VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service

Issue: 709
July 29, 2022

In This Issue

Physiological Disorders after Heavy Rains

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

We received more than 8 inches of rain since the evening of July 24 at Southwest Purdue Ag Center. This article discusses a few plant physiological disorders we observed after the heavy rains.

We noticed a large percentage of cracked fruit on tomatoes at the stem end (Figure 1). Fruit cracking is a physiological disorder that typically relates to a rapid uptake of water of the fruit. The fast water uptake affects strength and elasticity of the fruit skin and results in cracking. Some are minor damages, while others are severe enough to make fruit unmarketable. Fruit close to maturing are most susceptible to cracking, but it can also happen on immature green tomato fruit. In addition to fruit cracking, we also observed rain-checking on some tomato fruit which might be direct damage by the heavy rains.

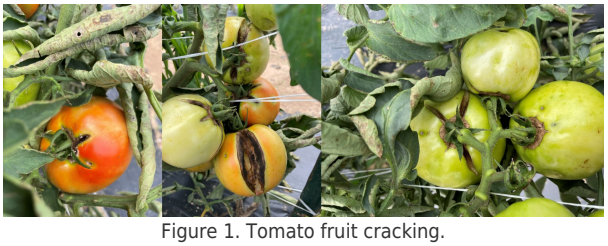

Figure 1. Tomato fruit cracking.

On watermelons, the heavy rains resulted in fruit split (Figure 2). Although the symptom happened on some cultivars with a thin rind, not all the thin-rind cultivars are prone to split. The disorder does not seem to be associated with a particular rind pattern or fruit size.

Another fruit disorder I noticed is that a higher percentages of fruit have water-soaked flesh edges after being cut open (Figure 3). The symptom may be associated with fast water updates or elevated stresses affecting fruit ripening.

Figure 2. Watermelon fruit split.

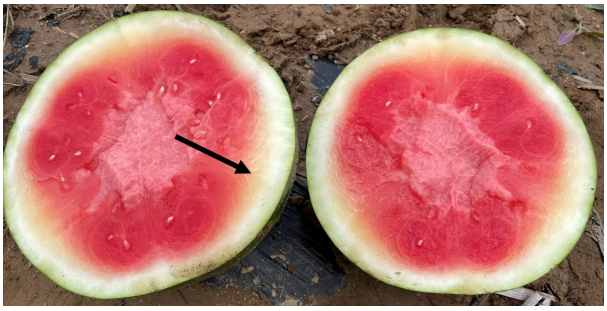

Figure 3. Water-soaked symptom at the edge of the flesh.

We saw yellowing and/or necrotic leaf symptoms on watermelons and cantaloupes. Although the rain created ideal conditions for disease spread, some of the symptoms may be caused by direct rain damage, plant response to water stress, or a nutrient deficiency. It is important to separate these symptoms from infectious diseases for appropriate management.

General Management Options for Bacterial Diseases of Tomato

(Dan Egel, egel@purdue.edu, (812) 886-0198)

This is the fourth article in a series that describes the three primary bacterial diseases of tomato: bacterial canker, bacterial speck and bacterial spot. This article is a general summary of management options for these diseases.

All three of these diseases may be seed borne and brought into to field situation on transplants. It is important for all three diseases to purchase seed that has been tested for seed borne disease.

Inspect seedlings during production or at delivery. In addition, it is possible to heat or chlorine treat seed to reduce contamination. See citation below.

- Hot water and chlorine treatment of vegetable seeds to eradicate bacterial plant pathogens [Online]. S. A. Miller and M. L. Ivey, 2005. Ohio State University Extension Bulletin HYG-3085-05. Available at: http://ohioline.osu.edu/hyg-fact/3000/3085.html (verified 4 April 2011)
- Gatch, E. 2016. Organic seed treatments and coatings [Online]. eOrganic Community of Practice. eXtension Foundation. Available at: https://eorganic.org/node/749

Management of tomato seedlings in transplant facilities is critical for the future health of the crop. Below are some recommendations for transplant production.

- Treat seedlings in the greenhouse starting at about the first true leaf stage and at 5 to 7-day intervals. Use a combination of copper and mancozeb. Streptomycin products such as Firewall® or Harbour® may be used starting at the 2-leaf stage. Do not apply streptomycin products in the field.
    - Peroxide products such as Oxidate® may be used in addition to the ones mentioned above. Be careful with mixing the Oxidate® with other products. For example, if you mix copper and Oxidate®, mix Oxidate® at 0.33%. If you apply Oxidate® alone, use 1.0%. Oxidate® has no residue. Therefore, it is best to apply this product frequently. Do not substitute Oxidate® for copper or any other product.
    - I have thoughts on how to apply products by hand. I favor a backpack sprayer rather than a garden sprayer. See **this** video about the use of backpack vs garden sprayers.
- If you grow different varieties, separate them in the greenhouse so that there is no splash between varieties. If you have different lot numbers of the same variety, also separate these.
- Scout the plants for symptoms. If tomato transplants are purchased, inspect plants upon delivery.

Finally, in order to control any of these diseases, it is important to know which disease is in one's field or greenhouse. Or if the symptoms are from a disease. Therefore, it is important to have the disease one is observing officially diagnosed. The Plant and Pest Diagnostic Laboratory is an excellent resource for diagnosis of plant diseases and more, see this link https://ag.purdue.edu/department/btny/ppdl/index.html

Mite Management

(Laura Ingwell, lingwell@purdue.edu, (765) 494-6167)

Two-spotted spider mites (TSSM) are one of the most common mite pests occurring throughout the world. They are known to feed on over 300 plant species, including tomatoes, cucumbers, melons, grapes, apples, and a variety of common flower and weed species. They disperse by walking or floating on the wind currents.

Early infestations can be spotted by scouting the leaves for the characteristic stippling that occurs because of mite feeding. Mites feed on the plant at the cellular level, removing photosynthates and creating a stippling pattern on the leaves. This looks like white/yellow speckles on the upper surface of the leaves and on the underside (Figure 1). As infestations build you will be able to spot the characteristic webbing that these mites build, giving them their common name (Figure 2). TSSM can be found on the underside of leaves with a 10X hand lens (Figure 3). The adults are a pale green to yellowish color, or almost appear translucent, with two black spots on their back. Eggs and nymphs are present and overlapping with adults. The eggs are very small yellowish or translucent circles and the nymphs are yellowish to green in color. Spots are not present until they are mature.

Figure 1. Stippling feeding damage on the underside of a cucumber leaf, caused by TSSM infestations. (Photo by: John Obermeyer.)

Figure 2. The characteristic webbing produced by spider mites acts as a superhighway for movement and dispersal.

Figure 3. The characteristic webbing produced by spider mites acts as a superhighway for movement and dispersal.

This time of year, following the heat and drought that many of us have been experiencing, you will begin to notice that this pest is thriving. Drought stressed plants and high heat create the perfect conditions for mites. And given their rapid life cycle, completing development from egg to reproductive adult in 5-20 days, populations may be exploding. Mite damage leads to chlorosis and ultimate leaf death. In addition, they can move directly onto the fruits of the plant and cause aesthetic damage to the exterior rind of melons and cucumbers. Under extreme pressure the entire plant can die.

There are a variety of natural enemies, especially predatory mite species, that help suppress the population. However, frequent insecticide sprays can lead to elimination of these predators. At the onset of infestations, you can purchase the species *Phytoseiulus persimilis*, from many biological control suppliers. This mite species is a specialist feeding on TSSM, they are voracious and move rapidly through the vegetation hunting TSSM. They have been deployed successfully in greenhouses to manage spider mites and more recently are deployed via drones in large-scale field production in crops including strawberries.

In some situations, you will need to turn to miticides for control. For a pest such as this, resistance management is key. Product rotation between the different classes available is necessary. I refer you back to a previous article where I discuss considerations when selecting the right miticide (July 15, 2021, Issue 693). In brief, there are five classes available to treat mites in watermelon/cantaloupe crops. These classes include the IRAC (Insecticide Resistance Action Committee) codes 3A (pyrethroids), 6 (avermectins), 10B (etoxazole), 20B (acequinocyl), 21A (meti acaricides) and 23 (tetronic acid and derivatives). The efficacy among the different classes varies and target different stages of development of the pest. We have had reports from growers in southern Indiana that group 6 (abamectin, Agri-mek®) and group 23 (tetronic acids, Oberon®) are no longer showing efficacy in their fields. This has not been confirmed but reinforces the need for product rotations. In conversations at our recent field day at Meigs Horticulture Farm, I have been told that one of the best strategies applied is a combination of etoxale (Zeal®, 10B) which has some translaminar activity and can move through plant tissues and fenpyroximate (Portal®, 21A) which has quick knockdown and will target all mobile stages of the pest. Using a silicone surfactant in the tank with the application will help improve coverage and control. Many of these products are limited in the number of applications you can apply per year, so be prepared to apply at the most crucial time and have materials on hand for rotation.

Going Rogue

Try as we might, it seems that no weed management program controls 100% of the weeds in a field.

Inadequate or excessive rainfall can limit the success of preemergence herbicides. Less-than-ideal soil moisture can result in unsatisfactory in-season cultivation. Even when we have effective herbicide options, late emerging weeds often cannot be treated within the labeled pre-harvest interval. As a result, time-consuming and expensive hand-weeding is often used as a last resort.

Roguing is the act of removing unwanted plants from a field. To maximize the benefit, focus roguing efforts on the following types of weeds, keeping in mind that some weeds may fit into more than one category:

- **Suspected herbicide-resistant weeds.** If weeds once controlled by a herbicide application no longer die, they may be herbicide-resistant. Heavy reliance on herbicides with the same mode of action (or Group number) over time tends to select for herbicide-resistant individuals. The resistant weeds that survive a herbicide application, pass on this resistance to their offspring. Over time more of the weed population is herbicide-resistant. One way to slow a herbicide-resistant weed population is to rouge out resistant individual weeds before they set seed. A growing list of herbicide-resistant weeds can be found at weedscience.org. Currently 13 different weed species have been reported to be herbicide-resistant in Indiana, including glyphosate-resistant marestail (Figure 1).

Figure 1. Suspected glyphosate-resistant marestail continues to grow

following a glyphosate application.

- **Young, perennial weeds.** Perennial weeds live for years. Once established, they are often very difficult to kill because they establish large, deep tap roots or extensive, spreading root systems. But seedlings of perennial plants are often easy to control with tillage, herbicides, and hand-removal. Figure 2 shows pokeweed seedlings emerging from the soil where a pokeweed fruit fell the previous year. At this stage of growth, they can easily be controlled. Roguing young, perennial weeds will be more useful in no-till production systems and in perennial cropping systems.

Figure 2. Pokeweed seedling

- **Difficult-to-control weeds.** Some weeds have few effective, registered herbicides in vegetable crops. They may be immune to tillage or germinate late in the season after soil-applied herbicide activity is gone and after postemergence herbicides have been applied. Perennial sedges fit into this “difficult-to-control” category. Herbicides registered for use in vegetable crops and capable of providing some level of nutsedge control include Dual Magnum® and Sandea®. Even though both can provide excellent control, they often fail to provide complete nutsedge control. In cases like this, roguing out survivors may be an effective control option on limited acreage.

Figure 3. Yellow nutsedge emergence through a hole in plastic mulch.

- **Weeds with high seed production.** Some weeds are notorious for the number of seeds they can produce under optimal growing conditions. Many pigweed and waterhemp species, for example, can produce hundreds-of-thousands of seeds per plant. To put this into perspective, if only one pigweed plant is allowed to survive on 1 acre of land and it produces 100,000 seeds, it would have enough seed to produce 2 pigweed plants per square foot over the entire 1 acre field. This time of year many weeds have already started to produce viable seed. In this case, it is best to dispose of rogued weeds outside the field to avoid depositing weed seeds onto and into the soil.

Figure 4. The author stands next to a Palmer amaranth plant in a sweet potato field, circa 2008.

Additional Resources:

To learn more about weed control options in Midwest vegetables, consult the *Midwest Vegetable Handbook* online at mwveguide.org

Squash Vine Borer (SVB) Trapping Bycatch

(Laura Ingwell, lingwell@purdue.edu, (765) 494-6167)

This is my second year coordinating a bucket trap network to monitor squash vine borers. And, for a second year in a row we are witnessing some interesting organisms in the trap. The first of which is the unfortunate capture of pollinators. This is nearly unavoidable because of the color attraction; yellow mimics flowers, but also stressed or susceptible plants and tends to be a universal color cue that many insects use to locate suitable hosts. Therefore, the yellow lid on the bucket itself inadvertently attracts some beneficial insects.

Figure 1. Bucket trap used to monitor squash vine borer. (Photo by John Obermeyer.)

The second is a different species of clear wing moth. Despite the fact that we place a pheromone lure in the top of the trap lid that mimics that produced specifically by females of the species *Melittia cucurbitae* (SVB; Figure 2), we have seen consistent attraction to and capture of another moth belonging to the clear-wing family (Sesiidae), known as the grape root borer (GRB; *Vitacea polistiformis*; Figure 3). This pest species can be damaging in grape production but does not pose a threat to cucurbits.

Figure 2. Adult squash vine borer moth, Melittia cucurbitae. (Photo by John Obermeyer.)

Figure 3. Adult grape root borer moth, Vitacea polistiformis. (Photo by John Obermeyer.)

The bottom line is that nothing beats actual scouting in the field. To minimize the damage caused by SVB in cucurbits be sure to scout your crop and look for the adults themselves, they are daytime fliers, and you may be lucky enough to see them in the crop. Effective management relies on the application of insecticides on the base of the plant at/near egg hatch, prior to the larvae boring into the stem of the plant where they remain protected from subsequent foliar applications.

Trap catches can be found here:
https://extension.entm.purdue.edu/veg/squash-vine-borer/

Irrigation Demonstration Update July 27, 2022, Pinney Purdue Ag Center

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674) & (Christian Charlson, ccharls@purdue.edu)

At Pinney Purdue (PPAC) 2.19 inches of rain fell July 12 through July 26. The potential evapotranspiration (PET) over the period was 2.67 inches. Estimates for water use by the crops are somewhat lower than potential evapotranspiration. For tomatoes, estimated water use was 2.03 inches, and for watermelons, 1.54 inches. Dry periods between heavy rains meant that all irrigated beds were irrgated at least several times over the period.

Fruit are developing on tomato, pepper, and watermelon, and the earliest fruit have just set on eggplant. Flowering continues on all plants. Plants in the unirrigated plots appear slightly smaller than plants in the irrigated plots – not as tall and not as wide (Figure 1). A few watermelon plants have wilted in all irrigation treatments. Wilted watermelon sent to the diagnostic lab showed fuasrium wilt and some pythium root rot.

Figure 1. Overview of irrigation dedmonstration at Pinney Purdue Ag Center on July 21, 2022 and tensiometers in one of the watermelon beds.

We installed tensiometers 12 and 18 inches deep. The 12-inch depth provides a comparison between the soil moisture tension measurement provided by the tensiometer and the volumetric water content provided by the electronic sensor at the same depth. The 18-inch depth provides a glimpse of moisture deeper in the soil. Many existing recommendations for irrigation management refer to tensiometer measurements. With tensiomter measurements, the larger the number, the drier the soil.

The graphs below show sensor (Figure 2) and tensiometer (Figure 3) readings for the unirrigated and the Et-based tomato beds, along with bars indicating the daily totals of rainfall and irrigation. In the unirrigated bed, the volumetric moisture content measured by the sensor ranged from 0.17 to 0.21. This indicates a dry soil. The 0.76-inch rain on July 15 increased the soil moisture in this plot, but it still remained much drier than optimal. The soil moisture tension measured once a day by the tensiometers in these unirrigated plots ranged from 36 kilopascals (kPa) at the wettest, to 72 at the driest. The irrigated bed maintained volumetric moisture content above 0.26, and tensiomter readings were between 0 and 5. These readings indiciate soil near field capacity. In the unirrigated plots, the tensiometers indicated wetter soil 18 inches deep than 12 inches deep, with values from 32 drying to 50 after several days with no rain. In irrigated plots, soil 18 inches deep was drier than soil 12 inches deep, but nonetheless had plenty of moisture, indicated by readings less than 10.

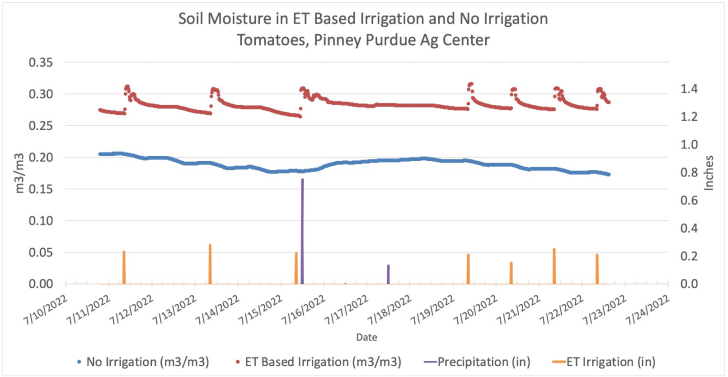

Figure 2. Soil moisture measured by electronic sensors at 12 inch depth in tomato plots irrigated based on evapotranspiration (Et-based) or not irrigated, and daily precipitation and irrigation. Pinney Purdue Ag Center, July 11-22, 2022.

Tensiometers in watermelon plot.

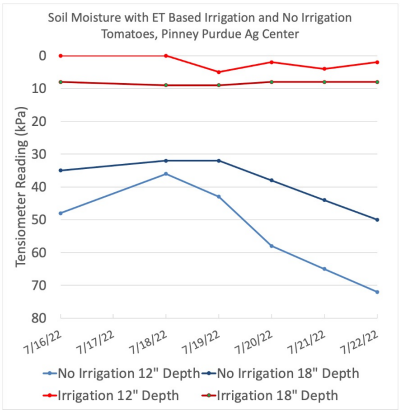

Figure 3. Soil moisture measured by tensiometers at 12 and 18 inch depths in tomato plots irrigated based on evapotranspiration (Et-based) or not irrigated. Pinney Purdue Ag Center, July 16-22, 2022.

More information about this demonstration can be found in the previous newsletter article

Funding for project *Improve Drip Irrigation Management for Vegetables and Melon Production in Indiana* was made possible by the Indiana State Department of Agriculture through grant A337-22-SCBG-21-003. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the ISDA.

Irrigation Demonstration Update July 27, 2022 Southwest Purdue Ag Center

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198) & *(Emerson Luna Espinoza, elunaesp@purdue.edu)*

At Southwest Purdue Ag Center (SWPAC), more than 10 inches of rain fell since July 7; over 8 inches happened since the evening of July 24.

Soil water content on the unirrigated tomato/pepper/eggplant bed (12'' under plastic mulch) increased from 10% (early July) to about 15% after 3 inches of rain on July 7-9. The soil was saturated (soil water content above 30%) during the recent rains; the water content reduced to field capacity (26% or 0.26) a few hours after the rain stopped. On the frequently irrigated bed, soil water content stayed at or slightly above field capacity most of the season. Water depleted about 20% between irrigation events on the less frequently irrigated bed (Figure 1).

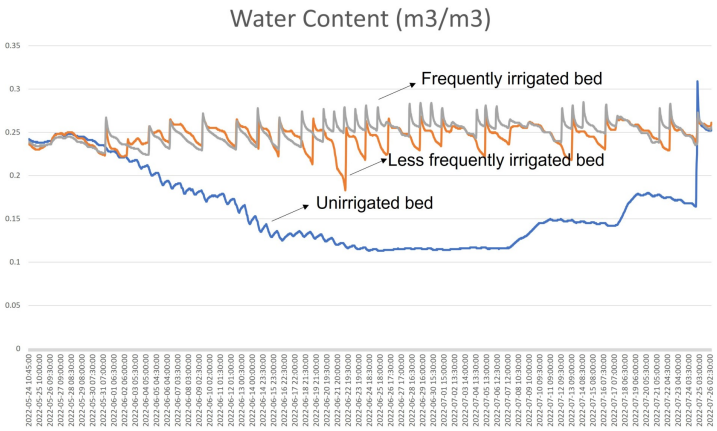

Figure 1. Soil water content on beds receives different irrigation treatments.

Tomato harvest started in early July. Until the recent harvest, the unirrigated bed had around 54% of fruit (in number) that showed blossom end rot (BER), 13% from the less frequently irrigated bed, and 6% from the most frequently irrigated bed. We harvested most BER fruit in the first weeks' harvest before the rain started in July. There was little BER fruit at the most recent harvest on July 22. Other physiological disorders (see article Physiological Disorders after Heavy Rains) and insect damage resulted in large percentages of unmarketable tomato fruit during the recent harvests.

We have harvested peppers for three weeks. There was a large amount of unmarketable pepper fruit in the first two weeks' harvest, likely due to sunburn and high-temperature damage. Fruit marketability was greatly improved with the recent cooler and rainy days. Up-to-date yield and fruit marketability were similar among irrigation treatments.

Eggplant harvest was in the third week. The up-to-date yield was about half on the unirrigated bed compared to the irrigated beds. Almost all the fruit was marketable regardless of the irrigation treatments.

Cantaloupe harvest started in early July. A noticeably delayed fruit ripening was observed on unirrigated bed. While the up-to-date number of fruit harvested among irrigation treatments was similar. The watermelon harvest will start this week.

More information about this demonstration can be found in the previous newsletter article

Funding for project *Improve Drip Irrigation Management for Vegetables and Melon Production in Indiana* was made possible by the Indiana State Department of Agriculture through grant A337-22-SCBG-21-003. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the ISDA.

Strawberry Chat Aug. 10 Plasticulture Production

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

August Strawberry Chat will be about plasticulture production.

Our guests are Brad Bergefurd, a former horticulture specialist at The Ohio State University; Calvin Beasley from Beasley Orchard in Danville, IN, and Danny VanMeter from VanMeter Family Farm in Clarkson, KY.

The live session is on Aug 10, 12:00-1:00 pm EST. If you are interested in participating live, please register at https://purdue-edu.zoom.us/meeting/register/tJ0kcOGupjkrG9HH1y6U_w4XnKGogWqqI4ao

Drought Improving … for now

(Beth Hall, hall556@purdue.edu)

Rainfall over the past few weeks has helped to improve drought conditions across much of Indiana. Northeastern and southwestern Indiana have benefited the most, removing previous *Abnormally Dry* or *Moderate Drought* status from the U.S. Drought Monitor (USDM; Figure 1). Unfortunately, west-central Indiana and near the greater Cincinnati area have been missing out from most of these rain events, keeping these areas in low USDM categories for the time being.

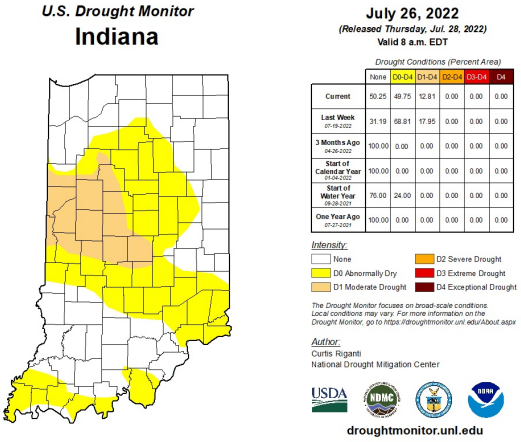

Figure 1. U.S. Drought Monitor for Indiana as of July 26, 2022.

High temperatures continue as summer progresses. Comparing this summer with average conditions over the past 30 years indicates that temperatures (both maximum and minimum) have been within a few degrees of normal. However, conditions have often felt much hotter, so what is going on? First, the higher humidity have made conditions (both day and night) feel hotter than usual. As mentioned in previous articles, higher humidity prevents plants and animals from naturally cooling through evaporation and transpiration. These higher humidity levels are likely attributed to higher temperatures. Even though most days are only a few degrees above normal, each degree increases the atmosphere's capacity to have more water vapor in suspension. Indiana has also experienced pulses of extreme heat throughout the season that have been offset by cooler-than-normal periods. When averaged over time, this mathematically indicates that temperatures across several weeks or months have been near normal, while masking those extreme hot periods. The Midwestern Regional Climate Center's (mrcc.purdue.edu) Corn Heat Stress Degree Day (SDD) tool shows how southern Indiana,

in particular, has accumulated more SDDs than normal (Figure 2). Derived in a similar manner to growing degree days, this SDD model uses 86°F as a threshold with the assumption that most corn plants shut down when exposed to these extreme temperatures.

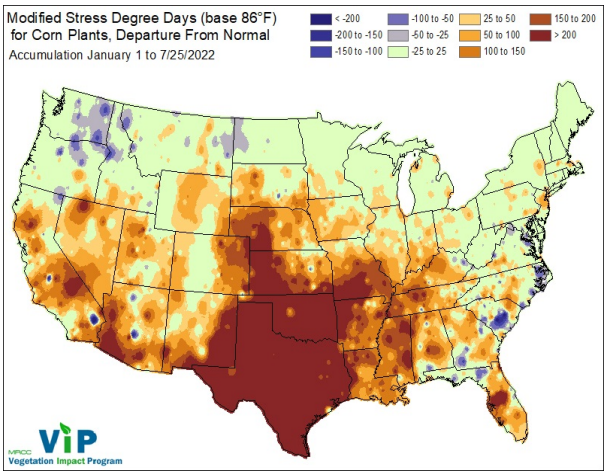

Figure 2. Modified corn heat stress degree day accumulation departures from normal for January 1 through July 25, 2022. https://mrcc.purdue.edu/VIP/indexSDD.html

Climate outlooks for the next 6-to-14 days, the month of August, and the 3-month period of August-September-October are all favoring above-normal temperatures and below-normal precipitation (e.g., Figure 3). While this may sound like bad news, remember that impacts often are more related to the timing and rate of precipitation rather than the comparison of total amounts over longer (e.g., weeks and months) periods of time. This past spring, precipitation was typically below normal. However, rain fell every few days. While those total amounts over a 4-week period may have been below normal, they still kept the soil wet and limited field days. There is currently too little guidance about the timing and rates of precipitation when looking out beyond a week.

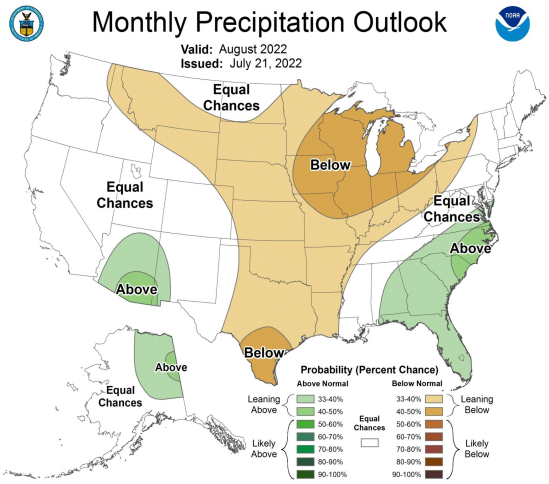

Figure 3. Climate outlook for August from the national Climate Prediction Center. Levels of shading indicate levels of confidence for above- or below-normal conditions to occur.

Figures 4 and 5 show the modified growing degree accumulations and departures from normal, respectively, for April 15 through July 27, 2022.

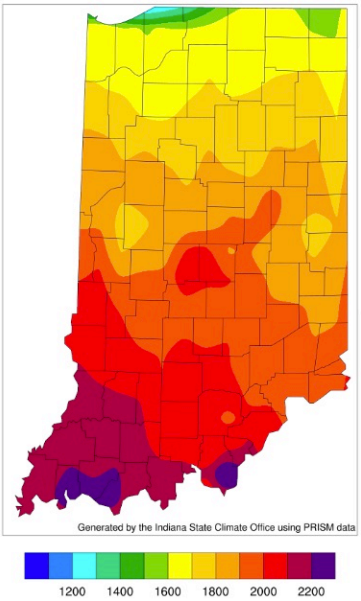

Figure 4. Modified growing degree day (50°F / 86°F) accumulation from April 15-July 27, 2022.

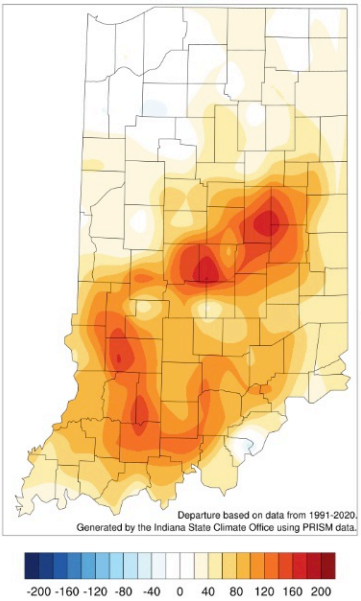

Figure 5. Modified growing degree day (50°F / 86°F) accumulation from April 15-July 27, 2022, represented as the departure from the 1991-2020 climatological average.

OISC Clean Sweep Pesticide Disposal Program

OISC Clean Sweep Pesticide Disposal Program is a great opportunity to legally dispose of unwanted pesticide products at little or no cost.

The 2022 Clean Sweep Pesticide Disposal Program sponsored by the Office of the Indiana State Chemist (OISC) offers statewide pesticide collection sites in Wabash, Bartholomew, Daviess, Randolph, Porter and Hendricks counties in August. This is a great way for farmers, public and private schools, ag dealers, nurseries, golf courses, cities, towns, municipalities, county units of government and others to dispose of suspended, canceled, banned, unusable, opened, unopened or just unwanted pesticides

(weed killers, insecticides, rodenticides, fungicides, miticides, etc.) for free (up to 250 pounds per participant).

Visit the Office of the Indiana State Chemist (OISC) website to download the participant form at oisc.purdue.edu or contact Nathan Davis at cleansweep@groups.purdue.edu to have a participant form emailed. Those wanting to participate are required to complete and submit the participant form by mail, e-mail, or fax by August 5, 2022. Then bring your labeled, leak free and safe to transport containers to the collection site. DO NOT mix materials. In case of an emergency, you should bring with you a list of products you are carrying and a contact phone number.

The drop off time is 9:00 a.m. to 3:00 p.m. (local time) and the dates and locations are:

August 16, 2022: Ceres Solutions, Wabash, IN

August 17, 2022: Bartholomew County Solid Waste District, Columbus, IN

August 18, 2022: Daviess County Highway Department, Montgomery, IN

August 23, 2022: Davis Purdue Ag Center, Farmland, IN

August 24, 2022: Co-Alliance, Valparaiso, IN

August 25, 2022: Hendricks County Fairgrounds, Danville, IN

Questions can be directed to Nathan Davis at cleansweep@groups.purdue.edu or call (765)-494-1585

OISC CLEAN SWEEP PESTICIDE DISPOSAL

WHAT

Indiana Pesticide Clean Sweep Project designed to collect and dispose of suspended, canceled, banned, unusable, opened, unopened or just unwanted pesticides (herbicides, insecticides, rodenticides, fungicides, miticides, etc.) is being sponsored by the Office of Indiana State Chemist (OISC). This disposal service is free of charge up to 250 pounds per participant. Over 250 pounds there will be a $2.00 per pound charge. This is a great opportunity for you to legally dispose of unwanted products at little or no cost.

WHO

All public and private schools, golf courses, nurseries, farmers, ag dealers, general public, cities, towns, municipalities and county units of government or others receiving this notice are eligible to participate.

PARTICIPANT FORM

Please go to oisc.purdue.edu to complete the Clean Sweep Participant Form or email cleansweep@groups.purdue.edu to have a participant form emailed.

DATES / LOCATIONS

9am to 3pm Local Time

August 16, 2022:
Ceres Solutions
Wabash County
573 East 700 South
Wabash, Indiana 46992

August 17, 2022:
Bartholomew County Solid Waste District
720 S. Mapleton Street
Columbus, Indiana 47201

August 18, 2022:
Daviess County Highway Department.
5247 East 100 North
Montgomery, Indiana 47558

August 23, 2022: Davis Purdue Agricultural Center (DPAC)
Randolph County
6230 IN-1
Farmland, Indiana 47340

August 24, 2022:
Co-Alliance
Porter County
210 East 400 South
Valparaiso, Indiana 46383

August 25, 2022:
Hendricks County Fairgrounds
1900 E. Main St.
Danville, Indiana 46122

Pinney Purdue Vegetable Field Day – Aug. 9, 2022

The Pinney Purdue Vegetable Field Day/Twilight Meeting will be held August 9, 2022, 5 to 8 p.m. Central time (6 to 9 p.m. Eastern time) at 11402 S. County Line Road, Wanatah, IN. The evening program will feature plot tours for farmers and for homeowners featuring topics of irrigation, sweet corn, pumpkins, dry beans, equipment, preserving produce, soil health and cover crops. A detailed program is available here https://extension.purdue.edu/events/county/porter/2022/08/pinney-purdue-vegetable-field-day.html. Dinner will be provided. Please register at puext.in/Veg/Evening2022.

For ag professionals and educators a similar program will be held 2 to 4 p.m. Central time (3 to 5 p.m. Eastern time). Separate registration is required.

For more information contact Nikky Witkowski at (219) 465-3555 or nikky@purdue.edu.

PINNEY PURDUE VEGETABLE FIELD DAY

WHEN
August 9, 2022
5-8pm CDT

WHERE
Pinney Purdue Ag Center
11402 S County Line Rd
Wanatah, IN 46390

Sign Up Here:
https://puext.in/VegEvening2022

TOPICS COVERED

Vegetable Farmers

Ashley Adair: *Are dry beans an option for Indiana Farmers?*

Stephen Meyers and Jeanine Arana: *Weed Management in No-Till Pumpkins*

Wenjing Guan and Lyndon Kelley: *Drip Irrigation Equipment and Scheduling*

Marian Rodriguez-Soto and Tatiana Gill: *High Tunnels and Cover Crops*

Laura Ingwell: *Sweet Corn Insect Management*

**Pesticide Credits Will be Available*

Vegetable Gardeners

Annetta Jones: *Preserving Your Produce*

Phil Woolery: *Cover Crops in Gardens*

Nikky Witkowski: *Irrigation Options for Home Vegetables*

Liz Maynard: *Sweet Corn: USDA Variety Trueness Test*

Laura Ingwell: *Sweet Corn Insect Management*

Other Information

Dinner will be provided with signup and topics will overlap. For more information, contact Nikky Witkowski at (219)-465-3555 or email nikky@purdue.edu

Funding for Irrigation Demonstration was made possible by the Indiana State Department of Agriculture through grant IGG-277. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the ISDA.

Vegetable Crops Hotline © Purdue University - vegcropshotline.org
Editor: Wenjing Guan | Department of Horticulture and Landscape Architecture, 625 Agriculture Mall Dr., West Lafayette, IN 47907 | (812) 886-0198