



Regional late blight detections

Jul 17 – potato late blight confirmed in Dufferin County, Ontario (US-23)



~Jul 21 – potato and tomato late blight confirmed in Cattaraugus and Wyoming Counties, New York (US-23)



EPA Interim Decision Chlorothalonil:

- After a mandatory 15-year registration review, “EPA identified dietary ...and ecological risks of concern for chlorothalonil and identified necessary rate reductions to reduce the amount of chlorothalonil entering drinking water, thus reducing dietary exposure and risk in vulnerable soils.”
- "Vulnerable soils" are:
 - Sand, loamy sand or sandy loam soil
 - Less than 2% organic matter content.
 - Where the water table is 30 feet or less from the surface.
- Soils that do not meet all three of these criteria are considered “non-vulnerable.”
- In potato, new maximum annual rates reduced from 11.25 to 8.0 lb of chlorothalonil/acre/year in non-vulnerable soils.

- **For “vulnerable” sandy soils, 6.5 lb of chlorothalonil/acre/year. Changes are expected to take effect in 2026.**

What you need to know:

- Current standard label 15 pts/acre/year (11.25 lb a.i./acre/year), applied at 1 to 1.5 pt/A (0.75 to 1.125 lb a.i.) = 10 to 15 applications. **Reduced to 5.7 to 8.6 applications.**
- 24(c) labels for Echo 720 (EPA Reg. No. 60063-7) and Echo 90DF (EPA Reg. No. 60063-10) were cancelled and for Bravo Weather Stik (EPA Reg. No. 66222-276) withdrawn and not renewed. Previous labels expired Dec. 31, 2024.
- **24(c) label for Bravo ZN (EPA Reg. No. 66222-278; SLN No. MI-180006) currently valid until Dec. 31, 2025** and will be available at [MDARD 24\(c\) Special Local Needs Pesticide Labels](#) until its cancellation this year.
- For additional details, information and questions, contact Kevin Kern, MDARD pesticide registration specialist, at kernk@michigan.gov or 989-239-7637.

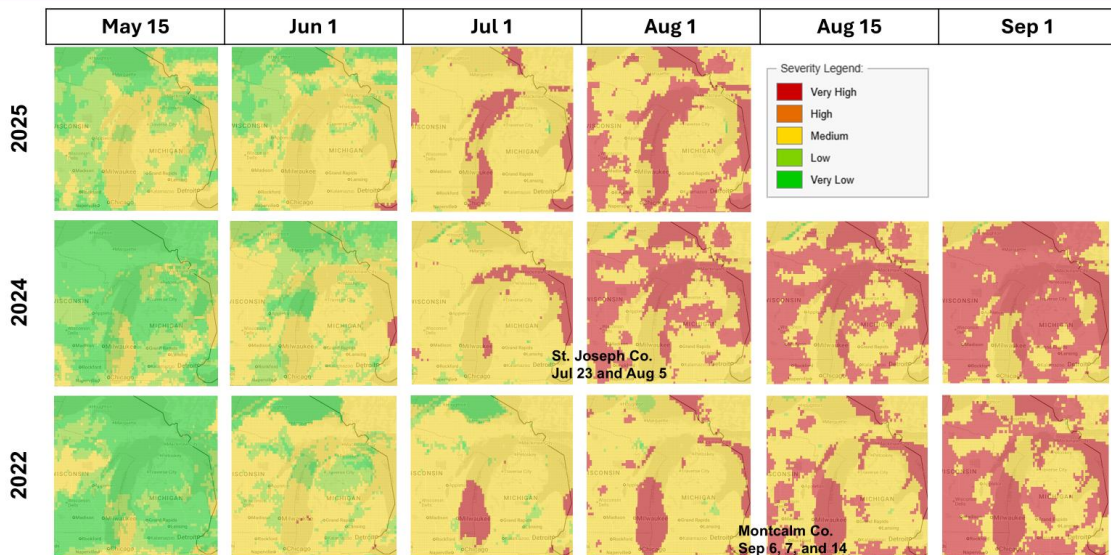


Late blight fungicide products

Products	Active Ingredient	FRAC Group	Rate (per A)	PHI (days)
Bravo, Echo, and Equus, Initiate	Chlorothalonil	M5	Various	7
Curzate 60DF	Cymoxanil	27	3.2 oz	14
Gavel 75DF	Mancozeb + Zoxamide	M3, 22	1.5-2.0 lbs	14 (3 MI)
Dithane, Manzate and Penncozeb, etc.	Mancozeb	M3	Various	14 (3 MI)
Orondis Opti (Premix)	Chlorothalonil + Oxathiapiprolin	M5, U15	1.75-2.5 pts	7
Orondis Ultra (Premix)	Oxathiapiprolin + Mandipropamid	U15, 40	5.5-8.0 fl oz	14
Omega 500F	Fluazinam	29	5.5 fl oz	14
Previcur Flex	Propamocarb hydrochloride	28	0.7-1.2 pts	14
Ranman 400SC	Cyazofamid	21	1.4-2.75 fl oz	7
Revus Top 2.08SC	Mandipropamid + Difenoconazole	3, 40	5.5-7 fl oz	14
Tanos 50 WDG	Cymoxanil + Famoxadone	27, 11	6.0-8.0 oz	14
Zampro	Ametoctradin + Dimethomorph	45, 40	11-14 fl oz	4
Zing!	Zoxamide + Chlorothalonil	22, M5	30-34 fl oz	7

*Registered products for control of potato late blight listed in the [2024 Midwest Vegetable Production Guide](#).

Late Blight Risk – Emergence May 1



Late blight risk (2022-2025)

In Michigan, late blight risk generally increases in late July to early August.

These predictions correspond with late blight detections over the past several years.

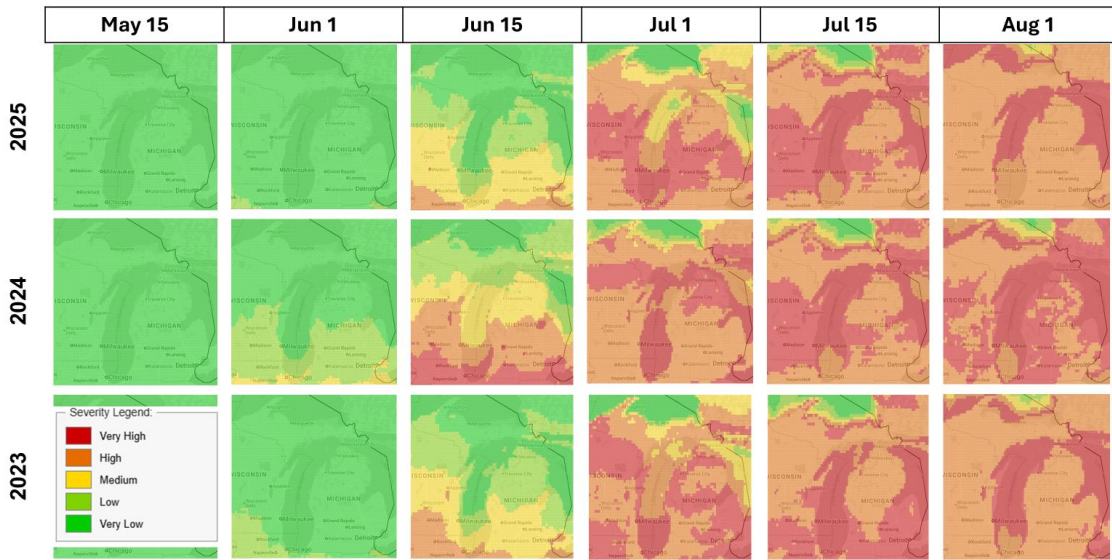


Early blight fungicide products

Products	Active Ingredient	FRAC Group	Rate (per A)	PHI (days)
Azteroid (FC), Quadris (SC)	Azoxystrobin	11	Various	14
Bravo, Echo, Equus, Initiate	Chlorothalonil	M5	Various	7
Dithane, Manzate and Penncozeb, etc.	Mancozeb	M3	Various	14
Endura (WG)	Boscalid	7	3.5-4.5 oz	10
Endura Pro	Boscalid + Mefentrifluconazole	7, 3	18.5-20 fl oz	10
Gavel 75DF	Mancozeb + Zoxamide	M3, 22	1.5-2.0 lbs	14 (3 MI)
Headline (SC)	Pyraclostrobin	11	6-9 fl oz	3
Luna Pro	Fluopyram + Prothioconazole	7, 3	10 fl oz	14
Luna Tranquility (SC)	Fluopyram + Pyrimethanil	7	8-11.2 fl oz	7
Miravis Prime (SC)	ADEPIDYN (Pydiflumetofen) + Fludioxonil	7, 12	9.2-11.4 fl oz	14
Quadris Opti (SC)	Chlorothalonil + Azoxystrobin	M5, 11	1.6 pt	14
Quadris Top	Azoxystrobin + Difenoconazole	11, 3	8-14 fl oz	14
Revus Top 2.08SC	Mandipropamid + Difenoconazole	3, 40	5.5-7 fl oz	14
Rovral	Iprodione	2	1-2 pt	14
Scala (SC)	Pyrimethanil	9	7 fl oz	7
Tanos 50 WDG	Cymoxanil + Famoxadone	27, 11	6.0-8.0 oz	14
Velum Prime (SC)	Fluopyram	7	6.5-6.84 fl oz	7
Zing!	Zoxamide + Chlorothalonil	22, M5	30-34 fl oz	7

*Registered products for control of potato early blight listed in the [2024 Midwest Vegetable Production Guide](#).

Early Blight Risk – Emergence May 1



<https://agweather.cals.wisc.edu/vdfrn?model=early-blight>

Early blight risk (2023-2025)

In Michigan, early blight risk generally increases in early- to mid-June.

These predictions correspond with early blight detections over the past several years.

Current program example

#	Application #	Growth stage	Target disease(s)	Date
1	Chlorothalonil (1 pt/A)	in-row closure	early and late blight	8-Jun
2	Chlorothalonil (1 pt/A)	+ 5-7 days	early and late blight	15-Jun
3	Chlorothalonil (1 pt/A)	+ 5-7 days	early and late blight	22-Jun
4	Chlorothalonil (1 pt/A)	row closure	early and late blight	29-Jun
5	Chlorothalonil (1 pt/A)	+ 5-7 days (10% flowering)	early and late blight	6-Jul
6	Specialty white mold + Chlorothalonil (1 pt/A)	+ 5-7 days (50% flowering)	white mold + gray mold early blight and late blight	13-Jul
7	Specialty white mold + Chlorothalonil (1 pt/A)	+ 5-7 days	white mold + gray mold early blight and late blight	20-Jul
8	Chlorothalonil (1 pt/A)	+ 5-7 days	early and late blight	27-Jul
9	(Specialty white mold) + Chlorothalonil (1 pt/A)	+ 5-7 days	(white mold + gray mold) early blight and late blight	3-Aug
10	Specialty early blight + Chlorothalonil product (1.5 pt/A)	+ 5-7 days	early and late blight	10-Aug
11	Specialty early blight + Chlorothalonil product (1.5 pt/A)	+ 5-7 days	(white mold) early and late blight	17-Aug
12	Specialty early blight + Chlorothalonil product (1.5 pt/A)	+ 5-7 days	early and late blight	24-Aug
13	Chlorothalonil product (1.5 pt/A)	+ 5-7 days	early and late blight	31-Aug
14	(Mancozeb 2 lb/A + Tin 2.5 oz/A)	+ 5-7 days (vine kill)	early and late blight	7-Sep
15	(Mancozeb 2 lb/A + Tin 2.5 oz/A)	+ 5-7 days (vine kill)	early and late blight	14-Sep

Adjusted program example

#	Application #	Growth stage	Target disease(s)	Date
1	Chlorothalonil (1 pt/A)	in-row closure	early and late blight	8-Jun
2	Chlorothalonil (1 pt/A)	+ 5-7 days	early and late blight	15-Jun
3	Chlorothalonil (1 pt/A)	+ 5-7 days	early and late blight	22-Jun
4	Chlorothalonil (1 pt/A)	row closure	early and late blight	29-Jun
5	Chlorothalonil (1 pt/A)	+ 5-7 days (10% flowering)	early and late blight	6-Jul
6	Specialty white mold + Chlorothalonil (1 pt/A)	+ 5-7 days (50% flowering)	white mold + gray mold early blight and late blight	13-Jul
7	Specialty white mold + Chlorothalonil (1 pt/A)	+ 5-7 days	white mold + gray mold early blight and late blight	20-Jul
8	Chlorothalonil (1 pt/A)	+ 5-7 days	early and late blight	27-Jul
9	(Specialty white mold) + Mancozeb 2 lb/A	+ 5-7 days	(white mold + gray mold) early blight and late blight	3-Aug
10	Specialty early blight + Mancozeb 2 lb/A	+ 5-7 days	early and late blight	10-Aug
11	Specialty early blight + Mancozeb 2 lb/A	+ 5-7 days	(white mold) early and late blight	17-Aug
12	Specialty early blight + Mancozeb 2 lb/A	+ 5-7 days	early and late blight	24-Aug
13	Mancozeb 2 lb/A	+ 5-7 days	early and late blight	31-Aug
14	(Mancozeb 2 lb/A + Tin 2.5 oz/A)	+ 5-7 days (vine kill)	early and late blight	7-Sep
15	(Mancozeb 2 lb/A + Tin 2.5 oz/A)	+ 5-7 days (vine kill)	early and late blight	14-Sep