

Cornell Cooperative Extension
Cornell Vegetable Program

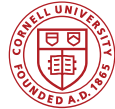


2020 Vision: New Fungicide Recommendations for Stemphylium Leaf Blight in Onion

Christy Hoepting, CCE Cornell Vegetable Program

Onion SLB Fungicide Resistance Workshop: Part II, 2020 Empire Producers Expo
Syracuse, NY: January 15, 2020

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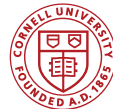


New Fungicide Suggestions and Things to Consider for Stemphylium Leaf Blight in Onion in 2020

Christy Hoepting, CCE Cornell Vegetable Program

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2020 Onion SLB Fungicide Roster



Trade Name	Active Ingredient	FRAC Code	Fungicide Resistance				
			Elba	Wayne	Yates	Oswego	Orange
Rovral	iprodione	2	Some	Slipping	None	Resistant	Resistant
Scala	pyrimethanil	9 a	Some	Resistant	Resistant	Resistant	Resistant
Tilt	propiconazole	3 a					
Quadris Top	difenaconazole azoxystrobin	3 b 11					
Inspire Super	difenaconazole cyprodinil	3 b 9b					
Viathon	tebuconazole Phosphorous acid	3 c 33					
Luna Tranquility	Fluopyram pyrimethanil	7(1) 9a	Slipping	Some	Some	Slipping	Slipping
Merivon	fluxapyroxad pyraclostrobin	7(2) 11	Resistant	Slipping	Some	Resistant	Slipping
Endura	boscolid	7(3)	Slipping				
Luna Experience	Fluopyram tebuconazole	7(1) 3 c	Some?				
Miravis Prime	pydiflumetofen fludioxonil	7(4) 12	Some?	Some?			

Resistant	Failed in field trial, >65% insensitive isolates
Slipping	Field performance declined, insensitive isolates detected
Some	Some moderately insensitive isolates detected
None	Only sensitive isolates detected

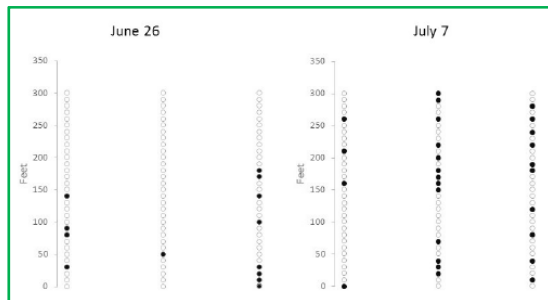
★ Coming soon!

2020 SLB Fungicide Suggestions

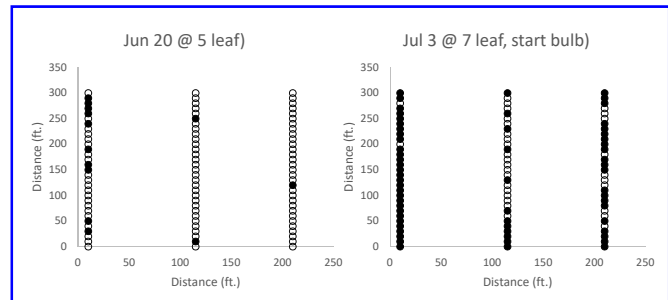


- Start spraying earlier – 4-leaf(?) in June vs. 0.5-1” bulb in July
 - Fungicides are not as effective, no more “big guns”
 - Easier to keep very low population in check with less effective products

2017



2018



● = Stemphylium detected ○ = Stemphylium not detected

2020 SLB Fungicide Suggestions

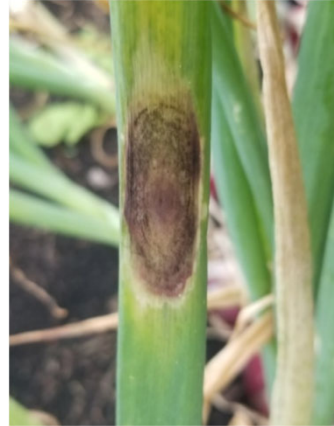


- Do not stretch SLB fungicide program – spray every 7 days
 - To prevent SLB from recovering between sprays
- Use **two** FRAC groups with activity on SLB in every spray
- No more than two apps per FRAC before rotating to another FRAC
- Rotate active ingredients and sub-classes within each FRAC group
 - Each have slightly different mode of action
- Use high rates of FRAC 3
 - Low resistance factor, increased rates go a long way
 - FRAC 3 + 3 okay, but should still be used with another SLB FRAC
- Increase rate of Luna Tranquility?
 - Depends on what resistance factor is.

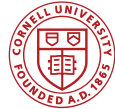
2020 SLB Fungicide Suggestions



- Do not use Merivon in Elba or Oswego
 - Use at your own risk in other regions
- Do not use Scala
 - EXCEPT in Elba
- Do not use Rovral in Oswego or Orange
 - Wayne?
 - Rovral may be used in Elba?
- End spray program at 50% lodging or later?



2020 Sample Spray Program – SLB Only



Week	Fungicide and Rate/A	FRAC Group
1*	Quadris Top 14 fl oz	3b, 11
	+ Tilt 8 fl oz	3a
2	Viathon 3 pt	3c, P06
	+ Rovral 1 pt	2
3	Luna Tranquility 16-20 fl oz	7(1), 9a
4	Inspire Super 20 fl oz	3b, 9b
5	Miravis Prime 11.4 fl oz	7(4), 12
	+ Rovral 1 pt	2
6-10	Repeat 1-5	

Program uses **8** active ingredients.

	2	3a	3b	3c	7 (1)	7 (4)	9a	9b
5 weeks	2	1	2	1	1	1	1	1
Total	2		3		2		2	
10 weeks	4	2	4	2	2	2	2	2
Total	4		6		4		2	

Not a Recommendation – 3rd attempt at putting together a program

*This treatment would be better plus another FRAC group (but which one?)

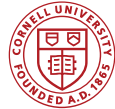
Stay Tuned!!



- Results from one more fungicide to analyze
 - Emphasis on starting fungicide program early
 - May find some success with Biologicals – FRAC 44 and P06 when applied preventatively
- Frank Hay has more SLB isolates to screen
 - 2019 isolates
 - Screen FRAC 3
- Botrytis leaf blight results
 - Field performance
 - Screening for fungicide sensitivity?
- New Cornell Fungicide Cheat Sheet and Recommendations for 2020 when we know more!

Available at CCE CVP website: <http://cvp.cce.cornell.edu/>

Future Research



On-farm fungicide trials:

- Revisit FRAC 20
 - Omega in 2015 was statistically as good as Tilt, maybe something we can use
- Inspire Super 20 fl oz + Tilt 8 fl oz
- Efficacy of increased rates of Luna Tranquility, Scala + Rovral
- Extended fungicide program after lodging
- Continue to work with Katrin on studying how different programs influence SLB fungicide resistance
- Other?

In collaboration with Frank Hay:

- Continue to monitor SLB isolates for fungicide resistance
- Develop molecular and DNA techniques for rapid detection of fungicide resistance
- Develop and validate SLB prediction model
- Explore varietal differences?

Questions

