

FANCY FRUIT

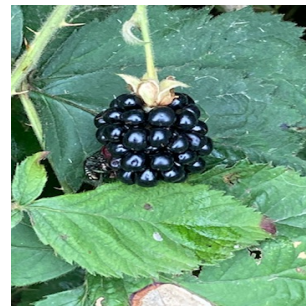
Issue: 21-09

August 13, 2021

A Newsletter for Commercial and Advanced Amateur fruit growers.

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Black raspberry- harvest continuing

Crop Conditions

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



Blackberry- harvest continuing



Red Raspberry- harvest continuing



Apple- early cultivars are ripening but tending to be bunchy



Grape- harvest of early cultivars beginning

Dry Conditions Have Returned to Indiana

(Beth Hall, hall556@purdue.edu)

Well, it was a nice 4 weeks with no drought or abnormally dry designated areas across the state. Unfortunately, the lack of rain over the

past few weeks have led to browning lawns, cracked soils, and other tell-tale signs that drought may be returning. The US Drought Monitor has designated three areas in Indiana as being *Abnormally Dry* (Figure 1). Looking at the national climate outlooks over the next few weeks is suggesting that spotty rain and dry conditions may persist, though there are slight indications that above-normal precipitation may be possible (Figure 2). Unfortunately, that confidence is low. This past week has been extraordinarily warm and muggy with temperatures in the 90s (Fahrenheit) and dew point temperatures in the upper 70s to lower 80s. Dew point temperature tend to stay relatively constant throughout the day and don't vary as much as humidity. It is a truer measure of how much water vapor is in the air and indicates the temperature the air would need to cool down to in order for the air to be saturated and dew to form on surfaces. This is why glasses that have been in air-conditioned environments will fog up quickly when one goes outside in these conditions! When the dew point temperature is that high, there is little if any cooler relief over the nighttime hours. How rare are dew point temperatures this high? Over the past 10 years, dew point temperatures exceeding 75°F on 21 days at the Indianapolis Airport. Last year, there were only 3 days when this happened.

Modified growing degree days continue to accumulate, though accumulation caps the upper temperature threshold at 85°F. What this means is if the maximum temperature is over 85°, then the maximum temperature is replaced with the number 85 when deriving the daily average. For example, let us assume the minimum temperature was 68°F and the maximum temperature was 92°F, then a traditional growing degree day (base 50°F) would find the average temperature $((68+92)/2=80)$ and then subtract

50 (i.e., $80-50=30$ growing degree-day units). However, some vegetation negatively responds to excessively warm temperatures, so modified growing degree days cap that upper limit at 85°F. In the example, therefore, the average temperature would be $(68+85)/2=76.5$ and the MGDD would be $76.5-50 = 26.5$ MGDD units. Accumulated MGDD units range from 1900 in northern Indiana to over 2500 in southern Indiana (Figure 3). This is relatively comparable to recent years (Figure 4).

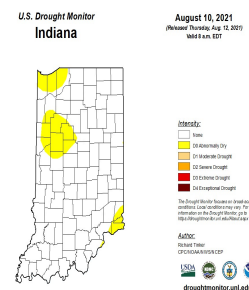


Figure 1. US Drought Monitor for data through August 10, 2021.



Figure 2. Precipitation outlook for August 17-21 indicating normal conditions likely throughout central Indiana with slight probabilities of above-normal precipitation in southern Indiana and below-normal precipitation in northeastern Indiana.

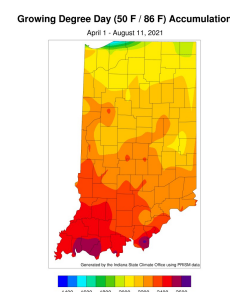


Figure 3. Modified growing degree day accumulations from April 1 to July 28, 2021.

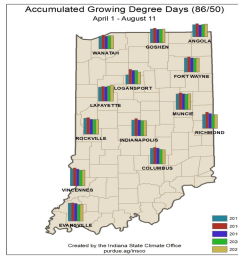


Figure 4. Comparison of 2021 modified growing degree day accumulations from April 1 – August 4 to the past four years.

Getting Ready to Plant Strawberries in a Plasticulture System – Planting Date

(Wenjing Guan, guan40@purdue.edu)

Growers interested in growing strawberries on a plasticulture system can choose to use plug plants or bare-root plants. The pros and cons of using each of the planting materials was discussed in a [previous article](#). This article will discuss the importance of planting dates for growers who chose to use plug plants.

In the 2020-2021 season, the strawberry plasticulture trial at Southwest Purdue Agricultural Center reached the highest yield of the past three seasons. The highest yielding variety was Rocco that yielded 2 lb/plant. Besides Rocco, Flavorfest, Chandler, and Liz also yielded over or close to 1.5 lb/plant. This yield was much higher than yields of previous seasons, in which, yields of even the best varieties were less than 1 lb/plant. Fall and winter in the 2020-2021 season are in general, good for strawberry production. Another important factor that I think makes a substantial difference in the yield is the planting date. Strawberry plugs were planted on Aug. 24 in 2020, while they were planted on Sep. 11 in 2019. There was about two weeks' difference. Although two weeks does not sound like an enormous difference, it could significantly impact

the plant growth in the fall and the yield in the following spring. I will use growing degree days (GDD) to explain the impact.

Growing degree day is calculated by daily mean temperature minus a base temperature. Since strawberry crown growth and development are best at temperatures above 50°F, 50°F was used as the base temperature in the GDD calculation. Figure 1 is the accumulated GDD from planting to the end of February in the past two seasons (2019/2020 and 2020/2021). From Aug 24 (planting date in 2020) to Sep 11 (planting date in 2019), there was about 500 GDD accumulation in 2020, which was close to one-third of total GDD accumulation from Aug. 24 to the end of Feb. What this tells us is that delaying planting for two weeks from August to September could sacrifice one-third of GDD accumulation in the fall.

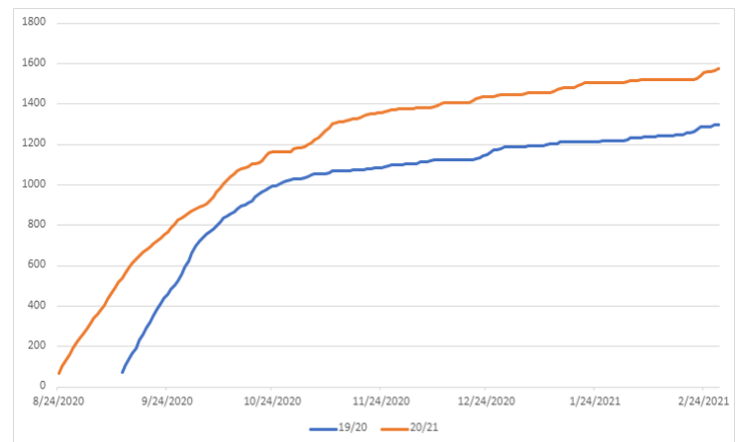


Figure 1. Accumulated growing degree days from planting to end of February in 2019-2020 and 2020-2021 strawberry season.

Strawberry crown growth in the fall is in a short window in our region. After the middle October, plant growth reduces tremendously. Therefore, it is extremely important for growers who are interested in using plug plants and grow strawberries in a plasticulture system to plant them as early as possible. When I first started to work on the plasticulture system a few years ago, strawberry plugs are only available in Sep. and Oct. This works well for growers in the southern

states. But it is too late for our region. The good news is that with more nurseries are selling strawberry plugs in the temperate regions now, it is possible to get plugs as early as the middle of August. Our experiment in southern Indiana showed that with early planting of plug plants, appropriate variety selection, and plant care, it is possible to achieve a decent yield for growing strawberries in a plasticulture system.

Spotted lanternfly has been detected in Indiana

(Elizabeth Yim Long, long132@purdue.edu)



Figure 1. A spotted lanternfly adult with wings folded against body at rest (left) and wings open to show red on hindwings (right). Photos from PA.gov and entomologytoday.org

We were all hoping it would happen later, but unfortunately the spotted lanternfly (SLF) (*Lycorma delicatula*) (Figure 1), an invasive planthopper with a piercing-sucking feeding strategy, was officially detected in Vevay, Indiana (Switzerland County) for the first time in July 2021. You can see pictures and read more about the detection at the [Indiana Department of Natural Resources Website](#). SLF does not attack

vegetable crops and does not bite or sting people or pets.

Spotted lanternfly was first detected in the United States in Pennsylvania in 2014, and based on what we've learned from research and updates on this insect in Pennsylvania, SLF poses the greatest threat to the tree fruit, grape, hardwood nursery, and hops industries. Fortunately for Indiana stakeholders, significant effort has been focused on understanding the ecology of this insect, including which host plants this insect prefers to feed on, their behavior and movement patterns, and of course population management with insecticides. This insect can be managed with insecticides that most commercial fruit producers already use; however, we still have work to do to learn which products are most effective.

At this time, we are planning a SLF webinar update for tree and small fruit producers in the state, so please stay tuned! In the meantime, the best thing you can do as a producer or community member is remain vigilant for this insect in your area. **If you suspect an insect as SLF, please do not attempt to capture or collect the insect.** Instead, please report it immediately by calling 866-NO EXOTIC (866-663-9684) or send an email (with a photo of the insect if possible) to DEPP@dnr.IN.gov.

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