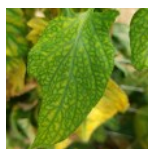




VEGE

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The Curious Connection Between High Yielding Determinate Tomatoes, Nutrient Deficiencies & Gray Mold

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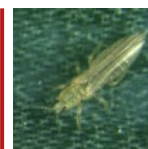
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The Curious Connection Between High Yielding Determinate Tomatoes, Nutrient Deficiencies and Gray Mold

Judson Reid, CCE Cornell Vegetable Program

We have previously noted the prevalence of Botrytis Gray Mold in high tunnel tomatoes in 2019. Over the past several weeks another trend has also become common throughout the region: nutrient deficiencies which further increase Gray Mold.

High yielding, early season determinate tomatoes have become the varieties of choice for high tunnel growers over the last several years. These varieties offer a number of benefits including fruit quality, Fulvia Leaf Mold resistance and top, early yields on a plant of manageable height. However, our experience is that the fruit potential on these varieties is not always balanced with the total canopy. In other words, the plant sets a tremendous number of fruit and matures it in such a concentrated set that the nutrients in the foliage are 'stolen' by the fruit. By far the most common deficiency we see is potassium, but at this time of year nitrogen, phosphorus and magnesium also drop. If the plant is growing quickly iron and zinc deficiencies can also be found in the new growth.

Despite applying high rates of nutrients through the drip, foliar tests and visual assessment of the crop confirm these deficiencies. As leaves senesce from lack of nutrients, they become more susceptible to Botrytis Gray Mold. In a cloudy, moist growing season these infections can spread throughout the greenhouse and take out otherwise healthy fruit by infecting the area directly under the calyx.



High yielding, large fruited determinate high tunnel tomatoes are likely to develop nutrient deficiencies which can lead to Botrytis Gray Mold problems.
Photo: J. Reid, CCE CVP

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VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties.

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 newsletter will be produced July 24, 2019.



Tour of Beet and Snap Bean In-Row Cultivation Demonstration Plots

July 30, 1pm–2:30pm

Gates Farm West

3350 Gates Rd, Geneva NY 14456

Join Dr. Bryan Brown and Grace Marshall of the NYSIPM Program for a tour of several different cultivator setups used to target in-row weeds in beets and snap beans. Treatments included sweeps, finger weeders, tine harrows, disk hillers, and several combinations and adjustments of these tools. This demo used a small, 2-row cultivator but results also apply to larger operations. Some of these setups killed over 90% of in-row weeds!

FREE to attend, but no DEC credits will be offered. Rain or shine. For more info contact bryan.brown@cornell.edu or call 315-787-2432. 📍

How do we manage this situation? First we must accept that these are determinate varieties, bred for a concentrated (not continual) set. Almost invariably there will be a time where the plant stops producing flowers and new growth as it matures fruit. During this time we can focus on pruning out lower foliage that is no longer photosynthetically active to reduce the amount of potential Botrytis infection sites. Keeping vents and side curtains open will promote air movement. Regular foliar tests can help us catch deficiencies before they become visible; and then nutrients can be supplied in response. This is also a good time to double check irrigation water pH, to see that it is indeed slightly acid, for maximum nutrient availability.



Leaf pruning around the first cluster increases air movement and decreases disease. Photo: J. Reid



Manganese and magnesium deficiencies are visible on this plant. Photo: J. Reid, CCE CVP

In some cases growers choose to apply a fungicide to prevent further fruit loss to Botrytis. Luna Tranquility (FRAC groups 7 and 9; 1 D PHI) and Scala (FRAC 9, PHI 1) are labeled for use in a high tunnel. Organic growers can use Serenade (best preventatively).

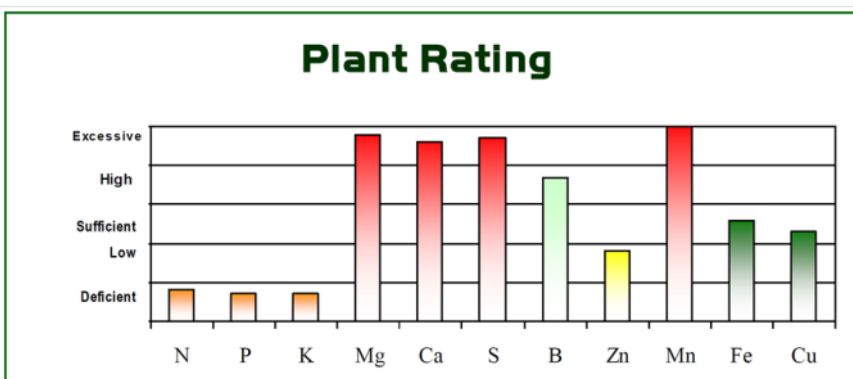
The CVP is conducting research this summer on tomato yield and nutrients in response to winter cover crops. This work is just beginning, but our hypothesis is that by increasing soil organic matter, and growing legumes we can improve plant nutrition over the long term.



Iron deficiencies can occur on new growth this time of year if the plant is growing rapidly.



A magnesium deficient leaf is an easy target for Botrytis Gray Mold. Photo: J. Reid, CVP



An all too common problem; nitrogen, phosphorus and potassium are too low. Zinc deficiency can be caused by excess soil P levels. 🚫

Cercospora Blight of Asparagus

Elizabeth Buck, CCE Cornell Vegetable Program

Cercospora defoliates asparagus ferns. Spoiler alert – that’s not great for the long-term health and yield of the crop. To date, cercospora is not as common in NY as rust or purple spot. Still, it is worth getting to know this emerging disease so you can make an early ID should it show up on your farm.

Cercospora was first detected in NY in 2016. Symptoms first appear on the lower portions of the plant as red-lined lesions with gray to tan centers. Affected ferns will turn brown and defoliate. (See photos). The fungus, *Cercospora asparagi*, survives well on crop debris. As such, disease levels tend to increase over time and require continued management.



Close up of stem lesions.
Photo: E. Buck, CCE CVP



Dieback on infected ferns taken from a young planting. Photo: E. Buck, CCE CVP



Close up of brown, exfoliated fern branch. Photo: E. Buck, CCE CVP

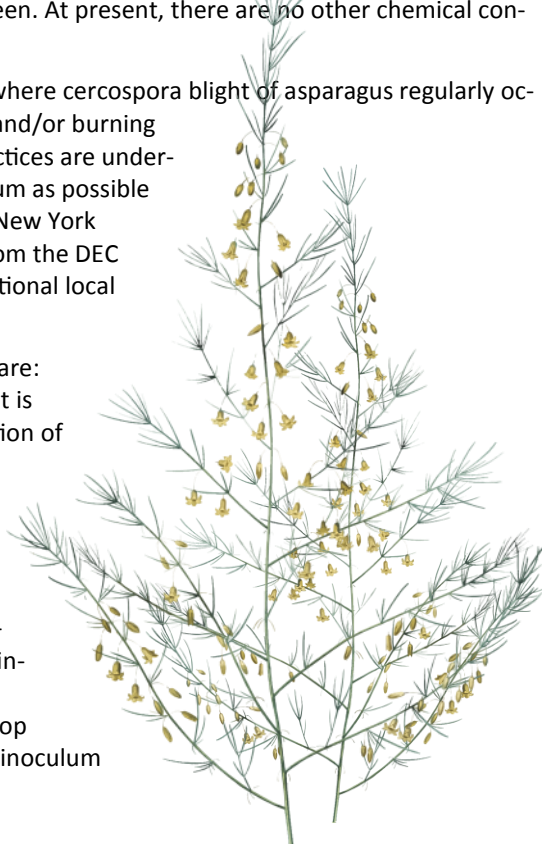
While cercospora blight is fairly new in NY, it is a common disease in Southern production zones. It thrives in hot, humid weather. Cultural practices that decrease canopy humidity discourage disease progression. These include planting wider rows, orienting rows to align with prevailing winds, and avoiding overhead irrigation.

Chemical controls are applied after the ferns emerge. Mancozeb and chlorothalanil are the materials that are labelled for cercospora control in NY. Chlorothalanil will also provide protection against rust and purple spot; mancozeb is used to treat rust. Mancozeb and chlorothalanil perform best as protectants and should be applied in rotation. In fields with a cercospora history, start treating after ferns emerge and before lesions are seen. At present, there are no other chemical control options available in NY.

Extension literature from areas where cercospora blight of asparagus regularly occurs often recommend mowing and/or burning crop debris in the fall. These practices are undertaken to destroy as much inoculum as possible before the coming field season. New York growers should seek approval from the DEC before burning crop debris. Additional local restrictions may apply.

The best management practices are:

- 1) Scout your asparagus while it is fern to make an early detection of cercospora.
- 2) Get a sample of suspected cercospora tested for positive ID. (CVP can facilitate that)
- 3) Apply chlorothalanil or mancozeb to infected fields, beginning early in the season.
- 4) Remove as much infected crop debris as possible to reduce inoculum in the spring. 🍷



Controlling Listeria in (Apple) Packinghouses Workshop Overview

Robert Hadad, CCE Cornell Vegetable Program

Despite the fruit reference in the title of the workshop, Listeria in the packinghouse is a huge issue. The Lake Ontario Fruit Team and the Produce Safety Alliance, on July 11, held a farm food safety workshop in Sodus for invited apple packinghouse management, sanitation supervisors, and cleaning crews. The event focused on spreading the word about the seriousness of this bacteria that can easily be found in any produce packinghouse. Listeria monocytogenes infection is the third leading cause of death due to food contamination.

Listeria is commonly found in the environment and is easily spread through cross-contamination. The bacteria survives across a wide spectrum of environmental temperature and conditions. It can multiply in refrigeration, survive temperatures over 130F, and can stay dormant within a facility for over a decade. Listeria was the culprit in the devastating 2011 cantaloupe

outbreak. The bacteria was found in a packing and storage facility in water on the floors, in the drains, in the wash equipment, and in the coolers. Over 140 people were hospitalized in 28 states (including NY) and 34 deaths occurred.

The take-home message from the workshop is as follows:

- Listeria can come from anywhere since it is found in the soil, carried by pests, and can be carried on workers
- It can become established anywhere in the wash/pack facility and in cold storage
- Wet conditions, standing water, water-soaked wood, hard to reach metal surfaces, cracks in the floor, walls, welds, tables, can all be home for this bacteria
- Thorough regular cleaning and sanitizing is a necessity
- If you can't see the space, it's hard to clean there
- Equipment bolted to floor is hard to clean around it. Cleaning and sanitizing requires the ability to get in and around equipment, packaging, tables, etc.
- Cross-contamination can infest food-contact surfaces from areas adjacent to those surfaces, from the floor, walls, etc., or from areas just outside the facility
- Wash/pack facilities need to have a well-thought out floor plan design that allows for proper product flow to minimize cross-contamination
- Plan on how to clean and sanitize effectively; train staff to make the plan work
- Dedicated care by the management along with an educated work crew can keep listeria from becoming established
- Preventing listeria from becoming a resident problem is the goal

For more info on reducing microbial contamination, wash/pack facility design, food safety farm safety plan or pre-audit assessment, worker training, or any other related questions, contact Robert Hadad, rgh26@cornell.edu, 585-739-4065. 📍

Late Blight Risk

John Gibbons, CCE Cornell Vegetable Program

The dry weather at many locations this week has not been very conducive for late blight. Some of the stations though have received more rain and have accumulated 30 blight units (BU) needed to trigger a spray for late blight (LB) through the forecasted period thru 7/19. If the weather station closest to you has not yet reached 30 blight units (BU) and the forecast indicates that it will in the next 2-3 days, a spray is still recommended. Note that this 30 BU threshold is for fully susceptible varieties, and assumes the use of fungicides such as chlorothalonil. Warning! Forecast BUs can change day by day, just like the weather! Ten weather stations did get to or exceeded the threshold of 30 BU's up thru 7/19: Ceres, Farmington, Fulton, Medina, Niagara Falls, Penn Yan, Rochester, Sodus, Versailles, and Wellsville. The chart assumes that chlorothalonil at the high rate was applied 7/10. Information for other weather stations can be found at the following address:

<http://newa.cornell.edu/index.php?page=potato-diseases>

There still have been no new light blight reports nationally. The only positive sites remain in north Florida. We will continue to monitor late blight finds across the country. You can monitor this by going to the late blight website at - <https://usablight.org/?q=map> 📍

Late Blight Risk Chart, 7/16/19

Location ¹	Blight Units ¹ 7/10-7/16	Blight Units ² 7/17-7/19	Location ¹	Blight Units ¹ 7/10-7/16	Blight Units ² 7/17-7/19
Albion	5	8	Hammondsport	5	12
Arkport	5	20	Kendall	10	11
Baldwinsville	12	9	Knowlesville	5	8
Bergen	5	8	Lyndonville	5	16
Buffalo	11	8	Medina	21	12
Burt	6	0	Niagara Falls	20	10
Ceres	35	21	Penn Yan	21	13
Elba	10	9	Rochester	18	11
Fairville	15	11	Sodus	23	13
Farmington	25	12	Versailles	23	13
Fulton	32	13	Wellsville	34	17
Geneva	5	10	Williamson	0	11

¹ Past week Simcast Blight Units (BU)

² Three day predicted Simcast Blight Units (BUs)

CROP INSIGHTS

GENERAL

This wet weather followed by humid, warm conditions will favor disease development. Keep an eye on bacterial diseases, as they are difficult to manage. Applying copper to known bacterial infections after the rain may help slow things down.

– EB

Aphids are popping up on some vine crops and a few peppers. Aphids are a concern for squash due to the possible transmission of virus while on cucumber and melon their feeding can injure leaves. – RH

Leaf hoppers are coming in on potatoes possibly due to alfalfa hay being cut in the area. Individually, leaf hoppers only cause a little feeding damage. Collectively, large numbers can do extensive harm (yellowing then browning of leaf tissue – “hopper burn” see photo of the problem where leaf tissue looks burned). These pests can also feed on bush beans and several other crops causing similar damage. – RH

Tarnished plant bug activity has been seen on lettuce mainly. Insects will feed on many crops and come into a field from weedy crop edges. – RH

It was expected that this might be a bad year for **bacterial wilt** since the overwintering cucumber beetle population was high this spring. The bacteria can be carried by some cucumber beetle individuals which then can spread the disease when feeding. Several plantings of slicers and pickle cucumbers as well as a cantaloupe planting have been affected. The vines start to wilt followed by yellowing/browning of leaf tissue while leaf veins remain rigid as shown in the photo. This is why it is so important to knock down the beetles or exclude them from feeding on plants early on. – RH

COLE CROPS

Alternaria and white mold are active in cole crops, and I've heard a couple reports of Swede midge starting up. – EB

GARLIC

Garlic is maturing throughout the region. – EB

ONIONS

I continue to see nice looking fresh market onion crops. – EB

It is mid-July and all of the direct seeded crop is now bulbing and the first crop of earliest variety of transplants has lodged! And they look fabulous! (Fig. 1). Also exciting is that they were grown without any insecticide applications – a great demonstration of scouting-based spray thresholds in action: when there are not enough thrips to warrant a spray, the crop is not sprayed. Alternatively, the vast majority of the direct seeded acreage has been sprayed with insecticide Movento ahead of reaching spray threshold, because the crop stage was met first. Movento should be able to get into the plant and provide a long residual activity if it is applied no later than 1-inch bulb. Even a single application of Movento is better than none, although most growers prefer to apply two. Now, we enjoy the residual activity coined the “momentum of Movento”, hoping to get at least 2 weeks, before the threshold is reached to apply another insecticide. See article on **2019 Cornell Guidelines for Onion Thrips Management in Onion**, page 8. As always, we have made a few adjustments based on our field and research experience, which is highlighted in this article. The [Onion Thrips Insecticide Flow Chart](#) is also available at the CCE CVP website. Although actual thrips pressure is masked by the onion crop being treated with Movento, it does appear to be increasing.

Botrytis leaf blight (BLB) pressure is subsiding throughout the region, as we move into Stemphylium leaf blight season, which is favored by the heat compared to BLB and downy mildew (DM). The DM hotspot that we detected last week has fizzled out, much as we were hoping that it would in the heat. None-the-less, it is advised to put on a DM protectant in fields where the canopies are very thick and conducive to longer periods of dew. Growers are using much diligence this year to preserve the useful longevity of the remaining effective FRAC groups (3 & 7) for SLB, by stretching out spray programs to 10 days or skipping a week, so as not to exceed more than 3 apps per FRAC. In last year's fungicide trials, under low disease pressure, there was no significant difference between Luna Tranquility 16 fl oz sprayed every week and every other week. With the heavy rain and hot temperatures in this week's forecast (= favorable for SLB), this week may not be the best week to skip, especially in fields with thick canopies and necrotic tissue present (from old herbicide injury, hail, or natural tip burn from bulbs pulling from leaves). First plants with Iris yellow spot virus (IYSV) and Fusarium basal rot were detected this week as well as the odd leaf minor. Pink root is now apparent, and bacterial disease has been very low so far. Some growers have begun to irrigate. **The Annual Elba Muck Onion Twilight Meeting has been set for Tuesday, August 20th – mark your calendars!** – CH



Hopper burn on bean leaves.
Photo: Matthew Borden, Univ. of Florida, Bugwood.org



Bacterial wilt on pumpkin/gourd leaves. Photo: T. Zitter, Cornell



Figure 1. Early-maturing Highland transplants lodged this week in Elba – looking fabulous! The crop was grown without insecticides – it never reached the spray threshold and never needed to be sprayed.
Photo: C. Hoepting, CVP

continued on next page

PROCESSING VEGETABLES

Weather forecasting for the next several days suggests moderate to high risk for infection of table beets by Cercospora leaf spot (CLS).

However, we have not confirmed the presence of *Cercospora betae* in local fields as of last Friday when we were out scouting. Detection of *C. betae* is quite challenging this year in fields that were previously hit by bacterial leaf spot (BLS). While we usually look for black dots (pseudostromata) in the center of CLS lesions we are actually finding that *Alternaria* has set up in or near BLS lesions, with its black spores making identification confusing unless

you have a microscope and expertise. **BOTTOM LINE**, please send us samples or call us to check out fields that you are suspicious of having CLS. The action threshold for CLS is one lesion per leaf. The first spray should be with the most effective labeled product, Tilt for conventional growers and Double Nickel for organic growers. For conventional folks, while Double Nickel is the best organic material, Tilt is much more effective and that is what you should be using. If your planting has also been hit with BLS earlier this year, tank mixing with a copper product is also recommended. Furthermore, we have seen some Phoma leaf spot on beet leaves, and these are distinctive with larger lesions having a concentric ring pattern. Phoma is more common on organic beets. To complicate matters, leaves can be infected with multiple pathogens. Potato leaf hoppers are very active in alfalfa fields at this time and beans should be scouted for this pest, especially organic beans. Conventional beans treated with Cruiser are generally protected through the critical time up until bloom, but should still be scouted for nymph feeding. Snap and Lima bean growers should be managing for white mold in those crops at flowering. Many crops have been showing signs of drought and heat stress over the past couple of weeks. This is coupled with crops that were shallow rooted from earlier wet conditions and root rots that may also have set in (many pea fields especially). – JK

SWEET CORN

Corn borer damage has been seen in several fields of sweet corn and ranged from very light to about 25% of the crop infested. – EB



Beet leaf with Cercospora leaf spot (small tan lesions with purple halo) and Phoma leaf spot (large lesion with concentric rings).



Bacterial Leaf Spot on beets. Note black borders to lesions and leaf curl. Photos: J. Kikkert, CCE CVP

NY Sweet Corn Trap Network Report, 7/16/19

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

WNY Pheromone Trap Catches, 7/16/19

Location	ECB-E	ECB-Z	CEW	FAW	WBC	DD to Date
Batavia (Genesee)	0	0	2	0	0	946
Bellona (Yates)	0	0	1	0	0	970
Carlton (Orleans)	11	0	0	0	0	857
Eden (Erie)	0	0	NA	0	1	954
Farmington (Ontario)	0	0	0	0	0	966
Geneva (Ontario)	0	0	1	0	0	961
Hamlin (Monroe)	NA	NA	NA	NA	NA	884
Kennedy (Chautauqua)	0	0	0	1	0	906
Lyndonville (Orleans)	2	0	2	0	1	851
Penn Yan (Yates)	0	NA	0	1	0	928
Portville (Cattaraugus)	4	0	1	0	1	845
Ransomville (Niagara)	0	0	0	0	0	815
Seneca Castle (Ontario)	0	0	0	0	0	928
Williamson (Wayne)	NA	NA	NA	NA	NA	782

ECB - European Corn Borer

WBC - Western Bean Cutworm

CEW - Corn Earworm

NA - not available

FAW - Fall Armyworm

DD - Degree Day (mod. base 50F) accumulation

Statewide, 26 sites reporting this week. European corn borer (ECB)-E was caught at 7 sites and ECB-Z were caught at 2 sites. Six of the 10 sites reporting corn earworm (CEW) were over threshold, indicating a need for a spray; see the chart page to determine the correct spray interval for your field. Fall armyworm (FAW) was caught at 5 sites and Western bean cutworm (WBC) were caught at 5 sites this week.

Average trap catch numbers for all species is low to date this season. In the next few weeks I am expecting WBC and FAW to increase. WBC usually peaks the last week of July into early August.

Degree day accumulations for sweet corn trap sites range from 702-1187 (base 50F) with an average of 935. WBC emergence is predicted to be at 50% when degree day accumulations reach 1422. With the cool spring we are still below the predicted 25% emergence for all sites. ●

Average corn earworm catch and recommended spray interval

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

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

2019 Cornell Guidelines for Onion Thrips Management in Onion

Christy Hoepting, CCE Cornell Vegetable Program, and Brian Nault, Cornell AgriTech

The Insecticide Roster

- In 2019, there are no new changes to the insecticide roster for products available to control onion thrips in onion.
- We are fortunate to have products belonging to six different IRAC groups/ insecticide resistance classes (Table 1).
- Movento and Radiant continue to consistently be the top performing insecticides.
- In 2018, we had examples of Radiant 10 fl oz knocking down thrips populations of 6 to 12 OT per leaf.
- New in 2019, is to be cautious about using Agri-Mek alone to control a thrips population of more than 1.0 thrips per leaf.
- In the 2018 onion scouting program, Agri-Mek failed to hold back thrips pressure back when applied at > 1.0 thrips per leaf.
- Brian Nault's insecticide trial in Elba 2018 demonstrated that Agri-Mek still has activity on onion thrips, when it was applied below 1.0 thrips per leaf.
- Addition of Warrior to Agri-Mek can improve control of Agri-Mek alone, but under high thrips pressure of 2018, this combo did not appear to help.
- We still do not have not much field experience with Minecto Pro, but it has been performing well in Nault's field trials. It still has a spray threshold of 1.0 OT per leaf.

We got a bit more experience with Exirel in the field in 2018 and it appeared to be able to hold a population of 1.5 OT per leaf. In Nault's field trials, Exirel continued to perform better than Agri-Mek, but not as good as Radiant. Going into 2019, our faith in Exirel lies with a 1.0 OT per leaf spray threshold.

Table 1. 2019 Insecticide Roster for Onion Thrips Management in Onion

Trade Name	Recommended Rate/A (Maximum No. Apps/crop/season)	Active Ingredient	IRAC ¹ Group	Relative Performance	Spray Threshold (No. thrips per leaf)
Movento	5 fl oz (Max: 2)	spirotetramat	23	BEST!	0.6 – 1 Or, Pre-bulbing ²
Agri-Mek SC Agri-Mek EC (and generics)	3.5 fl oz 14 fl oz (Max: 2)	abamectin	6	MEDIOCRE	0.8 - 1
Minecto Pro	7.5 – 10 fl oz (Max: 2)	abamectin + cyantraniliprole	6 28	GOOD	1 - 2
Exirel	13.5 fl oz (Max: 2)	cyantraniliprole	28	GOOD	1
Radiant SC	8-10 fl oz (Max: 2-3)	spinetoram	5	BEST!	3 - 5 ³
Warrior II w/ Zeon Technology (other pyrethroids)	2 fl oz	Lambda-cy	3A	POOR!	0.8 - 1
Lannate LV	3 pt	methomyl	1A	POOR!	0.8 - 1

¹ IRAC: Insecticide Resistance Action Committee – Mode of Action.

² Movento does not work very well when onion plant is bulbing. To ensure opportunity to use this effective product is not lost, make first application at threshold or crop stage, whichever comes first.

³ Radiant may be applied at 1.0 thrips per leaf, but is capable of reducing thrips populations > 3 per leaf.

The Strategic Management Plan (Figure 1, next page)

- New in 2019 is a six week program dropped down from eight. This is because through our onion scouting program, there has been increased adoption of the use of spray thresholds and now the majority of growers only need a maximum of six insecticide sprays to effectively manage onion thrips.
 - o Of course, the plan does allow for use of more than six apps if necessary. For example, if after two apps each of Movento, Agri-Mek and Radiant, another spray is still needed, options would include Exirel or Lannate + Warrior.
- New in 2019 is a 3-part option after Movento based on thrips pressure, which now includes Radiant in this second position.
 - o Previously, we have tried to preserve Radiant until last position when thrips pressure is generally highest. However, 2018 proved to be a year when thrips pressure was highest during July. When thrips pressure exceeds 2.0 per leaf, Radiant is the only product that can reliably get such a population back under control. Control at this time will translate into better control for the rest of the season.
 - o When Radiant is used in the second position, Agri-Mek and Minecto Pro CAN NOT be used in the third position because there will likely be less than 30 days to harvest after their use. Exirel and Lannate+ Warrior would be the only products left to use.

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The General Rules

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Upcoming Events

view all Cornell Vegetable Program upcoming events at CVP.CCE.CORNELL.EDU

Vegetable Pest and Cultural Management Field Meeting for Auction Growers

July 19, 2019 (Friday) | 7:00 - 9:00 PM

Noah Hoover farm, 3095 Himrod Rd, Himrod, NY 14842 (Yates County)



This course 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 CCE Cornell Vegetable Program along with CCE staff will instruct participants and facilitate peer-based learning. Planned topics:

- Weed Control in Row Crop Vegetables – Why and How
- Tomato and Potato Disease Updates
- Cucurbits – Grafting for Vigor and Yield, Downy and Powdery Mildew Management, Insect Pest Management
- Food Safety News
- Q&A and other farm-specific crop observations

1.75 DEC recertification credits (categories 10, 1a, 23) and 1.25 (category 24) will be offered. FREE to attend! For more info, contact Judson Reid at 585-313-8912.

WNY Produce Auction Summer Meetings

July 29, 2019 (Monday) | 5:45 - 8:00 PM | River View Farm, 2531 Oak Orchard River Rd, Medina, NY 14103

August 13, 2019 (Tuesday) | 6:15 - 8:30 PM | Farm of Melvin Hostetler, 2213 Rt 76, Panama, NY 14767

August 14, 2019 (Wednesday) | 6:15 - 8:30 PM | Farm of Henry Stutzman, 7700 East Flats Rd, East Otto, NY 14729



Attendees will be led by CCE Cornell Vegetable Program Specialists, Elizabeth Buck and Judson Reid, on a tour of the produce fields and receive hands-on training in scouting and identification of common weeds and vegetable-attacking diseases and insects. Cultural and chemical control options will be discussed, keeping in mind broader vegetable production best management practices. FREE! Questions? Contact Elizabeth Buck, 585-406-3419.

Niagara Region Summer Vegetable Meeting

August 6, 2019 (Tuesday) | 5:45 - 8:00 PM

Freatman Farms, 3699 N Ridge Rd, Lockport, NY 14094



Join the CCE Cornell Vegetable Program for an evening of pest management options plus a crop walk to learn scouting techniques: Optimizing sweet corn worm and spidermite control programs; crop walk of tomato and pumpkin fields; pepper Weevil & other pepper problems; management options for potato pests; Rhizoctonia and wire-stem of cole crops. It's FREE! 2.0 DEC recertification credits offered. [Full agenda](http://cvp.cce.cornell.edu) available at cvp.cce.cornell.edu. Questions? Contact Elizabeth Buck, 585-406-3419.

Dry Bean and Potato Twilight Meetings

August 12, 2019 (Monday)

4:30 - 5:45 PM Dry Bean Meeting at Cory Mark Farms dry bean field, corner of Whiteman Hill Rd and Gross Hill Rd, Wayland, NY 14572

6:00 dinner (included)

6:45 - 8:00 PM Potato Meeting at Cory Mark Farms shop, 11595 Buffalo St, Wayland, NY 14572



Dry bean and/or potato growers in the Cornell Vegetable Program region are encouraged to join us for an evening with two educational events in one! **Come to the Dry Bean Meeting, the Potato Meeting, or stay for BOTH!** Research updates will be provided by Cornell University faculty and the NYS IPM Program. *Hosted by CCE Cornell Vegetable Program and CCE Steuben County.*

\$20/person, includes dinner and access to both meetings. [Register online](http://cvp.cce.cornell.edu) at cvp.cce.cornell.edu. 1.0 DEC recertification credits will be available for both portions of the evening. Questions? Contact Ariel Kirk, 607-664-2574.

Weather Charts

John Gibbons, CCE Cornell Vegetable Program

Weekly Weather Summary: 7/09 - 7/15/19

Location**	Rainfall (inch)		Temp (°F)	
	Week	Month July	Max	Min
Albion	1.13	1.93	87	54
Arkport	0.00	0.98	90	53
Bergen	0.05	0.21	91	48
Brocton	0.00	0.73	85	57
Buffalo*	0.00	0.61	90	55
Burt	0.05	1.56	85	51
Ceres	0.21	2.03	88	54
Elba	0.67	0.87	88	50
Fairville	0.38	1.10	91	50
Farmington	0.35	1.20	93	49
Fulton*	0.55	0.80	89	50
Geneva	0.00	0.98	87	54
Hammondsport	0.00	0.28	89	52
Hanover	0.01	0.51	88	53
Lodi	0.04	1.61	88	54
Niagara Falls*	0.00	0.28	90	54
Penn Yan*	0.23	1.46	88	54
Rochester*	0.04	1.98	90	55
Sodus	0.14	0.76	89	48
South Bristol	0.26	0.52	87	50
Varick	0.56	0.45	86	56
Versailles	0.01	0.56	89	53
Williamson	0.21	0.28	88	51

Accumulated Growing Degree Days (AGDD) Base 50°F: April 1 - July 15, 2019

Location	2019	2018	2017
Albion	1040	1315	1134
Arkport	918	1364	1056
Bergen	1004	1239	1103
Brocton	1042	NA	NA
Buffalo*	1034	1382	1173
Burt	913	1174	1073
Ceres	1036	1153	1031
Elba	964	1252	1088
Fairville	950	1190	1085
Farmington	982	1233	1082
Fulton*	945	1213	1095
Geneva	1044	1276	1147
Hammondsport	998	1217	1097
Hanover	1038	1297	NA
Lodi	1077	1312	1210
Niagara Falls*	978	1446	1287
Penn Yan*	1096	1337	1230
Rochester*	1126	1412	1224
Sodus	931	1183	1134
South Bristol	986	1235	1102
Varick	1114	1336	1218
Versailles	1030	1273	1183
Williamson	908	1153	1122

* 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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Cornell Cooperative Extension Cornell Vegetable Program

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VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program. 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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Cornell Cooperative Extension
Cornell Vegetable Program

For more information about our program, email cce-cvp@cornell.edu or visit us at CVP.CCE.CORNELL.EDU



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