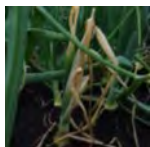




Got blind or disfigured heads in your Cole crops? The insect pest, swede midge, may be the culprit.

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Learn what diseases often cause inner and outer leaf dieback in onions.

**PAGE 5**



Can organic produce and Produce Auctions coexist? We've assembled some tips for organic growing and success at Auction.

**PAGE 8**



Phytophthora blight is showing up on cucurbits and peppers. Learn what you can do if you don't have Phytophthora blight yet and what you can do if you do have it.


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# VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Volume 11 | Issue 15 | July 22, 2015

Photo: Julie Kikkert

 **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, 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 a single growing season. Management of SM requires an



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

*continued on page 3*



**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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*The next issue of VegEdge will be produced July 29, 2015.*

## <<< BREAKING NEWS >>>

### Butternut Squash Market Opportunity

The reputation of high quality butternut squash from Upstate NY is spreading!

Leone Produce, a 30+ year old family-owned and run company based in Vineland, NJ, is looking to buy directly from NYS growers for their repacking business through the months of November, December, January, and February.

They are looking to purchase clean, #1 product in bulk (bins) and by the trailer load (approximately 35,000 lbs per load). If you wish to find out more about the company and their needs, contact Sam Leone at 800-677-2941. •



Photo by Heather Phelps-Lipton, Nona Brooklyn



integrated approach that includes greater than 2-year crop rotation out of Cole crops, timely crop destruction 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.



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



**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

#### SM 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. Look for the larvae nestled between the tiny leaves. Larvae are light yellow to lemon yellow and less than 2 mm in length. They do not have black mouthparts or any distinguishing features (Fig. 5). If you can't find larvae, keep looking.
- 4) If you suspect SM, contact Christy Hoepting or Cordelia Hall for assistance with identification and management recommendations. **Check out our upcoming swede midge meeting in Almond, NY on Thursday, July 23, 2015 – see meeting announcement, pg 10.**

For more information, visit the SM information site for the US:

<http://web.entomology.cornell.edu/shelton/swede-midge/> •



**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: C. Hoepting, CVP

## Late Blight is Popping Up All Around Us

Carol MacNeil and John Gibbons, CCE Cornell Vegetable Program

Late blight (LB) has been confirmed in the past week in tomatoes in Genesee County, NY, in potatoes in Oneida County, NY (US-23), in potatoes in Erie, PA (US-23), and in tomatoes and potatoes in Ontario, Canada. Other NY counties where LB has been confirmed include Livingston, Wayne and Wyoming. CT, VT, NJ and MD are other northeastern states reporting LB. Wherever the LB strain has been identified in the East and Midwest it has been US-23, sensitive to Ridomil (mefenoxam fungicides).

The LB Decision Support System (DSS) forecast reached or surpassed the 30

blight unit (BU) threshold to apply a fungicide at most locations in the past week (for susceptible varieties, and assuming a shorter residual fungicide like chlorothalonil was last used). See chart. In locations where the blight threshold wasn't reached the fungicide (loss) threshold (FU) was reached (not shown). The exceptions are N. Appleton and Baldwinsville, which haven't reached either threshold. Do not, however, stretch fungicide intervals beyond 7 days!

Scout fields twice a week. Check out the photos at the links below. See the "Late Blight Risk" article in the July 1

issue of *VegEdge* for recommended fungicides, or see the *2015 Cornell Vegetable Guidelines*, or the *2015 Organic Production and IPM Guide for Potatoes* at: [http://www.nysipm.cornell.edu/organic\\_guide/veg\\_org\\_guide.asp](http://www.nysipm.cornell.edu/organic_guide/veg_org_guide.asp)

#### If late blight is found act immediately!

Seal a fresh sample (green foliage with disease spots) in a zip lock bag. Do not refrigerate. Kill confirmed LB hotspots and a 30 ft. border, then spray the field and nearby fields with a LB fungicide. Contact a CVP Vegetable Specialist. Your sample needs to get to Dr. Bill Fry's Lab, Cornell, Ithaca, ASAP to determine the LB strain.

continued on page 4

Photos of LB: <http://livegpath.cals.cornell.edu/gallery/tomato/tomato-late-blight/>

Distinguishing LB from other diseases: <https://www.youtube.com/watch?v=aA4PuEKaQpY>

Contact Carol MacNeil at [crm6@cornell.edu](mailto:crm6@cornell.edu) or 585-313-8796, or the closest CCE Cornell Vegetable Program Specialist at: [http://cvp.cce.cornell.edu/contact\\_information.php](http://cvp.cce.cornell.edu/contact_information.php)

### Late Blight Decision Support System (DSS) Updates!

**Additional fungicides in system** - Certain labeled fungicides have been added to the list of choices based on user requests. For example, Nordox 75 WG, containing cuprous oxide, and Zing!, containing zoxamide plus chlorothalonil, have been added.

**Critical Threshold change** - Based on simulations and field trials Simcast thresholds for moderately susceptible varieties has been lowered. This change will likely lead to increased fungicide use but will improve disease suppression. Click on *Additional Cultivar Information* at the top of the DSS Input page for the susceptibility of your varieties. ●

### Late Blight Risk Chart, 7/21/15<sup>3</sup>

Location <sup>1</sup>	Blight Units <sup>2</sup> 7/15-7/21	Blight Units <sup>2</sup> 7/22-7/24	Location <sup>1</sup>	Blight Units <sup>2</sup> 7/15-7/21	Blight Units <sup>2</sup> 7/22-7/24
Appleton	15	5	Kendall	24	5
Arkport	54	17	Lodi	23	11
Baldwinsville	19	5	Lock/Niag F.	35	5
Bergen	16	0	Lyndonville	45	10
Buffalo	22	0	Medina	21	5
Butler	42	11	Penn Yan	37	0
Ceres	39	14	Rochester	23	10
Elba	52	11	Sodus	17	5
Farmington	25	0	Versailles	18	6
Gainesville	51	16	Wellsville	33	16
Geneva	30	5	Williamson	26	5

<sup>1</sup> Past week Simcast Blight Units (BU)

<sup>2</sup> Three day predicted Simcast Blight Units (BUs)

<sup>3</sup> Threshold = 30 BUs (susceptible variety, last fungicide-shorter residual)

## WNY Sweet Corn Trap Network Report, 7/21/15

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

Seventeen sites reporting this week. Six sites reporting European corn borer (ECB)-E and five sites with ECB-Z. Corn earworm (CEW) was caught at four sites with three sites high enough to require a 6 or 5 day spray interval (see spray table at bottom of post). Fall armyworm (FAW) numbers are still increasing with nine sites reporting trap catches. Western bean cutworm (WBC) was caught at 12 sites this week.

Below is a graph showing the average trap catch for all reporting sites since the beginning of the trapping season. Both FAW and WBC are still increasing. ECB-E had a small peak in early June and the second generation flight is predicted to begin when accumulated degree days reach about 1400 modified base 50. ECB-Z had a small peak in mid June and CEW has remained at low levels throughout the season to date.

### WNY Pheromone Trap Catches: July 21, 2015

Location	ECB-E	ECB-Z	CEW	FAW	WBC	DD to Date
Baldwinsville (Onondaga)	2	0	2	13	23	1263
Batavia (Genesee)	0	32	3	0	3	975
Belfast	2	0	0	0	0	1136
Bellona (Yates)	NA	NA	NA	NA	NA	1342
Eden (Erie)	0	2	0	37	12	1179
Farmington (Ontario)	2	2	0	0	3	1202
Hamlin (Monroe)	NA	NA	NA	NA	NA	1176
LeRoy (Genesee)	NA	NA	NA	NA	NA	1158
Lockport (Niagara)	0	0	0	4	3	1150
Pavilion	0	0	1	67	24	1158
Penn Yan (Yates)	0	1	0	23	4	1296
Seneca Castle (Ontario)	4	0	0	0	2	1223
Spencerport (Monroe)	NA	NA	NA	NA	NA	1318
Waterport (Orleans)	0	0	0	0	0	1176
Williamson (Wayne)	0	0	2	0	0	1131

ECB - European Corn Borer

CEW - Corn Earworm

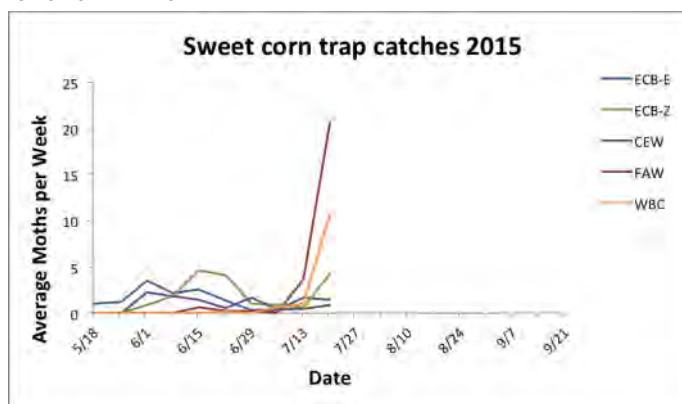
FAW - Fall Armyworm

WBC - Western Bean Cutworm

NA - not available

DD - Degree Day (modified base 50F) accumulation

### Average sweet corn trap catches for all reporting sites from 5/25/15 - 7/21/15



### Degree-day accumulations in relation to percent moth emergence (beginning May 1, base 50°F)

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 ●

# Causes of Outer Leaf and Inner Leaf Dieback in Onions

Christy Hoepting, CCE Cornell Vegetable Program

During bulbing is often when we see excessive leaf dieback in diseased plants. Most commonly, inner leaf dieback is caused by bacterial disease and outer leaf dieback is caused by *Fusarium* basal rot, although there are other causes of excessive outer leaf dieback. Both of these diseases are caused by soil-borne pathogens that occur naturally in the soil and will result in unmarketable bulbs. Disease progression and incidence continue to increase until harvest. Above-ground symptoms may not be noticeable in plants where infections occur late in the season, but eventually will show up in the bulbs in storage. Unfortunately, at this stage, there is nothing that can be done to manage either of these diseases. However, it is good to note the problem(s) and relative incidence so that you will know to look for these problems on the grading line prior to or after storage, and to adjust management strategies for next year (e.g. grow tolerant varieties on problematic ground or rotate away from onions).



**Figure 1.** Whitened, water-soaked and collapsed inner leaf dieback caused bacterial diseases in onion. Bacterial disease is the only cause of inner leaf dieback, making diagnosis relatively simple. Photo: Christy Hoepting, Cornell Vegetable Program

**Bacterial disease** usually occurs on scattered plants or in localized areas throughout a field with a history of this problem, or in susceptible varieties (red varieties generally seem to more prone to bacterial disease than yellows). Although Cornell is working on gaining a better understanding of when exactly onions become infected with bacterial diseases, it is generally understood that the leaves first become in-

fectured and then the infection spreads through the leaf down through the neck and into the bulb scale(s). Inner middle-aged leaves first show signs of bacterial infection and appear whitened, water-soaked and wilted (Fig. 1). Eventually, as the infection spreads all of the leaves become symptomatic resulting in complete collapse of the foliage. Bacterial infections are the only cause of inner leaf dieback, which makes the diagnosis relatively simple. To confirm, cut the bulb and neck in half and look for water-soaked and/or brown/yellow discolored scales that run down the neck and into the bulb (Fig. 2).



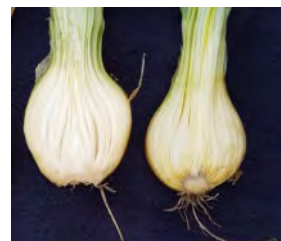
**Figure 2.** To confirm bacterial disease of onion, cut in half the bulb and neck and look for water-soaked and/or brown/yellow discolored scales that run down the neck and into the bulb. Photo: source unknown.

The exact same can be said for **Fusarium basal rot** of onion with respect to its occurring in scattered plants and in localized areas with a history of this problem, as well as in certain varieties that tend to be more susceptible. Foliar symptoms appear as a yellow to tan dieback of leaf tips and stunting (Fig. 3). The fungus enters roots or basal plates through wounds (cultivation pruning, pink root infection and other



**Figure 3.** Foliar symptoms of *Fusarium* basal rot appear as a yellow to tan dieback of leaf tips and stunting on scattered plants. Photo: Christy Hoepting, Cornell Vegetable Program

stress factors), and advances upward into the bulb scales. Roots may rot off, when cut the basal plates may exhibit a gray to brown discoloration (Fig. 4) and a white to pink fungal growth can become evident between and on scales. Eventually, the *Fusarium*-infected bulb becomes infected with secondary bacterial rot pathogens and often onion maggot.



**Figure 4.** When a bulb infected with *Fusarium* basal rot is cut, the basal plates may exhibit a gray to brown discoloration. Photo: Christy Hoepting, CVP

**Other causes of leaf dieback.** Basically, any kind of stress can result in excessive outer leaf dieback in onions. Other causes of stress include saturated soil conditions, nutrient problems and soil compaction. In these situations, symptomatic plants occur in widely distributed areas, and not scattered or localized as they do for *Fusarium* basal rot. Onion smut and onion maggot also cause outer leaf dieback and wilting in a scattered and localized arrangement. When such plants are pulled, black pustules of smut (Fig. 5) or maggots are evident on/in the bulbs. Once bulbing occurs, onion maggot tend to seek out weak bulbs with *Fusarium* basal rot or onion smut, so you will often find bulbs that have both disease and maggot, which in turn are followed by secondary bacterial rot. The target spot diseases or downy mildew can also cause excessive leaf dieback, but the necrotic leaf tissue is colonized with target spot lesions and dark spores (see photos in 7/8/15 VegEdge, pg 6). Below ground, the bulbs of such plants are intact. ●



**Figure 5.** Black pustules of onion smut in onion. Photo: Christy Hoepting, CVP



# CROP INSIGHTS

## CABBAGE AND COLE CROPS

Hot days continue to be favorable for insect pests including flea beetles, imported cabbage worm, diamondback moth and onion thrips, while cool nights and heavy dews have been favorable for downy mildew and Alternaria leaf spot, and hot days, heavy dew and rainfall events are favorable for black rot. Swede midge damage has also been occurring for the last month – see cover article and meeting announcement.

Bravo, Quadris and Cabrio can be used to control both Alternaria leaf spot (ALS) and downy mildew (DM). In recent Cornell studies, Helene Dillard found that different strains of ALS respond differently to different fungicides with not all strains being susceptible to all fungicides. Therefore, for best control, when disease pressure is threatening head quality, a tank mix of Quadris/Quadris Top + Bravo should be used, perhaps alternated with Switch or Inspire Super. Switch and Inspire do not have activity against DM. Several other fungicides are labeled for DM including Ridomil Gold Bravo, Reason, Presidio, Ranman, Phostrol/Prophyt, mancozeb, Forum, Alliette, copper compounds (several OMRI approved) and Actigard. In Cornell and other university studies, Presidio (PHI = 2 days) consistently provided excellent control of DM. Bravo and mancozeb also provided good control of DM, while Actigard did not work. For resistance management, Presidio must be used in a tank mix with another fungicide for DM with a different mode of action, such as Bravo. Black rot does not spread without water, but irrigation can provide water to spread this disease in dry weather. To prevent secondary spread of black rot, avoid entering fields when foliage is wet. Copper bactericides may be sprayed on a 7-10 day schedule, especially targeting before and after rainfall.

## DRY BEANS

Beans are adding new trifoliate leaves, and more fields are flowering. Growers have been cultivating. White mold is a significant concern. See the July 15 *VegEdge* for evaluating WM risk, and for recommendations. Organic growers, or those who used untreated seed, should be scouting for potato leafhopper (PLH). They are an easy pest to overlook. The tiny, 1/8" long, pale green adults fly from plant to plant when the foliage is brushed. Adults lay eggs on the undersides of leaves, where the nymphs remain after hatching. These very tiny light green insects walk side-ways when disturbed. PLH injury causes yellowing of leaf edges, with curling or puckering. In severe cases leaf edges turn brown, resulting in "hopperburn." Pre-bloom beans are at most risk of damage. **In non-Cruiser-treated fields:** during pre-bloom, treat when more than one nymph per trifoliate leaf is found, or when the number of adults exceeds 100 per 20 sweeps. Dimethoate can be very effective but don't apply during flowering. Pyrethroids and other insecticides are also effective. Organic growers can use Pyganic but will need to repeat the application due to its short residual. Note: If adult PLH, but no nymphs, are observed where the Cruiser seed treatment was used then it is likely still working.

## GREENS

The cool nights have made for good greens growing though the intermittent bouts of high heat have stressed out some plantings. Weed pressure is the bane of most growers. Of course there are those tireless flea beetles that just don't seem to be letting up in some areas.

## ONIONS

**Disease pressure is on!** With target spot diseases on the increase, **first detections of downy mildew** being discovered this week (Fig. 1) and more and more bacterial disease and Fusarium basal rot starting to show up (see article, pg 5). For target spot diseases, Inspire Super, Scala, Quadris Top, Merivon and Pristine are the recommended fungicides of choice, which will go a long way towards preventing excessive leaf dieback and premature death. These fungicides work best when used preventatively. The challenge is the rotation restrictions of these products, which are in place for resistance management to prolong the useful longevity of these fungicides. Use the **Cornell Fungicide "Cheat-Sheet" for Leaf Diseases in Onions**, available at <http://cvp.cce.cornell.edu/submission.php?id=231&crumb=pests%7Cpests>, which lists the chemical class of each product, rotation restrictions and relative efficacy against different leaf diseases. Also see article in July 8 issue of *VegEdge* for information on managing target spot diseases. In addition to a good target spot fungicide, all onions should be getting a protectant in the tank mix for downy mildew such as mancozeb or phosphorous acid products (e.g. Ramphart, Phostrol, etc.). If you are using Quadris/Quadris Top, Merivon or Pristine, you could leave out mancozeb or phosphorous acid, as these products contain group 11 fungicides that will suppress downy mildew.

Onion growers are having tremendous success controlling onion thrips, despite favorable conditions for this pest. There are some transplanted fields which have remained below the spray threshold (1.0 thrip per leaf) for 6 weeks following a single application of Movento. There are also direct seeded fields where either single or double application(s) of Movento have kept the thrips population below the spray threshold for 1 to 2 weeks, and a single application of Agri-Mek knocked thrips well below the spray threshold. In all of these cases, sprays were applied when thrips populations ranged from 0.6 to 1.2 per leaf, included a penetrating surfactant and were not co-applied with Bravo. In another case, a double application of Movento reduced a population of 2.4 thrips per leaf to below threshold. For more information, see **Strategic Management of Onion Thrips in Onions**, available at <http://cvp.cce.cornell.edu/submission.php?id=240>.

## PEPPER

Bacterial issues are extensive with peppers this season. The high heat episodes have also blasted flowers so fruit set has been poor in many plantings. The variability of plant growth is crazy. In the same field there can be large plants with a good canopy while in other spots the plants are small and fairly stressed. Thrips have also been pretty active unfortunately.

Harvesting has started in some areas, while wet weather continues to favor bacteria and *Phytophthora capsici* is rearing its ugly head in infested fields (see *Pest Patrol* article, pg 9). Spraying should continue where possible on a 5-day schedule.

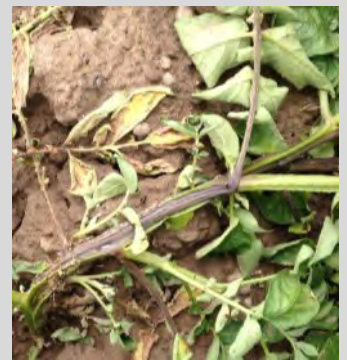


**Figure 1.** Infection site of downy mildew in onion about 2-3 weeks old: Secondary pathogens (black and purple) are invading the original infection sites while new spores (gray-purplish fuzz) occur on surrounding green tissue. Photo: C. Hoefting, CVP

*continued on next page*

## POTATO

Blackleg infection was observed in one later field of Reba from ME seed. The name comes from the very dark color seen on the outside of severely affected lower stems. Vines were going down as infection spread, causing internal discoloration and hollowing of stems. This seedborne bacterial disease has been identified both last year and this year on Long Island. While the USDA Seed Grade allows no more than 5% decay in seed tubers, cutting and handling the seed can spread the disease through a seed lot. Cool, wet weather increases the chances that it will be a problem. Sclerotinia white mold (WM) and Botrytis gray mold have been observed in potatoes. Bravo is recommended against Botrytis but spray coverage will likely be a problem. Omega is a new fungicide effective against both late blight (LB) and WM. Tank mix Omega with a protectant for LB. For WM begin sprays when plants are in early bloom and repeat in 10 days. Vary the rate based on WM risk. Evaluate risk of WM in the field based on the weather (wet), history of susceptible crops the past few years (vegetables, soybeans, clover, etc), the size of the plant canopy (large), and the recent incidence of WM. Aerial application is not allowed in NYS with Omega.



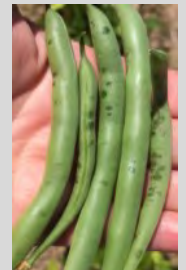
Blackleg on potato – black streaks outside stem. Photo: OSU, Wayne IPM

Growers should be scouting for potato leafhoppers (PLH) since they can severely stunt potatoes and reduce yields if not controlled. Control from systemic insecticide seed/at planting treatments usually weakens against PLH in mid-July. They are of particular concern on organic fields, or if a systemic insecticide was not used at planting. PLH adults repeatedly arrive on weather fronts. The tiny, 1/8" long, pale green adults fly from plant to plant when the foliage is brushed. The treatment threshold is just 1 adult with the sweep of a net. Adults lay eggs on the undersides of leaves, where the nymphs remain after hatching. These tiny light green insects walk side-ways when disturbed. Use a hand lens when scouting for nymphs! The treatment threshold is just 15 nymphs per 50 compound leaves (many leaflets/leaf).

From D. Gilrein and S. Menasha, CCE Suffolk Co. – PLH injury generally starts as yellowing of leaf edges, with curling or puckering following. In severe cases the yellowing is dramatic and leaf edges turn brown. This is known as "hopperburn." Dimethoate can be effective even at much lower (1/4) than labeled rates but should not be combined with alkaline materials such as copper fungicides. Asana, Baythroid, and many other insecticides are also effective. Organic growers can use Pyganic for control but will need to make repeated applications because of the short residual activity.

## PROCESSING CROPS

A very challenging processing pea season is wrapping up. Wet conditions during most of the season drowned out many peas, reduced yields and led to slug and snail issues in a high percentage of fields. Planting of many crops lagged behind this year, but most planting is done except for late snap beans and spinach. The effects of wet conditions continue to show up in the majority of fields with uneven stands, yellowing, uneven plant growth, and weed management issues. A very challenging year for our region. The earliest lima beans are beginning to flower and set pods. Crop consultants and field reps have been discussing the strategy for fungicide applications with Dr. Pethybridge from Cornell, and growers should follow recommendations from the processors for white/gray mold control. We have a grant project to continue to unravel the tan spot complex, which seems to be caused by several different fungi. Fungicide trials are set up in three commercial fields. We are also trying to determine to what extent tan spot may reduce yields. Bacterial spot disease has been observed on lima bean leaves, and leaves and pods of snap beans. White mold is showing up in early snap bean fields. There is nothing new in regards to fungicides this year. Omega fungicide is not yet available, but expected next year. Cercospora and Phoma leaf spot, and Rhizoctonia pocket rot are present in some beet fields. Try to rotate fungicide products as resistance to Quadris has been noted with Cercospora in New York fields. Seneca Foods has begun snap bean harvest, and others are not far behind. Harvest crews are also gearing up for processing sweet corn harvest which will start soon.



Water soaked lesions on snap bean pods are the start of bacterial infections. Photo: J. Kikkert

## SWEET CORN

The earliest plantings are finished and as harvesting has moved into later plantings worm and bird issues seem to follow. We have recently initiated on-farm trials to evaluate the effectiveness of mechanical options such as scare-eye balloons and "air-dancers," and a chemical deterrent, Avian Control, just recently registered for unrestricted use in NY. We hope we will be able to identify one or more effective options to mitigate the increasing issues of bird damage.

## TOMATO

Attentive spray programs are keeping early blight and bacterial speck in check under high disease pressure. We are seeing the beginning of first harvests of field tomatoes.

## VINE CROPS

Cucurbit downy mildew continues to increase in fields, be vigilant in spray programs. Cucumber beetles have wound down in some areas while numbers seem to be building in others. Damage to the flowers and scarring of fruit are the biggest concern.

Powdery mildew is starting to be seen in spaghetti squash, older zucchini/summer squash plantings, and along shady edges of winter squash. Having clear access to get spray equipment to these plantings is important. High pressure spraying is essential for blasting the leaves back in order for the treatment to reach the undersides of leaves.

Angular leaf spot disease is the predominant problem being seen in the fields along with some anthracnose and belly rot. With the increased use of copper and other products along with the pattern of high heat, we are seeing spray-burn on many crops. If weather predictions call for high heat and you have to spray, put it off until early evening to help reduce the burn. This is also true if applying foliar applications of fertilizers especially the fish and/or seaweed extracts (unless you really want to burn down weeds!).

# Growing Organic for Produce Auction

Judson Reid, CCE Cornell Vegetable Program

Produce Auctions are a growing market channel for many family farms in New York. Auctions allow the farmer to focus on farming and efficiently move product in wholesale lots for a reasonable commission. There has been an on-going question as to the place of organic or 'naturally' grown produce in these auctions.

As the buyers at auction are re-selling the product, there is very low tolerance for visual defects or loss to spoilage. Thus quality product, graded for visual appeal, has been the trademark of successful auction growers. Pest control and culling of substandard product leads to uniform lots with extended shelf life.

Much of our working knowledge of organic produce farming has come from the context of CSA's, farmers markets and roadside marketing. These market channels all allow for non-uniform product, the occasional blemish and variability in supply volume; a departure from auction standards.

So, can these two ideas be combined? Yes, if the following two conditions are met:

- 1) The grower is personally committed to organic standards. Produce Auction buyers generally do not pay a premium for organic, so the grower must be satisfied with conventional prices and organic yields.
- 2) The grower is personally committed to the success of the Auction. There are market channels that will pay a premium for certified organic such as supermarkets and natural food stores. This means the grower must be motivated to support the Auction for the greater benefit of the community instead of seeking highest price.

In the future this may be different. For example, if the end consumer or wholesale buyers increase demand for organic product, auctions could respond well to this demand. With existing record keeping functions of the Auction office, keeping organic certification would be facilitated, just as Nursery Dealer or tax exempt forms are on file now.

As a reminder, HarvestNY developed an excellent video explaining the benefits of NYS Produce Auctions. <https://www.youtube.com/watch?v=MvvnDic4LA>

Now that we have a context for how organic produce and auctions can coexist, we have to be successful at growing the product and getting it to market. The overriding concept is that the certified organic product must be competitive with conventional.



Produce ready for sale at the Finger Lakes Produce Auction, September 2014.  
Photo: Judson Reid, Cornell Vegetable Program

## Tips for organic growing and success at Auction:

### 1) Pest and disease control = Prevention.

Without the stronger conventional pesticides, preventative measures such as crop rotation/cover crops; light weight row covers, disease resistant varieties, adequate plant spacing, high tunnels, sanitation are all the more important. Staying educated is part of prevention; knowing what pests/diseases are regionally active and what are the latest control measures.

### 2) Use appropriate pest control measures where needed.

The organic grower today can use a number of effective sprays including azadirachtin, spinosid, Stylet Oil, Sulfur, Copper and a growing list of biologicals such as Serenade, Actinovate and Double Nickle. Mist blowers and modern field sprayers will help with coverage and canopy penetration. A common failure is to apply these products after a problem has started or with a backpack sprayer (inadequate for the job).

### 3) Fertility – Think conventional but grow organic.

Calculate the total pounds of N, P, K, Mg, Ca needed by the crop, soil test, and then apply inputs. Keep an eye on pH and micronutrients as well. Organic materials can be applied in season, but with much fewer options and solubility than conventional fertilizers. So take a measured approach to crop needs and apply before planting to reduce emergency responses.

### 4) Weed control.

Listed separately from other pests as it represents a different set of farm tasks. For the conventional auction grower there are herbicides to manage weeds, but natural control means mechanical control-cultivation. Inter-row cover crops are an option, but may reduce yield. Organic growers have the opportunity to match or exceed the performance of conventional farms on this point as cultivation can exceed herbicide performance.

*continued on next page*



### 5) Pack for quality and consistency.

Grade with the same standards as conventional auction growers. #1 product should be free of blemishes and defects and packed with uniform size. This helps the auction buyer by eliminating sorting on their end. Cull poorer quality fruits. Remember one advantage of an Auction is the ability to market #2 product, as long as it is labeled as such.

### 6) Manage the small things, but remember the big picture.

Success in any produce operation means staying on top of details. The proper execution of many individual tasks leads to overall farm success. Some days crop performance and/or auction prices are not the best. Commitment to the auction over the long term will smooth out any dips in price. Consistent supply and reasonable prices are what attract buyers. More regular buyers means more opportunity for people to make a living at home growing produce. ●



Cultivation implement for natural weed control.  
Photo: Judson Reid, Cornell Vegetable Program

## Phytophthora Blight

Darcy Telenko, CCE Cornell Vegetable Program; adapted from *The Facts About Phytophthora Blight*, C. Smart and S. Reiners, Cornell, <http://phytophthora.pppmb.cals.cornell.edu/images/resources/pcapbrochure.pdf>

Phytophthora blight caused by the water mold *Phytophthora capsici*, has started to show up on cucurbits and peppers in areas with known infestation. *P. capsici* will attack roots, stems, leaves, and fruit. Stem lesions have been found at the soil line causing the tissue to become discolored and collapse. A systemic wilting symptom can be observed in infected plants across a field. Fortunately the short-lived spores of *P. capsici* cannot be spread by the wind between or within fields. The spores can be moved through water long distances and may also be splashed to aerial parts or between plants during heavy or wind-blown rain. If possible rogue infected plants and dispose of culled fruit to reduce spread of spores in water within an infested field. A preventative fungicide schedule is needed for effective control. This program should alternate between fungicide groups for resistance management.

What you can do about it...

#### If you don't have Phytophthora blight yet...

- Never dump culled fruit or plants into production fields
- Know where your irrigation water comes from, and use uninfested water
- Obtain compost from a trusted source



#### If you already have Phytophthora blight...

- Promote good drainage and do not over-irrigate
- Grow bushing cucurbits, tomatoes, peppers, and eggplants on raised beds
- Plant tolerant sweet pepper varieties
- Rotate (watch your weeds!)
- Dispose of culled fruit or infected plants in a sanitary landfill, or by burying
- Prevent spread around your farm or into irrigation sources
- Rogue infected plants and harvest early from an infected field
- Use chemical fungicides according to the label



Phytophthora blight on pepper.  
Photos: Darcy Telenko, Cornell Vegetable Program



Phytophthora blight on cucurbits.  
Photos: Darcy Telenko, Cornell Vegetable Program ●

# Stink Bugs Causing Damage to Tomatoes and Peppers

Robert Hadad, CCE Cornell Vegetable Program

We are seeing small spots on tomatoes and some peppers that seem to be caused by insect feeding. The spots appear to be small punctures that scar over and leave a bit of yellowing or blotchy coloring around the scar. I am not sure if it is the green stink bug or the brown marmorated stink bug. Both are present.

Refer to the Cornell Commercial Vegetable Production Guidelines for a complete listing of insecticides. ●



Brown marmorated stink bug. Photo: OSU Extension



Stink bug damage on tomato fruit. Photo: OMAFRA

## Organic Production Guides for Vegetables Updated for 2015

Abby Seaman, NYS IPM Program

The Organic Production Guides for vegetables, fruit, and dairy have been updated for 2015. For vegetables, guides for beans, carrots, Cole crops, cucurbits, lettuce, peas, potatoes, and spinach have been updated. Updates include adding additional cultural practices where available, removing products no longer listed on OMRI or PIMS, adding products newly listed on OMRI, and adding product efficacy information where available.

They can be viewed or downloaded at: [http://www.nysipm.cornell.edu/organic\\_guide/default.asp](http://www.nysipm.cornell.edu/organic_guide/default.asp) ●

## UPCOMING EVENTS *view all Cornell Vegetable Program upcoming events at [cvp.cce.cornell.edu](http://cvp.cce.cornell.edu)*

### Managing Swede Midge in Organic Systems – twilight research trial tour and results

July 23, 2015 | 6:30 PM - 8:00 PM

Quest Farm Produce, Baker Field - 376 Karr Valley Rd, Almond, NY 14804



Join Cornell Vegetable Program Educator Christy Hoepting and CVP Swede Midge Project Manager Cordelia Hall for an evening exploring options for organic management of Swede Midge, a devastating invasive pest of brassica crops. Brand new research on this topic could help you better manage this pest in your brassica plantings this season and beyond. We will look at several different mulch and exclusion netting combinations in an on-farm research trial and discuss the efficacy of each treatment. You'll also learn about the Swede Midge life cycle, how to identify all stages of Swede Midge damage and see the pest and larvae. Don't let Swede Midge leave you with a field full of blind heads! This event is FREE and pre-registration is not required. Contact Cordelia Hall at [ch776@cornell.edu](mailto:ch776@cornell.edu) with any questions.

### Vegetable Pest and Cultural Management Field Meetings

July 24, 2015 | 6:00 PM - 8:00 PM

Yates County – Howard Hoover farm, 2845 Swarthout Rd, Penn Yan, NY 14527

August 12, 2015 | 7:00 PM - 9:00 PM

Seneca County – Jesse Stoltzfus farm, 5907 Rt 414, Romulus, NY 14541



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 Darcy Telenko, Robert Hadad and Elizabeth Buck will instruct participants and facilitate peer-based learning. Details on each topic will focus on field observations at these farms. DEC recertification credits will be offered. No cost to attend. Contact Judson Reid at 585-313-8912 for more information.

### New Soil Health Seminar Center & Demo Plots at Empire Farm Days

August 11-13, 2015 | 9:30 AM each day

Tuesday – Cover Crops

Wednesday – Reduced Tillage

Thursday – Nutrient Management

Lot #922, Rodman Lott & Son Farms, Rt 414, Seneca Falls



At 9:30 am each day the NYS Soil Health Working Group will host featured research and industry speakers on the day's topic, followed by an experienced grower panel. Lunch will be sponsored by Kings Agriseeds for those attending. Field demos of cover crop interseeding will be nearby. SWCD, NRCS, Cornell and Cooperative Extension staff will be present to offer technical assistance or describe cost-share programs. For info on Empire Farm Days go to <http://empirefarmdays.com>. For more info on the Soil Health program at EFDs contact Paul Salon, USDA-NRCS at [paul.salon@ny.usda.gov](mailto:paul.salon@ny.usda.gov)

## Weather Charts

John Gibbons, CCE Cornell Vegetable Program

### Weekly Weather Summary: 7/14 – 7/20/15

Location	Rainfall (inch)		Temp (°F)	
	Week	Month July	Max	Min
Albion	0.70	1.30	85	49
Appleton, North	0.25	0.58	85	47
Baldwinsville	0.91	1.82	88	50
Buffalo*	0.89	2.16	83	52
Butler	0.40	1.10	91	48
Ceres	0.31	1.50	86	46
Elba	0.96	1.82	81	45
Farmington	NA	NA	88	47
Gainesville	1.36	2.76	82	43
Geneva	0.67	2.56	87	51
Lockport	NA	NA	NA	NA
Lodi	1.97	3.12	89	48
Penn Yan*	1.75	2.90	89	50
Rochester*	1.69	2.40	88	51
Romulus	NA	NA	88	50
Silver Creek	2.45	4.83	84	51
Sodus	0.32	1.31	90	44
Versailles	NA	NA	85	47
Williamson	0.02	0.09	89	45

### Accumulated Growing Degree Days (AGDD) Base 50°F: April 1 – July 20, 2015

Location	2015	2014	2013
Albion	1282	1209	1343
Appleton, North	1060	1035	1179
Baldwinsville	1301	1328	1388
Buffalo	1308	1249	1438
Butler	1317	1287	NA
Ceres	1166	1093	1165
Elba	996	987	1230
Farmington	1265	1221	1275
Gainesville	1036	975	NA
Geneva	1264	1249	1345
Lockport	NA	NA	NA
Lodi	1399	1371	1512
Penn Yan	1349	1326	1425
Rochester	1379	1329	1483
Romulus	1291	1275	NA
Silver Creek	1193	1174	1347
Sodus	1142	1169	NA
Versailles	1216	1182	1356
Williamson	1164	1160	1309

\* Airport stations

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

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# VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

## VEGEdge

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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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