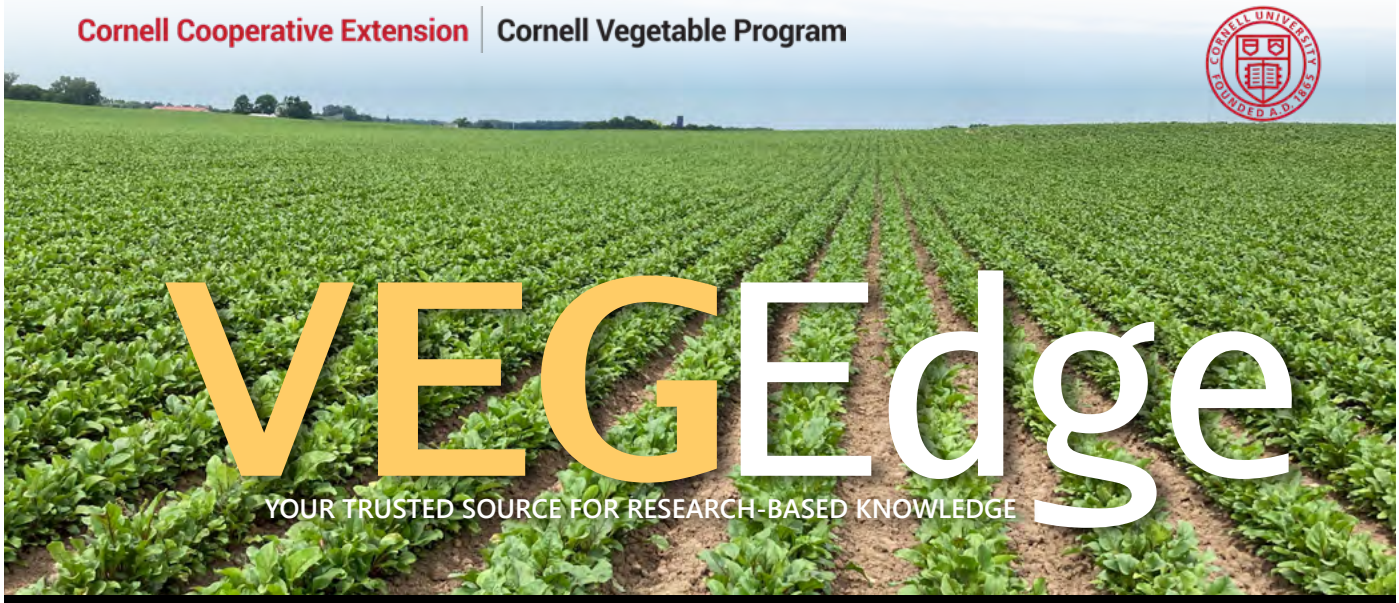
Cornell Cooperative Extension | Cornell Vegetable Program



VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Volume 19 • Issue 16 • July 26, 2023

Tarnishing the Reputation of Your Vegetables – Tarnished Plant Bugs

Robert Hadad, Cornell Cooperative Extension, Cornell Vegetable Program

In between bouts of rain, the high heat seems to bring out hungry insects. One of serious culprits is the tarnished plant bugs (TPB) or lygus bugs – *Lygus lingolaris*. Despite being fairly small (1/4" long adults with tinier nymphs), they cause destruction due to numbers and heavy feeding. Nymphs sort of resemble green aphids but will move around faster. Adults are tan to greenish with darker markings on their back and wings.

Feeding and Damage

TPB are sucking insects. They have piercing mouths that stab into plant tissue like a straw slurping up juices from leaf veins, flower stems, and fruit. The host range is wide covering small fruit, tomato, peppers, eggplants, and greens – heavily on lettuce. When the bugs pierce the plant, a toxic secretion kills cell tissue around the stab. This can lead to distortion in leaf growth, misshapen fruit and buds, as well as sunken areas on tomatoes, for instance, where the injured tissue also becomes yellow. Stink bug damage also looks similar, but stink bug injury leaves a pithy white area under the skin. Basil is also affected where feeding causes leaves to distort and have brown marks mostly on the younger leaves.

Weeds and Grains

TPB also feed on a wide assortment of common field weeds. These include pigweed, amaranth, lambsquarters, mustards, goldenrod, and mullein. Alfalfa, other legumes, and grain crops are attractive to TPB. It is advisable to not plant vegetable crops near these crops because when harvested, TPB will migrate over to the vegetables.

Tarnished plant bug damage on unripe and ripe tomato fruit. Note the cloudy spots on the unripened green and yellow fruit while the red tomato has many deeper skin damage with yellowing spots surrounded by dark margins. *Photo: T. Zitter, Cornell*

Adult tarnished plant bug (inset). *Photo: University of Massachusetts Extension*

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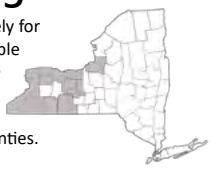
About VegEdge



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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Help us serve you better by telling us what you think. Email us at *cce-cvp@cornell.edu* or write to us at Cornell Vegetable Program, 480 North Main Street, Canandaigua, NY 14424.

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The next issue of VegEdge newsletter will be produced on August 2, 2023.

Accumulated Growing Degree Days, 7/24/23

Julie Kikkert, CCE Cornell Vegetable Program

Accumulated Growing Degree Days (AGDD)
Base 50°F: April 1 - July 24, 2023

Location**	2023	2022	2021
Albion	1360	1453	1520
Appleton	1277	1379	1372
Arkport	1134	1252	1194
Bergen	1276	1407	1371
Brocton	1281	1428	1406
Buffalo*	1390	1455	1491
Ceres	1095	1180	1230
Elba	1236	1331	1305
Fairville	1272	1359	1315
Farmington	1304	1369	1364
Fulton*	1304	1344	1326
Geneva	offline	1428	1406
Hammondsport	1242	1367	1326
Hanover	1244	1410	1389
Jamestown	1121	1234	1219
Lodi	1429	1573	1157
Lyndonville	1308	1304	1382
Niagara Falls*	1441	1525	1443
Penn Yan*	1346	1480	1484
Rochester*	1347	1454	1420
Romulus	1404	1472	1450
Sodus	1410	1487	1436
Versailles	1227	NA	NA
Waterport	1284	1373	1353
Williamson	1223	1341	1301

* Airport stations
** For other locations: http://newa.cornell.edu

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Management

This is generally difficult. Frequent applications may needed over the course of the growing season due to new infestations coming in. Also, some pesticides can kill beneficial insects which, if the TPB population is still low, the beneficials can help reduce TPB numbers. Another problem with pesticides is that with reduced overall beneficial insect numbers, two spotted spider mites can become established causing more problems. When reading pesticide labels, many don't mention TPB but list lygus bugs so be aware of this when checking.

Bacterial Diseases of Beans

Julie Kikkert, Cornell Cooperative Extension, Cornell Vegetable Program

Symptoms of bacterial disease could be popping up over the next week or so. Heavy rains are very favorable for the development and spread of bacteria. Severe disease outbreaks typically occur seven to ten days after a period of humid, rainy weather. High winds and hail cause wounds which enable pathogens to enter and infect the tissue. Three different pathogens may be involved (Table 1). Each may cause lesions (spots) on leaves, stems or pods.

Common bacterial blight on dry beans in New York.
Photo: Julie Kikkert, CCE Cornell Vegetable Program

Management

- Application of copper at the first sign of infection may help reduce the spread. However, these diseases may be impossible to control in wet weather.
- Resistant varieties where available
- High quality, certified seed (can be seedborne)
- Crop rotation, with beans planted once every fourth year
- Avoid working in fields when they are wet

Table 1. Bacterial Diseases of Beans

Common Name	Scientific Name	Common Hosts	Environment Favoring	Age of Infected Leaves
Bacterial Brown Spot	*Pseudomonas syringae pv. syringae*	Snap bean, dry bean, lima bean, pea	High humidity; moderate temps with daily highs less than 86°F	young leaves
Halo Blight	*Pseudomonas syringae pv. phaseolica*	Snap bean, dry bean, lima bean, soybean	High humidity; Moderate temps with daily highs less than 77°F	young leaves
Common Bacterial Blight	*Xanthomonas campestris pv. phaseoli or X. axonopodis pv. phaseoli*	Snap bean, dry bean, cowpea, soybean	Warm temps with daily highs greater than 86°F	Middle-aged to older leaves

Bacterial brown spot on dry bean pod. *Photo: Howard F. Schwartz, Colorado State University, Bugwood.org*

Chlorosis and isolated lesions of Halo blight on dry bean leaves (left). Halo blight on bean pods (right). *Photos: Howard F. Schwartz, Colorado State University, Bugwood.org*

Bean leaves showing advanced symptoms of common bacterial blight. *Photo: Howard F. Schwartz, Colorado State University, Bugwood.org*

Additional Information and Photos

https://www.vegetables.cornell.edu/pest-management/disease-fact-sheets/bacterial-diseases-of-beans/

Onion Thrips Control in Onion with Insecticides After the Ride with the "Momentum of Movento" is Over

Christy Hoepting, Cornell Cooperative Extension, Cornell Vegetable Program

Onion thrips are notorious for developing resistance to insecticides. To combat the development of insecticide resistance, insecticides belonging to different modes of action (IRAC groups) are rotated throughout the growing season. No more than 2 consecutive applications within a 2-week period should be made and ideally an IRAC group should not be repeated within the growing season. Table 1 includes a list of insecticides available for onion thrips control in onion.

Movento/Senstar is a highly effective insecticide for controlling onion thrips, which does not work very well if it is applied after bulbing. Thus, it is strategically placed first in the sequence and is applied when the spray threshold of 0.6 – 1.0 thrips/leaf is met or at pre-bulbing, whichever comes first. Two applications of Movento/Senstar applied pre-bulbing 7-10 days apart usually results in 1-2 weeks of residual thrips control, and sometimes even 3 weeks! The insecticide that is applied next in the sequence is often determined by thrips pressure, because their effectiveness varies.

It is common to select **Agri-Mek or Minecto Pro** after Movento/Senstar, because these products, which contain active ingredients belonging to IRAC group 6, have a 30-day PHI (pre-harvest interval). Thus, IRAC 6 products cannot be used in August for plantings that are harvested at the end of August. If not used in July, the opportunity to use this IRAC group is lost.

- Note, Agri-Mek generally cannot effectively control thrips when pressure exceeds 1.0 thrips/leaf. If thrips pressure is between 1.1 and 2.0 thrips/leaf, Minecto Pro should be used instead.

Radiant 8-10 fl oz is often more effective than Minecto Pro and can effectively manage thrips pressure at a density of 1.5 – 2.5 thrips/leaf.

- Note that Cornell does not recommend the lowest labeled rate of Radiant 6 fl oz/A.

Similar to Radiant, **low and moderate rates of Exirel 13.5 – 16 fl oz/A** can effectively manage thrips pressure of 1.5 - 2.5 thrips/leaf.

- Note, that Exirel is a component of Minecto Pro, so cannot be used following 2 consecutive applications of Minecto Pro. Spray sequences that follow proper insecticide resistance management practices include:
  - Agri-Mek, Agri-Mek, Exirel, Exirel, Radiant, Radiant (or Exirel and Radiant in reverse order)
  - Minecto Pro, Minecto Pro, Radiant, Radiant
  - Agri-Mek, Minecto Pro, Exirel, Radiant, Radiant
  - Radiant, Radiant, Exirel, Exirel (or in reverse order)

The **most effective insecticide is the high rate of Exirel 20.5 fl oz/A**, which has been shown to effectively manage thrips pressure of 8-17 thrips/leaf in Cornell trials. It must be used if thrips pressure exceeds 4 thrips/leaf.

Radiant 8-10 fl oz/A can also effectively control thrips pressure of 2.6 – 4+ thrips/leaf if it is used on a highly sensitive population. It may not be as effective on populations that have been exposed to Radiant every year for over a decade (e.g. Elba muck).

It is not uncommon to not see the knockdown in thrips pressure until a week after the second application.

Table 1. Spray thresholds for insecticides used to control onion thrips in onion. Products listed in order from least to most effective for control of thrips.

Trade Name and Rate/A	Rate/A	IRAC[1] Group	Spray Threshold (No. onion thrips/leaf[2])
Warrior II with Zeon Technology (and generics and other pyrethroids) Only use in tank mix with Lannate LV	1.92 fl oz	3A	0.6 – 1.0
Lannate LV (only use is a tank mix with pyrethroid, or to improve control of any of the insecticides below)	3 pt	1A	0.6 – 1.0
Agri-Mek SC (and generics)	3.5 fl oz	6	0.6 – 1.0
Minecto Pro	7.5 – 10 fl oz	6 + 28	1.1 – 2.0
Movento	5 fl oz	23	0.6 – 1.0 or pre-bulbing[3]
Senstar	10 fl oz	23 + 7C	0.6 – 1.0 or pre-bulbing[3]
Exirel (low and moderate rates)	13.5 – 16 fl oz	28	1.5 – 2.5
Radiant SC	8 – 10 fl oz	5	1.5 – 2.5
Radiant SC (highly susceptible population)	8 – 10 fl oz	5	2.6 - ≥ 4.0
Exirel (high rate)	20.5 fl oz	28	2.6 - ≥ 4.0

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

2 Total number of thrips per plant ÷ Number of leaves per plant = Number of thrips per leaf.

3 Movento and Senstar do not work very well when the onion plant is bulbing. To take advantage of this highly effective chemistry, make the first application either at threshold or at the pre-bulbing stage, whichever comes first.

For More Information

The newly designed schematic diagram with new spray thresholds is available online at the Cornell Vegetable Program website (CVP.CCE.CORNELL.EDU) as well as an article that describes the different spray programs to consider.

CROP Insights

Observations from the Field and Research-Based Recommendations

GENERAL

Many crops are being attacked by a variety of insect pests. Japanese beetles are in no short supply and are quickly defoliating seemingly whatever they want. One observation has been that some crops may start off with a few beetles and mating seems to attract even more. Treatments have generally focusing on larger infestations but perhaps more success might come from applying products as soon as a few beetles are noticed. Many products already on your shelves may be labeled so read the container thoroughly. – RH

BEETS

The weather has been favorable for Cercospora leaf spot (CLS) according to the CLS Decision Support System (DSS) with most weather stations reporting a period of moderate or in a few cases, high risk this week (see the table below). The CLS DSS is available for free at https://newa.cornell.edu/beet-cercospora-leaf-spot and has the option of displaying a graph for the season. CLS has been confirmed in several counties. Fungicide applications are generally only warranted if disease is present in the field, there is moderate or high risk based on the weather conditions, and the field has a significant time until harvest by top-pulling machines or the beets are being sold with the tops on (bunching beets). CLS has been confirmed in several counties. - JK

Risk of Cercospora leaf spot on table beet from July 23 to July 28 using a forecasting model. Risk classification of CLS is based on cumulative 2-days/risk, and the forecast is based on weather data from Network for Environmental and Weather Applications (NEWA) models.

Cercospora Leaf Spot 2-Day Risk

	achieved			forecast		
Location	**July 23**	**July 24**	**July 25**	**July 26**	**July 27**	**July 28**
Albion	2	2	**5**	**4**	2	3
Bergen	0	2	**4**	3	3	**4**
Elba	0	2	**5**	**5**	**4**	**4**
Geneva	1	**4**	**7**	3	2	**4**
Lyndonville	**5**	**6**	**6**	**5**	**5**	**5**
Medina	0	1	3	2	2	**4**
Sodus	3	**7**	**5**	1	1	3
Waterport	3	**4**	**6**	**4**	3	**4**

Low ≤ 3; Moderate 4 to 6; High ≥ 7.
Data from newa.cornell.edu accessed 9:00 am on 7/26/2023.

CANTALOUPE

Two Spotted Spider Mites on cantaloupes are causing increasing damage as local growers move towards main season harvest. Spider mites on melons can begin with an appearance that hints of nutrient deficiency or disease. Yellow spots can be rectangular or semi-circular, eventually turning brown. Turning over the leaves, however, we can find mini-colonies of spider mites that correspond to the upper surface yellow spots. Once these colonies grow into each other, the entire upper leaf surface can become yellow, and mites will be more evident and produce webbing. This lack of chlorophyll and canopy at the critical point of fruit maturation can decrease quantity and quality of cantaloupe. **Remember that mites are not insects, and therefore not controlled by most insecticides.** In fact, pyrethroid insecticide applications will increase spider mite populations. As these materials are common and effective for Striped Cucumber Beetle, mite outbreaks often follow applications. Thus, **control materials must have miticidal activity.** There are a limited number of registered materials for mites on melons, and even fewer that have a pre-harvest interval (PHI) that works this time of year. Acramite (group 20D) is limited to one application per growing season and has a 3 day PHI. Portal XLO (group 21A) also has a 3 day PHI for melons. Both of these materials are non-restricted use. Organic growers could consider the application of natural enemies, although there is not a strong body of literature supporting field level releases of natural enemies. All growers benefit from encouraging the presence of 'good bugs' such as predatory mites, minute pirate bugs, and predatory thrips, which will feed on spider mites. To encourage the presence of these natural enemies farmers can plant diverse habitat and an avoid broad spectrum insecticides (including organic versions). – JR

Yellow spots on cantaloupe leaves caused by Two Spotted Spider Mite can be rectangular or semi-circular, eventually turning brown. *Photo: Judson Reid, CCE*

Turning over the leaves, we can find mini colonies of spider mites that correspond to the upper surface yellow spots. Look closely for tiny yellowish mites, with two stripes or spots on their back. This may require a hands-lens. *Photo: Judson Reid, CCE*

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DRY BEANS

Mexican bean beetles are present in all life stages in many bean fields this week. If left unchecked, MBB can quickly defoliate plants, so numbers should be monitored, and treatment considered when there is 40% defoliation pre-bloom, or >15% defoliation during pod-fill. With many fields in bloom and later planted fields starting to enter bloom stages, white mold management should now be considered. An initial application of Omega 500F is recommended followed by a second application of Endura 70 WDG. The first application should be made at the early bloom stage. – ML

Western Bean Cutworm Report

Western bean cutworm trapping has begun at 12 locations in the region (see Table). All traps were set up the week of June 26. This project is project funded by the New York Farm Viability Institute and the NYS Dry Bean Endowment.

Moth numbers are picking up at all locations, and peak flight is expected within the next week. Many locations are now above the 50 cumulative moth threshold for scouting. To scout for WBC, inspect 50 plants per field (10 stops, 5 plants per stop), looking at all pods present on the plant for holes. WBC chew directly into the pod and eat the seed. It can be difficult to scout dry beans for egg masses or caterpillars, since the caterpillars move from the pods to the soil during the daytime, so looking for signs of damage is the best strategy. European corn borer damage (ECB) may be similar to WBC, but an ECB larva would likely still be present in the pod when inspected. If damage into the pod and seed is found with no larva present, it is possible this is WBC. A spray is recommended if dry bean pod damage is found.

Western bean cutworm adult moth numbers by date for each dry bean trap location.

Dry Bean Location	July 3	July 10	July 17	July 26	Cumulative Moths
Avoca Hill (Steuben Co.)	2	5	8	47	**62**
Avoca Valley (Steuben Co.)	1	0	12	58	**71**
Avon (Livingston Co.)	0	1	6	23	**30**
Caledonia (Livingston Co.)	1	0	8	46	**55**
Churchville (Monroe Co.)	0	1	11	30	**42**
LeRoy (Genesee Co.)	1	0	31	83	**115**
Penfield (Monroe Co.)	0	3	11	51	**65**
Penn Yan (Yates Co.)	0	1	2	19	**22**
Wayland Hill (Steuben Co.)	0	1	11	47	**59**
Wayland Valley (Steuben Co.)	3	4	14	30	**51**
Wyoming Hill (Wyoming Co.)	0	2	24	72	**98**
Wyoming Valley (Wyoming Co.)	0	1	18	41	**60**

ONIONS

Yet another beautiful week for onions in the CVP region! Direct seeded onions have 0.5 to 1.5” bulbs with tall foliage that is green to the leaf tips and reaching for the sky. First plantings of early-maturing varieties were harvested last week in Elba muck. The pulling and harvesting of onions have “tipped over the apple cart” so to speak and set in motion the movement of thrips from pulled fields to adjacent green fields throughout the Elba muck. In one of our scouting fields, thrips increased 11-fold from 0.8 to 8.9 thrips/leaf over the past week due to an influx from nearby fields being pulled. Exirel 20.5 fl oz/A is the only insecticide product that we have that will be able to handle such high pressure. Thrips pressure remains low again this week in Oswego and Wayne Cos. See article on page 4 for more information on spray thresholds and relative performance of different insecticide options that may be used after Movento.

Botrytis leaf blight (BLB) halo lesions continue to decline as BLB necrotic spots continue to increase and Stemphylium leaf blight (SLB) is generally minor across the region. Many growers have begun their final 4-5 week SLB fungicide spray programs of which two sprays will be double FRAC 3-product tank mixes that include Tilt or Viathon or both, which is currently the most effective treatment for SLB (and BLB necrotic spots). Note, that an alternative treatment to Viathon 3 pt (FRAC 3c + P07) + Tilt 8 fl oz (FRAC 3a) that should be equally as good is Inspire Super 20 fl oz (FRAC 3b + 9) + Tilt 8 fl oz (FRAC 3a) + Rampart 3 qt (FRAC P07). It is the FRAC P07 active ingredient that gives Viathon a boost over Inspire Super/Quadris Top. In 2022 on-farm onion fungicide trials, Tilt was the most effective single FRAC 3 product, followed by Viathon (includes P07), which were both better than Inspire Super and Quadris Top. The tank mix of Inspire Super + Quadris Top was not as good as Viathon + Tilt/Inspire Super or Quadris Top + Tilt. We also recommend using the highest labeled rates of FRAC 3 products, including when used in tank mixes, for best fungicide resistance management practices.

Fungicides with activity on downy mildew (DM) should be included in the tank mix at this time as crop canopies are thick (creating a microclimate of humid conditions favorable for disease), dews are falling at night (extending periods of leaf wetness) and DM has been detected in the Holland March north of Toronto in Ontario, Canada. Products with FRAC 11 (Quadris Top) and P07 (Viathon, Rampart, Reveille, etc.) have activity on DM. Otherwise, mancozeb (FRAC M3) should be added to the tank mix. Once risk of DM goes up (e.g. DM is detected, or conditions become highly favorable), Orondis (FRAC 49) and Ridomil (FRAC 4) products should be used. – CH

PEAS

Harvest of the processing pea crop should finish up this week. It has been a good year overall. Weeds and slugs/snails have been issues. – JK

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POTATOES

Potato leaf hopper nymphs are active in many fields. Fields should be treated if more than 15 nymphs are found on 50 leaves. – ML

Most locations have reached the 30 blight units (BU) needed to trigger a spray for late blight this week. If the weather station closest to you has not yet reached 30 BU and the forecast indicates that it will in the next 2-3 days, a spray is still recommended. The chart assumes use of a susceptible potato variety Reba, and an application of chlorothalonil on July 19. For locations that are not close to a weather station, forecast information should only be used as a general indication of how favorable weather has been for late blight. Forecast BUs are subject to changes as the weather forecast changes, so check forecasting tools regularly to see if disease forecasts have changed. Information for other weather stations can be found at: https://newa.cornell.edu/all-weather-data-query. Late blight has been found on potato in Ontario Canada in past weeks. No new late blight has been reported this week. With continued wet weather throughout Western NY, it is important to continue to be consistent with your spray programs this year. – ML

Late Blight Risk Chart, 7/26/23

Location	Blight Units 7/19-7/25[1]	Predicted Blight Units 7/26-7/28[2]
Albion	18	23
Arkport	33	46
Baldwinsville	27	32
Bergen	21	31
Brant	18	29
Buffalo	35	51
Burt	-	-
Ceres	38	56
Dansville	38	51
Elba	30	45
Fairville	49	61
Farmington	36	42
Fulton	41	57
Geneva	22	28
Hammondsport	17	27
Knowlesville	30	45
Lyndonville	33	50
Medina	16	21
Niagara Falls	37	54
Penn Yan	37	51
Rochester	39	54
Sodus	25	30
Versailles	26	32
Wellsville	37	57
Williamson	28	28

Calculated using a May 31 crop emergence date. Last fungicide application July 19 on susceptible cultivar Reba. Numbers in red indicate locations that have or will surpass the 30 BUs needed to trigger a fungicide application.

1 Past week Simcast Blight Units (BU)

2 Three-day predicted Simcast Blight Units (BU)

SNAP BEANS

Harvest is underway and will continue into September. Rain and humid weather put beans at greater risk for a range of diseases. See article on page 3 about bacterial diseases. Flooded fields and wet spots because of recent heavy rains put plants at risk of drowned roots and diseases such as Pythium crown rot and *Phytophthora capsici*. Fields with a history of Sclerotinia white mold and with dense canopies are most at risk for developing white mold. Rainy weather is highly favorable! Flowers become infected and disease spreads to the rest of the plant. A first fungicide should be applied to fields at risk when there is an average of 1 open flower/plant in 10% of the plants; a second application may be considered at 100% bloom (this may happen within a day or two in some varieties in warm weather). Research in the Pethybridge group at Cornell focused on the products Endura, Topsin 4.5 FL, and Omega 500F. Each of these products is highly efficacious when applied at optimal timing and there was no significant difference in the disease control between the products. In further teasing out the optimal application timings, our research has shown that the optimal timing of Topsin 4.5 FL is at 10% bloom, and that this product is not effective when applied at 100% bloom. Furthermore, there is no benefit to a second application. Conversely, disease control with Omega 500F was not related to timing (10% or 100% bloom) and there was no benefit from a second application even when applied at 100% bloom. For growers who were not able to put on a spray at 10%, then Omega 500F would be the choice product to use. The timing of the other possible fungicides was not tested. For organic growers, the most efficacious and reliable product from year to year is Double Nickel (*Bacillus amyloliquefaciens* strain D747). Both the LC and 55 formulations are equally effective. While labeled at the rate of 1 to 2 quart/acre, there was no benefit of the higher rate, and thus 1 quart/acre is recommended. – JK

TOMATOES

Seeing some bacterial disease in field tomatoes, favored by wet weather. Bacterial spot causes small, dark brown lesions irregularly distributed across leaves. On fruit, lesions are brown and raised, becoming scablike and sunken in the middle with age. A developing fruit lesion may have a faint white halo which disappears with age. Bacterial speck produces leaf lesions which are dark brown to black and are more prominent on the lower leaf surface. A yellow halo develops around each lesion with time. This disease causes tiny, almost black specks on fruit which are sometimes accompanied by a dark green halo. Bacterial canker causes wilting, curling of leaflets, and browning of leaf margins, often on just one side of the plant. Fruit symptoms begin as whitish, small spots with tan or brown centers. These lesions can turn brown with age, mimicking bacterial spot fruit symptoms. – SC

Sweet Corn Pheromone Trap Network Report, 7/25/23

Marion Zuefle, NYS Integrated Pest Management Program, Cornell; https://sweetcorn.nysipm.cornell.edu/

Statewide, 30 of 35 sites reported this week. European corn borer (ECB)-E was caught at 6 sites and ECB-Z was caught at 5 sites. Corn earworm was caught at 15 sites with 10 sites high enough to be on a 4, 5, or 6 day spray schedule (see table below). Fall armyworm (FAW) was caught at 6 sites and Western bean cutworm (WBC) continues to increase, with 28 sites reporting catches. WBC will most likely peak over the next 10 days.

I have heard several reports of FAW damage seen in the field with no or low FAW trap catches. Please be sure to scout your fields especially at locations where CEW are too low to determine the spray schedule.

Average Corn Earworm Catch			Days Between Sprays
Per Day	Per Five Days	Per Week	
<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.

It is also recommended that all fields that are in the whorl or early tassel stage be scouted for WBC egg masses with a 4% threshold for processing sweet corn and a 1% threshold for fresh market sweet corn. WBC will usually lay eggs on the upper side of the top 1-3 leaves of pre-tassel corn, close to the leaf base. After tasseling has finished WBC seek out younger corn or dry beans. To scout for egg masses check the top 3 leaves of ten corn plants in ten locations throughout the field. The eggs are easy to observe if you view the leaf while holding it towards the sun. The egg mass will appear as a distinct shadow. It takes between 5-7 days for eggs to hatch. It is critical that sprays are timed before the larvae have a chance to enter the ear. The egg mass will become purple in color approximately 24 hours before egg hatch.

WNY Pheromone Trap Catches: July 25, 2023

Location	ECB-E	ECB-Z	ECB Hybrid	CEW	FAW	WBC
Batavia (Genesee)	0	0	NA	0	1	13
Bellona (Yates)	0	0	0	0	0	78
Eden (Erie)	0	0	NA	7	0	40
Geneva (Ontario)	0	1	0	0	0	3
Hamlin (Monroe)	4	2	NA	0	0	35
Leroy (Genesee)	0	6	NA	1	2	14
Lyndonville (Orleans)	0	0	NA	1	0	194
Oswego (Oswego)	0	0	NA	0	0	60
Panama (Chautauqua)	1	0	NA	1	0	33
Penn Yan (Yates)	0	0	0	3	0	11
Portville (Cattaraugus)	NA	NA	NA	NA	NA	NA
Ransomville (Niagara)	0	0	NA	0	0	4
Stanley (Ontario)	0	NA	0	0	0	7
Williamson (Wayne)	0	0	NA	0	15	178

ECB: European Corn Borer; CEW: Corn Earworm; FAW: Fall Armyworm; WBC: Western Bean Cutworm

Wet Weather and Flooding Can Affect Weeds and Weed Control

Lynn M. Sosnoskie, Weed Ecology and Management for Specialty Crops, Cornell

Here are 9 things to remember about weed control in wet weather.

1. Wet weather conditions can be stressful and may impact the growth and vigor of crops; this, in turn, can affect crop-weed competitive interactions.
2. Wet soils can result in delayed or missed weed control events, such as cultivation and spraying. This may allow weeds to escape optimum management windows. Driving on or physically working wet soils can lead to compaction. Compaction can affect soil aeration, crop root system development, and future drainage in the field.
3. Weeds that are stressed by wet weather conditions may not respond well to postemergence herbicides. Rain events may be associated with fluctuations in soil and air temperature, which can also affect weed vigor and, subsequently, herbicide performance.
4. If trying to make postemergence applications between rainfall events, check the product label for rainfast periods.
5. Too much rainfall could facilitate the leaching of residual herbicides that have high water solubility (measured in ppm) and low soil adsorption (measured in Koc). Herbicide loss may be more pronounced on sandy/corase soils. For herbicides that do bind tightly to soil, microbial degradation may be altered under wet conditions.
6. Wet conditions could increase the injury to crops by residual herbicides if crop emergence is slowed.
7. Flooding may physically move herbicide treated soil via erosion. This may result in chemicals moving out of a field and onto non-target plants or becoming concentrated in low spots within a planting area. Both conditions can result in reduced weed control (or evenness of weed control) and increase injury potential to desirable species or crop plants.
8. Flooding may result in weed seed movement.
9. If weed control has failed, applicators may feel compelled to act rapidly to manage unwanted vegetation. Don't let haste lead to herbicide drift events.

Upcoming Events

Vegetable Pest & Cultural Management Field Meeting for Auction Growers

Seneca Produce Auction Meeting
August 2, 2023 (Wednesday) | 7:00 pm - 9:00 pm
David Peachey Farm, 5426 Rt. 414, Romulus, NY 14541

This meeting gathers produce auction growers together to tour another farmer's produce farm. Cornell Vegetable Program staff will instruct participants and facilitate peer-based learning. Details on each topic will focus on field observations at the farm. 1.75 DEC credits offered (categories 10, 1a, 23, 24).

Niagara Regional Produce Meeting (with correct address)

August 2, 2023 (Wednesday) | 5:30 pm dinner; meeting 6:00 - 7:45 pm
CORRECT ADDRESS → Robinson Farms, 3681 N Ridge Rd, Lockport, NY 14094

1.25 DEC credits available in 1a, 10, 23. Must pre-register by noon on 8/2 to attend dinner (585-406-3419).

Agronomic Weed Management and Cover Crop Field Session

August 15, 2023 (Tuesday) | 3:30 - 6:00 pm afternoon session; 6:00 dinner; 6:50 - 8:10 pm evening session
5701 Burton Rd, Orchard Park, NY 14127

DEC credits requested and pending approval in CORE, 1a, 10, 21 and 23. Topics include:

- Emerging problem weed species
- Dealing with changing herbicide efficacy and the impact of erratic weather
- Managing spray water to improve herbicide efficacy
- Soil health practices
- Demo: Calibrating and using a dual seed box drill to establish cover crop
- Erie Soil & Water's soil health equipment lending program
- Field demo of various cover crops

For more information, contact Elizabeth Buck at 585-406-3419.

Cornell Cooperative Extension
Cornell Vegetable Program

480 North Main Street
Canandaigua, NY 14424

VEGEdge
YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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VegEdge is the highly regarded 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 University 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

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