

# WE'VE GOT YOUR VINEYARD COVERED

Protect your grapes from diseases and pests this season through all stages of crop growth. Our portfolio features the broadest line of leading biopesticide products.

## PROTECT GRAPES FROM:

- Powdery Mildew
- Botrytis
- Phomopsis
- Downy Mildew
- Black Rot
- Mealybugs
- Lepidoptera
- Weeds
- AND MORE!

Our range of products include fungicides, insecticides/miticides/nematicides, and 0-day phi herbicides most of which are OMRI Listed®, NOP-Compliant, feature a low REI, 0 day PHI, and are exempt from residue tolerances.

The Certis Portfolio offers flexibility and proven performance, providing tools that are ideal for resistance management and IPM programs.



Features a 24hr REI



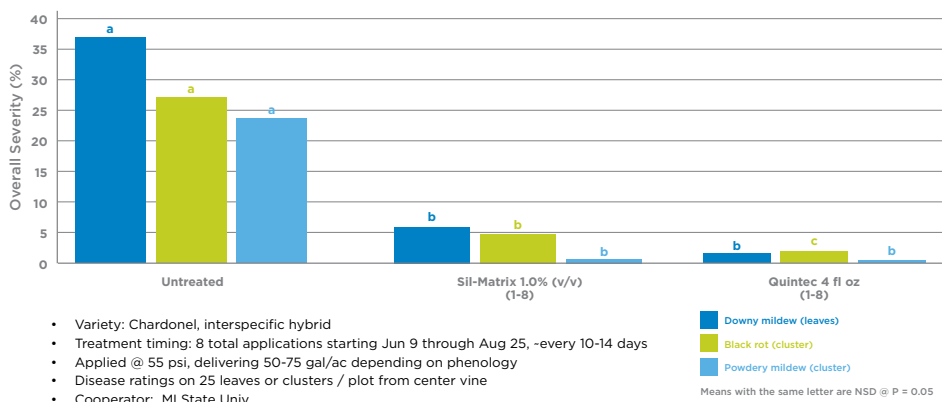
\*Unless Noted

1.800.250.5024  
www.CertisBio.com



## GRAPE var. Chardonnay

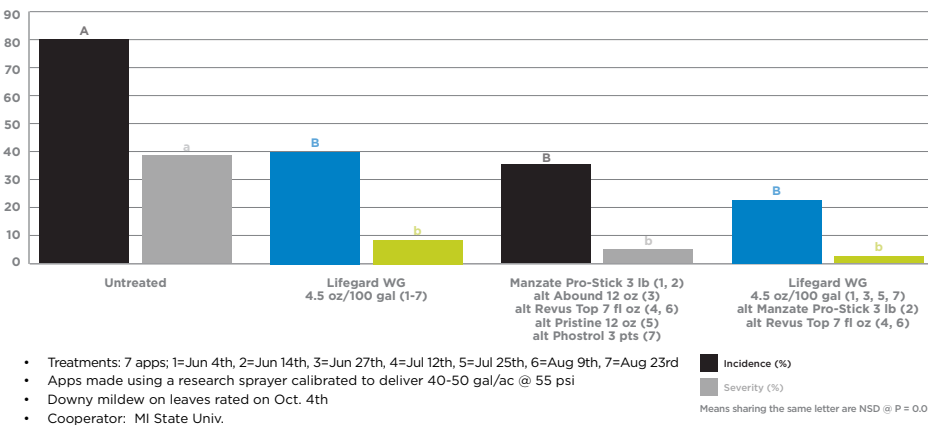
Clarksville, MI



## GRAPE var. Niagara

Downy mildew on leaves  
(Plasmopara viticola)

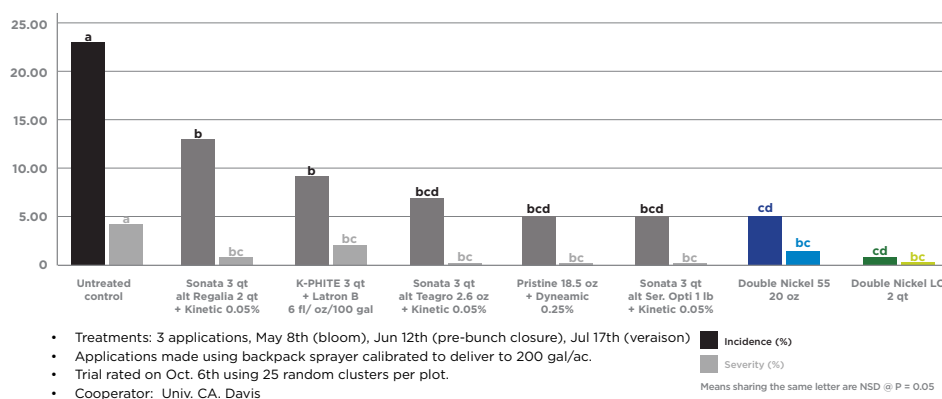
Clarksville, MI



## GRAPE var. Chardonnay

Bunch rot (Botrytis cinerea)

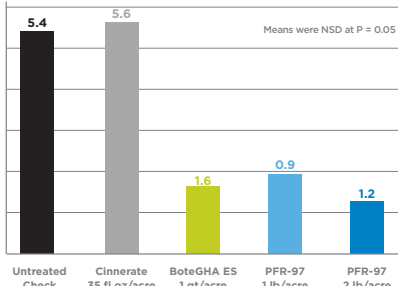
Napa County, CA



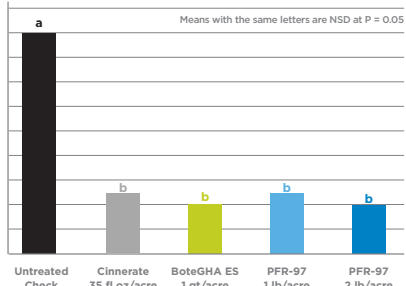
## GRAPE var. Chardonnay

Greenfield, CA

### Vine mealybug (Planococcus ficus)



### Mealybug damage / cluster (0-3 scale)

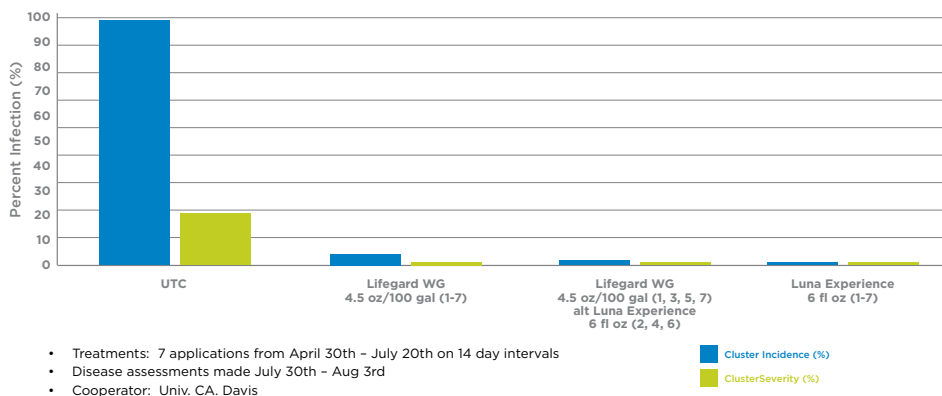


- Application: May 24th (A), June 21st (B), July 19th (C)
- All products applied with Stihl airblast backpack sprayer delivering 100 gal/ac
- Nymph data shown at 1 day prior to application B
- Cooperator: Helena Research and Development

## GRAPE var. Chenin-blanc

Powdery mildew  
(Erysiphe necator)

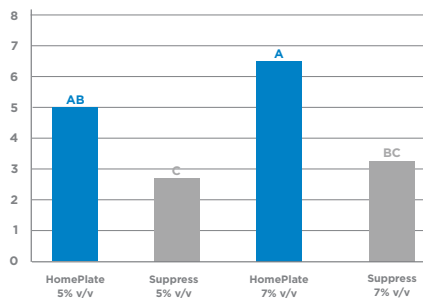
Davis, CA



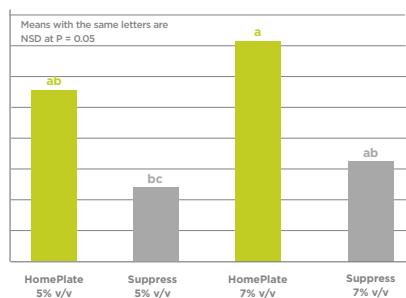
## GRAPE var. Chardonnay

Davis, CA

### Sucker control - 2 DAT




















### Sucker control - 7 DAT



- 1 application made on May 14th at 25 gal/ac using a single 8002E nozzle sprayed directly on sucker growth at base of vines.
- Ratings: 0 = no effect of treatment, 10 = complete tissue necrosis
- Temperature on application date ranged between 52 deg. F (low) to 75 deg. F (high)
- Cooperator: Univ CA, Davis



PRODUCT	ACTIVE INGREDIENT	DESCRIPTION	KEY PEST/DISEASES CONTROLLED	REI	PHI	NOP COMPLIANT	OMRI LISTED®	SUGGESTED RATE	COMMENTS
	<i>Bacillus mycoides</i> isolate J	The first in a new class of biological disease control solutions that switches on the plant's built-in immune defenses by eliciting an IR response to help fight against bacterial, viral and fungal diseases.	Powdery mildew, downy mildew, black rot, phomopsis	4	0	✓	✓	4.5 oz/100 gallons	
	<i>Bacillus amyloliquefaciens</i> strain D747 (BaD747)	A broad spectrum fungicide boasting five modes of action to control foliar and soil borne bacterial and fungal diseases.	Powdery mildew, Botrytis	4	0	✓	✓	1–2 qt/acre	
	Copper octanoate	A "copper soap" that provides the efficacy of coppers with a reduced risk of russet and phytotoxicity.	Powdery mildew, downy mildew, black rot	4	0	✓	✓	2–4 qt/acre	
	Polyoxin D zinc salt	The only active ingredient in the FRAC group 19, making it an ideal rotational product for resistance management and control of summer diseases.	Black rot, botrytis, phomopsis	4	0	✓	✓	6.5 oz/acre	
	Copper Hydroxide	A trusted, proven and reliable copper hydroxide containing bioactive technology for better control of diseases at lower rates.	Phomopsis, black rot, powdery mildew	48	0	✓	✓	0.75–1.5 lb/acre	
	Potassium Silicate	A novel active ingredient—soluble silica—for crop protection. Sil-MATRIX also forms a physical barrier within the leaf cuticle that prevents penetration of fungal diseases, primarily powdery mildew. It also acts as a contact desiccant against mites and interferes with feeding of mites and insects.	Powdery mildew, spider mites	4	0	✓	✓	1% vol/vol	
	Clarified hydrophobic extract of neem oil	Prevents fungal attack of plant tissue and contact activity to mite pressure on the plant.	Powdery mildew, botrytis, spider mites	4	0	✓	✓	0.5–2% vol/vol	
	Azadirachtin	An insect growth regulator containing the most potent azadirachtin formulation on the market. It controls immature nymphs insects by interfering with the molting process.	Mealybugs, leafhoppers, spider mites	4	0	✓	✓	4–16 oz/acre	
	<i>Bt kurstaki</i> strain SA–12	Biological insecticide specific for control of grape berry moths and other lepidopteran larvae (caterpillars). Deliver must be eaten by the larvae to be effective.	Grape Berry Moth and other Lepidopteran pests	4	0	✓	✓	0.5–2 lb/acre	
	<i>Bt aizawai</i> atrain GC–91	Biological insecticide specific for control of grape berry moths and other lepidopteran larvae (caterpillars). Agree must be eaten by the larvae to be effective.	Lepidopteran pests	4	0	✓	✓	1–2 lb/acre	
	<i>Isaria fumosorosea</i> Apopka strain 97	Contains a naturally occurring fungus that controls soft bodied insects and spider mites.	Mealybugs, spider mites	4	0	✓	✓	1–2 lb/acre	
	<i>Beauveria bassiana</i> strain GHA	Contains a naturally occurring fungus ( <i>Beauveria bassiana</i> ) that controls soft-bodied insects and spider mites.	Spotted Lantern Fly, mealybugs, spider mites	4	0	✓	✓	0.5–1 qt/acre	
	<i>Paecilomyces lilacinus</i>	A biological nematicide that contains a naturally occurring fungus, <i>Paecilomyces lilacinus</i> , that is a highly effective parasite of all stages of development of common plant-infecting nematodes, especially the eggs and cysts.	Plant parasitic nematodes	4	0	✓	✓	2–4 lb/acre	
	Spinosad, iron phosphate	A broad-spectrum bait that contains a combination of iron phosphate and spinosad. Its highly compressed pellets make Bug-N-Sluggo easy to use and allows for greater and more uniform coverage.	Ants, earwigs, cutworms, sow bugs, pillbugs, slugs, and snails	4	7	✓	✓	44 lb/acre	
	Spinosad	A spinosad bait that attracts and kills ants, earwigs and cutworms. Its highly compressed easy-to-apply granules can be effective up to four weeks.	Ants, earwigs	4	7	✓	✓	44 lb/acre	
	Spinosad	A highly palatable bait matrix containing spinosad that provides fast, long lasting control of fire ants.	Fire ants	4	0	✓	✓	2.5–5 lb/acre	
	Caprylic and capric acids	An OMRI Listed® non-selective herbicide that offers control of grasses, broadleaves, and suckers.	Annual and perennial weeds	24	0	✓	✓	5–7% vol/vol	