

Cornell University
Cornell Cooperative Extension
Eastern New York Commercial Horticulture

Vegetable News

VOLUME 5, ISSUE 7
JUNE 15, 2017

Hot Temp Check! Teresa Rusinek—ENYCHP

Temperatures under row cover can quickly reach up to 20 degrees higher than outside depending on the grade of the material. Extremely high temperatures under row covers can reduce production of crops like tomatoes, peppers, and broccoli.

The following is excerpted from an article written by Dr. Steve Reiners of Cornell University Department of Horticulture.

Growers that have crops under row cover are concerned about temperatures that may kill the plants. Most of the published temperature guidelines list maximum temperatures at which either vegetative growth becomes limited or reproductive capabilities are threatened, i.e. flowers or fruit fall off. Temperatures at which vegetable plants may die varies and depends not only on the vegetable type but also on other factors such as whether irrigation is being provided or for how long the high temperature occurs. Also, a transplant will be under much greater stress than a

plant that is direct seeded. The following table lists temperatures at which severe stress will occur, possibly death, especially if soil moisture is low.

Crop	Maximum (F)
Sweet Corn	120
Watermelon	115
Cucumber	115
Pumpkin	115
Squash	115
Eggplant	110
Hot Pepper	110
Sweet pepper	105
Tomato	105
Broccoli	95

These temperatures refer only to potential crop death. Temperatures 15 to 20F lower than those listed in the table will result in the loss of flowers and fruit and will negate the positive effects of early warming under row covers.

- Blossom drop is commonly seen in fruiting vegetables like tomatoes and peppers and occurs when a flower blooms, but does not set fruit. Plant blossoms will subsequently dry up and drop off, resulting in fewer fruit and reduced yields.

continued on next page

Table of Contents

Row Cover and Heat1-2

Leek Moth Active.....2-3

Botrytis VS Other Foliar
Damage on Onions.....4-5

Onion Thrips
Management.....5-6

Garlic Fungal Diseases.....6

Hilling Potatoes.....7

Colorado Potato Beetle &
Potato Leafhopper.....7-10

Corn Pests.....10



There are several factors that may lead to blossom drop. Temperature extremes, including daytime temps above 85 °F, nighttime temps above 70 °F, or nighttime temps below 55 °F may all cause blossom drop. Humidity can also play a role in blossom drop. Pollen grains may not release properly if relative humidity is greater than 70% for an extended period of time, resulting in flower abortion. Other factors that may lead to blossom drop include low or high soil moisture, low levels of nitrogen fertilizer, and damage from insects or disease. Finally, blossom drop may simply be the result of a particularly heavy fruit set. A single plant can only bear so much fruit at one time and those fruit will compete for the limited resources supplied by that plant. Plants may abort new blossoms to ensure proper development and ripening of fruits that have already begun to fill out or ripen. In this case, new blossoms will resume setting fruit following the first harvest. Growers may also choose to remove deformed or otherwise unmarketable fruits to encourage fruit setting in newly formed blossoms. (written by Kevin Bessler -former Veg Specialist with ENYCHP)

- Provide adequate irrigation. It only takes one dry soil event to get a flush of tomatoes with blossom end rot. Tomatoes at peak production need $\frac{3}{4}$ gallon per plant per day! As a general rule, vegetable crops require 1 - 1.5 acre-inches of water per week. Penn State's Elsa Sanchez and Bill Lamont explain how to determine how long to run your drip irrigation system to meet this need. <http://extension.psu.edu/plants/vegetable-fruit/news/2013/determining-how-long-to-run-drip-irrigation-systems-for-vegetables>
- Consider Shadecloth. Certainly, leafy green production could benefit, potentially extending the production of lettuces through the summer. Tomatoes and peppers may benefit from some shading during hot periods. Research has shown the potential for shadecloth to improve quality in peppers and tomatoes, allow for the summer production of lettuce, and improve the

production of repeat blooming strawberries in summer months. A few growers have incorporated shade cloth into their production systems, especially in high tunnels where the shadecloth can be placed over the plastic cover in the summer. There are a number of different types of shadecloth available. The most common colors are black and green. However, white or aluminized shadecloth may offer additional cooling. Other colors such as red may benefit specific crops by filtering different wavelengths of light. Using shade-cloth is a balancing act. You want to shade enough to reduce heat loading on the crop. However, you do not want to cut down light to a level where it significantly impacts photosynthesis. Shadecloth come in various percent shading. For vegetable crops, choose a percent shade between 20 % and 40% with ~30% being the most common recommendation. (Gordon Johnson , Extension Fruit and Veg Specialist Univ. Delaware) To read more about Gordon Johnson's work using shadecloth in vegetable production, see:

<https://extension.udel.edu/weeklycropupdate/?p=9688>



Harvest bins of tomato fruit; bin on left from plants covered with shade and bin on right from plants that were not covered

Leek Moth Damage is Here

Amy Ivy—ENYCHP

Leek moth larvae are out in full force in northeastern NY now. If you have leek moths, their damage will be easy to spot now. If you do notice suspicious damage, please let me know so I can keep track of where the moth is showing up.

In garlic, look at the emerging scapes. The larvae are leaf miners but since garlic has flat leaves the caterpillars like

to stay and feed within the folded leaves, just as they are expanding (see photos). They particularly like the scapes and their feeding damage can make them unsaleable. At first they feed on the tips of scapes as they emerge, but later they focus their feeding around the swelling bulbil portion of the scape.

In onions, look for the characteristic windowpane damage from the middle of the leaves to their tips. This damage is

easy to confuse with botrytis leaf blight or even pelting rain damage. When in doubt, split the leaf with your thumbnail. Leek moths leave behind a lot of frass and debris. If the inside of the damaged leaf is clean, it's not leek moth.

So far we have not seen leek moths damage the actual onion bulb. The main concern is extensive leaf damage can weaken the plant and reduce bulb size. Conventional

growers spraying for thrips should have little problem with leek moth, but organic growers have a greater challenge since the larvae are inside the onion leaves or down in the folded garlic and leek leaves where contact sprays can't reach them. Entrust does have some trans-laminar action, so it would be the best option for an organic spray. Labeled Bt formulations should help if you can get it on the tissue the larvae are ingesting, but that can be a challenge.



Leek moth larvae feeding injury to emerging garlic scape. -adi



Classic 'windowpane' damage to onion leaves caused by leek moth caterpillars feeding inside the hollow leaves. - adi



Pelting rain damage, easily confused with leek moth damage. Note that here the white patches are more spotty. With leek moths the white spots are more rectangular. Photo by Scott Lewins.



Onion leaf split open to reveal larva and debris. Note that only the males have the brown band, females are entirely creamy white. Photo by adi



Pupae on outside of damaged onion leaf. -adi

Botrytis Already?

Maire Ulrich- ENYCHP

Botrytis lesions in some fields reached well over threshold early seeded onions. If you have not started a fungicide regimen, you should go out and see if you can see lesions. Primary focus should be on plants that have 4 leaves or more. The damp conditions of the last few weeks have increased inoculum. Normally, we do have a “blip” in *Botrytis* this time of year, but what I saw last week was heavy in some fields. Sometimes it can be difficult to differentiate between all of the spots on the onions you may see. Do not confuse herbicide burn or rain/wind damage for botrytis lesions or you may make a costly mistake.



Heavy Botrytis lesions

Herbicide Burn – Usually this is post-emergent damage. Symptoms are a splatter-pattern of tan spots on the leaves ranging in size from tiny dots to pea-sized. They are rarely regular in shape and can even look like drips. They are a solid, consistent light tan in color. Often damage is heavy in one area of the leaf and tissue dies. The other side of the leaf will continue to grow normally where it was not burnt and this variation in growth rates is what causes the pig-tailing/leaf curling/bending that is symptomatic. Significant spotting or even pig-tailing has been shown not to decrease production. However, I have my suspicions that heavy post-emergent use, particularly after bulbing has initiated, may increase bacterial infection rates. However, we also know that high weed populations and heavy hand-weeding can also increase bacterial rates.



Example of herbicide burn lesions

Botrytis – Probably the most difficult to identify because it is subtle in its appearance. New lesions are merely a cloudy or hazy spot on the leaf. The oblong lesions are



Example of early Botrytis lesions

small at around ¼ inch (5mm) from tip to tip. As the lesion ages, you can begin to see a tan/yellow dot in the middle of the hazy area. This spot is where the spore entered the plant. As the lesion continues to age (and all of this happens in about a week) the dot grows a bit and becomes more prominent. Often the leaf will crack through this center dot. Look for lesions on older leaves and leaf tips. The older the leaf tissue (or longer it has been exposed in the case of the tip) the more chance it has had to become infected. Threshold for control is still 1.0 lesion per leaf. So, if you have a 4-leaf plant, that's 4 lesions on the whole plant and if you have a 6-leaf plant, that's 6 lesions, even if all of the lesions are on 1 leaf. Do not use oldest leaves that are less than 80% green tissue in your accounting.

Rain/Wind Damage- Rain and wind damage is caused by droplets hitting leaves or leaves banging each other in the storm. They are usually quite large and occur as the waxy surface of the onion pulls away from the leaf tissue and leaves a silvery-grey mark. This is similar to the silvery mark of an early *Botrytis* lesion but size and shape are different. Rain bruising lesions are usually dime-sized or bigger and are not uniformly oblong in size. Usually, these bruises are only on one side of the leaf, the one exposed to the rain or neighbor leaves. Botrytis occurs on any side of the leaf.



Rain damage. Photo from OMAFRA

continued on next page

Thrips Feeding – Thrips feed by scratching at the cell surface, exposing the yummy cell center and sucking out the cell contents. Their damage looks like the leaf has been scraped or lightly physically damaged. At first, the damage is only a different shade of green but as the cells die, the spots become tan or white as they dry out. Look at center leaves for damage. Thrips are not fond of the sunshine and hide in the apex of the plant during the day. At night, when they feel free to roam, they will consume cells up

and down the leaves but most damage will still be concentrated to the center or in folds.



Example of thrips feeding damage

Onion Thrips Beginning to Reach Threshold in Orange County

Ethan Grundberg—ENYCHP

Foliar damage from onion thrips has become a common sight on garlic and onions in the Hudson Valley over the past week. The “stippling” that is caused by the rasping-sucking mouthparts is usually much easier to spot than the pests themselves. Thrips come out to feed on leaves at night, often sticking to the mid-rib or tender new leaves, but hide in the crotch between the leaves and stem during the day. These feeding marks are silvery-white at first, but gradually dry out and become tan to brown. In addition to decreasing the photosynthetic potential of plants, the feeding creates small lesions that can serve as entry points for other foliar pathogens like botrytis leaf blight, purple blotch, and stemphylium leaf blight. If that wasn't enough reason to be concerned with Managing onion thrips, the pest also vectors iris yellow spot virus and tomato spotted wilt virus.



Dried thrips feeding damage on garlic

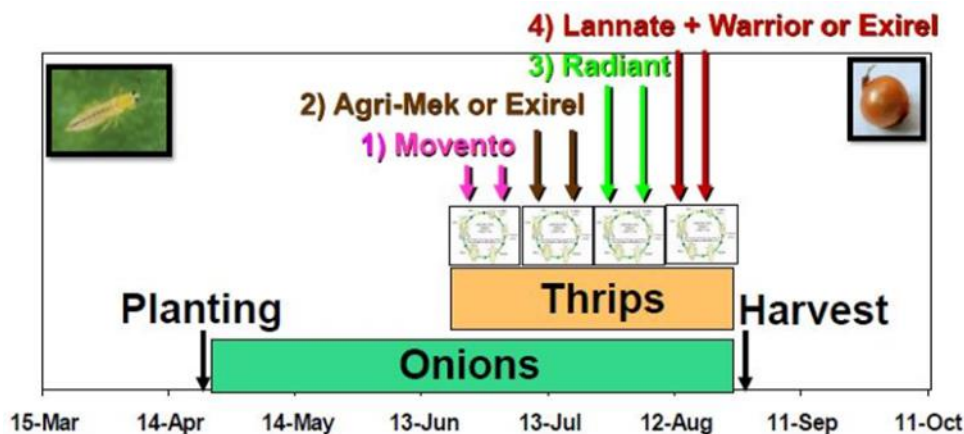
examining at least 30 plants in a field, it is time to spray. I found two fields of red onions grown from bareroot transplants that were planted near fields of rye (another host of onion thrips) that were just above threshold this week. Dr. Brian Nault recommends beginning with Movento (*spirotetramat*, Group 23) with a non-ionic surfactant, like Dyne-Amic®. If the thrips population is still above the 1 thrip per leaf threshold one week later, another application of Movento is recommended. No more than two sequential applications should be made of insecticides with the same IRAC group number to help delay the development of resistant thrips populations. Dr. Nault's full spray sequence recommendations are below. Do note that Movento, Agri-Mek, Exirel, and Radiant should not be tank-mixed with Bravo Weatherstik.

Since OMRI-approved insecticides are less effective for thrips management, organic growers must use cultural controls to better avoid thrips outbreaks. Onion varieties with less wax and yellower leaves tend to be less attractive to thrips. Some research has shown that

reducing the rate of nitrogen fertilization can also reduce the number of onion thrips in field over the season. Care should be taken to avoid planting onion thrips host crops, which include many cultivated brassicas (cabbage, broccoli, cauliflower), near rye and hay

Plants should be scouted once a week beginning in early June. Once onion thrips reach an average of 1 thrip per leaf (not plant) after carefully

fields as thrips will migrate into vegetables after cutting or during dry down. Studies have also shown reflective mulch to be effective



at deterring adult thrips from colonizing onion plants, but it is ineffective during overcast weather. Some research has shown moderate suppression from two different biopesticides, Mycotrol (*Beauveria bassiana*) and Met52 (*Metarhizium anisopliae*) when applied under ideal conditions and when mixed with labelled diatomaceous earth products. Pyganic and labelled azadirachtin formulations have shown some thrips suppression, but Entrust remains the most effective option. Dr. Brian Nault has found that using M-Pede or JMS Stylet Oil (both NOP

compliant) at a 0.5-1% dilution in a tank mix has increased the efficacy of most thrips-management insecticides.

Regardless of what you spray, applications must be made with moderate pressure, lots of water (minimum 40 gallons per acre), a good surfactant/penetrant, and using a nozzle configuration that maximizes canopy coverage (like twin flat-fans). More of Dr. Nault's research on thrips management can be found at <http://www.hort.cornell.edu/expo/proceedings/2012/Onions/onion%20Nault.pdf>.

Telling apart your Garlic Funks

Crystal Stewart—ENYCHP

There are quite a few different diseases and pests affecting garlic now. It's important to understand which funk your garlic is facing so that you can manage both this and future crops appropriately. Here is a rundown of two of the diseases we are seeing right now, and how to tell the difference between them. Next week I'll feature garlic bloat nematode vs. fusarium.

White Rot vs Botrytis Neck Rot:

There are two diseases causing garlic to flag above ground and to rot with accompanying black sclerotia below ground. The above ground symptoms may be identical (and are also identical to fusarium and bloat nematode). However, the below ground symptoms are different. White rot has sclerotia the size of poppy seeds (image1), and botrytis has sclerotia the size of peppercorns or larger (image 2). Botrytis makes a greyish fungal

fuzz at or slightly above the soil surface (also image 1), while white mold makes a white mat of fungus below the soil surface (also image 2). In both diseases, the fungal growth may or may not be present. If you are unsure about which disease you have, please call one of us and we will make a visit.

If you have white rot, the current recommendation is to rotate out of that field (we are not sure how long is needed, but up white rot has survived for up to 20 years in other locations), do not sell any of that crop for seed (healthy bulbs can still be sold as food), and replace all planting stock with clean seed in the following year.

If you have botrytis, you can re-plant healthy seed but a surface sterilization such as a 10% bleach solution or an OxiDate dip is recommended. A standard 3-4 year rotation is also recommended.



Image 1: White rot with poppy-seed sized sclerotia (yellow circle).

Image 2: Botrytis with peppercorn sized sclerotia (yellow circles) and fuzzy grey fungal growth (orange circle)

When and How to Hill Potatoes

Maire Ulrich- ENYCHP

If potato growing is new to you, hilling may be more of an art than science. As tubers swell, especially if they have good moisture and adequate nutrients they will begin to push out of the soil. Hilling keeps the developing potatoes from being exposed to sun, which turns them green and bitter. Green potatoes contain a chemical, solanine, which is toxic in large amounts. This may not be as visible in dark fleshed varieties like blues but is just as dangerous. Here are some hints for success:

When To Hill:

When the plants are about 6 to 8 inches tall. Repeat in about 2 to 3 weeks. Plants for new potatoes that will be harvested early will need less hilling and that will expedite harvest too if they are not too deep.

How to Hill:

Hoe soil loosely around the base of the plants to within about an inch of the lower leaves from both sides of the

row. You may want to make additional hillings, gradually building a 6- to 8-inch ridge down the row. Do not cover leaves or stem with soil as this will cause decay over time.

Instead of hilling you can....

- Shallowly plant seed pieces in the soil and cover with a thick layer of clean straw or other weed-free mulch that the plants will be able to penetrate. Add more mulch as needed to keep light from reaching potatoes. A foot or more of mulch may be required. Tubers grown this way can be easily harvested by pulling back the mulch after the plants die.
- Deeply plant seed potatoes 7 to 8 inches deep and skip hilling or deep mulching. The potatoes are slower to emerge, but this method requires less effort during the growing season. Deep planting is not good in cold, damp soils and it requires more work to dig the potatoes at harvest.

Potato Pest Management

Charles Bornt- ENYCHP

Late last week I started to see the early emergence of Colorado potato beetle (CPB) adults locally in the Capital District and know they have been active in our southern region for at least 10 days. These adults have pretty much one thing on their mind: to mate and start laying eggs. While scouting last week I only found a few egg masses, but with the heat this week those numbers dramatically increased and I'm sure down south they are readily hatching. Now is the time to concentrate on managing them when the larvae are small.



CPB is notorious for developing resistance to insecticides, so anything we can do to extend the usefulness of these materials is important. The basic principal of resistance

management of CPB is to expose only 1 generation out of every 4 generations on a farm to a particular class of chemistry. This is achieved by only using a particular class of insecticides one time within a 2 year timeframe and aligning the applications based on whether or not in-furrow planting treatments/seed treatments were used and the maturity type of the potatoes being grown. Long Island growers have had very good luck using Rimon, which has a FIFRA Section 24C Special Local Need registration for NYS. Rimon should be applied when most of the population is at egg hatch to second instar, then followed by a second application 7 days later used at the 12 oz/A rate. Do not use Rimon against adults and in accordance to resistance management protocol, do not apply to successive generations and do not use more than 3 applications or exceed 24 fl oz per acre per season.

Scout fields & use action thresholds:

For Avaunt, Bt, Rimon, Trigard and Neem:

- Sample 10 vines at 5 locations within a field
Treat only when threshold exceeded
 - Egg masses: 4 per 50 vines (at least 25% hatching)
 - Small larvae: 75 per 50 vines
 - Large larvae: 30 per 50 vines

continued on next page

For all other products:

- Small larvae: 200 per 50 vines
- Large larvae: 75 per 50 vines
- Adults: 25 per 50 vines

There of course a couple general rules of thumb:

- If you used an in-furrow or seed piece application of a neonicotinoid (Group 4: Admire Pro, Tops-MZ-Gauche, Cruiser or Cruiser Maxx, Platinum) do not use a Group 4 insecticide for foliar control of CPB. There are other options that can be found in Table 1.
- Most controls should be focused on very small larvae as larger larvae become more difficult to control.

- When possible, use the IRAC Group Codes given to you in Table 1 and in the Cornell Vegetable Guidelines to choose the correct rotational materials.



Colorado Potato Beetle adults mating and laying egg masses found last Friday on potatoes.

Table 1: Selected Foliar Insecticides for controlling Colorado Potato Beetle. This table is not meant to replace reading of the product labels—Please read the insecticide labels prior to application:

Product name	IRAC Group	Rate per Acre	Comments
Coragen	28	3.5-5.0 fl. oz	Do not apply within 100 feet of a water body, allow a minimum interval of 5 days between applications
Voliam Xpress	28	6.0-9.0 fl oz	Do not apply within 100 feet of a water body, allow a minimum interval of 5 days between applications, do not exceed 27 fl oz/acre per season
Agri-Mek SC	6	1.75-3.5 fl oz	Must be mixed with a non-ionic activator type wetting, spreading and/or penetrating adjuvant, best if used on small larvae (50% egg hatch) , do not exceed more than 2 applications per acre
Assail 30 SG	4A	1.5-4.0 oz	Do not use on fields that received a in-furrow planting or seed piece treatment of another Group 4 or 4A insecticide (see note above), do not exceed 4 applications per season or a total of 16 oz per acre, read label for more information
Provado 1.6F, Nuprid 1.6F, Prey, Pasada	4A	3.75 fl oz	Do not use on fields that received a in-furrow planting or seed piece treatment of another Group 4 or 4A insecticide (see note above), do not exceed 15 fl oz per season per acre, read individual product labels for more information
Leverage 360	4A + 3A	2.8 fl oz	Do not use on fields that received a in-furrow planting or seed piece treatment of another Group 4 or 4A insecticide (see note above), do not exceed 12.8 fl oz per season per acre
Actara	4A	1.5 –3.0 fl oz	Do not use on fields that received a in-furrow planting or seed piece treatment of another Group 4 or 4A insecticide (see note above), do not exceed 6.0 fl oz per season per acre, read individual product labels for more information
Endigo ZC	4A + 3A	2.5-6.0 fl oz	Do not use on fields that received a in-furrow planting or seed piece treatment of another Group 4 or 4A insecticide (see note above), do not exceed 10 fl oz per season per acre, read individual product labels for more information
Radiant SC	5	6-8 fl oz	Best against smaller larvae, but will also work on larger larvae
Blackhawk	5	1.7-3.3 oz	Do not make more than 2 applications per season
Rimon	15	6-12 fl oz	FIFRA Section 24C Special Local Need registration: apply when most of the population is at egg hatch to second instar, do not use against adults, do not apply to successive generations, do not apply more than 3 applications and do not exceed 24 fl oz per acre per season. Best results are when applications are timed with egg hatch and then followed by a second application 7 days later used at the 12 oz/A rate (but no less than 9 oz/A).

Trigard	17	2.7-5.3 oz	Best if used on 1st and 2nd instar larvae, ineffective on adults
Kryocide or Prokil Cryolite	UN	10-12 lbs	For use against small to medium sized larvae, minimum 7 day intervals, these materials are insoluble in water and should have constant agitation, they are abrasive to roller type pumps and nozzles—use ceramic or stainless steel nozzles. For best results residues should not be subjected to rainfall or irrigation for at least 24 hours after application.
Organic Options for CPB: For more products and information, consult the Organic Potato IPM Guide- https://ecommons.cornell.edu/bitstream/handle/1813/42897/2016-org-potatoes-NYSIPM.pdf?sequence=5&isAllowed=y			
Entrust Naturalyte	5	1-2 ounces	Do not exceed two consecutive applications of Group 5 insecticides. Do not apply Entrust to consecutive generations of Colorado potato beetle and do not make more than two applications per single generation of Colorado potato beetle. Do not make applications less than 7 days apart. Use a higher rate in the rate range for larger larvae or heavier infestations. Do not apply within 7 days of harvest. Do not apply more than a total of 6.5 oz of Entrust per crop and do not make more than four applications per crop.
Azera (azadirachtin + pyrethrin)	UN + 3A	1.0-3.5 pints	Most effective on small larvae, initiate application when 25% of the initial egg masses have hatched or more than 200 small larvae are found on 25 vines, continue to scout and apply at 5 to 7 day intervals during the egg hatching period, allowed for organic production if allowed by sanctioning body.
Aza-Direct, Neemix 4.5, Ecozin Plus etc. (many products containing the active ingredient azadirachtin)	UN	Please see labels – rates vary depending on product used	Most effective on small larvae, initiate application when 25% of the initial egg masses have hatched or more than 200 small larvae are found on 25 vines, continue to scout and apply at 5 to 7 day intervals during the egg hatching period, allowed for organic production if allowed by sanctioning body. Best control is achieved at the upper end of the use range. Does not provide immediate mortality. Intoxicated nymphs and larvae die at their next molt. Good foliage coverage is critical.
Trident	UN	3-6 quarts	OMRI listed replacement for the B.t. Novodor that is no longer available. Labeled for CPB in potatoes, tomatoes and eggplant for organic production with a 4-hr REI, it can be used up to harvest. Best when used on small larvae right after egg hatch and not adults. Timing is critical. Past experience with a similar product found good results with two applications targeting the spring (June) generation shortly after egg hatch, possibly with a second around 7 – 14 days later. Under high pest pressure, use a shorter interval and higher label rate. Direct spray as much as possible to leaf undersides. Use in a minimum spray volume of 20 gallons of water per acre. Use the 3 quart per acre rate only when light populations of larvae of uniform age/size are present. Adjuvants, spreaders or spreader/stickers may be added to the spray mix before filling the tank to improve product performance, especially under heavy dew or rainy conditions. Do not use spreading agents, (especially silicone-based spreaders), which may interfere with uniform adhesion of Trident to plant surfaces.

Leaf Hoppers Also Showing up In Potatoes:

With the cutting of hay crops and small grains, I'm not surprised that we are seeing a few leafhoppers showing up and with this warm weather pattern the last week, that should really help to push them along. This pest does not overwinter here in NY, but rather the adults (Figure 1) migrate from the gulf states and arrive here on weather fronts. Typical arrival is early June, but because of this year's cool wet spring, it's a bit later.

The leafhopper has 2-3 generations per year and has a wide host range including potatoes, beans and alfalfa. One of the hardest things with leafhopper control is their ability to infest fields quickly – literally overnight. Unless you are walking or driving through your fields and getting hit in the face with them or noticing them all over the hood of your tractor or in the grill, you might not even know they are there. However, you will notice their damage known as “hopper burn.” Marginal burning, leaf curling, and under heavy populations, total plant decline can all result from hopper burn (Figure 2). Both adults and nymphs spend much of their time on the undersides of the leaves. Early potato varieties such as Dark Red Norland, Superior and Yukon Gold seem to be the most susceptible.

continued on next page

Thresholds for leafhoppers: Potatoes have a very low threshold and should be treated at:

1 adult/ sweep or 15 nymphs per 50 leaves

Do not allow nymphs to build up! Leaf hoppers will continue to reproduce and feed causing significant damage resulting in yield losses. Conventional growers will want to use a translaminar or systemic product, since leaf hoppers spend their daytime hours on the leaf underside. Options include Assail and Dimethoate. Table 2 (Available at https://rvpadmin.cce.cornell.edu/uploads/doc_577.pdf) is a list of conventional and organic insecticides labeled for leafhopper control in potatoes. Please take note that although adjuvants help, read the labels to make sure they are compatible with the insecticide you've chosen. For organic growers using Pyganic materials, spray late in the evening as this material breaks down very quickly in sunlight and has no residual. The addition of Surround WP might help with some residual control. Continue to scout as leafhopper populations can build quickly.



Figure 1: Adult potato leafhopper.

Photo: Brian Nault, Cornell



Figure 2: Potato leafhopper damage on potato foliage.

Photo: Brian Nault, Cornell

Vegetable Specialists

Chuck Bornt

Cell: 518-859-6213

Email: cdb13@cornell.edu

Amy Ivy

Phone: 518-561-7450

Email: adi2@cornell.edu

Teresa Rusinek

Phone: 845-340-3990

x315

Email: tr28@cornell.edu

Crystal Stewart

Cell: 518-775-0018

Email: cls263@cornell.edu

Maire Ullrich

Phone: 845-344-1234

Email: mru2@cornell.edu

Ethan Grundberg

Phone: 617-455-1893

Email: eg572@cornell.edu

Business Specialist

Liz Higgins

Cell: 518-949-3722

Email: emh56@cornell.edu

Food Safety Specialist

Erik Schellenberg

Phone: 845-344-1234

Email: jk2642@cornell.edu

Corn Pest Update

Annie Mills, ENYCHP

This week corn earworms were trapped in two of our most southern counties (Orange and Ulster). Fall armyworm was also trapped in Orange County. European corn borers are nearing the peak flight conditions as growing degree days near closer to 631 (modified base 50F). Please remember to scout emerging tassels for frass, feeding and damage before making the decision to treat your corn. The treatment threshold at tassel emergence is 15% infested plants.

Scouting and threshold information: <http://sweetcorn.nysipm.cornell.edu/information-for-trap-network-cooperators/scouting-and-threshold-info/>



County	CEW	ECB-Z	ECB-E	FAW	WBC	YTD GDD
Orange	1	3	0	3	0	599
N. Ulster	1	0	2	0	0	454.5
S. Ulster	2	1	0	0	0	558
N. Dutchess	0	1	0	0	0	560.5
Albany	0	1	0	na	0	590.5
Schoharie	na	1	0	na	0	446.5
Fulton	na	na	na	na	na	446.5
Saratoga	na	0	0	na	0	590.5
S. Washington	na	0	0	na	0	465.5
S. Clinton	0	2	5	0	0	400.5
C. Clinton	0	0	0	0	0	400.5