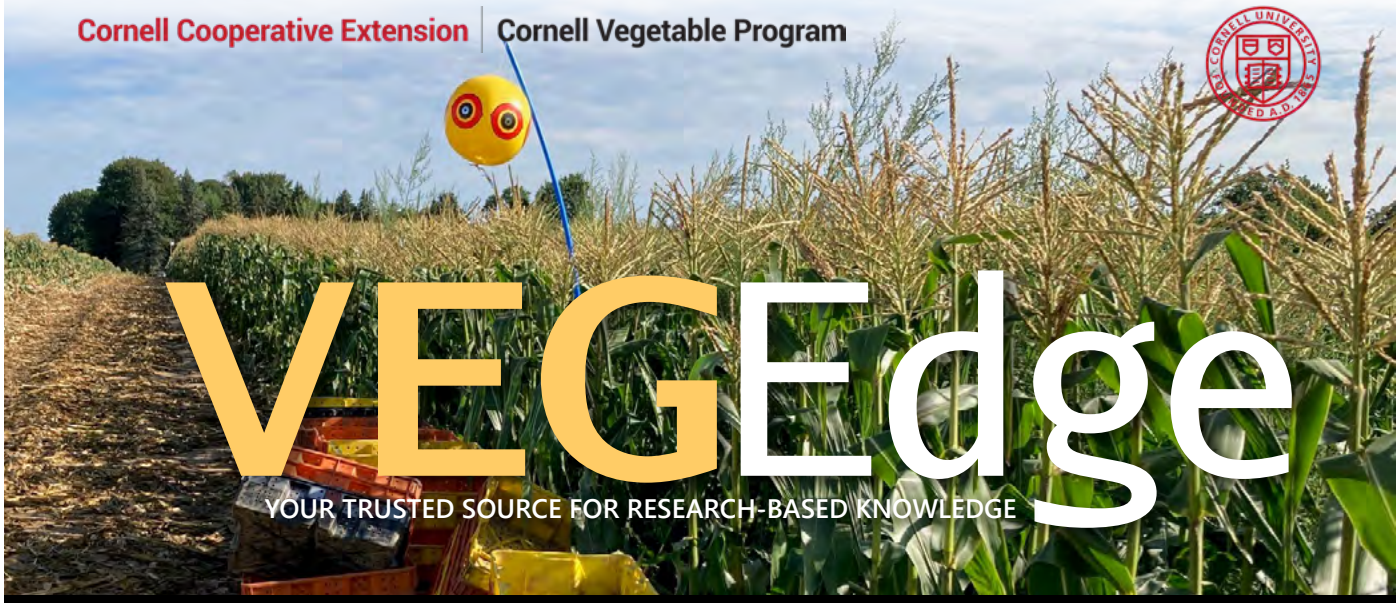
Cornell Cooperative Extension | Cornell Vegetable Program



VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Volume 19 • Issue 20 • August 23, 2023

Cabbage Maggot, the Bane of Later Season Root Crops

Robert Hadad, Cornell Cooperative Extension, Cornell Vegetable Program

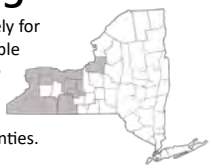
Nothing is more frustrating then having a great looking root vegetable crop growing in the field only to discover the roots are full of holes, disfigured, and smelly. The most likely culprit is cabbage maggot, or more correctly maggots since there will probably be lots of them present. The cabbage root maggot fly is active this time of the season (again – active in spring also). There are several generations during the summer but it is the last generation that really attack the root crops (as well as damaging cabbage and other brassica root systems causing wilting, weak plants, and eventually plant death).

Tight weave row cover or fine insect netting set down over germinating plants is a good defense. Keep the edges secured. Do not plant root crops in a field where brassicas were grown in the spring. Rotate your plantings well away from where spring planted crops were to reduce chances of running into established populations.

There are not too many chemical controls available. Check the labels for what type of brassicas some of these products can be used on and when.

Maggots feeding on turnip roots (left) and the damage left by their feeding on a harvested turnip (right). *Photos: Michigan State University Extension*

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.

Contents

The next issue of VegEdge newsletter will be produced on August 30, 2023.

Accumulated Growing Degree Days, 8/21/23

Julie Kikkert, CCE Cornell Vegetable Program

Accumulated Growing Degree Days (AGDD)
Base 50°F: April 1 - August 21, 2023

Location**	2023	2022	2021
Albion	1944	2063	2199
Appleton	1834	1974	1980
Arkport	1610	1786	1702
Bergen	1815	2005	1964
Brocton	1819	2013	1999
Buffalo*	1952	2076	2149
Ceres	1592	1676	1768
Elba	1750	1893	1871
Fairville	1789	1939	1899
Farmington	1832	1936	1947
Fulton*	1834	1934	1898
Geneva	offline	2035	1996
Hammondsport	1756	1934	1880
Hanover	1782	1997	1984
Jamestown	1581	1720	1739
Lodi	2000	2212	1638
Lyndonville	1884	1910	1991
Niagara Falls*	2029	2177	2095
Penn Yan*	1879	2095	2083
Rochester*	1896	2070	2022
Romulus	1968	2092	2055
Sodus	1978	2115	2061
Versailles	1748	NA	NA
Waterport	1838	1974	1961
Williamson	1741	1912	1875

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

CROP Insights

Observations from the Field and Research-Based Recommendations

BEETS

Processing beets are variable across the region. Some plantings have suffered from too much rainfall and the leaves have turned purple across the fields. Some root decay has been reported. The Cercospora leaf spot (CLS) Decision Support System indicates lower risk of infection this week with moderate risk forecasted for August 25 (Table 1). Rain splash can spread spores throughout the field. Continued leaf wetness within a canopy in areas that receive rainfall or irrigation also increases the risk of infection. – JK

Table 1. Cercospora Leaf Spot 2-Day Risk
Risk of Cercospora leaf spot on table beet from August 20 to August 25 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.

	achieved			forecast		
Location	Aug 20	Aug 21	Aug 22	Aug 23	Aug 24	Aug 25
Albion	0	2	2	0	2	**5**
Bergen	0	0	0	0	2	**4**
Elba	0	3	3	0	2	**4**
Geneva	0	0	0	0	0	2
Lyndonville	0	3	3	0	3	**6**
Medina	0	1	1	0	2	**5**
Sodus	0	0	0	0	1	3
Sodus (Lake)	0	0	0	0	1	**4**
Waterport	0	1	1	0	3	**6**

Low ≤ 3; Moderate 4 to 6; High ≥ 7.
Data from newa.cornell.edu accessed 9:00 am on 8/23/2023.

Figure 1. Downy mildew lesions on cantaloupe are irregular, with brown centers and light yellow borders. One of the key diagnostics is how quickly lesions spread through the canopy. *Photo: Judson Reid, CCE Cornell Vegetable Program*

CANTALOUPE

Downy mildew is now widespread in the Finger Lakes on unsprayed cucumbers and cantaloupes. The pathogen this year does not appear to be aggressive on pumpkins or squash. Symptoms on cantaloupe could be confused with Angular Leaf Spot or Anthracnose, but one of the key diagnostics is how quickly lesions spread through the canopy (Fig. 1). Once an infection begins, the majority of foliage can show lesions within one week. Highlighting some lesser used chemistries for control, we include here Cymbol Balance (FRAC groups 27 and 28 with a 3 day PHI) and Gavel 75 DF (groups M 03 and 22, 3 day PHI). Both are restricted use materials. Organic applications of copper fungicides can delay the onset and spread of the disease by perhaps the crucial week or two needed to mature existing fruit set. – JR

DRY BEANS

Plants are drying down in the earliest planted fields, and beans are maturing. Mexican bean beetles continue to feed in many fields and will feed on pods. Bacterial blight is popping up in more fields this week. Beans will show water-soaked lesions, sometimes surrounded by a red coloration. Unfortunately, pesticides are generally not effective against blight in beans. – ML

Western Bean Cutworm Report

All trap locations have declined in moth numbers this week (Table 2), and will likely be down to zero moths in the next week or two. We are observing minor damage to pods in multiple fields from WBC larvae. Scouting is recommended in all dry bean fields starting 7-10 days after peak flight regardless of cumulative moth numbers. *[See the July 26, 2023 issue of VegEdge (page 6) or the August 2, 2023 issue (page 5) for tips on how to scout for WBC.]*

Table 2. Western bean cutworm adult moth numbers by date for each dry bean trap location.

Dry Bean Location	July 24	Aug 2	Aug 7	Aug 14	Aug 21	Cumulative Moths[1]
Avoca Hill (Steuben Co.)	47	78	83	24	3	**250**
Avoca Valley (Steuben Co.)	58	58	91	22	3	**245**
Avon (Livingston Co.)	23	22	55	21	1	**129**
Caledonia (Livingston Co.)	46	68	79	38	7	**247**
Churchville (Monroe Co.)	30	42	43	18	7	**152**
LeRoy (Genesee Co.)	83	112	106	36	16	**385**
Penfield (Monroe Co.)	51	60	84	48	17	**274**
Penn Yan (Yates Co.)	19	60	62	22	5	**171**
Scottsville (Monroe Co.)	6	18	18	9	2	**59**
Wayland Hill (Steuben Co.)	47	78	56	24	8	**225**
Wayland Valley (Steuben Co.)	30	50	28	11	2	**142**
Wyoming Hill (Wyoming Co.)	72	73	69	57	8	**305**
Wyoming Valley (Wyoming Co.)	41	28	32	24	5	**149**

Peak flight is indicated by numbers in red.
1 Cumulative moth numbers began July 3, 2023

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ONIONS

Most fields are lodging now and have either already gotten sprout inhibitor or will be getting it soon. Phew! It has been a very challenging season to make pesticide spray decisions. Leaf dieback increased in Elba over this past week, as it often does this time of year. Although this year, some of it is surely due to above normal leaf disease pressure. It is likely that the foliage will be too lightweight in some fields to lodge properly and some of the onions could die standing up – see article on page 6 about rolling onions dying standing up to reduce bacterial bulb rot. Despite some ragged foliage, onions are bulbing very nicely and making great size, many thanks to continued rainfall this summer. Stemphylium leaf blight (SLB) appeared mostly as old primary target spots lesions (now located on necrotic instead of green leaf tissue) and as leaf dieback this week, with much fewer fresh new infection sites. The most aggressive looking SLB tends to be in the fields with the most luscious green foliage. Onion thrips are generally low but can also be above the spray threshold (1.0 thrips/leaf), so continue to scout for them before you make your spray decisions.

Typically, the week after 50% lodging is the timing when sprout inhibitor for storage-bound onions is applied. The rule of thumb is that onions should die down naturally and not from disease or insect damage. If the field is clean, then sprout inhibitor is likely all you need, although most growers opt to include mancozeb or a FRAC P07 fungicide for DM protection in their last spray. If necrotic leaf tips and outer leaves have 20% or more leaf dieback, which is infected with SLB, than a final SLB fungicide may be included in the spray with sprout inhibitor. If leaf dieback exceeds 30%, the plant has reached "the point of no return" and even the best fungicides will not make a difference. Similarly, if thrips are greater than 1.0 per leaf, a final insecticide may be included with sprout inhibitor. As long as the roots and foliage are healthy after lodging, bulbs will continue to put on size until the leaves are dry. If the leaves dry up quickly from thrips, disease or poor roots, the bulbs may not reach their full size potential. See below for tips on using sprout inhibitor, maleic hydrazide.

Ideal conditions for applying sprout inhibitor to storage bound onions:
Maleic hydrazide (MH) is a growth regulator applied to storage bound onions to prevent sprouting. Ideal conditions include:

- 50% tops down, plants have 5-8 green leaves to ensure adequate translocation into the bulb.
  - If MH is applied too late or when onions have been ravaged by disease or thrips when the onion has less than 3 green leaves, it will not be absorbed properly and the onions will start sprouting in storage.
  - If MH is applied to onion that is still producing new leaves, cell division will be stopped but individual cells will continue to grow in size. This will produce spongy bulbs where the scales pull away from each other.
- Humid weather and temperatures less than 75°F are ideal.
  - Low humidity and high temperatures (i.e. >80-85°F) may cause MH to crystallize on the leaves, thereby inhibiting uptake.
- No rain within 24 hours after application, as this reduces uptake.
- Do not tank mix with sodium hypochlorite (= tradename Surchlor), a sanitizer treatment for bacterial diseases, as this tank mix can cause a severe chemical reaction. – CH

POTATOES

Vine killing is just around the corner for most fields. Be sure to continue to monitor for diseases. With late blight in the state, it is important to monitor fields through to when vines are killed.

Most locations are below the 30 blight units (BU) needed to trigger a spray for late blight, though many will surpass the threshold by the end of the week (Table 3). However, with wet weather this week, all locations should consider their fungicide programs. 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 August 16. 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. **More late blight has been reported in NY this week in Tompkins (tomato and potato) and Onondaga (tomato) counties. Past reports include on potato in Ontario Canada, and on tomato in Yates County NY,** and North Carolina. – ML

Table 3. Late Blight Risk Chart, 8/23/23

Location	Blight Units 8/16-8/22[1]	Predicted Blight Units 8/23-8/25[2]
Albion	18	25
Arkport	17	29
Baldwinsville	20	32
Bergen	12	18
Brant	25	36
Buffalo	38	50
Burt	-	-
Ceres	24	33
Dansville	26	45
Elba	21	27
Fairville	48	59
Farmington	19	30
Fulton	48	69
Geneva	14	20
Hammondsport	12	18
Knowlesville	28	34
Lyndonville	24	43
Medina	0	6
Niagara Falls	38	52
Penn Yan	20	41
Rochester	43	63
Sodus	0	6
Versailles	12	23
Wellsville	26	46
Williamson	20	31

Calculated using a May 31 crop emergence date. Last fungicide application August 16 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)

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SNAP BEANS

The weather continues to be conducive for white mold. There are no control options once the disease has begun in a field because infection begins at flowering. Fields with dense plant canopies and a history of white mold are at highest risk. – JK

SWEET CORN

Tar spot was confirmed this week in field corn in southern Livingston County. It is in an area where tar spot was found last year. The incidence is low because the field was sprayed for other leaf diseases. Probably the most important thing this season is to document any occurrences in field or sweet corn and plan for future management. The pathogen can survive between seasons on infested corn residue left on the surface. See the article on page 1 of the August 9, 2023 issue of VegEdge. Field crops colleagues are reporting an increase in Northern Corn Leaf Blight this past week. – JK

TOMATOES

Seeing yellowing curled tomato leaves in the greenhouse? There can be many causes for this, environment or pest related. Take a closer look at the leaves, you may find small insects on the underside of a leaf. These insects can be tiny, we are talking millimeters in length. Whiteflies are a common greenhouse pest on many crops and I recently have seen them on tomatoes. These sucking insects can be a problem for a few reasons which include reducing plant vigor, excreting honey dew that can cause black sooty mold, transmitting viruses and can generally be a nuisance. Adults look like their name—small white flies (1/16 inch long) that fly around readily when disturbed (Fig. 2). The nymphs are found on the underside of the leaf and do not move. They look like tiny transparent to yellowish ovals that can be smooth or spiky depending on stage of development (Fig. 3). At first glance, the nymphs could look like aphids, yet they are lighter in color, lack tailpipes and don't move. A 10x or 20x hand lens can be helpful to identify what you are looking at. Whiteflies can be tough to manage once established. There are many natural predators including parasitic wasp *Encarsia Formosa*, predatory mite *Amblyseius swirskii,* lacewings and lady beetle larva. – LK

Figure 2. Adult whiteflies on underside of tomato leaf. *Photo: Lori Koenick, CCE*

Figure 3. Clear to yellowish oval shaped whitefly nymphs in various stages of development on underside of tomato leaf. *Photo: Lori Koenick, CCE*

Late Blight vs Gray Mold; sometimes tough to call under dry conditions. Late Blight continues its march in the central Finger Lakes of New York this week, with infections common in unsprayed tomato fields. When conditions are dry, Late Blight can be easily confused with Botrytis Gray Mold. Both cause a light tan lesion in dry conditions, and can be similar in size. There are a few key diagnostic clues that help us distinguish the two diseases. Late Blight lesions will have a softer, lighter green halo around the tan lesion, and may not produce any spores when dry (Fig. 4). If Late Blight lesions do have spores, they are lighter in color and on the underside of the lesion. Gray Mold will have a more brittle texture, and faint rings within the tan lesions (Fig. 5). Like Late Blight, Gray Mold does not always sporulate in dry conditions, but is more likely to produce spores on the upper surface of the leaf, and as the name indicates, the spores will be darker gray in color. Both diseases can cause yield loss in tomato, however, Late Blight is much more destructive and requires immediate attention. Gray Mold on the other hand, may come and go throughout a season depending on moisture. – JR

Figure 4. Late Blight lesions will have a softer, lighter green halo around the tan lesion, and may not produce any spores when dry. *Photo: Judson Reid, CCE Cornell Vegetable Program*

Figure 5. Gray Mold will have a more brittle texture, and faint rings within the tan lesions. There are spores visible in this photo. *Photo: Judson Reid, CCE Cornell Vegetable Program*

Rolling Onions that are "Dying Standing Up" to Stop the Rot

Christy Hoepting, Cornell Cooperative Extension, Cornell Vegetable Program

Normally, when onions are mature the neck tissue becomes soft, which allows the onion foliage to fall over (e.g. lodging). However, when onions have excessive leaf dieback (e.g. 30% or more) at the time of lodging, the foliage often does not have enough weight to lodge properly and the onion plants "die standing up" (Fig. 1). A side-by-side comparison of 1200 onion plants showed that those that died standing up had 2-times more bacterial bulb rot than those that lodged properly (Hoepting, 2015). Theoretically, **onions that die standing up are more favorable to infection from bacterial disease than lodged plants,** because splashing rain may readily introduce bacterial pathogens into the exposed neck area of standing onions, where the water will pool allowing a bacterial infection to take place. In theory, rolled onions with their necks and leaf axils tucked away are less prone to bacterial infections caused by splashing rain.

Figure 1. Onions "dying standing up" occurs when excessive leaf dieback does not result in enough foliage weight for the plants to lodge properly. *Photo: Christy Hoepting, CCE Cornell Vegetable Program*

Rolling Onions Dying Standing Up Reduced Bacterial Bulb Rot by 35-57% in On-Farm Studies

In a 2021 on-farm study in Elba muck, we observed numerically 35% less bacterial bulb rot when plants dying standing up with 40-50% leaf dieback were rolled (4.2%) compared to those that were left standing (6.5%). In this study, the onions were pulled 13 days after they were rolled, during which time 1.57 inches of rain fell in four events with one of them dropping 0.5 inches of rain in 1 hour, while the others dropped 0.5 inches in 3-4 hours (Table 1).

In another on-farm study in 2022, we observed significantly 57% less bacterial bulb rot when onion plants dying standing up with 20-50% leaf dieback were rolled (6.1%) compared to those that were left standing (14.1%, Fig. 2). In this study, the treatments were artificially inoculated 4 days after the onions were rolled. The onions were pulled 24 days after they were rolled, during which time 2.93 inches of rain fell in six events of > 0.3 inch in 3-4 hours (Table 1).

Rolling onions dying standing up will not reduce bacterial bulb rot in plants that are already infected, but it can prevent new infections from occurring in these plants that are at greater risk of bacterial disease.

In the 2022 study, artificial inoculation resulted in 2-times more bacterial bulb rot in onions left standing than those infected naturally. Also, rolling had no effect when the onions were naturally infected (Table 1). Presumably because no new bacterial infections were introduced under the natural conditions of this study and the 6% rot was already in the plants before rolling.

Rolling onions may also hasten drying down of foliage and knock over/uproot plants with stiff necks that would never lodge on their own. The process of rolling should be gentle so that it does not wound onion foliage, necks or bulbs.

Table 1. Effect of rolling onions that were "dying standing up" on bulb rot, on-farm field studies, Elba, NY, 2021 and 2022 (Hoepting *et al.*).

Study	Treatment					Rainfall Between Rolling and Pulling	Bacterial Bulb Rot
	Practice	Crop Condition	Date Rolled	Date Pulled	Date Harvested		
2021 Study (c.v. Hamilton)	**Rolling**	At rolling: 4-6 green leaves. 40-50% leaf dieback. Roots holding on.	28 Aug	10 Sep (13 days after rolled)	24 Sep (14 days after pulled)	**Total: 1.57 inch** (4 events with 1 dropping 0.5 inch in 1 hour, others 0.5 inch in 3-4 hours)	**4.2% a[1]** (-35%)
	Standard (Left Standing)	At pulling: Foliage 95% dried down, except for "stiff necks". Roots letting go.	--	10 Sep	24 Sep (14 days after pulled)		**6.5% a**
					p value, Fisher's Protected LSD test (α = 0.05)		*0.1000*

1 Numbers in a column followed by the same letter are not significantly different, Fisher's Protected least Significant Difference (LSD) test with 5% significance.

Study	Treatment					Rainfall Between Rolling and Pulling	Bacterial Bulb Rot	
	Practice	Crop Condition	Date Rolled	Date Pulled	Date Harvested		Natural Infection	Artificial Inoculation[1]
2022 Study (c.v. Red Wing)	**Rolling**	At rolling: 6-8 green leaves. 20-50% leaf dieback. Roots holding on.	26 Aug	19 Sep (24 days after rolled)	29 Sep (10 days after pulled)	**Total: 2.93 inch** (6 events that dropped > 0.3 inch in 3 hours)	**6.6% a[2]**	**6.1% a** (-57%)
	Standard (Left Standing)	At pulling: Foliage completely dry. Roots letting go.	--	19 Sep	29 Sep (10 days after pulled)		**6.6% a**	**14.1% b**
					p value, Fisher's Protected LSD test (α = 0.05)		*0.9894*	*0.0368*

1 On 30 Aug, onions were artificially inoculated with a mixture of 10^6 cfu/ml each of virulent strains of *Pantoea ananatis* and *P. agglomerans*, which were sprayed in the rain until runoff.

2 Numbers in a column followed by the same letter are not significantly different, Fisher's Protected least Significant Difference (LSD) test with 5% significance.

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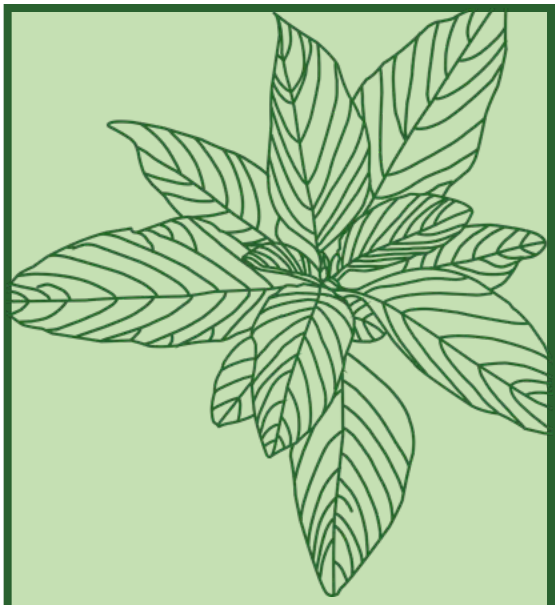
August 26: 20-50% Leaf Dieback

Leave Standing | Roll 24 Days Before Pulling

September 19: 24 Days After Rolling – Just Before Onions Pulled

Leave Standing | Roll 24 Days Before Pulling

Figure 2. Effect of rolling on bacterial bulb rot of onions dying standing up. Top: Onions had 6-8 green leaves and 20-50% leaf dieback when they were rolled (right) or left standing. Bottom: Onions that were left standing died standing up (left) and those that were rolled dried down with their tops down (right). *Photos: Christy Hoepting, CCE Cornell Vegetable Program*



Worst Weeds in Corn, Cereals, and Hemp?

The Weed Science Society of America periodically collects input on the most common and the most troublesome weeds by crop group. They use this information to direct research and policy efforts. **If you have weeds in Corn, Cereals (oats, rye, wheat, tricticale, barley), Sorghum, Turf, or Hemp, please send them your thoughts!**

Survey links are open until Labor Day.

Grass Crops, incl. turf survey: https://www.surveymonkey.com/r/2023weeds

Hemp survey: https://www.surveymonkey.com/r/2023hemp

Sweet Corn Pheromone Trap Network Report, 8/22/23

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

Statewide, 29 sites reported this week. Both CEW and FAW increased this week. At sites where CEW are being caught in high enough numbers to determine the spray schedule (see table below), those applications will be sufficient to take care of other worm pests that are present. Where CEW are not determining the spray schedule, scout to be sure that FAW and other pests are not above threshold.

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.

WNY Pheromone Trap Catches: August 22, 2023

Location	ECB-E	ECB-Z	ECB Hybrid	CEW	FAW	WBC
Batavia (Genesee)	0	0	NA	0	0	0
Bellona (Yates)	0	7	0	7	0	3
Eden (Erie)	0	0	NA	4	0	1
Geneva (Ontario)	0	0	0	4	4	0
Hamlin (Monroe)	0	0	NA	0	0	3
Leroy (Genesee)	0	0	NA	0	0	4
Lyndonville (Orleans)	0	0	NA	0	16	34
Oswego (Oswego)	0	0	NA	3	0	1
Panama (Chautauqua)	3	0	NA	1	0	0
Penn Yan (Yates)	0	2	0	0	0	1
Portville (Cattaraugus)	NA	NA	NA	NA	NA	NA
Ransomville (Niagara)	0	0	NA	2	0	3
Stanley (Ontario)	1	3	0	0	0	NA
Williamson (Wayne)	0	0	NA	0	2	4

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

Quick Reference Table: Common Fungicides Used for Late Blight Control in Tomato and Selected Other Uses

Elizabeth Buck, Cornell Cooperative Extension, Cornell Vegetable Program

Common fungicides used for late blight control in tomato and selected other uses. When rotating fungicides, pick a product with completely different FRAC group(s). Systemic > translaminar > contact. Protectants do not effectively treat active infections. Continue protectant use with most fungicides. Protectants do not effectively treat already infected tissue. Note: Group 11 can struggle to control some diseases, including late blight.

Name	FRAC Group	Activity Type[1]	REI hr	PHI day	Rate/A	Rate/1000 ft	*P. cap* in Tomato OR Pepper**	*P. cap* in Cucurbits**	Other Tomato Diseases**[1]
Orondis Opti	49 + M5	Systemic + protectant	12	0	1.75 - 2.5 pt	0.77 - 1.10 fl oz	Y	Y	--
Orondis Ultra	49 + 40	Systemic + translaminar	4	1	5.5 - 8 fl oz	0.13 - 0.18 fl oz	Y	Y	--
Champ or OLP	M1	Protectant	48	0	1.3 pt	0.48 fl oz	Y	Y	EB, AN, S, BO
Kocide 3000-O	M1	Protectant	48	0	0.75 - 1.5 pt	0.33 - 0.66 fl oz	--	--	EB, AN, S, BO
ManKocide	M1 + M3	Protectant	48	5	1 - 3 lb	0.37 - 1.1 oz	Y	--	EB, AN, S, BO
***Dithane DF Rainshield**	M3	Protectant	24	5	1.5 lb	0.55 oz	--	--	EB
Bravo Weather Stik	M5	Protectant	12	0	1.375 - 2.75 pt	0.51 - 1 fl oz	--	--	EB, AN, S, BO
Catamaran	P07 + M5	Contact + protectant	12	0	5 - 7 pt	2.2 - 3.08 fl oz	N	N	EB, AN, S, BO
Prophyt or OLP	P07	Contact	4	0	4 pt	1.47 fl oz	Y	Y	--
Ridomil Gold Bravo SC	4 + M5	Systemic + protectant	48	5	2.5 pt	0.92 oz	Y	Y	--
Ranman 400 SC	21	Contact	12	0	2.1 - 2.75 fl oz	0.048 - 0.063 fl oz	Y	Y	--
***Zoxium**	22	Contact	48	5	2.5 - 4 oz	0.057 - 0.092 oz	Y	N	--
***Gavel 75 DF**	22 + M3	Contact + protectant	48	5	1.5 - 2 lb	0.55 - 0.73 oz	N	Y	EB, S
***Zing!**	22 + M5	Contact + protectant	12	5	36 fl oz	0.826 fl oz	N	N	EB, S
Tanos 50 DF	27 + 11	Translaminar	12	3	8 oz	0.18 oz	Y	Y	EB, AN, S, BO
Cymbol Advance	27 + M5	Translaminar + protectant	12	3	1.9 - 3 pt	0.7 - 1.1 fl oz	N	N	--
***Cymbol Balance**	27 + 28	Translaminar + systemic	12	3	21 fl oz	0.48 fl oz	N	N	EB, AN, S, BO
***Previcur Flex**	28	Systemic + protectant	12	5	0.7 - 1.5 pt	0.26 - 0.55 fl oz	N	N	EB
Revus Top	40 + 3	Translam. Grp 3 no LB activity	12	1	5.5 - 7 fl oz	0.13 - 0.16 fl oz	N	N	EB, AN, S, BO
Forum	40	Translaminar	12	4	6.0 fl oz	0.138 fl oz	Y	Y	--
***Zampro**	40 + 45	Systemic + translaminar	12	4	14 fl oz	0.32 fl oz	Y	Y	--
***Presidio**	43	Systemic	12	2	3 - 4 fl oz	0.068 - 0.092 oz	Y	Y	--
Cabrio	11	Translaminar	12	0	8 - 16 oz	0.18 - 0.36 fl oz	--	--	EB, AN, S, BO
Quadris Flowable or OLP	11	Translaminar	4	0	6.2 fl oz	0.14 fl oz	Y	--	EB, AN, S
Quadris Top	11 + 3	Translam. Not labeled for LB	12	0	8 fl oz	0.18 fl oz	--	--	AN, S, BO
Flint	11	Translaminar	12	3	2 - 4 oz	0.046 - 0.092 oz	--	--	EB, AN, S
***Reason 500 SC**	11	Translaminar	12	14	4.0 - 8.2 fl oz	0.09 - 0.18 fl oz	Y	--	EB, S
***Priaxor**	11 + 7	Translam. Grp 7 no LB activity	12	0	8 fl oz	0.18 fl oz	--	--	AN, S

*Restricted use pesticide.
**See label for rate, PHI and instructions.
Conversions for small plantings: 1 fl oz = 2 tbsp or 6 tsp or 29.57 mL. **Do NOT use pesticide measuring devices for any other purpose.**

1 LB = late blight; EB = early blight; AN = Anthracnose; S = Septoria; BO = Botrytis in open fields.

Upcoming Events

Bejo's Geneva Field Day 2023

August 29, 2023 (Tuesday) | 9:00 am - 5:00 pm
Bejo Seeds Inc. Research and Demonstration Fields, 4188 Pre Emption Rd, Geneva, NY 14456

Bejo's Geneva Field Day! New name, new varieties, same exciting vibe. Topping the visit agenda this year:

1. Exploring Bejo's Core Values (spoiler alert – you value them too!)
2. The National Garden Bureau's **'Year of the Broccoli'** (can you say heat tolerance?!), and
3. Home & Farm Market Launch (let's get lyrical!).

Explore our Home & Farm Market garden, Raised Bed Trials, Commercial Demonstration Trials and simply enjoy the Bejo grounds. Exploring nature never stops.

2023 Soil Health & Climate Resiliency Field Days

Join the New York Soil Health team and partner organizations at a soil health field day! The statewide event series takes place through September 2023. Register at https://fielddays.newyorksoilhealth.org

August 31, 2023 (Thursday) | 9:00 am - 3:00 pm
Branton Farms, 6536 Main St, Stafford, NY 14143

Hear practical, field-tested results of advanced soil regenerative practices targeted to dairy, field and specialty crop farmers.

- Carbon Market and Biochar Research in New York
- Weed Management
- Minimal Disturbance Manure Drag Lining
- Research Updates from the Planting Green Field Trials
- Use of Biologicals from Pivot Bio

CCA credits available. FREE and lunch provided. Register by August 25. Read more information and register online or call Aaron Ristow, American Farmland Trust, at 315-748-5029.

Tree Fruit and Small Fruit Twilight Meeting

August 31, 2023 (Thursday) | 7:00 pm - 8:30 pm
Reality Research, 4739 Preemption Rd, Lyons, NY 14489

Join Specialists Janet Van Zoeren (tree fruit), Anya Osatuke (small fruit) and Anna Wallis (fruit IPM) for a conversation about fruit and berry phenology and pest management. We will examine seasonal changes in tree fruit and berry crops, demonstrate scouting techniques, and discuss integrative pest management solutions to maximize the health and productivity of berry and fruit plantings.

Attendees are encouraged to bring pictures or descriptions of pests they are concerned about on their farm. This is the last meeting of the series for 2023.

1.5 DEC credits will be offered in categories 1a, 10, and 22. Please arrive at 6:45 pm to sign-in for DEC credits.

This event is free to attend, and no pre-registration is required. Questions? Please email Anya Osatuke at aco56@cornell.edu

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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