. Mechanical brush rakes can remove leaf litter from beneath trees if the orchard has a relatively clean herbicide strip. Flail mowers used to chop prunings should shred leaf litter at the same time if the flails are adjusted to cut low enough. However, low mowing in early spring can remove most of the overwintering sod cover, thereby increasing potential problems with mud and equipment traction at the time when early sprays will need to be applied.

Sanitation measures applied to high-inoculum orchards will provide the following benefits:

1. Reducing inoculum reduces risks of getting green tip infections. These early infections begin sporulating as trees approach bloom, just at the time that terminal leaves and fruitlets are approaching peak susceptibility to scab. Only a small proportion of ascospores are usually mature enough for release at green tip, but that small proportion can still be a huge number in high-inoculum orchards. High-inoculum orchards subjected to urea sprays or leaf shredding will behave more like "normal" orchards vis-à-vis risks

of green-tip scab infections.

2. Protectant fungicides such as mancozeb and captan work better in low-inoculum than in high-inoculum orchards, especially if foul weather prevents perfect spray timing.
3. Reducing inoculum reduces selection pressure for resistance to the strobilurin fungicides (Sovran, Flint) and the anilinopyrimidine fungicides (Vangard, Scala) if those fungicides are used during the prebloom period.

Using a urea spray or leaf shredding prior to bud break will not eliminate the need for protectant sprays beginning at green tip. Sanitation measures that reduce overwintering inoculum levels are therefore a supplement to, not a replacement for, effective spray programs during the prebloom period.

Water, Water Everywhere... (Source: Shari L. Plimpton, Ph.D., Food Safety Educator - Ohio and Indiana Specialty Crop Food Safety Initiative)

Water suitable for agricultural uses seems to be hard to come by these days if you read all of the reports out there about water quality for fresh fruits and vegetables. We emphasize water's importance for fresh produce food safety through the GAP (Good Agricultural Practices) program across the country, yet we (those of us who are trying to be helpful) still seem to be generating as much confusion as we are solutions. So in this article I hope to address some of the questions I am hearing with some new information and a little perspective.

In January of this year, at the Ohio Fruit and Vegetable Grower's Congress, we featured Dr. Trevor Suslow, Extension Research Specialist from UC Davis to speak on the topic of Water Quality and Fresh Produce Safety. Those who were able to attend heard him report on research findings that demonstrated both bacterial survival and increasing bacterial numbers at refrigerated temperatures for certain strains of infectious organisms. Clearly, this news underscores the importance of the goal of preventing microbial contamination, since our best efforts to control microbial contamination (washing and refrigeration) are not foolproof (although both are still necessary).

Recommendations published by Dr. Suslow and other researchers, and the continued reporting of foodborne illness are driving large-scale growers to adopt water quality practices that are even more diligent than those we have recommended in the GAPs program. Growers with known contamination issues are testing their water sources for fecal coliform bacteria and E. coli at least twice a month if from open sources and monthly if from closed wells. Dr. Suslow is recommending that growers who have not identified a microbial contamination issue test just as frequently for at least a year before reducing the frequency to once a year for enclosed wells and at least 3 times a season (Midwest) for open water sources.

Treatment of water to be used for agricultural purposes (irrigation, spray) is an important precaution if you hit the action threshold of 1000 fecal coliform bacteria per 100 ml and/or 126 E. coli bacteria per 100 ml. Prior to employing your treatment options, re-test for whatever microorganisms are indicated. If you are testing a well, inspect and make

sure there are no opportunities for surface water to breach the well. Shocking the well with chlorine should address the problem. Retest. With an open water source, it would be necessary to add a filtration system to the water pulling from the source and follow that with an automatic chlorination system, so you can chlorinate the water for sensitive applications. Again, retest.

Using potable water is necessary in the packinghouse to avoid introducing a microbial contamination problem that did not exist coming out of the field or orchard. Since washing does not eliminate microorganisms, the goal in the packinghouse is simply to keep the water clean enough not to cause or increase microbial contamination. Repeatedly, research is showing that the most reliable method for accomplishing this is a chlorination system that is closely monitored maintaining free chlorine levels of 150 to 200 ppm.

Monitoring the free chlorine level and pH of the water on a continuous basis is simply an essential part of the process. Measuring chlorine alone gives you only half of the picture: a half that may mislead you regarding the effectiveness of the sanitation of your water. If the pH is within 6.8 to 7.2, the level of free chlorine that is in the most effective form (hypochlorous acid) is at its highest. Most of our water sources tend to run basic, so acetic acid can be used to bring the pH into range.

And why am I writing about chlorine so much and not other sanitation methods? Because, current research is not showing any other methods to be as effective for the treatment of water under agricultural conditions as is chlorination. If you are using copper ionization, please know that high levels of organic material can render it ineffective. Researchers are recommending that you supplement a copper ionization system with chlorination to improve disinfection of the water, particularly in packinghouse operations. If you are considering purchasing a copper ionization system ask the dealer to demonstrate its effectiveness in agricultural applications. A system should be able to effectively result in a five-fold reduction of fecal coliform and particularly E. coli. Ultimately, the goal is to minimize the risk and recognize the potential impact of the decisions you make regarding how to manage your water sources.

For more information and links to research articles on this and related topics visit www.midamservices.org and select "Projects" from the left navigation. For free Good Agricultural Practices materials, presentations and food safety consultations contact us on the web site listed above or call Mid American Ag and Hort Services at 624-246-8286 or maahs@ofbf.org. You may also subscribe to a free e-newsletter by going to the web site above and clicking on the "Free Email Mailing List" button. These services are available for Ohio and Indiana producers through the Ohio & Indiana Specialty Crop Food Safety Initiative funded by the United States Department of Agriculture's Risk Management Agency.

Azinphos Methyl (Guthion®) Update (source James R. Cranney, Jr., USApple)

The U.S. Apple Association (USApple) met March 23 with the U.S. Environmental Protection Agency's (EPA) Special Review and Reregistration Division Director Debbie Edwards and her staff to discuss options to maintain use of azinphos methyl (Guthion®). Attending the meeting were USApple trustee Phil Glaize, Knouse Food's Mervyn D'Souza, Michigan State University's Larry Gut, the Northwest Horticultural Council's Mike Willett, and the U.S. Department of Agriculture's (USDA) Al Jennings.

USApple stressed the need to maintain the apple use, and meeting participants made several points about the conservative nature of the assessment, the inability of processors to accept worm damaged apples, shortcomings of alternative pesticides and potential export related problems that could result from cancellation of the apple use.

Meanwhile, USApple plans to continue making its case for continued use of azinphos methyl with EPA's Office of Pesticide Programs Director Jim Jones and Assistant Administrator Suzy Hazen. Additional meetings are also planned with EPA staff to clarify risk and mitigation issues.

Additionally, USApple has briefed House and Senate Agriculture Committee staff on the need to maintain use of azinphos methyl. EPA briefed the Senate staff on Wednesday on the status of azinphos methyl. USApple is presently working with House and Senate staff to organize a "dear colleague" letter to Administrator Johnson on the azinphos methyl issue.

An ethical review panel will decide within the first two weeks in April whether to allow EPA to use human data submitted in support of azinphos methyl by Bayer CropScience. The human data will be used to evaluate farm worker risks if the panel allows use of the data. However, if the human data are disallowed, it will be difficult to overcome EPA's farm worker concerns, and prospects for maintaining the use would be bleak. We will know that outcome within the first two weeks of April.

EPA is poised to make preliminary decisions on the farm worker and ecological risks on April 26. While EPA is expected to accept comments on its preliminary decision after the April 26 decision, it will be difficult to reorient the agency's thinking if the initial decision is unfavorable.

USApple remains optimistic that the combined effect of high benefits, conservative risk assessment and willingness to mitigate will result in continued availability of this important tool for apple growers.

Please contact James R. Cranney, Jr at (800) 781-4443 or via e-mail at jcranney@usapple.org if you have questions or need additional information.

Advertise Your Fruit Accurately by Matt Ernst, U.K. Agricultural Economics Extension Associate (source: Kentucky Fruit Facts, Feb/March 2006 <http://www.ca.uky.edu/fruitfacts/>)

We all know that eating a diet filled with fresh fruits and vegetables is good for you. But a Food and Drug Administration (FDA) action last year demonstrates that fruit marketers must take care when telling their customers just how good produce may be.

Last October, the FDA issued warning letters to 29 companies marketing dried cherries and cherry products. The letters concerned labeling and promotional violations for health claims advertised on cherry products. The companies cited represented a virtual “Who’s Who” of the value-added cherry industry. They included Eden Foods, Traverse Bay Farms, Payson Fruit Growers, and Chukar Cherries. The warning letters are available for viewing on the FDA website.

The letter to Chukar Cherries, a Washington company that has been profiled in UK’s ag entrepreneurship case study series, shows the kind of claims that the FDA found unacceptable: “Cherries prevent cancer growth, relieve arthritis and gout pain ...” “Cherries May Help Fight Diabetes. Cherries may one day be part of diabetes treatment. The sweet and tart versions of the fruit contain chemicals that boost insulin, which helps control blood sugar levels.” “Cherries may well be an effective remedy for many gout sufferers!”

Most of the producers were cited for claims such as these. According to FDA, these claims make a product fall into the category of a drug. USA TODAY reported that this action surprised many in the cherry industry because the claims used ambivalent terms like “may” and “could”.

This action would obviously impact companies that had printed such health claims on product packaging, for changing packaging is an expensive process. All the companies cited were sellers of dried cherries, candy, and other cherry products. So how is a grower to get the word out about possible health benefits for their produce? Here are three strategies to consider.

1. Only put it in writing if you’re sure that you can put it in writing.

We all know that “get it in writing” is a rule for making final business deals. But putting health claims for your crops in writing—or on your website—may take you into murky territory. If you’re in doubt about whether you can legally say what you want to say, keep your claims to word of mouth. “We can still talk about it and we hear from people it works,” said one cherry exec quoted in the AP wire story about these letters. “Word of mouth is more important than any website.” And remember: if you’re launching a value added product, it never hurts to have a qualified industry consultant and/or attorney review your packaging and advertising. Never cut these costs upfront—changing a packaging design is too expensive, and an experienced eye that you pay upfront could save you a bundle in the long run.

2. Point people to third-party sources

Industry groups for most crops provide plenty of educational resources about health benefits of different crops. Make this educational material available to your customers, rather than risking putting health claims on your website, packaging, or farm advertising. Not only does it protect you from possibly making an illegal claim about your fruit, it saves you the extra work of making your own promotional materials. The Department of Agricultural Economics maintains a Horticulture and New Crops Marketing website (www.uky.edu/ag/hortbiz). It includes an extensive listing of over 40 fruit and vegetable industry groups. Many of these groups provide health information that can be downloaded from their website, or brochures available at very reasonable prices. You can link directly to this list at: [Horticulture and New Crops Marketing - Industry Groups \(by crop\)](#). Industry sources like www.thepacker.com can also keep you apprised of emerging research and general nutritional education campaigns related to produce. Another source of general nutritional information is the USDA's website MyPyramid.gov - [United States Department of Agriculture - Home](#).

3. Let your fruit sell itself. Truth is, the people who are going to show up at your farm because they believe that your fruit will “cure all” probably already have that idea before they arrive. The beauty of Kentucky fresh fruit and fruit products is that they are already delicious. Any health benefits are likely just a bonus to a product people are already demanding. Let your fruit sell itself by providing the highest quality, safest produce possible. Then your customers can reap all the rewards of eating your crops, including health benefits.

(This article is not intended to provide or replace legal advice).

Growing Degree Days across Ohio - Data through April 3 from OSU Phenology Garden Network (not all locations) [OSU Phenology Garden Network](#)

| | |
|-------------------------------|-----|
| OSU South Centers Piketon | 152 |
| Athens | 137 |
| Chillicothe | 133 |
| Marietta | 129 |
| Wilmington | 105 |
| Washington Court House | 99 |
| Columbus | 94 |
| Newark | 91 |
| Coshocton | 89 |
| Delaware | 88 |
| Wooster | 86 |
| Canton, Mansfield | 85 |
| Mt. Sterling, Xenia | 84 |
| Canfield | 79 |
| Stow | 77 |
| Cortland | 74 |
| Norwalk, Shinrock, Willoughby | 73 |

| | |
|------------|----|
| Kingsville | 69 |
| Toledo | 65 |
| Findlay | 64 |

Coming Events -Art Agnello SCAFFOLDS Fruit Journal, Geneva, NY Volume 15, No. 3

| | | |
|--|------------------------------|--------|
| | 43F | 50F |
| Current DD accumulations (Geneva 1/1-4/3): | 120 | 40 |
| (Geneva 1/1-4/3/2005): | 41 | 10 |
| (Geneva "Normal"): | 86 | 37 |
| | Ranges (Normal +/- Std Dev): | |
| Green apple aphids present | 111-265 | 38-134 |
| Rosy apple aphid nymphs present | 134-244 | 56-116 |
| Pear thrips in pear buds | 118-214 | 50-98 |
| Spotted tentiform leafminer 1st catch | 112-236 | 39-113 |
| McIntosh at green tip | 93-145 | 36-62 |

Preliminary Monthly Climatologic Data for Selected Ohio Locations - March 2006

| | March | | Average Temperatures | | | |
|--------------------|---------|--------|----------------------|------|---------|--------|
| | Precip. | Normal | High | Low | Monthly | Normal |
| Akron- | | | | | | |
| Canton | 2.22 | 3.15 | | | 36.7 | 37.7 |
| Cincinnati | 6.92 | 3.90 | | | 42.4 | 43.9 |
| Cleveland | 1.54 | 2.94 | | | 37.6 | 37.5 |
| Columbus | 2.89 | 3.75 | 49.4 | 31.8 | 40.9 | 40.8 |
| Dayton | 3.71 | 3.31 | | | 39.3 | 40.2 |
| Kingsville | 2.13 | 2.43 | 43.4 | 28.7 | 36.0 | 34.9 |
| Mansfield | 3.21 | 3.36 | | | 36.4 | 36.7 |
| Miami Univ. | 4.60 | 3.10 | 51.1 | 32.2 | 41.4 | 41.2 |
| Piketon | 2.93 | 4.53 | 52.4 | 30.9 | 42.1 | 41.9 |
| Toledo | 2.48 | 2.62 | | | 37.7 | 37.2 |
| Wooster | 1.99 | 3.45 | 47.3 | 28.8 | 38.1 | 37.6 |
| Youngstown | 1.71 | 3.05 | | | 37.0 | 36.7 |

This data is from several sources including OARDC, NOAA, and local records. Temperature is Fahrenheit and precipitation is in inches. GDD (growing degree days) modified sine wave method. Form more information on the calculation of GDD check this site < <http://www.oardc.ohio-state.edu/gdd/glossary.htm> >

NOTE: Disclaimer - This publication may contain pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registrations, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author and Ohio State University Extension assume no liability resulting from the use of these recommendations.

Ohio Poison Control Number

(800) 222-1222
TDD # is (614) 228-2272