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College of Agricultural, Consumer, and Environmental Sciences

Illinois Fruit and Vegetable News

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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, 217-244-2126, 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 email address above.

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

Upcoming Programs

- **Illinois State Horticulture Society Summer Horticulture Day, June 12, 2008** ... at Tanner's Orchard, Route 40, Speer IL. For more information contact Don H. Naylor, Executive Secretary, Illinois State Horticultural Society, at 309-828-8929 or ilsthortsoc@yahoo.com. University of Illinois Extension contacts for this program are Mohammad Babadoost (217-333-1523; babadoos@uiuc.edu) and Elizabeth Wahle (618-692-9434; wahle@uiuc.edu).
- **VegScout School – Integrated Pest Management and Scouting Program, 9:30 a.m. to 4:00 p.m., June 7, 2008** ... at the University of Illinois Extension's Springfield Office on the Illinois State Fairgrounds. This workshop is being offered by the Central Illinois Farm Beginnings (<http://illinoisfarmbeginnings.org>) and the University of Illinois Extension (<http://web.extension.uiuc.edu/sangamonmenard/findus.html>). This one-day workshop will introduce integrated pest management and alternative and organic pest control methods, provide hands-on vegetable pest (insect, weed, and disease) identification, and discuss scouting tools and techniques, pesticide safety, and worker protection standards. As part of the course, participants will receive a set of references to assist them with vegetable crop pest diagnosis, as well as hands-on training in insect, weed, disease, and other problem identification. The instructor is Loretta Ortiz-Ribbing, Crop Systems Extension Specialist for the University of Illinois Extension. Registration is \$35.00; deadline for registration is May 31, 2008. Please contact Deborah Cavanaugh-Grant at 217-968-5512 or cvnghgrn@uiuc.edu for more information and to register.

Regional Updates

From the Dixon Springs Ag Center: It has been a strange spring to say the least. Apples, blueberries, and strawberries were all in bloom at the same time. We should be harvesting blueberries in two weeks, but it appears that will be delayed, although the size of the crop here at the Ag Center is by far the largest I have seen in 18 years here. Strawberry harvest was also delayed 3+ weeks for plasticulture berries and 1+ week for matted row. Now that we have started to harvest the crop, the quality and yield are both very good. We hope for cool weather to continue to maximize potential yield on the plasticulture berries. Tomato and pepper plantings have largely been concluded in the south and growth, although a bit slow, has begun and the crops are in relatively good shape except where standing water problems occurred.



Strawberry variety plot harvest (left) and blueberry fruit set (right) at the University of Illinois Dixon Springs Ag Center.

Jeff Kindhart (618-695-2444; jkindhar@uiuc.edu)

In northern Illinois, day temperatures have been in the upper 50s to low 70s, with night temperatures in the upper 30s to upper 40s. The region received rainfall of less than 1 inch over the last 2 weeks except on May 23 when some of the counties towards the central part of the state received more than 1 inch of rainfall. The ground has dried, and tillage operations are going on in many farms. Apples and pears are at petal fall, while peaches are in shuck-split. The peach crop this year is not as good as last year, and I have observed some shoot dieback. I also have received reports of peach leaf curl. New shoot growth in grapes is about 2 inches long. Growers are applying petal fall sprays in apples and bud break to bloom sprays in grapes. Most growers have planted sweet corn, peppers, green beans, and tomatoes. Vine crop transplants are still in greenhouses and will be planted as soon as the ground warms up. Ground is ready for planting of vegetables, and in some fields, plastic mulch and drip tapes are already in place.

Maurice Ogutu (708-352-0109; Ogutu@uiuc.edu)

Notes from Chris Doll

This area of the state is now further behind in plant development than any of my records show. And we are very wet, with 9.5 inches already in the gauge and more on the way. Apple trees are green and growing (as is the grass), but saturated soils have caused some yellowing and even drowning of peach trees, brambles and other crops on poor sites. Harvest of plasticulture strawberries began late, and matted row berry harvest has just begun. Most apples are in the 18-30 mm size, so thinning is past for most orchards in the area unless ethephon is used. Peaches are approaching thinning stage, and lots of variation of set and size is present.

The season is reminiscent of 2000, when the set of both apples and peaches varied from light to heavy. Other notes that year that compare with 2008 were that apple scab was non-existent, fire blight infections were light, and insect infestations were light on this date. The visible problems to date have been rosy apple aphids and a few reports of fire blight. Degree days for codling moth biofix on May 3 now total 265, but my trapping program for both codling moth and OFM has been very low. A week ago a Missouri orchard trapped 72 and 80 moths in one block versus 2 and 4 in another.

Back to peach thinning: Blossom thinning this year shows benefits by larger fruits now and less hand thinning remaining. The question of spacing peaches continues to be asked, and experience is a great teacher but new students keep showing up. So, the basic suggestion is to have about 35 leaves per fruit, and this generally figures out to a spacing of 8 to 10 inches. A good factor to remember is that large peaches SELL and that there are 112 peaches per bushel when they are 2.7-3.0 inches in diameter in contrast to 185 peaches per bushel if the size is 2.25-2.5 inches.

Some problems reported recently: Tree wallowing, resulting from very wet soils and top-heavy tops, may also be caused by too deep of planting and no brace roots near the surface to anchor the tree. In years past, the holes around the trunks were filled with coarse sand or pea gravel, and lastly just tamping the soil (which will wallow out with the next rain). Crushed rock is poor because of the sharp edges on the rock. Another problem is yellow leaves on peaches, with some red spots. It could be bacterial spot, but most likely

is nitrogen deficiency caused by the wet soil syndrome. This should change when soils dry out and some air can get into the soil. Additional nitrogen applications might help, but only if full rates have not been applied already.

Time-wise, it is the season for ringing or scoring apples where growth or flower-bud initiation effects are desired. Young apple and peach trees are reaching the stage for toothpicking, clothes pinning or other spreading methods to train the young trees into model trees. And finally, growers with Mutsu trees might be adding Strip to the cover sprays for blister spot control.

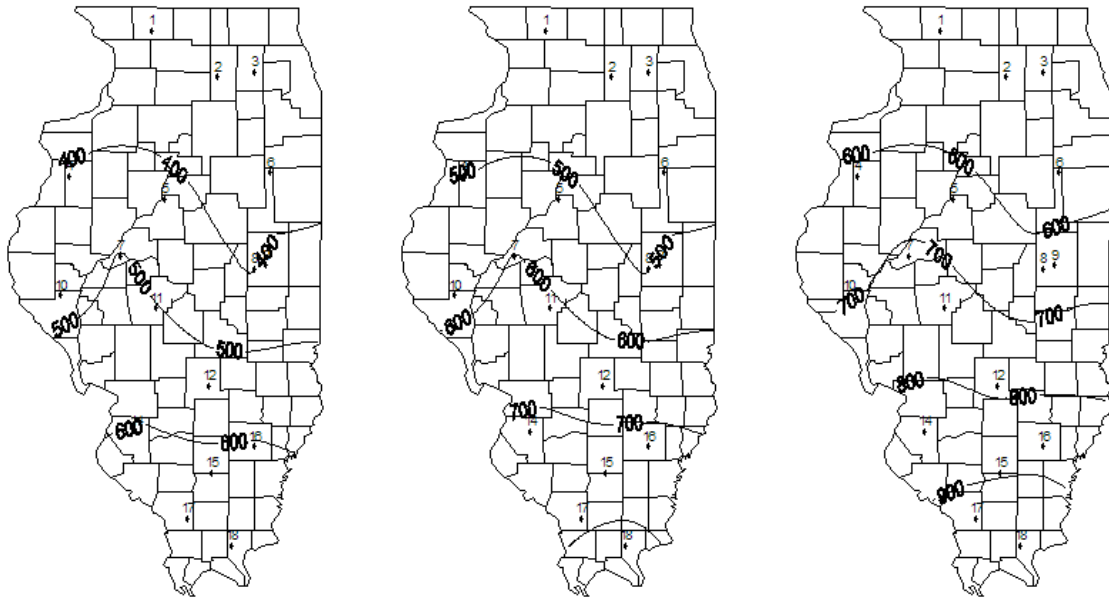
Chris Doll

Degree-day accumulations

Degree-day accumulations, base 50 degrees F, starting January 1.

Station	County	Base 50F DD Jan 1 – May 26, Historic Average	Base 50F DD Jan 1–May 26, 2008	Base 50F DD Jan 1–June 2, 2008 (Projected)	Base 50F DD Jan 1–June 9, 2008 (Projected)
1. Freeport	Stephenson	485	355	418	519
2. Dekalb	Dekalb	533	326	416	522
3. St. Charles	Kane	485	337	414	508
4. Monmouth	Warren	595	404	497	608
5. Peoria	Peoria	636	441	536	650
6. Stelle	Ford	583	317	412	525
7. Kilbourne	Mason	702	504	603	720
8. Bondville	Champaign	672	390	489	607
9. Champaign	Champaign	669	446	548	668
10. Perry	Pike	702	469	569	685
11. Springfield	Sangamon	721	502	612	739
12. Brownstown	Fayette	804	532	647	780
13. Olney	Richland	798	Missing	Missing	Missing
14. Belleville	St. Claire	869	609	727	858
15. Rend Lake	Jefferson	917	627	753	895
16. Fairfield	Wayne	871	607	733	874
17. Carbondale	Jackson	899	669	790	925
18. Dixon Springs	Pope	946	697	821	961

Degree-day accumulations summarized above for weather stations in the Illinois State Water Survey WARM data base have been summarized using the Degree-Day Calculator on the University of Illinois IPM site (<http://www.ipm.uiuc.edu/degreedays/index.html>). The list below includes only degree-day accumulations and projections based on a 50-degree F developmental threshold and a January 1 starting date, but other options that use different thresholds and specific biofix dates are available on the Degree-Day Calculator. The degree-day calculator is available as a result of a joint effort of current and former extension entomologists (primarily Kelly Cook) and Bob Scott of the Illinois State Water Survey. If you have questions about how to use the site, contact me or Bob Scott (rwscott1@uiuc.edu).



Degree-day accumulations, base 50 F, January 1 – May 26, 2008 (left), and projected through June 2 (center) and June 9 (right).

Rick Weinzierl (217-244-2126; weinzier@uiuc.edu)

Fruit Production and Pest Management

Fruit Insect Management

Oriental fruit moth and codling moth updates

Oriental fruit moth flight has tailed off or is tailing off at all sites that report counts to me. Updates on degree-day accumulations and projections, base 45 F, from nearest Illinois State Water Survey weather stations are:

<i>Oriental fruit moth</i>	OFM Biofix Date	DD Base 45 F, through May 26	DD Base 45 F, projected through June 2	DD Base 45 F, projected through June 9
Murphysboro (Carbondale weather data)	April 20	592	748	921
Brussels (Brownstown weather data)	April 21	498	650	821
Urbana (Champaign weather data)	April 25	373	511	671

Repeating an idea from issue 5 of this newsletter ... for growers who are using Isomate OFM Rosso pheromone dispensers to control oriental fruit moth by mating disruption and are timing applications so that dispensers are in place just before second generation flight starts, keep in mind that second flight begins around 950 DD base 45 F after the beginning of first generation flight. We're still several days away from the start of second flight. If you're at a lull for something to do, you can apply them now and expect that they'll last for the remainder of the season, but if you're busy with thinning and other tasks, you still have a little time before they need to be in place.

Biofix for codling moth in far southern Illinois was May 3, 2008, and Jim Eckert reported a May 7 biofix at Belleville. Biofix dates for a lower Calhoun County orchard and for Urbana were May 9 and May 16, respectively. Degree-day accumulations based on nearest weather stations for these sites are summarized below. Remember that egg hatch begins approximately 240 DD base 50 F after biofix. Repeating a reminder from issue 5 ... note the recommended timing for first application of various codling moth insecticides based on degree-day accumulations in the table on page 15 of the [2008 Midwest Tree Fruit Spray Guide](#). Also keep in mind that although hatch begins around 240 DD, only about 12 percent of first generation hatch has occurred even 100 DD later at 340 DD. Most of the larvae that you need to control are hatching well after that "magical" total of 240 that we often mention.

<i>Codling moth</i>	CM Biofix Date	DD Base 50 F, through May 26	DD Base 50 F, projected through June 2	DD Base 50 F, projected through June 9
Murphysboro (Carbondale weather data)	May 3	285	407	545
Belleville (Belleville weather data)	May 7	209	329	463
Brussels (Brownstown weather data)	May 9	164	281	417
Urbana (Champaign weather data)	May 16	105	209	334

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Fruit Thinning

The cold weather that we have experienced in the last two weeks has dampened the desire of some growers to thin apples. On May 27 the morning temperature in Urbana was 50F, or 35F with the wind chill. I have a block of ‘Gala’ that I had hoped to thin with MaxCel, but unfortunately we did not have the two days in a row of temperature above 65-70F required by the label. The cold weather has slowed fruit growth considerably; usually apple fruits grow about 1 mm per day when the temperature is above 65 F. But the growth slows down considerably as the temperature gets colder. For apple growers in the northern part of the state, I suggest that you pay attention to fruit set. If you suspect that the blossoms have not been properly pollinated, then try not to be aggressive in your thinning program. A mild thinner like Accel or Sevin (3/4 lb) should get rid of any extra weak fruits that have not been properly pollinated.

Another observation that I would like to share with you is that most apple orchards in Illinois are low on boron. If you did not apply boron late in the fall, you should consider applying it with the first two cover sprays. Boron application early in the growing season will help reduce cork spot injury in fruit. No one knows exactly how cork spot develops, but it happens in certain years, especially when conditions are not good for water to move up the tree. It also develops early during growth when the fruit is about the size of a dime.

Mosbah Kushad (217-244-5691; kushad@uiuc.edu)

Wisconsin’s Eco-Apple IPM and Organic Conference Calls

A note from Wisconsin that may be of interest to northern Illinois growers ...

Eco-Apple IPM Grower’s Hour: This season, the Wisconsin Eco-Apple Project is offering free weekly conference calls with IPM coach John Aue and other IPM experts. The purpose of the calls is to help growers get their pest management questions answered more quickly and easily. The calls are open to any interested grower in the Upper Midwest. The calls are scheduled for Tuesdays from 8:00 to 9:00 a.m. this season.

Each week, you will need to submit your questions to John by 10:00 p.m. the night before the call. Preferably, please e-mail your questions to John at jgaue@mwt.net. If you do not have access to the internet, you can call John with your questions at 608-604-0234. Before the call, John will review the questions he receives; if he receives more than he can answer in the one hour conference call, he will give first priority to questions he believes are most relevant to the majority of call participants.

We’ll be using a service of freeconferencecall.com to conduct the calls. To call in, dial 712-580-0100, then enter this access code: 516817. If you would like to hear the weekly call recording, dial (641) 715-3436, then enter this access code: 516817.

Organic Apple Grower’s Hour:

In addition, the Wisconsin Eco-Apple Project is offering free weekly conference calls with organic apple orchard consultant Michael Phillips and other apple growing pros. The calls will be geared for commercial apple growers in the Upper Midwest with intermediate to advanced orchard management skills. Open-minded growers who are interested in a holistic approach to orchard management will get the most out of these calls. Calls are scheduled every Thursday at 8:00 a.m. from April 24th through August 28th. There will be no call on July 3.

Each week, send your apple orchard management questions to Michael by 8:00 p.m. CDT on the Wednesday evening before the call. Preferably, please e-mail your questions to Michael at michael@herbsandapples.com. If you do not have e-mail access, you can leave a message with your questions on Michael Phillips' answering machine at 603-636-2286. Along with your questions, we encourage you to submit any degree-day tracking information that you have recorded and to contribute any pertinent observations you have made in the field.

We'll be using a service of freeconferencecall.com to conduct the calls. To call in, dial 712-432-1680, then enter this access code: 868736. If you would like to hear the weekly call recording, dial (712) 432-1284, then enter this access code: 868736.

For more information on both IPM and Organic Conference calls or to download the call recordings, contact coordinator Lisa DiPietro at ldipietro@wisc.edu, or 608-265-3637. Please note, the schedules may change due to the weather or other scheduling conflicts.

Vegetable Production and Pest Management

Rhubarb Curculio

A few days ago Dale Jeffries of Jeffries Orchard near Springfield reported observations of rhubarb curculio in his rhubarb planting. This is not an insect that I'm familiar with, so I checked the web for references. A good one, [Rhubarb Curculio](#), from Cornell University at Ithaca, NY, was written by Carolyn Klass and Arthur Muka in 1976 and revised by Carolyn Klass in 2002. Here is some of the text, with slight revision or abbreviation ...

“Rhubarb is a hardy perennial that is not usually seriously affected by insect pests, however, occasionally attacks of the rhubarb curculio do occur. The leaf stalks of the rhubarb may show exuding sap and partial decay from late-May through early summer due to feeding and egg laying punctures. Feeding injury appears as notches in the stem and on the leaf edges. Sap exudes from wounds of either type and collects as glistening drops of gum when fresh. Eggs of this insect do not hatch when deposited in rhubarb.

The rhubarb curculio is a large (about 1/2 inch) dark snout beetle with a yellow powdery material dusted on its back. The yellowish covering easily rubs off when the insect is handled. The head bears a curved snout, at the end of which are the mandibles, the chewing mouth parts. The eggs are oblong and yellow-white, while the mature larva is a legless grub about 3/4 inch long with a brown head.

The curculio overwinters as an adult in protected places near the rhubarb planting. In about mid-May the adults appear and are seen resting on the stalks and leaves of rhubarb, dock, thistle or sunflower. Eggs are deposited singly in cavities about 1/8 inch deep in the stalks, and hatching occurs in 7-10 days in all plants but rhubarb. The rhubarb curculio survives in weeds in or near the garden. Eggs deposited in rhubarb are killed by the actively growing plant tissue which crushes them. In other hosts the newly hatched larva begins burrowing its way down through the stalk so that when it reaches maturity in eight to nine weeks, it has reached the bottom of the stalk just below the soil surface. Pupation occurs in a cavity at the base of the host plant, and within a few weeks the adult beetles emerge. Adults feed for a short time and then seek out protected places to pass the winter. There is one generation per year.”

The only direct method of control is to handpick the beetles from plants during early summer and destroy them. When the beetles first emerge they are easily picked from the vegetation on which they are resting. Their large size aids in finding them and helps make them easy to handle. The removal of all wild plants in which the beetles breed (dock, thistle, and sunflower) growing in or near the planting during July while the curculio larvae are still in them will also be helpful.”

Due to the recent trend of insecticide registrations by crop group, there is now a long list of insecticides that are registered for use on rhubarb because it is a member of the Leafy Vegetable crop group. The following insecticides are among those registered for use on “leafy vegetables” and likely to be effective against rhubarb curculio, but their use is very rarely justified: acetamiprid (Assail), indoxacarb (Avaunt), malathion, permethrin (Pounce). For information on rates and pre-harvest intervals, see product labels.

Black Cutworm

The May 23 issue of “[the Bulletin](#)” (the University of Illinois Extension's Pest Management and Crop Production Bulletin) contained the following note (and additional information) by Kevin Steffey on black cutworms ...

“At the end of the week of May 12 and beginning of the week of May 19, we received our first reports of signs of black cutworm larval activity. Robert Williamson with Agrivest in Jacksonville found very small black cutworm larvae associated with pinhole feeding injury to corn seedlings on May 14. On May 20, he reported slight cutting of seedlings in cornfields in northern Pike County (although not confirmed as black cutworms). On May 19, we received reports of cutworm larval feeding in cornfields in southern Champaign County (Dan Schaefer, Illini FS, Tolono) and in Hancock County (Mike Roegge, University of Illinois Extension, Quincy).”

These reports serve as reminders to sweet corn growers to scout for cutworm injury from seedling emergence through 6-leaf stage (or at least until plants are greater than 6 inches tall). The common decision-making rule is to control infestations if more than 3 to 6 percent of plants are cut ... use the 6 percent threshold if most larvae are large (greater than $\frac{1}{2}$ -inch long) and the 3 percent threshold if larvae are small (less than $\frac{1}{2}$ -inch long), as they're going to continue feeding longer and damage yet more plants.



Black cutworm larva and damage.

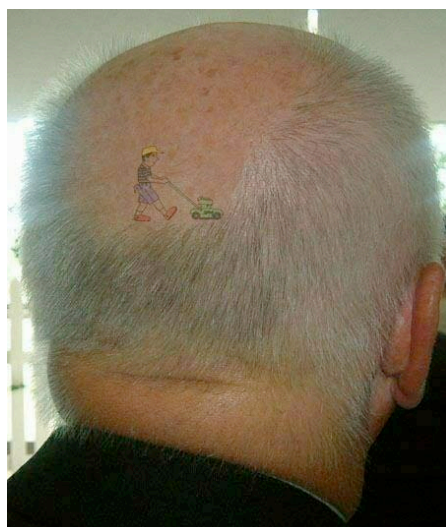
Asana (esfenvalerate), Pounce/Ambush (permethrin), Baythroid (cypermethrin), Capture (bifenthrin), Mustang Max (zeta-cypermethrin), and Warrior (lambda-cyhalothrin) are pyrethroids labeled for cutworm control in sweet corn; Lorsban (chlorpyrifos) is an organophosphate labeled for cutworm control in sweet corn. See product labels and the 2008 Midwest Vegetable Production Guide for Commercial Growers for rates and restrictions. Generic products containing the same active ingredients are available for most of these products.

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Less seriously ...

"Don't worry about the world coming to an end today. It's already tomorrow in Australia." (Charles Schultz)

And a picture that's worth 1,000 words ...



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