



College of Agricultural, Consumer, and Environmental Sciences

Illinois Fruit and Vegetable News

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Editors: Nathan Johannig & 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 Johannig, 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 Johannig at the phone number or email address above.

In this issue...

- **Upcoming programs** (listings for beginning and established growers)
- **News & Announcements** (Fruit & Vegetable Research Priorities Survey,)
- **Regional Reports** (St. Louis Metro-east, southern Illinois)
- **Fruit & Vegetable Production & Pest Management** (Illinois Farmers Market Price Report Update)
- **University of Illinois Extension Educators and Specialists in Fruit and Vegetable Production and Pest Management**

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>.

- **Midwest Mechanical Weed Control Field Day, Tuesday, September 26, 2017, 10 a.m.- 5 p.m.** Michigan State University Horticulture Farm, 3291 College Rd, Holt, MI. From finger weeders to flex-tines to Allis G's and beyond, come learn the principles and tools for precise mechanical weed control from farmers and researchers. New weeding machines are recently available from Europe and many types and models of mechanical weeders will be on display and demonstrated in the field. You will hear from farmers using these tools, learn about cultivation techniques in Europe, see tools demonstrated, and enjoy lunch and time to speak with all the growers in attendance. Register online at [Midwest Mechanical Weed Control Field Day](#), or contact Sam Hitchcock Tilton at 414-213-5337 or hitchc32@msu.edu
- **Produce Safety Alliance Grower Training Course, Monday, November 6, 2017, 8:00 a.m. to 5:00 p.m.** DoubleTree by Hilton 10 Brickyard Dr., Bloomington, IL. This training will be held as a part of the 2017 Illinois Farm Bureau Local and Regional Food Conference. Registration details can be found at www.ilfb.org/livelocal or for more details contact Laurie George at (618) 242-0780 or ljgeorge@illinois.edu
- **Produce Safety Alliance Grower Training Course, Monday, November 13, 2017, 8 a.m.- 5p.m. CST.** University of Illinois Extension led training will be held at Rend Lake College – Applied Science Center, Room 102, 468 N. Ken Gray Parkway, Ina, Illinois 62846. Registration fee of \$120 includes PSA training manual, AFDO certificate, and lunch. Visit the following link for more information or to register for the

training <https://web.extension.illinois.edu/registration/?RegistrationID=17068> or contact Laurie George at (618) 242-0780 or ljgeorge@illinois.edu

- **2018 Illinois Specialty Crops, Agritourism, & Organics Conference, Wednesday-Friday, January 10-12, 2018.** Crowne Plaza Hotel, Springfield, IL. Save the date; more details closer to event. For more information visit the [ISGA](#) website.
- **2018 Gateway Small Fruit & Vegetable Conference, Wednesday, February 7, 2018.** Regency Conference Center, O'Fallon, IL. Save the date; more details closer to the event. For more information contact Elizabeth Wahle at wahle@illinois.edu or 618-344-4230.
- **2018 Southern & Southwestern Illinois Commercial Tree Fruit Schools, Tuesday & Wednesday, February 13 & 14, 2018.** Mt. Vernon & Hardin, IL. Save the date; more details closer to event. For more information contact Laurie George at (618) 242-0780 or lgeorge@illinois.edu

News & Announcements

REMINDER: Please Remember to Fill Out the Fruit and Vegetable Research Priorities Survey

This survey was compiled by Elizabeth Wahle, Nathan Johanning, and Bronwyn Aly with the purpose of accessing the research needs on vegetable, high tunnel, and fruit production in Illinois. By prioritizing and focusing on specific areas identified by specialty crops growers and industry professionals, the University of Illinois can work with the industry to target those research needs. This survey is not intended to be a list of crops you are currently growing, but rather, a mechanism to provide direction to future research endeavors. Your input will **directly** influence the direction of future applied specialty crop research! **Please take 5 minutes to fill out the survey by clicking on the following link: [Fruit and Vegetable Research Priorities](#) or via the paper copy enclosed in the newsletter.** If you have specific comments or thoughts regarding research focus areas not addressed by the survey, please feel free to contact Elizabeth, Nathan, or Bronwyn at your convenience (see the contact list at the end). Thank you for your feedback and thank you to those that have already submitted a survey!

Bronwyn Aly (618-382-2662; baly@illinois.edu)

Regional Reports

From the St. Louis Metro-East...

The St Louis Metro-east continues to be drier than normal, though most of the region received a much needed 1/3" late this past weekend. No rain is predicted for the remainder of the week and temperatures are expected to run higher than normal. Outside working conditions make tasks seem twice as difficult with the heat and high humidity. Apple harvest is in the Jonathan, Golden Delicious and Red Delicious window. Pumpkin and gourd harvest is ramping up. The landscape has taken on the appearance of early fall; walnuts leaves and nuts are falling, some leaves have started to turn and marmorated stink bugs are working their way into homes for a long winter's rest.

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

From southern Illinois... It has felt more like summer in the last two weeks than it has for many days in August and earlier in September. Temperatures have been in the upper 80s to 90s with a fair amount of humidity. Hurricane Irma did bring us some cloudy, cooler days early to middle of last week, but the precipitation overall was minimal at my office in Murphysboro, we may have gotten a tenth of rain at the most. This week we have had better rain chances and did get 0.3" Monday night; however, by the end of Tuesday you couldn't really tell it had rained. I know Sunday, Carbondale did get about an inch, but again if you were lucky to be in the path of a storm you have rain but many areas are still very dry. Hopefully more of us will catch some rain before the rain chances leave us. Temperatures are supposed to stay warm in the 80s to 90 for highs.

The warm has been good for maturing pumpkins and other fall cucurbits. The cool overall had slowed down ripening and in the last week things have really been turning. Even with the heat, consumers are ready for pumpkin and other

fall décor so now is the time to get things out so people know to come to you for pumpkins even if they don't want them quite yet. At the family farm in Monroe County, the pumpkins are doing well despite the dry and harvest continues. I know the plants are under some stress from the dry, but they are not overly wilting or showing significant stress. Actually compared to some of the wet years, I don't mind being on the drier side as there has been less fruit rot issues and no mud or wet to contend with for this part of harvest so far. There is the start of some powdery mildew on a few lower leaves, but the spray program has seemed to do well this year. Cucumber beetles have been plentiful especially on the *C. maxima* types of pumpkins, such as blue jarradale, red warty, etc. I have not had as many squash bugs as I have in the past by this time but I know other growers have encountered them. I will probably make one more protective spray to ensure good fruit quality on the second set of fruit, many of which are still green and sizing up.

Out in the orchard, we are to the end of most of our very latest peaches and apples are still in full swing. Harvest continues on Jonathans, Golden and Red Delicious and some early Fuji. Again, the dry has been favorable for harvest and fruit quality.

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

Fruit & Vegetable Production & Pest Management

An Understanding of the Importance of Carbon in the Soil

I recently attended the 2017 Forrest Keeling Nursery Fall Field Day and wanted to share some of the program highlights. Dr. Andrew Neal, microbiologist with Rothamsted Research, Harpenden, U.K., shared his perspective on soil health. Soil microorganisms “break down” organic matter, recycling carbon through the soil. Think of carbon as the glue in the soil that sticks particle together, giving soil “lovely tilth.” Without carbon, it is not soil. The very small pores in soil where microbes are “getting busy,” retain water. Without these small pores where microbes exists, soil structure collapses, decreases water infiltration and increasing surface puddling of rain. He went on to discuss the related disconnect that started developing with the advent of inorganic fertilizers between what a plant needs and what the soil needs. In the 19th century, in a period known as the “Fertilizer Revolution,” the first inorganic fertilizers, ordinary superphosphate, was made from bones dissolved in sulfuric acid. This was a valuable advancement at a time when manure was becoming a limiting factor...animals just not producing enough manure to meet the ever increasing agricultural needs. Without a clear understanding at the time of the importance of carbon in the soil, less and less carbon in the form of organic matter was being returned to the soil in exchange for the ever more efficient inorganic

fertilizers. Added to that, plant breeders in the mid-20th century, known as the “Green Revolution,” began creating super-efficient plants, which were less invested in the soil (returning less to the soil). As a result, microbes were no longer limited by nitrogen and potassium and like a double edged sword, began burning off the resulting limited carbon as CO₂. Beyond current soil conservation stewardship practices, Dr. Neal suggests we may need a new “Green Revolution” where carbon is more specifically targeted. In order to improve soil health and resiliency, we “may” have to accept that plants can't be as high yielding in order to bring carbon back in the soil. Further research is needed to understand the nutritional requirements of soil; understanding carbon in the soil. “We now know that a combination of fertilizers and manures give the best results and research suggests just a relatively small amount of



Slake test of Conventional tilled clod (L) and No-till clod (R)



(L to R) Unmanaged pasture, Managed pasture, Heavy soil residue (no-till), Conventional tilled sample from a previous simulation (left to dry out), and Conventional tilled. The front row of jars represents runoff and erosion. The back row of jars represents water infiltration.

manure would be needed.” Cover/catch crops are doing a lot more than protecting the soil surface from erosion; they, in addition, scavenge nutrients and sequester carbon. Trees pump carbon underground, reduce evapotranspiration and serve as a wind break. In essence, he suggest further enhancing natural systems that reduce inputs and encourage natural pests and plants. This was further demonstrated by a slake test and a rainfall simulator demonstration by David Doctorian, USDA-NRCS Missouri Area 2 Resource Conservationist. The slake test compared aggregate stability of a soil clod from the soil matrix (not developed from compaction) of a no-till field and a conventional tilled field. The conventional tilled clod dissolved almost immediately. The no-till clod remained stable, further supporting the concept of no-till and the glue capacity of carbon. The rainfall simulator was used to demonstrate runoff potential and water infiltration capacity in a worst case scenario; a heavy rain event on sloping ground. The simulator delivered 1” of water in a relatively short period of time across five soil surface types. The incline of the tray surface was equivalent to about an 8% slope and the soil in the trays was collected as a slice to retain soil structure. Pictures do speak a thousand words. The take home was without sufficient aggregate stability provided by reduced tillage; soil carbon to glue particles together and surface residue to reduce the impact of raindrops, surface runoff and erosion was increased and water infiltration was reduced. Doctorian asked the audience how many inches of water was required to grow a crop of soybeans, which many replied 22 inches” He then proceeded to flip over the trays representing conventional tillage. Both were dry. It may have just “rained” a full inch, but none of it had a chance to infiltrate into the soil profile. I



Relatively low water infiltration of conventional tilled soil following rainfall simulation.

have uploaded a short video to YouTube of the simulation at <https://youtu.be/d6Z6QF5qfho>. If this has peaked your interest and you would like to see additional research on cover crops and soil health, please take a few minutes to complete a survey UI Extension is conducting in order to guide our research efforts. The survey is available at [Fruit and Vegetable Research Priorities](#).

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

Illinois Farmers Market Price Report Update

Now in its third year, the Illinois Farmers Market Price Reporting project continues to collect weekly prices from several farmers markets across Illinois as well as the Arthur Produce Auction. By providing weekly produce pricing reports in one location, growers have access to information they can utilize in developing their pricing strategies. Beginning farmers or growers selling a new product can get an idea of price ranges across the state. Growers are strongly reminded to make sure they are analyzing their cost of production for each product and keeping those figures in mind as they work on pricing. Click on [Illinois Price Reports](#) to access both the farmers market price reports and the Arthur Produce Auction reports. Kentucky, Tennessee, & Indiana price reports can also be accessed from this link and growers may find these reports useful as well. The table below shows the average price of pumpkins sold at the Arthur Produce Auction on September 15, 2017. These prices would reflect a wholesale price, not retail, but may be of use to growers selling on the wholesale market. Also, consider looking at multiple weeks of the auction sales because being a “true” auction, supply and demand creates highs and lows in prices, and a price from just one day of sale may be higher or lower than what you might expect. For more information regarding the Illinois Farmers Market Price Reporting project, please contact Bronwyn Aly, 618-382-2662 or baly@illinois.edu

Table 1. Average price for pumpkins sold at the Arthur Produce Auction, Arthur, IL on September 15, 2017.

	Qty	Ave Price
Pumpkin - Blue or Pink Doll	660	0.56
Pumpkin - Cinderella	281	0.81
Pumpkin - Cinderella carriage	15	0.90
Pumpkin - Crystal star	112	2.36
Pumpkin - Cushaw	36	3.25
Pumpkin - Fairy Tale	38	3.25
Pumpkin - Goosebumps	190	1.44
Pumpkin - Hubbard Squash	205	0.68
Pumpkin – Jarrahdale Pumpkin	294	0.64
Pumpkin - Kakai	410	1.30
Pumpkin - Knucklehead	117	1.42
Pumpkin - One Too Many	227	1.24
Pumpkin - Rascal	95	0.54
Pumpkin - Red Warty	126	0.48
Pumpkin - Touch of Autumn	246	0.75
Pumpkin - Warty Goblin	30	2.75
Pumpkin - White Flat	212	1.22
Pumpkin - World of Color	87	0.82
Pumpkin Mini Bushel	26	18.73
Pumpkin Specialty	122	0.52
pumpkins 25 ct and under	682	2.56
Pumpkins over 25 ct	1423	1.17
Pumpkins Pie	1821	0.49
Pumpkins White misc	31	2.50

Bronwyn Aly (618-382-2662; baly@illinois.edu)

Less seriously... http://www.bitoffun.com/oneliners_wisdom.htm

Everything you like is bad for you in some way.

A procrastinator's work is never done.

Some days you're the dog, some days you're the hydrant.

The only difference between a rut and a grave is the depth.

It's hard to make a comeback when you haven't been anywhere.

Money Isn't Everything, But It Sure Keeps The Kids In Touch.

The next time you feel like complaining remember: Your garbage disposal eats better than 30% of the people in this world.

The most precious thing we have is life. Yet it has absolutely no trade-in value.

Snowmen fall from Heaven unassembled.

Isn't having a smoking section in a restaurant like having a peeing section in a swimming pool?

Ever notice that people who spend money on beer, cigarettes, and lottery tickets are always complaining about being broke and not feeling well?

Money can't buy happiness, but it sure makes misery easier to live with.

Never do card tricks for your poker buddies .

No one is listening until you make a mistake.

Success always occurs inprivate and failure in full view.

If you have lost something,it will be in the last place you look for it.

Beware of the toes you step on today. They could be attached to the ass you may have to kiss tomorrow.

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

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