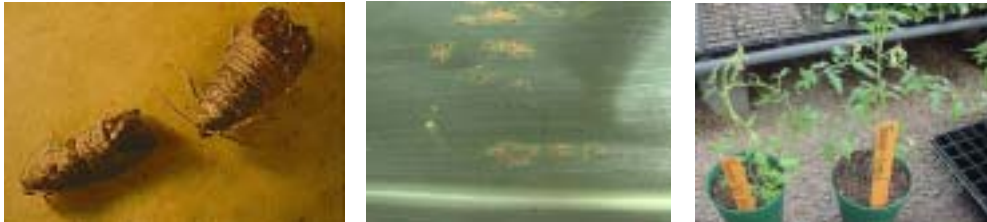


## ***Illinois Fruit and Vegetable News***

Vol. 9, No. 20, January 15, 2003

*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 ...***

#### **Census of Specialty Crops Production in Illinois**

**Crop Reports** (or perhaps just a "regional report" at this time of year from Maurice Ogutu)

**Upcoming Programs** (including details on the Illinois Specialty Crops Conference and some of the remaining winter educational programs)

**Notes from Chris Doll** (winter pruning and cold injury; notes from the Michigan Fruit and Vegetable Expo)

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

### ***Census of Specialty Crop Production in Illinois***

Later this month the Illinois Agricultural Statistics Service will be mailing questionnaires to everyone they have identified as a commercial grower of fruit, vegetables, herbs, or Christmas trees. The purpose of the questionnaire, a joint effort of the Illinois Specialty Growers Association, the Illinois Department of Agriculture, and the University of Illinois College of ACES, is to gain a census of specialty crop production in Illinois. Most of us involved in some manner with specialty crops production in Illinois consider the existing statistics and estimates on acreages and production values to significantly under-represent real acreages and values. This has hurt us in a number of ways, not the least of which is the amount of funding allocated to Illinois in federal grants based on existing estimates of specialty crop acreages. I urge you to take the time to read and fill out the questionnaire that you receive. If you are a commercial grower in Illinois and do not receive a questionnaire within the next month, you may want to contact the Illinois Department of Agriculture at 1-800-622-9865 and ask for Donnie Fike, Paul Sueper, or Mark Schleusener. Mohammad Babadoost (217-333-1523) of the University of Illinois helped to lead the effort to have this census conducted.

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

## ***Crop (Regional) Reports***

**In northern Illinois**, day temperatures during late December and early January have fluctuated in the highs in the 50s and lows in the 40s all the way down to highs in the low teens and overnight lows as low as -7 °F. Rainfall during the period has varied from 0.12 to 0.65 inches, and snowfall has varied from little more than a trace to more than 6 inches in the area around Chicago. Areas close to Mississippi river have received more than 8 inches since the beginning of the year.

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

## ***Upcoming Programs***

### ***A Last-Minute Reminder on the Illinois Specialty Crops Conference***

On January 23-24, 2004, the Illinois Specialty Crops Conference will be held at the Crown Plaza Hotel and Convention Center in Springfield, IL. This event is a joint effort of the Illinois Specialty Growers Association, the University of Illinois, and the Illinois Department of Agriculture, and it combines a strong educational program, a significant commercial trade show, and opportunities for conducting business for commercial growers of fruit, vegetables, and herbs. This year's event will also be preceded by an Organic Production Workshop on January 22, which will be an opportunity for growers to learn how to break into organic production and be in compliance with the USDA National Organic Standards, which are now in full effect.

Growers can expect many opportunities to sit in on excellent educational programming. Some examples: a presentation on growing peaches in high-density systems by Dr. Curt Rom of the University of Arkansas, an update on vegetable diseases in Illinois by Dr. Mohammed Babadoost of the U of I, a talk on marketing and public relations by Pat Crocker, a Canadian herb grower, and a special session on developing a Chicago Holiday Market around artisanal food products, with a panel of growers and specialists. Other topics being presented at this year's conference include vegetable crop food safety, avoiding PACA pitfalls, labor issues, grower-owned cooperatives, productive greenhouses, codling moth management, cover crops and mulches, and much more. In addition, two general sessions will be offered, with Matt McCollum of the Fruit and Vegetable Grower News and Ron Hanson of the University of Nebraska providing insights. This year's conference features a banquet Friday night in the Crown Plaza Banquet Hall.

Growers interested in more information can go to the Illinois Specialty Growers website [www.specialtygrowers.org](http://www.specialtygrowers.org) To learn about the event. Registration information and directions to the facility are available there, as well as information on lodging. Pre-registration is available, as is registration at the door. This event has been instrumental in providing a unifying identity to the specialty crop industries of Illinois and is a great platform for building working relationships between farm families. Don't miss this opportunity to build your specialty crop enterprise.

Bill Shoemaker (630/584-7254; [wshoemak@inil.com](mailto:wshoemak@inil.com))

### ***And more ...***

- January 29, 2004. Horseradish School, Collinsville. Contact Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu)).
- February 3, 2004. South Central and Southern Illinois Tree Fruit School, Mt. Vernon Holiday Inn. Contact Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu)).
- February 4, 2004. Southwest Illinois Tree Fruit School, Hardin, First Presbyterian Church. Contact Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu)).
- February 11, 2004. Southern Illinois Vegetable School, Mt Vernon Holiday Inn. Contact Elizabeth Wahle (618-692-9434; [wahle@uiuc.edu](mailto:wahle@uiuc.edu)).
- February 16, 2004. Kankakee Vegetable Growers School, Kankakee County Extension Office, Bourbonnais, IL. Contact Maurice Ogutu (708-352-0109; [ogutu@uiuc.edu](mailto:ogutu@uiuc.edu)).
- February 26, 2004. Illinois/Wisconsin (Stateline) Fruit and Vegetable Conference, Lake Lawn Resort, Delavan, Wisconsin (contact Don Schellhaass (815) 338-4747 [schellha@uiuc.edu](mailto:schellha@uiuc.edu) for more information)
- March 2-3, 2004. Small Fruit and Strawberry School, Mt. Vernon Holiday Inn. (Contact Bronwyn Aly (618-695-2444; [baly@uiuc.edu](mailto:baly@uiuc.edu)).

## *Notes from Chris Doll*

2004 came in with very mild temperatures in the upper 60's in southwestern Illinois (like a very early January thaw). And the area continues to enjoy average to above average temps at this time. The winter minimum so far was 5 degrees on January 6, and no peach bud injury is visible in the Back 40. Soil moisture is adequate and ground conditions are good enough to allow for lots of pruning to be done. A discussion among growers on apple-crop about pruning causing tree injury ahead of extremely cold temperatures concluded that apples were more tolerant than peaches, and that pruning might best be stopped a few days ahead if below-zero temperatures are forecast. Pruning peaches and young apple trees should be delayed as long as possible to avoid potential cold injury. Grapes and brambles fall into the same category.

The annual Illinois Specialty Crops Conference in Springfield on January 23 and 24 is an excellent opportunity for all fruit and vegetable growers to hear some good speakers as well as to hear some good stories from other growers. The program committee has arranged a good program, and the exhibitors will appreciate your business.

A large contingent of Illinois growers were at Michigan last month and enjoyed a good show and program. A few items that interested me were the Queen Contest, Apple Variety Showcase, and discussions of thinning and pest control. The thinning reports were from Washington, where ATS, liquid lime sulfur, and Crocker fish oil were some of the tested materials. Adapting these products to the Midwest will be a difficult job because of leaf and flower burn. They are also looking at the use of gibberellic acid to reduce the number of flower buds on apples. Codling moth studies on mating disruption look much more favorable in the West than in the Midwest, but the lay of the land (orchard blocks) is a critical factor. There is also work being done on the use of viruses that affect the codling moth. Chemical control suggestions included everything that Rick Weinzierl talks about, with rotation of products offering the best hope. Jim McPherson of the Washington Apple Commission talked about survival in the apple business, and gave the following suggestions: lower cost of production, improve and refine quality, and develop new products.

The apple variety display had lots of beautiful fruits, including some Honeycrisp that were highly colored in contrast to those grown in this area. The primary interest seems to be in Honeycrisp, Gala, and Fuji, with numerous choices of yellow-skinned varieties. I did not count the number of Gala and Fuji varieties on display, but in the sales list of The Nursery Connection, there are 16 strains of Gala and 13 strains of Fuji for sale.

Winter months are usually a time for desk cleanup, and here are a few comments gleaned from notes and publications:

- "Never use less than 50% of the highest labeled rate of a pesticide, regardless of the tree row volume." Dr. Turner Sutton of NCSU at last winter's meeting.
- "Overthin apples every year – be aggressive" and "each week of delay in thinning results in smaller fruit." Jim McPherson at the Michigan meeting in December, 2003.
- "Spring growth of trees is at the expense of stored reserves." Curt Rom at the 1991 IDFTA meeting.
- "Cute puppies grow into old dogs." Tom Auvil, talking about non-dwarfed trees.
- "Late thinning of Fuji is almost impossible" and "avoid NAA on all pygmy-susceptible varieties when temperatures are cool." Ross Byers, on apple-crop in April, 2003.
- "We prune to produce the highest quantity of the highest quality fruit possible." Steve Hoying in Fruit Notes, December 18, 2002.

## *Vegetable Production and Pest Management*

### *Aphids and Viruses in Cucurbits and Snap Beans*

The incidence and severity of mosaic viruses in cucurbits were much greater than normal in several local areas of northern Illinois, northwestern Indiana, and southern Michigan in 2003. Outbreaks in pumpkins and squash developed earlier than usual and caused much greater losses in yield. Cucumber mosaic virus outbreaks were severe in mid- to late-season snap beans grown for processing in northwestern Indiana as well.

These viruses are carried by several different aphid species, and the species responsible for transmitting the viruses are not

limited to those that colonize the crops (that is, reproduce and remain on the crop, producing colonies or groups of aphids on leaves or stems). Aphids move on winds as they search for the crop or weed plants that serve as good hosts for their development. As they do so, they land and insert their needle-like stylet (piercing beak-like mouthparts) into leaves or stems to take up a little sap and determine whether or not they will stay or move on. Many of the mosaic viruses of cucurbits and other vegetable crops are transmitted by aphids when they land on an infected plant (often a perennial or winter annual weed in which the virus has overwintered), probe it with their stylet and pick up the virus, then fly to a crop plant, probe it with their stylet, and inoculate it with the virus. Most of the common viruses carried to vegetables by aphids are transmitted in a nonpersistent manner – they are carried by the aphid from an infected plant to the next one or two or three plants that the aphid probes, but the virus is lost from the mouthparts very rapidly. This is key in virus management because by the time an insecticide applied to the crop can kill the aphids that carry a virus into a field from surrounding weeds, all the virus transmission is accomplished anyway.

So why the greater problem in 2003 than in other recent years? The answer is not clear. I suspect that the number of overwintered weed hosts infected with the viruses that caused problems in 2003 was not significantly different than in previous years, although it may have been (as a result of soybean aphid ... see below). It is more likely that flights of aphid vectors were earlier and / or heavier in 2003 than in previous years. Two scenarios could have produced earlier and greater numbers of aphids moving through vegetables in 2003. One is that flights of aphids from southern states resulted in earlier and greater numbers of vectors in the affected areas. This is quite possible. Several aphid species (and other insects) that commonly infest Illinois crops do not survive the winter here, and instead the survivors in southern states fly up into convection currents and are carried hundreds of miles on storm fronts before dropping to the ground. (No, it's not validation of Chicken Little's "the sky is falling" hysteria, but it is somewhat like microscopic plankton moving thousands of miles in ocean currents.) Observations of the deposition of larger insects (potato leafhoppers and corn earworm moths in particular) from storm cells suggests that large numbers may reach a certain area, while a few miles away none of the insects are "dropped off." Insects may "swirl" into northern Illinois and miss central Illinois (think of the cloud patterns and rain patterns you see on weather maps). If this "storm cell transport" occurred a few weeks earlier than average in 2003, it might explain why virus problems were more severe in some areas than others, and it might account for greater problems in northern instead of southern portions of Illinois and Indiana. This is not really a predictable phenomenon, and there is no way to forecast whether or not it will occur in 2004 or any other year in the future.

There is, however, another possible explanation for the greater number of vectors moving through vegetables in 2003 – the soybean aphid does overwinter successfully in Illinois (and in IA, MN, WI, MI, and IN ... and elsewhere) and is more prevalent in the north than the south, at least so far. This insect is of Chinese origin and was first discovered in the US in 2000. In the Midwest, populations have been greatest in southern Minnesota and Wisconsin, northern Illinois, northern Indiana, and southern Michigan. Winged adults of the soybean aphid fly from soybeans to buckthorn in the late summer and fall to lay eggs. Eggs overwinter on buckthorn and two generations (all female) develop on buckthorn in the spring. (In a large portion of their life cycle, most aphid species are all female and they reproduce without mating, giving birth to live young that also are all female ... sort of explains their rapid population growth, right?) Adults of the next generation fly to soybeans. Flights across weedy areas and vegetable fields occur when aphids move from buckthorn to soybeans, from too-heavily infested soybeans to a new patch of soybeans, and from soybeans back to buckthorn in August and September. Large suction traps that draw in samples of air at a height of 25 feet (operated as part of a survey project by Dr. David Voegtlin, Center for Economic Entomology, Illinois Natural History Survey) are used to monitor soybean aphids at several locations around Illinois. Counts from the Dekalb trap were hundreds of times greater in 2003 than in 2001 or 2002. Scouting of soybean fields resulted in reports of earlier and heavier infestations in 2003 as well.

So did the soybean aphid serve as the virus vector and account for all the problems in 2003? Again, the answer is evasive. The soybean aphid has been shown to transmit at least some of the viruses that infected cucurbits and snap beans in 2003 (including cucumber mosaic virus), and it is possible if not likely that it transmits most of them. Unfortunately, it's difficult to determine after-the-fact whether long-distance migrants or soybean aphids were the culprits, and therefore it's hard to predict what might happen in 2004. If soybean aphid is an efficient vector of several viruses of vegetables, one has to expect that their incidence and severity will increase as the soybean aphid becomes an established and naturalized citizen pest of the Midwest ... and it will, just as the European corn borer, alfalfa weevil, imported cabbage worm, and countless other "exotic" organisms have. If the 2003 problem resulted from an aberrant early arrival of migrant vectors from southern states, no pattern can be predicted.

The steps that growers can take to reduce losses have to be taken before aphid movement can be detected or quantified. So for 2004, steps that might provide some benefit include:

- Plant resistant varieties ... talk with your seed supplier about what varieties have virus resistance.
- Plant as early as possible. Plants that get a head-start on growth before they are infected will yield more fruit and higher quality fruit.

- Make multiple plantings over a series of dates and at different locations on the farm ... hoping that the odds will favor some plantings escaping inoculation by migrating aphids.
- Plant on reflective mulches ... reflective mulches reduce aphid landing rates.
- Use row covers if practical to prevent aphid access to young plants. Keep the row covers on as long as possible.
- Use high-volume, thorough-coverage applications of stylet oils (such as JMS Stylet Oil or Glacial Oil), especially on seedlings and small plants and before any aphids have reached the plants. Stylet oils do not kill aphids; instead they interfere with virus infection. Results of trials that have evaluated stylet oils on a range of crops are HIGHLY variable ... they do not always work.

For viruses that are transmitted in a nonpersistent manner, insecticides applied to the crop (whether applied as soil or seed treatment systemics or as foliar sprays) WILL NOT PREVENT VIRUS TRANSMISSION AND ARE A WASTE OF MONEY. Virus transmission is completed before insecticides kill the aphid vectors.

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

Fifteen things it took me over 50 years to learn, from Dave Barry:

1. Never, under any circumstances, take a sleeping pill and a laxative on the same night.
2. If you had to identify, in one word, the reason why the human race has not achieved, and never will achieve, its full potential, that word would be "meetings."
3. There is a very fine line between "hobby" and "mental illness."
4. People who want to share their religious views with you almost never want you to share yours with them.
5. You should not confuse your career with your life.
6. Nobody cares if you can't dance well. Just get up and dance.
7. Never lick a steak knife.
8. The most destructive force in the universe is gossip.
9. You will never find anybody who can give you a clear and compelling reason why we observe daylight savings time.
10. You should never say anything to a woman that even remotely suggests that you think she's pregnant unless you can see an actual baby merging from her at that moment.
11. There comes a time when you should stop expecting other people to make a big deal about your birthday. That time is age eleven.
12. The one thing that unites all human beings, regardless of age, gender, religion, economic status or ethnic background, is that, deep-down inside, we ALL believe that we are above average drivers.
13. A person, who is nice to you, but rude to the waiter, is not a nice person. (This is very important. Pay attention. It never fails.)
14. Your friends love you anyway.
15. Never be afraid to try something new. Remember that a lone amateur built the Ark. A large group of professionals built the Titanic.

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