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VEGEdge

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Snap Bean Pod Flecking Complex

Julie Kikkert, Cornell Cooperative Extension, Cornell Vegetable Program

This week, an Extension Educator from out of our Western NY program region sent me some photos of snap bean pods with blemishes. I immediately thought "russeting", but it prompted me to look up information that Dr. Helene Dillard and colleagues worked on in the early 2000's. The name given to these rusty looking spots and flecks on pods is "Pod Flecking Complex" or PFC for short. It is a sporadic problem in New York. Symptoms include tan, orange, or black discoloration in the suture and/or small dark superficial specks, flecks, or spots (sometimes sunken) on the pod surfaces.

In 2006, the lab of Helene Dillard at Cornell was alerted to various blemishes on snap bean pods that resulted in considerable losses to some fields in New York and Pennsylvania. Late in the growing season, losses were common at 8-9% and occasionally reached as high as 20%. The lab group collected snap bean plant and pod samples from 20 fields in Western and Central NY. They also received additional samples of bean pods with "russet" symptoms sent in from producers and processors in NY and PA. Affected varieties included Titan, Hystyle, Bronco, and Diplomat. The researchers isolated several potential pathogens from the pod samples. In testing the samples, they were able to reproduce the russet symptoms in greenhouse and mist chamber tests with two fungal species, *Alternaria alternata* and *Plectosporium tabacinum*. The problem in 2006 was most prevalent in mid- to late August following periods of prolonged rainfall or rainfall of high intensity. Symptoms also became more apparent as bean pods increased in size and maturity.

Pod flecking caused by *Alternaria alternata* (Fig. 1) appears initially as small, irregular, water-soaked flecks and occurs on leaves, petioles, and pods, and the lesions tend to darken with age. The infected tissues remain only a few cells deep. The flecks may coalesce to produce long streaks. Spots may be sunken or raised (Dillard and Cobb, 2007a).

The laboratory of Dr. Dillard identified *Plectosporium tabacinum* as a causal agent of "russet" on snap beans (Dillard, et al. 2005). According to Dillard and Cobb (2007b), "*P. tabacinum* has recently become more visible in the United States as a new or emerging pathogen on yellow summer squash pumpkin, and zucchini. The organism appears to opportunistically parasitize plants under conducive wet conditions. Russet symptoms observed in commercial fields of the cultivars Brio, Gold Mine, Hystyle, and Hercules were evident only on the pods and consisted of diffuse, superficial, light brown necrotic areas or flecks on the pods with undefined borders (Fig. 2). Symptoms were often severe in the sutures of the pods and the lesions varied in size and shape.

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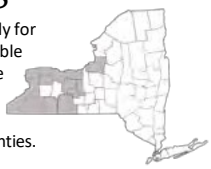
About VegEdge



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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.

We're interested in your comments. Contact us at:
CCE Cornell Vegetable Program
480 North Main Street, Canandaigua, NY 14224
Email: cce-cvp@cornell.edu
Web address: cvp.cce.cornell.edu

Contributing Writers
Elizabeth Buck
Robert Hadad
Christy Hoepting
Margie Lund
Julie Kikkert
Judson Reid

Publishing Specialist/Distribution/Sponsors
Angela Ochterski

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The next issue of VegEdge newsletter will be produced on August 24, 2022.

Accumulated Growing Degree Days, 8/15/22

Nina Gropp, CCE Cornell Vegetable Program

Accumulated Growing Degree Days (AGDD)
Base 50°F: April 1 - August 15, 2022

Location**	2022	2021	2020
Albion	1931	2027	1942
Appleton	1848	1841	1859
Arkport	1681	1583	1685
Bergen	1880	1825	1894
Brocton	1894	1865	1874
Buffalo*	1952	1996	2012
Ceres	1573	1640	1632
Elba	1773	1736	1810
Fairville	1808	1760	1852
Farmington	1811	1806	1866
Fulton*	1802	1761	1913
Geneva	1904	1860	1933
Hammondsport	1820	1752	1869
Hanover	1881	1848	1855
Jamestown	1623	1617	1631
Lodi	2083	1532	1962
Lyndonville	1781	1848	1908
Niagara Falls*	2037	1939	1915
Penn Yan*	1966	1948	2004
Rochester*	1939	1882	1932
Romulus	1965	1918	1994
Sodus	1976	1915	1880
Versailles	1818	1770	1810
Waterport	1848	1820	1879
Williamson	1786	1740	1812

* Airport stations

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

Funds Available for Farm Safety Improvements

The New York Center for Agricultural Medicine and Health (NYCAMH) provides a fund-matching program to enable small and mid-sized farms in New York State to make worker safety upgrades. The John May Farm Safety Fund has awarded over 150 farms since the Fund began in 2015 and continues to accept applications on a rolling basis. **Funded projects are awarded 50% of the cost for the project, up to $5,000.** Some examples of recently funded projects include animal handling equipment, electrical upgrades, and ergonomic workspaces.

If you know a farmer in need of financial assistance for a worker safety upgrade, please direct them to call 800-343-7527 or email JMFSF@bassett.org to speak with a John May Farm Safety Fund team member. Visit www.nycamh.org/johnmayfund to learn more about this unique cost-sharing program.

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In mist chamber tests, severity of russet on bean pods generally increased with pod size at the time of inoculation with *Plectosporium*. Wounding the pods before inoculation had no effect on the amount of russet developing on the pods."

Figure 1. Pod flecking caused by *Alternaria alternata* on snap bean pods. Varieties, left to right: Diplomat, Goldmine, and Hystyle. Photo: Helene Dillard, Cornell.

Figure 2. Symptoms caused by *Plectosporium tabacinum* on snap bean pods. Varieties are Goldmine (left) and Diplomat (right). Photo: Helene Dillard, Cornell.

Dillard and Cobb (2008) tested eight cultivars (Bronco, Caprice, Diplomat, Gold Mine, Hystyle, Titan, Secretariat, Summit) for susceptibility to *A. Alternaria* and *P. tabacinum* isolates. All cultivars were susceptible. Titan consistently developed high levels of disease when inoculated with either pathogen.

Fungicide trials were conducted during the winter of 2007 in a mist chamber, using greenhouse produced potted plants of var. Titan. The plants were inoculated with spores of either *A. alternaria* or *P. tabacinum*. If the percent disease control criterion is set at greater than 43% control, Headline, Bravo WS, Quadris, and Champion provided control of both fungi. Endura, Switch, and Rovral provided control of *Alternaria*, but did not control *Plectosporium*. Topsin M controlled *Plectosporium*, but not *Alternaria*. Ronilan (no longer registered) did not control either fungus. In 2008, several products were tested in field trials and all significantly controlled PFC except for Topsin M and Bravo + Topsin M, but the disease incidence was very low (Dillard, et al. 2009).

Pod Flecking Complex is not sufficiently widespread to warrant planned sprays for disease control. The information presented above provides insight as to which materials have the potential for disease control under field conditions. Additional tests are needed to quantify efficacy in the field and determine application strategies in compliance with days to harvest label requirements. Currently, there are no recommended fungicides for PFC in snap beans (2022 Cornell Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production).

Literature Cited:

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Dillard, H.R., A. Cobb, and D. Shah. 2009. 2008 – Weather Driven White Mold and Pod Flecking, Proceedings of the 2009 Empire State Fruit & Vegetable Expo, February 11-12, 2009, Syracuse, NY, pages 98-100.

Who is Feeding on My Tomatoes?

Elizabeth Buck, Cornell Cooperative Extension, Cornell Vegetable Program

I'm seeing a lot of tomato fruit with feeding damage. That's not surprising given the high level of insect pressure this year. Figured it may be useful to do a quick run-down on what the damage looks like from various insect causes.

Thrips damage on tomato. Credit: Michigan State University Extension.

Thrips are tiny insects, little moving orange-yellow to brown or black lines, that multiply quickly and like to live in sheltered places. They prefer to feed on new, tender tissue. Thrips will hang out and feed on tomato fruit where two fruit are touching. Because of this, their feeding damage is often a ring of diffuse, individual, yellow pinpricks around a ripe red center – the area where the fruit actually touched.

Stinkbugs pierce tomato (and many other fruits) with their mouthparts. They then inject their spit, which contains a plant-toxin, into the fruit. Yeah, that's right. We're all eating stabby-stinkbug backwash. Delish!

So, this plant-toxin in their spit causes the fruit to be unable to mature and ripen near the feeding site. As the fruit turns red and matures you see small, maybe 1/8 inch, feeding scars emerge. These scars are pale white/green to pale yellow spots and they can be anywhere on the fruit. Stinkbugs don't just feed from one spot - that'd be uncharacteristically courteous and an etiquette faux pau for this aggravating species. Stinkbugs tend to leave a couple damage spots near each other on the fruit before moving on to a new side of the poor tomato.

Stinkbug damaged processing tomato. Photo credit: OMAFRA.

Ok, key feature – these marks go part way into the fruit wall but are, on the whole, shallow and totally fine to eat. They make for some seriously unaesthetic fruit and no, those spots will never ripen up. Stink bugs excel at making #1 into #2 and sometimes canners if the damage is dense enough. Damage levels are often higher at field edges - you may see better quality (and $ value) further into the field.

Tarnished Plant Bug (TPB) feeding is very similar to stinkbug damage. If the stinkbug description sounds familiar but you're saying "I had no stinkbugs" then, my friend, this section is for you!

Tarnished plant bugs also have a nasty habit of spitting in their dinner. Like a stinkbug, they cause small, unripening fruit spots, maybe 1-2mm big (#metric #sorrynotsorry #ohcanada). Unlike stinkbug, this damage is super-superficial and scarcely descends into the fruit wall at all.

Key distinguishing feature – tarnished plant bug damage can sometimes be slightly sunken or occasionally cracked. The small unripened area under the skin can be a tad drier than the surrounding tissue.

These little guys disperse throughout a field and are attracted to pigweed seedheads. Meaning those unattended weeds can draw them right into the center of your field. If only a friendly weed scientist were available to help you banish those annoying pigweeds...(much funnier joke knowing that's what my degree is in)…

TPB damage on tomato. Credit: Abby Seaman, NYS IPM

Take away – while Tarnished Plant Bug feeding may be only skin deep, it still requires the buyer to see the beauty inside the tomato. And most buyers are much more into the supermodels of the tomato world. I know, ridiculous aesthetic standards strike again – how antiquated. You're probably looking at a downgrade to #2 unless you were tolerating swarms of TPB in your field.

Vine Killing Options for Potatoes

Margie Lund, Cornell Cooperative Extension, Cornell Vegetable Program

Vines are laying down in potatoes which means it is time to consider options for vine killing. Chemical vine kill 10-14 days prior to harvest helps thicken skins of tubers, leading to less bruising and skinning during harvest and handling. It can also help control tuber size in fields where tubers have grown large during the season, and decreases disease incidence including hollow heart, late blight, and infection by bacterial diseases. Vine kill should mimic natural plant decay, and too rapid of plant death can lead to vascular decay or sunken tubers. To avoid rapid kill when applying chemicals, use low rates on hot, dry days, and higher rates on cooler days. Vines can also be killed mechanically via flail mowing or rolling. If using mechanical methods, mow or roll 14-21 days before harvest to provide tubers time to mature. Be careful to not overly disturb the soil because exposed tubers may become sunburned or damaged. Rolling can also be used in combination with chemical methods to increase rate of natural desiccation. There are several different chemical options for vine kill available to use in New York (read and follow all pesticide label instructions before using any listed chemicals):

Carfentrazone-ethyl (Group 14)
Trade name: Aim EC
Rate/A: 3.2-5.8 fl. oz. (alone) or 2-5.8 fl. oz. (tank mix); PHI 7 days; REI 12 hrs
Apply in later stages of senescence. Adequate desiccation will occur within 14 days after initial treatment. Will also desiccate late season susceptible broadleaf weeds. Two applications may be required if potatoes are in active vegetative growth when first application is applied.

Diquat dibromide (Group 22)
Trade name: Reglone 2L
Rate/A: 1-2 pts.; PHI 7 days; REI 24 hrs.
Two applications may be needed if potatoes are in active vegetative growth when first is application is applied. A second application can be made 5 days after the first if vine growth is dense. Do not exceed a total of 4 pt/A. Drought at the time of application will decrease desiccation effectiveness.

Pyraflufen-ethyl (Group 14)
Trade name: Vida
Rate/A: 5.5 fl. oz. (alone) or 2.75-5.5 fl. oz. (tank mix); PHI 7 days; REI 12 hrs.
Make 1-2 applications with a minimum interval of 7 days. Do not exceed 2 applications or 11 fl. oz/A per crop season. Apply with either a non-ionic surfactant or crop oil concentrate in 20-50 gallons of water/A. Use an approved buffering agent if the pH is greater than 7.5.

Glufosinate (Group 10)
Trade name: Rely 280
Rate/A: 21 oz.; PHI 9 days; REI 12 hrs.
Not for use in Nassau and Suffolk Counties. Make one application at 21 oz/A. Do not split. Potato varieties wit heavy or dense vines may require and application of another desiccation product to complete vine desiccation. Thorough coverage of the potato vines to be desiccated is essential. Use a sufficient volume of water (20 to 100 gpa) to obtain a thorough coverage of the potato vines. Vary the gallons of water per acre and the spray pressure as indicated by the density of the potato vines to assure thorough spray coverage. Increase the spray volume to at least 30 gallons of water per acre when the potato vine canopy is dense or under cool and dry conditions. Apply Rely 280 with the spry boom as low as possible to achieve thorough coverage of the potato vines for best control and to minimize drift potential. See label about rotation restrictions.

Paraquate dicholoride (Group 22)
Trade name: Firestorm and Parazone 3SL
Rate/A: 0.7-1.3 pts.; PHI 3; REI 12 hrs.
For use in **fresh market potatoes only**. Should only be used on fresh market potatoes that will be processed or consumed immediately, and not on tubers that will be stored, as it may result in tuber decomposition in storage. A second application can be made a minimum of 5 days after the first if vine growth is dense. Do not exceed 2.6 pts./A per season. Will also desiccate susceptible grass weeds. Apply with either a non-ionic surfactant or crop oil concentrate. Do not apply to drought stressed potato vines.

CROP INSIGHTS

CVP Team Observations from the Field and Research-Based Recommendations

BEETS

Seneca Foods reports that beet harvest is about 35-40% complete. Yields are good despite the overall dry conditions, running slightly below budgeted yield at this point. Beet size has been good, with few large beets and there has been no decay so far. A small amount of Cercospora leaf spot was reported by a local crop consultant. According to the CLS Decision Support network, Geneva, Lyndonville, and Sodus weather stations achieved a moderate risk on August 10th, whereas Albion, Bergen, Conesus Lake (S), Elba, and Waterport were at low risk. All of these stations were at low risk from Aug 11 to 16th. Weather conditions may change significantly as we approach the end of August/early September and disease could move in quickly. - JK

CARROTS

Root-knot nematodes (*Meloidogyne* spp.) are a major pathogen of carrots, lettuce, and onions in New York. The Northern Root Knot Nematode (NRKN) has a host range of more than 550 crop and weed species. It can survive extremely low winter temperatures such as occur in New York. In carrots, take note of patchy growth in fields. Severely infected roots exhibit forking, galls, hairiness, and stubby roots. Note that forking can also be caused by other soil borne pathogens or compacted soil, however in these cases, no galls will be present on the taproot or fibrous roots. Crop rotation to non-host crops such as sweet corn and other grain crops can significantly reduce the population of NRKN in a field. Winter grain cover crops such as winter rye and oat are poor hosts for NRKN. Other grain and biofumigant cover crops may also reduce NRKN populations. A lettuce bioassay procedure is available to assess the population of NRKN in soils https://ecommons.cornell.edu/handle/1813/43295.

Powdery mildew (*Erysiphe heraclei)* is showing up in some carrot fields. Typically, we see this in hot dry weather. Carrots can survive moderate infection without loss in yields. However, where healthy tops are required such as in machine harvest where the carrots are lifted from the field, the disease can be problematic. It also causes cosmetic issues on foliage of carrots. Fungicides can be applied when the infection begins early in the season or when there is concern over loss of foliage. Several fungicides are labeled. Note that the label will list powdery mildew and the species name may follow as *Erysiphe heraclei*, *E. polygoni* (an older name), or just *E. spp*. - JK

COLE CROPS

Swede midge on untreated broccoli – yikes! - EB

CUCUMBERS

Cuke downy mildew in Erie, Cattaraugus, and Ontario County. - EB

DRY BEANS

As fields start to mature, be sure to monitor for insect pests, especially those that feed on pods. -ML

Western Bean Cutworm Report

Western bean cutworm is being monitored at 12 dry bean locations in the region (Alexander, Avoca Hill, Avoca Valley, Caledonia, Churchville, Pavilion, Penfield, Penn Yan 1, Penn Yan 2, LeRoy, Wayland, and Wyoming). All locations are past peak flight as catch numbers continue to decrease, with overall moth numbers lower this year across the region. Scouting should continue this week in dry beans for damage to pods.

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. In addition, to the WBC traps listed in the sweet corn report, the following dry bean trap sites are being monitored this year (project funded by the NYS Dry Bean Endowment and led by Margie Lund, CVP): (table on next page)

Western bean cutworm (WBC) trap set date and WBC adult numbers by date for each dry bean trap location.

Dry Bean Location	Trap Set	7/12/22	7/19/22	7/26/22	8/2/22	8/9/22	8/16/22	Cumulative WBC
Alexander (Genesee Co.)	6/27/22	1	11	18	23	9	10	**72**
Avoca Hill (Steuben Co.)	6/27/22	1	10	31	53	23	6	**124**
Avoca Valley (Steuben Co.)	6/27/22	2	4	19	28	23	12	**88**
Caledonia (Livingston Co.)	6/27/22	3	8	25	36	36	14	**123**
Churchville (Monroe Co.)	6/27/22	3	30	36	31	24	11	**135**
LeRoy (Genesee Co.)	6/27/22	2	67	92	95	64	16	**336**
Pavilion (Genesee Co.)	6/27/22	1	5	4	3	5	3	**21**
Penfield (Monroe Co.)	6/27/22	2	26	94	120	85	32	**362**
Penn Yan 1 (Yates Co.)	6/27/22	2	6	19	29	20	9	**86**
Penn Yan 2 (Yates Co.)	6/27/22	0	12	7	31	11	13	**74**
Wayland (Steuben Co.)	6/27/22	1	4	34	90	47	16	**193**
Wyoming (Wyoming Co.)	6/27/22	3	24	13	13	1	1	**55**

ONIONS

It was a dry week for onions, which for the most part was okay as critical water needs during bulbing has passed in fields that have lodged. Dry conditions also made for very low disease pressure and we are seeing lowest levels of Botrytis leaf blight (halos and necrotic spots) and Stemphylium leaf blight (SLB) than we have seen in several years. Low disease pressure has allowed several fields to finish their fungicide spray programs with no more than 2 applications of FRAC 3 fungicides, the only remaining FRAC group with activity on SLB, which is very good for reducing the selection pressure on SLB for developing fungicide resistance. Because SLB is developing fungicide resistance to FRAC 3, only tank mixes of two FRAC 3 products are effective with single product FRAC 3 applications not providing adequate control. Make sure your last FRAC 3 app is a two-product combination of FRAC 3 + 3 such as Viathon + Tilt, or Quadris Top + Inspire Super, etc. Also, use the highest labeled rates, and no more than two consecutive applications of FRAC 3 fungicides before rotating to another mode of action. When not applying an insecticide in the tank mix, Bravo has been a nice rotation option. Otherwise, when insecticides are used in the tank mix, premix FRAC 7 fungicides such as Luna Tranquility 16 fl oz/A or Miravis Prime 11.4 fl oz/A plus Rovral 1-1.5 pt/A with or without FRAC P07 (such as Rampart) are good to use in rotation with FRAC 3 to keep the foliage green despite poor SLB control.

Onion thrips pressure in Elba is very high and growers need to strategize their use of Exirel and Radiant by taking into consideration previous applications of Agri-Mek and Minecto Pro, so as not to exceed maximum seasonal use rates – see Tables 1 and 2. For resistance management, do not expose consecutive thrips generations to the same mode of action, which means no more than 2 applications before switching to a new mode of action. Remember that Minecto Pro is a premix of Agri-Mek and Exirel. - CH

Table 1. Maximum rates per application and per season for insecticides used in dry bulb onion to control onion thrips.

	Agri-Mek SC	Minecto Pro	Exirel	Radiant
Maximum Rate /application	3.5 fl oz	10 fl oz	20.5 fl oz	10 fl oz
Maximum Rate /Season (No. max rate apps)	10.25 fl oz 3 apps	20 fl oz 2 apps	61.5 fl oz 3 apps	30 fl oz 3 apps

Table 2. Total allowable number of maximum rate applications of Agri-Mek, Minecto Pro (premix of Agri-Mek + Exirel) and Exirel per season in dry bulb onion for control of onion thrips.

If you use:	You have left:		
	Agri-Mek SC	**Minecto Pro**	**Exirel**
1 app **Agri-Mek SC** 3.5 fl oz	2 apps @ 3.5 fl oz	none	3 apps @ 20.5 fl oz
	1 app @ 3.5 fl oz	1 app @ 10 fl oz	2 apps @ 20.5 fl oz or, 3 app @ 16 fl oz
2 apps **Agri-Mek SC** 3.5 fl oz	1 app @ 3.5 fl oz	None	3 apps @ 20.5 fl oz
	None	1 app @ 10 fl oz	2 apps @ 20.5 fl oz or, 3 apps @ 16 fl oz
1 app **Minecto Pro** 10 fl oz	2 apps @ 3.5 fl oz	None	2 apps @ 20.5 fl oz or, 3 apps @ 16 fl oz
	1 app @ 3.5 fl oz	1 app 10 fl oz	20.5 fl oz + 13.5 fl oz or, 2 apps @ 16 fl oz
2 apps **Minecto Pro** 10 fl oz	1 app @ 3.5 fl oz	None	20.5 fl oz + 13.5 fl oz or, 2 apps @ 16 fl oz

POTATOES

Early blight is moving into many potato fields now, be sure to stay on top of fungicide sprays.

Simcast forecasting indicates that Fulton, Medina, and Versailles have reached the 30 blight units (BU) needed to trigger a spray for late blight this week, while many other locations will surpass 30 BUs by the end of the 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. Because weather conditions can vary depending on topography and altitude, the recent disease information and disease forecasts will be most accurate very close to the weather station used. 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. No new late blight has been reported this week. Past reports include late blight in Ontario, Canada in tomato, and two outbreaks in FL in potato earlier this season according to usablight.org. -ML

Late Blight Risk Chart 8/17/22

Location	**Blight Units[1] 8/10-8/16**	**Blight Units[2] 8/17-8/19**	**Location**	**Blight Units[1] 8/10-8/16**	**Blight Units[2] 8/17-8/19**
Albion	16	28	Geneva	5	17
Arkport	8	27	Hammondsport	0	7
Baldwinsville	0	13	Knowlesville	5	23
Bergen	5	16	Lyndonville	22	39
Brant	13	25	Medina	34	52
Buffalo	10	29	Niagara Falls	10	29
Burt	-	-	Penn Yan	18	38
Ceres	29	46	Rochester	17	36
Dansville	26	46	Sodus	10	20
Elba (Muck)	1	19	Versailles	34	46
Fairville	3	15	Wellsville	15	36
Farmington	14	26	Williamson	1	6
Fulton	37	58			

Calculated using a May 26 crop emergence date, last fungicide application August 10, cultivar Reba.

Numbers in red indicate locations that have or will surpass the 30 blight units needed to trigger a fungicide application.

[1] Past week Simcast Blight Units (BU).

[2] Three-day predicted Simcast Blight Units (BU).

SNAP BEANS
Hot dry weather continued to be the story over this past week, creating stress on beans. Many parts of our region saw rain and hail on August 16th. These storms could bring on disease. Take note of the review of pod-flecking complex (PFC) on page 1 of this issue of VegEdge. - JK

SQUASH/PUMPKINS
Vine crops have been challenged by environmental conditions leading to stress and low fruit set and early maturity. Viral problems are exacerbating fungal infections in areas where the rains have returned. P.cap is becoming aggressive in known high-risk fields where it has begun to rain. - EB

TOMATOES
Septoria is really kicking up in tomatoes. - EB

Bacterial Wilt of Vine Crops

Judson Reid, Cornell Cooperative Extension, Cornell Vegetable Program

There are some diseases that once discovered we can treat for, and still harvest a healthy crop. These include Powdery Mildew, Alternaria, Angular Leaf Spot; even the dreaded Downy Mildew can be stopped by modern chemistries if detected early enough! However, there are some diseases that once inside the plant, we are not able to treat or cure. Viruses have been the most widespread of these in 2023, with Watermelon Mosaic Virus confirmed in many fields. This time of year another incurable disease is evident in vine crops; Bacterial Wilt. The pathogenic bacterium, *Erwinia tracheiphila*, is spread by the striped cucumber beetle and the spotted cucumber beetle. Dull, green, wilted patches appear on damaged leaves which wilt and eventually the entire plant dies. Since not every beetle has the bacterium in their mouth parts, distribution in the field may be spotty. The disease does not move plant-to-plant, or in the soil. Controlling Bacterial Wilt is about controlling cucumber beetle. Our first management tool here is crop rotation. Fields should not see vine crops more than once every three years. Next, we can consider row covers or exclusion netting early in the season (before pollination). Finally, in season we may need to use insecticides. Unrestricted materials include Assail (group 4A, 0 D PHI) and Sevin (Group 1A, 3 D PHI). Restricted use sprays include Warrior (group 3A, 1 D PHI) and Baythroid (group 3A, 0 D PHI).

Rutgers Introduces Non-Herbicide Nutsedge Management Resources for Specialty Crop Growers

Robert Hadad, Cornell Cooperative Extension, Cornell Vegetable Program

I know from many trips across the region, nutsedge is present about everywhere. It is a tough weed to manage. As they mention in their online presentation one small nutsedge tuber can produce 37 shoots which in turn can produce 71 tubers. So this weed can spread rapidly overwhelming one area in the field while being moved around across the field with tillage equipment. –

Rutgers Extension has been working under a new grant in developing methods to add to your tool box tackling this weed if herbicides are not an option. Meredith Melendez, Ag agent for Mercer Cty, NJ and Thierry Besancon – Extension Weed Specialist at Rutgers have produced a factsheet (https://njaes.rutgers.edu/fs1341/) to check out but also has a full presentation on their YouTube channel https://www.youtube.com/watch?v=n_18fBCYH9k&list=PLKx8NLAujm_leJVAFug4ZZMb1KPjsU7-M&index=1

Key points from the fact sheet on management are listed below but for more detail, check out the whole publication.

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Cultivation: Cultivate during dry weather spells to allow nutlet tubers to dry out at the soil surface.

- Repeated cultivation passes are needed to expose the nutlets to the sun and dry air.
- Late spring cultivation of at least a 6" depth.
- Before using equipment in other areas or off the farm, properly clean to remove nutlets.
- Newly formed plants that have just a few leaves are more susceptible to tillage.
- If your crop rotation schedule allows, consider tillage between the final harvest of early spring crops and the planting of summer crops.
- Tillage can also be effective after harvesting summer crops.
- Deep tillage in June can be used for persistent or widespread nutsedge populations to expose nutlets that may be at a greater depth than 6".

Competition: A dense crop or cover crop with a canopy of 18" or taller will shade nutsedge, minimizing its growth and reproduction ability.

- Cover cropping with rye and the use of straw mulch have some impact on the growth of nutsedge through allelopathic properties.
- Nutsedge is not responsive to nitrogen, so proper fertility for crops will improve the competitiveness of your crops over the nutsedge.

Upcoming Events

Chipping Potato Twilight Meeting

August 25, 2022 (Thursday) | 5:00 pm - 6:30 pm, dinner to follow
Mahany Farms, 10046 NY-36, Dansville, NY 14437 (Steuben Co.)

View the chipping potato variety trial and hear updates from Walter De Jong of Cornell! Mike Mager of Arctic Refrigeration will provide updates in potato storage. Brian Nault, Cornell, and Margie Lund, CCE, will talk about insecticidal rotations for Colorado potato beetle and other potato insect updates. 1.0 DEC (categories 1a, 10, 23) recertification credits are available.

Ag CDL Training for Erie Co. Farmers and Farm Employees

CCE Erie is offering an agricultural CDL (commercial driver license) for Class A & Class B licenses, open to **farmers** and **farm employees** from Erie County. **After September 1st**, any **remaining seats may be filled by farmers & farm employees from other counties**. Class size is limited.

Tuition for the CDL training has been negotiated at a lower agricultural rate. Grants may be available to further reduce costs for farms paying the training costs on behalf of their employees.

This training is for drivers who have some experience operating commercial trucks. The class will be held in the Expo Hall Classroom at the Erie County Fairgrounds in Hamburg, October 18-21, 2022. Driver training will occur at the Hamburg fairgrounds on October 24-29, 2022. An informational meeting will be held on Tuesday, October 4th from 7:00 - 9:00 PM.

Visit https://erie.cce.cornell.edu/events/2022/10/18/ag-cdl-training-erie for license eligibility and other details. To register or ask questions, call CCE Erie at 716-652-5400.

Clean Sweep NY (Pre-registration is required)

September 27th: Falconer (Chautauqua County)
September 28th: Hornell (Steuben County)

NYSDEC's CleanSweep NY pesticide collection is coming to our area in September. This is your opportunity to dispose of obsolete, unwanted, or unusable pesticides, fertilizers, paints and other chemicals free of charge. Participants from neighboring counties are welcome and encouraged to attend.

Preregistration required. Please call 518-225-8146 or email cleansweep@dec.ny.gov to request a registration form.

NY Sweet Corn Trap Report, 8/9/22

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

Often at this time of year we are catching CEW at most locations and in high enough numbers that other moths will be controlled by the spray timing needed for CEW. In the absence of CEW, continue to scout for ECB egg masses, and ECB and FAW larvae and feeding damage, using a threshold of 15% infested plants in tassel emergence stage fields and 5% in silk stage fields.

WNY Pheromone Trap Catches: August 16, 2022

Location	ECB -E	ECB -Z	ECB Hybrid	CEW	FAW	WBC	DD to Date
Batavia (Genesee)	0	0	NA	0	0	3	1911
Bellona (Yates)	1	2	0	2	10	11	1937
Collins (Erie)	NA	NA	NA	NA	NA	NA	1847
Eden (Erie)	0	0	NA	1	5	6	1890
Farmington (Ontario)	0	0	NA	0	1	3	1979
Geneva (Ontario)	0	1	0	19	0	3	1927
Hamlin (Monroe)	1	6	NA	109	35	17	1878
Leroy (Genesee)	4	7	NA	43	3	86	1899
Lyndonville (Orleans)	0	2	NA	1	0	25	1867
Oswego (Oswego)	0	0	NA	0	0	15	1774
Panama (Chautauqua)	3	0	NA	3	0	2	1631
Penn Yan (Yates)	0	7	1	7	0	0	1888
Portville (Cattaraugus)	1	0	NA	5	3	5	1670
Ransomville (Niagara)	NA	NA	NA	NA	NA	NA	1982
Seneca Castle (Ontario)	0	0	0	0	0	0	1883
Williamson (Wayne)	0	0	NA	41	0	27	1720

ECB: European Corn Borer; CEW: Corn Earworm; FAW: Fall Armyworm; WBC: Western Bean Cutworm; NA: Not Available; DD: Degree Days based on accumulation starting April 1 and modified to 86/50.

Average corn earworm catch			
Per Day	**Per Five Days**	**Per Week**	**Days Between Sprays**
<0.2	<1.0	<1.4	No Spray(for CEW)
0.2-0.5	1.0-2.5	1.4-3.5	6 days
0.5-1.0	2.5-5.0	3.5-7.0	5 days
1-13	5-65	7-91	4 days
over 13	over 65	over 91	3 days
Add one day to the recommended spray interval if daily maximum temperatures are less than 80° F for the previous 2-3 days.			

Cornell Cooperative Extension
Cornell Vegetable Program
480 North Main Street
Canandaigua, NY 14424

VEGEdge

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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.

Contact Us

VEGETABLE SPECIALISTS

Elizabeth Buck | 585-406-3419 cell | emb273@cornell.edu
fresh market vegetables, weed management, soil health

Robert Hadad | 585-739-4065 cell | rgh26@cornell.edu
farm food safety, organic, business & marketing, fresh market vegetables

Christy Hoepting | 585-721-6953 cell | cah59@cornell.edu
onions, cabbage, broccoli, garlic, pesticide management

Julie Kikkert, Team Leader | 585-313-8160 cell | jrk2@cornell.edu
processing crops (table beets, carrots, peas, snap beans, sweet corn)

Margie Lund | 607-377-9109 cell | mel296@cornell.edu
potatoes, dry beans, post-harvest handling and storage

Judson Reid | 585-313-8912 cell | jer11@cornell.edu
greenhouses/high tunnels, small farming operations, fresh market vegs

PROGRAM ASSISTANTS

Sarah Caldwell | sv483@cornell.edu

Nina Gropp | ng392@cornell.edu

Lori Koenick | lbk75@cornell.edu

Angela Ochterski | aep63@cornell.edu

Anthony Rampulla Jr | ar928@cornell.edu

ADMINISTRATION

Peter Landre | ptl2@cornell.edu

Steve Reiners | sr43@cornell.edu

Cornell Cooperative Extension
Cornell Vegetable Program

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