

Table 1: Fungicides labeled for Cucurbit Downy Mildew. Most also labeled for Phytophthora Blight Control in cucurbits. Products in RED are labeled for organic use but you should check with your certifying agency to be sure. More organic controls can be found at: <https://www.vegetables.cornell.edu/crops/cucurbits/downy-mildew-of-cucurbits/list-of-biopesticides-for-organic-production/>

Fungicide	FRAC Code	Recommended Rate/Acre	REI	PHI	Seasonal Limits	Adjuvant Recommendations
<i>Chlorothalonil (Bravo Weather Stik, Praiz etc.)</i>	M5	1.5 -2 pints*	12 hours	See label	21 pints per acre	Please note the “Special Eye Irritation Provisions” on the labels. *When using in combination with a Powdery Mildew material, 2-3 pints should be used.
Ranman 400 SC ¹ (<i>cyazofamid</i>)	21	2.75 fluid ounces	12 hours	0 days	6 sprays	Organosilicone or non-ionic surfactant. No more than 3 consecutive applications
Mancozeb (Dithane DF, Roper DF etc.)	M3	See your specific product label for this information.				
<i>Orondis Ultra¹ (oxathiapiprolin + mandipropamid)</i>	49 + 40	5.5 – 8.0 fluid ounces	4 hours	0 days	See label for special notes	non-ionic or organosilicone surfactant. Should also be mixed with a copper fungicide. 4 sprays or 33% of all applications containing Orondis products
<i>Orondis Opti (oxathiapiprolin + chlorothalonil)</i>	49+M5	1.75 – 2.5 pt	12 hours	0 days		4 sprays or 33% of all applications containing Orondis products <u>Orondis Opti is not labeled for Phytophthora blight</u>
<i>Tanos 50 DF¹ (cymoxanil + famoxadone)</i>	27 + 11	8 ounces	12 hours	3 days	4 sprays	
<i>Omega 500 SC¹ (fluazinam)</i>	29	0.75 – 1.5 pt	12 hours	See notes	No more than 7.5 pints per acre or 4 applications	PHI – 7 days pumpkins, cucumbers, squash; 30 days melons and watermelons. Omega is more expensive than other fungicides.
<i>Curzate 60 DF¹ (cymoxanil)</i>	27	5 ounces	12 hours	3 days	9 sprays	Include with one of the other materials listed if DM is detected because this product has a very short residual but has exhibited some burnout activity. <u>Not labeled for Phytophthora blight</u>
<i>Zampro¹ (ametoctradin + dimethomorph)</i>	40 + 45	14 fluid ounces	12 hours	0 days	3 sprays	Do not apply more than 2 consecutive applications before switching to a fungicide with different FRAC code.
<i>Zing! (zoxamide +</i>	22 + M5	36 fluid ounces	12 hours	0 days	8 sprays	Actual rate of chlorothalonil is below the recommended rate to control CDM or

<i>chlorothalonil</i>)						Powdery Mildew. Add 0.43 – 1.43 pints Bravo WeatherStik to the tank to achieve the rate of chlorothalonil required to control these diseases. <u>Not labeled for Phytophthora blight</u>
Phostrol, ProPhyt, Fosphite (phosphorus acid containing products)	P 07	2.5-5.0 pints*	4 hours	0 days	7 sprays	*Rates vary depending on product used. Please review the label for the correct rates.

Copper—Various formulations please see labels for more information

Regalia Biofungicide	NA	1—4 quarts	4 hours	0 days	NA	Should be applied with copper fungicide
Serenade ASO Bacillus subtilis str QST 713)	NA	2—6 quarts – see label for rates.	4 hours	0 days	NA	Only labeled for <i>Phytophthora parasitica</i> so knowing which species you have is important!
Actinovate AG (<i>Streptomyces lydicus</i> WYEC 108)	NA	3 –12 fluid ounces	1 hour or until dry	0 days	NA	
Zonix (Rhamnolipid Biosurfactant)	NA	See Label for rates	4 hours	0 days	NA	Apply ZONIX™ Biofungicide at a concentration of 300-500 ppm (see rate table on label). Make applications in the early stages of plant growth for initial control. Reapply at 5-day intervals or as needed throughout the growing season for preventative control. Thorough coverage is necessary for disease control.

¹Should mix with a protectant partner such as chlorothalonil.

None of the above fungicides will control Powdery Mildew with the exception of fungicides with chlorothalonil or copper, Regalia Biofungicide, Serenade ASO and Actinovate AG.

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