



PENNSYLVANIA VEGETABLE MARKETING & RESEARCH PROGRAM

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Pennsylvania Vegetable IPM Weekly Update

August 21, 2019

The information supplied in these Updates is from Penn State Extension Specialists and Educators.

These Updates are a service of the Pennsylvania Vegetable Marketing and Research Program which, in cooperation with the Pennsylvania Vegetable Growers Association, supports vegetable research at Penn State University and other institutions.

VEGETABLE DISEASE UPDATES

Dr. Beth Gugino, Extension Vegetable Pathologist, Penn State University

CUCURBIT DOWNY MILDEW STATUS UPDATE:

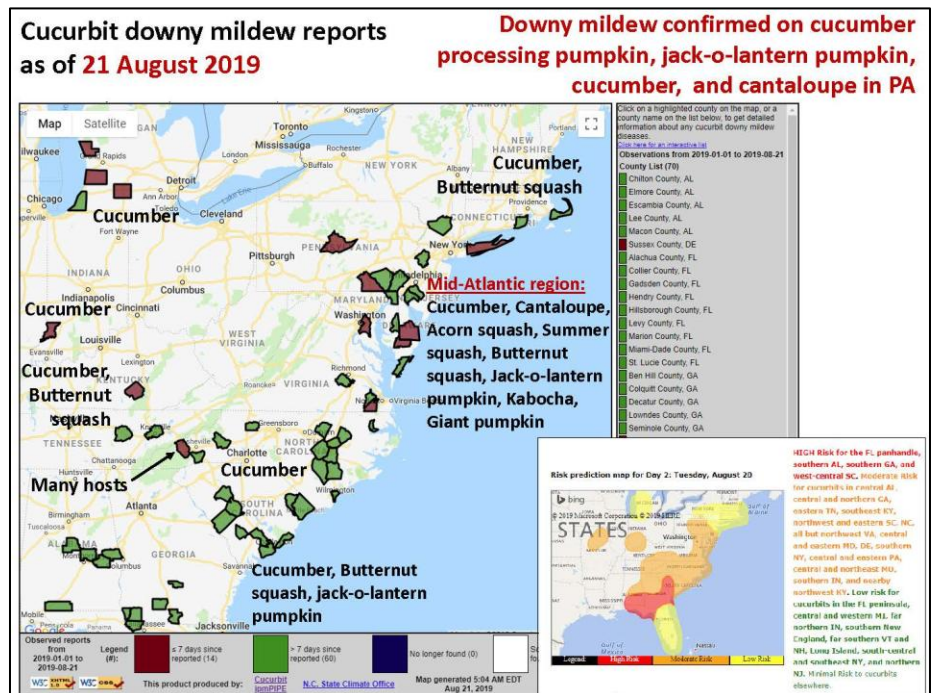
Weather conditions have favored the continued spread of **cucurbit downy mildew** locally around known sources and hosts which include jack-o-lantern pumpkin, winter squash/processing pumpkin, cucumber, and cantaloupe. In neighboring states, there have also been reports on butternut squash, acorn squash and yellow/summer squash. In-state reports continue to be predominately from central and eastern PA however, growers across western PA should be scouting and applying protectant fungicides at the very least. Protectant fungicides that are being tank mixed into powdery mildew fungicide spray programs will provide some efficacy against downy mildew.

In the past week west of PA, there have been reports on cucumber in Michigan, Missouri, Indiana and Kentucky. Remember it is not uncommon for downy mildew to develop at different times on different hosts due to differences in pathogen strains. When the pathogen originates from cucumber it tends to infect other cucumber and cantaloupe while the strain(s) affecting pumpkin and winter squash will also go to summer squash, acorn squash, etc.

We are actively monitoring for this disease so please either contact me via email at bkgugino@psu.edu, by phone at 814-865-7328 or contact your local Extension office for confirmation. All reports small or large aid in our ability to successfully forecast disease risk. Check the CDM ipmPIPE website for the latest reports and forecasts that are updated three times per week.

TOMATO/POTATO LATE BLIGHT STATUS UPDATE

There have been no new reports of **late blight on either tomato or potato** since last week. The very warm daytime temperatures the first part of this week are less favorable for disease development but that will not stop the disease for progressing overnight under lower temperatures and longer dew periods. The crops most at risk are those that



have not received any fungicide applications or those where spray intervals may have been extended. Scouting the most at risk locations on the farm is recommended. Check the USAblight.org website or call the 1-800-PENN-IPM hotline for the latest reports. If you suspect late blight please contact your local Penn State Extension Office, the Penn State Plant Disease Clinic or me at bkgugino@psu.edu or 814-865-7328 for confirmation.

TO SPRAY OR NOT TO SPRAY BEFORE THE NEXT STORM?

Even when implementing the best management program, if your farm was in the path of some of the recent severe storms it is likely that many of the common summertime diseases in your fields likely spread via rain splash, strong winds and were further exacerbated if you experienced hail. Under those conditions, consider shortening your spray interval. Apply products before a rain when the leaves are dry to prevent excess run-off of the product being applied. Most products have a rain-fast period which is the amount of time needed between the application and a rain event to enable the product to adhere to the leaves and other plant parts (typically four hours). The use of select adjuvants could also help. See the product label for specific directions and recommendations. Keep in mind that some products should not be tank mixed with an adjuvant and those details can be found on the label. [Crop Data Management Systems](#) (CDMS) is a good resource for quickly looking up product labels in their labels database. The general rule of thumb is that 1 or 2 inches of rain will remove ½ the product residue and over 2 inches will remove most the residue.

Spraying under wet field conditions can also splash up soil containing pathogens onto the lower portions of the plants and fruit. Phytophthora fruit rot on cucurbits and other crops often originates on the upper surface of the fruit due to soil splash. Take precautions when moving spray equipment between fields under wet conditions especially if soilborne pathogens are of concern. Every year take steps to improve your overall soil health by incorporating the use of cover and green manure crops, rotating in season-long soil building crops (if possible) or using other organic materials to build up soil organic matter. Improve soil drainage especially in lower lying areas of the field or planting permanent grass strips or water ways to divert water out of the field to a non-ag field location. Determine if or where your hardpan is and deep rip just below that level to improve drainage or include a cover crop such as tillage/daikon radish whose roots can penetrate that compacted layer. Improved soil health will also help to reduce the negative effects of compaction in the drive rows when having to use equipment under less than ideal field conditions.

SWEET CORN INSECT PEST MONITORING

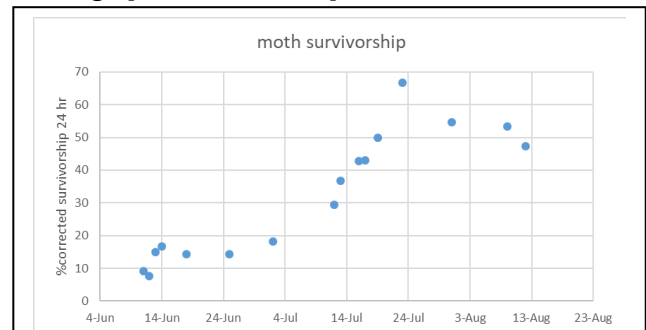
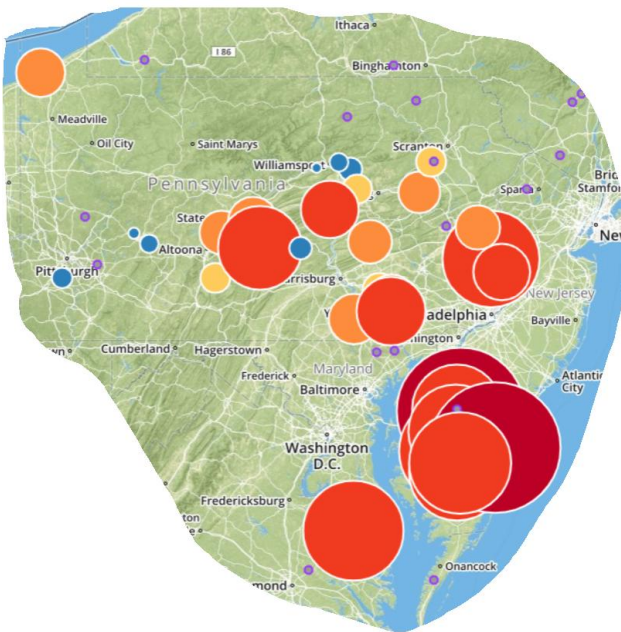
Dr. Shelby Fleischer, Extension Vegetable Entomologist, Penn State University

Corn earworm (CEW) captures are starting to spike in central and southeastern PA, while sites to the southwest remained low. Sites where sprays are applied may reduce counts, and moving traps close to silking corn will tend to increase catch. Within the last 2 weeks, sites exceeding 70 moths/week, suggesting a tight (3-4) day spray interval occurred in Bucks, Erie (from last week), Lancaster, Mifflin and Union counties. Sites with 36-70 moths/week, suggesting a 4-5 day interval, were reported in Blair, Centre, Erie, Lancaster, Luzern, Northampton, Schuylkill and York counties. Additional sites had lower counts but still above a spray threshold, and southwestern sites in Indiana and Washington counties stayed below threshold. Populations carrying pyrethroid resistance tends to increase in August. Historically, this problem has been greater in areas to the east of the Appalachians and is well documented this year from Delaware. Non-pyrethroid options include Coragen, Blackhawk, and Radiant, however these will not control sap beetles, BMSB, or insects feeding on silk (Japanese beetles, adult corn rootworms). Adding a pyrethroid, or the premix Besiege, should help with pests that are not “worm” species.

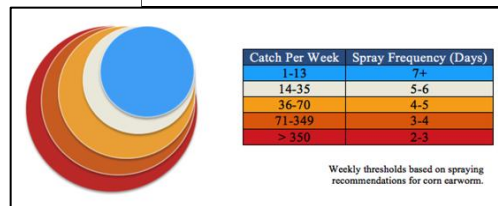
European corn borer (ECB) counts are low, except for a site in Susquehanna county based on last week. Sprays targeting CEW will control ECB.

Fall armyworm (FAW) captures are rising rapidly in Erie county, but not in the rest of the state. A non-target called Intermediate Cucullia, or Intermediate Hooded Owllet, is also showing up in the FAW traps.

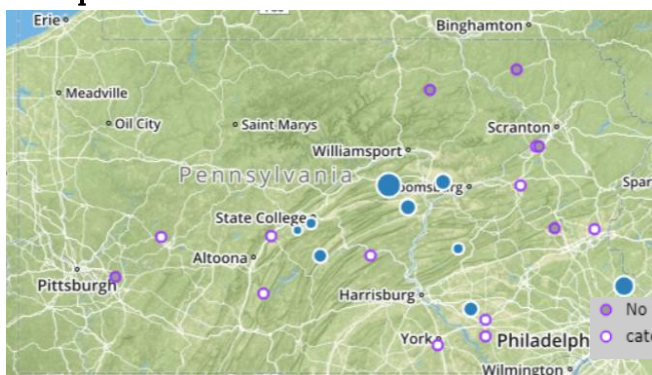
CORN EARWORM



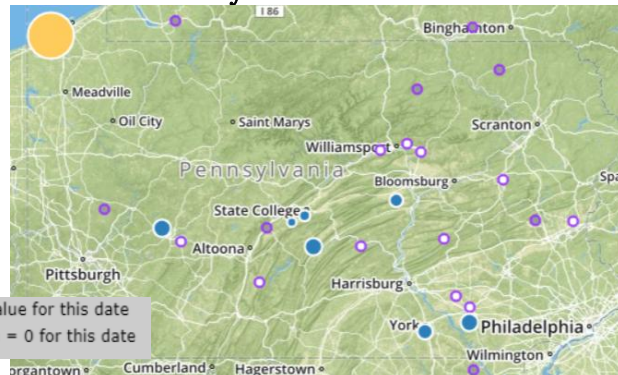
Adult CEW survivorship in vials treated with a pyrethroid (cypermethrin) in Delaware. Historical baselines of susceptible populations are ~ 5 or 10%. Data from David Owens, University of Delaware.



European Corn Borer



Fall Armyworm



● No value for this date
○ catch = 0 for this date

Average weekly catch -7-day moving average. The average catch per night (catch, divided by the 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.

County	Town/Farm	CEW			ECB			FAW		
		7-Aug	14-Aug	21-Aug	7-Aug	14-Aug	21-Aug	7-Aug	14-Aug	21-Aug
Blair	Curryville	1	6	21	0	0	0	0	0	0
Blair	Tyrone	15	3	45	0	0	0	0	0	null
Bradford	Sechrist Farm	1	0	null	13	14	null	2	0	null
Bucks	Bedminster	null	65.1	220						
Bucks	Buckingham	70	27	75	8	6	6			
Butler	Cabot	null	null	null				null	null	null
Centre	State College	4	19	58	0	0	2	5	4	2
Centre	Rock Springs	4.6	3.6	9.8	1.5	1	1	1	0	1
Clinton	Loganton	0	null	1.8	2	null	10.5			
Erie	Fairview	21	41	39				0	2	20
Erie	Lake City	2	87	56				10	3	35
Indiana	Brush Valley	1	0	8				0	0	0
Indiana	Creekside	8	0	3	0	0	0	2	1	5
Juniata	Port Royal	14	5	12	5.8	3	0	0	0	0
Lancaster	Landisville	null	19.3	25.7	3	0	3.5	0	0	0
Lancaster	Neffsville	11	21	56	1	0	0	0	0	0
Lancaster	New Danville	106	196	111	1	1	0	6	7	5
Lehigh	Germansville	3	17.1	null	0	6.2	null	0	0	null
Luzerne	Drums	null	13	41	null	1	0	null	null	0
Luzerne	Plains	null	0	21	null	2	0			
Lycoming	Linden	null	1.6	null				null	0.9	null
Lycoming	Montoursville	17	6.1	null				5	0	null
Lycoming	Muncy	6	8.4	null				0	0.5	null
Mifflin	Belleville	22	70	165	5	0	3	0	4	5
Montour	Washingtonville	7	3	20	3	3	4			
Northampton	Nazareth	null	3	46.4	null	0	0	null	0	0
Schuylkill	Tower City	0	41	45	0.5	3	2	0	0	0
Susquehanna	Montrose	6	3	null	0	22	null	null	null	null
Union	New Berlin	3	0	78	6	2	4	0	0	3
Washington	Venetia	17	11	10						
Westmoreland	Jeannette	6	6	null	3	10	null			
York	York	24	55	60	0	0	0	1	1	4

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 Threshold			ECB Thresholds		
	Catch Per Week	Spray Frequency		Catch Per Week	Spray Frequency
Almost absent	1-13	7+			
Very low	14-35	5-6	Almost absent	< 14	7+
Low	36-70	4-5	Very low	15-35	6
Moderate	71-349	3-4	Low	36-70	5
High	> 350	2-3	Moderate	> 70	4