

College of Agricultural, Consumer, and Environmental Sciences

## ***Illinois Fruit and Vegetable News***

Vol. 10, No. 12, July 13, 2004

*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, 217-333-6651, [weinzierl@uiuc.edu](mailto:weinzierl@uiuc.edu). The ***Illinois Fruit and Vegetable News*** is available on the web at: <http://www.ipm.uiuc.edu/ifvn/index.html>. To receive email notification of new postings of this newsletter, call or write Rick Weinzierl at the number or address above.

*This issue's words of wisdom ... which usually means the jokes ... are at the end of newsletter ... check the last page.*

### ***In this issue ...***

**Crop and Regional Reports** (from Maurice Ogutu)

**Degree-day Accumulations**

**Notes from Chris Doll** (peach harvest, insect observations, raspberries, nutrient analysis, and water sprouts)

**Fruit Production and Pest Management** (leaf analysis for nutrient deficiencies)

**Vegetable Production and Pest Management** (potato leafhopper, bean leaf beetle)

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

### ***Crop and Regional Reports***

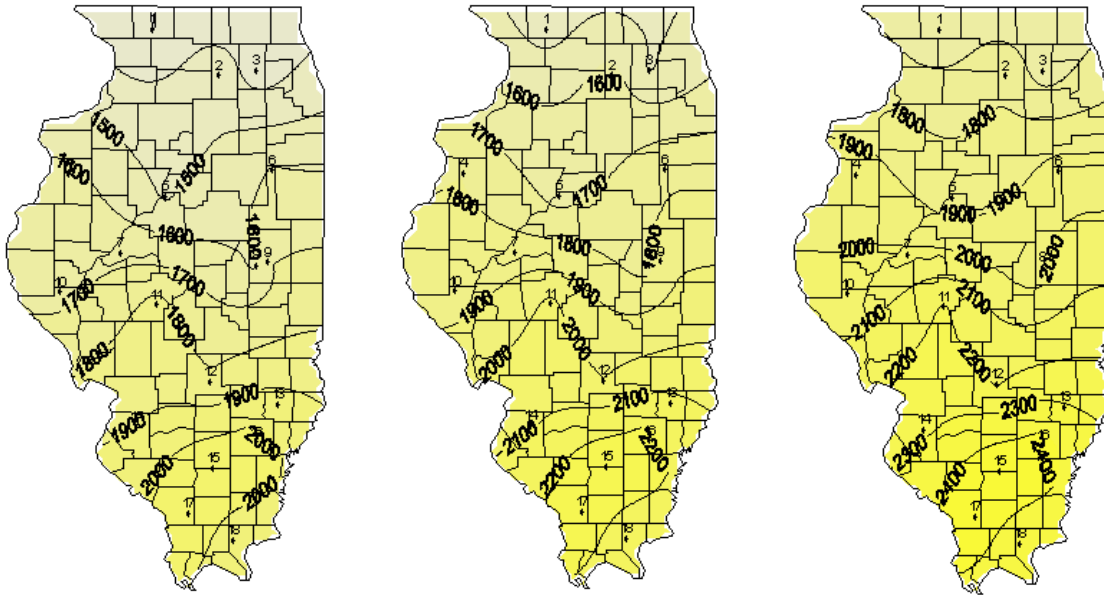
**In northern Illinois**, average day temperatures have been in the 70s to upper 80s and night temperatures have ranged from the 50s to upper 60s during the July 1-10 period. During the same period, varying amounts of rainfall were recorded in the area, with the highest amount of about 4 inches in Chicago, 1-2 inches in many areas, and less than ½ inch in Kankakee area. Very low soil moisture in the Kankakee area led to turning on irrigation equipment in many vegetable fields. Growers in areas where soil moisture is low need to water their tomatoes and peppers well to control blossom end rot.

Orchardists are going on with summer spray programs, and the apple fruits are sizing well. Japanese beetles have been observed in orchards as well as vegetable fields. Growers in the Kankakee area are harvesting sweet corn, and in northern counties picking about the date this newsletter goes to press (July 13). First-planted cabbage harvesting is going on in the Kankakee area, and peppers will be ready in about a week. Muskmelon and watermelon fruits are sizing well there, while in northern counties they are in the flowering stage. Aphids and whiteflies were observed in some vegetable fields in the Kankakee area, with the aphids mainly on pumpkins. Potato leafhoppers were common last week in potato fields. Some light leaf scorch problem on cucumbers, melons, and pumpkins was observed a couple of weeks ago around the Chicago metropolitan area, but the plants have recovered from it.

*Maurice Ogutu (708-352-0109; [ogutu@uiuc.edu](mailto:ogutu@uiuc.edu))*

### ***Degree-Day Accumulations and Projections***

To view an up-to-date contour map of accumulated degree-days in Illinois, go to <http://www.sws.uiuc.edu/warm/pestdata/choosemap.asp?plc=#>, and select a base temperature of 50°F. To reach the degree-day calculator, go to: <http://www.ipm.uiuc.edu/degreedays> or <http://www.sws.uiuc.edu/warm/agdata.asp>.



DD accumulations, base 50 F, for January 1 through July 12 (left) and projected through July 19 (center) and July 26 (right).

No.	Station	County	Base 50 Degree-Days Jan 1 - July 12
1	Freeport	Stephenson	1298
2	Dekalb	Dekalb	1482
3	St. Charles	Kane	1339
4	Monmouth	Warren	1634
5	Peoria	Tazewell	1489
6	Stelle	Ford	1609
7	Kilbourne	Mason	1668
8	Bondville	Champaign	1589
9	Champaign	Champaign	1693
10	Perry	Pike	1667
11	Springfield	Sangamon	1833
12	Brownstown	Fayette	1811
13	Olney	Richland	1938
14	Belleville	St. Clair	1901
15	Rend Lake	Jefferson	2077
16	Fairfield	Wayne	2043
17	Carbondale	Jackson	2092
18	Dixon Springs	Pope	1929

*Notes from Chris Doll*

The temperatures and humidity have arrived with the onset of peach harvest. Red Havens are being picked from here south, and the 90-degree days will push other varieties to follow. Most orchards received rainfall over the 4th of July weekend, and so crops and cover crops are growing. The negative side is that more hail damage occurred in a couple of orchards in the area.

Degree day-50 accumulations for Edwardsville are 1680 from codling moth biofix and 1995 for the year. Codling moth trap counts are down from early first generation numbers but continue to be high enough to make spraying a must. Oriental fruit moth counts are on the rise, and a few tufted apple bud moths have also been caught. A couple of tufted apple bud moth larvae were found in both apple and peach in southern Illinois last week.

Necrotic leaf blotch of Golden was reported in Calhoun County and then noted in the Back-40 also. Some fireblight strikes continued in the past two weeks, and more cedar-apple rust leaf and fruit lesions have been seen this year than in recent history. A visit to a hobby orchard in Virginia last week was highlighted by checking the cedar apple rust infections there too.

The Virginia orchard also had animal problems similar to the Back-40. A 6-foot deer fence protected some of the planting, and some ripening peach and plum trees had electric fence wires around the trunks to exclude raccoons. Japanese beetles were present in Virginia too, but luckily my preventative spray with Imidan gave protection for the six days of travel. However, numbers were building up on the seventh day. The pressure from this pest is less than some previous year, but spraying blackberries, ripe stone fruits and Honeycrisp apples appears to be needed.

Primocane varieties of red raspberries are in full bloom. First pick of Autumn Britten and Caroline was on July 9, and Heritage will follow in about 10 days. The potential for commercial production of these varieties is good for areas that are cooler during harvest than what we are in SW Illinois in July and early August.

July 1 has come and gone, which means that sprays of glyphosate in apple orchards has become a hazardous task if low branches or basal sprouts are hit with the product. The result can be injured leaves and shoots next spring. July 15 is the beginning date for collecting leaves for analysis from apple, peach and blueberry. The time period is usually 30-40 days long, and ideally would be at the approximate date of collection in past years.

The ample rains in the area have caused lots of shoot growth of both apple and peach trees. Apogee-sprayed blocks of apples have broken out of the growth control and are trying to catch up on lost time. For increased air and light penetration, water sprout removal can be an ongoing task. For early varieties of peach that have been harvested and are growing out of bounds, topping can be done now without much effect on next years crop.

**Chris Doll**

Edwardsville, Illinois

## ***Fruit Production and Pest Management***

### ***Nutrient Deficiency in Leaf Sampling in Fruit Trees***

In the last few issues I have written about nutrients deficiency and how to recognize the symptoms. In this and the next issue I will highlight how to take samples for analysis and how to interpret the data. Before I do that, I would like to mention that excess nutrient can also cause serious problems for fruit trees. For example, excess nitrogen causes poor fruit color, delays fruit maturity, and causes fruit to soften faster in storage. Excess boron can cause leaves to bend backward, leaf veins to turn yellow, and fruits to be smaller in size, sometimes developing develop internal brown discoloration. In pears, excess boron can cause shoot dieback and defoliation. It may also cause fruit cracking. Excess manganese can cause bark necrosis and small protrusions to develop on young shoots. The cambial tissues under the bark turn brown and blister, and the bark of young shoots may crack and peel. Manganese toxicity can be reduced by adding calcium. Calcium toxicity can cause lenticel burn.

Recognizing that nutrient deficiency and toxicity can cause problems should encourage growers to do either soil or leaf analysis on a regular bases. In general, soil testing is not as good of an indicator of the nutrient status of the tree as foliar testing. The reason is that fruit trees tend to have roots at different soil levels, which makes it difficult to get a good representative sample. Also, the presence of nutrients in the soil does not mean that they are available to the plant. For example, many soils in Illinois show adequate potassium levels. Yet some orchards can use some potassium, especially in young trees early in the season. For now the best indicator of the nutrient status of the orchard is leaf analysis.

**When to collect leaf samples.** Timing is very critical when collecting samples for leaf analysis. **Mid July to mid August** is the best time to collect leaf samples. During this period the nutrient status of the tree is most stable. Any time sooner or later will not give you good readings. Avoid taking samples after a cover spray. Fungicides such as Dithane and Penncozeb contain zinc and manganese, respectively. It is difficult to get rid of pesticides even if you wash the leaves, so wait as long as possible after a cover spray before you take your samples.

**How to collect leaf samples.** Consult with the laboratory that will do the testing for you, but most laboratories will ask for about 60 to 100 leaves. You need to collect fully expanded healthy leaves, somewhere from the middle of this year's shoots. Avoid taking young leaves at the tip of the shoot and those that are on the bottom end of the shoot. Also avoid taking damaged or diseased leaves, and avoid mixing leaves from non bearing and bearing trees and from trees of different cultivars. It is also advisable to keep leaves from different rootstocks separate, since rootstocks affect leaf size. You can use one of two ways to collect the samples. One way is to walk through the orchard and pick no more than two leaves from shoots that are in the middle of the canopy. Pick from random trees, but avoid taking leaves from the outskirts of the orchard. Another way is to pick leaves from selected 10 to 12 representative trees in the orchard. Make sure to include a sheet with your name, the location and date of sampling with each sample. Place samples in paper bags and keep in a dry place free from dust and insects. Send samples for analysis as soon as possible. In the next issue I will provide information on the optimum, deficient and excessive levels of common nutrients. Start collecting samples now and consider the above tips when collecting the samples.

Mosbah Kushad (217-244-5691; [kushad@uiuc.edu](mailto:kushad@uiuc.edu))

## ***Vegetable Production and Pest Management***

### ***Vegetable Insects***

#### ***Potato leafhopper***



Potato leafhopper adult and nymph. Photo by Penn State University.

Potato leafhopper is common in many vegetable crops around the state now; I've seen it on potatoes, green beans, and cucurbits, and it can infest peppers and various leafy greens as well. Check the [2004 Midwest Vegetable Production Guide](#) or the [2004 Illinois Agricultural Pest Management Handbook](#) for specific recommendations for control. In late planting of green beans that are still in early stages of growth, potato leafhopper can cause severe reductions in growth and yield because it injects a salivary toxin as it feeds. Control this pest in seedling beans (less than 2 true leaves) if populations exceed 1 adult per 2 sweeps; from the 2-leaf stage until bloom, use a threshold of 1 adult per sweep or 1 nymph per 10 leaves.

#### ***Bean leaf beetle***

News from northern states informs growers there that the overwintered generation of bean leaf beetles has finally subsided. In Illinois, the offspring of those overwintered beetles have completed development as larvae in the soil, and they're now beginning to emerge as our "summer generation" of adults. Bean leaf beetles often cause the greatest damage in green beans when they occur at times when there is no need for European corn borer or corn earworm control, and spray programs for those pests are discontinued ... which is true in much of Illinois now. Be sure to monitor green beans during the period from

first pod formation to harvest and control bean leaf beetles during this period if populations exceed 1 beetle per foot of row or if pod damage (pit-like feeding scars) is building to levels that exceed your market's demand. Spotted cucumber beetle can cause similar injury in green beans, and insecticides registered for bean leaf beetle control also will kill spotted cucumber beetle. In late-planted beans, control bean leaf beetles on seedlings if defoliation exceeds 50 percent. Illustrations of these pests are available in the [May 19, 2004 issue \(no. 8\)](#) of this newsletter.

Rick Weinzierl (217-333-6651; [weinzier@uiuc.edu](mailto:weinzier@uiuc.edu))

***This issue's words of wisdom ...***

**Cow Tracking**

Is it just me or does anyone else find it absolutely amazing that the U.S. government can track a cow born in Canada almost three years ago right to the stall where she sleeps in the state of Washington and determine exactly what that cow ate. They can also track her calves right to their stalls and tell you what kind of feed they ate. But they are unable to locate 11 million illegal aliens wandering around in their country, including people that are trying to blow up important structures in the U.S.

My solution is to give every illegal alien a cow as soon as they enter the country.

*(Forwarded by Carl Jones, formerly of the University of Illinois College of Veterinary Medicine)*

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

<b>Extension Educators in Food Crop Horticulture</b>		
Bill Shoemaker, St. Charles Res. Center	630/584-7254	wshoemak@inil.com
Maurice Ogutu, Countryside Ext Center	708-352-0109	ogutu@uiuc.edu.
Elizabeth Wahle, Edwardsville Center	618-692-9434	wahle@uiuc.edu
<b>Extension Educators</b>		
Mark Hoard, Mt. Vernon Center	618-242-9310	hoard@uiuc.edu
Suzanne Bissonnette, Champaign Center	217-333-4901	sbisson@uiuc.edu
George Czapar, Springfield Center	217-782-6515	gfc@uiuc.edu
Dave Feltes, Quad Cities Center	309-792-2500	dfeltes@uiuc.edu
Russel Higgins, Matteson Center	708-720-7520	rahiggin@uiuc.edu
<b>Campus-based Specialists</b>		
Mohammad Babadoost, Plant Pathology	217-333-1523	babadoos@uiuc.edu
Raymond Cloyd, Greenhouse insects	217-244-7218	rcloyd@uiuc.edu
Kelly Cook, Entomology	217-333-6651	kcook8@uiuc.edu
Mosbah Kushad, Fruit & Veg Production	217-244-5691	kushad@uiuc.edu
John Masiunas, Weed Science	217-244-4469	masiunas@uiuc.edu
Chuck Voigt, Veg Production (& herbs)	217-333-1969	c-voigt@uiuc.edu
Rick Weinzierl, Entomology	217-333-6651	weinzier@uiuc.edu

Return Address:

Rick Weinzierl  
Department of Crop Sciences  
University of Illinois  
1102 South Goodwin Ave.  
Urbana, IL 61801

