PENNSYLVANIA VEGETABLE MARKETING & RESEARCH PROGRAM

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Pennsylvania Vegetable IPM Weekly Update

July 14, 2021

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.

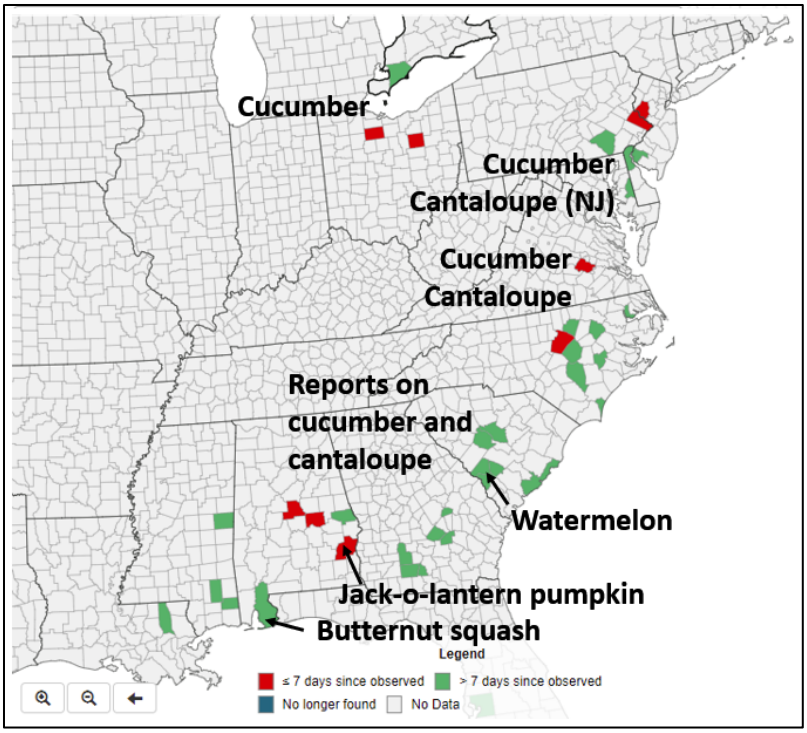
Vegetable Disease Updates

Beth Gugino, Extension Vegetable Pathologist, Penn State University

General Updates:

- There are currently **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.

- Reports of **downy mildew on cucumber** are increasing across the region with a report in Bucks Co., PA yesterday and additional reports in NJ, OH, and VA. The reports continue to be limited to cucumber and cantaloupe which are affected by one strain of the pathogen. Pumpkin, butternut squash and watermelon are affected by a different strain. The closest reports on those hosts are on jack-o-lantern pumpkin and butternut squash in single fields in Alabama and an older report on watermelon in South Carolina. If you suspect downy mildew 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. Knowing where the disease is an important component for area-wide management. See https://cdm.ipmpipe.org for the latest reports and disease risk forecasts.



Cucurbit downy mildew monitoring map as of 3:00 pm 14 July 2021 (https://cdm.ipmpipe.org).

Heavy rain damage on cucumber leaves (Photo: Beth K. Gugino)

- Isolated storms have saturated soils across parts of the state. Be on the lookout for diseases that are favored by wet soils such as **buckeye rot, Phytophthora blight,** and **Pythium cottony leak**. Also be on the lookout for **storm damage** whether from heavy rain, strong winds, and/or hail. Storm damage will typically occur in the direction of the prevailing winds and as the plants continue to grow, the new growth will remain unaffected. Injuries whether macroscopic or microscopic can be points of entry for plant pathogens especially bacterial pathogens. Fixed-copper based fungicides tank mixed with mancozeb are still most effective against bacterial diseases. Products targeting improvement of the plant's defense response are most effective when started early in the season prior to the development of bacterial disease symptoms.

Black soot (sporulation) characteristic of black mold on onion caused by the fungal pathogen Aspergillus niger (Photo: Beth Gugino).

- Now that onion harvest is upon us be on the lookout for **black mold**. Black mold is the black soot-like fungal growth on and between the bulb scales. It is caused by the fungal pathogen, *Aspergillus niger*, which is common in the soil and crop residue and affects many vegetable crops. It is primarily a post-harvest problem when the bulbs remain hot under high relative humidity (>80% RH) or there are fluctuations in temperature (e.g. coming out of cold storage) that result in the formation of condensation on the bulbs while in the bins and then exposure to high temperatures. Weather conditions this season have been favorable for this disease. Reducing exposure to high temperatures and storing a low humidity will help manage black mold.

Sweet Corn Insect Pest Monitoring

Shelby Fleisher, Extension Vegetable Entomologist, Penn State University

Corn earworm

Corn earworm (CEW) catch in PA tended to decline this past week, in contrast to sites in Delaware, which have been increasing. This may reflect a 2nd generation and/or immigration from the south in DE, but this not yet happening in PA. Our lower counts may also be due to sprays being applied at the sampling sites. Currently, only 6 of 21 sites in PA reached a 5-6 day spray threshold – these were in Blair, Clinton, Erie, Juniata and Union counties. **Tasseling and silking corn will be very attractive.** CEW has resistance to pyrethroids which increases during the season, and pyrethroids flare corn leaf aphids because they reduce beneficials. Other options include spinosysns (IRAC group 5: Blackhawk, Radiant) and diamides (IRAC group 28: Coragen, Vantacor). Diamides have low bee toxicity, and Vantacor can be obtained in smaller quantities. These also control ECB and FAW, but not sap beetles, silk-clipping beetles (adult Western corn rootworm), or stink bugs. Pyrethroids or premixes that include pyrethroids and diamides (Beseige, Elevest) are then needed.

European corn borer (ECB) adults were very low, with only Schuylkill and Union counties showing an increase.

Fall armyworm (FAW) counts reached 5 or 6 in Bedford and Erie counties, all other locations were $\leq$ 1.

Average weekly catch –moving average for the last 7 days.

		CEW			ECB			FAW		
County	**Trap Name**	**29-Jun**	**6-Jul**	**13-Jul**	**29-Jun**	**6-Jul**	**13-Jul**	**29-Jun**	**6-Jul**	**13-Jul**
Blair	Tyrone	25	15	29	0	0	0	0	0	0
Bedford	Martinsburg	48	35	13	0	0	0	0	0	5
Bucks	Bedminster	0	2		0	0	0	0	0	0
Centre	State College	5	1	6	0	1	0	1	0	0
Centre	Rock Springs	3	2	5	0	0	0	1	0	1
Clinton	Loganton	4	0	24	0	2	1			
Erie	Fairview		21	9						0
Erie	Lake City		56	24						6
Indiana	Brush Valley	1	2	2					1	1
Indiana	Creekside	5	4	8					0	0
Juniata	Port Royal	22		25					0	
Juniata	Greenbar	5		2						
Lancaster	Landisville	49	55	9	0	0	0	0	0	0
Lancaster	Neffsville	3	5	3	1	0	0	1	0	0
Lancaster	New Danville	4	2	4	0	0	0	0	0	0
Lehigh	Germansville		5	4			0			0
Lycoming	Linden	2	2	5				2	2	1
Lycoming	Montoursville	9	10	10	0			0	7	0
Lycoming	Muncy	31						0	2	1
Mifflin	Belleville	40	21	15	1		0	0		1
Montour	Washingtonville	8	24		1	2				
schuylkill	Tower City		0	4		0	5		0	0
Union	Winfield		20	21		4	5			
Washington	Venetia	19	16							
York	York	29	11	10	0	0	0	1	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 (days)**		**Catch/Week**	**Spray Frequency (days)**
Almost Absent	≤13	7 or more		<15	7 or more
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			

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