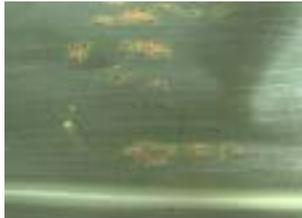


## ***Illinois Fruit and Vegetable News***

Vol. 10, No. 5, April 7, 2004

*a newsletter for commercial growers of fruit and vegetable crops*



*"We are what we repeatedly do. Excellence, then, is not an act, but a habit." Aristotle*

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editor, Rick Weinzierl, 217-333-6651, [weinzierl@uiuc.edu](mailto:weinzierl@uiuc.edu). The *Illinois Fruit and Vegetable News* is available on the web at: <http://www.ipm.uiuc.edu/ifvn/index.html>. To receive email notification of new postings of this newsletter, call or write Rick Weinzierl at the number or address above.

*This issue's words of wisdom ... which usually means the jokes ... are at the end of newsletter ... check the last page.*

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**Crop and Regional Reports** (from Elizabeth Wahle and Maurice Ogutu)

**Notes from Chris Doll** (fruit crop development updates)

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**Fruit Production and Pest Management** (Fruit Diseases – fire blight, apple scab, and anthracnose of brambles; new fungicide registrations; brief notes on fruit insects)

**Vegetable Production and Pest Management** (Brief notes on spring insect pests)

**University of Illinois Extension Specialists in Fruit & Vegetable Production & Pest Management**

### ***Crop and Regional Reports***

**In the south and southwest**, growers continue to hold their breath through these final nights of near freezing temperatures. Peaches in the far southern region are in the popcorn stage all the way through full bloom. Red and Golden Delicious apples are showing pink, and plasticulture strawberry harvest is predicted to start at the end of April. Weather forecasters predict the 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> to have overnight lows hovering at or below freezing throughout most of the southern region. If all goes well in the event of any freezing temperatures, it is hoped that Mother Nature will provide only a little free thinning to the peaches, and nothing more.

Looking to the future, a day of peach orchard tours has been scheduled in Southern Illinois on May 14<sup>th</sup>. This is a joint meeting for Illinois and Missouri growers and is sponsored by University of Illinois Extension, University of Missouri Extension, and Southwest Missouri State University. Growers from Illinois, Missouri, and surrounding states are invited to meet in Illinois to tour Grammer's Orchard, Rendleman Orchards, and Flamm Orchards. The registration fee for the tour is \$5.00, and pre-registration by May 7<sup>th</sup> is requested to provide an accurate lunch count. (A registration form is provided with this issue for those who receive the newsletter by US Mail; for those who read it on the web, click on the link at end of this paragraph.) The tour will begin at Grammer's Orchard at 9:00am. Grammer's is located approximately 5 miles south of

Murphysboro on IL-127. Turn east on Grammer Road and go approximately 2 miles, then turn right onto Dutch Ridge Road. Grammer's is located just left of Dutch Ridge Road on Peach Road (144 Peach Road, Carbondale). The group will spend approximately 1 hour at Grammer's before traveling to Rendleman Orchards. Rendleman's is approximately 11 miles south of Murphysboro on IL-127 (9680 State Route 127 N, Alto Pass). The tour at Rendleman's will begin at 10:30 a.m. and move to Flamm's where lunch will be provided at noon. Flamm's is north of Cobden on Old Highway 51 (8760 Old Highway 51 N, Cobden). The group will finish the day by touring Flamm Orchards, beginning at 1:00. Elizabeth Wahle (618-692-9434) is the contact for the tour schedule. The event is posted at <http://web.extension.uiuc.edu/regions/hort> and <http://mtngrv.smsu.edu/calendar.htm>

The date and location has also been set for the Illinois State Horticulture Society Summer Orchard Day. Eckert's Country Store and Farms in Belleville will be our host this year on June 17.

**In northern Illinois**, low temperatures have been in the upper 20s to mid 30s, and highs have ranged from the upper 40s to low 60s during the first few days of April. This was preceded by wide fluctuations in night and day temperatures during the last 2 weeks of March, when lows on the coldest days got down to the upper teens and highs on the warmest days reached into the 70s. Only trace amounts of rainfall have been recorded this month (from beginning of April); totals during the last 2 weeks of March ranged from 1 to 2 inches, and on average the area has received about 6 inches of precipitation since the beginning of the year.

Pruning and training of non-bearing fruit trees is still going on in some orchards. Peach bud development is at green tip to swollen bud, apple development at dormant to silver tip stage, pear development is at swollen bud stage, and grapes are still dormant. Dormant oil and fire blight spray programs are going on in most orchards, as are fertilizer and herbicide applications. Asparagus spears beginning to emerge. Growers with greenhouses have started vegetable seedlings for transplanting in May. Although it has not rained since the beginning of the month, soil moisture is still high, limiting most field operations.

*Maurice Ogutu (708-352-0109; [ogutu@uiuc.edu](mailto:ogutu@uiuc.edu))*

### ***Notes from Chris Doll***

A beautiful peach bloom is ongoing in this area. Varieties such as Loring are moving past full bloom, and later bloomers are at peak. Mid-70 temperatures on the 6th and 7th will push everything through ahead of the cool to cold temperatures forecast for the Easter weekend. Today's phenology is 2 to 4 days later than 2003.

Apple buds range from cluster separation to early pink. A good bloom is expected except for trees that were overloaded or drought stressed last year. Only a few days have been ideal for early sprays. I just read in the Penn State Fruit Times that 2% oil in late dormant is not sufficient to get all San Jose scale and that was evident in a Missouri orchard last week, as survivors were visible. Enough rain fell last week to begin the scab development and a few calls came in inquiring about fire blight potentials for 2004. We all miss Dr. Steve Ries and his forecasts on this disease and his famous quote "it depends."

Early April means that there should be time to complete planting, fertilizing, and weed control programs.

***Chris Doll***

### ***Upcoming Programs, Opportunities***

#### ***Spring Viticulture Workshops ... Oakford on April 16 and Galena April 17***

The first of three Spring Viticulture Workshops was held April 3 in Carbondale, and two more are scheduled for April 16 (near Oakford in west-central Illinois) and April 17 near Galena in the northwest. Each day's event begins at 8:00 a.m. with registration and coffee, and the first presentation starts at 8:25; programs end around 4:00 p.m.

Keith Striegler, viticulture specialist and Associate Director of Viticulture at the Mid-America Viticulture and Enology Center (Southwest Missouri State University, Mountain Grove, MO) is a featured speaker at these programs. He'll talk about mechanization, mineral nutrition, training, and pruning. In addition, Peter Hemstead, viticulturist at the University of Minnesota, will be present at the meeting in Galena to lead a panel discussion on the variety Frontenac. IGGVA leaders will be present at both meetings to discuss issues critical to the industry.

Pre-registration is requested for these programs; the preregistration fee is \$22.00. For additional information or to register, contact Dr. Dianna Reusch in the SIUC Division of Continuing Education at (618) 536-7751 or <http://www.dce.siu.edu>.

### ***Illinois-Missouri Peach Orchard Tour, May 14***

Repeating a few key points from Elizabeth Wahle's southern Illinois update above ... a day of peach orchard tours has been scheduled in Southern Illinois on May 14<sup>th</sup>. This is a joint meeting for Illinois and Missouri growers and is sponsored by University of Illinois Extension, University of Missouri Extension, and Southwest Missouri State University. Growers from Illinois, Missouri, and surrounding states are invited to meet in Illinois to tour Grammer's Orchard, Rendleman Orchards, and Flamm Orchards. See the text above and contact Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu)) for more details or to register. The registration form is posted at <http://web.extension.uiuc.edu/regions/hort> and <http://mtngrv.smsu.edu/calendar.htm>

### ***Summer Orchard Day / Summer Horticulture Day, June 17***

The Illinois State Horticulture Society Summer Orchard Day (now more broadly the Illinois Summer Horticulture Day) will be held at Eckert's Country Store and Farms in Belleville on June 17. More details will follow in subsequent issues of this newsletter.

### ***International Dwarf Fruit Tree Association Summer Tour, June 20-22***

The IDFTA summer orchard tour will take place in Wisconsin and Minnesota this year; the dates are June 20-22. The tour will be headquartered in LaCrosse, WI – not all that far from Illinois. More details will be provided in this newsletter as the dates approach. If you need more information right away, contact Teryl Roper at the University of Wisconsin ([trroper@wisc.edu](mailto:trroper@wisc.edu)).

### ***17<sup>th</sup> International Pepper Conference***

November 14-16, 2004, at the Naples Beach Hotel and Golf Club ... just for those of you who are planning ahead for a winter trip to the south. For more information, check the conference web site at:

<http://conference.ifas.ufl.edu/pepper>

or contact Ms. Beth Miller-Tipton at:

PHONE: 1-352-392-5930 / FAX 1-352-392-9734 .

## ***Degree-Day Accumulations and Projections***

### ***Introducing the Degree-Day Calculator***

Degree-days are used in measuring and predicting insect development and occurrence. Determining when an insect pest will appear is often a difficult task because insect development may vary slightly year by year. Using average calendar dates alone, scouting or treating for an insect may begin too early, resulting in wasted time, or too late, resulting in uncontrolled crop injury.

The Degree-Day Calculator (<http://www.ipm.uiuc.edu/degreedays/>) is a new addition to the growing list of management and information tools that can be accessed through the University of Illinois IPM website. The Degree-Day Calculator provides users with the ability to determine degree-day accumulations for specific pests of fruits, vegetables, and field crops in Illinois. It is designed to help the user determine when to monitor for specific insect stages that may be approaching and aid in management decisions. The development of this project was a joint effort between the Department of Crops Sciences at the University of Illinois and the Illinois State Water Survey.

Degree-days reflect insect growth and development in response to daily temperatures, and they can be measured and added over a period of time to estimate growth and predict insect development. Degree-days are the accumulation of heat units above a minimum threshold temperature for a 24-hour time period. The minimum or lower threshold is different for different insects. One degree day results when the average temperature for a day is one degree over the minimum threshold. The accumulation of degree-days usually begins with either an arbitrary starting point such as a calendar date (many models use

January 1 or March 1) or a biofix (a biological event such as the first adult capture or sustained moth capture in a trap).

Across 19 weather sites in Illinois, data is collected to calculate degree-days for 30 insect pests as well as degree-day totals for corn and cold weather crops. One- and two-week degree-day projections are available, based on historical weather data at each site. Maps of degree-day totals and projections can also be done on the site. At each site, degree-day information is collected and computed through the day, just prior to the day the user accesses the system. In general, all data will be updated and available by 4:00 a.m., seven days a week. The Degree-Day Calculator is available through the IPM website (<http://www.ipm.uiuc.edu/degreedays>) and the Illinois State Water Survey (<http://www.sws.uiuc.edu/warm/agdata.asp>).

The following is an explanation of how to navigate through the website (from the *Pest Management & Crop Development Bulletin, Issue 1, 2004*). If you access the Degree-Day Calculator through the IPM Web site, you first will encounter a page that explains insect growth and development, with specific references to minimum and maximum developmental thresholds. Clicking on "Degree-Day Calculator" in the upper right corner takes you to a Water and Atmospheric Resources Monitoring (WARM) Web page that enables you to select the "Degree-Day Calculator" or "Degree-Day Maps." By selecting "Degree-Day Calculator," you will be able to select from a list of pests (for example, codling moth ... but you'll need a biofix date – first sustained capture in pheromone traps – to start the model), select a site from the map (for example, Carbondale), and calculate the accumulated degree-days through the end of the preceding day. Under the calculations there is a link to learn more about the relationship between the specific insect and degree-days. By selecting "Degree-Day Maps," you can choose from a small list of insects and obtain maps that show current totals, one-week projections, and two-week projections for accumulated degree-days for the state of Illinois.

We hope this proves to be a useful tool for many of our readers. It was designed to provide more useful information about insect pests and the injury they cause and also assist you with making more informed management decisions. Please let us know what you think of this new tool and please contact me if you have any questions.

Kelly Cook (217-333-6652; [kcook8@uiuc.edu](mailto:kcook8@uiuc.edu))

#### Degree day accumulations and projections

	DD, Base 50°F through April 5	Historic DD, Base 50°F through April 5	Projected DD, Base 50°F through April 19
Carbondale	305	279	442
Belleville	324	250	429
Mt. Vernon	223	236	342
Springfield	175	128	275
Urbana	143	112	229
Peoria	149	103	234
Kankakee	109	98	186
Moline	131	87	210
St. Charles	96	72	162

Kelly Cook (217-333-6652; [kcook8@uiuc.edu](mailto:kcook8@uiuc.edu))

## ***Fruit Production and Pest Management***

### ***Fruit Diseases***

**Fire Blight of Apple.** Fire blight is a serious threat to apple production in Illinois. It occurs every year, causing blossom blight, shoot blight, canker blight, and rootstock blight on apples and pears. To control fire blight of apple, dormant copper sprays and application of an antibiotic during bloom is essential. Copper must be sprayed prior to or at silver tip and should be applied to the entire orchard block, including non-susceptible cultivars. The reason for treating non-susceptible cultivars is that even normally fire blight-resistant trees can be colonized by the bacteria and serve as a source of infection during bloom. Several copper compounds can be used in the dormant sprays. If copper sulfate is used, it must be applied when trees are dormant. If copper sulfate is applied later than silver tip, plant injury can result. Also, do not apply copper sulfate with oil; apply copper sulfate and dormant oil as separate sprays spaced at least 10 days apart. Fixed coppers such as Kocide and C-O-C-S can be tank mixed with early season oil sprays. For more information, consult the "Illinois Commercial Tree Fruit Spray

Guide 2004.” Also, detailed information on fire blight can be found at:

<http://www.ag.uiuc.edu/%7Evista/abstracts/a801.html> and

[http://www.caf.wvu.edu/kearneysville/disease\\_descriptions/omblight.html](http://www.caf.wvu.edu/kearneysville/disease_descriptions/omblight.html)



**Apple Scab.** Early season sprays for control of apple scab are essential; the first spray must be applied at green tip. Primary scab spores are mature and disseminated at early bloom. There are several fungicides (i.e., Nova, Sovran, Flint, Topsin-M, captan, ...) that effectively control apple scab. For more information on control of apple scab, consult the Illinois Commercial Tree Fruit Spray Guide, 2004. Also, more information on apple scab is available at:

<http://www.ag.uiuc.edu/%7Evista/abstracts/a803.html>

<http://www.ipm.ucdavis.edu/PMG/r4100411.html>

[http://extension.usu.edu/plantpath/fruit\\_diseases/fd\\_apple\\_scab.htm](http://extension.usu.edu/plantpath/fruit_diseases/fd_apple_scab.htm)

**Anthracnose on Brambles.** To control anthracnose on brambles, a delayed dormant spray is needed. This is a critical spray. Liquid lime-sulfur (20 gallons per acre) or copper hydroxide (Blueshield 50WP or Kocide 50WP) at the rate of 4 lb per acre, should be applied when new shoots are ¼ to ¾ inches long. The spray may burn the leaves if applied after new shoots are longer. For more information, consult the “Midwest Commercial Small Fruit and Grape Spray Guide, 2004. Also, detailed information on anthracnose of brambles can be found at:

<http://www.ag.uiuc.edu/%7Evista/abstracts/a700.html>



### *New Fungicides for Fruit Crops*

Four new fungicides (Agrifos, Endura, Phostrol, and Pristine) have been labeled for use on small fruit crops. Label information is available at the following sites:

Phostrol <http://www.cdms.net/ldat/ld4HL003.pdf>  
 Endura <http://www.cdms.net/ldat/ld6CU002.pdf>  
 Pristine <http://www.cdms.net/ldat/ld6DD003.pdf>

Basic information and registered uses of these products are summarized in the following table:

Fungicide		Formulation	Manufacturer	Active ingredient (a.i.)		Labeled crops
Common name	Trade name			Compound	%	
Phosphorous acid	Agrifos	5.17LS	Agrichem	Mono- and di-potassium sulfate of phosphorous acid	45.8	Blueberry, grape, stone fruit, strawberry
Boscalid	Endura	70WG	BASF	Boscalid, 3-pyridinecarboxamide.	70	Grape
Phosphorous acid	Phostrol	6.69LS	Nufarm	Mono- and di-basic sodium, potassium, and ammonium phosphites	53.6	Blueberry, blackberry, raspberry, grape, strawberry
Pyraclostrobin	Pristine	38WG	BASF	Pyraclostrobin, (carbamic acid.....	38	Blueberry, blackberry, raspberry, grape, stone fruit, strawberry

M. Babadoost (217-333-1523; [babadoos@uiuc.edu](mailto:babadoos@uiuc.edu))

### *Brief Notes on Fruit Insects*

- Oils applied from green tip through pink in peaches and apples suffocate the pests that are coated by the spray deposits (European red mite eggs, rosy apple aphid eggs, and San Jose scales), and they work a little better when temperatures are a little warmer and the eggs and immature scales are respiring a little faster ... so later applications within this period generally are better than earlier ones. Adding Lorsban to an oil spray at pink increases rosy apple aphid control; by pink, however, plant injury is more of a concern, and oil concentrations should be lowered to 1 percent, not 2 percent.
- Chris Doll reported capturing a few Oriental fruit moths in traps earlier this week near Edwardsville ... most growers allow this generation (at least all the eggs that hatch before fruit is present) to go pretty much untreated, as larvae tunnel into new shoots and do a little free pruning. Damaged shoots flag and wilt, with the resulting injury superficially resembling fire blight (but with a tunnel into the shoot).
- Petalfall sprays in apples and peaches are especially important for control of plum curculio and the “true bugs” – tarnished plant bug and stink bug. In peaches, the pyrethroids Asana, Pounce, and Warrior are effective against all these pests. In apples, it’s generally wise to avoid pyrethroids if possible to avoid killing predaceous mites and triggering outbreaks of European red mite. The old organophosphates Guthion and Imidan and the newer product Avaunt are good against plum curculio in apples. (Using Thiodan (endosulfan) at pink also can reduce subsequent injury from tarnished plant bug and stink bugs.)
- Pruning out burning canes of brambles damaged by rednecked cane borer (damaged canes produce galls 1 to 3 inches long, especially in the lower foot of the cane) now can kill overwintering larvae and pupae and reduce subsequent infestations. Do this by the first of May in southern Illinois.
- Grape growers are reminded that insecticide applications aimed to control grape phylloxera in plantings and varieties where this insect has been a problem are most effective if applied at bloom and again 10 days later. Midsummer treatments rarely provide very effective control. Danitol is effective and can be used on grapes without causing chemical injury.

Rick Weinzierl (217-333-6651; [weinzier@uiuc.edu](mailto:weinzier@uiuc.edu))

## ***Vegetable Production and Pest Management***

### ***Brief Notes on Spring Insects***

- Seed and root maggots in the genus *Delia* (including seedcorn maggot, cabbage maggot, and onion maggot) are common pests of early-seeded vegetables. They are most common and damaging in cool, wet soils in which germination and seedling growth are slow; they also are most numerous where green manures or animal manure has been incorporated in recent weeks (because flies choose to lay eggs in such fields). Signs of their damage are poor stands where seeds and seedlings are killed before emergence and damping off of seedlings that are killed by soil fungi after being injured by larvae of these species. The old standard cultural control recommendation is to plant in warm soils where germination will be rapid, but that recommendation doesn’t produce a crop for the earliest possible (and most profitable) market. Using transplants instead of direct seeding does, however, avoid damage to cucurbits (seeds are susceptible to seedcorn maggot). Check Chapter 7 of the 2004 Illinois Agricultural Pest Management Handbook or consult the 2004 Midwest Vegetable Production Guide for seed treatment and soil insecticide recommendations for crops attacked by seed and root maggots (peas, beans, sweet corn, cucurbits, cole crops, onions, radishes, and more).
- Remember that bean leaf beetle, flea beetles, and cucumber beetles overwinter as adults and move to host crops pretty much as soon as they’re planted and emerged. The publications cited a few lines above present scouting and control recommendations for individual crops.

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### ***This issue's words of wisdom ...***

Thoughts for the day ... or a few days. (From Lee and Marilyn Rife)

10. Never take life too seriously. Nobody gets out alive anyway.
9. Life is sexually transmitted.
8. Health is merely the slowest possible rate at which one can die.

7. Some people are like Slinkies ... not really good for anything, but you still can't help but smile when you see one tumble down the stairs.
6. Health nuts are going to feel stupid someday, lying in hospitals dying of nothing.
5. Whenever I feel blue, I start breathing again.
4. All of us could take a lesson from the weather. It pays no attention to criticism.
3. In the 60's people took acid to make the world weird. Now the world is weird and people take Prozac to make it normal.
2. Politics is supposed to be the second oldest profession. I have come to realize that it bears a very close resemblance to the first.
1. And the number one thought for the day: You read about all these terrorists, most of whom came here legally, but they hung around on expired visas, some as long as 10-15 years. Now, compare that to Blockbuster; you are two days late with a video and those people are all over you. I think we should put Blockbuster in charge of Homeland Security.

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