Implement swede midge management strategies prior to SM causing economic losses. Learn how to scout your Cole crops for this pest.

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Late blight is spreading across WNY. Where? How close is it getting to you? Check out our Late Blight Risk section.

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VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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Photo: Judson Reid

Cornell University
Cooperative Extension
Cornell Vegetable Program

Scout for Swede Midge in Cole Crops – Early Detection is Key

Christy Hoepting, CCE Cornell Vegetable Program

Swede midge (SM) is a serious and persistent insect pest of Cole crops, because the larvae feed on and disfigure or destroy the growing tip of the plant. It has been known to occur throughout New York since 2009, but generally has not been known to occur at economically damaging levels. Small-scale organic growers are most at risk for economic losses from SM for a couple of reasons. First, because they tend to have a relatively small land base, sometimes less than 2 acres, and often this is simply not enough area for crop rotation to be effective. Second, conventional production of Cole crops allows for the use of several insecticides that are very effective in keeping SM below economically damaging levels. Unfortunately, none of the OMRI-listed insecticides that have been tested are effective against SM. However, conventional farms where multiple plantings of Cole crops occur season-long in close proximity may also be at risk for SM, because the adult flies prefer to lay their eggs in the growing point, and with multiple plantings, there are always plantings in the perfect stage for SM to prosper. With multiple generations per year that are active from May until October, a population can build tremendously within

Figure 1. Scouting for swede midge – look for leaf puckering and brown scarring in middle-aged leaves (yellow circles). *Photo: Christy Hoepting, Cornell Vegetable Program*

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VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serving 11 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.

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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
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Cornell Vegetable Program

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The next issue of VegEdge will be produced July 30, 2014.

Processing snap bean harvest in Genesee County this week.
Photo: Julie Kikkert, Cornell Vegetable Program

a single growing season. Management of SM requires an integrated approach that includes greater than 2-year crop rotation out of Cole crops, timely crop destruct after harvest, and in conventional production, the use of insecticides. The key is to implement management strategies prior to SM causing economic losses, which requires knowing when you have SM on your farm. This requires knowing how to scout for this pest.

Swede Midge Scouting Tips:

1. When walking your Cole crops, look for leaf puckering on middle-aged leaves (Fig. 1) and blind or disfigured head formation (Fig. 2). This damage is caused by earlier SM feeding that the plant is growing out of, but tends to be the easiest to find.
2. If you suspect SM on such plants, look close into the heart of the plant. Brown corky scarring (Fig. 3) along the petioles and a disfigured growing point tend to be tell-tale signs of SM.
3. Look for the larvae. They will be hiding in the growing points, which in a field that is being harvested could include secondary side-shoots or basal buds. Look for swollen or twisted growing tips (Fig. 4). Peel the leaves back. SM creates a moist environment and the growing tip may be a bit slimy as you gently pull back each leaf. Look for the larvae nestled between the tiny leaves. Larvae are light yellow to lemon yellow and less than 2 mm in length (Fig. 5). They do not have black mouthparts or any distinguishing features. If you can't find larvae, keep looking.
4. If you suspect SM, contact Christy Hoepting or Julie Kikkert for assistance with identification and management recommendations.

For more information, visit the SM information site for the US: http://www.nysaes.cornell.edu/ent/swedemidge/.

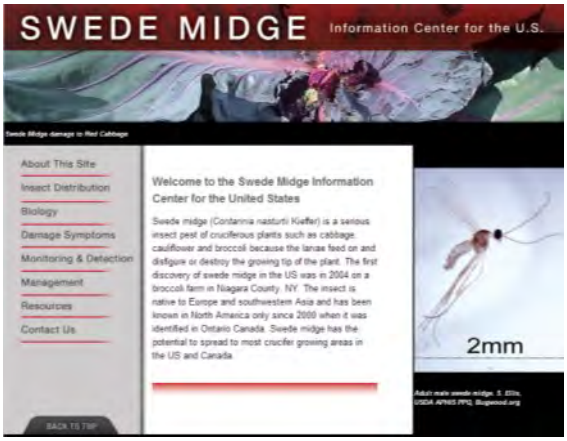

Figure 2. Scouting for swede midge – look for blind or disfigured heads. *Photo: Julie Kikkert, Cornell Vegetable Program*

Figure 3. Scouting for swede midge – on suspect plants, look for brown corky scarring along the leaf petioles and disfigured growth of the growing point. *Photo: Christy Hoepting, Cornell Vegetable Program*

Figure 4. Scouting for swede midge – look for suspicious growing point with swollen petioles and/or disfigured growth. *Photo: Hannah Fraser, OMAF*

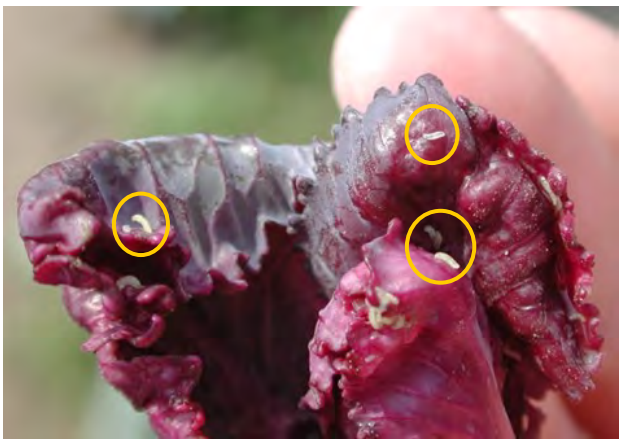

Figure 5. Swede midge larvae. *Photo: Hannah Fraser, OMAF*

Late Harvest Planting is Now

Robert Hadad, CCE Cornell Vegetable Program

If you aren't busy enough, now is the time to get that last planting in for late season harvests. Local micro-climates may vary dates slightly but for this week, you want to get in:

Beans, snap
Cabbage (medium) from transplants
Carrots
Cauliflower (late) from transplants
Chinese cabbage
Cucumbers
Fava beans
Fennel
Lettuce, head and romaine
Onions, green
Parsley
Parsnip
Rutabagas
Squash, zucchini and summer
Sweet corn (short maturity dates)

By the end of the month, these types of vegetables need to be in the ground:

Beets
Broccoli (late types) transplants
Cabbage (early types) transplants
Collards
Endive
Escarole
Kale
Kohlrabi
Lettuce Boston, Bibb,
Peas
Radish, daikon, winter black, watermelon
Swiss chard

Ideally put these late season marketed crops in their own section of the field. It makes management easier to accomplish. If you need to use row cover to protect from frost or capture heat, they are all in the same place. This also allows for fall clean up in the rest of the field easier with these crops out of the way. Late season weeds, aphids, and slugs can be a problem so regular scouting and maintenance is required.

Detection and Management of Downy Mildew in Onions

Christy Hoepting, CCE Cornell Vegetable Program

Downy mildew (DM) occurs during 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 (>74˚F) and short or interrupted periods of humidity at night can prevent sporulation. Generally, downy mildew is not a concern in onions until mid-August through September once the heat wave of summertime passes and when cool nights and heavy dews are common. In 2009, DM was first detected during the first week of July and went on to cause serious economic losses in onions across the state as the weather conditions continued to favor disease development and spread. Downy mildew is to onions as late blight is to potatoes; it can be a very aggressive leaf defoliator resulting in onions dying standing up, which results in reduced bulb size and quality (Fig. 1). When weather conditions are favorable, it is very challenging to manage a downy mildew outbreak. Therefore, when weather conditions are favorable for DM and once DM has been detected in an area, protectant fungicides are recommended. Growers should also scout for DM. If DM is found, a Ridomil product should be applied.

Figure 1. Downy mildew epidemic of 2009: Downy mildew of onion is like late blight of potato, a very aggressive defoliator. *Photo: Christy Hoepting, CVP*

Figure 2

Figure 3

Figure 2. Early detection of downy mildew – look for elongated pale green or yellow patches with fuzzy sporulation.

Figure 3. Early detection of downy mildew in onion – purplish-gray sporulation is easiest to detect during moist conditions.

Photos: Christy Hoepting, CVP

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Scouting tips for onion downy mildew

Middle-aged leaves first turn pale, and then yellowish, elongated patches may have grayish-violet fuzzy growth on otherwise green leaf tissue (Fig. 2). Sporulation is most easily observed when dew is present (Fig. 3). DM is expected to attack older transplanted onions before direct seeded onions. DM attacks green leaf tissue and then kills it leaving a necrotic spot at the original infection site (Fig. 4), which is readily invaded by purple blotch and other opportunistic fungi like *Alternaria, Stemphylium* and *Aspergillis* spp. that have black spores. If you see patches in fields with a lot of black sporulation and leaf dieback (Fig. 5), take a closer look and see if you can find purplish-gray spores on the green leaf tissue surrounding the necrotic and blackened patches.

Using Ridomil to manage downy mildew in onions

Mancozeb should be used as a protectant against DM when weather conditions are conducive to this disease. Other protectants include Quadris and phosphorous acid products (e.g. Phostrol, Rampart, etc.). This protectant program does not prevent DM from occurring, but it helps to alleviate the spread and severity. Once DM has been detected, the recommendation is to use a Ridomil Gold product (a.i. mefanoxam) + protectant fungicide, as two fungicides are better than one. Ridomil Gold Bravo SC can be applied every 7 to 14 days, up to three 2.5 pt applications per season. Ridomil Gold MZ can be applied in 14 day intervals with up to four 2.5 pt applications per season, so it needs to be alternated with another downy mildew fungicide in the week in between. Products containing Group 11 fungicides, like Quadris Top, Cabrio, Pristine, Reason and Tanos tank mixed with high rate of mancozeb may be used. These materials will also help to manage Purple blotch and possibly Stemphylium leaf blight, which quickly invade DM infection sites.

The fungicide program is to prevent further spread from the infected plants to healthy ones, so that the whole field does not go down. Expect original DM hot spots to worsen, despite fungicide sprays. To assess whether DM is being contained, look for lack of new infections, and lack of spores on old lesions. Unfortunately, when conditions are favorable for DM, it can still cause a lot of damage to onions, despite the best fungicide programs. If the weather turns hot and sunny, hot spots will dry out and shut down.

Using Pre-mixes of Ridomil Gold for control of DM in onion:

1. Ridomil Gold SL (EPA No. 100-1202) is labeled for damping off in onions as an in-furrow application. ***It is not labeled for DM as a foliar application.***

2. Ridomil Gold Bravo SC (EPA No. 100-1221) is a liquid formulation labeled at 2.5 pts per acre for DM. This formulation contains 33.1% Bravo (3.34 lbs Bravo per gallon), which equals 1.04 pts of Bravo per 2.5 pts of product per acre. ***For improved control of Botrytis leaf blight (BLB), you may want to supplement Ridomil Gold Bravo with an additional 0.5 to 2 pts of Bravo. Add the highest label rate of mancozeb for added DM protection.***

3. Ridomil Gold MZ (EPA No. 100-1269) is a dry formulation labeled at 2.5 lbs per acre. It contains 64% mancozeb, which is equivalent to 1.6 lbs a.i. mancozeb. ***The recommended rate of mancozeb is 2.25 lbs a.i. Therefore, Ridomil Gold MZ needs to be supplemented with additional mancozeb to achieve this rate. Also, for control of BLB and PB/SLB, additional fungicides would need to be added to this tank mix.***

Figure 4. Downy mildew lesion in onion, approximately 2 weeks old where initial infection sites are now necrotic and starting to be invaded by secondary pathogens (black). Note spores on lesion and extending along the surrounding green tissue – this is diagnostic of downy mildew.
Photo: Christy Hoepting, Cornell Vegetable Program

Figure 5. Older DM infections – look for leaf dieback with a lot of black sporulation.
Photo: Christy Hoepting, Cornell Vegetable Program

Managing Cucurbit Powdery Mildew

Margaret McGrath, Cornell (edited by J. Kikkert; full article with list of fungicides available at Vegetable MD or from our office)

Effectively managing powdery mildew is essential for producing a high-quality cucurbit crop. Affected leaves die prematurely which results in fewer fruit and/or fruit of low quality. A program that integrates resistant varieties and fungicides is critical to achieving control.

Fungicide program

The key to control is using mobile fungicides targeted to powdery mildew. Mobile fungicides are needed for control on the underside of leaves. Because these fungicides have targeted activity, additional fungicides must be added to the program when there is a need to manage other diseases such as downy mildew and Phytophthora blight. Alternate among targeted, mobile fungicides and apply with protectant fungicide to manage resistance development and avoid control failure if resistance occurs, and also to comply with label use restrictions. Always implement a resistance management program. The goal is to delay development of resistance, not manage resistant strains afterwards.

When to apply fungicides

The action threshold for starting applications is one leaf with symptoms out of 50 older leaves examined. Examine both surfaces of leaves. Starting treatment after this point will compromise control and promotes resistance development. If the threshold is inadvertently missed, to minimize the reduction in control that will occur, consider starting the program with a DMI fungicide or Torino; do not use Quintec in this situation. Powdery mildew usually begins to develop around the start of fruit production. Protectant fungicides applied before detection will slow initial development. After detection, continue applying fungicides weekly. Conditions are favorable for powdery mildew throughout the growing season.

Close-up of powdery mildew on squash leaf.
Photo: Darcy Telenko, Cornell Vegetable Program

Powdery mildew on squash.
Photo: Darcy Telenko, Cornell Vegetable Program

WNY Sweet Corn Trap Network Report

Marion Zeufle, NYS IPM Program

Nineteen sites reporting this week. European corn borer numbers are starting to increase again with eight sites reporting ECB-E and four sites reporting ECB-Z. Two of the six sites reporting corn earworm (CEW) were over threshold, indicating a need for a spray, please see the chart at the bottom of this page to determine the correct spray interval for your field. Fall armyworm (FAW) catches were up this week as well, with ten sites reporting trap catches. The site in Erie County caught 77 total FAW. Western bean cutworm (WBC) was also up this week with fourteen sites reporting trap catches, one as high as 96 moths.

Michigan State University recommends scouting for WBC egg masses when cumulative trap catch numbers reach 100 moth/trap for field corn. Whether this guideline also pertains to sweet corn is not known. Therefore it is recommended that all fields that are in the whorl or early tassel stage be scouted for egg masses with a 4% threshold for processing sweet corn and a 1% threshold for fresh market sweet corn. I scouted one field this week that had a cumulative trap catch of only 5 WBC moths and found one egg mass. WBC will usually lay eggs on the upper side of the top 1-3 leaves of pre-tassel corn, close to the leaf base. After tasseling has finished WBC seek out younger corn or dry beans. To

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scout for egg masses check the top 3 leaves of ten corn plants in ten locations throughout the field. The eggs are easy to observe if you view the leaf while holding it towards the sun. The egg mass will appear as a distinct shadow (see photo).

It takes between 5-7 days for eggs to hatch. It is critical that sprays are timed before the larvae have a chance to enter the ear. The egg mass will become purple in color approximately 24 hours before egg hatch (see photo).

The first flight of ECB happened in mid June and we are now seeing the beginning of the second flight of ECB as well as the beginning of WBC and FAW flights.

WBC egg mass shadow.

WBC eggs become purple prior to hatch.

WNY Pheromone Trap Catches: July 22, 2014

Location	ECB -E	ECB -Z	CEW	FAW	WBC
Baldwinsville (Onondaga)	2	0	0	1	11
Batavia (Genesee)	NA	NA	NA	NA	NA
Bellona (Yates)	2	2	0	4	2
Eden (Erie)	5	0	0	77	96
Farmington (Ontario)	1	0	0	1	1
Hamlin (Monroe)	2	1	1	0	0
LeRoy (Genesee)	0	2	2	0	0
Lockport (Niagara)	6	0	0	NA	0
Pavilion	0	0	0	23	28
Penn Yan (Yates)	NA	NA	NA	NA	NA
Seneca Castle (Ontario)	0	0	0	0	1
Spencerport (Monroe)	0	0	2	1	0
Waterport (Orleans)	0	0	0	0	1
Williamson (Wayne)	0	1	0	0	10

ECB - European Corn Borer
CEW - Corn Earworm
FAW - Fall Armyworm
WBC - Western Bean Cutworm
NA - not available

Late Blight Risk

Carol MacNeil, CCE Cornell Vegetable Program

During the past week late blight (LB) has been confirmed in more fields in Erie, in a couple fields in Wyoming, and in Columbia Counties, and is very likely in Allegany County. Additional confirmations occurred across PA. It is newly reported in MI, WI and Aroostock Co. ME. Most have been confirmed as US-23, fully sensitive to metalaxyl fungicides (Ridomil and generics). US-24, with only intermediate sensitivity, however, was found in one field each in Erie and Wyoming Counties. US-8, resistant to metalaxyl, was found in WI.

The weather was very favorable for LB in the past week, and the LB Decision Support System (DSS) recommended a 4-6 day spray interval at many of the weather station sites. For susceptible varieties, accumulating 30 blight units since the last fungicide application triggers the recommendation to spray. Intervals shorter than 5 days may now be recommended to prevent LB development in very favorable weather. Growers need to rotate fungicides to follow minimum label intervals. It's critical that growers scout their fields at least twice a week, and especially wetter, more humid microclimates on the farm (low spots, near tree rows, where fog forms, etc. Once 5+% of foliage is infected it is impossible to stop the progression of the disease, given average weather, even if Ridomil is used on a Ridomil-sensitive LB strain. Kill LB hotspots immediately by spraying with a contact killer like Gramoxone, thoroughly discing,

Late Blight Risk Chart, 7/22/14

Location[1]	Blight Units[2] 7/16-7/22	Blight Units[3] 7/23-7/25	Location[1]	Blight Units[2] 7/16-7/22	Blight Units[3] 7/23-7/25
Albion	NA	NA	Lodi	19	8
Appleton	37	15	Medina	37	11
Baldwinsville	30	14	Penn Yan	38	14
Buffalo	35	12	Ransomville	44	13
Ceres	48	14	Rochester	48	12
Elba	52	17	Romulus	38	15
Farmington	31	17	Silver Creek	30	7
Gainesville	NA	NA	Sodus	41	17
Geneva	25	13	Versailles	31	8
Kendall	32	6	Williamson	37	18

1 Weather stations. For more sites, and varietal susceptibility to LB: http://newa.cornell.edu
2 Passed Week Simcast Blight Units (BUs)
3 Three days predicted Simcast Blight Units (BUs)

pulling plants and covering them with a tarp, or bagging them in plastic. Note that LB spores are killed by UV radiation, so working in the infected area is best done in the middle of a sunny day. Be sure to spray, drive through, healthy areas first and infected areas last.

If you think you might have LB contact Carol MacNeil at 585-313-8796 or crm6@cornell.edu, John Gibbons at 585-394-3977 x405, or another Cornell Vegetable Program staff member, so we can get a definite diagnosis and submit a sample to have the LB strain determined, and thus the sensitivity to fungicides.

CROP INSIGHTS

CABBAGE & COLE CROPS

The hot and moist weather has been favorable for flea beetles, which need to be controlled up until the 6-leaf stage unless a flush begins to chew on the heads of fresh market cabbage (Fig. 1). Brassicas whose leaves are marketed such as kale and collards need to be protected more diligently. Any of the labeled pyrethroid insecticides (i.e. Mustang MAX, Baythroid, Brigade, Warrior, Hero and their generics), Sevin, Leverage, and Endigo may be applied to manage FB. Note that **Thionex is no longer labeled on Cole crops**. Even if good control was achieved, re-infestations can occur rapidly and require additional sprays.

Figure 1. Flea beetles feeding on cabbage head. *Photo: C. Hoepting*

Figure 2. Red Russian kale infested with swede midge: a) plant with multiple shoots, and b) closer look at growing point reveals brown corky scarring at growing point and along leaf petiole, twished growing point and leaf puckering. *Photo: C. Hoepting, CVP*

We first saw swede midge damage a couple of weeks ago at sights that have generally low populations. It takes 2-3 months for a low SM population to build to a point where there are enough damaged plants to recognize. Once this point is reached, the population could continue to build throughout August and September until 20-40% of the plants are damaged. Moist soil conditions are favorable for this pest. It is best to manage SM before it reaches this level of damage. In mixed crucifers, collards, Red Russian kale (Fig. 2) and broccoli have been noticed to be the most preferred by swede midge (see cover article).

DRY BEANS

Beans generally have been growing rapidly. Many fields are in flower and some fields are being cultivated. During the last few weeks the first Western bean cutworms (WBC) were caught in traps in dry bean fields. This week the moth catch has increased dramatically, with over 3 dozen moths in some traps. The trigger for scouting the beans for damage is when at least 100 moths have been accumulated, another week or more away. Potato leafhopper (PLH) control will diminish 40-45 days after planting, for beans that had the Cruiser seed treatment. At that time tiny, green PLH nymphs will appear on the undersides of leaves. The treatment threshold is 1 PLH nymph per trifoliate leaf or 100 adults/20 sweeps with a net. Many materials are effective. See the 2014 Cornell Veg Guidelines Bean Insect Management section at: http://veg-guidelines.cce.cornell.edu/13frameset.html

ONIONS

With rainfall events every week since planting, May through mid-July, the onion crop is looking gorgeous with luscious top growth and is bulbing very nicely. **The big news of the week is that downy mildew has been detected in the Elba muck land.** A few hot spots were found throughout a couple of fields, where the plants had infection sites that were about 2-3 weeks old with active spores and were being invaded by secondary pathogens (Fig. 1). Once downy mildew is found in an area, it is recommended to use protectant fungicides – see article. Onion thrips remain unseasonably low, which has been somewhat puzzling – is it the regular rain events keeping them in check or did the deep freeze over winter kill them? Or, both? Whatever the reason, this year provides much opportunity to save on insecticides sprays, especially when scouting and spray thresholds are implemented. At this time, most direct seeded fields have had 1 or 2 applications of Movento, which have kept populations below the spray threshold of 1.0 thrips per leaf for a week or more. There are also still some scouted fields of direct seeded onions that have yet to reach the spray threshold and have not been sprayed. Botrytis leaf blight pressure seems to be subsiding across the region and the current hot and humid conditions are favorable for Purple Blotch and Stemphylium leaf blight. All onions that have started to bulb should be protected with fungicides to manage PB and SLB. The "Cornell Onion Fungicide Cheat Sheet" is available on the CVP website.

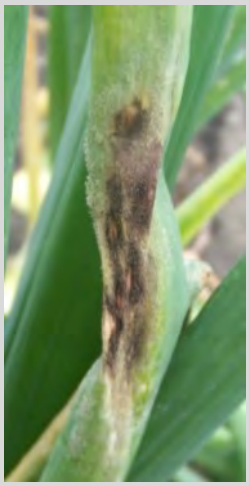

Figure 1. Infection site of downy mildew in onion about 2-3 weeks old. Secondary pathogens (black and purple) are invading the original infection sites while new spores occur on surrounding green tissue. *Photo: Christy Hoepting, CVP*

PEPPERS

Bacteria spot continues to be found in pepper.

POTATOES

Potatoes are in flower and are filling, or will soon fill, the rows. Harvest of early maturity varieties is beginning on a larger scale. Early blight is beginning to show up. Early varieties are more susceptible. Be sure to scout fields frequently for late blight (LB) (see the Late Blight Risk section). Systemic insecticide seed and in-furrow treatments usually fail for potato leafhopper (PLH) around mid-July. Check the undersides of leaves for nymphs as well as sweeping the foliage for adults. The very tiny, light green PLH nymphs are a sign that the at-planting insecticide is no longer working. Just 1 adult PLH/sweep with a net, or 15 nymphs/50 compound leaves, is the trigger to apply an insecticide, because potatoes are so sensitive to their feeding. PLH can cause severe stunting as well as "hopperburn" on the foliage. Many materials are effective. See the 2014 Cornell Veg Guidelines Potato Insect Management section at: http://vegguidelines.cce.cornell.edu/24frameset.html

PROCESSING CROPS

Beets – We scouted numerous fields in Genesee Co. yesterday and the fields are looking quite good with nice tops and roots. Weeds are under control with the exception of a few large escapes. When hand-pulling weed escapes or cultivating, try to avoid getting soil on the foliage as this will increase the risk for pocket rot. Cercospora leaf spot was at low levels in the majority of fields we visited, including a field that had quite a bit earlier this year. Some textbook lesions of Phoma leaf spot were seen in a number of fields. Phoma is characterized by concentric rings, whereas Cercopsora has tan lesions with a purple halo. Continue to scout for these diseases so they don't get out of control. Wet weather will increase disease incidence. The action threshold is an average of one lesion per leaf. Since we are beginning to see resistance, don't rely solely on Group 11 fungicides (Quadris, Cabrio, Gem). Propimax and Tilt are Group 3 fungicides labeled for this disease. Copper can also be used.

Phoma leaf spot (larger lesion with concentric rings) and Cercospora leaf spot (smaller lesion with purple halo) on a beet leaf. *Photo: Julie Kikkert, CVP*

Carrots – Carrots have put on significant growth and the earliest fields have nice roots forming, with the younger fields with fingerlings developing. The deer seem to know when the carrot roots are developing as they have been feeding in some fields. Continue weekly scouting for Cercospora (CLB), Alternaria (ALB), and Bacterial leaf blights (BLB). First fungicide applications should go on when 25% of leaves are infected with CLB or ALB. CLB produces small, circular, cream to gray spots with dark borders. On stems the lesions are more elliptical in shape. ALB is usually more prevalent in late August and Sept. and produces dark brown to black irregular spots on the leaf margins. See pg 145-147 of the 2014 Cornell Veg. Guidelines for fungicide options. The treatment threshold for BLB is reached as soon as the disease is observed in the field because it can spread so fast. This disease produces dark lesions surrounded by yellow tissue. Copper sprays may help to reduce spread. Strong thunderstorms and hail can damage leaves, creating wounds for fungal and bacterial blights. Fields should be scouted and treated if this damage occurs. For photos and more information see the fact sheet at http://www.nysipm.cornell.edu/factsheets/vegetables/misc/clb.pdf

Peas – Harvest crews continue to bring in the crop and it appears to be a very good season overall. Take note of any perennial weed problems such as daisy and thistle in your fields and make plans to manage these weeds in rotational crops or fallow fields in the fall.

Snap Beans – The harvest season is in full swing, while planting wraps up. Some areas have been very wet and beans are yellow or drowned out, especially in low spots. However, the crop is looking good overall. Be on the lookout for bacterial leaf and pod spot diseases as there has been one report in snap beans and one report in dry beans this week. We are awaiting positive sample ID from Cornell as to which species are present. Begin treatment with copper at the first sign to reduce the spread of infection, however, good control has been inconsistent. Bacterial blights are impossible to control in wet weather.

SWEET CORN

A few European corn borer moths and a large numbers of fall army worm and western bean cutworm moths were caught in this week's traps. In addition to a number of egg masses were found in fields, it takes 5-7 days for eggs to hatch and it is critical that sprays are times before the larvae have a chance to enter the ear (see Marion's report).

TOMATO

Early blight symptoms continue to been found in a number of locations on tomato. See last week's VegEdge for recommended sprays.

VINE CROPS

Foliar diseases are expanding in many plantings. Anthracnose in cucumber, melon, winter squash, and watermelon has been found in many locations. Bacterial spot and alternaria are also being problematic. Powdery mildew is starting to kick up so this threat needs to be acted upon as soon as possible for all vine crop growers (see Meg McGrath's article). The only thing that hasn't shown up is downy mildew. No new reports out in the Michigan region but it has spread across NC and up into the Delaware area.

The weather conditions have been favorable for night time dew. In fact, it is amazing at how early in the evening the dew is forming. This means that leaf wetness can last for more than 12 hours. This is more than ideal for leaf diseases to get a foothold and spread.

Cucumber beetle and squash bugs are pervasive across the region. Squash vine borer moths as well as two spotted spider mites are active in a number of locations. Being proactive will help in keeping crop losses down concerning the damage these pests can do.

UPCOMING EVENTS

Vegetable Pest and Cultural Management Field Meetings

July 25 - Ray Hoover's Farm, 4341 Rt 14A, Rock Stream 14878 | 6:00 PM - 8:00 PM
July 31 - Orchardview Farm, 2112 Carlton-Yates Townline Rd, Waterport 14571 | 6:00 - 8:00 PM
August 6 - Danny Miller's Farm, 11331 Hodnett Rd, Fillmore 14735 | 6:00 PM - 8:00 PM

This course (offered on several dates and at several different locations) 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 will instruct participants and facilitate peer-based learning. Cooperating farms will be selected as the season progresses. Details on each topic will focus on field observations at these farms. DEC recertification credits have been requested. FREE! For a full agenda, visit the CVP website or call Judson at 585-313-8912.

Muck Donut Hour

8:30 - 9:30 AM
July 29 | August 5 | August 12
Elba muck, corner of Transit and Spoilbank, Elba 14058

Meet with Cornell Vegetable Program Specialist Christy Hoepting every Tuesday morning to ask questions and share your observations.

Vegetable Disease Management - In Field Management Scenarios

August 4, 2014 | 6:00 PM - 7:30 PM
Eden Valley Growers Inc, 7502 N Gowanda State Rd, Eden 14057

Join us for field tours to talk about best crop production practices for managing and controlling vegetable diseases. There will be hands on demonstrations on identifying pests and scouting. Info will be provided for conventional and organic growers. 1.5 DEC recertification credits will be available. FREE! For the full agenda and more details, visit the CVP website or contact Darcy Telenko at 716-697-4965 or dep10@cornell.edu.

2014 Elba Muck Onion Twilight Meeting

August 7, 2014 | 5:30 PM - 8:30 PM
Mortellaro & Sons, 6550 Transit Rd, Elba 14058 ***(starting at Mortellaro's Red Shop in the Elba Muck Land)***

An in-field meeting with an update on onion research. Main topics will include onion thrips management, onion fungicide demonstration featuring Stemphylium leaf blight, and demonstration of managing perennial sowthistle. 2.0 DEC recertification credits will be available. Contact Christy Hoepting at 585-721-6953 or cah59@cornell.edu for more details.

Organic Seed School

August 17, 2014 | 8:00 AM - 4:00 PM
Cornell University Homer C. Thompson Vegetable Research Farm, 133 Fall Creek Rd, Freeville 13068

Come learn from growers, breeders, and seed companies to better understand organic seed quality topics and how it affects your farm. Up to eight regional seed companies will present their new developments related to the needs of organic producers. A series of moderated group discussion sessions will focus on the issues surrounding organic seed quality and availability - bring your questions on organic seed and talk directly to the experts! Lunch and refreshments will be provided. Pre-registration is appreciated at the website http://goo.gl/zpR5UG. The $10 registration fee can be paid at the door. Contact Michael Glos at mag22@cornell.edu or 607-227-7793 with questions.

Improving Crop Production, Soil Health & the Environment

August 19, 2014 | 3:00 PM - 8:30 PM
Donn Branton's Farm, 6536 E Main Rd/Rte 5, Stafford 14143

Five innovative grower speakers, a nationally recognized soil health expert, and local staff will show and describe the benefits of improving the soil health on your farm. There will be equipment and displays to see. DEC and CCA credits will be available. Cost: $5 (pre-registered) or $10 at the door. For more information, to see the complete agenda, and mail-in pre-registration form, visit the CVP website at http://cvp.cce.cornell.edu/event.php?id=237. Questions? Contact Dennis Kirby, Orleans SWCD, at dennis.kirby@ny.nacdnet.net or 585-589-5959. Organized by USDA-NRCS, County SWCD, Cornell Cooperative Extension, and WNY Crop Management.

Bejo Seeds Open House and Demonstration Trials 2014

August 26-27, 2014 | 10:00 AM - 6:00 PM
4188 Pre Emption Rd, Geneva 14456

View a wide variety of vegetable crops at Bejo's Research & Demonstration Farm. FREE! Lunch served August 26. RSVP to 315-789-4155.

Weather Charts

John Gibbons, CCE Cornell Vegetable Program

Weekly Weather Summary: 7/15 - 7/21/14

Location	Rainfall (inch)		Temp (°F)	
	Week	Month July	Max	Min
Albion	NA	NA	NA	NA
Appleton, North	1.60	3.59	83	49
Baldwinsville	0.15	1.56	86	54
Buffalo*	0.83	3.68	83	56
Ceres	0.73	3.84	81	49
Elba	0.90	2.61	80	48
Farmington	0.71	NA	84	51
Gainesville	0.54	3.14	79	46
Geneva	0.26	1.84	84	53
Kendall	0.50	1.96	80	55
Lodi	0.12	1.78	85	52
Penn Yan*	0.14	1.45	83	57
Ransomville	0.96	1.72	83	51
Rochester*	1.29	3.66	83	53
Romulus	NA	NA	84	55
Silver Creek	0.81	3.41	80	58
Sodus	0.60	2.86	82	51
Versailles	NA	NA	80	50
Williamson	1.12	3.03	80	52

Accumulated Growing Degree Days (AGDD)
Base 50°F: April 1 — July 21, 2014

Location	2014	2013	2012
Albion	NA	NA	NA
Appleton, North	1055	1196	1345
Baldwinsville	1353	1408	1509
Buffalo	1273	1407	1569
Ceres	1113	1188	1230
Elba	1006	1246	1292
Farmington	1244	1292	1380
Gainesville	994	NA	1310
Geneva	1272	1365	1496
Kendall	1231	1438	NA
Lodi	1395	1534	NA
Penn Yan	1350	1398	1516
Ransomville	1140	1131	1433
Rochester	1353	1460	1542
Romulus	1300	1430	NA
Silver Creek	1194	1369	1433
Sodus	1192	1227	1339
Versailles	1203	1378	1413
Williamson	1141	1364	1461

* 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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