

## Efficacy of Management Tools for Downy Mildew. **Final**

### Ornamental Protocol Number: 09-001

**Objective:** Determine efficacy of new active ingredient formulations and new biopesticides for managing downy mildew diseases.

### Experimental Design:

**Plot Size:** Must be adequate to reflect actual use conditions.

**Replicates:** Minimum of 4 replications

**Application Instructions:** tbd

**Target Species:** *tbd*

**Plant Hosts:** Use a plant host suitable for target species, recording species and variety used.

**Use Site:** May be greenhouse, field container or field in-ground. Please specify in final report.

**Evaluations:** Record disease severity and incidence 0, 7, 14, and 28 days after application for herbaceous plant material. For woody plant material, record disease severity and incidence 0, 14, 28, 42 and 56 days after initial application. Record plant height & width at initial and final evaluations only. Record phytotoxicity at each rating date on a scale of 0 to 10 (0 = no phytotoxicity; 10 = complete kill). If phytotoxicity is observed in treated plants, take pictures comparing treated and untreated plant material.

**Recordkeeping:** Keep detailed records of weather conditions including temperature and precipitation, soil-type or soil-less media, application equipment, application volume per area, irrigation, pot/liner size, plant height & width, and plant growth stage at application and data collection dates.

*If different application methods or evaluations are made, please clearly specify differences in final report and explain how they enhanced results.*

### Treatments:

See tables on the following pages. Standards and A priority treatments are in the first table. B and C priority treatments are in the second table.

### Reports:

Reports submitted on the standard IR-4 Ornamental Horticulture Research Report Form are preferred. However, reports in the F&N Tests format are acceptable as long as those reports are amended with detailed experimental design and materials and methods, along with raw data, recordkeeping information, and any pictures.

A report submitted electronically is preferred but not required. If the report is provided electronically, the basic report can be sent in MS Word or WordPerfect, the recordkeeping information as pdf or other electronic documents, and the raw data in MS Excel or other suitable program such as ARM.

**Please direct questions to:** Cristi Palmer, IR-4 HQ, Rutgers University, 500 College Road East, Suite 201W, Princeton, NJ 08540, Phone 732-932-9575 x4629, [palmer@aesop.rutgers.edu](mailto:palmer@aesop.rutgers.edu) **OR** Ely Vea, 308 Aston Forest Lane, Crownsville, MD 21032, Phone & FAX#: 410-923-4880, E-mail: [evvea@comcast.net](mailto:evvea@comcast.net).

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Revised By: CLP

Priority A and Standard Treatments List with rates, special application instructions, and contact information to obtain product and any suitable adjuvant needed.

Priority	#	Product	Rates	Reapplication Interval	Special Application Instructions (Soil Drench)	Contact Information to obtain materials and any needed adjuvants
A	1	Adorn (fluopicolide) aka V-10161	1 fl oz/100 gal	28 day	Drench 1 pint solution per sq ft. Increase volume to 2 pints solution per sq ft if soil media depth is greater than 4 inches.	Valent, Joe Chamberlin, 770-985-0303, <a href="mailto:jcham@valent.com">jcham@valent.com</a>
	2	Adorn (fluopicolide) aka V-10161	2 fl oz/100 gal			
	3	BAS 651 F	11 fl oz/100 gal	14 d	Foliar application	BASF, Kathie Kalmowitz, 919-270-4592, <a href="mailto:kathie.kalmowitz@basf.com">kathie.kalmowitz@basf.com</a>
	4	BAS 651 F	13.4 fl oz/100 gal			
	5	Disarm 480SC	2 fl oz per 100 gal	14 d	Foliar	Arysta, Doug Houseworth, 904-321-0795, <a href="mailto:LJHouse9@aol.com">LJHouse9@aol.com</a>
	6	Disarm 480SC	4 fl oz per 100 gal			
	7	Heritage (azoxystrobin)	4 oz/100 gal	Spray on a 7 day interval	Add non-ionic surfactant to spray	Syngenta, Nancy Rechcigl, 941-238-7413, <a href="mailto:nancy.rechcigl@syngenta.com">nancy.rechcigl@syngenta.com</a>
	8	Heritage (azoxystrobin)	4 oz/100 gal	Spray on a 14 day interval		
	9	NOA 44610 (mandipropamide)	4 oz/100 gal	Spray on a 7 day interval	Add non-ionic surfactant to spray.	Syngenta, Nancy Rechcigl, 941-238-7413, <a href="mailto:nancy.rechcigl@syngenta.com">nancy.rechcigl@syngenta.com</a>
	10	NOA 44610 (mandipropamide)	8 oz/100 gal			
	11	Regalia SC	0.5%	7 d	Foliar	Marrone Organic Innovations, Tim Johnson, 570-441-8775, <a href="mailto:tjohnson@marronebio.com">tjohnson@marronebio.com</a>
	12	Regalia SC	1%			
Standards	11	Standard Control 1*	See below	See below	See below	See below
	12	Standard Control 2*	See below	See below	See below	See below
	13	Untreated Uninoculated	--	--	--	
	14	Untreated Inoculated	--	--	--	

\* Select 2 of the four standards below

Standards	a	Aliette (fosetyl Al)	6.4 to 12.8 oz/100 gal		Apply 2 pints solution per sq ft	Bayer, Mike Gorrell, , <a href="mailto:mike.gorrell@bayercropscience.com">mike.gorrell@bayercropscience.com</a>
	b	Fenstop (fenamidone)	14.0 oz per 100 gal		Refer to label for directions	Bayer, Mike Gorrell, , <a href="mailto:mike.gorrell@bayercropscience.com">mike.gorrell@bayercropscience.com</a>
	c	Stature SC (dimethomorph)	6.12 fl oz	14 d intervals	Foliar application Refer to label for directions	BASF, Kathie Kalmowitz, 919-270-4592, <a href="mailto:kathie.kalmowitz@basf.com">kathie.kalmowitz@basf.com</a>
	d	Subdue Maxx (mefenoxam)	1oz/100 gal	14 day		Syngenta, Nancy Rechcigl, 941-238-7413, <a href="mailto:nancy.rechcigl@syngenta.com">nancy.rechcigl@syngenta.com</a>

Priority B & C Treatments List with rates, special application instructions, and contact information to obtain product and any suitable adjuvant needed.

Priority	Product	Rates	Reapplication Interval	Special Application Instructions	Contact Information to obtain materials and any needed adjuvants
C	Alude	12.7 fl oz/100 gal	14 d	Drench: Apply 1 pint per sq ft. Foliar: Tank mix with Protect using 1 lb/100. Record species	Cleary, Rick Fletcher, 732-329-8399, <a href="mailto:rick.fletcher@clearychemical.com">rick.fletcher@clearychemical.com</a>
C	AgriPhos	64 fl oz/100 gal		Apply at 2 pts per sq ft	AgBio, Jan Meneley, 303-469-9221, <a href="mailto:agbio@agbio-inc.com">agbio@agbio-inc.com</a>
	<b>Cymoxanil</b>				
<b>B</b>	Insignia (pyraclostrobin)	4 oz/100 gal	Spray on a 7 day interval		BASF, Kathie Kalmowitz, 919-270-4592, <a href="mailto:kathie.kalmowitz@basf.com">kathie.kalmowitz@basf.com</a>
		8 oz/100 gal	Spray on a 14 day interval		
C	Magellan	Foliar applications: Herbaceous: 1.25 – 4 pints per 100 gal  Woodies: 2 – 5 pints per 100 gal  Drench application: 6 – 12 fl oz/100 gal	14 d for bedding plants  30 d for conifers  28 d	Apply 2 pints solution per sq ft.	Nufarm, Darin Allred, 919-655-0061, <a href="mailto:Darin.Allred@us.nufarm.com">Darin.Allred@us.nufarm.com</a>
<b>B</b>	Pageant 38WG (pyraclostrobin +boscalid)	12 oz/100 gal 18 oz/100 gal	Spray on a 14 day interval		BASF, Kathie Kalmowitz, 919-270-4592, <a href="mailto:kathie.kalmowitz@basf.com">kathie.kalmowitz@basf.com</a>
B	Segway (cyazofamid)	2.1 to 3.5 fl oz/A	14-21 day interval	An organosilicone or other surfactant should be used	FMC, Bobby Walls, 919-735-3862, <a href="mailto:Bobby.Walls@fmc.com">Bobby.Walls@fmc.com</a>
B	SP2015 (famoxadone +cymoxanil)				SePro, Todd Bunnell, 317-216-5667, <a href="mailto:toddb@sepro.com">toddb@sepro.com</a>
B	Taegro ( <i>Bacillus subtilis</i> var. <i>amyloliquefaciens</i> )	3.5 oz/100 gal	7-14 d	First two drenches are to be given at 7 d intervals followed by foliar spray applications at 14 d	Novozymes Biologicals Lee West
B	Vital	Herbaceous: 2 - 4 pints/100 gal  Woodies: Drench application: 4 pints/100 gal per 400 sq.ft. Foliar application: 4 pints/100 gal	14 d  30 d  14 d		Luxembourg Industries, Vince Morton, 336-286-9714, <a href="mailto:mortv@aol.com">mortv@aol.com</a>

Priority	Product	Rates	Reapplication Interval	Special Application Instructions	Contact Information to obtain materials and any needed adjuvants
	Zoxium				