PURDUE UNIVERSITY
PURDUE EXTENSION
FACTS FOR Fancy Fruit
Issue: 19-10
August 15, 2019

In This Issue

Crop Conditions

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212) & *(Lori K Jolly-Brown, ljollybr@purdue.edu)*

Early grapes are being harvested in the southern part of the state. Peach harvest continues in the south as well. Summer bearing blackberry harvest has slowed and primocane fruiting varieties are just getting started in the Lafayette area. Early apples are nearing harvest in the Lafayette area. Dry conditions continue and milder temperatures are excellent for fruit quality.

Grapes are approaching maturity

Blackberry Primocane at harvest

Red Raspberry Caroline at harvest

Harvest has started on early apples

Paw Paws maturely nicely

Indiana Climate and Weather

Report

(Beth Hall, hall556@purdue.edu)

Even the climate models are confused by this year's weather. When the August monthly outlook was released (July 31st; national Climate Prediction Center) it showed significant confidence that August would have below-normal temperatures and below-normal precipitation. However, the shorter-range outlooks (that update daily) the last few days, seem to contradict that prediction. Whether it is the 6-10-day (August 20-24), the 8-14-day (August 22-28; side-by-side figure) or the 3-4-week experimental outlooks (August 25 – September 7), all are predicting significant confidence for above-normal temperatures and precipitation. Given the recent development of drought conditions across the state, these climate predictions (particularly for precipitation) are strongly desired! Will those climate outlooks verify? The current 7-day quantitative precipitation forecast is indicating very little precipitation over the next seven days. That is slightly below normal for this time of the year in Indiana (side-by-side figure). It is a roller coaster ride, it seems.

Figure 1. Climate outlook for August 22-28, 2019 that indicates the probability for either above- or below-normal temperature (left) and precipitation (right).

Figure 1. Climate outlook for August 22-28, 2019 that indicates the probability for either above- or below-normal temperature (left) and precipitation (right).

Figure 2. Quantitative precipitation forecast for August 15-22, 2019 (left) compared to the 30-year average of precipitation for Indiana during the same time period (right).

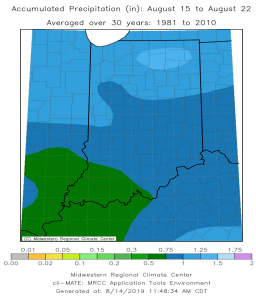

Figure 2. Quantitative precipitation forecast for August 15-22, 2019 (left) compared to the 30-year average of precipitation for Indiana during the same time period (right).

Seeing Spots

(Janna L Beckerman, jbeckerm@purdue.edu, (765) 494-4628)

The symptoms of sooty blotch and flyspeck (SBFS) have begun to make their appearance. I know this because 1). I'm starting to see spots (Fig 1, 2 & 3). We have accumulated MORE THAN enough hours of post- petal fall leaf wetness needed for infection to occur, despite the sudden drought conditions.

First, what is enough hours of post- petal fall leaf wetness needed for infection to occur? Different states have developed different levels and standards, with highs of 270 hours (hours must be greater than 4 hrs to be counted) needed in North Carolina, compared to 175 period identified in Iowa. In Kentucky, John Hartman found 185-251 hours were needed, but did not stipulate that a minimum of 4 hrs was required to accumulate leaf wetness. We have not yet developed a guideline for Indiana. In the interim, using either the Iowa or Kentucky model may reduce your fungicide usage in a normal year. For much of Indiana, 'normal' is a state we hear about—a fictional place between our extremes of tropical rainforest (2015, 2016, 2018, 2019) and drought (2012, the last few weeks) that we very rarely ever experience!

Sprays: Topsin-M tanked with captan is an effective combination (Ziram is another option, FRAC M; 14 d PHI). However, some orchards may be experiencing Topsin-M resistant flyspeck and sooty blotch populations. If you suspect you are one of those orchards with SBFS fungicide resistance, or you were late getting started, use Flint (FRAC 11), Pristine (FRAC 7-11), or Merivon (FRAC 7-11) to eradicate any infections that may have already started. Thereafter, captan with a phosphorous acid fungicide like Agrifos, Aliette, Rampart (and other FRAC 33s), or even just an acidifier like LI700 at appropriate intervals (2 weeks or 2 inches of rain; 10 days or 1.5 inches of rain) should provide fair to good control. If disease pressure is high, and you haven't exceeded your four applications of strobies, Flint (14 day PHI), Pristine, or Merivon all provide the best protection against this disease complex, and several of the summer rots. We do not know if these fungicides are protecting against the disease, or are effective eradicants, but we do know that they work quite well against this complex.

Figure 1. Early SBFS symptoms on Honeycrisp. Photo by Janna Beckerman.

Figure 2. Later SBFS symptoms on Honeycrisp. Fruit produced in poorly pruned trees are more

prone to infection. Photo by Janna Beckerman.

Figure 3. Although the names and fungal growth may appear different between fly speck and sooty blotch, this apple may be infected by the same fungus, or 20 different fungi! The answer to what species is infecting this apple is hidden in its DNA. Photo by Janna Beckerman.

Welcome to the Purdue Department of Entomology

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

Dr. Laura Ingwell Purdue Department of Entomology

Please welcome Dr. Laura Ingwell as she continues her experience in the Department of Entomology as an Assistant Professor in Horticulture Entomology. Laura received her Bachelor of Science in Biology from the University of Wisconsin-Milwaukee in 2006. She received her Masters of Science in Ecology from the University of Rhode Island in 2009 and her PhD in Entomology from the University of Idaho in 2014. Prior to her new faculty position, Laura has been a Postdoctoral Associate in the Department of Entomology since 2014. Laura is a member of the Indiana Small Farm Conference Committee where she is working to engage with diverse small farmers by providing educational sessions to improve production and facilitate conversations around increasing diversity in agriculture. Dr. Ingwell's research has focused on managing insect pests and insect transmitted pathogens in high tunnel cucumber, cantaloupe and tomato production and investigating the impacts of pesticide use on pollinator communities in these systems. Laura is excited to continue her collaborations with growers throughout the state.

Dr. Elizabeth Long
Purdue Department of Entomology

Welcome to Dr. Elizabeth Long as she returns to the Purdue Department of Entomology family as our second hire in Horticulture Entomology. Elizabeth received her Bachelors of Science in Biological Sciences from North Carolina State University in 2007 and obtained her PhD in Plant, Insect and Microbial Sciences from the University of Missouri in 2013. Elizabeth previously was a Post Doctoral Associate in our department from 2013-2016. Elizabeth has spent the last three

years as an Assistant Professor in the Department of Entomology at The Ohio State University. Her research has centered around three key themes: (1) addressing the consequences of human-mediated change to the environment for ecosystem services and function, (2) building our understanding of the impacts of biodiversity loss, and (3) evaluating the unintended impacts of agricultural management on non-target organisms in agroecosystems and surrounding areas. Elizabeth looks forward to engaging with horticultural crop producers in Indiana.

Events

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

July 9, 2019 Turf & Landscape Field Day
William H. Daniel Turf Center
Contact: Brooke Ponder, bponder@purdue.edu
The 2019 Turf & Landscape Field Day was well attended with 443 attendees, 38 vendors, 4 sponsors, and 20+ volunteers. Morning tours included turf research tours and landscape tours. Afternoon workshops included golf research, accidents and their legal ramifications, using drones to assess turf stress, a walk-about featuring landscape plants diagnoses, sports turf, and weed ID and control. Lunch was catered by Shoup's Country Foods.

July 18, 2019 Meigs High Tunnel Field Day
Purdue Meigs Farm
Contact Lori Jolly-Brown, ljollybr@purdue.edu
The Meigs High Tunnel Field Day was well attended with over 40 registrants on a hot, sunny July day. A few of the educational sessions included in the program:
Production of Specialty melons in High Tunnels
Early Detection of Bacterial Wilt
Impact of Crop Rotation and Rootstock on the Resilience of High Tunnel Tomatoes
AgComm's Tom Campbell photographed the event.

August 1, 2019 Small Farm Ed Field Day
Daniel Turf Center, Purdue Student Farm
Contact Lori Jolly-Brown, ljollybr@purdue.edu
The Small Farm Education Field Day was well attended with more than twice the registrants we had in 2018, 3 vendors, (Field Watch, SARE, and AgNutrition), as well as 20 International registrants. The morning academic session took place at the Daniel Turf Center. The afternoon educational session took place at the Purdue Student Farm with the following program:
Rototiller vs. power harrow demonstration

High tunnel tomato and pepper production

Solar dryers for post-harvest processing of fruits, vegetables

Wash pack demonstration

Food safety plans and certification process for gardeners

Dynamic enterprise budgets

Scheduling crops in high tunnels

Cover crop choices

Soil restoration in urban farms
AgComm's Tom Campbell photographed the event, as well as a reporter that attended and spoke to the registrants as well as the organizers and HLA Extension Specialists. She will send out a press release soon!

August 13, 2019 Vegetable Field Day/Sweet Corn Taste Testing
Pinney Purdue Ag Center, 11402 S. County Line Rd., Wanatah, IN
Nikky Witkowski, nikky@purdue.edu, (219) 465-3555

August 22, 2019 IPLLA The 33rd Annual Summer Field Day
Hendricks County Conference Center &

Fairgrounds, Danville, IN
Registration details: www.iplla.com

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

Home

The Indiana Horticultural Conference & Expo, 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!

July 30, 2020 Small Farm Education Field Day
Daniel Turf Center, Purdue Student Farm
Contact Lori Jolly-Brown, ljollybr@purdue.edu

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