



College of Agricultural, Consumer, and Environmental Sciences

Illinois Fruit and Vegetable News

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Editors: Nathan Johannang & Bronwyn Aly

A newsletter to provide timely, research-based information that commercial fruit & vegetable growers can apply to benefit their farming operations.

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editors, Nathan Johannang, 618-687-1727, njohann@illinois.edu or Bronwyn Aly 618-382-2662, baly@illinois.edu. The *Illinois Fruit and Vegetable News* is available on the web at: <http://ipm.illinois.edu/ifvn/>. To receive email notification of new postings of this newsletter, contact Nathan Johannang at the phone number or email address above.

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Upcoming Programs

Check the **Illinois SARE calendar** for a full list of programs and links for registration.

<http://illinoissare.org/> and <http://illinoissare.org/calendar.php>

Also see the **University of Illinois Extension Local Food Systems and Small Farms Team's** website at:

<http://web.extension.illinois.edu/smallfarm/> and the calendar of events at

<http://web.extension.illinois.edu/units/calendar.cfm?UnitID=629>.

- **Asparagus Production Twilight Meeting, Monday, April 16, 2018, 6 p.m. Jackson County Extension Office, 402 Ava Rd.; Murphysboro, IL 62966.** In field program, covering all aspects of asparagus production, including the asparagus variety trial at the office. The program costs \$5 per person. To register visit <http://go.illinois.edu/asparagusproduction> or call 618-687-1727. For more information contact Nathan Johannang at njohann@illinois.edu or 618-687-1727.
- **Fruit Tree Workshops. Friday, April 20, 2018 10:00 a.m. Fruit Tree Basics (Cost \$10); 1:00 p.m. Fruit Tree Grafting – (Cost \$20); 3:00 p.m. Fruit Tree Pruning (Cost \$10); Cape Girardeau Extension Center in Jackson, MO.** Hands on workshops in fruit production. Instructors include Patrick Byers, Katie Kammler and Donna Aufdenberg. Pre-registration is required! For more information and registration contact Donna at 573-238-2420 or aufdenbergd@missouri.edu or the flyer at the following link: [http://extension.missouri.edu/stegenevieve/documents/Fruit%20Tree%20Classes%202018\(1\).pdf](http://extension.missouri.edu/stegenevieve/documents/Fruit%20Tree%20Classes%202018(1).pdf)
- **Blackberry Workshop. Thursday April 26, 2018, 1:00 p.m. Farmington Community Library, 23500 Liberty St. Farmington, MO.** Workshop covers production overview and tour of commercial blackberry production. For more information or to RSVP contact Pat Byers at 417-859-2044 or byerspl@missouri.edu or visit the flyer at the following link: <http://extension.missouri.edu/stegenevieve/documents/2018APRILblackberry.pdf>
- **Southern Illinois Summer Twilight Series: Dixon Springs Ag Center, Monday, May 21, 2018 6 p.m. 354 State Highway 145 N; Simpson, IL 62946.** This first twilight meeting of the summer series will be an open house for the “re-opening” of the horticulture research at the Dixon Springs Ag Center. We will tour the 3

high tunnels and the current research in each, including hydroponic tomatoes, cucumbers, lettuce and in-ground production of a wide range of vegetable crops. Save the date and registration information will be up soon! For further information contact Bronwyn Aly at baly@illinois.edu or 618-382-2662.

- **2018 Illinois Summer Horticulture Field Day, Thursday, June 7, 2018.** Annual Illinois State Horticulture Society annual summer field day will be hosted by Flamm's Orchard in Alto Pass, IL. Save the date; more details closer to event.
- **2018 Pumpkin Field Day, Thursday, September 6, 2018, 10 a.m.** Ewing Demonstration Center (located about 20 minutes south of Mt. Vernon, IL) 16132 N. Ewing Rd. Ewing, IL 62836. Pumpkin Variety & Pest Management trials, No-till Production and more! Save the date; more details to come! For additional information contact Nathan Johanning at 618-687-1727 or njohann@illinois.edu.

Regional Reports

From west central Illinois... Wet and cold would describe the past two weeks. Precipitation has been variable throughout West-Central Illinois. Variable refers to both the amount and type of precipitation. On March 24 in Macomb buckets fell from the sky, switching from rain to sleet then back to rain. On April 1, Easter Sunday, we drove from Quincy to Macomb in a blinding snowstorm, dumping up to 3 inches in Quincy tapering off more as we headed north. Monmouth and Galesburg did not receive any snow. The past two weeks the Monmouth weather station received 1.4 inches of precipitation, while the Perry weather station recorded 3.25 inches.

The cold and wet weather has pushed back a lot of fieldwork. The cloudy days continue into April and have slowed down growth in the high tunnel. My soil temperature in the high tunnel is above 50 degrees Fahrenheit. The soil temperature outside at a 2-inch depth on bare soil has yet to break 45 degrees Fahrenheit.

Crops that overwintered in the low tunnel were harvested last week. We got nearly 4 lbs. of spinach from a 3'x4' block of plants seeded last September. I harvested ten bunches of kale that were planted early October 2017. Even one head of green cabbage survived the winter. A bed of leftover Hakurei turnips had gone to seed, which were pulled and tossed in the compost. Salanova butterhead lettuce survived in the high tunnel under row cover and was cropped out. The beds are ready for our spring crops, yet as I mentioned before, the cold, cloudy weather has slowed down the seedlings in the high tunnel. Our beds of rhubarb in Galesburg have spring growth emerging, but when I poked around the asparagus, I didn't see any sign of new growth yet.

While I wait for the weather to improve, bed prep and weed management has begun. Beds have been raked out and flame weeded. Afterward, I top-dressed with compost and some blood meal and composted poultry manure. Now we wait.



A tote load of kale and a single head of cabbage. Both over-wintered in the low tunnel in Macomb (left). A bucket full of spinach harvested from an overwintered bed (right). Volunteers were out harvesting last fall and I lost count, but I think is the fifth cut on these plants. Photos: C. Enroth.

Chris Enroth (309-837-3939; cenroth@illinois.edu)

Also from west central Illinois... We received 4-6" of snow on Easter Sunday, quite the April fools joke! A week prior, we had received over a 4 day period, a little over 2" of rain. The rain was not unwelcome, as soils were dry enough that anhydrous applications were taking place, the soil working very good. It's interesting to note that this last snow exceeded the total amount of snow we had received all winter!

Those who had their tomatoes planted in high tunnels were somewhat surprised on April 2nd to wake up to a temperature of 12 degrees, which set a record low. Forecasts were for lows of around 20, so to be that far off was disheartening. Fortunately the snow that fell on Sunday came without much wind, so any snow that fell on tunnels slid off to help insulate the side walls, where several feet of snow accumulated. Towards the end of the day, enough snow had fallen that it was accumulating on the tunnel roofs as well, with 1-3" of snow across 70% or more of the roof.

By the time I made it out to the tunnels Monday morning, at 8am, with the sun out, temperatures in the tunnel were in the 40's. Thus, although the outside temperatures were 12 degrees, with the snow helping to insulate, temperatures inside the tunnel didn't get much below freezing. Those who had tomatoes certainly needed the wood stove or LP heater to keep from freezing, but it could have been a lot worse.

Those early planted tomatoes are now blooming. Since temperatures won't allow sides to be raised to allow airflow for pollination, unless providing some kind of air movement, don't expect any successful pollination to occur. Leaf blowers make great air drafts to help with pollination. Although I've also heard of just shaking the end poles of the trellis. Fans can also be used.

We had managed to get a few rows of plastic laid on March 31, prior to the snow. Although soil conditions were a little tough, we found that over a tile line, the soils were a little better and got several rows of plastic laid for the onions, which arrived this past week. This is the first time in quite a while that we're unable to plant them the first week of April, due to poor soil conditions. Two rows of plastic will get almost half of them planted, but right now it's too muddy to venture out. We've been planting onions on plastic for some time now, it sure helps keep the weed population in check as onions don't provide much in the way of weed competition. We use white on black plastic to help keep temperatures moderate during the summer. I've also seen straw used to help with weed control. Just remember that there will be volunteer wheat when using this material.

For a number of years we've been interplanting tomato and head lettuce in our tunnels. We transplant the lettuce in the tunnels the end of March, to have them ready in time for sell when strawberries are available, beginning the middle of May. We mark on the row of plastic every 18" where a tomato plant will be placed, and then between these marks, plant the lettuce. It doesn't interfere with the tomato growth as each bed is 22-24" wide, more than enough space.



High tunnel lettuce planted to be intercropped with tomatoes. Photo: M. Roegge.

Mike Roegge, Retired Extension Educator & Mill Creek Farms (roeggem@illinois.edu)

From the St. Louis Metro-east... Cool temperatures continue to delay fruit development, which may be a blessing. Mother Nature even added an April fool's joke of snow, which quickly melted the following day. Looking ahead, the forecast includes night temperatures Friday and Saturday as low as 24°F which could possibly cause some thinning in any peach and apple cultivar beyond bud swell. Strawberries are also of concern if buds are at all visible. The critical temperature for strawberries in tight bud is 22°F. Grapes are still tight but sap is flowing. Minor crops like goji, elderberries, gooseberries and currants are at ¼" green. Apricot, another minor crop, is between first bloom and full bloom and will probably see some degree of thinning with the coming temperature lows. Blueberry scales are starting to expand. Raspberries are at ¼" green. Blackberries, depending on cultivar are anywhere from bud swell to ½" growth. Bare soil temps at 4" have been swinging from the upper-50s to the mid-30s, delaying sweet corn planting. Rain has also played its part in delaying field operations. The area has received over 4.5" just in the last 10 days.

Elizabeth Wahle (618-344-4230; wahle@illinois.edu)

From southern Illinois... It has continued to be wet and cold overall. Within the last 10 days, we have had at least 5 in of rain and of course that is on top of all of the rain we had prior to that. So things are wet. Last Sunday we had some snow and sleet showers, but the ground was warm enough that mostly there was little if any accumulation. That being said it has been fairly cold for this time of year. We have had multiple mornings down to around 30° or even a little below that and a few "cold" days where the high didn't break 40°. Now among all of this on Tuesday, in the midst of a warm front we had temperatures up in the 70s with a round of storms and front bringing us back into the 50s for highs. We have actually had some sunny days this week that have been a needed and welcomed balance to the many cloudy, overcast days. Now the weekend forecast is what is on the mind of most. A front is supposed to bring a mix of precipitation and colder temperatures Saturday and Sunday mornings with lows predicted for the mid to upper 20s. We have some early peaches and other stone fruits in bloom so there is some potential for some damage to any of our fruit crops with active growth. The coldest temperature forecasted I have seen is 26°. Referring to the critical temperatures tables for peaches during full bloom 27° is where we see 10% bud kill. I am hopefully that given the current forecasts we will end up with more of a "thinning" than something more extreme, but this all may depend on specific orchard elevation and topography.

Plasticulture strawberries are covered and given the fairly cool weather overall, we don't have a lot of flowers currently so hopefully we will escape any major issues in that crop. There are some low and high tunnel tomatoes planted out and there is a fair amount of concern about those plantings. This has brought up thoughts of the "Easter Freeze" of 2007. This freeze event had sustained temperature around to below freezing throughout that weekend and air temperatures for lows that repeatedly were in the low 20s 3 or more nights. This occurred at almost the same exact day in April 11 years ago. Many us "remember where we were" during that event and I'm going share a few observations from that time and some tomato related thoughts...

I was in graduate school at SIU and we had an early, low tunnel, tomato trial in the ground that had been planted about 10 days before. The low tunnels were just a slitted poly over a black plastic raised bed so while helpful, not enough to sustain temperatures in the low 20s. We pulled a double layer of heavy spun-bonded row cover over the low tunnels. Note also that it was very windy throughout much of this event which does detract from the insulating power of the covers in this instance. Logged temperatures under the covers reached 26° at the lowest. This effectively killed the tomatoes back to an inch or so to the ground. There was some debate about how the plants would fair amongst colleagues, but I was optimistic. The extra row covers came off after the event was over and we left the trial to run its course under the slitted row covers as it was originally. A month after this event we pulled row covers to find some rather bushy, but quite happy looking tomato plants. Pruning them probably took a little more time than it would have otherwise as many suckers came up from that froze-off root system and I'm sure we lost a few days of growing time, but in the end most all plants survived, grew and yielded normally from there. The pictures below illustrate some of what I described. Note especially the bottom right picture where if you look close, you can see at the base of the plant where the freeze killed out the top of the plant.



Photos from the “2007 Easter Freeze”. Top left: low tunnel tomatoes covered with an extra, double layer of spun-bonded row cover in preparation for the cold. Top right: tomatoes plants a month after enduring 26° under the row covers. Bottom left: unpruned plant a month after the freeze. Bottom right: pruned plant after the freeze. Note on the base of the pruned plant you can see where the plant had been frozen back if you look closely. Photos: N. Johanning

I don't think (or hope) that the weather will be as bad as it was then by far, but it gives some insight into how resilient our crops can be under certain circumstances.

Nathan Johanning (618-687-1727; njohann@illinois.edu)

Fruit & Vegetable Production & Pest Management

Modified Growing Degree Days (Base 50° F, January 1 through April 2)

Station Location	Actual Total	Historical Average (11 year)	One- Week Projection	Two-Week Projection
Freeport	7	40	24	50
St. Charles	26	44	43	69
DeKalb	16	49	36	65
Monmouth	25	69	52	85
Peoria	37	78	66	105
Champaign	39	80	69	108
Springfield	66	93	101	145
Perry	81	105	116	159
Brownstown	84	126	126	178
Belleville	118	146	162	217
Rend Lake	124	156	173	235
Carbondale	137	161	184	243
Dixon Springs	182	183	233	299

Insect development is temperature dependent. We can use [degree days](#) to help predict insect emergence and activity. Degree day accumulations calculated using the [Illinois IPM Degree-Day Calculator](#) (a project by the Department of Crop Sciences at the University of Illinois and the Illinois Water Survey).

Kelly Estes (217-333-1005; kcook8@illinois.edu)

Less seriously...

Think of the Easter bunny and our weather this Easter and....



<https://lovemyecho.com/2015/12/21/deck-the-halls-with-stupid-alexa-tricks/>

AND

A lighter approached to the severe weather spring can bring...

Two farmers were talking about the latest tornado that devastated their area.

One asked “Did you lose much in that last tornado?”

After thinking a bit the other replied. “Lost the henhouse and all the chickens. But that was all right- I ended up with three new cows and somebody’s pickup truck.”

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

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