

2018 Downy Mildew Control Strategy for Cucumber Crops

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Infosheet

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For optimum control, use a preventative downy mildew management strategy. The broadspectrum fungicides listed in **Table 1**, *Broadspectrum Preventative Fungicides*, provide protection against downy mildew infections under low disease pressure conditions. Apply the first application no later than the vine development stage. Consider an earlier application under high risk Downy Mildew conditions.

Under higher risk conditions, refer to **Table 2**, Downy Mildew-Targeted Preventative Fungicides. For late crop cucumbers, be prepared to begin the preventative fungicide program soon after crop emergence. Banded applications on small plants greatly reduces the cost of the fungicide program.

High risk Downy Mildew conditions include:

- Downy mildew has been identified in the Great Lakes Region
- Forecasts predict strong weather fronts originating in the Southern US.
- Prolonged periods of cool, wet weather.
- Cooler night-time temperatures and heavy dew fall followed by warm, windy days.
- Extended periods of leaf wetness due to dew, rain or overhead irrigation.

Apply a preventative fungicide **before** a rainfall event or **prior** to overhead irrigation.

Table 1. Cucumber Downy Mildew Control

Group Name (Group #)	Common Name	Trade Name	Rate per Hectare (Rate per Acre)	Pre Harvest Interval	Notes
Broadspectrum Preventative Fungicides (Begin applications no later than vine development.)					
dithiocarbamate (group M3)	mancozeb	Dithane Rainshield	1.1–3.25 kg (0.4–1.3 kg)	14	24-hour re-entry interval.
		Penncozeb 75DF Raincoat			
		Manzate Pro-Stick	2.25–3.25 kg (0.9–1.3 kg)		
chloronitrile (group M5)	chlorothalonil	Bravo ZN	4.8 L (1.9 L)	2	48-hour re-entry interval.

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The three most consistently effective downy mildew fungicides are Orondis Ultra, Torrent and Zampro. Under high risk conditions, or when downy mildew is identified in the Great Lakes Region, use the most efficacious product first. Always rotate between all three targeted downy mildew fungicides. Never make back-to-back applications of products from the same chemical family.

Orondis Ultra is best used early in the cropping cycle, as soon as the disease is identified in the Great Lakes Region, followed by applications of Torrent and Zampro on a 7-day interval. The three-product program may be repeated, if necessary.

Table 2—Cucumber Downy Mildew Control (Targeted Preventative Fungicides)					
Group Name (Group #)	Common Name	Trade Name	Rate per Hectare (Rate per Acre)	Pre Harvest Interval	Notes
Begin applications when weather conditions favour downy mildew or if downy mildew is identified anywhere in the Great Lakes Region.					
QiL (group 21)	cyazofamid	Torrent 400SC	150–200 mL (61–81 mL)	1	Tank mix with an NIS or Organosilicone surfactant. Do not make sequential applications. 12-hour re-entry interval.
QxI (group 45) Carboxylic acid amide (group 40)	ametoctradin/ dimethomorph	Zampro	0.8-1 L (0.3-0.4 L)	1	See label for guidance on adjuvant use, crop rotation restrictions and re-entry intervals. Do not make sequential applications.
CAA/ piperidinyl-thiazole isoxazolines (group 40/49)	mandipropamid/ oxathiapiprolin	Orondis Ultra 280 SC	400-600 mL/ha (162-243 mL/acre)	0	Do not use more than one in every three applications. Do not use on areas treated with product the previous season. Tank-mix with Bravo ZN or another protectant fungicide. Use high rate and shorter interval when disease pressure is high. Do not make sequential applications. See label for recropping restrictions. 12-hr restricted entry interval.
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Table 2—Cucumber Downy Mildew Control (Targeted Preventative Fungicides)...continued from page 2

Group Name (Group #)	Common Name	Trade Name	Rate per Hectare (Rate per Acre)	Pre Harvest Interval	Notes
Begin applications when weather conditions favour downy mildew or if downy mildew is identified anywhere in the Great Lakes Region.					
CAA (group 40)	mandipropamid	Orondis Ultra A	400-600 mL (162-243 mL)	0	Product A is for suppression only and must be tank-mixed with Bravo 500. Under heavy disease pressure, use a higher rate of product B. Do not make sequential applications. 12-hour re-entry interval.
CAA/ piperidinyl- thiazole isoxa- zolines (group 49)	oxathiapiprolin	Orondis Ultra B	87.5-350 mL (35-142 mL)	0	