

FANCY FRUIT

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August 3, 2023

A Newsletter for Commercial and Advanced Amateur fruit growers.

In This Issue

- [Crop Conditions](#)
- [Drought continues gradual improvement with no hazards of concern in near future](#)
- [Pesticide Clean Sweep- Dates & Locations Announced](#)
- [Bitter Rot](#)
- [Honeyvine Milkweed](#)



Floriscane Fruiting Blackberry- green to ripe fruit



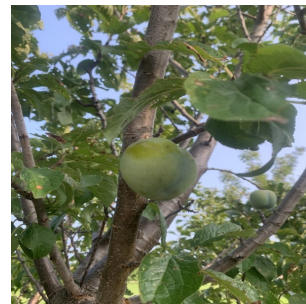
Watermelons- fruit development

Crop Conditions

(Chloe Richard, richa267@purdue.edu)



Apple: (Rosalee): maturation



Plums- maturation



Grapes- veraison



Pears- maturation

Drought continues gradual improvement with no hazards of concern in near future

(Beth Hall, hall556@purdue.edu)

Recent precipitation events have allowed periodic rainfall to hit most places across Indiana. Over the last few weeks, at least half an inch of rain has fallen with some areas in central and northern Indiana receiving two to four inches! This has meant that Abnormally Dry (D0) and Moderate Drought (D1) conditions have not been intensifying with some areas actually showing improving conditions according to the U. S. Drought Monitor (USDM; Figure 1). Even the seasonal drought outlook is predicting drought conditions to continue to improve between now and the end of September (U.S. Drought Monitor categories of D1 through D4) – which is great news! The forecast of rain over the next week, however, is not predicting high amounts across most of the state. Eastern and southeastern Indiana may miss out on much of these events through next Thursday. However, current models are favoring another storm system to move in from the northwest by the end of next week. If that holds true, then most of Indiana should be spared from too many drought concerns. Climate outlooks are favoring above-normal precipitation over the next several weeks, though the probabilities are relatively low. It is still hurricane season, however. While Indiana is not within the typical track of hurricanes, several have known to enter the Midwest region as remnants of hurricanes. These can still bring a lot of rainfall over a short period of time. While none of these storms are anticipated to impact Indiana anytime soon, do not rule these out for the rest of the season. Due to the nature of these storm events, it is often difficult for climate

outlooks to pick up these signals beyond a few weeks.

Can you believe that the July temperature averages in Indiana were near normal? The month ended with such above-normal temperatures that our memories soon forget how mild the month actually was, otherwise. The other explanation for how mild the temperatures were last month had to do with the use of the 1991-2020 period for comparison. That 30-year period was already breaking temperature records, so now our “hot” months are being considered rather typical when considering climatological normal (i.e., 30-year) periods. Temperatures are expected to stay near normal over the next several weeks, if not for the rest of August. However, the seasonal outlook (that includes August through October) is slightly favoring above-normal temperatures for Indiana. Modified accumulated growing degree days continue to lag behind the recent 30-year average for April 15th through August 2nd (Figures 2 and 3).

Figure 2. U.S. Drought Monitor status for Indiana based upon conditions through Tuesday, July 18, 2023.

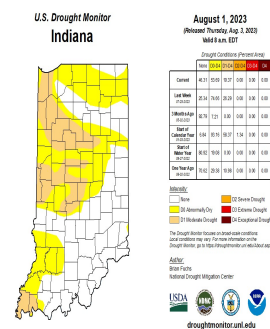


Figure 1. U.S. Drought Monitor status for Indiana based upon conditions through Tuesday, August 1, 2023.

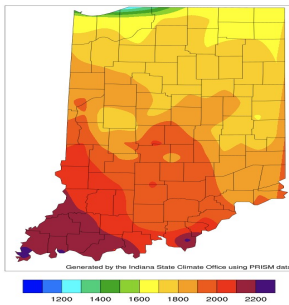


Figure 2. Modified growing degree day (50°F / 86°F) accumulation from April 15-August 2, 2023.

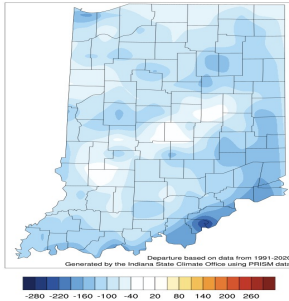


Figure 3. Modified growing degree day (50°F / 86°F) accumulation from April 15-August 2, 2023, represented as the departure from the 1991-2020 climatological average.

Pesticide Clean Sweep- Dates & Locations Announced

(Miranda Purcell, mrpurcel@purdue.edu)

2023 OISC Clean Sweep Pesticide Disposal Information Form

WHAT: An OISC Clean Sweep Pesticide Disposal Program 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, public, cities, towns, municipalities and county units of government or others receiving this notice are eligible to participate.

WHEN: 9:00 am to 3:00 pm Local Time

WHERE:

August 15, 2023: Wayne County Fairgrounds
861 N. Salisbury Rd. Richmond, Indiana 47374

August 16, 2023: Jackson County Fairgrounds
476 E. County Rd. 100 S. Brownstown, Indiana 47220

August 17, 2023: Elkhart County Solid Waste
59530 County Rd. 7 Elkhart, Indiana 46517

August 22, 2023: Posey County Co-Op (Gibson County)
235 State Rd. 68 Haubstadt, Indiana 47639

August 23, 2023: Newton County Highway Department
3640 S. 275 W. Morocco, Indiana 47963

August 24, 2023: Hendricks County Fairgrounds
1900 E. Main St. Danville, Indiana 46122

HOW: Complete the Clean Sweep Pesticide Disposal Participant Form to the best of your ability (https://oisc.purdue.edu/pesticide/2023cleansweep/2023_clean_sweep_form.pdf).

Mail, e-mail cleansweep@groups.purdue.edu or fax the completed form to Nathan Davis at 765-494-4331 no later than Wed., August 9, 2023.

Questions may be directed to Nathan at 765-494-7108. Then bring your leak free and safe to transport containers to the collection site. DO NOT mix materials.

***Empty pesticide containers will not be accepted, please follow label directions for proper disposal of empty pesticide

containers***

*NOTE: OISC reserves the right to cancel this Pesticide Clean Sweep Project if there is not adequate demand. Participants submitting the enclosed planning form by August 9, 2023 will be contacted immediately if cancellation is necessary

Bitter Rot

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

With increasing rains and extremely hot weather, this is a reminder that bitter rot weather is in full swing (along with black rot, white rot, sooty blotch and flyspeck!). Caused by fungi in the genus *Colletotrichum*, bitter rot thrives during warm, wet conditions, especially weather events that maintain fruit wetness for 8-12 hours, due to extensive rainfall or extremely humid conditions (Fig. 1).

It is imperative to keep fruit covered, especially in those really susceptible varieties, like Honeycrisp, Gala, Empire, Rosalee, Cameo, Cripps' Pink/Pink Lady, and to a lesser degree, Golden Delicious, Granny Smith, Ida Red, Ginger Gold, Braeburn—the list is extensive (Fig. 2)!

For those that have slacked off their cover sprays due to the preceding drought, keep in mind that infection may have already occurred (latent infections), and fungicides are not going to 'cure' any of these latent infections—they simply protect against new infections. How long the fungus remains latent depends the cultivar, fruit ripeness, temperature and humidity. Symptoms manifest with the ripening fruit, and one of the most insidious things about bitter rot is how everything looks fantastic until harvest.

If you haven't already and the weather has turned wet, tighten spray intervals, being sure to include:

- captan at 3 lb per acre (and an acidifier, if necessary, or a phosphorous acid fungicide) or
- ziram at 4 lbs per acre (14-day PHI).
 - Remember that captan hydrolyzes when the tank mix pH exceeds pH 8.0—keeping it around pH 7.0 stabilizes captan to perform at its best. This will also control black rot, white rot, sooty blotch and flyspeck.

If powdery mildew is a problem, consider adding the following to your rotation:

- Flint Extra (FRAC 11; 14-day PHI)
- Luna Sensation (FRAC 7 + 11; 14-day PHI)
- Merivon (FRAC 7 + 11; 14-day PHI)
- Pristine (FRAC 7 + 11; 14-day PHI)
 - Keep in mind that growers are limited to 4 applications of these fungicides per season, so plan wisely!

Other options with later PHIs include

- Aprovia (FRAC 7; 30-day PHI)
- Omega (FRAC 29; 28-day PHI)
- Sovran (FRAC 11; 30-day PHI)
 - Sovran follows the caveats above. Aprovia provides very good control against bitter rot, but be careful with the use of Aprovia with other FRAC 7 containing fungicides!

We did have some luck switching out captan sprays with Parka Sunburn protection, protecting fruit from sunburn. Surprisingly, it didn't leave a residue and when alternated with captan, reduced our overall use of captan significantly. It's important to note the year we did this trial, we had low disease pressure (~30% infected untreated control trees), unlike previous years (over 60% infection on untreated control trees). In other words, your mileage may vary (YMMV). With the extreme heat, sunburn is going to

predispose exposed fruit to bitter rot infection (Fig. 3).

Prior to harvest, an application of Merivon or Pristine improves fruit finish and suppresses bitter and other post-harvest rots.

Bitter rot is a manageable disease, as long as cover sprays remain in place. With so many losing their crop due to frost, those that have fruit need to step up their games in the coming wet weeks to protect it until harvest.



Figure 1. Early bitter rot. Photo by Janna Beckerman.



Figure 2. Late bitter rot infection. Photo by Janna Beckerman.



Figure 3. Sunburn predisposes fruit to bitter rot infection. Photo shared by grower.

What is it?

Honeyvine milkweed (*Cynachum laeve*) is a perennial, deciduous, vining member of the milkweed family, *Asclepiadaceae*. It is native to the United States and can serve as a host for monarch butterfly larvae. Honeyvine milkweed tends to be more problematic in production systems with reduced or no tillage, including perennial fruits. It can also be more problematic in field edges near fencerows.

Identification

The growth habit of honeyvine milkweed is trailing, but once it encounters an upright object (other plants, fences) it becomes an upright, twining vine (Figure 1). Plants lack tendrils and instead climb upright objects by a process known as **nutation**, tightly encircling an object (Figure 2).



Figure 1



Figure 2

Stems are thin and may reach to 10 feet or more. When stems are broken, they may exude a white sap.

Leaves are heart-shaped and appear in pairs, one each on opposite sides of the stem. Primary leaf veins are distinctly white.

Honeyvine Milkweed

(Stephen Meyers, slmeyers@purdue.edu)

Honeyvine Milkweed

Small, white, tube-shaped flowers appear in clusters in mid-to-late summer and are followed by tear-drop shaped, green “pods” (follicles). The seed “pods” resemble those of common milkweed, but are smooth in appearance. Like common milkweed, the seed “pod” will split at a single suture, revealing flat brown seeds.

Belowground, honeyvine milkweed taproots reach to at least 6 feet deep, and the plant has an extensive network of lateral roots. Roots contain buds capable of producing new shoots (Figure 3). The ability of root fragments to successfully regenerate varies with fragment size and depth. Generally, larger and shallowly buried root fragments are more likely to generate new shoots and successfully establish and grow compared to small and deeply buried root fragments.



Management

Seed germination under field conditions is generally less than 60%. If seedlings are present, they should be removed before 5 weeks of age. At this point, seedlings are capable of producing root buds that can sprout and regenerating the

plant (Coble and Slife 1970).

In annual production systems, tillage can be used to suppress honeyvine milkweed. Repeated cultivation will be necessary to eradicate established plants.

Herbicides can suppress honeyvine milkweed, but often do not provide complete control. Research from the University of Kentucky suggests that pre-emergence applications of flumioxazin, oxyfluorfen, norflurazon, and simazine can provide 4 to 5 weeks of control in fruit production systems (Masabni 2007). Auxinic herbicides, including fluroxypyr and 2,4-D can provide suppression as well. Fomesafen, acifluorfen, lactofen, glufosinate, and basagran can kill the top growth, but will not affect roots. Control with glyphosate is variable and often requires repeated applications. Consult the Midwest Vegetable Production Guide (mwveguide.org) and the Midwest Fruit Pest Management Guide (<https://ag.purdue.edu/department/hla/extension/sfg-sprayguide.html>) to determine recommended herbicides for your specific crop. Herbicides should target emerging or trailing plants before they start to climb up the crop. This allows for more targeted weed control and lower use rates.

References:

Coble, HD and FW Slife. 1970. Development and control of honeyvine milkweed. *Weed Science*. 18:352-356.

DOI: <https://doi.org/10.1017/S0043174500079960>

Masabni JG. 2007. Honeyvine milkweed control in tree fruits, small fruits, and grapes (HO-85). University of Kentucky Extension Service.

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