

Cornell Onion (Dry Bulb) Fungicide “Cheat Sheet” for Control of Leaf Diseases in New York, 2025

Compiled by Christy Hoepting, CCE Cornell Vegetable Program (June 2025). Results based mostly on on-farm field trials (Hoepting et al. 2024)



Product/Tank Mix and Rate/A	Active Ingredient	FRAC ¹		Relative Performance E: Excellent; VG: Very Good; G: Good; F: Fair; P: Poor; Fail					Activity on DM ²	Maximum Allowable/Season	
		Code ³	Risk of Fungicide Resistance Rating	BLB ⁴ halo lesions	BLB necrotic spots	SLB ⁵ target spots	SLB sporulation of necrotic leaf tissue	SLB leaf dieback		Rate/Acre	No. Apps (max. rate)
FRAC M5 and M3											
Bravo 3 pt ⁶	chlorothalonil	M5	very low	VG	G	Fail	Fail-P	Fail-P	No	20 pts	6 (3 pt)
Bravo 1.5 pt	chlorothalonil	M5	very low	F	F-P	Fail	-- ⁷	Fail-P	No	20 pts	6 (3 pt)
e.g. Manzate Max ⁶	mancozeb 1 lb	M3	very low	VG ⁸	Fail	Fail	Fail	Fail	Yes	24 qts	10 (2.4 qt)
e.g. Manzate Max	mancozeb 3 lb	M3	very low	VG	Fail	Fail	Fail	Fail	Yes	24 qts	10 (2.4 qt)
FRAC 2											
Rovral 1.5 pt	iprodione	2	medium-high	G (Oswego) ⁹ Fail (Elba)	Fail (Wolcott) P (Elba)	Fail	Fail (Elba) P (Wolcott)	Fail (Elba) P (Wolcott)	No	7.5 pts	5 (1.5 pt)
FRAC P07											
Rampart ⁶	Mono- & di- potassium salts of phosphorous acid	P07a	low	Fail	F-P	Fail-P	VG (Wolcott) Fail (Elba)	P	Yes	?	? (6 pt)
Reveille, etc. ⁶	potassium phosphite	P07b	low	Fail	F-P	Fail-P	VG (Wolcott) Fail (Elba)	P	Yes	28 pt	7 (4 pt)
Bravo 3 pt + FRAC P07 ⁶	chlorothalonil + pot. salts of phosphorous acid, or potassium phosphite	M5 P07a or, P07b	very low low low	VG	VG-G	F-P	F	G	No Yes Yes	--	6
FRAC 3											
Tilt 8 fl oz ⁶	propiconazole	3a	medium	Fail	F-P	Fail	G-F	Fail	No	16 fl oz	2 (8 fl oz)
Tilt 8 fl oz + FRAC P07	propiconazole pot. salts of phosphorous acid, or potassium phosphite	3a P07a or, P07b	medium low low	Fail	G	F-G	G	G-F	no yes yes	--	2
Viathon 3 pt + Tilt 8 fl oz	tebuconazole + pot. phosphite + propiconazole	3c + P07b 3a	medium + low medium medium	Fail	VG-G	F-G	F	G	Yes No	--	2
Viathon 3 pt + Tilt 8 fl oz + Bravo 3 pt	tebuconazole + pot. phosphite + propiconazole + chlorothalonil	3c + P07b 3a M5	medium + low medium very low	F	E-VG	G-VG	F	E-VG	Yes No No	--	2

* FRAC rates FRAC 7 as “medium-high”. Given our experience with FRAC 7 and SLB, we ranked it as “high” instead.

1 **FRAC:** Fungicide Resistance Action Committee

2 **DM:** Downy mildew. If fungicide treatment does not have activity on DM, grower may want to add a fungicide with activity on DM to tank mix.

3 **FRAC codes.** Numbers in brackets represent active ingredients that belong to different sub-classes of FRAC 7. The letters a, b, c, etc. following the FRAC 3 & P07 codes indicate different active ingredients within the same sub-class

4 **BLB:** Botrytis leaf blight. See photos for more on the difference between halo lesions and necrotic spots.

5 **SLB:** Stemphylium leaf blight. See photos for target spots and “dirty tips”. SLB has developed fungicide resistance of FRAC groups 2, 3, 7, 9 and 11 in New York muck-onion production.

6 Example trade name for products with these active ingredients; several products are available.

7 --: No trial data available to comment.

8 Mancozeb 1 lb/A only provides very good control when BLB halo pressure is low (e.g. < 3 BLB halo lesions/leaf).

9 Last trialed in 2022.

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FRAC 7											
Miravis Prime 11.4 fl oz	pydiflumetofen + fludioxonil	7(4) 12	high* + low-medium	G	F	Fail	Fail-P	P	No	34.2 fl oz	3 (11.4 fl oz)
Miravis Prime 11.4 fl oz + Oso 10 fl oz	pydiflumetofen + fludioxonil + polyoxin D zinc salt	7(4) + 12 19	high* + low-medium medium	G	F	F-P	F	P-F	No No	--	3
Miravis Prime 11.4 fl oz + FRAC P07	pydiflumetofen + fludioxonil + pot. salts of phosphorous acid, or potassium phosphite	7(4) + 12 P07a or, P07b	high* + low-medium low low	G	VG-G	F-P	F	G	No Yes Yes	--	3
Luna Tranquility 16 fl oz + Switch 62.5WG	fluopyram + pyrimethanil + cyprodinil + fludioxonil	7(1) + 9a 9b + 12	high* + medium medium + low-medium	G	G	F	G	P	No No	--	3
FRAC 29, 12 and 19											
Omega 16 fl oz	fluazinam	29	low	E	F-P	Fail	Fail	P	Yes	96 fl oz	6 (16 fl oz)
Cannonball 7 oz ¹⁰	fludioxonil	12	low-medium	Fail	Fail-P	P	Fail-P	P-Fail	No	--	--
Oso 10 fl oz	polyoxin D zinc salt	19	medium	Fail	Fail	inconsistent	inconsistent	Fail	no	--	7 (10 fl oz)
Oso 10 fl oz + FRAC P07	polyoxin D zinc salt + pot. salts of phosphorous acid, or potassium phosphite	19 P07a or, P07b	medium low low	Fail	F	F	F	P	No Yes Yes	--	6
Oso 10 fl oz + Bravo 3 pt + FRAC P07	polyoxin D zinc salt + chlorothalonil + pot. salts of phosphorous acid, or potassium phosphite	19 M5 P07a or, P07b	medium very low low low	VG	VG-G	F	F	G	no no yes yes	--	6

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10 Not labeled in onion for foliar use. Included in this sheet to demonstrate efficacy of FRAC 12 on BLB and SLB.



BLB halo lesions (blue) and **BLB necrotic spots** (yellow).



SLB sporulation of necrotic leaf tips, “dirty tips”.



Tan, black and purple **SLB target spots**.

Photos by Christy Hoepting, CCE Cornell Vegetable Program