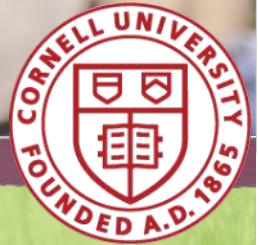


Vegetable News



Onion Fungicides for Stemphylium Leaf Blight

Ethan Grundberg, CCE ENYCHP

Over the last 10 years, stemphylium leaf blight (SLB) has replaced botrytis leaf blight and purple blotch as the primary foliar disease impacting onion production in Orange County. This article is focused primarily on providing guidance to muck onion growers for SLB management under high disease pressure. However, upland onion growers who suffer from downy mildew should be aware that Ordonis Opti (chlorothalonil + oxathiapiprolin, FRAC groups M5 + U15) is now registered for use in New York and provides 2 weeks of systemic downy mildew protection. Orondis Opti also has activity on purple blotch and botrytis leaf blight. Unfortunately, Orondis Opti IS NOT effective at suppressing SLB.



Stemphylium leaf blight lesions on dead onion leaf tissue

SLB is caused by the fungal pathogen *Stemphylium vesicarium* and often appears as a series of dark oval shaped lesions on damaged leaf tips on onions suffering from tip burn and often appears on leaves with excessive herbicide injury. The spread of SLB is favored by warm weather and long periods of leaf wetness and/or high relative humidity. While SLB typically isn't of concern until July, it has already been observed in fields of early transplants with extreme Buctril injury. If left unmanaged, SLB can cause onions to die "standing up" before lodging and increase susceptibility to bacterial bulb rots.

While older onion fungicides like chlorothalonil (Bravo and other labeled formulations) can help slow the spread of SLB by limiting foliar damage from other diseases like botrytis leaf blight, **ONLY** fungicides in FRAC groups 2, 3, 7

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CLICK HERE to sign up for ENYCHP Text Alerts! See page 7 for more details!



and 9 are effective at suppressing SLB. QoI fungicides (FRAC group 11), like Quadris and Cabrio, used to have activity on SLB, but many SLB isolates that have been tested in New York have developed resistance to those products. In order to ensure the continued efficacy of fungicides in FRAC groups 2, 3, 7, and 9, growers MUST rotate modes of action within the season.

New York State onion specialist Christy Hoepting has developed a number of different recommended fungicide programs for SLB management that follow best practices for resistance management. The goal of these programs is to minimize the number of repeat applications of fungicides in the same FRAC group while maintaining a high level of protection against SLB. For more information about specific fungicide performance in managing SLB, botrytis leaf blight, and downy mildew, please see Christy's 2-page "cheat sheet" that follows. (See Pages 3-4)



ENYCHP Veggie Pest Watch: Thrips

Now Available on our YouTube channel!

This week– learn to scout for thrips!

Visit: <https://www.youtube.com/watch?v=CXaepvniQBA>



Thrips Scouting: How To
2 views • 3 minutes ago

2018 SLB Fungicide Recommendation Best of Everything ~\$195/A



+ \$70 DM
= \$265

	38% FRAC 3; 50% FRAC 9	SLB (38% FRAC 7)			
Week 1	Scala 9 fl oz + Rovral 1 pt	9	2	BLB	DM** \$10
Week 2	Tilt 4 fl oz	3		BLB*	DM** \$10-25
Week 3	Scala 9 fl oz + Rovral 1 pt	9	2	BLB	DM** \$10
Week 4	Tilt 4 fl oz	3		BLB*	DM** \$10-25
Week 5	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10
Week 6	Merivon 5.5 fl oz	7	11	BLB	DM
Week 7	Tilt 8 fl oz	3		BLB*	DM** \$10-25
Week 8	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10

*Add
Rovral 1.5 pt
for BLB (\$15)

BLB, DM:	protection	Mediocre	No control
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**Add
Mancozeb
(\$10) or FRAC
33 for DM

Economical SLB Program #1 (Low Rate Cadillac) ~ \$275/A



+ \$60 DM
= \$335

	13% FRAC 3; 63% FRAC 9	SLB (63% FRAC 7)			
Week 1	Inspire Super 16 fl oz	3	9	BLB*	DM** \$10-25
Week 2	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10
Week 3	Merivon 5.5 fl oz	7	11	BLB	DM
Week 4	Inspire Super 16 fl oz	3	9	BLB*	DM** \$10-25
Week 5	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10
Week 6	Merivon 5.5 fl oz	7	11	BLB	DM
Week 7	Inspire Super 16 fl oz	3	9	BLB*	DM** \$10-25
Week 8	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10

*Add
Rovral 1.5 pt
for BLB (\$15)

BLB, DM:	protection	mediocre	No control
----------	------------	----------	------------

**Add
Mancozeb
(\$10) or FRAC
33 for DM

Economical SLB Program #2 (Tilt/Low LT) ~ \$165/A



+ \$85 DM/BLB
= \$250

	63% FRAC 3; 38% FRAC 9	SLB (38% FRAC 7)			
Week 1	Tilt 4 fl oz	3		BLB*	DM** \$10-25
Week 2	Tilt 4 fl oz	3		BLB*	DM** \$10-25
Week 3	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10
Week 4	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10
Week 5	Tilt 4 fl oz	3		BLB*	DM** \$10-25
Week 6	Tilt 4 fl oz	3		BLB*	DM** \$10-25
Week 7	Luna Tranquility 12 fl oz	7	9	BLB	DM** \$10
Week 8	Quadris Top 14 fl oz	3	11	BLB*	DM \$15

*Add
Rovral 1.5 pt
for BLB (\$15)

BLB, DM:	protection	Mediocre	No control
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**Add
Mancozeb
(\$10) or FRAC
33 for DM

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Cornell Onion Fungicide “Cheat-Sheet” for Leaf Diseases in New York

Compiled by Christy Hoefting, Cornell Cooperative Extension Program, July 2017.

Trade name	Active ingredient	FRAC ¹ code	Relative Disease Control Rating ²			Rotation restrictions	Rate (product/A)	Maximum allowable per season	
			BLB ³	SLB	DM			Total Amount	No. of max rate apps
Bravo & generics	chlorothalonil	M5	Best	Fail	Fail	none	1-3 pt	20 pts	6 (3 pt)
Penncozeb & generics	mancozeb	M3	Fail	Fail	M-G	none	2-3 lb	32 lbs	10 (3 lb)
Rovral & generics	iprodione	E3	M	Fail	Fail	none	1 pt (in tank mix) 1.5 pt (alone)	10 pts (in tank mix) 7.5 pts (alone)	10 (1 pt) 5 (1.5 pt)
Bravo 1.5 pt + Scala 9 fl oz	chlorothalonil pyrimethanil	M5 9	Best	M	Fail	none			6
Scala	pyrimethanil	9	M-P	M-P	Fail	none	9*-18 fl oz	54 fl oz	3 (18 fl oz)
Rovral 1 pt + Scala 9 fl oz	iprodione pyrimethanil	E3 9	VG	VG	Fail	none			6
Luna Tranquility	Fluopyram pyrimethanil	7 9	VG	Best	Fail	No more than 2 sequential apps before rotating to non- 7 or 9 group fungicides	16-27 fl oz	54.7 fl oz ⁴	3 (16 fl oz)
Luna Experience	Fluopyram tebuconazole	7 3	? ⁵	Best ⁵	Fail	No more than 2 sequential apps before rotating to non- 3 or 7 group fungicides	12.8 fl oz	25.6 fl oz ⁴	2 (12.8 fl oz)
Merivon	fluxapyroxad + pyraclostrobin	7 11	VG	Best	M	No more than 2 sequential apps before rotating to non- 7 or 11 group fungicides	5.5-11 fl oz	33 fl oz 3 apps	3 (11 fl oz)
Quadris Top	azoxystrobin + difenoconazole	11 3	Fail	VG	M-G	No more than 1 application before rotating to non-11 or 3 group fungicides	12-14 fl oz	56 fl oz ⁴	4 (14 fl oz)
Inspire Super	difenoconazole + cyprodinil	3 9	M	VG	Fail	No more than 2 sequential apps before rotating to non- 3 or 9 group fungicides	16-20 fl oz	80 fl oz ⁴	4 (20 fl oz)
Endura	boscolid	7	M	VG	Fail	No more than 2 sequential apps before rotating to non- 7 group fungicides	6.8 oz	41 oz 6 apps	6 (6.8 oz)

Trade name	Active ingredient	FRAC ¹ code	Relative Disease Control Rating ²			Rotation restrictions	Rate (product/A)	Maximum allowable per season	
			BLB ³	SLB	DM			Total Amount	No. of max rate apps
Tilt & generics	propiconazole	3	M	VG	Fail	none	4-8 fl oz (alone) 2-4 fl oz (in tank mix)	16 fl oz	2 (8 fl oz) 4 (4 fl oz)
Viathon	Phosphorous acid tebuconazole	33 3	M?	VG	M	none	2-3 pt	6 pt	2 (3 pt)
Quadris	azoxystrobin	11	Fail	Fail ⁶	M	No more than 1 application before rotating to non-11 group fungicides	9-15.5 fl oz	92.3 fl oz	6-8 11-15 fl oz
Cabrio	pyraclostrobin	11	Fail	Fail ⁶	M	No more than 1 application before rotating to non-11 group fungicides	8-12 fl oz	72 fl oz	6 (12 fl oz)
Ridomil Gold Bravo	Mefenoxam chlorothalonil	4 M5	M	Fail	Best	none	2.5 pt	12.5 pt	5 (2.5 pt)
Tanos	Cymoxanil famoxadone	27 11	?? ⁵	?? ⁵	M	No more than 1 application before rotating to non-11 group fungicides	8 oz	84 oz	10 (8 oz)
Zapro	Dimethomorph ametostradin	40 45	Fail	Fail	M	No more than 2 sequential applications	14 fl oz	42 fl oz	3 (14 fl oz)
Revus	mandipropamid	40	Fail	Fail	M	No more than 2 sequential application before rotating to non-40 group fungicides	8 fl oz	32 fl oz	4 (8 fl oz)
Omega	fluazinam	29	?? ⁵	M-P	M-P	None: Do not use with adjuvant	1 pt	6 pt	6 (1 pt)
Gavel	zoxamide mancozeb	22 M3	??	P	M	None: Do not contact exposed bulbs	1.5-2 lb	16 lb	6 apps
Rampart, etc.	Phosphorous acid	33	Fail	Fail	M	none	1-3 qt		
Switch	Cyprodinil fludioxinil	9 12	P	P	Fail	No more than 2 sequential application before rotating to non-40 group fungicides	11-14 oz	56 oz	4 (14 oz)

¹FRAC: Fungicide Resistance Action Committee Chemical class code. ²Relative disease control ratings are based on fungicide trials, 2006-2013 (Hoepting et al). SLB trialed 2013-2015.

Best: best (or one of the best) of all fungicides tested; VG: very good; G: good; M: mediocre/middle of the pack; P: poor; Fail: failed to control disease, not different than untreated control. ³**Inconsistent results showing range of results across trials. ⁴?: No trial data by Hoepting. ⁵BLB: Botrytis Leaf Blight; SLB: Stemphylium Leaf Blight; DM: Downy mildew.

⁶Maximum allowable limit of active ingredient per acre per season: pyrimethanil – 2.1 lb (= 0.024 lb/fl oz Luna Tranquility; = 0.039 lb/fl oz Scala); difenoconazole – 0.46 lb (= 0.0057 lb/fl Inspire Super; = 0.0082 lb/fl oz Quadris Top); fluopyram – 0.446 lb (= 0.013 lb/fl oz Luna Experience; = 0.008 lb/fl oz in Luna Tranquility); tebuconazole – 0.335 lb (= 0.013 lb/fl Luna Experience; = 0.003 lb/fl oz Viathon). ⁵?Not tested in Cornell trials. Expect FRAC 3 & 7 to be very good on SLB. ⁶SLB has been found to be resistant to FRAC 11 fungicides in New York. For more information on relative performance of fungicides for management of leaf diseases in onions, visit the Cornell Vegetable Program website <http://cwp.cce.cornell.edu/>.

High Tunnel Pests and Problems at Intervale Community Farm

Amy Ivy, CCE ENYCHP



Last week I wrote about some tips I heard at the Intervale Community Farm high tunnel field meeting relating to tomato production. This week I'll focus on the pest and disease discussion we had. To recap, Andy Jones is the farm manager, Jill Rotondo is the high tunnel manager. From

UVM Extension there was Ann Hazelrigg, pathologist and diagnostician, Vern Grubinger, vegetable specialist and Cheryl Sullivan IPM and bio-control specialist.

- Oedema and botrytis are 2 problems in high tunnel tomatoes that are worse during the cool, cloudy weather in late spring/early summer. Oedema is a condition that plants will grow out of, botrytis is a fungal disease that is best managed with increased ventilation
- Powdery mildew (PM) on tomatoes is being seen more often and earlier, it can come in on transplants. In mixed crop tunnels, the PM on tomatoes is not the same organism as the PM on cucumbers. Organic growers are having the best results with micronized sulfur as a spray. (see photo, right)
- A good sprayer makes a huge difference, especially with organic products where good coverage is critical. Andy likes his battery powered backpack sprayer, and said the ~\$300 price tag was worth it.
- Vern referenced this article from Rutgers about some handy backpack sprayer modifications: <https://sustainable-farming.rutgers.edu/backpack-sprayer-modification/>

Pest Mgt Options

- If using ladybugs for bio-control, buy a large container (up to 1 gallon) and keep it in a refrigerator. Release about a half cup per tunnel per week; they can last

for weeks in the fridge. Wet down plant foliage just before applying so thirsty ladybugs will stay in the crop longer. They work well in lettuce under row cover but don't stay in tomato tunnels for long.

- For spider mite monitoring, plant bush beans just inside the side walls of the tunnel. The beans need to be young so keep a succession of 4" pots of beans coming all summer. Set out a few pots per side every couple of weeks. As soon as you find the first mites in the beans, release your first predatory mites and keep them coming.
- Pre-schedule your bio-controls with your supplier to keep a steady supply coming. Some predators are only applied once, others need weekly applications to be effective so work closely with your supplier for rates and timing. Don't wait until you have an infestation to place an order!
- Cheryl explained 3 different predatory mites:
 - Persimilis feeds only on spider mites and has a very high predation rate. Make repeat applications all season.
 - Californicus feeds on pollen and spider mites so it can persist longer, 1 application per season is usually enough. Also feeds on broad mite and cyclamen mite.
 - Hypoaspis is now called Stratiolaelaps and is a soil dweller. Apply once per season. In the soil it feeds on thrips pupae, fungus gnat and shorefly larvae.



- For more information from UVM on predatory mites visit: <https://www.uvm.edu/~entlab/Greenhouse%20IPM/Pests&Beneficials/PredatoryMites.pdf>
- They use Protek Net 80 for cucumber beetle exclusion. One tunnel each season is planted to cucumbers, netting is installed along side walls and over exhaust vents and fans, held out with rowcover wire (see photo top of page 5).
- The 80 weight mesh is fine enough to exclude cucumber beetles but not mites or thrips, and coarse enough to allow for some air circulation (see right).
- Their high tunnel cucumbers are usually ready a month before their field cucumbers.



New York Grown and Certified Agricultural Producers Grant Program

Elizabeth Higgins, CCE ENYCHP



Farmers in the ENYCH region who are interested in the New York Grown and Certified program, but who need technical assistance or funding to help meet the required food safety standards to participate have a new resource thanks to four regional grants awarded

through the Consolidated Funding Process in 2017. The programs vary by region, but each program will offer a mix of technical assistance, education and grants. Want to learn more? Here is information about the programs serving ENYCH counties.

Clinton, Essex, Franklin, Hamilton, Jefferson, Lewis, St. Lawrence.

The lead agency for the New York Grown and Certified Farmer Grant Program for these counties is the Development Authority of the North Country. The website for the grant program is <https://www.danc.org/business-development>, look for the **NYS Grown & Certified Agriculture Producer's Grant Program** at the bottom of the page. On the page there is a program [information sheet](#) and application. For additional information, please contact Michelle Capone at 315-661-3200 or mcapone@danc.org.

Fulton, Herkimer, Montgomery, Oneida, Otsego, Schoharie

The lead agency for the Mohawk Valley is Cornell Cooperative Extension of Oneida County. CCE Oneida will identify Mohawk Valley Agricultural Producers, raise awareness of the New York State Grown & Certified

program, promote environmental stewardship, educate and make food safety improvements necessary for participation in the NYSG&C program and assist with the process to join the program. To learn more, contact Bonnie Collins, Ag Team Leader, CCE Oneida County at bsc33@cornell.edu or by phone at (315) 736-3394 x 104

Albany, Columbia, Greene, Rensselaer, Saratoga, Schenectady, Warren, Washington

Hudson Mohawk Resource Conservation Development Council will partner with Hudson Valley Agribusiness Development Corporation, to administer funds to assist producers in the Capital Region offset capital costs associated with meeting Good Agricultural Practices certification and participation in the New York State Grown & Certified program. HMR CDC will create a one stop-shop to deploy grant funds and other financing, combined with partner involvement in promotion and technical assistance. Contact Donna Murray, Hudson Mohawk Resource Conservation & Development Council, Phone: (518) 270-2668 or e-mail dmurray@rensco.com.

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

Cornell Cooperative Extension Dutchess County will encompass the seven counties of the Mid-Hudson Region and create marketing materials for distribution via websites and social media to raise awareness and provide funding to producers for participation in the New York State Grown & Certified Agricultural Producer's Grant program. Contact Stephanie Radin, Ag and Horticulture Program Leader, CCE Dutchess County at sradin@cornell.edu or by phone at (845) 677-8223 x104

Garlic Twilight Meeting

Cornell Cooperative Extension | Eastern NY Commercial Horticulture Program

Date & Location

June 28th

5-7PM

Hudson Valley Farm Hub

1875 Hurley Mountain Rd,
Hurley, NY 12443

Enter the main driveway of the Farm Hub and follow the signs for parking. Growers will be shuttled to the field by Farm Hub staff.

Join Cornell Cooperative Extension Vegetable Specialists Crystal Stewart, Teresa Rusinek, and Ethan Grundberg and University of Vermont Agriculture Engineer Chris Callahan for a field walk through the cultural controls of Fusarium trial being demonstrated by the Hudson Valley Farm Hub along with a hands-on demonstration of Allium Leaf Miner identification and discussion of control strategies, followed by a discussion of post-harvest handling best practices and ways to achieve these conditions at your farm.

The meeting is free through the generous sponsorship of Northeast SARE but pre-registration is greatly appreciated.

TO PRE REGISTER: go to <https://nych.cce.cornell.edu/event.php?id=959> or contact Abby at (518) 746-2553

We hope to see you there!

For information about other Cornell Cooperative extension programs, please visit: enych.cce.cornell.edu

Willsboro Research Farm Open House



The Cornell University Willsboro Research Farm will hold an open house on Tuesday, July 10 from 1:30pm to 4:00pm. A tour of the facilities and research plots will leave the main office (48 Sayward Lane, Willsboro) at 2:00pm. Light refreshments will be provided.

Research topics featured at this year's open house include corn silage variety trials, adaptive nitrogen management for field corn, cover crops, juneberry nursery and production trials, Aronia variety plantings, honeyberry variety trial, high tunnel vegetable production, reduced tillage demonstration plots, season extension for early spring vegetables, organic pepper variety trial, and goldenberry and groundcherry variety evaluations.

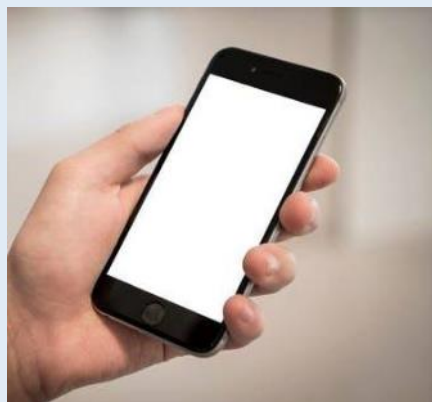
In 1982 E. Vreeland Baker, a Willsboro farmer and entrepreneur, donated his 352 acre farm to Cornell University for agricultural research and demonstration. The facility serves to connect Cornell faculty in Ithaca with the challenges and issues facing North Country farmers. Willsboro Research Farm is part of the Cornell University Agricultural Experiment Station.

This event is free and open to the public. For more information call Mike Davis at 518-963-7492.

ENYCHP Now Offering Text Alerts! Sign-up Today!

This season, CCE ENYCHP will be offering text updates straight to your phone! Being informed is the first step in the success of your farm! Our texts will get you the information you need in the fastest and most concise way possible!

Only the most important crop alerts will be sent ("Late Blight found in N.Columbia County", for example), and you can choose to receive updates on whichever commodities you wish- Vegetables, Berries, Grapes, or Ag. Business.



Ag. Business Alerts will include: funding opportunities, due dates for programs (ag district inclusion, tax deadlines, crop insurance etc...), & market opportunities (farmers markets looking for vendors, buyers looking for product)

CLICK HERETO SIGN UP FOR OUR CCE ENYCHP TEXT ALERTS!

<https://mailchi.mp/7a7cc033546c/k24yc2ayt1>

Corn Trap Counts

County	Date	CEW	ECB-Z	ECB-E	FAW	WBC
Albany	6/12/2018	x	0	1	0	0
Columbia	6/12/2018	x	5	0	15 common armyworm	0
Washington	6/12/2018	x	0	0	2 FAW, 44 common	0
Rensselaer 1	6/12/2018	x	0	0	10 common armyworm	0
Clinton 1	6/12/2018	x	0	4	10 common armyworm	0
Clinton 2	6/12/2018	0	0	0	6 common armyworm	0
Greene	6/13/2018	0	3	3	x	x

Upcoming Events

20 Minute Ag Manager

All webinars run from 12:00-12:30pm

To register, go to <https://tinyurl.com/y9gfqbmX>.

June: Zoning and Land Use

- June 19—NYS Ag Districts 101
- June 26—Using On-line Data and Maps to Assess a Property Remotely

June 28, 2018 - Garlic Twilight Meeting, 5pm-7pm

See various cultural techniques to minimize fusarium demonstrated on a field level, including black plastic and white plastic mulches compared to straw and bare ground. We will also have a discussion of allium leaf miner management!

Free event, Registration appreciated: <https://enych.cce.cornell.edu/event.php?id=959>

July 12, 2018 – FSMA Training

Cornell Cooperative Extension, Albany County
– Voorheesville, NY.

More information at <https://enych.cce.cornell.edu/event.php?id=951>



July 18, 2018 - New York Soil Health Summit

Empire State Plaza, Downtown Albany, NY. For more information at this time, contact David Wolfe (dww5@cornell.edu) or Aaron Ristow (ajr229@cornell.edu).

July 31st, 2018– Reduced Tillage in Organic Systems Field Day 9am—3pm

Cornell Willsboro Research Farm, free and open to the public, for questions call Amy Ivy at 518-570-5991 or adi2@cornell.edu



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