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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@illinois.edu. The *Illinois Fruit and Vegetable News* is available on the web at: <http://www.ipm.illinois.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.

In this issue ...

Upcoming Programs (St. Charles Twilight Meeting, Organic Apple Field Day, Southwestern IL Vegetable Twilight Meeting, Pumpkin Field Day)

Regional Updates (from Elizabeth Wahle, Jeff Kindhart, and Maurice Ogutu)

Degree-day Accumulations

Fruit Production and Pest Management (phenology updates on oriental fruit moth and codling moth)

Vegetable Production and Pest Management (corn earworm, Coragen Section 18 for sweet corn, "Leps" in cole crops)

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

Upcoming Programs

- **St. Charles Horticultural Research Center Twilight Meeting, July 24, 2008 ...** 6:30 p.m. at the Research Center headquarters. This is a walking tour through the research plots, so dress for field conditions and weather. Research highlighted for 2008 will feature summer vegetables, including tomatoes, melons, peppers, sweet corn and pumpkins. Bill Shoemaker will discuss the vegetable variety trials for commercial growers, including tomatoes, muskmelons, pumpkins and hot peppers. Maurice Ogutu will discuss his work with rye cover crop systems for jack o'lantern pumpkin producers. He will also show growth response of tomatoes, melons and bell peppers to 10 different colored plastic mulches. Bill Whiteside will have two studies highlighting weed control options for jack o'lantern pumpkins, focusing on two herbicides, Dual Magnum and Sandea, in combination with other herbicides, and compared to standard herbicide choices. The entrance to the Research Center is 1.5 miles west of Randall Road in St Charles and 500' north of IL Rt 38 on Peck Road. If coming from the west on IL Rt 38, Peck Road is 5.5 miles east of IL Rt 47. Turn north at the lighted intersection with Peck Road and the entrance will be on your left. For more information, contact Bill Shoemaker at 630-584-7254 or wshoemak@inil.com.
- **Organic Apple Field Day, August 8, 2008 ...** at the University of Illinois Dixon Springs Agricultural Center, Simpson, IL. More information will be available soon on the [Illinois Small Farms](http://illinois-small-farms.org) site at the [Sustainable Ag Tours](http://illinois-small-farms.org/sustainable-ag-tours) page. For more information on these tours in general, contact Deborah Cavanaugh Grant at 217-968-5512 or cvnghgrn@illinois.edu. This tour is being co-sponsored by the [Midwest Organic Tree Fruit Growers Network](http://midwest-organic-tree-fruit-growers-network.org). A registration fee of \$20 per person will be charged for the tour, which includes lunch. To register online, visit <https://webs.extension.illinois.edu/registration/default.cfm?RegistrationID=1574>, or to learn more about the program, visit <http://web.extension.illinois.edu/smallfarm/>. To register by phone, contact Donna Cray at 217-241-4644.
- **Southwestern IL Sweet Corn and Tomato Twilight Meeting, August 13, 2008 ...** Fournie Farms, Collinsville, IL. See the note below from Elizabeth Wahle and future issues of this newsletter for details.
- **Pumpkin Field Day, September 11, 2008 ...** at the SIU Belleville Research Center. Details to come.



Bill Whiteside, center, discusses weed control in pumpkins at a previous St. Charles Research Center twilight meeting.

Regional Updates

In southwestern Illinois, a twilight meeting for tomato and sweet corn growers has been scheduled for August 13, 2008, at Fournie Farms in Collinsville. The meeting will begin at 6:00 pm. Fournie Farms is located between I-255 and IL-157 just off Horseshoe Lake Road. From I-255 take Exit 26. Take a left on to Horseshoe Lake Road. Go approximately mile; Fournie Farms is on the left. For those taking I-70/55, take Exit 11. Take a left at the light onto IL-157/Bluff Road. Make a left on to Horseshoe Lake Road. Go approximately mile; Fournie Farms is on the right. For those using MapQuest, the physical address is Fournie Farms, Inc., 925 McDonough Lake Rd, Collinsville, IL. For more information, contact Elizabeth Wahle, 618-692-9434 or wahle@illinois.edu.

This continues to be a challenging year. Rain continues to fall and temperatures are soaring, creating tough field conditions for plants to thrive and great conditions for disease to develop.

Sweet corn went into harvest last week in time for the targeted 4th of July weekend. Japanese beetles are a pest on many food crops, but sweet corn silks are very vulnerable. For every silk that is clipped by a Japanese beetle before pollination occurs, is a missing kernel. Growers with *Bt* varieties and a reduced spray schedule especially need to maintain scouting while silks are green. Field grown tomatoes are just coming into harvest, starting to replace Arkansas tomatoes in the market. There is heavy disease pressure being reported in tomatoes and peppers, particularly from bacterial pathogens. Growers need to tighten copper spray schedules to a 5-day interval, using hydroxide formulations such as Kocide or Champ for control. To pick up fungal diseases, tank mix with Bravo (tomato only) and rotate to other fungicides with the copper to avoid resistance development. See the [2008 Midwest Vegetable Production Guide for Commercial Growers](#) for complete pesticide options.

A couple of brief reminders: Dual Magnum has a supplemental label for use in horseradish, pod crops, pumpkins and rhubarb. For legal use you must have the supplemental label in your possession; it can be found at <http://www.cdms.net/LDat/ld0iA014.pdf>. Coragen has been granted a Section 18 Emergency Use label for use on sweet corn for the control of corn earworm in the state of Illinois. Rick Weinzierl already sent out the label in a separate email, but any Illinois grower who still needs a label, contact me and I will get it emailed or snail-mailed to you.

Peaches are in harvest, and all is right with the world after last year's disappointing crop loss. Disease again has been an issue in many of the fruit crops due to Mother Nature providing such perfect conditions for development. Summer apples are in harvest, and fall apples are sizing. Summer-bearing raspberries are finishing up, and blackberries are now in harvest. Fall bearing raspberries will soon be here. My primocane crop (Caroline) got a bit confused this year and started to bear lightly right along with the florican crop. I'll just have to wait and see if my entire crop is early, or if this is just a false start. Remember that tipping of black and purple raspberries and blackberries should coincide with harvest—unless they have not reached the desired height. Tipping on these types of

brambles promotes lateral formation, thus increasing yield next year. Tipping is not beneficial in red and yellow raspberries. Grapes are growing well, and growers are advised to be scouting for downy mildew and the onset of bitter rot. Captan is rated good on bitter rot and has a 0-day PHI (read label for max rate limitations). Bitter rot usually affects fruit at or above 8% sugar. Several products are rated highly effective for downy mildew control, including Captan, fixed copper, and phosphorous acid. For additional options see the [2008 Midwest Commercial Small Fruit and Grape Spray Guide](#). Blueberry harvest is in full swing.

On behalf of University of Illinois Extension, I offer my condolences to the family of Robert (Bob) Levan. Robert was 82 when he passed away on June 25th at his home in Ava, IL. Bob is survived by his wife Jewel, who he married on August 13, 1950, and his son Mike and daughter Gayla. Bob was a farmer and a grape grower. He started Levan Vineyard in 1982 and was very active in the promotion of grapes and a pioneer in the industry. He will be missed.

Elizabeth Wahle (618-692-9434; wahle@illinois.edu)

At the Dixon Springs Ag Center, blueberry and blackberry harvest continue with outstanding quality and size. The national trend of increased consumer demand for these two crops appears to hold for southern Illinois, as we have enjoyed large crowds for our U-pick blueberries. Peach harvest has begun, and in all fruit crops the Japanese beetles continue to prove a most worthy adversary. This particularly true in blueberries and blackberries, where it seems Pyganic and malathion are our chief options due to their short preharvest restrictions during the harvest period. When one considers the Japanese beetles value in terms of price per pound, either to control them or in lost crop, it becomes very evident that some imports are really not good for our economy.

Harvest of field-grown tomatoes has begun to augment the high tunnel tomatoes which have been available for some time now. In general, the crop looks relatively good, although like many things this year it is slightly behind schedule. Peppers vary by location, with the crop also being behind schedule. The cool, wet early growing conditions seem to have had a greater impact on the pepper crop than the tomatoes. As always, remember if you have paid for your trickle irrigation in your tomato and pepper crops, let's be sure to use it. Garlic has been dug, and yield from the plots at DSAC was good. Early sweet corn has been harvested, and in many cases there have been some problems with earworms. Normally we have not had earworm problems with corn harvested in early July, but this year has shown why use of a pheromone trap to monitor populations is so important. Early trap counts from southern Illinois did show the need to treat for earworm.

Jeff Kindart (618-695-2444; jkindhar@illinois.edu)

In northern Illinois, we have seen mostly sunny days with average day temperatures in the upper 80s and night temperatures in the 50s to low 70s over the last 2 weeks. Soil moisture is still good in some parts of the region but extremely dry in others, to where point where irrigation systems are turned on. The area received 1-3 inches of rainfall during this period. Apple thinning is done, and second and third cover sprays have gone on in many orchards in the region. Codling moth monitoring is ongoing, and first generation flight is pretty much complete, with first generation egg hatch well past 50 percent. Grape berries are sizing well, sour cherry picking is underway, and strawberry picking is still going on at some farms.

Harvesting of cool season vegetables such as beets, cabbages, cauliflower, and similar crops is underway, and green bean harvest has begun at a few locations. Watermelons, muskmelons, zucchini, and winter squash are now vining well despite the cold weather early in the season that slowed their growth drastically. Early plantings of sweet corn will be ready for harvest next week in counties towards the central parts of the state. Tomatoes will be ready for harvesting soon in the Kankakee area. Cucumber beetles were observed in cucurbits and corn earworm moth counts have been going down in pheromone traps, but it is important for sweet corn growers to check their traps often. I received reports on phytophthora rot in peppers in some parts of the region.

Burr Ridge Farmers' Market is looking for vendors. The farmers' market will be held on Thursdays, 8:00 a.m. to 1:00 p.m., July 10 to September 25, 2008 at the Burr Ridge Village Center, Burr Ridge, IL. Contact the Burr Ridge Park District at 630-920-1969 for more information.

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

Degree-day accumulations

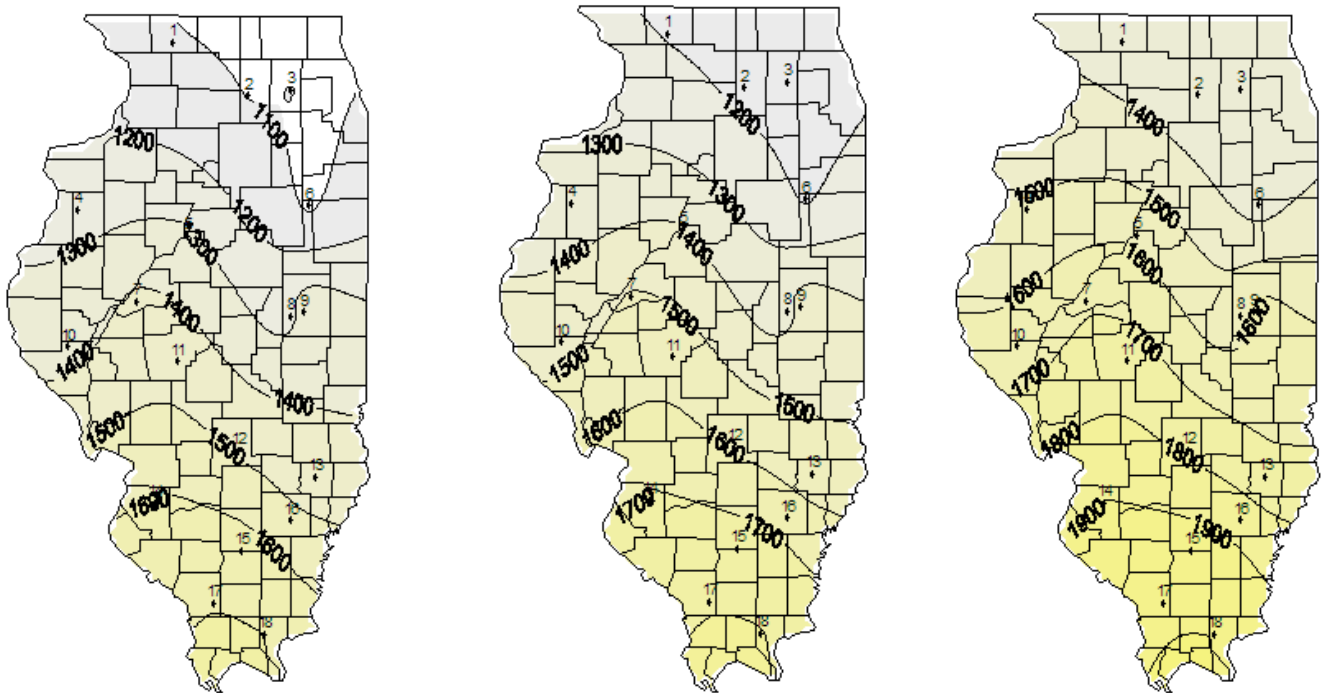
Degree-day accumulations presented below for weather stations in the Illinois State Water Survey WARM data base have been summarized using the Degree-Day Calculator on the University of Illinois IPM site (<http://www.ipm.illinois.edu/degreedays/index.html>). The list for 18 locations includes only degree-day 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@illinois.edu).

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

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

Station	County	Base 50F DD Jan 1 – July 8, Historic Average	Base 50F DD Jan 1–July 8, 2008	Base 50F DD Jan 1–July 15, 2008 (Projected)	Base 50F DD Jan 1–July 22, 2008 (Projected)
1. Freeport	Stephenson	1292	1037	1194	1357
2. Dekalb	Dekalb	1358	1025	1179	1336
3. St. Charles	Kane	1259	1029	1178	1333
4. Monmouth	Warren	1448	1178	1338	1504
5. Peoria	Peoria	1512	1239	1411	1589
6. Stelle	Ford	1428	1022	1189	1359
7. Kilbourne	Mason	1628	1338	1508	1685
8. Bondville	Champaign	1546	1170	1336	1508
9. Champaign	Champaign	1570	1297	1473	1655
10. Perry	Pike	1567	1280	1452	1632
11. Springfield	Sangamon	1666	1379	1565	1755
12. Brownstown	Fayette	1765	1401	1588	1781
13. Olney	Richland	1751	1359	1541	1729
14. Belleville	St. Claire	1835	1524	1711	1903
15. Rend Lake	Jefferson	1914	1559	1752	1952
16. Fairfield	Wayne	1854	1475	1667	1865
17. Carbondale	Jackson	1848	1609	1794	1985
18. Dixon Springs	Pope	1906	1617	1804	1998



Degree-day accumulations, base 50 F, January 1 – July 8, 2008 (left), and projected through July 15 (center) and July 22(right).

Fruit Production and Pest Management

Oriental fruit moth and codling moth phenology updates

(Yes, the text here and the tables below are similar in format to what has been in previous issues. The numbers are up-to-date, however, so be sure to look over the details for you location if you grow apples and/or peaches.)

Biofix dates for first flights of **oriental fruit moth** (OFM) are presented in the table below, along with degree-day (DD) accumulations based on a threshold of 45 degrees F. Second generation flight should be way past its peak in southern Illinois and at its peak in the central part of the state. As noted in issue 8, traps in the far south and at Urbana indicate that numbers are fairly low to very low in several areas. That said, growers are advised to always rely on data from traps in their own orchards. Check the [June 10, 2008 issue of this newsletter](#) for comments on making OFM control decisions based on degree-day accumulations. By approximately 1900 degree days (base 45F) after the biofix dates listed in the table below, the earliest of third generation moths are forecast to begin emerging.

Oriental fruit moth	OFM Biofix Date	DD Base 45 F, through July 8	DD Base 45 F, projected through July 15	DD Base 45 F, projected through July 22
Murphysboro (Dixon Springs weather data)	April 20	1805	2028	2258
Brussels (Brownstown weather data)	April 21	1658	1880	2109
Urbana (Champaign weather data)	April 25	1516	1728	1945

Biofix dates for codling moth at six Illinois locations are listed in the table below, along with degree-day accumulations (base 50F) and projections for weather stations near each location.

Codling moth	CM Biofix Date	DD Base 50 F, through July 8	DD Base 50 F, projected through July 15	DD Base 50 F, projected through July 22
Murphysboro (Dixon Springs weather data)	May 3	1282	1470	1665
Belleville (Belleville weather data)	May 7	1214	1401	1593
Brussels (Brownstown weather data)	May 9	1119	1307	1500
Urbana (Champaign weather data)	May 16	1045	1222	1404
Speer (Peoria weather data)	May 18	960	1133	1311
Malta (Dekalb) (Dekalb weather data)	May 27	772	926	1083

Developmental events for the **codling moth** based on degree-day accumulations are presented below. Remember that “biofix” refers to the date of the first sustained capture of *first-generation* moths in traps.

50 percent of first generation eggs hatched	~500 DD ₅₀ after biofix
99 percent of first generation eggs hatched	~920 DD ₅₀ after biofix
First moths of second generation emerge	~900 DD ₅₀ after biofix
First hatch of second generation larvae	~1100 DD ₅₀ after biofix
50 percent of second generation moths emerged	~1340 DD ₅₀ after biofix
50 percent of second generation eggs hatched	~1580 DD ₅₀ after biofix

(Table based on *Orchard Pest Management* by Beers et al., published by Good Fruit Grower, Yakima, WA.)

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Vegetable Production and Pest Management

Vegetable Insect Notes

- **Corn earworm flight notes:** Counts are really variable around the state, but activity remains greater than usual in the northern part of the state. Among vegetable crops, egg-laying is greatest in silking sweet corn, followed by fruiting tomatoes, peppers, and snap beans. Where these crops are the only host plants in a suitable stage of development to be attractive to egg-laying moths, injury is more likely to be severe than during times when another key host crop – field corn – is silking and attractive. For information on counts from various areas of the state, check the regional migration monitoring site at <http://www.pestwatch.psu.edu/sweetcorn/tool/tool.html>; also check Ron Hines' weekly reports on this and other insects at http://ipm.illinois.edu/pubs/hines_report/comments.html.
- **The US EPA has granted a Section 18 Emergency Exemption for the use of Coragen insecticide on sweet corn for the control of corn earworm.** This specific exemption allows use of Coragen on sweet corn in Illinois only, and for the period of July 1, 2008, through October 10, 2008. A similar exemption has been granted in Minnesota and requests are pending in certain other states. The emergency label allows use of 3.5 to 7.5 ounces of product per acre per application and a limit of 15.4 fluid ounces per acre per crop per season. Repeating some information from the June 25 issue of this newsletter ... (1) Until now, the best insecticides for earworm control in sweet corn were the pyrethroids, particularly Capture, Warrior, Mustang Max, and Baythroid (and their generic formulations). (2) Corn earworm resistance to pyrethroids has been documented, and resistant populations are not controlled well by pyrethroids in small-plot trials and in some field situations. (3) When earworm moths are present and laying eggs, steps that should maximize control by pyrethroids include (a) making a first application just before silks emerge to kill adults before eggs are laid on silks; (b) making a second application within 2 days after silks first appear; (c) maintaining a spray interval of no longer than 3 days when pressure is moderate to high (moth counts greater than 10-20 per night and daily mean temperatures greater than 70 degrees F). (4) Registered alternatives to pyrethroids include SpinTor/Entrust, Radiant, Sevin XLR Plus, Lannate, and Larvin, but these insecticides have not worked very well as stand-alone alternatives to pyrethroids or as tank-mixes with pyrethroids. (5) The now-approved Section 18 Emergency Use Exemption for Coragen 1.67SC (chlorantraniliprole or rynaxypyr) allows its use on sweet corn for earworm control. Coragen has been very effective against corn earworm (and European corn borer) in research trials in Illinois and elsewhere. The Section 18 label allows 3 applications at the effective rate of 5 fluid ounces per acre. Coragen is not likely to give significant adult control, so using it before silks are present is not recommended. Using Coragen instead of a pyrethroid in the sprays applied 2 days after silks are first present and in the next 2 sprays or 2 of the next 3 sprays will likely give the greatest benefit in preventing large worms from being present at harvest. You must have a copy of the Section 18 label in your possession in order for use of Coragen on sweet corn to be legal. (By the way, you might want to thank Scott Frank of the Illinois Department of Agriculture for handling this request and communicating regularly with the US EPA to facilitate its being granted in a timely manner.)
- **“Leps” in cabbage, broccoli, crucifer greens, and related Brassica crops.** Just a reminder: Diamondback moth, imported cabbageworm, and cabbage looper populations tend to build as the summer progresses. Heavy rains tend to reduce populations a bit, and hot, dry conditions favor big increases, but infestations typically become more common in mid and late summer, be the season a wet one or a dry one. One message is the same as it has been for several years ... before heading in cabbage and broccoli, avoid using pyrethroids if possible. The pyrethroids – including Asana, Baythroid, Capture, Mustang Max, Pounce, and Warrior, as well as generics that contain the same active ingredients – can be excellent clean-up sprays before harvest to get rid of worms that are potential contaminants and to prevent damage to heads, but if they're over-used throughout crop development and over the whole season, resistance can develop in diamondback moth populations. When this happens, keeping the crop clean in mid and late summer can become very difficult. Alternative to pyrethroids that are useful in resistance management and early season and early stage control of lepidopteran insects (caterpillars) in cabbage and broccoli include *Bacillus thuringiensis* products (Agree, Biobit, Dipel, Javelin, Lepinox, and Xentari), Proclaim, Rimon, and SpinTor/Entrust ... the effectiveness of all of these materials is pretty much limited to lepidopteran larvae. Broader spectrum alternatives that also give some control of Lep larvae include Diazinon, Endosulfan, Lannate, and Larvin ... some populations of diamondback moth are resistant to one or more of these compounds, so if they do not provide control, switch to a different mode of action.

Rick Weinzierl (217-333-6651; weinzier@illinois.edu)

Less seriously ...

Top 10 ways to tell that your computer technician is a redneck ...

- * 10. The monitor is up on blocks.
- * 9. Outgoing faxes have tobacco stains on them.
- * 8. The six front keys have rotted out.
- * 7. The extra RAM ports have truck parts stored in them.
- * 6. The numeric keypad only goes up to six.
- * 5. The password is "Bubba".
- * 4. There's a gun rack mounted on the CPU.
- * 3. There's a Coors can in the cup holder (CD-ROM drive).
- * 2. The keyboard is camouflaged.
- * 1. The mouse is referred to as a "critter".

(from www.injokes.com)

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