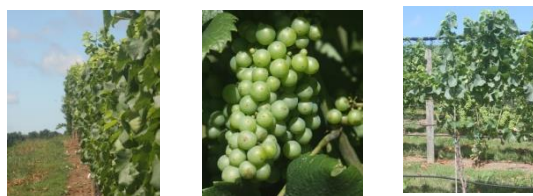


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## GRAPE DISEASE CONTROL & RESISTANCE MANAGEMENT

The 2017 testing season in New York was a great acid test for fungicide testing. Fracture<sup>®</sup> fungicide performed well when tested alone and added additional efficacy to a rotational program entered into the trial by Dr. Wayne Wilcox. Though data was not collected in the powdery mildew trial, botrytis gray mold was noticeably absent in the grape clusters at the end of the season.

With a Fungicide Resistance Action Committee (FRAC) code BM01, Fracture fungicide provides a unique mode of action to insert into your fungicide rotation to control the most troublesome diseases in grape production. As part of a program approach, Fracture fungicide can take some of the pressure off the other fungicides, especially those for botrytis that don't seem to work like they used to and protect the crop quality you have worked so hard to achieve.

### Fracture Fungicide Label Fast Facts

Formulation: 2.1 lbs. ai/gal. suspension concentrate (SC)

Package size: 1 gallon

Signal Word: Caution

REI: Four hours

PHI: One day

### Fracture Fungicide Use in Grapes

Number applications per season: Five

Minimum spray volume: 40 GPA

Use rates:

Botrytis gray mold: 24.4-36.6 fl. oz./A

Powdery mildew: 20.5-24.4 fl. oz./A

Sour rot suppression<sup>1</sup>: 24.4-36.6 fl. oz./A

<sup>1</sup>Labeled for use in to 2ee recommendation in: CT, DE, ID, IL, IN, KY, ME, MD, MI, NH, NJ, NY, OH, OR, PA, RI, VT, VA, WV, WA, WI

## Inside This Issue



### Disease Protection in Grapes

### Late-Season Use Benefits Reminder for Fracture<sup>®</sup> Fungicide & Mustang<sup>®</sup> Maxx Insecticide

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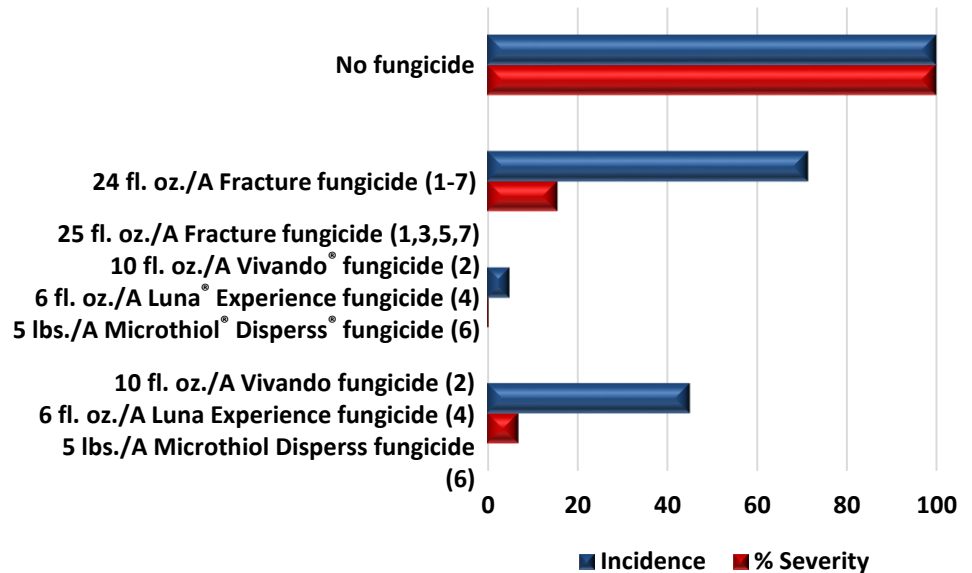
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## Fracture<sup>®</sup> Fungicide Performance Against Powdery Mildew in Chardonnay Grape Clusters

### Summary

- Fracture fungicide in a standard rotational program with Vivando<sup>®</sup> fungicide, Luna<sup>®</sup> Experience fungicide and Microthiol<sup>®</sup> Disperss<sup>®</sup> fungicide provided 95 percent control of powdery mildew incidence and almost complete control (99 percent) of powdery mildew severity on chardonnay grapes in an extremely heavy disease year.



Application Dates: 1 = 3 June; 2 = 15 June; 3 = 27 June; 4 = 11 July; 5 = 26 Jul; 6 = 9 Aug.; 7 = 22 Aug.

50 GPA pre-bloom; 100 GPA post-bloom

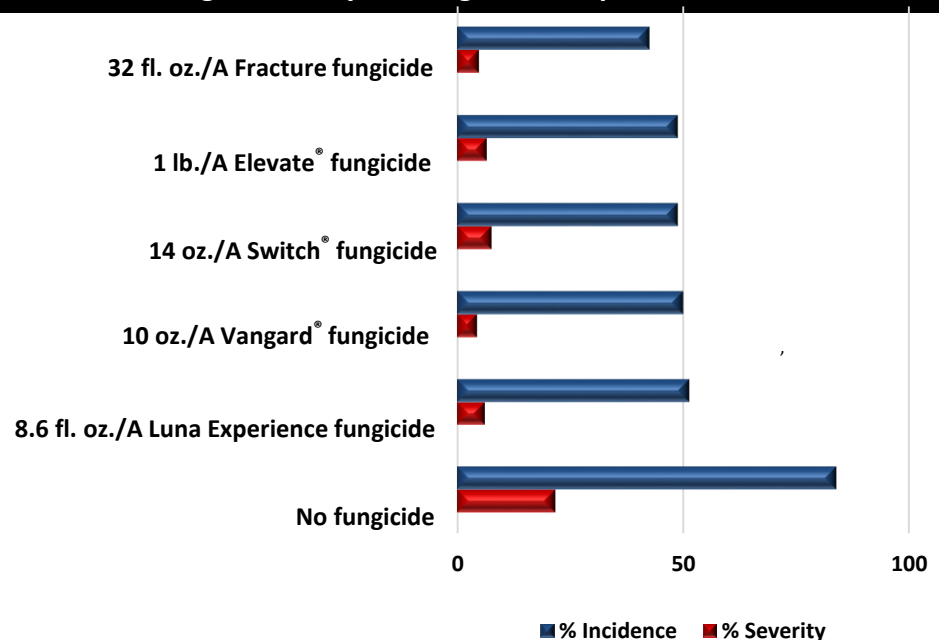
Adjuvant used in all applications.

Source: Dr. Wayne Wilcox. Cornell. Geneva, NY. 2017

## Fracture Fungicide Performance Against Botrytis in Vignoles Grape Clusters

### Summary

- The performance of Fracture biological fungicide rivals those of the traditional heavy hitting conventional products.
- Fracture fungicide provided the best control of botrytis incidence of Vignole clusters numerically.
- At 78 percent control of botrytis in Vignole grape clusters, Fracture fungicide was the second best performer numerically.



Application Dates: 1 = 23 June; 2 = 19 July; 3 = 1 Sept.; 4 = 15 Sept.

50 GPA at bloom; 100 GPA post-bloom

0.125% v/v adjuvant used in all applications.

Source: Dr. Wayne Wilcox. Cornell. Geneva, NY. 2017

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Seeing is Believing: The Performance of Fracture<sup>®</sup> Fungicide in Chardonnay Grapes



No fungicide check (above)



24 fl. oz./A Fracture<sup>®</sup> fungicide (above)



24 fl. oz./A Fracture fungicide (1,3,5,7) 10 fl. oz./A Vivando<sup>®</sup> fungicide (2) 6 fl. oz./A Luna<sup>®</sup> Experience fungicide (4)  
5 lbs./A Microthiol<sup>®</sup> Disperss<sup>®</sup> fungicide (6)

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## 2018 REMINDER

### Don't forget Mustang<sup>®</sup> Maxx insecticide controls spotted wing drosophila (SWD)

Research conducted by Wayne Wilcox at Cornell University in 2015 demonstrates the benefit of managing spotted wing drosophila (SWD) with Mustang<sup>®</sup> Maxx insecticide and Fracture<sup>®</sup> fungicide.

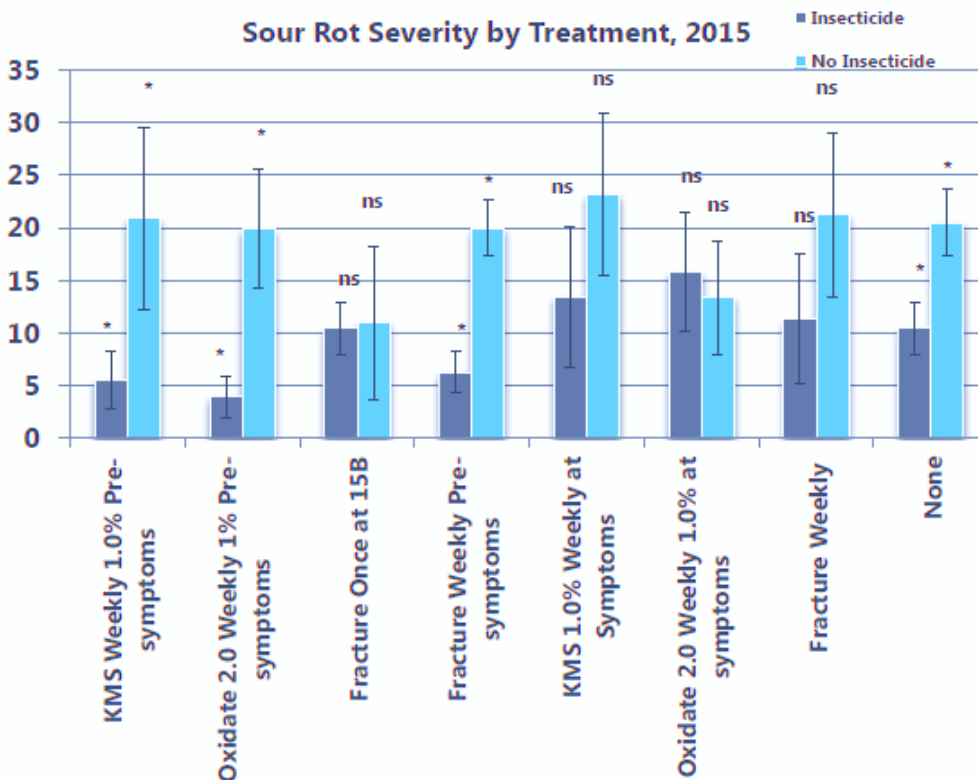
SWD oviposition is believed to directly introduce yeasts and bacteria that cause fruit rots and/or create wounds, allowing natural infection to occur. Using a two-pronged approach with Mustang Maxx insecticide to reduce the SWD population and Fracture fungicide programs to combat fruit rots will aid in protecting the quality of grapes through harvest.

The Mustang Maxx insecticide Section 3 label for vinegar flies and SWD allows for 4 fl. oz./A to be applied using a seven-day interval for a maximum use of 24 fl. oz./A/season. Thorough spray coverage is necessary with 10 GPA minimum by ground and 2 GPA minimum spray volume by air. PHI is one day.

## 2015 Observing Efficacy of Anti-Microbial and Insecticidal Treatments Against Sour Rot in Grapes

Data Courtesy Dr. Wayne Wilcox Cornell University

### Sour Rot Severity by Treatment, 2015



### Grape Sour Rot Control, 2015 Wayne F. Wilcox, Cornell University

In a split-plot trial with four replications, conducted in a research vineyard of the *Vitis* interspecific hybrid cv. Vignoles, we applied the following antimicrobial treatments both with and without the insecticide Mustang Maxx, which is active against *Drosophila* spp.:

- No antimicrobial treatment
- Potassium metabisulfite (KMS), 1% weekly, starting at 15° Brix
- Oxidate 2% weekly, starting at 15° Brix
- Fracture Once at 15° Brix
- Fracture weekly, starting at 15° Brix
- KMS, 1% weekly starting at first symptom appearance
- Oxidate 2% weekly, starting at first symptom appearance
- Fracture weekly, starting at first symptom appearance

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