

## Fungicides for Pea, Lentil, and Chickpea Seed Treatment and Disease Control (Draft revised 25 Feb, 2020)

The Northcentral Integrated Pest Management Center – Pulse Crop Working Group has developed the following information on fungicide efficacy for management of widespread seedborne and soilborne diseases of pulse crops (peas, lentils, and chickpeas) for use by the pulse production industry in the United States. Efficacy is based on labelled application rates according to label instructions and the presence of disease. Table includes the most widely marketed products, and is not intended to be a list of all labelled products.

Fungicide				Crop [a]	Organisms Targeted [b][c]								
Class [f]	Active Ingredient	Product	Dosage (fl. oz/100 lbs seed)		Ascochyta / Mycosphaerella	Pythium	Aphanomyces	Rhizoctonia	Fusarium	Botrytis	Sclerotinia	General Fungi [d]	
<b>Benzimidazole Carbamates (1)</b>	Thiabendazole	Mertect 340-F	P=1.02, L=1.05, C=2.04	P,L,C	R	--	--	--	--	--	--		
<b>Dithiocarbamates (M3)</b>	Thiram	42-S Thiram	8.0	P,L,C	--	--	--	--	--	--	--	R	
<b>Triazoles (3)</b>	Ipconazole	Rancona 3 8 FS	0.085	P,L,C	R	--	--	R	R	R	R	R	
<b>PhenylAmides (4)</b>	Mefenoxam	Apron XL	0.16–0.64	P,L,C	--	R	--	--	--	--	--	--	
	Metalaxyl	Allegiance FL	0.1-0.375	P,L,C	--	--	--	--	--	--	--	--	
<b>Succinate-dehydrogenase Inhibitors (7)</b>	Sedaxane	Vibrance	0.08-0.16	P,L,C	--	--	--	R	--	--	--	--	
	Fluxapyroxad	Systiva XS	0.24-0.47	P,L,C	S [d]	--	--	R	R/S	--	--	--	
	Penflufen	Evergol Prime	0.15	P,L,C	--	--	--	R	--	--	--	--	
<b>Quinone outside Inhibitors (11)</b>	Azoxystrobin	Dynasty	0.153–0.765	L,C	--	--	--	R	--	--	--	R	
	Pyraclostrobin	Stamina	0.4–1.5	P,L,C	S [d]	--	--	--	--	--	--	--	
	Trifloxystrobin	Trilex Flowable	0.32	P,L,C	--	--	--	R	R	--	--	--	
<b>PhenylPyrroles (12)</b>	Fludioxonil	Maxim 4FS	0.08–0.16	P,L,C	--	--	--	--	--	--	--	R	
<b>Aromatic Hydrocarbons (14, proposed)</b>	Toclofos-methyl	Rizolex	0.3	P,L,C	--	--	--	R	R	--	--	R	
<b>Thiazolecarboxamides (U5)</b>	Ethaboxam	Intego Solo	0.3-0.6	P [e], L,C	--	R	R	--	--	--	--	--	
<b>Phthalimides (M4)</b>	Captan	Captan 4L	2.6	P	--	--	--	--	--	--	--	R	
<b>Mixed Mode of Action</b>	Fludioxonil / Mefenoxam	Apron MAXX RTA	5.0	P,L,C	--	R	--	R	R	--	S	--	
	Ipconazole Metylaxyl	Rancona Summit	4	P,L,C	R	R	--	R	R	R	R	R	
	Prothioconazole Penflufen Metalaxyl	EverGol Energy	1.0	P,L,C	R	R	--	R	R	R	--	R	
	Pyraclostrobin	Obvius	4.6	P,L,C	R [d]	R	--	R	R	R	--	--	--
	Fluxapyroxad												
	Metalaxyl												
	Pyraclostrobin Fluxapyroxad Thiophanate-methyl	Obvius Plus (g)	1.5	C	R	R	--	R	R	R	--	--	
	Metalaxyl												
	Trifloxystrobin Metalaxyl	Trilex 2000	1.0	P,L,C	--	R	--	R	R	--	--	R	
	Sedaxane Mefenoxam Fludioxonil	Vibrance Maxx	1.54	P,L,C	R	R	--	R	R	R	--	--	
	Thiamethoxam Thiabendazole Sedaxane Mefenoxam	Cruiser Maxx Vibrance Pulses	5.0	P,L,C	R	R	--	R	R	--	--	--	

- P = pea, L = lentil, C = chickpea
- Organisms targeted. For a complete list, check the label. Not included on this table are: Phytophthora, Downy Mildew; Alternaria, Aspergillus, Cladosporium, and Penicillium.
- Efficacy categories: R = Registered for use; S = Registered for suppression only; -- = Not registered.
- Registered for protection against fungi; check label for details.
- Product efficacy may be reduced in areas with fungal populations that are resistant to strobilurin fungicides.
- Fungicide Mode of Action (MOA), letter followed by number and Fungicide Resistance Action Committee (FRAC) Code, number.
- Only registered for chickpea.