PURDUE UNIVERSITY

FACTS FOR FANCY FRUIT

Issue: 25-06
June 12, 2025

A Newsletter for Commercial and Advanced Amateur fruit growers.

In This Issue

Crop conditions

(Wil Brown-Grimm, wbrowngr@purdue.edu)

Hello! Fruit crop conditions are good here with the exception of our Rosalee apples. Unfortunately, they are heavily infected with fireblight. We are in the process of removing the affected trees and destroying them offsite. Some of our first raspberries are ripening up. Applications of fungicide, insecticide, and thinning chemical have been made on schedule.

Blackberry:Green fruit

Pawpaw: Fruit maturation

Plum: Fruit maturation

Peach: Fruit maturation

Black Currant: Fruit maturation

Apple (Pixie Crunch): Fruit maturation

Grapes: Buckshot berries

Pear: Fruit maturation

It’s a Hazy Shade of … June

(Beth Hall, bhall@purdue.edu)

Welcome to the start of Hurricane Season that runs from June through November each year. Why would Indiana care about hurricane season? Certainly, by the time any hurricane might impact the state, it will have been greatly downgraded to what is called an extratropical (i.e., poleward of the Tropic of Cancer (23.5° north latitude)) storm or the remnants of the hurricane. Regardless, these hurricane remnant storms can bring often-needed rainfall with enough moisture to potentially be drought busters.

While our first tropical storm of 2025 (would be named “Andrea”) has yet to develop, forecasters are keeping an eye on strong wind patterns coming from western Africa and areas of low pressure that could strengthen to tropical storm levels (maximum sustained surface winds reaching 39-73 mph (34-63 knots)).

Speaking of those easterly winds coming from western Africa, another reason why Indiana may be interested in these and other tropical storm patterns is due to massive Saharan dust storms that can be carried thousands of miles across the Atlantic Ocean. There is currently a massive dust cloud, fed by the Sahara Desert and carried by the northeast trade winds, that is headed our way (Science Alert). AccuWeather provides a fun animation of the size and path of this dust storm that is currently impacting the Caribbean Sea and is projected to steer northward into the United States from the Gulf region (AccuWeather). Depending upon how far north this dust plume goes, we may see hazy skies that are likely to reduce the amount of solar radiation reaching our surface.

Smoke from Canadian wildfires is also creating hazy skies across Indiana. The National Oceanic and Atmospheric Administration (NOAA) provides an experimental smoke forecast product that predicts smoke intensity for the next 48 hours. The *New York Times* offered a color-shaded product of the NOAA tool, as shown in Figure 1. As long as the wildfires continue burning and upper-atmospheric winds continue to steer the smoke southeastward, we can expect hazy skies across our area.

How do hazy skies impact crop production? There are both positive and negative impacts. As mentioned, smoky skies can block incoming solar radiation that is necessary for photosynthetic development. However, the reduced solar radiation can also reduce daytime heating by several degrees causing a reduction in

evapotranspiration and other possible drought impacts. Smoke and dust particles – depending upon their concentration – also service as cloud condensation nuclei (i.e., particles that water vapor can condense on to). With the right amount of suspended particles and water vapor in the air, cloud droplet may grow enough to cause precipitation – another important component to crop production. On the other hand, too many suspended particles could simply haze up the sky without encouraging those cloud droplets to grow.

Finally, smoke and dust can create health hazards, particularly for the elderly and those vulnerable to respiratory ailments. Be sure to monitor the Indiana Department of Environmental Management's near real-time air quality maps and data to assess air quality risk levels for your area before spending too much time outdoors. Figure 2 provides an example of one of their maps.

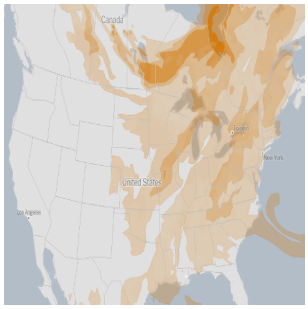

Figure 1. Example of the NOAA experimental forecast product showing smoke intensity for 3 PM EDT on Wednesday, June 4, 2025. Product enhance by the New York Times.

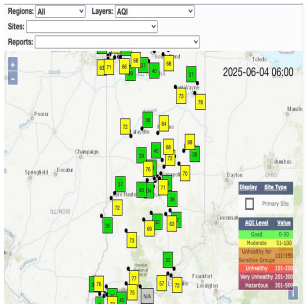

Figure 2. Example output from the Indiana Department of Environmental Management's near real-time air quality map. (https://www.in.gov/idem/airmonitoring/air-quality-data/)

Meteorological summer has arrived

(Austin Pearson, pearsona@purdue.edu)

We've made it! Meteorological summer started on June 1, but the official start of summer isn't until June 20. The days are longer, temperatures have risen, and my allergies are in full swing. I let the dogs out last night, and there was still quite a bit of light in the sky just before 10:00 PM EDT, which also makes it hard to get the kids to go to bed at a decent time. Who cares, though? It's summer, right???

June started much cooler than usual, with many areas in central and northern Indiana experiencing temperatures in the mid-30s. Indiana Dunes National Park recorded a low of 34°F on June 2, marking the coldest June temperature ever recorded at this station since records began in 1989. While this record doesn't span that many years, Farmland 5 NNW, located in Randolph County, recorded a low of 35°F, matching the record set on June 1, 1966 (records dating back to 1893). Reports of frost emerged in some locations as a result. However, just two days later, Indiana Dunes National Park reached a high of 89°F. Overall, average temperatures across the state have been near normal to 1-2°F below normal, particularly in northern Indiana. This trend has remained fairly consistent since May 1 and is evident in the modified growing degree day (MGDD) accumulations. Much of the Midwest is 40-80 heating units behind normal since May 1 (Figure 1). This is not a significant deviation and is not expected to cause much delay in crop maturity. Temperatures are rising and will continue to warm this month, as the

Climate Prediction Center expects Indiana to end June with above-normal temperatures.

In May, precipitation levels across much of northwestern Indiana fell below normal, leading to the development of abnormally dry (D0) and moderate drought (D1) conditions, according to the US Drought Monitor. However, precipitation increased slightly in June within this region. There was a slight improvement on June 10, with the D1 area decreasing by just over 4 percent (Figure 2). D0 conditions on the eastern edge of D1 improved due to last week's heavy rains. Much of central and southern Indiana received above-normal rainfall, which caused localized ponding and flooded crops. On June 5, many stations reported over 3 inches of rain, with Lagro 3.5 ESE (White County) recording the highest at 3.55 inches. That morning, my CoCoRaHS gauge recorded 2.62 inches in southwestern Howard County, while just a few miles to the east, the total was 3.21 inches. Quite a difference!

In the near term, it looks like we may see continued above-normal rain. The Climate Prediction Center has increased confidence in above-normal precipitation through June 25, although there are equal chances for above-normal or below-normal precipitation this month. Similarly, summer precipitation also presents equal chances, but we should have more information next week when the new outlooks will be released.

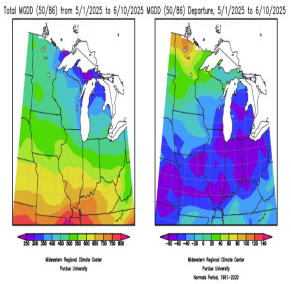

Figure 1: MGDD accumulations and departure from the climatological average for May 1 to June 10, 2025.

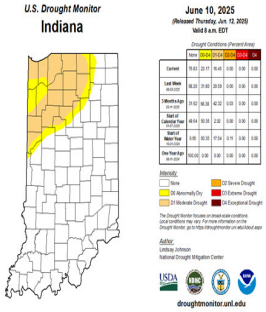

Figure 2: US Drought Monitor Map for June 10, 2025.

Tissue Analysis for Grapes & Small Fruit

(Miranda Purcell, mrpurcel@purdue.edu)

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.

Grapes: samples should be taken about 70 days after full bloom or at the start of veraison, usually early to mid-August; collect 100 leaf petioles (Figure 1)

Strawberry: sample the first fully expanded leaves after renovation, usually in mid to late July; collect 30-60 leaves

Brambles: sample leaves on non-fruiting canes (primocanes) between August 1 and 20; collect 30-60 leaves

Blueberries: sample leaves during first week of harvest; collect 30-60 leaves

Figure 1. Petioles (leaf stems) on grapevine should be collected around veraison for tissue sampling. Photo from PennState Extension

Be sure to 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/btny/ppdl/Documents/Compiled%20Lab%20Lists/PPDL-4-Soil%20Testing%20Labs-1.25.18.pdf

For desired ranges of nutrient concentrations in small fruits: https://www.uvm.edu/vtvegandberry/factsheets/tissuetest.html

Indiana Horticultural Society Summer Meeting

(Peter M Hirst, hirst@purdue.edu, (765) 494-1323)

Indiana Horticultural Society Summer Meeting
July 9
Chandler's Orchard and Country Market,
2849 S Co Rd 825 E, Fillmore, Indiana 46128

Chandler's Orchard and Country Market, located in Filmore, 30 miles west of Indianapolis, will host the Indiana Horticultural Society summer meeting on July 9.

The farm was founded by Jerry Chandler in 1975 and is currently operated by his son Matt and his family. They grow about 75 varieties of apples including common varieties like Cameo, Golden Delicious, Jonagold, and Honey Crisp to more unique varieties like Priscilla, Brown Russet, Blue Pearmain, Strawberry Pippin, Hudson's Golden Gem and more. Other fruits grown include strawberries, raspberries and peaches. They also make fresh cider.

They also offer a wide selection of local vegetables including tomatoes, sweet corn, green beans, sweet potatoes, pumpkins and peppers.

Most of the products grown are sold at the farm store located in Highway 40 W. As well as fruits, vegetables, cider and slushies, other agritourism activities are also offered such as pick your own strawberries, apples and pumpkins. One unique feature is horse-drawn hayrides featuring Percheron draft horses, known for their size and beauty. Bees are also kept on the farm to assist with pollination and also produce honey that is sold at the farm store. They also operate an online store through their website.

For more information on the farm, visit their website:

https://www.chandlersorchard.com

During this one-day summer meeting, we will

visit fruit production, vegetable production and get an overview of agritourism activities.

We will start at 9:30 am and beverages and lunch will be available on site.

We hope to see you there.

New Sprayer Technologies and Best Practices: Vineyards and Orchards

(Peter M Hirst, hirst@purdue.edu, (765) 494-1323)

DATE: August 12, 2025
TIME: 9:00 a.m.-5:00 p.m.
LOCATION: Quarry Hill Winery & Orchard
8403 Mason Rd #2
Berlin Heights, OH 44814
REGISTRATION COST:
Early Registration: $45 per person until July 1
Late Registration: $60 per person July 2 until August 1

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New Sprayer Technologies and Best Practices: Vineyards and Orchards

This workshop will feature presentations on best spraying practices using conventional sprayers and new sprayer technology, including spray drones and intelligent sprayer units. The afternoon will provide field demonstrations showing adjustments to improve effectiveness of conventional sprayers as well as sprayer operation and calibration demonstration. This workshop is being developed by OSU, MSU, and PSU Extension Specialists and the USDA-ARS Application Technology Research Unit. Registration is required. Please see the agenda for program details. Lunch and workshop materials are included with registration.

REGISTER AT GO.OSU.EDU/SPRAY2025

PennState Extension | The Ohio State University College of Food, Agricultural and Environmental Sciences | Michigan State University Extension

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Upcoming Events

(Miranda Purcell, mrpurcel@purdue.edu)

Indiana Horticulture Society Field Day
Wednesday, July 9th
Chandler's Orchard & Country Market Fillmore, Indiana

Purdue Small Farm Education Field Day
Thursday, July 24th
Purdue Student Farm West Lafayette, IN
https://ag.purdue.edu/events/department/hla/2025/07/purdue-small-farm-education-field-day.html

Southwest Purdue Ag Center Field Day
Thursday, July 26th
Southwest Purdue Ag Center Vincennes, IN
https://vegcropshotline.org/article/southwest-purdue-agriculture-center-field-day-

june-26-2025/#:~:text=Southwest%20Purdue%20Agriculture%20Center%20Field,Purdue%20University%20Vegetable%20Crops%20Hotline

New Sprayer Technologies & Best Practices: Vineyards & Orchards

Tuesday, August 12th

Quarry Hill Winery & Orchard Berlin Heights, OH

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Indiana Horticulture Conference & Indiana Small Farms Conference

March 3-5, 2026

Hendricks County Fairgrounds Danville, IN

https://indianahortconference.org/

https://extension.purdue.edu/anr/_teams/dffs/small_farm_conference/index.html

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