



PENNSYLVANIA VEGETABLE MARKETING & RESEARCH PROGRAM

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Pennsylvania Vegetable IPM Weekly Update

July 8, 2020

These are cooperative projects involving Penn State University researchers, Penn State Cooperative Extension educators, growers, the Pennsylvania Department of Agriculture, the Pennsylvania Vegetable Marketing and Research Program and the Pennsylvania Vegetable Growers Association.

Vegetable Disease Updates

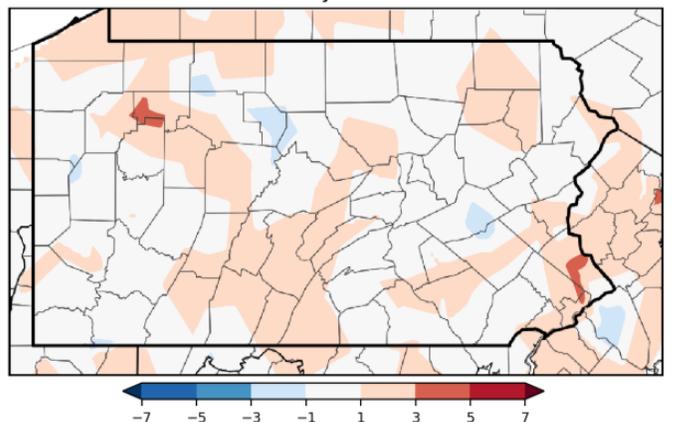
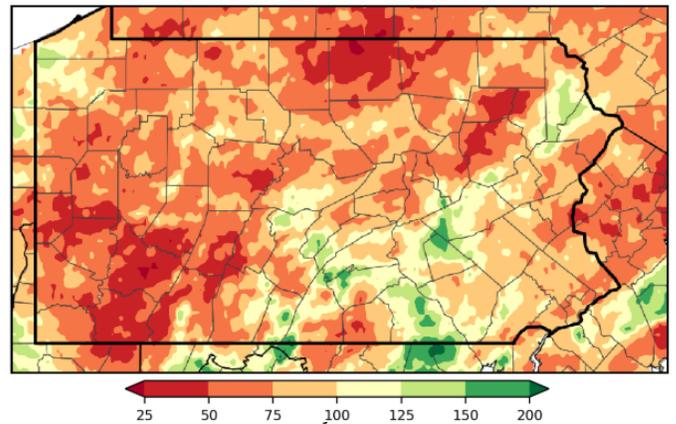
Beth Gugino, Extension Vegetable Pathologist, Penn State University

GENERAL UPDATES:

- June proved to be a dry month across much of Pennsylvania and the Northeast region except for a few areas around Harrisburg and Scranton that received normal to slight above normal precipitation. Average precipitation across the state was 3.11 inches which is 72% of normal. While temperatures averaged from normal to slightly warmer than normal with an average temperature of 67.3°F. This along with other current and historical weather data and narrative summaries can be found at the Northeast Regional Climate Center at <http://nrcc.cornell.edu>.
- There continue to be **no reports of late blight** on tomato or potato in the region. If you suspect late blight on your farm please let me know either by email at bkgugino@psu.edu or by phone at 814-865-7328 or contact your local Extension Office.

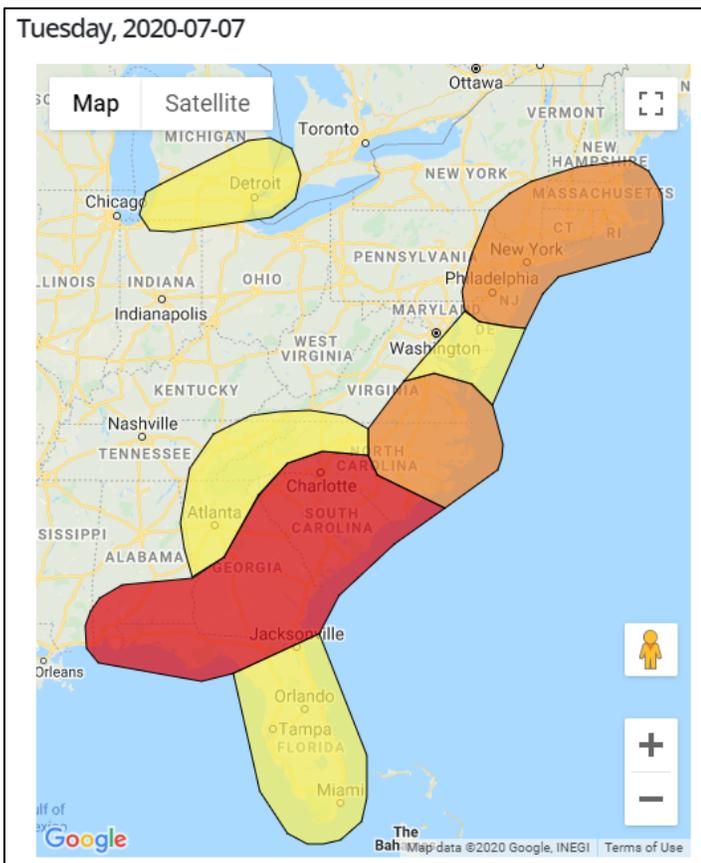
BE ON THE LOOKOUT FOR DOWNY MILDEW ON CUCUMBERS AND CANTALOUPE!

There have been several reports of **downy mildew on cucumber** in the surrounding states over the past couple of days. These include one report in southern New Jersey, two reports in western New York along Lake Erie and Lake Ontario and a report in the most southern tip of Ontario, Canada. There have also been two unconfirmed reports of downy mildew on cucumber in the south-central part of Pennsylvania near Chambersburg and Waynesboro. Please be scouting all cucumber and cantaloupe fields for downy mildew.



Percent of normal precipitation (top) and temperature departure (°F) for the month of June in Pennsylvania. Map Source: Northeast Regional Climate Center.

The pathogen is spread from known sources of the disease over large distances along the wind trajectories. The spores will be killed when exposed to several hours of direct sunlight however, cloud cover protects them and when there are rain events, they are “washed out” of the sky and deposited on the cucurbit crop below. When conditions



are considered low risk (yellow) when nearly all the factors needed for pathogen spread and disease development are unfavorable so the forecast might be sunny to partly cloudy and dry. Under moderate risk (orange), the conditions are mixed but still skewed toward favorable so the conditions maybe partly sunny to partly cloudy with a chance of scattered showers. The risk is highest (red) when conditions are cloudy, and rain is likely. Conditions may not be favorable during the day but could turn favorable overnight. Keep in mind that the color-coded regions are not only based on the forecasted weather conditions but also centered around confirmed reports of the disease. Forecast maps are updated three days a week on Monday, Wednesday and Fridays at <http://cdm.ipmpipe.org>. If you suspect that you may have downy mildew, please let me know by email at bkgugino@psu.edu or by phone at 814-865-7328 or contact your local Extension Office.

This disease is best managed preventatively or with the earliest onset of symptoms. The use of protectant fungicides such as chlorothalonil will protect the surfaces of the plants where applied but will not provide any translaminar activity which helps to protect the underside of the leaves. Downy mildew targeted fungicides include but are not limited to, Orondis Opti (FRAC 49 + M05), Ranman (FRAC 21), Elumin (FRAC 22), Zampro (FRAC 40 + 45), etc. See the 2020-21 Mid-

Atlantic Commercial Vegetable Production Recommendations for a more complete list of fungicide recommendation. Remember that fungicides that specific target downy mildew will not manage powdery mildew.

In Pennsylvania Presidio (FRAC 43) has not been effective at managing downy mildew on cucumber and Previcur Flex (FRAC 28) has shown variable efficacy depending on the year; in 2018 it was effective but in 2017 it was not effective.

Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Extension is implied.

Sweet Corn Insect Pest Monitoring

Shelby Fleischer, Extension Vegetable Entomologist, Penn State University

Interactive Maps with Google style view at <http://www.pestwatch.psu.edu/sweetcorn/tool/index.html>



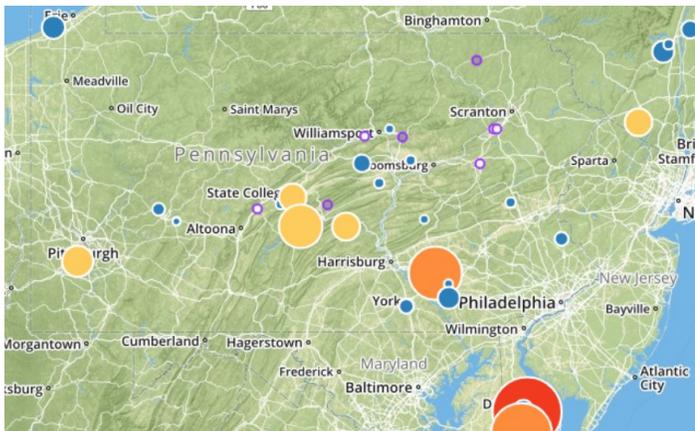
Corn Earworm

Corn earworm (CEW) catch overall tended to be lower than last week, but sites exceeded thresholds in Centre, Juniata, Lancaster, Mifflin, and Washington counties. Some of the areas that declined to below thresholds - notably in Bucks, Erie, and York counties - may be due to sprays from last week, so other locations in those counties may still harbor above-threshold levels of activity. Among the sites above threshold, locations in some Landisville in Lancaster county, and a site in Mifflin county, may need a tighter spray interval for silking corn.

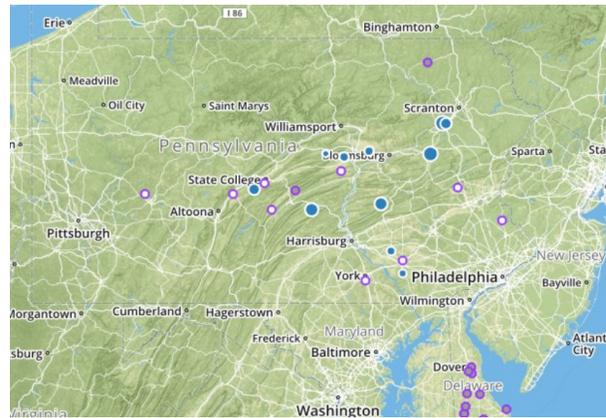
Tasseling and silking corn will be very attractive.



ECB feeding

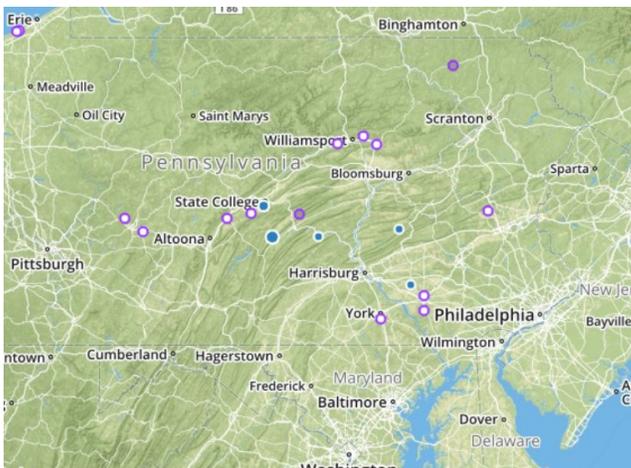


CEW counts declined or were low in 18 sites, but exceeded thresholds in 5 sites, during the past week.



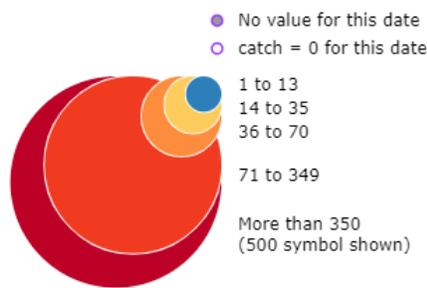
ECB first generation flight has virtually ended. If present, most of the population is in the immature (egg/larva) life stages.

European corn borer (ECB) adults counts are decreasing. The first generation flight is almost over. If ECB is in your area, they are mostly in the egg or larval life stage. We are 'between' generations. Areas that did not have a 1st generation flight will probably not have much of a 2nd generation.



FAW counts are very low.

Fall armyworm (FAW) counts are low.



Circle color aligns with CEW thresholds; size is proportional to catch.



Thrips in cucurbit flower (Photo credit L. Jones). We have been getting reports of high populations of **thrips** in peppers and squash. Thrips might move out of drying fields, into irrigated crops.

TRAP COUNTS: Moving average for the last 7 days. The catch/number of nights trapping, divided by the number of nights with data, times 7. Weeks where all the average-catch-per-night values are nulls are treated as if no data exist for that week. Shaded cells indicate no trap for that site.

County	Trap name	CEW			ECB			FAW		
		24-Jun	1-Jul	8-Jul	24-Jun	1-Jul	8-Jul	24-Jun	1-Jul	8-Jul
Blair	Tyrone	3	0	0	0	3	0	0	0	0
Bucks	Bedminster	3	13	3.5	0	0	0			
Centre	State College	4	---	14	0	---	0	0	---	2
Centre	Rock Springs	5.5	5.8	2	0	0	3	0	1.8	0
Clinton	Loganton	2.9	0	5.8	14	6	1.2			
Erie	Fairview	4.7	7	1				0	0	0
Erie	Lake City	22.8	37.3	10				0	0	0
Indiana	Brush Valley	---	---	1.2				---	---	0
Indiana	Creeside	6	0.9	3	0	0	0	0	0	0
Juniata	Port Royal	3	---	14.8	6	---	4	0	---	0.4
Lackawanna	Ransom	0	---	0	2	---	3			
Lancaster	Landisville	8	36	52.5	2	2	1.8	2	2	0.9
Lancaster	Neffsville	4	3	0.9	1	1	0	0	0	0
Lancaster	New Danville	18	8	9	1	0	1	0	0	0
Lehigh	Germansville	---	---	2	---	---	0	---	---	0
Luzerne	Drums	1	1	0	1	2	5			
Luzerne	Plains	1	2	0	17	11	5			
Lycoming	Linden	1.2	0	---				0	0	---
Lycoming	Montoursville	19.8	1	---				1.2	0	---
Lycoming	Muncy	0.6	---	---				4.1	0	---
Mifflin	Belleville	35	28	35	0	1	0	11	4	3
Montour	Washingtonville	3	4	2	2	1	2			
Schuylkill	Tower City	3	2	1	3	3	4	0	0	1
Susquehanna	Montrose	---	1	---	---	16	---	---	0	---
Union	Winfield	---	---	2	---	---	0			
Union	Lewisburg				6	0	2.1			
Washington	Venetia	20	24	18						
York	York	0	17	4	0	0	0	4	0	0

THRESHOLDS: Reproductive (tassel/silk) and late vegetative corn attracts moths. Shorten spray schedules when populations increase. If CEW is not a problem, then consider ECB.

	CEW			ECB	
	Catch/Week	Spray Frequency		Catch/Week	Spray Frequency
Very very low	1-13	7 - or no spray		<15	7 - or no spray
Very low	14-35	5-6		15-35	6
Low	36-70	4-5		36-70	5
Moderate	71-349	3-4		>70	4
High	>350	2-3			