

## Soft control strategies for grape powdery mildew (*Uncinula necator*) – 2002

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### Introduction and Objectives:

One study was conducted during the 2002 season to compare control efficacies of different spray treatments. The study was similar to study 3 (the “rescue” treatment) tested in 2001 ([hyperlink](#)), although different materials were used. As in 2001, no protective fungicides were applied until the first powdery mildew infection was observed in the vineyard.

### Materials and Methods:

A randomized complete block design was used with eight replicates per treatment in a planting of Chardonnay with 5 ft. in-row x 10 ft. aisle spacing. Each replicate consisted of 2 panels of 8 vines. Treatment details are presented in Table 13. There was no untreated control included in this study although an untreated control was included in a separate study immediately adjacent to the study area.

Applications were done using a tunnel sprayer. Sprays were applied on 25 July 2002 after the first significant rainfall of the season during 24/25 July provided conditions for primary infection. Veraison occurred in the block shortly after (late July), so no additional sprays were applied.

Plants were evaluated after harvest (11 October 2002) for mildew incidence and severity. For incidence readings, a 1-10 subjective rating system was used in which incidence values were based on estimated percentages of leaf with infection symptoms; a value of 1 represented less than 10% of leaves exhibiting infection, a value of 5 represented an estimated 50% of leaves exhibiting infection symptoms, and a value of 10 represented approximately 100% of leaves exhibiting infection symptoms. A similar 1-10 rating system was used for severity estimates based on estimated percentage of surface area with symptoms for leaves; a value of 1 represented less than 10% of total surface, a value of 5 represented an estimated 50% of surface affected, and a value of 10 represented an estimated 100% of surface affected.

Table 13. Spray programs, materials, and rates used on Chardonnay grapevines during 2002.

| Trt No. | Treatment  | Spray timing <sup>1</sup> | Materials & rates used  |
|---------|------------|---------------------------|-------------------------|
| 1       | Kaligreen  | 7/25/2002                 | Kaligreen @ 5 lb / acre |
| 2       | Serenade   | 7/25/2002                 | Serenade @ 8 lb / acre  |
| 3       | Stylet-Oil | 7/25/2002                 | Stylet-Oil @ 1.5%       |
| 4       | Erase      | 7/25/2002                 | Erase @ 2 qt / acre     |
| 5       | Flint      | 7/25/2002                 | Flint @ 2 oz / acre     |

<sup>1</sup> Spray applied at first observation of grape powdery mildew in the research plots. Veraison began late July.

### Results and Discussion:

The 2002 growing season was very similar to the 2001 season: hot and dry with limited rainfall until 24/25 July. The fruit reached veraison in late July and no additional spray applications were made after that time because of the understanding from the literature that protective sprays are not needed after that time.

Post-harvest observations found that all plants had extremely high infection incidence irrespective of treatment (Table 14). Severity was around 50 % for treatments 4 (Erase) and 5 (Flint) and around 75 % for the other treatments. The carry-over effect of the treatments applied during the 2002 season on early-season incidence and severity of powdery mildew will be evaluated.

Table 14. Incidence and severity ratings of powdery mildew on Chardonnay leaves on 10/11/2002, near the end of the 2002 growing season.

| Trt No. | Treatment  | Infection incidence | Infection severity |
|---------|------------|---------------------|--------------------|
| 1       | Kaligreen  | 100                 | 73.1               |
| 2       | Serenade   | 99.4                | 76.3               |
| 3       | Stylet-Oil | 93.1                | 75.0               |
| 4       | Erase      | 98.8                | 54.4               |
| 5       | Flint      | 93.8                | 52.5               |