



# UNIVERSITY OF ILLINOIS EXTENSION

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, [weinzierl@illinois.edu](mailto:weinzierl@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, call or write Rick Weinzierl at the number or email address above.

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### *Upcoming Programs*

#### ***The 2014 Illinois Specialty Crops, Agritourism, and Organics Conference will be held January 8-10, 2014.***

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 web site at:

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

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

- **Great Lakes Fruit, Vegetable and Farm Market EXPO and Michigan Greenhouse Growers EXPO. December 10-12, 2013**, Grand Rapids, Michigan. See [GLEXP.com](http://GLEXP.com) to register online or download a registration form to mail or fax. If you need a hotel room, make your reservations early. For hotels in the Amway Hotel Collection, go to [Amway's Passkey website](http://Amway's Passkey website) for online reservations. Information on other hotels offering convention rates is available at [www.GLEXP.com](http://www.GLEXP.com).
- **2014 Illinois Specialty Crop, Agritourism, and Organics Conference, January 8-10, 2014**, Crowne Plaza Hotel and Conference Center, Springfield, IL. Lots more details to come, but it's time to mark your calendars. The keynote speaker on January 9 will be Elliot Coleman, co-author of *Four-Season Harvest: How to Harvest Fresh Organic Vegetables from Your Home Garden All Year Long*, and author of other widely popular books on high tunnel production and organic production. In addition to concurrent tracks on fruits, vegetables, herbs, agritourism, and organics on January 9 and 10, pre-conference workshops on January 8 will feature (1) Pumpkin Production, Pest Management, and Marketing; (2) Season Extension and Year-Round Markets; (3) GAPS and Food Safety Guidelines for Growers who Sell at Farmers' Markets; and (4) Optimizing Plasticulture and Drip Irrigation Practices (a.m.) and Growing Unique Fruits and Vegetables (p.m.). In addition, training and testing for the Private Applicator License (pesticides) will also be offered on January 8.

## ***New Extension Educators, Local Food Systems and small Farms***

**Jamie Washburn, Extension Educator, Local Food Systems and Small Farms**, serving Effingham, Jasper, Clay, Fayette, Clark, Crawford and Edgar counties. Jamie received her B.S. and M.S. degrees in Animal Science from Southern Illinois University, Carbondale, with a focus on ruminant nutrition and reproduction. She lives in Martinsville with her husband Ryan and two boys, Wyatt (3) and Colton (1). They raise Angus cattle and provide carcass ultrasound services to cattle producers. In her spare time, she enjoys riding and training horses, gardening, and reading. Although Jamie's primary expertise is in livestock production, she is also a point of contact for fruit and vegetable producers in her counties, and she works with the other Local Food Systems and Small Farms educators to help small farmers get answers to their questions. Contact Jamie at 217-374-7773 or [jlwshbrn@illinois.edu](mailto:jlwshbrn@illinois.edu).

**Bill Davison, Extension Educator, Local Food Systems and Small Farms**, serving Livingston, McLean, and Woodford counties. Bill received his B.S. in Wildlife Biology (University of Montana) and M.S. in Zoology (Eastern Illinois University). He has worked as a restoration ecologist for The Nature Conservancy and the State of Illinois. He is a lifelong gardener who ran an organic fruit and vegetable farm in Congerville, IL, for 7 years. He currently lives in Normal, IL, with his wife and two sons. When he is not at work or tending to his front yard garden, he is an avid bicyclist. Contact Bill at 309-663-8306 or [wdavison@illinois.edu](mailto:wdavison@illinois.edu).

## ***Regional Observations***

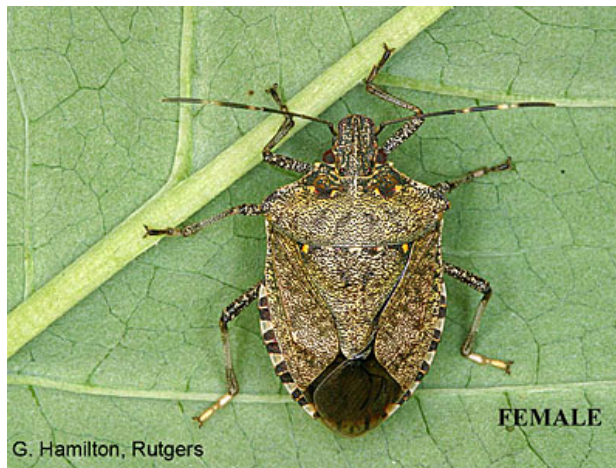
**From western Illinois** ... Looking back, thank goodness August is behind us. The Illinois State Water Survey weather station at Monmouth recorded 0.16 inch of precipitation for August. This made it a struggle to get cover crops and fall seeded vegetables planted. In addition to this lack of rain, soil temperatures exceeded thresholds for timely germination of most of these plants. Most of the area has received some rainfall since the first of September, and this will certainly help get these crops going. How much "time" did we lose though? Well, the answer can be complicated, but in the end, as one of the seasoned veteran growers told me "you can't do anything about it...they will grow as much as they will grow." Succinct and accurate. Other happenings in this part of the state are the beginnings of a successful pumpkin harvest, as well as very respectable apple yields. Most growers in the fall "agri-tainment" side of this business are excited about this fall's prospects.

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

### ***Brown Marmorated Stink Bug in Southwestern Illinois***

Kelly Cook, the Illinois Coordinator for the Cooperative Agricultural Pest Survey (CAPS) has received numerous reports of large numbers of brown marmorated stink bugs entering homes in Madison and St. Claire counties in southwestern Illinois (primarily around Collinsville and O'Fallon). Where these insects are observed in high numbers in homes in the fall, well-established infestations must be present in surrounding fields, wooded areas, or orchards. There's not much for growers to do at this time of year (the insects are now seeking winter shelter), but these reports are forewarnings for next year. There's lots of good background information on brown marmorated stink bug at [http://entnemdept.ufl.edu/creatures/veg/bean/brown\\_marmorated\\_stink\\_bug.htm](http://entnemdept.ufl.edu/creatures/veg/bean/brown_marmorated_stink_bug.htm) and on several USDA web sites that are not currently available (October 1, 2013) because of the government shutdown. We'll discuss control practices for fruit and vegetable growers during winter educational programs and as the 2014 season approaches in the spring.



Brown marmorated stink bug.

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

### ***Storage of Vegetables***

Fall is officially here, and before you know it we won't be complaining about the heat, but about the cold. If you plan to keep any produce for sale into winter and spring, you'll need to prepare it for storage by curing and storing properly.

The first rule is to always keep the best and highest quality produce for storage. Any vegetables with soft spots, nicks and cuts, or not fully developed (except green tomatoes), diseased and/or insect damaged should not be kept. These imperfections will only escalate the ripening process and will cause a shortening of the storage life.

Make sure crops are fully mature before picking for storage, as they will store much better. Some crops will need to be cured before placing in storage. After placing vegetables in storage, inspect them at regular intervals to ensure that they remain in good condition. Eliminate those that are showing signs of spoilage.

Green tomatoes can be stored for a short time if picked at the proper stage. To determine maturity in green tomatoes, cut the tomato and view the seeds. If the knife cuts through individual seeds, then the green tomato is not ripe enough to store. If the seeds slide out of the way of the knife and remain whole, tomatoes at that stage or beyond can be stored. Be cautious of storing other crops with tomatoes or apples, because tomatoes and apples produce ethylene, which is the hormone that causes ripening.

Curing involves placing vegetables in environmental conditions to help heal and prepare the crop for storage. Sweet potatoes need to be dug prior to frost and will store best if cured at 82-86 degrees and high humidity for a week. Irish potatoes are cured at 50-60 degrees and very high humidity for 1-2 weeks. Garlic and onions need a warm and dry environment and good airflow to allow outer skins to dry. Most of these crops shouldn't be washed, but manually remove as much soil as possible.

Maintaining proper temperature and humidity is important when extending the storage life of vegetables. Cool temperatures are good, as this slows the metabolism of the crop and slows growth of any decay organisms. Each crop will differ on best storage conditions. Cold-sensitive crops (tomato, squash, sweet potato, pepper) require warmer storage temperatures (45-55 as a general rule, but tomato and sweet potatoes a little warmer). For most other vegetables that can be stored, the cooler the better, down to the low 30's in some cases. Relative humidity in storage for most crops is 90% or higher. The exceptions would be garlic and onions (65%) and squash (50-70%). More information on proper storage conditions can be found at: [http://web.extension.illinois.edu/abhps/cat88\\_4092.html](http://web.extension.illinois.edu/abhps/cat88_4092.html) and at <http://ohioline.osu.edu/fresh/Storage.pdf>.

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## Reminders on Season Extension

Extended-season vegetable production is increasingly becoming commonplace on several farms I work with. In discussing season extension, I typically receive common questions from new growers regarding the approach. A common issue to note is problems with crops bolting (flowering) during high temperatures early in the fall growing season, producing unmarketable crops. Most of these crops can be topped, and marketable harvests occur from regrowth. This takes time though. It is important to pay particular attention to temperature management in fall crops. One can easily have a false sense of security that temperatures cannot become extreme as we begin to feel the chill in the air of typical fall weather. Nothing can be further from the truth. While raising the minimum temperature is important, keeping the maximum temperature from exceeding an optimum for crop growth is equally important. On sunny days, even if outdoor temperatures are in the 50s F, air temperatures in high tunnels or other structures (cold frames) can quickly rise into the 90's unless ventilation is provided. As the table below illustrates (University of Minnesota data), season extension structures are very good at facilitating an increase in growing degree day accumulation for fall production of crops (83 GDD outside vs. 207 GDD inside), but it does require that we manage the system appropriately during the entire Fall/Winter season.

Date	High Tunnel				Outside Air			
	Max	Min	Avg	GDD	Max	Min	Avg	GDD
October 1-16	77.0	41.1	59.0	207	59.1	34.7	46.9	83

A recent Extension webinar entitled “Growing Vegetables Year-Round” can be viewed [here](#).

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## Local Foods Issues

### Food Safety Modernization Act

The Food Safety Modernization Act (FSMA) is if often referred to as the first major overhaul of the nation’s food safety practices since 1938, and it includes new regulations for produce farms and for facilities that process food for people to eat. It will place new guidelines on producers, including a required annual audit of their production practices. It has been well over four years since the FSMA began to move through Congress in early 2009. The FMSA was signed into law by President Obama on January 4, 2011, and according to a Food and Drug Administration (FDA) fact sheet, the act “embraces preventing food safety problems as the foundation of a modern food safety system.”

On January 4, 2013, the FDA released for public comment its proposed rule to establish science-based standards for growing, harvesting, packing, and holding produce on domestic and foreign farms. In just a few weeks, on November 15, the FDA will close the comment period on proposed new rules that will greatly affect many farmers. It’s anyone’s guess right now what will finally come out as a result.

There are numerous perspectives on the FSMA, but I would contend that the issue is not about people advocating for no food safety vs. those arguing for food safety. Instead, it’s about getting the rules right so that they work for everyone and protect public health holistically and sustainably. Food safety is important for all farms regardless of how FSMA impacts their farm directly. We are at the beginning of a new era, and food safety, FSMA, and food safety regulation should be part of every farms long-term planning.

If you are interested in learning more about this important topic, then plan to attend the **October 3 webinar, *The FDA Food Safety Modernization Act: What it Means for You and Your Farm***. There is a lot at stake in this current rulemaking process, and the webinar will provide you with information about Good Agricultural Practices (or GAPs),

an approach for addressing food safety on the farm; an overview of the Food Safety Modernization Act; and lastly how comments can be provided to the Food and Drug Administration (FDA). For more information and to register, see <https://webs.extension.uiuc.edu/registration/?RegistrationID=8819>. Additional information about FSMA can be found at the National Sustainable Agriculture Coalition [website](#) and at the U.S. Food and Drug Administration (FDA) [website](#).

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### ***Mock Recalls for Produce***

Food-borne illness outbreaks can and do occur. As part of GAPs (Good Agricultural Practices) training, the importance of mock recalls in a Food Safety Plan is discussed. A mock recall is initiated by the grower to simulate what would happen should a food illness outbreak occur or if the grower suspects there were unsanitary conditions on his/her farm that could lead to contamination.

A mock recall includes tracking an order of produce from the farm or shipping location to the buyer. The grower would pre-arrange with a buyer to do a mock recall at an unspecified time. For the mock recall the grower would call the buyer, indicate this was a mock recall, and ask how many containers of a specific type of produce they still have and how much has been used or sold. The buyer would not actually return any of the products, but would fax or email the grower the status of the produce of interest. These should be kept as records of the mock recall. Mock recalls are an important step in traceability and should be done once a year by growers who are GAPs-certified.

Even a mock recall probably can't completely prepare the grower for an actual recall. Most importantly the farm needs to be prepared. There are some things a grower can do in case of a recall. Larger operations may even have a recall team to address issues on numerous fronts should an actual recall occur someday. One person should be overseeing accurate records for all 'lots' that leave the farm. The same person would probably conduct the mock recalls in order to quickly take action contacting buyers if necessary. Another person may act as a communications person so that there is only one consistent message going to the media. That person should be ready to share only facts about the farm operation such as: a brief history of the farm, total acreage of the farm, crops grown, number of employees, and the name of the contact person. When working with the media, it is important to present the farm in the manner you wish it to be perceived. Explaining your position clearly and looking professional are important. Things to think about are: responding immediately, showing compassion for crisis victims, acknowledge there can be different opinions, showing your desire to resolve the situation, and clearly stating what actions you are taking.

Lastly, a Food Safety Plan, even when followed carefully, is not a guarantee that contamination will not occur. Therefore, it is important for farms to investigate recall insurance. As seen from several recent incidents, the impact of food borne illness on one farm can have far reaching negative consequences on other farms.

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