



In This Issue

- [Crop Conditions](#)
- [Indiana Climate and Weather Update](#)
- [Spotted Lanternfly - Be on the Lookout](#)
- [Grape Harvest Preparation](#)
- [Tissue Analysis of Grapes and Small Fruit](#)
- [Adrian Orchards Opportunity](#)
- [2020 Indiana Small Farm Conference](#)
- [Events](#)

Crop Conditions

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

Early apples are almost ready for harvest in the Lafayette area. Grapes have started veraison, which is a bit late this year. Summer bearing (floricane) blackberry varieties are starting to ripen, though we have a very small crop due to winter injury. Japanese beetles and spotted wing Drosophila are abundant and causing damage to what little fruit there is. Fall-bearing (primocane) blackberries and raspberries are blooming and the first fruit is developing well. Japanese beetles are a problem when they feed on flowers of PF blackberries. We have a good crop of pawpaws this year and a decent crop of Aronia and elderberry this year. The recent change in the weather is very welcome. We could use some rain but are very happy with the milder temperatures. These are perfect conditions for fruit ripening; warm sunny days and cool nights. Let's hope this trend continues.



Apples getting close to harvest



Must be Honey Crisp



Frontenac at early version



Small, but nice crop of floricane blackberries



Florican blackberry fruit and Japanese beetles



PF blackberries in bloom



Japanese beetle feeding on flowers of PF blackberries



Japanese beetle damage to flowers of PF blackberries



Bloom on Niwot PF black raspberry



Nice pawpaws



Good crop of Aronia



Elderberries look nice

Indiana Climate and Weather Update

(Beth Hall, hall556@purdue.edu)

8/1/2019

Beth Hall, PhD

Director, Indiana State Climate Office

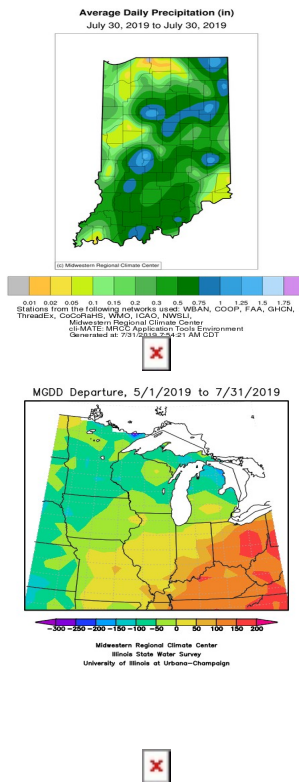
The brief rain event earlier this week brought some precipitation to the state (Figure).

However, the drier regions of the north could use more rain soon! Sadly, significant amounts of rain do not appear to be in the forecast for the next 7 days. Keep an eye out for developing drought conditions!

The heat seems to have backed off, but it is still summer, so muggy conditions are expected to continue with daytime highs in the 80s and

nighttime lows in the 60s. This should offer relief from any potential heat stress and yet continue to allow growing degree-days (GDD) to accumulate. For GDD accumulations starting May 1st, the central and northern counties of Indiana are near normal with the southern counties 50-100 units above normal.

Climate outlooks produced by the National Oceanic and Atmospheric Administration's Climate Prediction Center (CPC) look uncertain through August 10th with respect to temperature. However, From August 11th through 15th, the CPC has significant confidence that temperatures will be below normal throughout Indiana and precipitation will be above normal for the southern counties.



Spotted Lanternfly – Be on the Lookout

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)



Spotted Lanternfly adult

This is the time of year to keep an eye out for the adult version of the Spotted Lanternfly. See a fact sheet at

https://www.aphis.usda.gov/publications/plant_health/2014/alert_spotted_lanternfly.pdf This is an

extremely serious pest of a wide range of woody plants. It has caused serious damage in grapes, apples, peaches, plums, blueberries, etc. The team from the Indiana Department of Natural Resources is currently working with some of the vineyards in Indiana to survey for signs of this insect. But we want to spread the word to keep an eye out for this insect in other fruit plantings as well. Some of the east coast states have started seeing adult stages of SLF already this year and soon they will be swarming. Be on the lookout and please contact the IDNR if you see anything suspicious, but especially if you see signs of this insect pest. Contact the IDNR Department of Entomology at (866) NO EXOTIC or (866) 663-9684.

Grape Harvest Preparation

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

The grape harvest will get started in the southern part of the state in the next couple of weeks.

Most varieties are slightly behind normal this

year. In Lafayette, early varieties are at the start of veraison and should be ready to harvest in four to five weeks. We generally harvest early varieties such as Brianna, Edelweiss and Prairie Star about the third week of August and many other early varieties starting the first week of September. Lately, the weather has been good for fruit ripening as the cooler conditions will improve fruit quality. Fruit quality overall is very good with minimal disease problems (for the most part).

With wine grapes, all fruit of a given cultivar is typically harvested from the vineyard or block at a single time to coordinate winery activity and to reduce costs. It is important to plan carefully so that the harvest date coincides with the optimum fruit quality.

Fruit quality is comprised of several factors, most importantly sugars, organic acids, and pH. Other factors such as phenolics, anthocyanins, aroma and flavor compounds are also very important to wine quality. And of course, freedom from rots is an important consideration. Unlike some other fruits, grapes do not continue to ripen after harvest. Consequently, it is important to harvest grapes at the peak of quality and with the desired parameters for the intended use.

Most vineyards have some degree of variability in soil type and drainage, sunlight exposure, wind, insect and disease pest, nutritional status, etc. Fruit from different parts of the block, from adjacent vines, as well as from different parts of the same vine can vary. Much of the variability is reduced with proper vineyard management, e.g. cluster thinning, shoot thinning, canopy management, etc.

As harvest nears, it is very important to monitor grape chemistry. Growers should sample weekly leading up to harvest with a protocol to collect a representative sample of fruit from the entire vineyard. This can be a sample of 200 berries per

block collected from vines randomly, but with emphasis on collecting berries from the top, middle and bottom of clusters, and from exposed and shaded clusters. Some growers prefer to collect a sample of 5 to 10 whole clusters per block rather than individual berries to capture the variability within clusters. Often sampling occurs from a few select “cardinal” vines in a block, chosen for their average performance overall. Whatever approach is used, be sure to compare your sampling results to the actual final harvest juice parameters at the press to determine the accuracy of your sampling. Most of the time pre-harvest samples tend to overestimate the level of fruit maturity, but not always.

Wine grape growers should have the ability to measure sugar content (with a refractometer), titratable acidity and pH (with a pH meter and burette). Equipment and supplies to measure these parameters can be purchased for about \$500-1,000. Each of these factors is important for determining proper harvest time, but none alone can accurately estimate overall fruit quality. It is the balance of sugars, acids and juice pH that is important to the winemaker. And of course, there are the subjective qualities of seed and skin maturity, tannins, anthocyanins, flavors, aromas, etc. The Berry Sensory Analysis method addresses the evaluation of these more subjective factors such as skin, pulp, and seed maturity. More needs to be done to adapt the method for use with our Midwest varieties, but as a descriptive tool, it can be an excellent way for growers to go beyond the basics of sugar, acid, and pH. Work with your winemaker/buyer on harvest decisions as much as possible.

As harvest nears every grower begins to worry about what can go wrong. Birds, raccoons, deer, turkeys, etc can all take a toll. More importantly, berry skin cracking from rain, bird pecks, and bee

damage can lead to sour rot caused by yeasts and vinegar spoilage bacteria. The vinegar (acetic acid) leads to high volatile acidity levels in the wine. We experience major problems with sour rot in wet years. The lack of rain recently means that we have not had any problems this year. Let's hope the weather continues to cooperate. Growers need to closely monitor for development of sour rot, especially if rains occur near harvest, and take measures to reduce the spread by managing fruit flies and microbial organisms. Ultimately it may be necessary to develop a strategy to minimize harvest of rotted clusters. A pre-harvest walk through the vineyard block should identify any clusters with sour rot and those lagging in ripeness. In most cases, late clusters will never catch up to the rest, and will only reduce the overall quality of the crop at harvest. Pre-harvest is a good time to drop any undesirable fruit. Don't expect your harvest crew to sort as they pick. Go through beforehand and eliminate the guesswork.

Tissue Analysis of Grapes and Small Fruit

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

Plant nutritional status is important for all phases of plant growth and has a direct effect on vigor, fruitfulness, cold hardiness, and other factors.

Tissue analysis is the most reliable means of determining plant nutritional status. Combined with soil testing, tissue analysis can help pinpoint the source of problems and determine what measures may be needed to ensure proper nutrition of the crop. Tissue analysis samples should be collected at the appropriate time to give the most meaningful results.

For strawberry, sample the first fully expanded leaves after renovation, usually in mid to late

July. For brambles, sample leaves on non-fruiting canes (primocanes) between August 1 and 20. For blueberries, sample leaves during the first week of harvest (already past). For grapes, samples should be taken about 70 days after full bloom, usually early to mid-August. Samples should be adequate in size. Collect 30-60 leaves for strawberries, brambles, and blueberries, and 100 leaf petioles for grapes (for grapes submit only the leaf petiole, or stem, for analysis, discard the leaf blade). Collect samples to represent the entire field, not just from a few plants. Sample different varieties separately. If specific problems exist, collect separate samples from both normal and problematic areas of the planting. After collection, leaves should be rinsed gently in tap water to remove any pesticide residues and dust that might affect analysis, laid out to dry for a couple of days, then bagged in paper bags for submission to the lab. Some labs offer tissue analysis sample kits.

There are several private companies and a few universities that provide tissue analysis. A list of certified soil and plant analysis testing labs serving Indiana growers is located at <https://ag.purdue.edu/agry/soilfertility/Pages/Soil-Fertility-Recommendations.aspx>

The Midwest Small Fruit Pest Management Handbook has a chapter on tissue analysis and fertilizer recommendations.

<https://ag.purdue.edu/hla/Hort/Documents/Midwest%20Sm%20Fruit%20861%201-24-11.pdf>. I

suggest growers refer to that chapter when reviewing tissue analysis results and recommendations.

Adrian Orchards Opportunity

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

Adrian Orchards has served families, businesses and institutions of the Indianapolis area for three

generations, offering quality products and expertise to customers here at 500 West Epler Ave., for nearly 100 years. Our store has enjoyed solid support locally and is an important asset to the community. Since 1925 it has provided our family with a living, but now it is time to retire as George is over 70 and wants to slow down.

We have no family succession and so we have decided to sell our business in hopes that someone else will continue the tradition of Adrian Orchards. If you, or anyone you may know is seriously interested in this venture, please do not hesitate to contact us. There are several options to consider: 1.) the 64+acre farm in Waverly, Indiana 2.) The retail market in Indianapolis. 3.) Both parcels together.

In the meantime we will continue to operate this season on a scaled back timeline. We will again host the Harvest Fest this year in early October. Our hopes are that the next owners will continue this tradition. The store will be open through December, but not open after New Year's as we have in years past.

So think about it! Come talk to us! We look forward to speaking with you.

George and Monika Adrian

317.784.0550 or 317.513.1799

2020 Indiana Small Farm Conference

(Lori K Jolly-Brown, ljollybr@purdue.edu)

The 2020 Indiana SFC is coming March 5-7, 2020, in Danville, Indiana. We are now accepting proposals for oral presentations, workshops, tours and posters. The deadline to submit is Friday, August 30, 2019. Attendees are interested in practical knowledge that can be applied to their operations to increase the

environmental sustainability and economic viability of their businesses.

This is the premier conference in Indiana where small farmers of all kinds have opportunities to network with fellow Indiana farmers and learn about advancements relevant to their operations, this is what makes the Indiana SFC special. We hope you'll consider submitting a proposal to present next year and share your knowledge, passion, and innovation with others!

This is an open call to **farmers, educators, researchers**, and other **agricultural professionals** or **stakeholders** in the small-farm space. Vegetable production, livestock (grazed, urban, etc.), food safety, marketing, value-added products, farm viability and land access are all topics of interest to attendees. If you would like to share about strategies that have been successful on your farm, we want to hear from you! Farmer to farmer knowledge sharing is something we pride ourselves in.

All proposals should cover:

- Timely, practical farming content
- Best practices
- Successes and failures, and / or
- Research relevant to the small-scale and diversified farming community

The link below includes detailed information about the proposal process and our session / workshop formats. Please read **all of this information** prior to submitting your proposal; our planning committee treats completed applications as confirmation that you have read, understood, and agreed to this information.

[Get detailed information here](#)

Questions? Contact Laura Ingwell at lingwell@purdue.edu or (765) 494-6167.

Events

(Lori K Jolly-Brown, ljollybr@purdue.edu)

August 13, 2019 Vegetable Field Day/Sweet Corn Taste Testing
Pinney Purdue Ag Center, 11402 S. County Line Rd., Wanatah, IN
5pm-8:30pm Central time
Please register by August 6th, Nikky Witkowski, nikky@purdue.edu, (219) 465-3555

September 5, 2019 Hydroponics & Greenhouse workshop
Purdue University, Deans auditorium, HLA greenhouse
Contact Lori Jolly-Brown, ljollybr@purdue.edu
Participants will learn about optimal conditions for growing hydroponic lettuce, including nutrient recipes, production systems, artificial lighting practices and optimal temperatures for lettuce. Workshop attendees will also have the opportunity to tour the department's greenhouse and hydroponic facilities where several hands-on activities will take place. Krishna Nemali, professor of controlled environment agriculture, will lead the workshop. Nemali's research centers on enhancing sustainable growing practices in controlled environments, like greenhouse and indoor vertical farms.

October 17, 2019 Indiana Flower Growers association conference
Purdue University, Daniel Turf Center
Contact Lori Jolly-Brown, ljollybr@purdue.edu
Horticulturists and greenhouse operators will have an opportunity to network with industry experts and Purdue Extension specialists. Educational sessions to include technology and automation, electrical conductivity sensors, marketplace opportunities, greenhouse

production, worker production standards, as well as networking with other flower growers across the state.

January 7, 2020 Illiana Vegetable Growers Symposium
Teibel's Family Restaurant, 1775 US 41, US 30 & US 41, Schererville, IN
<https://ag.purdue.edu/hla/Extension/Pages/IVGS.aspx>

February 11-13, 2020 Indiana Horticultural Conference & Expo
Indianapolis Marriott East Hotel
Contact Lori Jolly-Brown, ljollybr@purdue.edu
The Indiana Horticultural Congress, presented by Purdue University, is an educational meeting designed to meet the needs of fruit, vegetable, wine, organics, greenhouse, high tunnel, specialty crop growers and marketers in Indiana and surrounding states. Over 500 registrants and more than 70 vendors attend each year.

February 11-13, 2020 Indiana Green Expo
Indiana Convention Center, Indianapolis, IN
Indiana's largest, most comprehensive green industry event of the year!
Offering over 75 educational seminars plus a Spanish track, certification opportunities, in-depth workshops, numerous CEUs and CCHs to be earned, and a two-day trade show!

March 5-7 2020 Indiana Small Farm Conference
Danville, IN
Contact Laura Ingwell at lingwell@purdue.edu or (765) 494-6167

This is the premier conference in Indiana where small farmers of all kinds have opportunities to network with fellow Indiana farmers and learn about advancements relevant to their operations, this is what makes the Indiana SFC special.

It is the policy of the Purdue University that all persons have equal opportunity and access to its educational programs, services, activities, and facilities without regard to race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability or status as a veteran. Purdue is an Affirmative Action Institution. This material may be available in alternative formats. 1-888-EXT-INFO Disclaimer: Reference to products in this publication is not intended to be an endorsement to the exclusion of others which may have similar uses. Any person using products listed in this publication assumes full responsibility for their use in accordance with current directions of the manufacturer.

Facts for Fancy Fruit © Purdue University - fff.hort.purdue.edu

Editor: Peter M Hirst | Department of Horticulture and Landscape Architecture, 625 Agriculture Mall
Dr., West Lafayette, IN 47907 | (765) 494-1323