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College of Agricultural, Consumer, and Environmental Sciences

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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.

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Upcoming Programs

Numerous educational programs for fruit and vegetable growers are slated for the 2009-2010 winter season. A partial list is presented below, and more details will be provided as the dates approach. Be sure to mark your calendar for the 2010 Illinois Specialty Crops, Agritourism, and Organic Conference January 6-9, 2010, at the Crowne Plaza in Springfield, IL.

- **Commercial Vegetable Production workshops. November 19 and December 14, 2009.** St. Peters, MO, hosted by University of Missouri Extension. The cost of the workshops are \$35.00 individually or \$60.00 together. For program details, check <http://extension.missouri.edu/stcharles/veg/> or contact Scott Killpack with University of Missouri Extension at killpacks@missouri.edu or 636-970-3000.
- **Great Lakes Fruit, Vegetable and Farm Market EXPO. December 8-10, 2009.** Grand Rapids, MI. Check <http://www.glexpo.com/index.php>.
- **Iowa-Illinois Fruit & Vegetable Growers Symposium. December 11, 2009.** Iowa State University Scott County Extension Office, Bettendorf, IA. Registration fee = \$25 for the first person from each enterprise, less for additional attendees. Contact the Johnson County (IA) Extension Office at 319-337-2145 or www.extension.iastate.edu/johnson.
- **Illiana Vegetable Growers' School. January 5, 2010.** Teibel's Family Restaurant, Schererville, IN. (More details in future issues of this newsletter.)
- **Illinois Specialty Crops, Organic, and Agritourism Conference, January 6-8, 2010.** Crowne Plaza Hotel and Convention Center, Springfield, Illinois. Check <http://www.specialtygrowers.org/confagenda.htm>.
- **Horseradish Growers School. January 28, 2010.** Gateway Convention Center, Collinsville, IL. (More details in future issues of this newsletter.)
- **Southern Illinois Commercial Tree Fruit School. February 2, 2010.** Mt Vernon Holiday Inn. Mt. Vernon, IL. (More details in future issues of this newsletter.)

- **Southwestern Illinois Commercial Tree Fruit School. February 3, 2010.** First Presbyterian Church, Hardin, IL. (More details in future issues of this newsletter.)
- **Southern Illinois Commercial Vegetable School. February 10, 2010.** Mt Vernon Holiday Inn, Mt. Vernon, IL. (More details in future issues of this newsletter.)
- **Illinois/Wisconsin (Stateline) Fruit and Vegetable Conference. February 15, 2010.** Harvard, IL. (More details in future issues of this newsletter.)
- **Kankakee Vegetable Growers School, February 24, 2010.** Kankakee County Extension Office, Bourbonnais, IL. (More details in future issues of this newsletter.)
- **Illinois Grape Growers and Vintners Association Annual Conference, February 25-27, 2010.** Springfield, IL. (More details in future issues of this newsletter.)
- **Organic Farming Conference, February 25-27, 2010.** La Crosse, WI. (More details in future issues of this newsletter.)
- **Illinois Small Fruit and Strawberry Schools. March 2-3, 2010.** Mt Vernon Holiday Inn, Mt Vernon, IL. (More details in future issues of this newsletter.)
- **International Herb Association Annual Meeting. July 11-15, 2010.** Collinsville, IL. (More details in future issues of this newsletter.)

Regional Updates

In southern and southwestern IL ... Corn and soybean harvest continues to be delayed. October was the wettest month on record for a number of counties in the southern region, resulting in some localized flooding. A few light frosts have been reported but no drops below freezing yet on an area-wide basis.

Since leaves are in the process of dropping, it is time to be thinking about sanitation measures to reduce the amount of overwintering apple scab pathogen. The fungus that causes apple scab overwinters on fallen leaves and develops fruiting bodies in the spring. The goal in sanitation is to speed decomposition of fallen leaves to prevent the apple scab fungus from successfully overwintering. This can be accomplished in a couple of ways. One is to mulch or flail mow in the fall or early spring (prior to green tip); keeping in mind that raking under the trees may be necessary to do a complete job. According to research by Turner Sutton, this method alone can reduce the risk of scab by 80 to 95 percent if all the leaf litter is mulched. A second method is to apply a solution of 5% urea (42 pounds per acre urea dissolved in 100 gallons of water) just before leaves fall or immediately after leaf fall to leaves on the ground to avoid any late-season stimulation of growth.

Additional Programs of Interest:

A Cover Crop Field Day has been scheduled for November 11 in the Campbell Hill area. This joint program between University of Illinois Extension, Natural Resources Conservation Service, and Illinois Soil & Water Conservation District will feature Mike Plumer, UI Natural Resource Extension Educator and will run from 9:00 a.m. to 12:00 p.m. This will be an opportunity to see the growth habit of various cover crop species, learn the benefits of growing cover crops over the winter, and also the benefits of mixing cover crop species together. This program is sponsored by Miller Farms, 918 Calvery Cemetery Road, Campbell Hill, IL. For additional information, contact John Miller at 618-426-1094.

A second Cover Crop Field Day is scheduled for November 18 in the Geff (Jeffersonville) area. This University of Illinois Extension program features different varieties of grass and legume covers planted at various dates. Also included will be various mixtures that contain forage radishes and oil seed radishes. The program starts at 1:00 p.m. and is hosted by Terry Taylor. The Taylor farm is located on the very southeast edge of the village of Geff off Hwy 45; look for large operation on the east side of the road. For further details, contact Mike Plumer at plumerm@illinois.edu or 618-453-5563.

Illinois growers are invited to attend a series of two commercial vegetable productions workshops being held in St. Peters, Mo on November 19 and December 14 and hosted by University of Missouri Extension. The cost of the workshops are \$35.00 individually or \$60.00 together. For program details, check <http://extension.missouri.edu/stcharles/veg/> or contact Scott Killpack with University of Missouri Extension at killpacks@missouri.edu or 636-970-3000.

Registration is now available for the Great Lakes Fruit, Vegetable and Farm Market EXPO (Grand Rapids, MI, December 8-10, 2009), one of the premier shows for fruit and vegetable growers and farm marketers. The EXPO includes educational programming for fruit, vegetable and greenhouse growers, and for farm marketers. Also not to be missed is the trade show with more than 300 exhibitors covering 4 acres of exhibit space in one hall. Pre-register by November 10 to save money at: <http://www.glexpo.com/index.php>.

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

At Dixon Springs, plasticulture strawberries are growing fairly well, although slightly warmer and drier weather would have allowed for better development. Fortunately, most growers had an earlier planting date than in the previous couple of years, and assuming we return to more normal fall weather (not having 5 and 6 days of rain in a row) development here at DSAC should be acceptable.

One unusual byproduct of the abnormally wet summer has been the development of a virtual army of slugs in our plasticulture strawberries. After bait application, we found as many as five dead slugs in a single planting hole. Growers are encouraged to check fields for this potential problem. One can use a board laid on the ground and then check under it after a couple of nights to see if slugs are present.

Other pest problems currently being encountered include two mammalian pests, voles and deer. Deer control will likely require some form of electrified fence and vole control will likely require a registered rodenticide. Be sure to scout fields carefully for voles, and if large grassy areas surround the strawberry planting, perimeter treatment should be considered even if problems within the planting currently are light.



Deer damage to plasticulture strawberries.

We wish to express our appreciation to Dr. Joe Kokini and the University of Illinois College of ACES Office of Research for making funds available for the purchase of two high tunnels for research at DSAC. We are in the process of ordering the structures, and they should be constructed and functional in time for research next spring. He has challenged us to gather industry support to help match his investment, and any contributions would certainly be welcome. However, equally important, I ask that if the opportunity should arise, please join me in thanking Joe for his investment of funds at DSAC. This investment greatly expands our capacity to meet the research and outreach needs of our Illinois fruit and vegetable industry.

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

From northern Illinois ... The 2009 season is almost over. Will anyone miss it? There were challenges for everyone around every corner. It was much cooler than normal. It was much wetter than normal. There was high disease pressure. The weeds continued flushing new populations with each rainfall. Perhaps we can be thankful insect populations were not any larger than they were. Okay, so that means this fall and winter would be a good time for assessment of your operation. How well did you respond to these challenges? What questions should you be asking yourself? Were your pest management strategies sufficient? How do you deal with the need for quality labor? Were your operational efficiencies capable of meeting scheduling demands when rain closed windows as fast as they emerged from the previous rainfall? Were your varieties producing quality products in these conditions that held up in marketing channels? Are you sufficiently capitalized to endure this kind of season? We may not see it again for a long time, but somewhere down the road is another season like this one. It's the nature of farming, particularly specialty crop farming, that survivors face these problems and overcome them. Learn as much as you can from this one.

Northern Illinois is very wet, just like the rest of Illinois. Most crops are out of the fields and orchards and vineyards. It's time to prepare for winter. Plastic mulch removal has been difficult but at least debris is deteriorating quickly. It's important that sprayers and irrigation equipment be winterized soon. In vineyards and trellised orchards, it's a good time to reduce tension on training wires for the winter. It's a good time to identify where problems occurred in the field and think about addressing them. Take notes on where weeds were a problem and what species. Is there still an opportunity to get some perennial weeds under control? Because it was very wet, you can probably identify where water tends to pool in your fields. Perhaps a new drainage system is in order. If disease became a problem in certain crops, rotation of crop families should be considered to reduce the risk of recurrence. Equipment can be cleaned up and prepared for winter maintenance. Perhaps it's time for trade-ins, trade-up, or the junk man. Was the equipment the reason you couldn't take advantage of weather windows of opportunity last spring? That may be one good reason to look at the schedule of winter meetings and make plans for attending some of them. I think you should call them "professional development opportunities". After this season, I can't think of a more challenging profession.

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

Notes from Chris Doll

Another unusual fall, with a very cool and wet October. Temperatures were below normal, with only 3 days above 70 degrees. My monthly rainfall total of 11.0 inches was less than many others, but everything is very wet for both horticulturists and grain farmers. I normally write about mouse/vole control at this time of the year but do we dare believe that these pests might have drowned? Three frosts have occurred which were enough to kill tomatoes, cucurbits, and beans, but nothing below 35 degrees here. So, strawberries continue to grow (plasticulture berries look good), bramble plants are fairly green, as are roses and apples. Some peach orchards had glorious yellow and orange-red coloration before leaf drop and most are now 75-90 percent defoliated. With all the talk about bacterial spot on peaches last summer, a copper spray at leaf fall and again next spring might help reduce 2010 infections.

One effect of the October rains was lots of cracking on apple varieties like Fuji and Goldrush. The maturity of these varieties was earlier than last year, but growers striving for full flavored fruit suffered some loss. In the back-40, a few Fuji are still hanging and only a few Goldrush have been picked, but are looking good on November 5. A couple of trees of Pink Lady will match the color from other parts of the world before the week ends. Speaking of apple varieties, apple growers are seeing many new varieties in the trade papers. We all know of some of the New Zealand introductions, but Washington State, Italy and Germany all have new varieties coming out.

We all know of the popularity of Honeycrisp and see it advertised and displayed in many places. This morning a local produce market had a large outdoor notice of having Honeycrisp. Having an apple with this popularity but without the cultural problems is one of the goals of the Midwest Apple Improvement Association (MAIA). This group has two plantings of seedlings at Eckert Orchards near Belleville and it is fun to walk through the 8 and 9 year old blocks to see the many variations in color, flavor, maturity season, tree shape, and disease resistance, especially in the company of people like Jim Eckert, Diane Miller and Mitch Lynd from Ohio, and Ed Fackler from Indiana. Some seedlings are being propagated for a second generation look and see and taste. Stay tuned, because more trees will be planted in 2010 and in a couple more Illinois orchards.

Another item that has made the press and meetings in the past year are the efforts to speed up decomposition of apple leave to eliminate some of the source of apple scab spores. One of the options is to chop or shred as many leaves on the orchard floor but I believe that it's impossible to shred all of them. Another option is to use 40 pounds per 100 gallons of urea sprays either to the leaves on the tree before leaf fall or on the ground after leaf fall. These have the benefit of being a nitrogen application either for translocation into the wood for winter storage or to the soil for next spring's uptake. Forty five years ago, Dr. John Titus of the University of Illinois was advocating such urea sprays as a good fertilization practice.

Reminders before taking off for deer, pheasant or rabbit hunting include prepping strawberry plantings with herbicides and mulches before freezing, having rabbit guards on young trees, feeding the mice that did not drown, doing what you can to protect plantings from deer damage, and being on the lookout for collar rot problems in wet areas.

Chris Doll

Fruit Production and Pest Management

USDA Conducting Fruit Chemical Use Survey

Agriculture Secretary Tom Vilsack announced on October 1, 2009, that USDA is conducting a Fruit Chemical Use Survey. This survey, last conducted in 2005, provides data about agricultural chemical use on fruit crops in the United States. USDA's National Agricultural Statistics Service (NASS) will include information on the chemical and fertilizer use and pest management practices for more than 20 selected fruit crops. NASS will collect survey responses through December and publish the results in the Fruit Chemical Usage report in July 2010. This report is an influential decision-making tool for everyone who serves the agriculture industry, including policymakers, agribusiness, trade associations and producers. Data from the Fruit Chemical Use Survey are a vital resource used to evaluate the Food Quality Protection Act, which has an impact on pesticide registrations, re-registrations and product alternatives. Growers are strongly encouraged to participate and are guaranteed by law (Title 7, U.S. Code) that their individual information will be kept confidential. For more information visit www.nass.usda.gov or call (800) 727-9540.

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

Wrapping Up the Northern Illinois Grape Season

Now that harvest is over, the work is done. Wrong! It never ends, does it? Winter is coming, and some things can be done to make your start next year an easier one. First, you must have identified lots of things you thought needed improvement during the growing season. Take some time to think about how the season went and write down anything you think you should improve. Do you need to shift one variety into a different trellis system? You'll need time to manage that change well. Were there specific pests who beat you up in the vineyard? This winter is ideal for spending some time learning about that pest and developing a strategy for your vineyard. Do you feel like you don't understand what canopy management is all about? It's easy to engage in such a practice without really knowing what you're doing. If so, you may be hurting more than helping. But you probably learned some things about it so write down your concerns and give yourself an opportunity to get on top of those practices this winter.

There are a number of things to do in the vineyard this time of year. You should release the tension on your training wires. As temperatures grow cold they'll shrink, putting more tension on your trellis system. The trellis can deteriorate over time as this re-occurs. Do you have young vines that are thin-skinned (lacking mature, corky bark) along the trunk? You may want to put out bait stations to get rodents under control. These animals love to feed on tender trunks in the winter, which can set the vines back a year or two. It can also kill scions on grafted vines. Speaking of grafts, do you need to cover the graft union? Most authorities say yes. Bring a mound of soil up and significantly over the graft union to protect it from winter temperatures. This is a great time of the year to get perennial weeds under control. If the weeds are still green, they're physiologically active. The vines are dormant, unless they're green too. You can spray Roundup with less worry right now. The weeds will absorb it and metabolize it, taking it down into the root system, where it can really cause damage. Your weed population will be knocked back really well. You can also do

some skirting or hedging to reduce the workload when dormant pruning time arrives. In fact, cutting back canes to 8-10 buds will let you wait really late and prevent early budbreak on the buds that matter most, near the base of the cane. The buds which will produce next season's shoots can be delayed for budbreak by letting the furthest most buds break first. Early budbreak varieties can benefit from the practice, reducing risk of late frost damage next spring. Get some of that work done now, while we still have some nice weather remaining. Hope to see you at the winter meetings.

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

Vegetable Production and Pest Management

Evaluation of Insecticides for Control of Corn Earworm in Sweet Corn, 2009

At the University of Illinois Integrated Pest Management Research Farm near Urbana we evaluated six insecticides for corn earworm control in sweet corn in 2009. Rates for individual products are listed in Table 1.

Table 1. Insecticides and rates.

Treatment No.	Insecticide	Application Rate
1	Untreated	
2	Coragen 1.67 EC + MSO	3.5 fl oz/A 0.5% V/V
3	Coragen 1.67 EC + MSO	5.0 fl oz/A 0.5% V/V
4	Voliam Express 1.25 ZC	7.0 fl oz/A
5	Voliam Express 1.25 ZC	9.0 fl oz/A
6	Warrior II 250 CS	1.28 fl oz/A
7	Warrior II 250 CS	1.92 fl oz/A
8	Belt 4 SC	2.0 fl oz/A
9	Belt 4 SC	3.0 fl oz/A
10	Radiant 1 SC	3 fl oz/A
11	Radiant 1 SC	6 fl oz/A
12	Entrust 80 WP	2 oz/A

Experimental Design and Methods

The experimental design was a randomized complete block with four replications. Plot size for each treatment was 4 rows x 30 feet; only the center two rows of each plot were treated. To assess insect infestation and injury, 25 randomly selected ears were picked from the center two rows of each 4-row plot. The number and size (small, medium, and large) of CEW, European corn borer (ECB) and fall armyworm (FAW) larvae were recorded for each ear, as were the number of sap beetle adults and larvae. We also recorded the number of damaged kernels per ear (tip and side).

Plot details and methods were as follows:

- Planting date: 25 June, 2009; harvest date: 03 September, 2009.
- Hybrid: 'Vision' (maturity 73 days).
- Insecticide application dates: 14, 17, 20, and 23 August, 2009.
- Applications were made using a CO2 backpack spray system – 10-ft boom, 15 GPA, 40 psi, TeeJet 80015vs spray tips, 3 nozzles per row, 2.5 mph.

Brief Summary

Population pressure was light to moderate for CEW and too low to allow evaluation of ECB, FAW, or sap beetle control. In the untreated check, there were 17 CEW larvae per 100 ears and 24 infested or damaged ears per 100 ears at harvest. Ear damage was often limited to silk channels, and few kernels were damaged even in the checks.

Observations:

- There were fewer damaged/infested plants in all treatments than in the untreated checks.
- Numbers of CEW larvae per 100 ears averaged 2 or less in plots treated with Coragen (3.5- or 5-fl oz rate), Voliam Express (7- or 9 fl-oz rate), and Radiant (3- or 6-fl oz rate).
- Among insecticide-treated plots, numbers of damaged/infested ears and numbers of CEW larvae were greatest in plots treated with Warrior at 1.92 fl oz/A, Belt at 2 fl oz/A, and Entrust at 2 oz/A.

A full report on this project will be published in the annual *Illinois Fruit and Vegetable Research Report*. This work was supported in part by Bayer Crop Science, Dow AgroSciences, DuPont Crop Protection, and Syngenta.

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

Less seriously ...

This just in. It's been soooooo dry in Texas

It's so dry in Texas that the Baptists are starting to baptize by sprinkling, the Methodists are using wet-wipes, the Presbyterians are giving out rain-checks, and the Catholics are praying for the wine to turn back into water.

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