



PENNSYLVANIA VEGETABLE MARKETING & RESEARCH PROGRAM

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Pennsylvania Vegetable IPM Weekly Update

June 16, 2021

You are receiving this Update because you requested it last year.

If you wish to continue receiving these Updates for the 2021 Season, please call us at 717-694-3596 or mark it on the point-of-purchase order form you recently received from the Program.

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. Tomato and potato plants are susceptible at any point during the growing season if conditions are favorable (cool and wet). The source of the pathogen is typically potato cull piles, volunteer potatoes that were infected last season, and infected seed or transplants. Late blight cannot survive in dead plant tissue or in the soil. This past week there was a report of a late blight look-alike on potato on the eastern shore of Virginia that was caused by *Phytophthora nicotianae* and not *P. infestans* (late blight pathogen). The lesions look very similar but there is little to no white sporulation on the underside of the leaves. Although it does not spread rapidly due to the lack of sporulation, it can cause substantial damage on potato under wet conditions. 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.
- **Storms over the past week caused damage on some onion crops.** White blotchy areas develop on the side of the leaves that was exposed to the heavy rain. When you flip that leaf over it will look healthy. This is distinct from thrips feeding damage that causes a silvering of the leaves on all sides. This will likely make the plants more susceptible to diseases like bacterial center rot, purple blotch, and Stemphyllium leaf blight so scouting, and the application of fungicides may be needed.



Storm damage on onion foliage. The opposite side of this plant was undamaged, green, and healthy (Photo credit: Beth Gugino).

DOWNY MILDEW CONFIRMED ON CUCUMBER IN SOUTHERN NEW JERSEY

Late this afternoon (June 16th), **downy mildew was confirmed on cucumber** in Salem County, NJ. It was caught early with only 1% of the field showing only a couple of lesions. Several days ago, it was also confirmed on

cucumber in eastern North Carolina. So, it is showing up earlier than in the past several years. There are two clades/strains of the pathogen that cause downy mildew on cucurbits. The clade that affects cucumber can also affect cantaloupe but not pumpkin, butternut squash and watermelon. Regular scouting of cucumbers and cantaloupes is recommended if you are not already doing so. The plants are susceptible at any stage of growth. At this time spraying pumpkin, butternut squash (and other squashes) and watermelon for downy mildew is not recommended and would not be cost-effective.

Symptoms: Downy mildew on cucumber has angular lesions that are delineated by the leaf veins while those on cantaloupe tend to be more irregular. Leaf lesions typically appear 3 to 12 days after infection and are initially light yellow in color before turning darker brown. On the underside of the leaves there will be purplish-gray sporulation which confirms that the symptoms are caused by downy mildew.

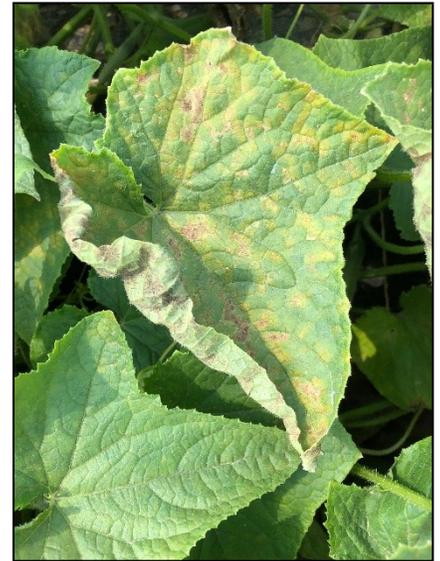
Management: There are many fungicides that are effective for managing downy mildew when used preventively when conditions favor disease development. To manage for fungicide resistance, it is important to rotate between Fungicide Resistance Action Committee Codes (FRAC codes). These codes/numbers represent different modes of action so rotating among different FRAC codes as well as tank mixing with chlorothalonil or mancozeb (for single active ingredient products) will reduce the chance for resistance

development and can help manage other diseases. Timing applications when pollinators are least active will also help to minimize any non-target effects. Fungicides for CDM include but are not limited to Ranman (cyazofamid, FRAC code 21), Gavel/Zing! (zoxamide, 22), Tanos/Curzate (cymoxanil, 27), Previcur Flex (propamocarb, 28), Forum/Revus (dimethomorph, 40), Zampro (ametoctradin, 45), and Orondis (oxathiapiprolin, 49). For more specific information on recommended fungicides see [2020/21 Mid-Atlantic Commercial Vegetable Recommendations](#). Remember that these fungicides will not be effective for managing powdery mildew and that those effective for powdery mildew will not be effective for downy mildew. Therefore, an accurate diagnosis is important!

Organic management of downy mildew continues to be a challenge and continues to rely on fixed copper-based fungicides. There are however a couple of resistant cultivars (DMR 401 and NY 264) that have been recently released by Cornell and demonstrate excellent field-level resistance in the absence of fungicides. If not already doing so, consider planting these in the future.

With succession planting, have a plan to kill the older planting as soon as harvest is done to reduce disease pressure on subsequent planting. This can be done by disking the crop under, burning it down with an herbicide or removing and destroying the crop residue. Once dead the pathogen is dead.

Stay up to date: Weekly reports on the status of CDM are posted in the educational kiosks at many of the produce auctions, in PVGA and Penn State Extension updates like these as well as via the 1-800-PENN-IPM hotline. If you want to receive automatic alerts via text or email from the CDM ipmPIPE monitoring website, you will need to [sign-up or re sign-up](#) if you were signed up before due to a change in the IT platform hosting the website. For emails, EDDMapS Alert will now be the subject line from alerts@cdm.ipmpipe.org.



Symptoms of downy mildew on cucumber (top) and cantaloupe (bottom). (Photo credits: Beth Gugino).

Sweet Corn Insect Pest Monitoring

Shelby Fleisher, Extension Vegetable Entomologist, Penn State University



Corn earworm (CEW) catch is low, but positive in 6 of 7 reporting sites. One site in Lancaster county approached a spray threshold. **Tasseling and silking corn will be very attractive.** Moths will also lay eggs on many host plants when corn is not available. Tomatoes and hemp make a good host (CEW is also known as “tomato fruitworm”).



European corn borer (ECB) counts were all zero. Scout for feeding damage and shothole patterns.

ECB feeding damage.

Fall armyworm (FAW) counts were all zero except for a low capture in York county. Captures this time of year may be the non-target capture of wheathead armyworm, which is not a pest.

Corn earworm

Average weekly catch –moving average for the last 7 days. The average catch per night (catch/number of nights trapping), divided by the number of nights where data exist, multiplied by 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.

		CEW	ECB	FAW
County	Trap Name	15-Jun	15-Jun	15-Jun
Bucks	Bedminster	0	0	null
Centre	State College	2	0	0
Centre	Rock Springs	2	0	0
Lancaster	Landisville	7	0	0
Lancaster	Neffsville	5	0	0
Lancaster	New Danville	11	0	0
York	York	4	0	3

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	1-13	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		