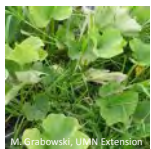




Are your Cole crops stunted or wilting? It may not be the heat; it may be clubroot. Learn more about the fungus that causes it and control options.

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Post-emergent weed control is important in pumpkins and winter squash to allow better air flow around developing fruit.

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Velvetleaf is the Weed of the Week. Learn more about this weed and how to control it in your field.

PAGE 5



Many new auction growers have similar questions. We've addressed the Top 5 Questions of New Auction Growers.

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Considerations for Managing Clubroot in Cole Crops

Christy Hoepting, CCE Cornell Vegetable Program

The wet spring was very favorable for clubroot and it starts to show up when the soil dries out once the plants are bigger. Clubroot is a fungal disease of cabbage and other Cole crops that causes club-like spindle-shaped swellings on individual roots or on the whole root system (Fig. 1). These distorted roots are unable to absorb nutrients and water, and are often invaded by secondary organisms (like maggots) causing death of the plant. Above-ground symptoms include stunted and wilted plants (which may recover at night), which can easily be confused with heat and draught stress, water-logged soil conditions or maggot feeding (Fig. 2).

WHAT CAUSES CLUBROOT? Clubroot is caused by a water-loving fungus, the spores of which can persist in the soil for up to 18 years. It is favored by wet, acidic soils ($\text{pH} < 7.0$). The optimum soil temperature is 67–73°F with a minimum of 61°F. It is introduced by drainage water, soil that clings to farm equipment, shoes, infected transplants, and contaminated manure and irrigation water. Repeated crucifer production leads to a rapid build-up of the clubroot fungus in the soil.

HOW TO CONTROL CLUBROOT:

1) Rotate out of crucifers for 5-7 years. Cruciferous weeds such as mustards and Shepherd's purse also serve as hosts to clubroot, so it is important to control these weeds within the rotational crops.



Figure 1. Club-like spindle-shaped roots of a broccoli plant infected with clubroot. Photo: Christy Hoepting, CVP

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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VegEdge is published 25 times per year, parallel to the production schedule of Western New York growers. Enrollees in the Cornell Vegetable Program receive a complimentary electronic subscription to the newsletter. Print copies are available for an additional fee. You must be enrolled in the Cornell Vegetable Program to subscribe to the newsletter. For information about enrolling in our program, visit cvp.cce.cornell.edu. Cornell Cooperative Extension staff, Cornell faculty, and other states' Extension personnel may request to receive a complimentary electronic subscription to VegEdge by emailing Angela Parr at aep63@cornell.edu. Total readership varies but averages 750 readers.

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Cornell Vegetable Program

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The next issue of VegEdge will be produced July 16, 2014.



Pea harvesting in Western New York this week. Photo: Julie Kikkert, Cornell Vegetable Program

2) Avoid the movement of soil and plant material from infected fields to non-infected areas – Do not plant clubroot-infested transplants into a clean field.

3) Maintain a soil pH of 7.2 to 7.5 by liming. This high pH does not kill the fungus, it just reduces its ability to cause infections. Clubroot will still occur in heavily infested soils despite an elevated pH. For fields that have Cole crops in their rotation, pH should be maintained at 6.8. In the year that you are planting Cole crops, apply 1500 lbs/acre of hydrated lime to get the pH between 7.2 and 7.5. Hydrated lime is more expensive than ground limestone, but it can change the pH easily with an early spring application. It should be applied at least 6 weeks prior to planting. **Balance nutrients in high pH soil:** When pH is greater than 7.2, boron, manganese, zinc, copper and phosphorous can become tied up and deficient to the Cole crops. The most important nutrient to Cole crops, especially cauliflower, is boron. Boron can be applied pre-plant incorporated with NPK at 1-2 lbs actual boron per acre (= 10 lbs Borax). A good amount of phosphorous should also be applied in the transplant solution.

4) Fungicides, Blocker 4F, (a.i. pentachloronitrobenzene = PCNB) may be applied in transplant water at planting, or pre-plant as a broadcast or banded soil application to help protect against clubroot. PCNB does not kill the overwintering spores that last for more than 10 years, but it does reduce the number of clubs so that the crop is nearly normal size. It is very im-

portant that PCNB is thoroughly mixed into the soil to a depth of 4-6 inches. Similarly, **Ranman** (a.i. cyazofamid) may be applied as a transplant soil drench or as a banded soil application. Good incorporation and maintaining moist soil are keys to maximizing control of clubroot with Ranman, because Ranman becomes inactive when soil dries. Irrigating 1 inch of water within 2-4 hours of applying Ranman can improve control even more. ●



Figure 2. Above-ground symptoms of clubroot, wilted plants.
Photo: OMAFRA

WNY Sweet Corn Trap Network Report

Marion Zeufle, NYS IPM Program

Twenty-one sites reporting this week with five sites reporting European corn borer (ECB)-E and four with ECB-Z. Corn earworm (CEW) was found at four sites, with numbers at one site in the range indicating a need for a six-day spray interval, please see the table below for the recommended spray schedule for CEW. Five sites reported fall armyworm (FAW). The Western bean cutworm (WBC) flight has started with four sites reporting their first trap catches.

I scouted three separate fields today all below threshold. Each field is different and even if trap numbers are low and one field scouts below threshold, it is still important to scout fields that are in different locations. Moth population can be very different between fields. Remember that the threshold is 5% for silking corn and 15% for tassel emerging corn.

I also observed corn leaf aphids in one of the fields. While scouting for worm pests it is important to also note other pests. The threshold for corn leaf aphid at tassel emergence is 50% of plants with more than 20 aphids. The scouting form contains a column to keep track of corn leaf aphids as well as other pests. If you would like to download a scouting form to use in the field please go to [Sweet corn scouting form \(pdf\)](#). If you have questions on how to use the form please view the [scouting video](#) or email me at mez4@cornell.edu. ●

WNY Pheromone Trap Catches: July 8, 2014

Location	ECB-E	ECB-Z	CEW	FAW	WBC
Baldwinsville (Onondaga)	0	0	0	0	0
Batavia (Genesee)	0	0	1	0	0
Bellona (Yates)	0	0	0	0	0
Eden (Erie)	0	4	1	2	0
Farmington (Ontario)	0	0	1	0	0
Hamlin (Monroe)	2	1	0	0	0
LeRoy (Genesee)	1	0	0	0	0
Lockport (Niagara)	0	0	0	0	0
Pavilion	0	0	0	5	1
Penn Yan (Yates)	0	5	0	0	NA
Seneca Castle (Ontario)	2	0	0	0	1
Spencerport (Monroe)	0	3	0	0	0
Waterport (Orleans)	2	0	0	0	0
Williamson (Wayne)	0	0	0	0	0

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

Average corn earworm catch			
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.

The Bravo and Movento Tankmix Dilemma

Christy Hoepting, CCE Cornell Vegetable Program

THE DILEMMA: Bravo is best for BLB and Movento is best for OT in onions, but tank mixing them isn't best

Bravo is best for managing Botrytis leaf blight (BLB) early in the season, because in Cornell fungicide trials (7 trials in 2006-2008, 2011, 2013), it consistently was one of the top performing fungicides for reducing the number of BLB lesions per plant. The other front-runner for BLB in these trials was Scala 9 fl oz + Bravo 1.5 pt. To control onion thrips (OT), we strategically recommend using Movento for the first two sprays. Cornell studies have also found that when Movento, Agri-Mek and Radiant were tank mixed with Chloronil 720 (generic version of Bravo), thrips control was significantly reduced by 12 to 35%. So, the dilemma is that although we want to use Bravo and Movento in the same tank mix, it will be at the expense of Movento's ability to achieve optimal thrips control.

FYI – it's just a Bravo thing: Later in the season once purple blotch and Stemphylium leaf blight become the primary disease concerns, it is important to note that the fungicides used for their control do not compromise the efficacy of the insecticides, Movento, Agri-Mek and Radiant like Bravo does. Cornell tested the compatibility of Movento with mancozeb, Scala, Rovral and Quadris in the same tank mix and did not find any effect on control of onion thrips.

WHAT TO DO?

A) Substitute Bravo with another fungicide: Although a seemingly reasonable option, it is challenging, because no other fungicide is as good against BLB as Bravo. Early in the season from mid-June to mid-July, BLB pressure can be very high, especially in direct seeded onions. Other fungicides with activity against BLB (although performance was generally mediocre in Cornell trials) include Pristine, Rovral, Quadris Top and Scala. Most importantly, mancozeb and Quadris failed to control BLB and should not be used to substitute Bravo for BLB control. Inspire Super gave inconsistent results.

B) Increase the rate of penetrating surfactant and/or reduce the rate of Bravo:

Movento has systemic activity and it is critical that it be applied with a penetrating surfactant to ensure that it gets into the plant where it needs to be to do its job. Cornell studies have shown that the addition of a penetrating surfactant to Movento improved control of onion thrips by 50% or more. Using a high rate of penetrating surfactant (e.g. 0.5% instead of 0.1 or 0.25% v/v – check labels for rates) with Movento when in a tank mix with Bravo can help to alleviate the negative effect of Bravo on Movento and improve thrips control over Movento + Bravo with a lower rate of surfactant. Check label rates of adjuvants carefully as not all are used at the same rate and high rates can cause leaf injury to the onions. Similarly, when tank mixed with Movento, 1.5 pt rate of Bravo results in better thrips control than 3.0 pt rate of Bravo. Since Bravo 1.5 pt + Scala 9 fl oz provided as good control of BLB as Bravo 3 pts, using the former instead of the latter in a tank mix with Movento would not compromise BLB control while alleviating the negative effect of Bravo on Movento for thrips control.

C) Apply fungicides and insecticides in separate passes: This would be the ideal solution to achieve best control of BLB with Bravo and best control of OT with Movento. In some cases, this may be reasonable. For example, if only a couple of fields of transplants need to be sprayed with Bravo and Movento, versus the whole farm. Spray the insecticide first, wait until the residue has dried and then go ahead and spray the fungicide; seems the incompatibility only occurs when Bravo and Movento are in the same tank mix.

HOW TO DECIDE?

If OT is the primary target? Choose option A or C. Do not compromise onion thrips control. For example, thrips are 2x spray threshold, while plants are naturally growing out of BLB and the weather forecast is hot and dry.

If BLB is the primary target? Choose option B or C. Do not compromise BLB control. For example, BLB is excessively over threshold and more rain is in the forecast, while thrips are only approaching the spray threshold (e.g. 0.7 to 0.9 per leaf).

If both BLB and OT are the primary target? Choose option C.

If both BLB and OT need to be sprayed, but are under control? Choose option B. For example, BLB has been effectively managed and OT is on the verge of reaching the spray threshold, you could apply Bravo 1.5 pt + Scala 9 fl oz for BLB and PB + Movento 5 fl oz + penetrating surfactant at highest label rate for OT all in the same tank mix.

For more information on relative performance of fungicides for management of leaf diseases in onions, visit the Cornell Vegetable Program website <http://cvp.cce.cornell.edu/>. 🍷

MUCK DONUT HOUR EVERY TUESDAY

Meet with Cornell Vegetable Program Specialist Christy Hoepting
on the corner of Transit and Spoilbank in the Elba muck
every Tuesday from 8:30 AM to 9:30 AM
for candid discussions about *everything* ONIONS

Post-Emergent Weed Control in Pumpkins and Winter Squash

Chuck Bornt, *ENY Commercial Horticulture*

Right about now or within the next week or so I suspect that we will start to see some weed escapes in our pumpkin and winter squash plantings, especially weeds like Common Lambsquarter and Ragweed. Fields treated with halosulfuron (Sanda or Profine), can only expect excellent control for about 4 weeks, especially when used at the recommended rate (0.5 ounces per acre) for pumpkins and squash. So what to do: first, if you used Sandea or Profine post plant/pre-emergent at 0.5 oz per acre, you can still come back in with another 0.5 oz per acre as a post emergent application. This is very effective on young, small actively growing weeds like velvetleaf, yellow nutsedge and ragweed, but not effective on already growing lambsquarter. I think the best way to use a post-emergent application of Sandea/Profine is right after a cultivation as it does a better job as a seed germination inhibitor.

There are a couple of things to remember with this post application: first, the plants must have a minimum of 2-5 true leaves; second, there cannot be any female flowers visible on your cucurbits; and lastly, it is recommended that you add a non-ionic surfactant (NIS) to the tank at a rate of 1 to 2 quarts per 100 gallons of spray solution). For post-emergent grass control we have two pretty good materials in Poast and Select 2 EC (or a generic version called Section 2 EC). Which one you choose will depend on what grasses you have. If perennial grass like quackgrass is your main problem then I would recommend using Select (it also works very well on annual grasses). If your grass species are mostly annual, you can use Poast.

Again a few things to remember—pay close attention to the adjuvants each of these products want you to use and that will also depend on the formulations of these products you get. For example, Select Max requires you to use a non-ionic surfactant but Select 2 EC or Section 2EC and Poast recommend using a crop oil concentrate (COC).

Second, do not tank mix these with your Sandea/Profine post emergent applications. There is very good data that shows there is some antagonism that occurs and neither of the products will be as effective tank mixed compared to applying individually. Currently, several of the labels clearly state not to apply your grass materials within 1 day of a post-emergent broadleaf herbicide application. Also, make sure that the grasses are actively growing. I find that applying these materials a couple days after a rain really improves control.

And last but not least, don't expect to see results in two or three days! These grass herbicides take 7-10 days for you to really notice anything dying back. ●

WEED of the WEEK

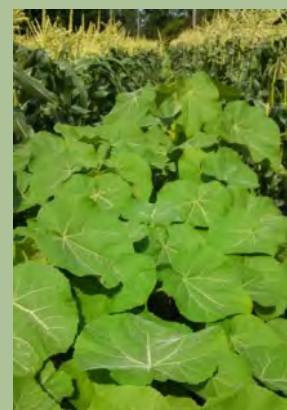


VELVETLEAF

Darcy Telenko, CCE Cornell Vegetable Program

Velvetleaf (*Abutilon theophrasti* Medicus) is a member of the Malvaceae family (the mallows) which includes okra, cotton, and cacao. It is an erect, summer annual and distinguished by heart-shaped leaves. Soft hairs line the leaves and stems and make it velvety to the touch. Reproduction occurs via very large seeds that can germinate from several inches below soil surface.

Cotyledons are heart-shaped and hairy on both surfaces. Young leaves are also heart-shaped, densely hairy, and may be bluntly toothed along the margin. They are alternately arranged along the stem. When leaves and stems are crushed an unpleasant odor may be emitted. Velvetleaf produces a fibrous root system with a shallow taproot. Flowers are produced starting in



July into the fall and have 5 yellow petals and numerous stamens fused into a tube. The fruiting structure is a circular cup-shaped disk of 9-15 carpels and each carpel contains 3-9 seed; a single large plant can produce up to 8,000 seed. Seeds can persist in soil for several decades. Preventing seed production is important to managing the population in a field.

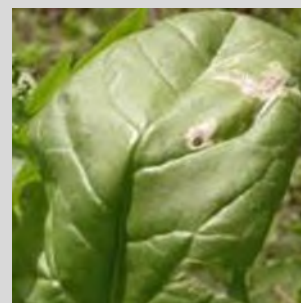
Velvetleaf can be easily controlled by repeated cultivation early in the season until the crop has a dense canopy. Herbicide management programs that include a soil-applied treatment followed by a postemergence treatment are generally effective in controlling velvetleaf. Note the best time to apply postemergence herbicides for velvetleaf is during the day when the leaves are open and horizontal, during the late evening and early morning velvetleaf will go into a sleep cycle and the leaves will droop to nearly a vertical position. When in a drooped position herbicide uptake in the leaves will be reduced. Preemergence surface applied herbicides with good to excellent control of velvetleaf include Callisto, Prowl H₂O, Pyramin, Sandea, metribuzin, and Strategy. Pre-plant incorporation of Eptam will also provide good control. A number of herbicides will provide good to excellent postemergence control of velvetleaf including Aim, Basagran, Callisto, Clarity, Gramoxone, Impact, Laudis, Lorox, Roundup, Sandea/Permit, metribuzin, and 2,4-D. See product label for specific crop uses. ●

GREENS & LETTUCE

This season may be a tough one with insects. First flea beetles were a huge problem. Now it is aphids, tarnished plant bugs, and leaf hoppers. On brassicas, flea beetles are still attacking young plants. Leaf miners were also found mainly in spinach, beets, and chard. The adult leafminer is a very small fly. This pest is becoming a real pain for late season high tunnel production of greens. The leaf miner overwinters as pupae in the soil. It emerges in late April and May laying eggs on leaves where the resulting larvae burrows into the leaves leaving holes and tell-tale trailing. Their life cycle is short, usually around a month so several generations can occur during the season. Entrust is labeled for control but it has to be applied regularly and thorough spray coverage is necessary to maintain management of the pest.

Tarnished plant is another pest that is becoming more problematic especially in lettuce, though they can feed on a wide array of plants including many weeds. Both adults and nymphs feed by using their sucking mouthparts. They pierce the succulent plant parts such as young stems, soft tissue, flowers, and newly forming fruit. The feeding damage starts off with small brownish spots that as the leaves or plant tissues expands while growing will create wider patches of dead tissue. This will also cause distortion of the leaves. When feeding on growing points or buds, shoots and flowers can be destroyed. On lettuce, tarnished plant bugs attack the mid-rib leaving holes, scars, and reddish-brown cracks.

Keeping weeds mowed down around field edges can be a big help reducing introduction areas to the pest. If you are spraying for aphids, then tarnish plant bugs are usually taken care of at the same time. Pyrethrin and carbamate products are useful but check labels to be sure this pest is listed. Management for organic growers is challenging because the insects jump off plants quickly when disturbed so hitting them with a contact product is difficult. Few products offer residual effectiveness for the pest. White sticky traps placed along the field edges can monitor when the adults are active and time to scout your crops. Pyganic is one of the organically approved products available.



Leafminer damage.
Photo: U. Mass. Vegetable Program



Tarnished plant bug.
Photo: Organic Gardening Info Online

ONIONS

Yet another great week for growing onions! Some fields put on 1.5 to 2 leaves in new growth, earliest transplants started lodging and several fields of direct seeded onions started bulbing this week. Onion thrips pressure remains generally low across the region in direct seeded onions, in part due to all the rain events. **However, the spray threshold of 1.0 thrips per leaf has been reached in most transplanted fields AND in direct seeded fields located at thrips influx sites (e.g. edges of muck lands) and will get their first sprays of Moven-to this week if they haven't already.** There are also a few fields of transplanted onions that are not even close to the spray threshold.

Weather continues to be favorable for Botrytis leaf blight (BLB), but Bravo fungicide programs have been keeping this disease in check. As direct seeded onions start to bulb, it is time to add fungicides for Purple Blotch (PB) and Stemphylium leaf blight (SLB) to the spray program, as these diseases are best to manage preventatively. PB and SLB can get a foot-hold on the necrotic tissue (tip burn and outer leaf dieback) that naturally occurs during bulbing, as well as on necrotic tissue caused by chemical or mechanical injury (Fig. 1). One suggestion is to use Bravo 1.5 to 2.0 pts + Scala 9 fl oz, as this treatment has been a top performer in Cornell trials for both BLB and PB. Top performing fungicides for SLB include Pristine, Inspire Super and Quadris Top, but not all provide good control of BLB and PB - see June 25 issue of VE for more info on fungicides for SLB. For fields in need of Bravo for BLB and Movento for OT, see tank mix dilemma article. The "Cornell onion fungicide chest sheet" is also available on the CVP website (http://cvp.cce.cornell.edu/submission.php?id=231&crumb=crops|crops|onions|crop*20).



Figure 1. Stemphylium leaf blight lesions getting established on an outer leaf (a), where the onion leaf kinked from herbicide injury (b), and in the necrotic tissue of a chemical leaf burn (c). Photos: Christy Hoefting, Cornell Vegetable Program

Bacterial diseases started to show up within the last couple of weeks in transplanted and direct seeded onions (Fig. 2). Since high levels of nitrogen have been implicated to increase bacterial disease, it is important to not apply anymore nitrogen to the onion crop at this time. Excessive nitrogen promotes leaf growth instead of bulbing. Theoretically, the more leaves that an onion plant has, the bigger the bulb will be. But this can cause the onion plant to have luscious top growth, a very thick neck and delayed maturity. Since bacterial diseases move from the leaves through the neck and into the bulb only in green tissue, plants with thick necks and delayed maturity are theoretically favorable to bacterial disease infection for a prolonged period of time compared to a plant with fewer leaves and normal maturity.

Unfortunately, there is no silver bullet to managing bacterial bulb decay in onions and an integrated approach is required. For a few years, Cornell researchers investigated resistance inducer products including Actigard for managing bacterial diseases.

Actigard, active ingredient acibenzolar-s-methyl, is not a pesticide, but rather an inducer of plant resistance. It does not kill plant pathogens, but rather, it boosts the plant's defense system so that it is better able to ward off a disease infection. It is labeled in onions in New York for suppression of bacterial disease, downy mildew and IYSV. In 2013, a large-scale demonstration of Actigard was conducted in 10 paired comparisons of Actigard and no Actigard in commercial onion fields in Elba and Orange Co. In the Actigard sections, grower cooperators applied Actigard at 0.75 lb per acre 5 times starting 1-2 weeks prior to bulbing. The variety and other sprays were the same in the Actigard and no Actigard sections. At harvest, bacterial bulb decay ranged from 2% to 82% with an average of 20%. A significant difference between Actigard and no Actigard did not occur in any of the 10 comparisons. In fact, numerically, Actigard had less bulb decay than the untreated in only 4 of the 10 comparisons. Unfortunately, this study showed that Actigard did not help to manage bacterial diseases in NY.



Figure 2. Wilted and bleached middle-aged and inner leaves showing symptoms of bacterial disease. Photo: Christy Hoepting, CVP

PROCESSING CROPS

Beets – *Cercospora* leaf spot is present in some fields. Make sure to scout for this disease so it doesn'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.

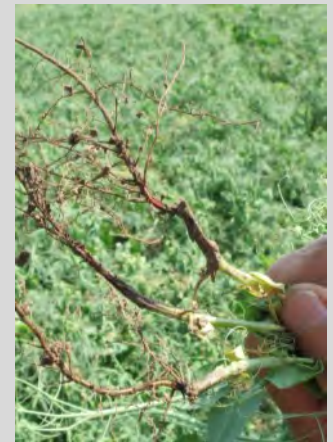
Carrots – Weekly scouting is recommended for *Cercospora* (CLB), *Alternaria* (ALB), and *Bacterial leaf blights* (BLB). First fungicide applications should go on when 25% of leaves are infected with CLB or ALB. CLB produces small, circular, cream to gray spots with dark borders. On stems the lesions 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 – Adequate soil moisture this year has pea fields generally looking really good. Yields are reported to be above average as well. Harvesters are running around the clock to get the crop in. Keep an eye out for pea aphids which were observed this week. While they can feed on pods, the usual concern is attraction of lady bugs which are a contaminant in the harvested product. Root rot was also observed in one field this week. If you want to know why plants are yellowing/dying, take a full size shovel and dig up some plants. It can be very revealing. No roots equal dead plants, especially when the weather gets dry and harvest is near.

Snap Beans – The priority for beans in flower is management of molds and European corn borer (ECB). Keep a watch on the sweet corn insect trap report for ECB activity in your area. Weed management is critical for younger beans.



Aphids on pea pod observed this week.
Photo: Julie Kikkert, Cornell Vegetable Program

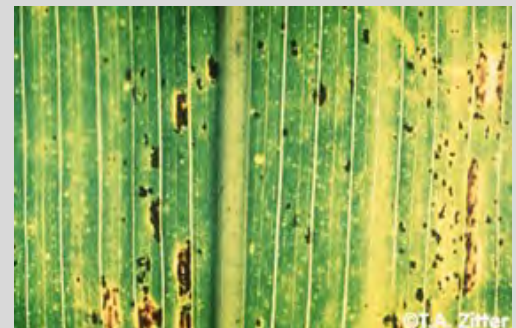


Pea roots infected with *Fusarium* Cortical Wilt (note red color where the tissue is scraped). Photo: Julie Kikkert, Cornell Vegetable Program

SWEET CORN

The earliest planting of sweet corn is being harvested. Active feeding and larvae of European corn borer, corn ear worm and army worm have been found in emerging tassels and silks and moths are starting to be caught in traps (see Marion's report). Preventative measures should be taken to prevent feeding down in the silks. With the higher temps and humidity Common Rust is starting to show up. The time for concern is when using susceptible varieties and when the plants are still small. The pustules can spread rapidly covering leaf surfaces. The best defense is using resistant varieties.

Check out the [Cornell Veg MD Online site](http://www.cornellvegmd.com) for more information and pictures.



Common rust on corn. Photo: Tom Zitter, Cornell

Top 5 Questions from New Auction Growers

Judson Reid, CCE Cornell Vegetable Program

There are now 5 produce auctions in the Finger Lakes and Western New York, with 3 of those starting over the last two years. These auctions are great venues for local farms to sell wholesale fruits and vegetables. Whether back in the hills of Allegany County or out on the vast Lake Plains we find some questions are universal to new auction growers.

1 – Why are my tomato leaves curling?



Leaf curl caused by pruning. Photo: Judson Reid, Cornell Vegetable Program

This is a common response to pruning, particularly on heirloom and certain determinate varieties. Mild levels of leaf curl will not impact yield. On determinates we suggest pruning suckers and leaves up to the lowest flower cluster. Gradual leaf pruning (1-2 per week) and sucker pruning as early as possible will reduce leaf curl.

2 – Why are my squash leaves yellow?



Yellowing leaves of summer squash. Photo: Judson Reid, Cornell Vegetable Program

Another physiological response, this time caused by a 'precocious yellow gene'. This gene helps summer squash retain its bright yellow color, even under virus pressure, but at the same time may cause some leaves to develop a bright yellow spotting. There is no treatment, nor call for concern.

3 – Why are zucchini prices so low?



Pack quality for consistent pricing at auction. Photo: Angela Parr, CVP

Remember, auctions are games of average. Season extension techniques and bringing quality product every sale day will help even out the ups and downs of auction. Early on in auction development supply may exceed demand. With persistence over the initial years this will balance out.

4 – How much do I water?

This question is more difficult to answer and does vary considerably from farm-to-farm depending on soil type, conditions at fitting, crop canopy and current weather. We find that new auction growers would benefit from frequent (2-5X week) waterings of moderate amounts (0.5-2 hrs). Crops with large canopies and plastic mulch may see little benefit from rainfall. An experienced grower shares that he likes to reach under the plastic and grasp chocolate cake.

5 – When do I start spraying?



Scouting for pests and diseases on tunnel cukes. Photo: Judson Reid, CVP

There isn't a right answer to this question. Some diseases, such as Early Blight of tomatoes or Powdery Mildew of vine crops begin every year within the same few weeks. Others such as Downy Mildew and Late Blight are unpredictable. Scouting, reading VegEdge and attending CVP educational events can help you determine when and what to spray as well as other techniques to manage insects, weeds and diseases without sprays at all.

On this final point we have organized a series of on-farm meetings for produce auction growers (see Upcoming Events, page 10, Vegetable Pest and Cultural Management Field Meetings). These are excellent opportunities to meet other growers; learn from them and discuss produce farming in a hands-on approach. ●

Late Blight Risk

Carol MacNeil, CCE Cornell Vegetable Program

No new locations were confirmed this week. If you think you might have late blight, contact Carol MacNeil at 585-313-8796, John Gibbons at 585-394-3977 x405, or other Cornell Vegetable Program staff so we can submit a sample to have the LB strain determined, and thus the sensitivity to fungicides. ●

Late Blight Risk Chart, 7/08/14

Location ¹	Blight Units ² 7/2-7/08	Blight Units ³ 7/09-7/11	Location ¹	Blight Units ² 7/2-7/08	Blight Units ³ 7/09-7/11
Albion	NA	NA	Lodi	21	16
Appleton	26	16	Medina	24	18
Baldwinsville	19	6	Penn Yan	22	16
Buffalo	30	16	Ransomville	25	18
Ceres	29	14	Rochester	22	17
Elba	40	19	Romulus	28	11
Farmington	17	18	Silver Creek	19	18
Gainesville	NA	NA	Sodus	11	16
Geneva	6	16	Versailles	10	17
Kendall	NA	NA	Williamson	12	15

¹ Weather stations. For more sites, and varietal susceptibility to LB: <http://newa.cornell.edu>

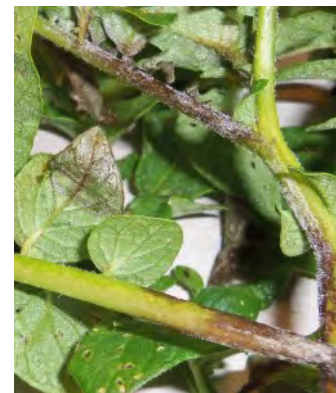
² Passed Week Simcast Blight Units (BUs)

³ Three days predicted Simcast Blight Units (BUs)



Late blight on tomato leaf, sunny mid-day.

Photo: M. McGrath, Cornell



Potato stems with late blight sporulation.

Photo: D. Reynolds, Allegany Co.



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UPCOMING EVENTS

Muck Donut Hour

8:30 - 9:30 AM

July 15 | July 22 | 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.

July Rolling Hills Discussion Group & Crop Walk

July 15, 2014 | 5:30 PM

Clearview Farm, 243 Faas Road, Palmyra 14522

Kurt Forman of Clearview Farm and the Cornell Vegetable Program staff will lead this crop walk and discussion. A potluck dinner will follow. For more info, contact Elizabeth Buck at 607-425-3494 or emb273@cornell.edu.

New York Vegetable & Field Crops Weed Science Field Day

July 16, 2014

8:00 AM - 11:30 AM - Vegetables

12:00 noon - 1:30 PM - NYSABA BBQ Lunch

1:30 PM - 5:00 PM - Field Crops

Robert Musgrave Research Farm, 1256 Poplar Ridge Rd, connects Rts 90 and 34B, Aurora



CCA and DEC Credits have been requested for both sessions. For more info, contact Maxine Welcome: mw45@cornell.edu or 607-255-5439 (Veg), or Russ Hahn: rrh4@cornell.edu or 607-255-1759 (Field Crops).

Vegetable Pest and Cultural Management Field Meetings

July 23 - Daniel Esh's Farm, 5839 Rt 96, Romulus 14541 | 7:00 PM - 9:00 PM

July 25 - Ray Hoover's Farm, 4341 Rt 14A, Rock Stream 14878 | 6:00 PM - 8:00 PM

July 31 - Orleans County

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.

Vegetable Disease Management - In Field Management Scenarios

August 4, 2014 | 6:00 PM - 7:30 PM

Eden Valley



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.

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



1.5 DEC and CCA credits will be available. Cost: \$5 (pre-registered) or \$10 at the door. For more information and to see the complete agenda, visit the CVP website at <http://cvp.cce.cornell.edu/event.php?id=237>. Questions? Contact Dennis Kirby, Orleans SWCD, at dennis.kirby@ny.nacdn.net or 585-589-5959.

Weather Charts

John Gibbons, CCE Cornell Vegetable Program

Weekly Weather Summary: 7/01 - 7/07/14

Location	Rainfall (inch)		Temp (°F)	
	Week	Month	Max	Min
		September		
Albion	NA	NA	NA	NA
Appleton, South	1.30	1.30	86	51
Baldwinsville	0.66	0.66	89	56
Buffalo*	1.08	1.08	85	53
Ceres	1.34	1.34	86	48
Elba	1.09	1.09	84	49
Farmington	0.55	0.55	86	52
Gainesville	1.29	1.29	83	46
Geneva	0.23	0.23	87	56
Kendall	NA	NA	NA	NA
Lodi	1.10	1.10	90	55
Penn Yan*	0.46	0.46	91	58
Ransomville	0.48	0.48	84	50
Rochester*	0.90	0.90	89	53
Romulus	NA	NA	89	56
Silver Creek	1.26	1.26	85	53
Sodus	0.75	0.75	88	54
Versailles	NA	NA	85	50
Williamson	0.70	0.70	88	54
Wolcott	NA	NA	NA	NA

Accumulated Growing Degree Days (AGDD) Base 50°F: April 1 — July 7, 2014

Location	2014	2013	2012
Albion	NA	1002	1122
Appleton, North	827	858	1031
Baldwinsville	1075	1047	1174
Buffalo	1006	1042	1214
Ceres	883	879	1040
Elba	801	926	1163
Farmington	991	957	1074
Gainesville	791	NA	1028
Geneva	1012	1010	1168
Kendall	NA	NA	NA
Lodi	1092	1159	1171
Penn Yan	1073	1044	1186
Ransomville	909	836	1113
Rochester	1089	1086	1203
Romulus	1028	1072	NA
Silver Creek	939	1028	1127
Sodus	950	882	1041
Versailles	962	1046	1109
Williamson	892	1001	1133
Wolcott	NA	NA	NA

* 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 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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