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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 (2009 Sustainable Ag tours)

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

Degree-day accumulations

Notes from Chris Doll (fruit crop maturity; fireblight; glyphosate cut-off; historical observations)

Fruit Production and Pest Management (apple and peach disease summaries; codling moth update)

Vegetable Production and Pest Management (diseases of tomatoes, peppers, and cucurbits)

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

Upcoming Programs

- **2009 Sustainable Agriculture Tours that involve fruits and vegetables:**
 - **August 13, Creative Community Co-op Farming.** Basu Natural Farms, Pembroke
 - **September 22, Fresh Fruits and Vegetables.** River Front Berry Farm, Martinton
(<http://www.riverfrontberryfarm.com>)

A fee of \$20 per person will be charged for each tour, which includes lunch. Registration at least one week in advance is required. For more information on these and other tours, see <https://webs.extension.uiuc.edu/registration/default.cfm?RegistrationID=2845>. To register by phone, contact Donna Cray at 217-241-4644. For more information, contact Deborah Cavanaugh-Grant (217-968-5512; cvnghgrn@illinois.edu).

Regional Updates

At the Dixon Springs Ag Center ... Phytophthora on peppers continues to be a substantial problem in southern Illinois. Fruit set on peppers, and to some extent tomatoes, has also been a challenge. Hot weather earlier in the month and again the week of July 6 brought some flower abortion from pollination problems. Tomato harvest is underway and crop quality has been good. Pepper harvest will begin soon. Early sweet corn harvest has begun, and later plantings have made strong growth with warm temperatures.

Strawberry renovation has occurred for most southern Illinois strawberry growers, and local plantings look much better now after rains over the July 4 weekend spurred new growth. Blueberry harvest continues by both man and bird. The crop at DSAC has been good, and the installation of a new bird guard recorded distress call device seems to be bringing good relief from bird depredation problems. Although it has not eliminated the problem, it and the use of pyrotechnic scare devices seem to have slowed bird consumption appreciably. Blackberry harvest also continues with good yields

and quality, and primocane-fruiting cultivars are blooming at this time. This would also be a good time for plasticulture strawberry growers to be thinking of where they will be making their fall plantings and getting tillage, fertility, and cover crops addressed.

Jeff Kindhart (618-695-2444 or 618-638-7799; jkindhar@illinois.edu)

In southern and southwestern IL ... the region is staying up on rainfall, with rain postponing many 4th of July fireworks celebrations but not the harvest of peaches and sweet corn. Harvest of Redhaven peaches will begin in this area the week of July 13, and many varieties of sweet corn are in harvest now. Main-season field tomatoes are being picked in addition to blackberries and later-season blueberries. Grape clusters are sizing, as are apples.

I have tentatively scheduled a twilight meeting for sweet corn and tomato growers for August 6 at Fournie Farms in Collinsville. Originally, it was announced the meeting would be in late July, but since has been rescheduled to this later date. The main focus of this meeting will be the sweet corn and tomato variety trials. Finalized details will be in the next newsletter.

The next grape grower workshop, sponsored by IGGVA, UI Extension, VESTA, and IDoA, is scheduled for July 31 at Blue Sky Vineyard and Winery and again at the Village Vineyard and Winery the following day on August 1. These workshops provide hands-on experience working with special equipment used in measuring and determining grape ripeness. In addition to vineyard sampling of differing grape varieties and other fruits, winemakers are also invited to bring wine samples for analysis as well. Workshop participants on July 31 will meet at Blue Sky Vineyard and Winery, which is located south of Carbondale. Registration fees will be taken at the door starting at 5:30 p.m. and will be \$25.00 per person. The program is scheduled to run from 6:00 to 9:00 p.m. and will include refreshments. From Carbondale, go east on old US-13 HWY/ E Walnut Street. Turn right onto CR-12/ S Giant City Road and travel just over 6 miles. Turn left onto CR-24/ Grassy Road and travel another 3 miles. Turn right onto Rocky Comfort Road and travel just over 4.5 miles. The winery entrance will be on the left.

This same workshop will be repeated the following day on August 1st at the Village Vineyard and Winery in Camp Point. Registration fees will be taken at the door starting at 9:30am and will be \$25.00 per person. The program is scheduled to run from 10:00 pm to 1:00 pm, followed by lunch. From Jacksonville, take US-67 N/ IL-104 west toward Beardstown/ Macomb. Travel just over 13.5 miles and turn left to stay on IL-104. Travel 4.0 miles before turning right onto IL-99. Travel just over 15.0 miles, then turn left onto US-24/ 800 E/ IL-99. Continue to follow US-24 for just over 17.0 miles before turning right onto South Ohio Street. Turn right onto East State Street. East State Street becomes North Vermont Street. The winery entrance will be on the left (west).

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In northern Illinois, sunny days with highs in the 70s to low 90s and lows in the 60s characterized the last five days of June. The trend changed July 1- 8 with a mixture of sunny and cloudy days and highs in the upper 60s to mid 80s and lows in the mid 50s to low 60s. The region received 0.2 -2.5 inches of rainfall over the past 2 weeks.

Summer spray programs are continuing in apples, and fruits are sizing well. There are reports of apple scab on apple leaves and leafhopper injury in apples. Grapes also are sizing well, and growers are winding up cluster thinning, leaf removal, and shoot positioning. There are reports of powdery and downy mildew on grapes. Due to the extremely cold temperatures that occurred on some days during the last winter, grape growers need to check grape trunks for crown gall infection. Japanese beetles are active, and growers need to scout tree fruits and small fruits.

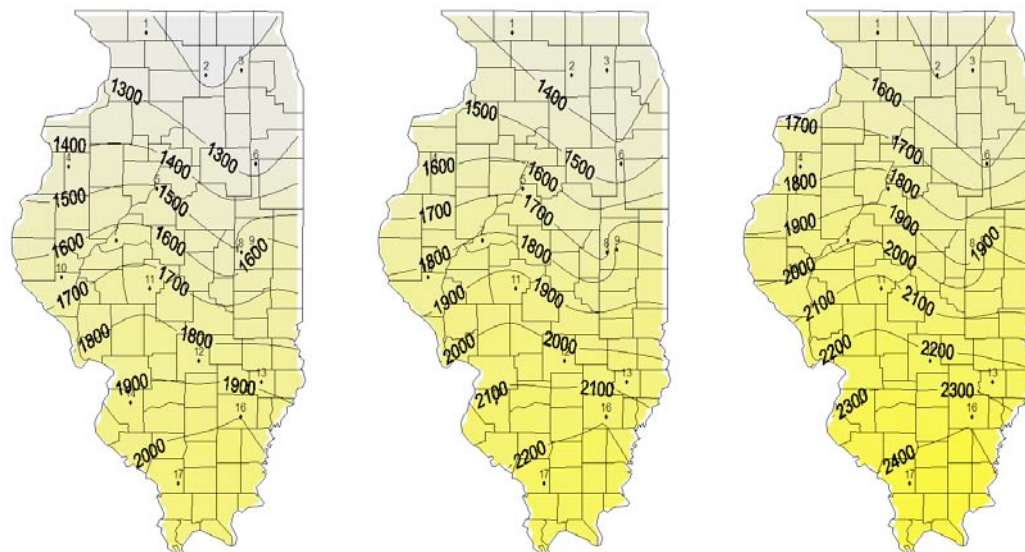
Sweet corn is tasseling on many farms in the region, and corn earworm and corn borer catches are relatively light in the region. Other insect pests such as cucumber beetles, squash bug, and aphids are present on cucurbits. Growers need to scout for squash vine borer in cucurbits and imported cabbage worm, cabbage looper and diamondback moth cole crops. Potato, pepper, tomato, muskmelon, pumpkin, and watermelon crops look great in the region. In Kankakee County, harvest of cabbage, summer squash, cucumbers, beets, green onions, and other greens such as mustard and collards underway on many farms. Sweet corn will be ready for picking during the next two weeks. Green beans are ready for harvesting in some farms.

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

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Degree-day Accumulations

Degree-day accumulations, base 50 degrees F, starting January 1, 2009.

Station	County	Base 50F DD Jan 1 – July 12, Historic Average	Base 50F DD Jan 1–July 12, 2009	Base 50F DD Jan 1–July 19, 2009 (Projected)	Base 50F DD Jan 1–July 26, 2009 (Projected)
1. Freeport	Stephenson	1375	1215	1375	1536
2. Dekalb	Dekalb	1440	1183	1339	1495
3. St. Charles	Kane	1338	1208	1361	1514
4. Monmouth	Warren	1535	1421	1584	1749
5. Peoria	Peoria	1604	1508	1683	1859
6. Stelle	Ford	1513	1244	1413	1581
7. Kilbourne	Mason	1720	1643	1817	1992
8. Bondville	Champaign	1635	1494	1663	1833
9. Champaign	Champaign	1665	1669	1848	2029
10. Perry	Pike	1659	1645	1821	2000
11. Springfield	Sangamon	1765	1766	1954	2143
12. Brownstown	Fayette	1866	1837	2026	2219
13. Olney	Richland	1850	1877	2062	2249
14. Belleville	St. Claire	1937	1935	2124	2316
15. Rend Lake	Jefferson	2018	Missing	Missing	Missing
16. Fairfield	Wayne	1957	2000	2194	2392
17. Carbondale	Jackson	1950	2054	2242	2434
18. Dixon Springs	Pope	2006	Missing	Missing	Missing



Degree-day accumulations, base 50 F, January 1- July 12, 2009 (left), and projected through July 19 (center) and July 26 (right).

Degree-day accumulations presented in the maps above based on weather stations in the Illinois State Water Survey WARM data base have been taken from the Degree-Day Calculator on the University of Illinois IPM site (<http://www.ipm.uiuc.edu/degreedays/index.html>). The maps present 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 Estes) 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).

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

Notes from Chris Doll

A nice rain of 3.3 inches heralded a cool 4th of July weekend, and for the first time in 13 years caused a big slowdown in the Edwardsville Farmers Market. Coupled with it was a wetting period of 31 continuous hours according to the data logger. Time will tell how much fungal infection will occur following those conditions. In the Back-40, all fruit crops were 14 days from the last spray, so stay tuned for the results. The wetting hours for sooty blotch and flyspeck now total 310 hours. And there are 1630 degree-days (base 50) since codling moth biofix on May 3.

The rain was most welcome after three weeks of very little rain and some very high temperatures. Non-irrigated primocane red raspberries in early bloom plus the renovated strawberries were showing signs of drought injury. But tree fruits continued to size up, with the early stone fruit varieties ripening. Compared to the 2008 season, this year's crop is maturing about five days earlier. There is some coloring on Red Haven and Saturn peach, Pristine and Redfree apples are nearing maturity, and the first Triple Crown blackberries have been picked. Red raspberry varieties are in various stages of flowering, with Anne just beginning, Heritage has some five day-old berries, and the Autumn Brittan are 7-10 days set. It all means that they will most likely ripen in the heat of late July and early August.

Some serious fireblight infections have been reported this spring even though growers tried to properly time the antibiotic sprays. Consensus is that the extended bloom period, with several showers followed by some late blooms, created the problem. I am not sure if any of it is due to resistance and would like to check the spray dates and weather data before saying resistance is present. The only confirmed resistance in my old Extension territory was back in 1987, when Dr. Steve Ries did the analysis for the growers.

Japanese beetle populations are causing problems a little later this year, and Ren Sirles said that they are quite prevalent, especially in vineyards in southern Illinois. I see some lacy leaves on grapes, brambles and Honeycrisp apples, which happened with my extended spray interval. A personal problem that I have seen more of this year is San Jose Scale on apples, peaches, and plums. I missed the crawler stage a month ago and am paying the price.

Once again, July 1 has passed, which has been the traditional cut-off date for sprays of glyphosate herbicides in apple orchards because of the potential for downward movement of the material into the roots when basal sucker and low-hanging branches are sprayed too. Most peaches do not have the basal suckers to worry about, but any contact with leaves and low branches can also cause adverse reactions. Gramoxone is the most commonly used contact herbicide for contact burn-down at this time of the year, but Rely, albeit more expensive, will also do a good job. Perennial broadleaved weeds are best sprayed with amine 2,4-D type products, with due care to prevent drift.

Hand thinning of apples and peaches can still be done, with the primary goal of eliminating small and defective fruits so as to improve pack-out. Another purpose of thinning at this time is to reduce crop load to eliminate the possibility of limb breakage or to lessen the limb bending that leads to sunburn on apples.

Back to the past ... In the 1939 ISHS Transactions, Dr. Victor Kelley summarized the factors affecting the price of apples as follows: (1) low purchasing power; (2) unemployment; (3) too many apples; (4) too much competition from other fruits; (5) exports of apples too low; (6) high cost of production; (7) poor distribution; and (8) too many varieties. During a discussion of those conditions, one grower made a statement that some of you might say, "We are in this apple game for the love of it and for what we can get out of it".

Do times change or when did some of our practices begin? The 1940 ISHS Transactions (pages 180-191) contains a presentation on The Methods of Processing Apple Juice, and mentioned the following methods of preservation: (1) flash pasteurization; (2) holding pasteurization; (3) chemical preservation with sodium benzoate; (4) freezing; and (5) preservation by carbon dioxide under pressure. Three of these continue to be used.

Chris Doll

Fruit Production and Pest Management

Apple Diseases

Fire blight. Fire blight is widely present in commercial orchards in various parts of Illinois. Blossom blight, fruit blight, and shoot infection are wide-spread. Some trees have more than 70% of shoots infected and have no healthy fruit. Prolonged bloom period and heavy rainfall and storms during bloom and post-bloom provided conducive conditions for fire blight infection. No effective treatments are available to cure the existent fire blight infection during the current season. Further information on the incidence of fire blight in Illinois will be collected, and appropriate methods to prevent infection during next growing season will be discussed in the winter school meetings. Understanding biology of the pathogen and epidemiology of the disease are very important in management of fire blight. For information in this regard, refer to the following link: <http://www.aces.uiuc.edu/vista/abstracts/a801.html>.



Scab. Due to the continued rainfalls in the early growing season in 2009, some growers were not able to make on-time applications of fungicides for control of apple scab. As a result, scab infection of leaves and fruit occurred in some orchards, particularly in central and northern Illinois. Scab, caused by the fungus *Venturia inaequalis*, is a very serious disease of apples and pears in Illinois. Control of early season scab (primary scab) in apple and pear orchards is essential. The first spray must be applied at green tip. Primary scab spores mature and are disseminated at early bloom. Although early-season infection of scab was established in some orchards, effective fungicide applications prevented foliage defoliation and minimized the spread of the disease in May and June. More information on biology of the pathogen and epidemiology and management of the disease is available in the following links: http://www.caf.wvu.edu/KEARNEYSVILLE/disease_descriptions/omapscab.html, <http://www.ipm.ucdavis.edu/PMG/r4100411.html>, <http://www.extension.iastate.edu/Publications/PM1282.pdf>.



Apple Scab: Leaf and Fruit Infection

Rust. Relatively heavy infection of rust disease in leaves has been observed in several orchards in Illinois in the current season. However, yield or quality losses are not expected in commercial orchards. Effective control of the disease can be achieved by using fungicides in early growing season, beginning the pink stage. For the up-to-date on the fungicide applications for control of apple rust refer to <http://www.extension.iastate.edu/Publications/PM1282.pdf>.



Apple, Rust on Leaves, Illinois, 2009

Babadoost

Peach Diseases

Brown rot. In 2008, widespread brown rot of fruit occurred in peach orchards in Illinois. This year, the disease has already been observed in some orchards. Brown rot, caused by *Monilinia* spp., is a serious disease of stone fruit. The disease causes blossom blight, twig blight, and fruit rot. Brown rot occurs on ripening fruit. Under conducive conditions, decay of ripe peaches may be visible within 48 hours of infection. Green fruit dropped on the orchard floor during thinning may be infected. Immature fruit on the trees are seldom infected, unless they are in contact with disease tissue or injured by frost or insects. Usually, infected fruit with brown rot remain attached to the tree. *Monilinia* species overwinter on mummies and blighted blossoms and twigs. Spores are produced on infected tissues

under cool, wet condition in late winter or early spring. Spores may also be produced on prunings on the orchard floor. Spores can be produced at $\geq 41^{\circ}\text{F}$ and disseminated by wind and rain. Spores germinate rapidly and infect plant tissues. Wetness of fruit caused by dew, rain, or sprinkler irrigation can trigger infection. A single rain shower during fruit maturation can cause heavy fruit losses to brown rot. For control of brown rot of stone fruit, cultural practices and fungicide sprays are needed. Removal of mummies and pruning infected twigs reduce the inoculum level. Control of insects that are vectors of the pathogen or wound the trees, is recommended. To reduce post-harvest decay, rapid cooling of fruit delays development of brown rot. Artificial ripening of fruit at high temperature (e.g., 95°F), which is too warm for the growth of pathogen, is recommended. Several fungicides are available for control of brown rot of fruit, including Adament (tebuconazole), captan, Elavate (fenhexamid), Elite (tebuconazole), Indar (fenbuconazole), Orbit (propiconazole), Pristine (pyraclostrobin + boscalid), Quash (metconazole), Rovral (iprodione), sulfur, Topsin-M (thiophanate-methyl), and Ziram. For the up-to-date on chemical control of brown rot of stone fruit, refer to the 2009 *Midwest Tree Fruit Spray Guide* (<http://www.extension.iastate.edu/Publications/PM1282.pdf>).



Split fruit. Due to more than normal rainfalls, some fruits in early-ripening peach cultivars split at the stem attachment. As a result, water penetrates into the fruits and fruit rot develops from inside out. To avoid rot, split fruits should be harvested and consumed as soon as possible.



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Codling moth updates

Codling moth biofix dates and degree-day (base 50F) accumulations:

	Biofix Date	DD Base 50 F, through July 12	DD Base 50 F, projected through July 19	DD Base 50 F, projected through July 26
Murphysboro (Carbondale weather data)	April 24	1692	1880	2072
Centralia (Fairfield weather data)	April 28	1594	1790	1986
Hardin (Brownstown weather data)	April 30	1448	1639	1831
Urbana (Champaign weather data)	May 10	1266	1445	1625
Rockford (Dekalb weather data)	May 19	915	1072	1227

Developmental events for the codling moth based on degree-day accumulations are presented below. Second-generation moth flight should be well underway in the far south and will begin soon as far north as Urbana. First generation egg hatch should be a little more than 50 percent complete in far northern Illinois.

Codling moth development:

90 percent of first generation moths emerged	~500 DD ₅₀ after biofix
90 percent of first generation eggs hatched	~730 DD ₅₀ after biofix
First moths of second generation emerge	~860-900 DD ₅₀ after biofix
First eggs hatch for second generation larvae	~1100-1120 DD ₅₀ after biofix
50 percent of second generation moths emerged	~ 1340 DD ₅₀ after biofix
50 percent of eggs have hatched for second generation larvae	~ 1580 DD ₅₀ after biofix
90 percent of second generation moths emerged	~ 1660 DD ₅₀ after biofix
10 percent of third generation moths emerged	~ 2100 DD ₅₀ after biofix
First egg hatch for third generation larvae	~ 2160 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

Tomato diseases

Bacterial diseases of tomatoes occur in commercial fields and home gardens in Illinois every year, causing up to 100% crop losses. There are three commonly occurring bacterial diseases in Illinois, as follows: (1) Bacterial canker, caused by *Clavibacter michiganensis* subsp. *michiganensis*, occurs as leaf browning, vascular discoloration, and fruit lesions which have dark brown center and distinct white halo known as the bird's-eye spot. (2) Bacterial spot, caused by *Xanthomonas campestris* pv. *vesicatoria*, appears as small, dark lesions on leaves and black spots on fruit. Symptoms develop on immature fruit; ripe fruit are rarely infected. (3) bacterial speck, caused by *Pseudomonas syringae* pv. *tomato*, develops as lesion on leaves and fruit. Leaf lesions are small, black, often with a yellow halo. Infected fruit develop lesions, which are small, sunken, black, surrounded by dark green halo. All three bacterial diseases have already been observed in tomato fields. For management of bacterial diseases of tomatoes, the following recommendations should be practiced: (1) use only certified, pathogen-free seed; (2) plant only certified, disease-free transplants; (3) in greenhouses and seedbeds, soil must be sterilized; (4) practice 2- to 3-year crop rotation with non-host crops; (5) follow good sanitation programs; (6) in the field, control irrigation to minimize plant wetness; (7) control weeds; and (8) sprays of copper compounds could help in protecting healthy plants. For more information on chemical control of tomato bacterial diseases in commercial fields, consult the *Midwest Vegetable Production Guide for Commercial Growers* (http://www.btny.purdue.edu/pubs/ID/ID-56/ID-56_Production_Guide.pdf).



White mold of tomato, caused by the fungus *Sclerotinia sclerotiorum*, is a minor disease in Illinois, but it occurs at the early fruit-ripening stage in central Illinois every year. White mold generally appears on tomato plants at flowering. Symptoms include water-soaked areas on flowers and at stem joints where senescent flower petals have fallen. The infection quickly kills stems, which eventually dry and take on a bleached appearance. Infected fruits turn gray and rot. Sclerotia on infected fruits are usually produced at the point of attachment with the plant. Affected areas generally show white, cottony mycelium that soon produces large, irregularly shaped, black sclerotia. White mold of tomato is a cool- and moist-weather disease. Any condition that contributes to poor air circulation and the retention of moisture is likely to aggravate the disease. Infected plants should be removed carefully and destroyed.



Pepper Diseases



Phytophthora blight of pepper, caused by *Phytophthora capsici*, has already been observed in pepper fields in Illinois. Because of moist conditions, widespread occurrence of this disease is expected in 2009. The first symptom on pepper in the field is commonly crown rot. A lesion girdling the base of the stem causes rapid collapse and death of the plant. Following rainstorms, black, girdling lesions form on the stem and in the exiles of pepper branches, resulting in wilting of leaves and branches. The affected plants gradually die. Leaf symptoms are less common. When leaves are infected, half-moon-shaped, tan lesions form at the margin. Infected fruit develop dark, water-soaked lesions, which are commonly covered with white mold. The most effective practice in controlling Phytophthora blight of peppers is preventing the pathogen from being moved into the field. Pepper cultivars resistant to Phytophthora blight are available. 'Paladin' has shown high resistance against *P. capsici* isolates in Illinois. Also some other pepper cultivars resistant to Phytophthora blight are available. The plants should not be irrigated from a pond that contains water drained from an infested field with *P. capsici*. At least a 3-year crop rotation with non-host plants should be considered. Fungicides can be used to reduce Phytophthora infection in pepper fields. Chemical control measures commonly involve soil drenches (e.g., Ridomil Gold EC) early in the season and foliar applications during the season. Available effective fungicides for foliar application are: Tanos 50WDG (10 oz/acre), Forum 4.16SC (6 fl oz/acre), Presidio (4 fl oz/acre), and Revus 4.09SC (8 fl oz/acre). Also Ridomil Gold Copper, Agri-Fos, ProPhyt may be used to reduce *P. capsici* infection. For additional information on Phytophthora blight of peppers, refer to <http://veg-fruit.cropsci.illinois.edu/Vegetables/Main/vegetables.htm> and http://www.btny.purdue.edu/pubs/ID/ID-56/ID-56_Production_Guide.pdf.

Phytophthora blight of cucurbits, caused by *Phytophthora capsici*, is the most important disease of cucurbits in Illinois. It occurs in cucurbit fields every year, causing up to 100% crop loss. Phytophthora blight of cucurbits is expected to occur widely in Illinois in 2009, as it is a wet season. The disease causes seedling death, crown infection, vine lesions, and fruit rot (see the images). To minimize damage caused by Phytophthora blight in cucurbit fields, a combination of measures should be practiced. The most effective practice in controlling *P. capsici* is preventing the pathogen from being moved into a new field. The following practices can help to manage Phytophthora blight in cucurbit fields: (1) Select fields with no history of Phytophthora blight. (2) Select well-drained fields. (3) Avoid excessive irrigation. (4) Do not irrigate from a pond that contains water drained from an infested field. (5) Scout the field regularly for the Phytophthora blight symptoms, especially after major rainfall, and particularly in low areas of field. (6) When symptoms are localized in a small area of the field, disk the area. (7) Discard infected fruit, but not in the field. (8) Phytophthora blight of cucurbits can be controlled by using the following chemicals. Seed treatment with mefenoxam (Apron XL LS at the rate of 0.64 fl oz/100 lb seed) effectively protects seedlings of cucurbits until 5 weeks

after sowing seed. If you are going to plant cucurbit seed in a field with history of Phytophthora blight, do not hesitate to treat your seed with mefenoxam. Weekly applications of mandipropamid (Revus at 8 fl oz/acre) plus a copper compound (i.e., Kocide-3000 or Cuprofix Disperss) alternated with cymoxanil + famoxadone (Tanos at the rate 10 oz/acre) plus a copper compound, or cyazofamid (Ranman 400SC, 2.75 fl oz/acre), or with dimethomorph (Forum at the rate of 6 fl oz/acre) plus a copper compound, or Fluopicolide (Presidio, 3-4 fl oz/acre) can reduce development and spread of Phytophthora blight in cucurbit fields. Application of these fungicides must begin at the first sign of the disease and continued throughout the season, if conditions are conducive for development of the disease. For additional information on Phytophthora blight of cucurbits, refer to <http://www.aces.uiuc.edu/vista/abstracts/a945.html> and http://www.btny.purdue.edu/pubs/ID/ID-56/ID-56_Production_Guide.pdf.



Pumpkin Fruit Rot Caused by *Phytophthora capsici*



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Less Seriously ...

Messages posted on the “applecrop” news group recently focused on deer repellents, and after reports on the effectiveness (or not) of mint oil-impregnated twist ties , soap, fencing, and other approaches, Mo Tougas of Northborough, Massachusetts, offered the following ...

“We have found that Irish Spring works best in combination with dryer sheets and Guinness Stout.

You need to hang both the sheets and the soap on the perimeter of the orchard and place bottles of stout about every 50 feet or so.

Lebricons will smell the Irish Spring and see the white dryer sheets and think they are at a football (soccer) game. They will naturally drink the stout while hanging around in the trees around the perimeter of the orchard. While they enjoy the stout they will make such a scene that no self-respecting deer will be found near the orchard.”

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