



# SONATA + SULFUR DF + SYL-COAT is a Top-Performing Tank-Mix<sup>1</sup> that Can Contribute to Powdery Mildew Resistance Management

Wilbur-Ellis' Sonata + Sulfur DF + SYL-COAT treatment performed as well as top synthetic treatments in the 2017 UCCE Grape Powdery Mildew Trials. [1] This tank-mix combines different Fungicide Resistance Action Committee (FRAC) classifications of Modes of Action (MOA) in a single treatment which is a good resistance management practice.

Product	Powdery Mildew Control Rating [2]	FRAC Code <sup>2</sup>	MOA	Category	Description
Sulfur DF	n/a	M2	Multi-site Contact Activity	Contact	SULFUR DF is a proven fungicide with no known resistance and is an excellent rotation partner
Sonata	+++	F6	Lipid Synthesis & Membrane Integrity Disruption	Contact, Competition, Induced Systemic Resistance	Live bacteria in SONATA populate leaf surfaces to induce plants' natural defenses toward disease development and inhibit fungal pathogen cell wall formation

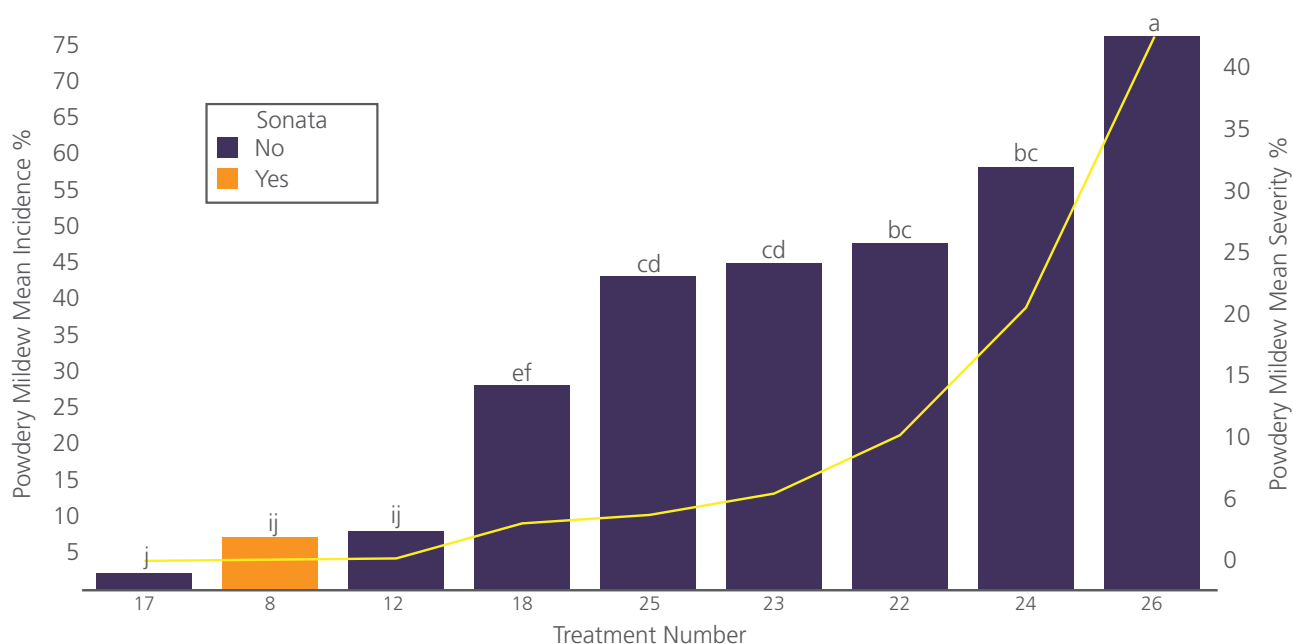
Tank-Mix	Rates & Intervals		Why
Sonata + Sulfur DF + SYL-COAT	Sonata	2-3 qts/ac	<ul style="list-style-type: none"> <li>Multi-site mode of action</li> <li>Great protection against powdery mildew</li> <li>Low likelihood for development of fungicide resistance</li> <li>Organic</li> </ul>
	Sulfur DF	6 lbs/ac	
	SYL-COAT	4 fl oz/ac	
		7-10 day interval	

## PROGRAM BENEFITS

Incorporating Sonata, Sulfur DF and SYL-COAT into an integrated program with other fungicide tank-mixes can effectively manage powdery mildew<sup>3</sup>.

SONATA, SULFUR DF and SYL-COAT are NOP-Compliant organic products but provided statistically-equivalent disease control to treatments containing leading synthetic chemistries.

## 2017 UCCE GRAPE POWDERY MILDEW TRIALS



The trends of sum of Powdery Mildew Mean Incidence % and sum of Powdery Mildew Mean Severity % for Treatment Number. For pane sum of Powdery Mildew Mean Incidence %: Color show details about Sonata. The marks are labeled by Incidence alfa level. The data is filtered on Fully Organic, which keeps No, Unknown and Yes. The view is filtered on Treatment Number, which keeps 9 of 25 members.

Bar Series corresponds to Powdery Mildew Mean Incidence %

Line series corresponds to Powdery Mildew Mean Severity %

Letters on top of bars correspond to Fisher's LSD, at  $\alpha=0.05$ , of Powdery Mildew Mean Incidence %; treatments with the same letter are not statistically different

### Treatment Numbers:

8	Sonata @ 96 fl oz/ac + Sulfur DF @ 6 lbs/ac + Sylcoat @ 4 fl oz/ac Starting at Bloom on 7-10 d intervals
17	Antica @ 5% (v/v) + 3SE @ 5 ml/gal on 7 d interval then Luna Experience @ 6 fl oz/ac + 3SE @ 5 ml/gal on 21 d interval
12	GC Pro @ 3.0 lbs start with Gubler-Thomas Risk Index (RI) then 7 d intervals
18	Regalia @ 4 qt/ac on 7-14 d intervals
25	Zivion @ 500 ppm + Raynox 2% v/v on 10-14d intervals
23	Zivion @ 500 ppm on 10-14 d intervals
22	Zivion 250 ppm on 10-14 d intervals
24	Zivion 1000 ppm on 10-14 d intervals
26	Untreated Control

#### Footnotes:

<sup>1</sup> Performance assessed by evaluation of disease severity and incidence on 0-100% scale in each plot to determine Fisher's LSD at  $\alpha=0.05$  in *Final Report: Control of grape powdery mildew with synthetic, biological and organic fungicides: 2017 field trials*.

<sup>2</sup> FRAC classification on mode of action 2016 ([www.frac.info](http://www.frac.info))

<sup>3</sup> Follow all labels, do not rely solely on Sonata + Sulfur DF + SYL-COAT for your powdery mildew control program.

#### References:

- [1] Abramians, Ara Avadisi and Gubler, W. Douglas. (2017, September). *Final Report: Control of grape powdery mildew with synthetic, biological and organic fungicides: 2017 field trials*. Retrieved from <http://plantpathology.ucdavis.edu/fungicide/powderymildew2017.pdf>
- [2] Adaskaveg, J. E., B. A. Holtz, T. J. Michailides, and W. D. Gubler. 2017. Efficacy and Timing of Fungicides, Bactericides, and Biologicals for Deciduous Tree Fruit, Nut, Strawberry, and Vine Crops. Retrieved from <http://ipm.ucanr.edu/PDF/PMG/fungicideefficacytiming.pdf>



WILBUR-ELLIS®

Ideas to Grow With™

Actives.wilburellis.com