

# THE EXPERTS ON DISEASE & PEST CONTROL



## DOWNY MILDEW PROBLEM? CONTROL STRATEGIES

### Background

Downy Mildews belong to the family Peronosporaceae. The most commonly affected ornamentals are Impatiens, Sunflowers, and the Curcubit Vegetables. Fruit loss from Downy Mildew is most likely related to soft rots that occur after leaves die and then sunburn occurs on the fruit. Plants affected may be stunted or have leaf loss.

### Symptoms

Symptoms can appear a couple of ways. One way consists of yellow-brown mottling visible on the upper side of the leaves. As the mottling spots age, they rapidly expand and turn brown. It may appear to be chlorosis at first. The other way symptoms can appear is by having white, cotton looking growth on the underside of leaves. This is how Downy Mildew gets its name. In disease favorable conditions it will spread rapidly, destroying leaves without affecting stems.



### Cultural Control

One way to control Downy Mildew is to eliminate moisture and humidity around the affected plants. One way to do that is to water below the leaves with a drip system. Another way is to improve air circulation through selective pruning of plant tissue. Inside a greenhouse, reducing the humidity will help as well.





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## EFFECTIVE SOLUTIONS FOR DOWNY MILDEW

### Favorable Development Conditions/Disease Cycle

It depends on the species but some like it when it is hot and humid with moisture and others like it when it is cool and humid with moisture. When the fungus is present from a previous growing season it can over winter on plant parts. Then when the spores come in contact with any free water on the leaf surface and the conditions are favorable, it can spread and promote spore germination. The disease cycle, depending on species, from beginning to additional spore production usually lasts from seven to ten days but under hot and humid conditions that cycle can be as short as four days.

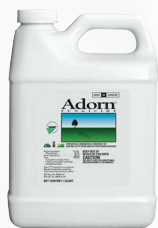
Always read and follow label directions before applying any pesticide and follow state and local regulations.

### Fungicide Control

A number of both Chemical and Bio-Rational fungicides can be used to effectively control Downy Mildew.



# EFFECTIVE SOLUTIONS FOR DOWNY MILDEW



## Adorn



32oz VAL61510.928

(Fluopicolide) Group 43. Caution. 12hr REI. Rate: -4oz/100gal. Locally Systemic, Translaminar. Labeled for use in the greenhouse and nursery. Should trial for phytotoxicity on plants not on label prior to use. Adorn must be tank mixed with another product labeled for Downy Mildew for resistance management.



## Camelot O



1gal SEPRO19-0452A

(Copper Octanoate) Group M01. Caution. 4hr REI. Rate: 0.5-2.0gal/100gal. Contact. Labeled for use in the greenhouse and nursery as well as on vegetables and herbs. Control may be enhanced with the addition of an adjuvant.



## Cease



1gal BW300100 2.5gal BW1C19A24

(Bacillus subtilis) OMR1. Group 44. Caution. 4hr REI. Rate: 2-8qts/100gal. Contact. Labeled for use in the greenhouse and nursery as well as vegetables.



## Fenstop



32oz GOW85239

(Fenamidon) Group 11. Warning. 12hr REI. Rate: 7-14oz/100gal. Contact. Labeled for use in the greenhouse but only certain ornamentals are on the label, check label prior to use. Should trial for phytotoxicity on plants not on label prior to use.



## Micora



32oz SYN47280

(Mandipropamid) Group 40. Caution. 4hr REI. Rate: 4-8oz/100gal. Contact. Labeled for use in the greenhouse and nursery as well as on Vegetables.



## Pageant Intrinsic



1lb BAS59012349 12lb BAS59012429

(Boscalid, Pyraclostrobin) Group 7,11. Caution. 12hr REI. Rate: 12-18oz/100gal. Contact. Labeled for use in the greenhouse and nursery as well as tomatoes.



## Protect DF



6lb NTS10506660

(Mancozeb) Group M03. Caution. 24hr REI. Rate: 1-2lbs/100gal. Contact. Labeled for use in the greenhouse and nursery, including some vegetables. Control may be enhanced with the addition of an adjuvant. Do not use on Marigolds.



## Regalia CG



32oz MB10084 2.5gal MB10096

1gal MB10081

(Reynoutria sachalinensis) OMR1. Group P5. Caution. 4hr REI. Rate: 6-11 oz/100gal. Contact only. Labeled for use in the greenhouse as well as on Vegetables, Fruits, and Herbs.



## Segovis



16oz SYN58199

(Oxathiapiprolin) Group 49. Warning. 4hr REI. Rate: 0.6-2.4oz/100gal. Contact and Systemic. Labeled for use in the greenhouse and nursery. Control may be enhanced with the addition of an adjuvant.



## Segway O



16oz OHP987280 64oz OHP987245

(Cyazofamid) Group 21. Caution. 12hr REI. Rate: 2.1-3.5oz/100gal. Contact, Limited Systemic. Labeled for use in the greenhouse and nursery.