It's downy mildew weather! Did you know that spores can germinate on onion tissue in less than 2 hours when temps are 50-54°F? Scout for DM now!

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Birds are migrating into sweet corn. We're assessing novel bird deterrents on five cooperating farms in our region. Learn more about this project.

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It can be difficult to calculate the correct amounts of fertilizer to be using on plastic mulched crops. Here are some general reminders when using fertigation.

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Western bean cutworm dry bean pod feeding typically occurs 10 -20 days after peak moth flight. Learn more in the WNY Sweet Corn Trap Network Report.

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VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Volume 13 | Issue 16 | July 26, 2017

Cornell University
Cooperative Extension
Cornell Vegetable Program

Photo: Christy Hoepting

Scouting Tips for Identifying Downy Mildew in Onions

Christy Hoepting, CCE Cornell Vegetable Program

Downy mildew (DM) tends to occur sporadically in "hot spots" within a field. Detecting this disease often is the result of a trained eye recognizing the disease when one happens to come across it. The look of this disease changes as it progresses through its stages and can be tricky to identify.

Stage 1: Middle-aged leaves tend to become infected first; they turn pale and sometimes yellowish in elongated patches and have a grayish-purple fuzzy growth on otherwise green leaf

Figure 1 (left). Early detection of downy mildew in onion (stage 1): look for elongated pale green or yellow patches with purplish fuzzy sporulation, which usually first appear on middle-aged leaves.

Figure 2 (right). Downy mildew attacks green leaf tissue of onion and then kills it leaving a necrotic spot at the original infection site (stage 2). Often, several necrotic spots occur in a group. The downy mildew spores or remnants of them can usually be seen on the lesion and extending along the surrounding green tissue (yellow arrow) – this is diagnostic of downy mildew. *Photos: C. Hoepting, CVP*

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VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serving 13 counties in Western New York.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program team, and Cornell University.

We're interested in your comments. Contact us at:
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Help us serve you better by telling us what you think. Email us at *cce-cvp@cornell.edu* or write to us at Cornell Vegetable Program, 480 North Main Street, Canandaigua, NY 14424.

Cornell University
Cooperative Extension
Cornell Vegetable Program

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The next issue of VegEdge will be August 2, 2017.

Wildlife Damage to Sweet Corn

Darcy Telenko, CCE Cornell Vegetable Program

Just as sweet corn harvest is kicking into full gear, so are the wildlife. Raccoons and birds seem to be the major culprits as sweet corn varieties ripen. It is a constant battle to prevent depredation and extremely frustrating to take the first harvest off only to find areas where ears have been damaged by birds or raccoon feeding.

Bird damage continues to be a persistent problem for vegetable producers, particularly in fresh market sweet corn where there's zero tolerance for damage. Several methods to deter bird pests have been evaluated – auditory and visual devices, chemicals, cultural practices and resistance cultivars. Even though many options are available success has been highly variable and damage continues to plague vegetable crops. Bird species have been shown to rapidly habituate to many auditory and visual devices rendering them ineffective. Many growers are attempting proactive measures to reduce damage by birds but continue to have mixed results and continued crop losses. In attempt to help our growers, NYFVI has sponsored a two-year project for us to evaluate novel bird repellants and deterrents. Year two treatments went out this past week. We are evaluating the best timing for application of Avian Control as chemical deterrent (3 week vs. 2 week vs. 1 week applications prior to harvest); in addition, we are evaluating hawk-eye balloons, an "air dancer" and detasseling as other options for utility in sweet corn. Over the last week these treatments have been placed in five on-farm trials as birds began to migrate into sweet corn fields. We are currently collecting data and hope to be able to determine if any show consistent viability for future bird control.

tissue (Fig. 1). Sporulation is most easily observed when dew is present. This stage is generally not detected from a distance; scouting fields regularly on foot increases the chances of detecting DM in its earliest stage.

Stage 2: DM attacks green leaf tissue and then kills it leaving a necrotic spot at the original infection site. Often, several necrotic spots occur in a group. The downy mildew spores or remnants of them can usually be seen on the lesion and extending along the surrounding green tissue – this is diagnostic of downy mildew (Fig. 2).

Stage 3: The necrotic infection sites initially caused by DM are readily invaded by secondary pathogens including the purple blotch and Stemphylium leaf blight pathogens, which have purple or black spores (Fig. 3). At this stage, the target spot diseases make the disease complex showy and easier to spot, but close inspection is still required to identify DM in the mix.

Stage 4: Eventually, multiple infection sites occur on the same plant, which eventually results in leaf dieback (Fig. 4). If you see patches in fields with a lot of black sporulation and leaf dieback, take a closer look and see if you can find purplish-gray spores on the green leaf tissue surrounding the necrotic and blackened patches (Fig. 5). At this stage, DM can be detected from a distance. By the time you find this stage, the disease has likely already been active and spreading in your fields for about 4 weeks.

Don't confuse downy mildew with Botrytis. Sometimes sporulation of *Botrytis spp*. (Fig. 6) can be confused with sporulation of downy mildew. The differences are that sporulation of Botrytis occurs exclusively on necrotic tissue, especially on leaf tips, is gray in color and protrude farther out from the plant surface.

Figure 6. Sporulation of *Botrytis spp*. differs from that of downy mildew by exclusively occurring on necrotic tissue, especially on leaf tips, is gray in color and protrudes farther out from the plant surface. *Photo: C. Hoepting, CVP*

Figure 3. Infection site of downy mildew in onion about 2-3 weeks old (stage 3): Secondary pathogens purple (a) and black (b) in color invade the original infection sites while new spores occur on surrounding green tissue. *Photos: C. Hoepting, CVP*

Figure 4. Older DM infections with multiple infection sites per plant, lots of black sporulation and resulting in leaf dieback (stage 4). *Photo: C. Hoepting, CVP*

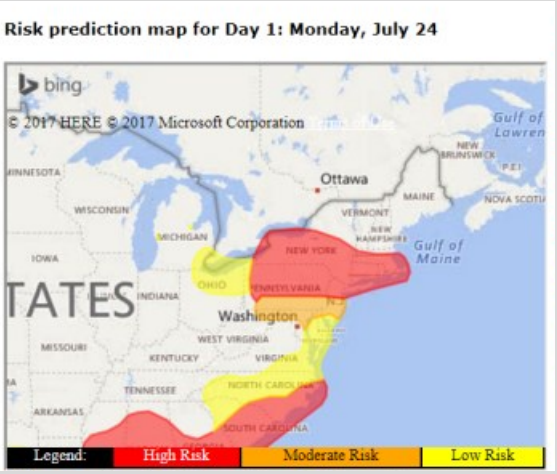
Figure 5. Close-up of downy mildew sporulation along original infection site and black sporulation of secondary pathogens (stages 3 & 4). *Photos: C. Hoepting, CVP*

CROP INSIGHTS

Diseases are continuing to appear across the region. Leaf spots and soil-borne issues are appearing in most every crop.

CUCURBITS

Additional confirmed cases of Downy Mildew have been confirmed in Yates and Seneca Counties over the past week. All of NY is under high risk for the continued spread of downy mildew (see map). Powdery Mildew can also be found on pumpkins and zucchini plantings. Although these two diseases have similar names, they are caused by completely different pathogens and require different management. Powdery Mildew overwinters in NYS and will occur every year on cucurbits, often when there is a stress such as fruit set or nutritional deficiencies. Crops can tolerate Powdery Mildew and still produce an economic yield. Rotation, resistance and preventative protective sprays keep the disease in check. Downy Mildew does not overwinter and is much more destructive; capable of killing a cucumber planting in less than 2 weeks. Management of Downy requires scouting, attention to regional disease reports (such as VegEdge) and the use of specific curative fungicides. Both diseases need to see a rotation of different modes of action within any fungicide program. This can quickly become confusing, so we include here a table created by CU Plant Pathologist Meg McGrath: http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Cucurbit%20Fungicide%20List%202017-NY_McGrath.pdf *– JR*



Risk prediction map for the disease epidemic of cucurbit downy mildew. http://cdm.ipmpipe.org/current-forecast

DRY BEANS

It is time to scout for Western Bean Cutworm in dry beans. Watch the sweet corn trap report each week in VegEdge to see how the populations are in your area, along with general information. The peak flight is usually the last week of July to first week of August, but scouting should begin now (see photos and scouting tips in last week's VegEdge or at http://sweetcorn.nysipm.cornell.edu/)

Potato leafhoppers remain at high populations on alfalfa and have been hopping back and forth between soybean and other bean crops. Continue to scout dry beans, especially if they are near alfalfa fields being cut and apply a foliar spray if warranted. Cruiser seed treatments will generally protect beans for 30 days after planting, but may not be enough under high pressure. The symptoms caused by feeding are called "hopperburn". Whitening of the veins is the first symptom. These areas then become flaccid and yellow, then desiccate, turn brown and die. Leaf curling is also very common. In general, fields will only need treating if the PLH population exceeds an average of 1 nymph/trifoliate leaf. Adult PLH typically stop feeding in treated fields. In fields not treated with Cruiser insecticide, in addition to the nymph threshold, if the sweep net catch of adult PLH exceeds an average of 5 adults/sweep, then the field should be treated. There are many insecticides/Insecticide Classes approved for conventional PLH control, including Dimethoate, Orthene, pyrethroids, and neonicotinoids (not to be used if Cruiser was used on the seed!). For organic growers azadirachtin and pyrethrin products are effective but have very short residual activity. Some growers combine the two products or use Azera, a pre-packaged combination (from the Cornell Organic and IPM Guide for Beans at: https://ecommons.cornell.edu/handle/1813/42891)

ONION

It's downy mildew weather! Downy mildew (DM) is favored by cool temperatures (less than 72˚F) and wet conditions, especially when there is heavy night-time dew. Spores are produced at night and are easily blown long distances in moist air. They can germinate on onion tissue in 1.5 to 7 hours when temperatures are 50 to 54˚F. High daytime temperatures greater than 74˚F and short or interrupted periods of humidity at night can prevent sporulation. Although, we have not had any reports of DM in muck grown onions, older lesions (3-4 weeks old) were found in upland onions this week. The best manage to manage DM of onion is preventatively: **all tank mixes should contain a fungicide for DM protection at this time.** There are several fungicide resistance groups that have activity on onion DM including FRAC M3, 4, 11, 33, 40 and 45. The active ingredient, mancozeb (FRAC M3) in products such as Dithane, Penncozeb 75DF, Roper and Manzate Max is about the cheapest product and most commonly used. Mancozeb provides about 50% control of DM. SLB fungicide premixes that contain an active ingredient with activity against DM include Quadris Top (FRAC 3, 11), Merivon (FRAC 7, 11), Viathon (FRAC 3, 33). When using any of these fungicides, it is not necessary to add additional mancozeb to the tank mix for DM protection. However, when risk of DM is high (due to conducive weather and/or known outbreaks in the area), several growers double up on DM fungicides (e.g. Merivon + mancozeb). Regarding the difference in efficacy between phosphorous acid (e.g. Rampart, Reveille, Viathon, etc.) and mancozeb, in a recent study (Hoepting 2015), three weekly applications of Manzate 3 lb resulted in significantly 39% (=2.6 DM lesions) fewer DM lesions per plant than Rampart. Since Stemphylium leaf blight (SLB) invades DM lesions, controlling SLB within a DM-SLB complex becomes even more important than fighting DM. More on DM fungicide management in another article. At this time, make sure that you are using fungicides that have activity on both DM and SLB, and be on the lookout for DM in the field – see cover article for DM scouting tips. For more information on SLB fungicides, see July 5 issue of VegEdge.

Not surprisingly, with all the rain and cool weather, onion thrips pressure is the lowest it has been at this time of year in a long time. It's tricky to tell whether Movento is holding down the population, or if thrips pressure is just really low. Even in spite of wheat harvest over the past 2 weeks, populations have not spiked. In spite of this, incidence of Iris yellow spot virus (IYSV) spiked this

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continued – CROP Insights

week with infected plants detected in most fields (transplanted and direct seeded) in Elba (Fig. 1). Incidence of bacterial disease also continues to increase throughout the region.

POTATO

No new cases of late blight have been reported, but we are on the look-out at conditions are extremely favorable for late blight to move in and take hold. It is important to stay up on fungicide programs with continued rotation of FRAC groups and the inclusion of protectants. We will continue to monitor and update if new cases are report. Please contact local extension or regional teams if you suspect late blight on your farm so we can make sure we can document the disease movement and genotype. – *DT*

Figure 1. A small patch of 2-3 plants with excessive leaf dieback and white necrotic tissue in a field of green onion foliage (left). Upon closer inspection, symptoms of Iris yellow spot of onion (IYSV) first appear on middle-aged leaves as white elongated lesions, often oriented along the long axis of the leaf with multiple lesions often slightly offset from each other (right). *Photos: C. Hoepting, CVP*

PROCESSING CROPS

Heavy rain again this week coupled with high humidity means continued high risk for leaf, pod and root diseases. See the article in last week's VegEdge about leaf diseases in table beets and make sure to include copper sprays if bacterial leaf spot is present as the typical fungicides (Tilt, Merivon, etc.) won't be effective on bacteria. For pod molds in snap and lima beans, if you miss the first fungicide application at 10% bloom, then it is better to use Omega fungicide because it has more flexibility in timing based on our research. In a 2016 trial with 'Huntington' snap beans at the Geneva Experiment Station (Pethybridge, et al., 2017 Empire Expo Proceedings http://tinyurl.com/2017Expo-whitemold) the timing of the fungicides, Topsin 4.5 FL and Omega 500 F was found to significantly affect the incidence of white mold. The optimal timing of Topsin 4.5 FL was 10% flowering. Delaying the application of Topsin 4.5 FL to 100% flowering resulted in the incidence of white mold being not significantly different from in nontreated plots. The application timing of Omega 500 F was found to be more plastic with no significant difference in disease control between 10% and 100% flowering. Make sure to scout sweet corn for Western bean cutworm (see the sweet corn insect trap report). We seem to get to the advisory committee meetings each December not knowing which worm pests have caused ear damage that is getting into the processing facilities. Please be in communication about the species present in a field and if you need help identifying the larval stage (or any stage) of the insects, give Julie a call and/or send photos and samples. Potato leafhoppers remain high in field crops (see the separate dry bean update), so keep alert in snap and lima beans.

TOMATO

Lots of diseases are appearing in tomato – we are seeing bacterial speck, bacterial canker and bacterial spot along with early blight. No cases of late blight reported on tomato so far this season, but it has been found in western NY and it is highly likely that it will make an appearance this summer. – *DT*

Reminder on Calculating Fertigation Rates for Plastic Mulches

Chuck Bornt, Eastern NY Commercial Horticulture Program; from Veg News, Vol. 5, Iss. 13, 7/20/17

With all the rain so far this season and the fact that I diagnosed some tomatoes with excess nitrogen injury, I thought it might be time to dust off an oldie but a goody article on figuring out the correct amounts of fertilizer we need to be using, especially on our plastic mulched crops. Fertigating or the injecting of fertilizers into drip irrigation water with crops grown on plastic mulches is a very common and simple practice these days, however achieving the right balance can be tricky. Too much fertility at the wrong time and you could end up with a beautiful plant and no fruit which can happen in tomatoes and peppers or too little and you might not have achieved the optimal yields or quality you were looking for. Below are some general "rule of thumb" reminders when using fertigation:

1) **First, calculating fertilizer needs where plastic mulches and drip irrigation is used:** The key to remember when trying to figure out how much fertilizer to dissolve in your bucket for a crop planted into plastic mulch is, it is **not** the same as a "field acre". You should only calculate the fertilizer needs for what is covered by the mulch.
   a. Determine your bed top width is or the area across that your mulch covers. For example, if you are using a Rain-Flo raised bed maker, a typical bed top width might be 30 inches or about 2.5 feet. There are other machines and other systems that might use a different width so you need to go out and measure it.
   b. Take this value and multiply it by the row length and finally multiply that by the number of rows per section that you irrigate at one time or "zones".
      - For example, if my bed width is 2.5 feet, my rows are 345 feet long and I have 5 rows per section then my total acre-

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age would be (2.5 x 345 x 5) divided by 43,560 (number of square feet in an acre) which would be 0.1 acres!

2) **Determining fertilizer needs:** When we talk fertilizers we usually say something like, "I should give that field 7 lbs. of nitrogen". That means 7 lbs. of what we call "actual" nitrogen. If you had a fertilizer that was 100% nitrogen, then you would use 7 lbs. of that fertilizer to treat an acre. However, most of our fertilizers do not have a 100% analysis and may be a blend with an analysis of 20% nitrogen, 20% phosphorous and 10% potassium or a 20-20-10 analysis. The other way to look at it is because these are percentages, there would be 20 lbs. of nitrogen, 20 lbs. of phosphorus and 10 lbs. of potassium in every hundred pounds of the fertilizer product.
   a. If I need to apply 7 pounds of actual nitrogen (per field acre) and the analysis of my nitrogen source is 20% nitrogen, I divide 7 pounds by 0.20. Where did I come up with .20? Again, because fertilizer is usually expressed as a percentage, you need to express it as a decimal in order to do the math. One way I remember this is "what I need" divided by "what I've got" or 7 lbs. nitrogen/0.20 lbs. actual in my analysis which is 35lbs of 20-20-10 to get 7 actual lbs. of nitrogen from the fertilizer I've chosen.

3) STOP! This is where it gets tricky: That means for one field acre I would need 35 pounds of this fertilizer. **BUT**, because I'm only treating the acreage that is covered by the mulch, I actually only need to dissolve 3.5 pounds of this fertilizer to get my 7 pounds of nitrogen per acre. Why? I only have 0.1 acres to actually treat (the value we determined in step 1) so if you need to multiply your actual acreage (0.1 acres) x the amount of fertilizer needed for an entire acre (35 pounds) = 3.5 pounds of actual 20-20-10 to dissolve in solution**. If you didn't use the 0.1 acres as you treated area, you would be putting on almost 5 times the rate that you needed!**

4) Putting it all together: Let's do one quick situation that might be the easiest to follow:
   a. I have 25 rows, 190 feet long covered with plastic mulch. My top bed width is 2.5' wide. The acreage I want to fertigate then is 25 x 190' x 2.5' = 11,875 square feet. 11,875 sq. ft / 43,560 sq. ft. = 0.27 acres of mulched beds to be fertigated.
   b. My fertilizer is urea which is 46-0-0 or 46%. I want to supply my tomatoes with 15 pounds of actual nitrogen: 15 (what I need) divided by 0.46 (what I've got) = 33 lbs. of urea.
   c. What to dissolve in my bucket: Remember 33 lbs. would be if I was treating an entire acre – I'm not – we are only treating what is covered under the plastic or what we determined in calculation a: 0.27 acres. So, the total amount of urea I need to dissolve is 33 lbs. per acre x 0.27 acres = 9.0 lbs. of urea!

Some other things to remember:

- Before you go through all the work to plumb in a fertigation unit on your drip system, make sure that the unit you purchase meets the required "gallons per minute" (GPM) needs otherwise it will not operate correctly! For example, if you purchase a Mazzi injector that needs 10 GPM and you are only irrigating a section at a time that is only using 8 GPM, there is not enough flow rate to syphon the fertilizer solution into the main line.
- Make sure the system has been turned on long enough to pressurize it completely. Failure to do this will result in all of your fertilizer solution getting sucked up all at once and only going to a couple rows.
- The longer the fertigation event can occur the better the distribution of fertilizer will be. That means if a typical irrigation event for you is 3 hours, then try to have the fertigation happen during the majority of this run time minus the full pressurization and time at the end to make sure the lines are flushed. Minimally I would like to see 15—25 gallons per acre of water used to dissolve your fertilizer to help ensure the best distribution of fertilizer. If you can use more than great!
- Know your irrigation waters pH: This is something that I know many of us do not do often enough and is a critical factor in nutrient uptake when fertigating. Most crops optimally mine most nutrients (in particular nitrogen and potassium) at a pH of 6.2—6.5. If your irrigation water is above that, you may not be getting the biggest bang for your buck with your fertigations. You can use either sulfuric acid or citric acid to help acidify your water and use the online alkalinity calculator <http://extension.unh.edu/Agric/AGGHFL/alk_calc.cfm> to get your acid concentrations. Be sure to follow all directions on the calculator and pay careful attention to the pull down menus on the input side to get the correct recommendations.
- Tissue testing: Many of the vegetable crops that we grow have established levels of what the plant should have. I think tissue testing should become a normal routine on many of our farms where we are just doing what we've always done. I know the few growers that have actually got on a tissue testing program have notice the returns very quickly with not just yield, but overall quality of their fruit.

In my opinion, I think weekly fertigation (which some growers are doing) and spoon feeding our plants is a better way to go instead of applying a large dose of fertilizer a couple times a season. It might be that this constant feeding and watering, may improve not only yield but fruit quality as well. Large doses of fertility on certain crops may lead to issues such as fruit cracking (tomatoes) or over vegetative growth. If you need help calculating rates or have questions about these recommendations or need recommendations for other crops, contact the Cornell Vegetable Program.

Late Blight Continues to Spread in Western New York!

Darcy Telenko and John Gibbons, CCE Cornell Vegetable Program

All of Western NY is still at risk for late blight infection. Severity values continue build at all stations. The frequent and continuing rainfall has been extremely favorable for the development of LB. Scout fields twice a week. See the table for the Blight Units (BU) accumulation from around the region. The trigger in the Decision Support System (DSS) forecast for applying a fungicide is 30 BU's if the variety is susceptible. All tomato and potato growers, conventional and organic, should be applying a protectant fungicides and monitoring the DSS to determine spray intervals. All sites are near or have exceeded the 30 BU's for this past week which triggers the recommendation for an addition fungicide application (see table in 7/12/17 issue of VegEdge for details on fungicides available for use). Remember to rotate fungicide FRAC groups and use contact fungicides in your program to minimize the chances of fungicides resistance.

If Late blight is suspected act immediately! Under favorable environmental conditions late blight develops very rapidly and can spread many miles in a short period.

Please **take a sample for isolate identification**. It is very important to **track disease movement**. Contact CCE Cornell Vegetable Program Specialists for assistance: Darcy Telenko at dep10@cornell.edu or 716-697-4965 or nearest CVP Specialist to you at https://cvp.cce.cornell.edu/contact_information.php

Late Blight Risk Chart, 7/25/17

Location[1]	Blight Units[1] 7/19-7/25	Blight Units[2] 7/26-7/28	Location[1]	Blight Units[1] 7/19-7/25	Blight Units[2] 7/26-7/28
Albion	42	21	Lodi	NA	NA
Baldwinsville	30	21	Lyndonville	28	19
Bergen	31	21	Medina	38	21
Buffalo	39	19	Niagara Falls	25	19
Ceres	38	20	Penn Yan	34	20
Elba	NA	NA	Rochester	39	21
Fairville	32	21	Sodus	40	21
Farmington	39	21	Versailles	38	19
Gainesville	NA	NA	Volney	36	21
Geneva	26	20	Wellsville	35	21
Kendall	29	21	Williamson	31	21
Knowlesville	NA	NA	Wolcott	33	21

[1] Past week Simcast Blight Units (BU)

[2] Three day predicted Simcast Blight Units (BUs)

WNY Sweet Corn Trap Network Report, 7/25/17

Marion Zuefle, NYS IPM Program; http://sweetcorn.nysipm.cornell.edu

Thirty sites reporting this week. European corn borer (ECB)-E was trapped at twelve sites with a high count of 21 at the Hurley site in Ulster County and ECB-Z was trapped at six sites. Corn earworm (CEW) was trapped at sixteen sites, with ten sites high enough to be on a 4, 5, or 6 day spray schedule (see chart below). Fall armyworm (FAW) was trapped at thirteen sites and Western Bean cutworm (WBC) was trapped at twenty-four sites this week.

This week we saw a real increase in WBC numbers. Degree day accumulations for most sites indicate that we should be close to 25-50% WBC moth emergence according to data from the University of Nebraska. WBC is a pest of both corn and dry beans. In corn, it is important to scout late whorl and early tassel corn for WBC egg masses (see last week's post).

In dry beans, the WBC eggs are often inconspicuous, larvae feed only at night and spend the day in the soil. As a result, scouting for pest activity is very difficult. Keep track of the pheromone trap counts in your area to determine peak moth flight, which indicates when peak egg laying takes place. Pod feeding typically occurs 10-20 days after peak moth flight. If possible, scout adjacent field corn or sweet corn fields to help gauge the potential risk in dry beans.

Degree-day accumulations in relation to percent moth	
Accumulated Degree-days	**% Moth Emergence**
1319	25%
1422	50%
1536	75%

Percent WBC moth emergence based on degree day accumulation, data from University of Nebraska

WNY Pheromone Trap Catches: July 25, 2017

Location	ECB-E	ECB-Z	CEW	FAW	WBC	DD to Date
Baldwinsville (Onondaga)	1	0	5	3	54	1246
Batavia (Genesee)	NA	NA	NA	NA	NA	NA
Bellona (Yates)	NA	0	0	13	44	1320
Eden (Erie)	0	0	1	0	47	1220
Farmersville (Cattaraugus)	0	1	1	3	21	1193
Farmington (Ontario)	2	0	1	0	16	1156
Hamlin (Monroe)	5	0	0	0	7	1190
LeRoy (Genesee)	2	1	0	0	0	1202
Pavilion	0	0	0	7	4	1193
Penn Yan (Yates)	2	0	0	5	8	1298
Ransomville (Niagara)	2	0	0	0	10	1268
Seneca Castle (Ontario)	1	0	0	3	2	1221
Williamson (Wayne)	NA	NA	NA	NA	NA	1139

ECB - European Corn Borer
CEW - Corn Earworm
FAW - Fall Armyworm
WBC - Western Bean Cutworm
NA - not available
DD - Degree Day (mod. base 50F) accumulation

Average corn earworm catch and recommended spray interval

Per Day	Per Five Days	Per Week	Days Between Sprays
<0.2	<1.0	<1.4	No Spray (for CEW)
0.2-0.5	1.0-2.5	1.4-3.5	6 days
0.5-1.0	2.5-5.0	3.5-7.0	5 days
1-13	5-65	7-91	4 days
over 13	over 65	over 91	3 days

Add one day to the recommended spray interval if daily maximum temperatures are less than 80°F for the previous 2-3 days.

UPCOMING EVENTS

view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu

2017 Vegetable Pest and Cultural Management Field Meeting for Auction Growers

August 8, 2017 | 6:00 PM
Chautauqua County – Jacob Hostetler farm, 561 Frew Run, Frewsburg, NY 14738

These courses will demonstrate pest management in fresh market vegetables in both field and greenhouse (high tunnel) vegetables; primarily for those growing for wholesale auction. A hands-on demonstration of weed, insect and disease identification in vegetables including management options such as inter-row cover crops, grafting and where appropriate, spray options will be used to educate growers. Judson Reid, Senior Extension Associate with the Cornell Vegetable Program along with CCE associates Telenko and Hadad will instruct participants and facilitate peer-based learning. Details on each topic will focus on field observations at the farm.

This event is FREE! DEC recertification credits will be available. For more information about these events, contact Judson Reid at 585-313-8912 or jer11@cornell.edu.

Integrated Pest Management in High Tunnels

August 10, 2017 | 1:00 PM
Andy Miller farm, 7396 Albro Rd, Gainesville, NY 14066

Join Cornell, NYS IPM, Cornell Vegetable Program, and CCE staff for a discussion on taking a pro-active approach to managing insects and diseases in the high tunnel or greenhouse setting. Andy Miller - Background on his farm, farm tour; Elizabeth Lamb & Don Gasiewicz - Creating your IPM plan and working with CCE; Judson Reid - Soil fertility project, soil and water testing; Brian Eshenaur - Preventative disease management; and Marvin Pritts - Berry production in high tunnels.

Cost: $10/farm. Download the registration form at https://cvp.cce.cornell.edu/event.php?id=792 to mail in your registration and payment by August 4. For more information or questions, contact Don Gasiewicz 585-786-2251 x113 or email Don at drg35@cornell.edu.

WNY Soil Health Alliance Summer Field Day

August 22, 2017 | 8:30 AM - 3:30 PM
Orleans County 4-H Fairgrounds Trolley Bldg, 12690 Rt 31, Albion NY 14411

Two guest speakers will kick off this exciting event: Wendy Taheri, a nationally recognized expert in Mycorrhizal Fungi, and John Wallace, soon to be an Assistant Professor at Cornell with extensive experience in drilled interseedings of corn. In the afternoon, attendees will observe 8 cover crop trials and explore a soil pit, with on-site discussion led by Wendy Taheri, TerraNimbus LLC. There will also be cover crop interseeder and herbicide demonstrations. The full agenda and information on how to register is available at http://www.wnysoilhealth.com/events/. $40/pre-registered participant; $50/walk-in. Lunch included.

Finding Your Tribe: Growing Your Food, Your Seeds & Your Team

August 26, 2017 | 11:00 AM - 1:00 PM
Fruition Seeds, 7921 Hickory Bottom Rd, Naples, NY 14512

Finding your voice, your niche and your team is an endless and endlessly exciting opportunity to grow, be challenged, and share abundance. Come learn the basics of integrating seed on your market farm, how we build our team at Fruition, and enjoy tasting our new watermelon varieties during NOFA-NY's August 26 Field Day. The Watermelon Extravaganza follows from 1:00-5:00 pm! Pre-registration is strongly encouraged for all field days. All costs are $15/individual, $25 for two or more people from same farm. Pre-registration closes three days before the event. Register at http://www.cvent.com/events/2017-field-days/event-summary-f1a5717269c346c794fd2bd8517e1c6f.aspx if paying by credit card. If paying with cash or check, just show up!

Sustainable and Organic Vegetable Pest Management Field Day

August 29, 2017 | 3:00 PM - 9:00 PM
Cornell Lake Erie Research and Extension Laboratory, 6592 West Main Rd, Portland, NY 14769

Join Cornell Vegetable Program Specialists (Telenko, Hadad, Reid) and Cornell University faculty (Wallace, Smart, Reiners, Bjorkman) for an evening of touring Cornell Vegetable Program research sites and answering questions on sustainable and organic pest management options for fresh market vegetable growers. Information will be provided for both conventional and organic growers at all levels of expertise. Network for Environmental and Weather Application (NEWA) will be on-hand to teach growers how they can use the forecasting models for pest management in various crops. Sponsoring industry representatives will have the opportunity to meet with growers to comment on their products.

The full agenda will be posted on our website soon! DEC and CCA credits will be available for portions of the day.

Weather Charts

John Gibbons, CCE Cornell Vegetable Program

Weekly Weather Summary: 7/18 – 7/24/17

Location	Rainfall (inch)		Temp (°F)	
	Week	Month July	Max	Min
Albion	0.83	2.89	85	60
Appleton, North	0.89	3.65	84	60
Baldwinsville	0.83	3.62	86	62
Buffalo*	1.46	4.56	83	62
Ceres	0.46	2.93	85	56
Elba	NA	NA	NA	NA
Fairville	0.64	4.43	85	59
Farmington	2.48	6.40	85	57
Gainesville	NA	NA	NA	NA
Geneva	2.41	7.10	85	61
Lodi	1.48	6.53	91	62
Niagara Falls*	1.08	4.81	86	64
Ovid	NA	NA	88	61
Penn Yan*	0.40	5.63	85	62
Phelps	1.16	4.93	86	59
Portland	0.24	0.83	85	62
Rochester*	0.68	3.76	86	60
Silver Creek	NA	NA	83	61
Sodus	NA	NA	85	64
Versailles	0.34	1.22	84	54
Volney	0.65	3.04	85	59
Williamson	0.22	2.70	85	62

Accumulated Growing Degree Days (AGDD) Base 50°F: April 1 – July 24, 2017

Location	2017	2016	2015
Albion	1334	1409	1357
Appleton, North	1198	1214	1133
Baldwinsville	1375	1380	1370
Buffalo	1368	1432	1388
Ceres	1219	1093	1218
Elba	NA	1023	1046
Fairville	1277	1239	NA
Farmington	1276	1285	1312
Gainesville	1272	1030	1088
Geneva	1347	1338	1335
Lodi	1494	1482	1470
Niagara Falls	1501	1536	1283
Ovid	1427	1406	1422
Penn Yan	1438	1432	1421
Phelps	1353	1318	1351
Portland	1413	1331	1302
Rochester	1431	1445	1454
Silver Creek	1375	1285	1266
Sodus	1338	1311	1262
Versailles	1365	1256	1283
Volney	1259	NA	NA
Williamson	1299	1269	1194

* Airport stations

** Data from other station/airport sites is at: http://newa.cornell.edu/ Weather Data, Daily Summary and Degree Days.

Cornell University
Cooperative Extension
Cornell Vegetable Program

480 North Main Street
Canandaigua, NY 14424

VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program in Western New York. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas and research results from Cornell and Cornell Cooperative Extension. VegEdge is produced every few weeks, with frequency increasing leading up to and during the growing season.

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Cooperative Extension
Cornell Vegetable Program