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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

Regional Updates (from Maurice Ogutu)

Notes from Chris Doll (Japanese beetles, raccoons, effects of heavy rains, renovation time for strawberries)

Endosulfan Cancellation

Extension of Comment Period on the Safety of Fresh Produce

Fruit Production and Pest Management (Moratorium on the use of Revus Tops on Concord and Noiret grapes, northern Illinois vineyard management concerns)

Vegetable Production and Pest Management (Corn earworm and European corn borer, Phytophthora blight of cucurbits, crop/soil fertility concerns)

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

Upcoming Programs

- **Mississippi Valley Peach Orchard Tour. June 25, 2010. Important Update:** Due to an unforeseen commitment, Cates Orchard will no longer be a part of the tour. Instead of the visit to Cates, **we will begin the tour at the Bader Farm at 9:00 am.** Bader Farms is located at 38601 State Highway WW, Campbell, MO (573-246-2528. **Please preregister for lunch by e-mailing denklers@missouri.edu or calling Chris Waite at 573-686-8064** by Wednesday, June 23. **Directions:** From Sikeston go west on Highway 60, then south on Highway 25 at Dexter. Take Business 25 or Douglass street south through Malden to Highway J. Turn west on Highway J in Malden for 5 miles then south on WW Highway until you come to Bader Farm. From Poplar Bluff go south on Highway 53. Take Highway J east 6 miles then turn right on WW Highway to Bader Farm. **Lunch will be available at no charge for those who preregister** via e-mail: denklers@missouri.edu or phone: 573-686-8064.
- **International Herb Association Annual Meeting. July 11-15, 2010.** Collinsville, IL. For complete program details and registration, go to the following link: <http://web.extension.illinois.edu/edwardsvillecenter/downloads/23779.pdf>. For additional details or questions, contact Chuck Voigt at cevoigt@illinois.edu or (217) 333-1969.
- **North American Fruit Explorers. August 19-21, 2010.** Best Western Motel/Conference Center, Lafayette, IN. To view the program and registration form, check: <http://web.extension.illinois.edu/edwardsvillecenter/foodcrophort3031.html>. For additional details or questions: contact Ed Fackler at cefackler@gmail.com or 812-366-3181.
- **2010 Sustainable Agriculture Tours**
 - **June 18, Feeding Universities Sustainably**, Farmer Brown's Production Company and Mulberry Hill Farm, Jackson County
 - **July 26, Illinois Berries**, J & J Berry Farm, Jersey County

- **August 13, Romance Tour – Flowers and Wine**, Bright Flower Nursery and Famous Fossil Vineyard & Winery, Jo Daviess County and Stephenson County
- **September 15, Agritourism – Farm Fresh Fun**, Country Corner, Henry County.

A fee of \$20 per person will be charged for each tour, which includes lunch. This year two adults pay \$30 when registered together and children under the age of 10 attend free. Registration at least one week in advance is required. Visit http://web.extension.illinois.edu/smallfarm/ag_tours.cfm to register and for more details about each of the tours including a map and agenda. 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

In the northern region, soil moisture content is adequate to high in many counties in the region. Apple, pear, and peach fruits are sizing well. Strawberry picking continues on many farms. Sour cherry fruits are sizing well, and trees are covered with nets to protect the fruit from birds on some farms. Orchardists are making second cover sprays and thinning excess fruits. Spraying calcium on apple trees in order to protect the fruit from bitter pit, cork spot and Jonathan spot is also needed. Recent reports include peach leaf curl on peaches and anthracnose on strawberries.

Asparagus harvesting is done on many farms. Harvesting of early maturing vegetables such as leaf lettuce and spinach is underway, and planting of sweet corn, cucumbers, muskmelons, watermelons, peppers, tomatoes, and pumpkins continues. In the Kankakee area, early cabbage will be ready for cutting in about one week.

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

Notes from Chris Doll

As of June 11, things are still green and growing. At the ISHS meeting at Broom's Orchard on the 10th, an update on insects was given which included the sighting of some Japanese beetles. A trap was put out immediately upon arrival at home, and this morning there were four beetles trying to have their usual brand of fun in the trap. So, growers of grapes, blueberries, raspberries, and Honeycrisp apples, as well as many other crops, can look forward to protecting their crops from this voracious feeder of foliage and fruit. The timing is identical to 2009, and the estimated emergence time here is four to six weeks.

Other insect pests of the tree fruits have been less troublesome than in most years, but some trap programs have caught enough codling moth and Oriental fruit moths to justify control methods. The curculio and stink bug numbers have been down so far this spring. So far, only 2 stink bugs have been seen while picking strawberries and raspberries for two weeks. European red mites can be found on both apples and some peaches and will continue to require scouting as we move into the summer months.

The enjoyable time for the Back-40 is here, as harvests of strawberries, red and black raspberries, apricots, sweet red and yellow cherries, and blueberries are being enjoyed. However, the sweet cherry harvest was cut short by a couple or more raccoons and opossums. This takes some of the fun out of being a grower, as everyone knows. I thought that maybe a ground covering of one-inch mesh chicken wire under the ripening trees would hinder their approach to the trees, as a report said that these animals hate to walk on the wire. The appeal of ripe cherries finally overcame the animals fear of the wire, so another control method was shot down.

Reports of dying peach trees continue to come in. Unless trees are uprooted, the cause of death may remain undetermined – collar rot, vole damage, asphyxiation, borers or other reasons. Extended and high rainfall during the fall of 2009 and into the early spring of 2010 can be blamed for asphyxiation, during which absence of oxygen causes death. During periods of low or no oxygen, carbon dioxide levels can increase, and according to a note in "Fundamentals of Fruit Production" by Bradford, Sutton and Hooker, "the high concentration of carbon dioxide in the soil atmosphere may cause death as well as lack of oxygen."

If the soils in apple orchards are saturated, root growth is inhibited and water and nutrient uptake are reduced, little calcium is taken up and could cause the beginning of cork spot or bitter pit. The addition of calcium with cover sprays is highly recommended at this time. And if many areas are as wet as Carlinville was yesterday, the possibility of "herbicide washout" is quite possible this year. Gramoxone for chemical mowing might be needed later in the summer.

Matted row strawberry harvest is finished for most growers in this area. The task of renovating fields for another production year should begin as soil conditions and weather permit. The earlier the process is completed, the longer the season for plant recovery and growth. Fields infested with broadleaved weeds should be sprayed with an amine 2-4,D product that has strawberries on the label. Then wait a few days for the chemical to translocate through the weeds before mowing. Mowing then facilitates cultivation and row narrowing and reduces the potential of injury from fertilizers and herbicides such as Sinbar to the strawberry leaves. Best results from all the cultural treatments result when a timely rain or irrigation incorporates and activates the chemicals.

Chris Doll

Endosulfan Cancellation

From a news release from EPA ... The U.S. Environmental Protection Agency (EPA) is taking action to end all uses of the insecticide endosulfan in the United States. Endosulfan, which is used on vegetables, fruits, and cotton, can pose unacceptable neurological and reproductive risks to farm workers and wildlife and can persist in the environment.

New data generated in response to the agency's 2002 decision have shown that risks faced by workers are greater than previously known. EPA also finds that there are risks above the agency's level of concern to aquatic and terrestrial wildlife, as well as to birds and mammals that consume aquatic prey which have ingested endosulfan. Farm workers can be exposed to endosulfan through inhalation and contact with the skin. Endosulfan is used on a very small percentage of the U.S. food supply and does not present a risk to human health from dietary exposure.

Makhteshim Agan of North America, the manufacturer of endosulfan, is in discussions with EPA to voluntarily terminate all endosulfan uses. EPA is currently working out the details of the decision that will eliminate all endosulfan uses, while incorporating consideration of the needs for growers to timely move to lower-risk pest control practices.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA must consider endosulfan's risks and benefits. While EPA implemented various restrictions in a 2002 re-registration decision, EPA's phaseout is based on new data and scientific peer review, which have improved EPA's assessment of the ecological and worker risks from endosulfan. EPA's 2010 revised ecological risk assessment reflects a comprehensive review of all available exposure and ecological effects information for endosulfan, including independent external peer-reviewed recommendations made by the endosulfan Scientific Advisory Panel.

Endosulfan, an organochlorine insecticide first registered in the 1950s, also is used on ornamental shrubs, trees, and herbaceous plants. It has no residential uses.

For more information: <http://www.epa.gov/pesticides/reregistration/endosulfan/endosulfan-cancl-fs.html>

Comment Period on the Safety of Fresh Produce

The United States Food and Drug Administration has extended the comment period on developing preventive control measures for the safety of fresh produce until July 23, 2010.

For those of you who are not familiar with the food safety initiative, on March 19, 2009, President Barack Obama established a new Food Safety Working Group (FSWG), chaired by the Secretaries of the Department of Health and Human Services and the Department of Agriculture. The President charged the group with advising him on how to upgrade U.S. food safety laws, foster coordination of food safety efforts throughout the government, and ensure that laws are being adequately enforced. The FSWG is working with FDA and other federal agencies to achieve these goals. FDA announced earlier this year that it has begun working on a docket for the safe production, harvesting, and

packing of fresh produce (FDA-2010-N-0085). FDA has established this docket for interested parties to provide information and share their views on how it should proceed with developing safety standards for fresh produce at the farm and packing house and strategies and efforts to ensure compliance with the guidelines. Initially, FDA had set May 24, 2010 as the deadline for public comments and suggestions on this docket, but the deadline has recently been extended to July 23, 2010 (see [information below on how to submit comments to FDA pm this docket](#)).

Currently, the FDA is looking for information on how to coordinate produce food safety practices with other practices such as sustainable, organic production methods, environmental and conservation goals or practices, and existing state and federal statutes and regulations. The Food Safety Working Group has indicated that the FDA, over the next two years, would seek public comment and work to require adoption of these guidelines.

On August 3, 2009, FDA released draft guidelines for leafy greens, melons, and tomatoes. The guidelines are outlined in the following documents: (1) "FDA, Draft Guidance for Industry: Guide to Minimize Microbial Food Safety Hazards of Tomatoes; Availability" (74 FR 38438, August 3, 2009); (2) "FDA, Draft Guidance for Industry: Guide to Minimize Microbial Food Safety Hazards of Melons" (74 FR 38437, August 3, 2009); (3) "FDA, Draft Guidance for Industry: Guide to Minimize Microbial Food Safety Hazards of Leafy Greens; Availability" (74 FR 38439).

If you have comments or suggestion that you would like to share with FDA, you can send your comments electronically to <http://www.regulations.gov>, or you can submit written comments to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. Remember, FDA is looking for meaningful comments on how to proceed with developing these guidelines.

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Fruit Production and Pest Management

Moratorium On the Use of Revus Tops for Concord and Noiret in 2010

Hans Walter-Peterson, Cornell University Viticulture Extension Specialist for the Finger Lakes Grape Program recently distributed an email message stating that Syngenta has placed a moratorium on the sale and use of Revus Tops on Concord and Noiret grapes for the remainder of the 2010 growing season. Cornell Cooperative Extension has received reports of foliar damage to Concord and Noiret after spraying Revus Tops. The damage primarily consists of yellowing or dead tissue, usually between the main veins of the leaf, along with cupping or some other kind of deformation of the leaf (see photos). Representatives of Syngenta, chemical distributors, and the Finger Lakes and Lake Erie extension programs have been working to document the damage and to get a better handle on the circumstances under which it occurred. Wayne Wilcox is starting a trial out at the lab in Portland NY to better understand the conditions under which this foliar damage occurs as well. There are no reports of damage to any other varieties where Revus Tops has been applied, so growers should feel free to continue to use the material on other varieties.

Bill Shoemaker (630-584-7254, wshoemak@illinois.edu)



Foliar injury to Noiret grape from application of Revus Tops (Hans Walter-Peterson, Cornell University).

Northern Illinois Vineyard Management Concerns

June is a critical period during grape production. Flowering usually occurs in early June in northern Illinois, and the vegetative canopy is developing rapidly. Early season weed control strategies may be weakening, and fertility could become an issue if rains have been frequent. So for the grower, there is much to think about, and even more to do. Here are some concerns that should be addressed now.

This is the time of the season when grape berry moth can become a problem. This moth emerges from woody areas and looks for grape clusters as sites for laying eggs. The eggs hatch into a larva (worm) that crawls into the rachis of a grape flower and begins feeding on green grape berries. As they feed, they create webbing, catching frass (insect droppings) and making a big mess in the cluster. Rot organisms love this scenario and begin to infect the wounded berries. So if the insect is not controlled, the crop can become seriously compromised. Consult the ***Midwest Small Fruit and Grape Spray Guide*** for control strategies. There are many. Plus, if you spray your grapes for phylloxera, chances are good you will have controlled grape berry moth. Insecticides for phylloxera are active on grape berry moth as well.

Japanese beetle may be emerging soon. Remember how early the season was this year? The National Weather Service described this spring as one of the five warmest on record for northern Illinois. The beetles were warming up early this year as well, and adults could be 10-14 days earlier than last season. Be ready! They may be at high populations after a mild winter.

Disease pressure is mounting in the north this season. The frequent rainfall (almost daily for weeks now!) has led to high disease pressure from fungal foliar disease organisms. Depending on the susceptibility of the varieties being grown, black rot, phomopsis and downy mildew could be creating risk for the grape grower right now. Timely control methods must be in play right now or susceptible varieties could develop disease. If disease was already established in the crop, the disease could escalate dramatically under these conditions. This is a good time to reflect on the value of genetic resistance and those varieties which show high levels of resistance to all of the major foliar fungal diseases. Brianna and Marquette are two which come to mind.

Vegetative canopies are growing rapidly now. Many varieties have shoots 6-7 inches long by now. At this time tendrils are knitting, grabbing onto any structure available to allow the shoot to turn upward. Shoots may begin to race horizontally or even turn up growing through the top of the canopy. They should be combed down on high-wire system. This may require breaking tendrils, but that does not harm the vine. Cut them if it makes the job easier! Breaking shoots may result if not done carefully. This points to the value of having been early in shoot thinning, shoot placement, and early combing down of shoots. Lateral shoots are emerging from the crotch between leaf petioles and shoots. While small they can be snapped out easily, so remove them for at least the first 6 nodes while you work in the canopy. This will result in a more open canopy, better light penetration to the fruit, and less disease pressure within the canopy. If you want to use the leaf pulling technique, now is the time to remove the first two leaves on shoots, opening up the canopy even further. You may want to consider removing the third and fourth clusters from productive shoots right now. It will not impact yield much but will improve crop uniformity. All of the fruit will develop into maturity at nearly the same time.

Many growers are adding nitrogen right now... 25-30 lb of actual N/acre is a good amount to add if a similar amount was applied early in the season. Nitrogen is very mobile in soil moisture, so the frequent rain can move it deep into the soil profile. Grapes are deep-rooted, so mature plants may still capture that nitrogen, but small, young plants may not have much left available to them as their roots are not yet deep into the soil.

Weed control can be critical right now. If using herbicides, the early season pre-emergence application may be showing signs of relinquishing control. Another different application may be a good idea at this time. Read the label to determine the appropriateness of your choice and application method, as well as the age of your plants.

I hope you're taking advantage of these frequent periods of rain to catch up on your rest. It sure is a busy time of the year. Be sure to do your work safely.

Bill Shoemaker (630-584-7254, wshoemak@illinois.edu)

Vegetable Production and Pest Management

Corn Earworm and European Corn Borer in Sweet Corn

Although counts of corn earworm moths are low to moderate (less than 5 per night to 10-15 per night at all locations where we have traps, egg-laying on early sweet corn at the Dixon Springs station has been significant in the last 4-5 days – 1 to 2.5 eggs per ear. When susceptible crops in susceptible stages of development are rare, moths concentrate their egg-laying on the small amount of their preferred host – silking sweet corn – that is available. Sweet corn growers with early plantings in silk should be sure to apply an effective insecticide – a pyrethroid or Coragen, Belt, Radiant, or Entrust – at no greater than 3-day intervals if corn earworm traps in their area are catching even a few moths.

European corn borer is also active from Dixon Springs to at least as far north as Urbana. Sprays for corn borer control can be less frequent – 5- or 6-day intervals or adequate.

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

Phytophthora Blight of Cucurbits.

This note reports the observation of Phytophthora blight in pumpkin fields in central Illinois. Current wet conditions are very conducive for development of Phytophthora blight in cucurbit and pepper fields. If heavy rainfalls continue during the season, we should expect widespread Phytophthora blight in cucurbit and pepper fields throughout the state.



Phytophthora blight, 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 losses. The disease causes seedling death, crown infection, vine lesions, and fruit rot (see the images). The following practices can help to manage Phytophthora blight in cucurbit fields. (1) When symptoms are localized in a small area of the field, disk the area. (2) Discard infected fruit, but not in the field. (3) Do not irrigate from a pond that contains water drained from an infested field. (4) Use the following chemicals to suppress development of Phytophthora blight: (a) treat seed with mefenoxam (Apron XL LS at the rate of 0.64 fl oz/100 lb seed) prior to sowing, which effectively protects seedlings of cucurbits until 5 weeks after sowing

seed; and (b) apply weekly sprays of the following fungicides: mandipropamid (Revus at 8 fl oz/acre) plus a copper compound (i.e., Kocide-3000) alternated with cymoxanil + famoxadone (Tanos at the rate 10 oz/acre) plus a copper compound, or cyazofamid (Ranman 400SC, 2.75 fl oz/acre) plus a copper compound. Application of these fungicides must begin at the first sign of the disease and be 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.

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Crop Fertility Considerations for Specialty Crop Producers

This time of year can often be the stage of the season when crop fertility issues become apparent. The crops are beginning to make rapid progress in growth development. They are adding tissue in increasing amounts daily. High temperatures contribute to this but the primary reason is that the crop is at the right stage of development. Demand for nutrients is reaching its peak. That demand will be sustained for much of the remaining season.

Fertilizers applied earlier in the season have been incorporated into the soil moisture matrix and feeder roots have been tapping into those fertility elements. At the point where they have begun to utilize significant quantities of the fertilizer the supply is beginning to diminish. That's not all bad. You don't want to apply fertilizers that won't be used by the crop. It's a waste of money and a potential risk to the environment. But is there enough for the crop? There are several reasons to believe there probably is.

First, growers often figure how much fertilizer they need for a crop, then add a little more for insurance. Fertilizer is not a big expense on the balance sheet so tweaking it in favor of ensuring good crop production is often a rationale given for large fertilizer applications. Second, many growers don't account for contributions of residue from last year's crop to field fertility. They might if it's soybeans, or another legume. But even then, some consider it negligible and simply consider it luxury nutrients. Third, if a soil has any organic matter at all, it's probably contributing crop nutrients as it mineralizes during the growing season. This is especially true if moisture is abundant. That is one of several reasons to favor maintaining good organic matter levels in soils. Last, our soils in the Midwest have high cation exchange capacities (CEC). That means the clay fraction of our soils has "deep pockets". There are lots of chemical exchange sites in clay particles that manage availability of key nutrients. As demand reduces free nutrients in the soil moisture

matrix, clay particles release more of those nutrients. The crop then has access to more as they need it. Our Illinois prairie soils tend to have high CEC measurements.

Are there exceptions? Of course! Didn't you read the fine print? Some soils may not have high cation exchange capacity because they don't have much clay. Some of our sandy soil sites can have depths of 10-20'. They often don't have much organic matter either. If there is lots of rainfall in coarse soils, free nutrients in the soil moisture matrix may leach below the root zone. That's one reason why controlled delivery of nutrients through irrigation systems is well-suited to sandy soils. Another reason a soil may not yield up nutrients is pH imbalance. Once pH of soil drifts out of the optimum range (6.0 to 6.8), nutrients begin to get tied up in exchange sites in the soil. In other words, pH acts as a regulator in the soil. If it's out of range, it begins to shut down nutrient availability. Never let your soil get out of range with pH. You can add fertilizer all you want but some of it will get tied up and your money is wasted. Last, soils that have suffered severe erosion or historical weathering, such as on slopes, mounds and ridges, may have unique characteristics that preclude good nutrient availability. They may even be structurally poor for crop production, depending on the crop.

The stage of crop development is one reason why this is the time of year for tissue testing. The plant is mature enough to reasonably reflect nutrient levels but it has enough growing season left to justify a response by the grower. The economic potential of the crop is just beginning to materialize and the potential of initial investments needs to be preserved. Different crops have different protocols but they usually involve sampling leaves or petioles on tissue that has just reached maturity. A healthy, just mature leaf usually has a representative sample of the nutrients in the plant. For more information on nutrient management and tissue testing, a very good publication on this issue from the University of Minnesota can be downloaded at the following website; <http://www.extension.umn.edu/distribution/cropsystems/dc5886.html> . Good luck with your season!

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Less seriously ...

Every morning is the dawn of a new error.

My wife and I had words, but I didn't get to use mine.

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