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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, weinzier@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 (impacts of dry weather; stop-drop sprays for apples)

High Tunnels (Dixon Springs updates; fall considerations)

Fruit Production and Pest Management (preharvest intervals for apple and peach insecticides; northern Illinois viticulture update)

Vegetable Production and Pest Management (corn earworm in sweet corn and tomatoes)

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

Upcoming Programs

- **"Is Entrepreneurial Farming for You?" August 25, 2011, and September 13, 2011.** Workshops cover resource assessment, goal-setting, financial planning, and marketing options. These workshops will be held in University of Illinois Extension offices and will run from 5:30 p.m. to 9:00 p.m. at the Champaign County Office (801 North Country Fair Drive, Champaign) on August 25 and the Will County Office (100 Manhattan Road, Joliet) on September 13. Registration for each workshop is \$30 and includes a light supper. Payment can be processed online at <http://central.illinoisfarmbeginnings.org> or by contacting The Land Connection at 217-688-2570.
- **Plot tour, University of Illinois South Farms (vegetables and apples), September 16, 2011.** This is an opportunity for extension educators, growers, and others to tour specific research plots at Urbana-Champaign. Plots will include pumpkin disease management trials, sweet potato variety evaluations, All-American Selection plots, and apple insect management trials. 9:00 a.m. – 12:30 p.m., beginning at the Vegetable Crops Research Farm on South First Street in Champaign. There is no charge, but pre-registration is requested. We'll end by 12:30, and lunch is on-your-own. To pre-register, email Rick Weinzierl at weinzier@illinois.edu or call 217-244-2126. Driving directions will be provided.
- **Illinois/Iowa Fruit and Vegetable Symposium, November 18, 2011,** at the Scott County Extension Office, Bettendorf, IA. Details to come
- **Illinois Specialty Crops, Agritourism, and Organic Conference, January 11-13, 2012,** at the Crowne Plaza Hotel in Springfield, IL. Details to come

Regional Updates

In northern Illinois, early August has brought cooler weather with highs in the 70s to upper 80s and lows in the upper 50s to upper 60s. Soil moisture content is adequate to very high in the northern counties bordering Wisconsin, but it has been drier in the counties towards the central parts of the state. The region received 1-5 inches of rain, with higher amounts recorded in the northern counties, and hail was reported in some locations.

Apples are sizing well, and some early varieties such as Duchess, Lodi, Pristine, Red Free, William's Pride, and Prima are ready for picking in some orchards. Harvest of pears such as Harrow Delight is underway, and blackberry picking has begun as well.

Harvest of sweet corn, cabbage, cucumbers, green beans, broccoli, peppers, tomatoes, muskmelon, and summer squash continues, and watermelon harvest will start very soon. Western corn rootworm beetles and cucumber beetles are numerous, and tomato foliar and fruit diseases such as early blight, septoria leaf spot, bacterial spot, and bacterial speck are common, as is powdery mildew on cucurbits.

Maurice Ogutu (815-235-4125; ogutu@illinois.edu)

Notes from Chris Doll

DRY is the situation for many in this area. A brief shower of 0.2 inches on the 13th was half of the total of 0.4 inch during the last 43 days. About the only good thing is that the drought has slowed the growth of weeds and grass where the early season rainfall helped create "herbicide washout" primarily via leaching. The dryness has been coupled with high temperatures similar to much of the country to make for uncomfortable working conditions and some fruit problems. Sunburn on apples is easy to find and red color nearly absent until the last couple of days. I have seen non-irrigated loaded peach trees wilting and also ripening red skinned peaches with heat damaged flesh. The Fortschneider Orchard near Brussels reported that Jonathans were dropping from the dry weather conditions.

Disease control has been relatively easy during this period, and mites have been the major pest. Thank goodness for some good available miticides nowadays. Woolly apple aphids continue to pose a threat for some growers.

Peach harvest has proceeded through the succession of varieties into the Cresthaven season. Galas are ripe as the season has now approached 'normal' dates for maturity of most varieties. Thornless blackberry harvest is complete, and the fall red raspberry crop has bombed out due to high temperatures and the weather. However, the shoots of both black raspberry and thornless blackberry are trying to reach the ground to root tip with the rains that are due. I have not seen any yield reduction from trimming these shoots to prevent them from rooting and forcing removal at a later time.

Some stop-drop sprays are usually needed on several varieties of apples every year. For this area, it is getting late to use Retain, and it has not performed well during hot seasons in past years. That leaves NAA, at 10-20 ppm to be applied primarily ahead of early drop from maturity. If 10 ppm is used, it can be repeated if needed in 7-10 days. The latter might cause some increase in fruit ripening, but that is better than having fruit fall to the ground.

Chris Doll

High Tunnels

Update from Dixon Springs

High tunnel tomato work is about to wrap up at the University of Illinois Dixon Springs Ag Center in southern Illinois. We have had a fairly good season, with good growth and relatively good production as well. Data should be available in early September. Pepper trials, however, have been more difficult. Aphid and broad mite problems plagued our high tunnel pepper trials.

We are also establishing a new raspberry high tunnel trial, with a little production this year a full trial for the 2012 season. In addition, we are investigating the feasibility of a variety of crops in our vertical stacking system in the high tunnel. These crops include snap beans, various greens, cucumbers, squash, strawberries, and more.



High-tunnel tomatoes (left) and a variety of crops in vertical stacking systems (right).

Jeff Kindhart (618-695-2770; jkindhar@illinois.edu)

Fall High Tunnel Considerations

Hi-tunnels are great for growing produce in the off-season. Many growers have adopted them to serve as sources of supplemental production for their markets before and after the field production season. This isn't occurring just here. Tunnels for high-value crop production have been adopted all over the world. In fact, the US is not a leader in tunnel adoption. Spain and China have many times more acreage under tunnels than the US. However, US production is growing rapidly because tunnels have great value.

Why are tunnels so useful? They use solar energy to warm the growing environment of the crops in the tunnel. Solar radiation generates heat, warming the air in the tunnel, and accelerating plant growth. But the solar radiation also heats the soil in the tunnel, creating a storage system for heat which is released at night. To some degree, this keeps the tunnel warm, protecting plants beyond the daylight hours, further driving growth and development of crops.

In the fall, day length diminishes rapidly, and even though crops in tunnels may not be killed by extreme cold, they may not have sufficient energy to grow or properly ripen a crop. Providing supplemental heat comes to mind, but it is a battle with diminishing returns, as the outside environment robs the tunnel of heat, especially at night.

The point is that tunnels require a different strategy in fall than spring because two primary inputs, light and heat, are not available at similar levels. Fall tunnels require strategies which favor cool-season crops because of diminishing resources, while spring tunnels favor warm season crops due to rapidly increasing availability of light and heat. Management practices also need to be modified to make best use of those resources.

Using funds from a grant provided by the Illinois Department of Agriculture's Specialty Crops Block Grant Program, a new 30'x96' high tunnel similar to one at Dixon Springs was erected this summer at St Charles. Both sites will see significant activity in coming years to define how to best manage them in northern and southern Illinois. Watch for workshops and research results in the future.

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

Fruit Production and Pest Management

Preharvest Intervals for Apple and Peach Insecticides

As peach harvest continues and apple harvest begins, maintaining control of oriental fruit moth and codling moth remains a priority in these crops. A key concern is making sure that the required preharvest interval elapses between the last application of an insecticide and the time the fruit is picked. Your choice of what to spray should take this into account. The 2011 [Midwest Tree Fruit Spray Guide](#) includes a table that lists preharvest intervals (PHIs) for all insecticides and miticides labeled for use on these crops (on pages 45-46). Here are PHIs for several of the products most widely used for oriental fruit and codling moth control in apples and peaches.

| Insecticide | PHI in apples | PHI in peaches |
|--------------------------|-----------------|----------------|
| Altacor | 5 | 10 |
| Assail | 7 | 7 |
| Avaunt | 14 | 14 |
| Guthion (azinphosmethyl) | 14-21 | Not labeled |
| Baythroid | 7 | 7 |
| Belt | 14 | 7 |
| Clutch / Belay | 7 | 21 (Belay) |
| Delegate | 7 | 14 |
| Diazinon | 21 | 21 |
| Endosulfan | 7 | 14 |
| Entrust | 7 | 14 |
| Imidan | 7 | 14 |
| Intrepid | 14 | 7 |
| Mustang Max | 14 | 14 |
| Pounce (permethrin) | Not recommended | 14 |
| Renounce | 7 | 7 |
| Rimon | 14 | 8 |
| Sevin | 3 | 3 |
| SpinTor | 7 | 14 |
| Warrior | 21 | 14 |

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

Northern Illinois Viticulture Update

Grapes in northern Illinois made slow progress early in the season due to cool weather, but the last two months have been hot, which has pushed vines to mature early. At St Charles, veraison occurred a little earlier than normal on most varieties, especially if they were carrying a light crop. Recent measurements of fruit juice show that sugar levels are building, with measurements on the very earliest varieties coming close to 18 degrees brix as of mid-August. Most varieties are not so sweet yet, but with strong sunshine, warm days, and cool nights, sugar levels are building. Growers and winemakers should be communicating to make sure everyone is ready when harvest-time arrives.

This is a good time to evaluate how well canopy management was practiced in the vineyard this season. Can you see the fruit without having to move foliage? If not, you may need to remove more shoot material in June, particularly lateral shoots which branch from the primary shoots. Are shoots hanging down or growing straight upward? They should be one or the other, depending on your training system. Shoots growing laterally through the canopy are defeating the purpose of canopy management. They need to be combed up, or down. Are all the fruit clusters totally exposed to the sun? They shouldn't be. They need to have some leaf cover providing intermittent shade and light through the day. Berries completely exposed can easily suffer sunburn, which robs fruit of quality.

Japanese beetles were plentiful this year, but perhaps not as much as in the past. They were late to emerge and populations didn't seem to reach the levels of previous seasons. And while they certainly were putting pressure on

growers for control measures, they didn't seem to repopulate the vineyard after sprays as quickly as in previous seasons. At mid-August, populations seem to be diminishing.

As we approach maturity, we are not the only ones watching the berries mature. The shorter days and cooler nights are triggering birds to flock. They are looking for rich food to build body fat for migration in the fall. Grapes are a great choice for them, a terrible choice for growers. Are the vines protected from bird feeding? Birds are smart. If they only have nets between them and the fruit, they will work hard to breach the nets. Often they succeed. If they only have scare devices intimidating them, it won't take long for them to overcome their fears. A few successful forays into the vines to feed, and they won't even notice the scare device anymore. Use both strategies and they won't enjoy so much success. Use alarms to scare them and nets to block them. Without any successful forays, they'll move on to easier targets, such as wild grapes in the nearby woods.

Keep your eyes open for the presence of fruit insects, such as yellowjackets and multi-colored Asian lady beetles. As fruits begin to mature, these insects will notice and start looking for ripe fruit to harvest. A sound crop free of flaws, disease, and cracks will not be as attractive as fruit that has been breached. These insects are attracted to open wounds for easy feeding and moisture. Keeping the fruit from birds actually diminishes risk from these insects. Clean fruit makes happy winemakers and better wine.

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

Vegetable Production and Pest Management

Corn Earworm in Sweet Corn and Tomatoes

Although corn earworm moth counts have not yet risen dramatically at many locations as they often do at this time of year, any moths present now are concentrating nearly all their egg-laying on sweet corn, tomatoes, and other susceptible vegetable crops because field corn silks are all dried now and not attractive. Effective insecticides for sweet corn include Belt, Coragen, Radiant, and the pyrethroids Brigade, Hero, Mustang Max, and Warrior (and the generic products with the same active ingredients). Voliam Xpress contains a combination of the active ingredients found in Coragen and Warrior. Using Belt, Coragen, Radiant, or Voliam Xpress will control earworms that are resistant to pyrethroids ... unfortunately, we don't know in advance if the earworm moths that migrate into the region each year from southern regions are pyrethroid-resistant or not. For tomatoes, effective insecticides include Coragen, Radiant, the pyrethroids Brigade, Mustang Max, and Warrior, and the pre-mix Voliam Xpress. For sweet corn and tomatoes, the most effective insecticide for use in organic production is Entrust. See the [Midwest Vegetable Production Guide](#) for complete listings of labeled insecticides and rates.

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

Less seriously ...

The Cannibal

A cannibal was walking through the jungle and came upon a restaurant operated by a fellow cannibal. Feeling sort of hungry, he sat down and looked over the menu ...

| | |
|-------------|----------|
| Tourist | \$5.00 |
| Missionary | \$10.00 |
| Explorer | \$15.00 |
| Congressman | \$100.00 |

The cannibal called over the waiter and asked, "Why such a high price for a Congressman?"

The waiter called out the cook, and the cook answered, "Have you ever tried to clean one? They're so full of B.S. it takes all morning."

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