



The Grapeleaf

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**MEETING
ANNOUNCEMENTS
AND EVENTS
IN THE AREA**

March 20, 2003
**Pesticide Safety
Training Program**
English Session - am
Spanish Session - pm
Dept. of Social Services
Admin. Building
700 E Yosemite Ave
Madera, CA

**Grapevine Powdery
Mildew : Learning to
Minimize Fungicide
Usage**
*(see enclosed flyer for
more information)*

**MARK YOUR
CALENDAR!**

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MADERA GRAPE GROWER/PCA MONTHLY MEETING

The Grape Grower/PCA meeting for March will be held on **Wednesday, March 19, 2003** (third Wednesday of each month). Everyone is invited to attend whether or not you are a Madera county resident. One hour of PCA/PA/CCA credit will be available. These meetings are held monthly from November through June and discontinued July through October. 1½ hours of PCA and ½ hour of laws and regulations will be available.

WHERE: *The Old School House*
23505 Avenue 14
Madera, CA (northeast corner of Avenue 14 and
Road 23½)
DATE: *Wednesday, March 19, 2003 (third Wednesday of the*
month)
TIME: *12:00 noon -2:00 p.m. (Note longer meeting time)*

Lunch will be available at noon with the meeting starting immediately after serving Petrucci's lunch a cost of \$8.50. If you don't want the lunch you are still invited to come and participate in the meeting. **Please call 675-7879 Ext. 201 if you are planning to attend so we can get a preliminary lunch count.**

TOPIC: *"Grapevine Powdery Mildew: Learning to Minimize Fungicide Usage"*
SPEAKER: *George Leavitt, Farm Advisor - Madera County*
Steve Vasquez, Farm Advisor - Fresno County
University of California Cooperative Extension

Sincerely,

George Leavitt
Farm Advisor



For special assistance regarding our programs, please contact us.

Powdery Mildew - It's Coming - Are You Ready?

Steven Vasquez, Fresno County Farm Advisor and I have planned a series of meetings (see attached handout) in various locations in both Fresno and Madera counties and at varied times to accommodate growers and PCA's. The purpose of these meetings is to learn about powdery mildew and the U.C. Davis Powdery Mildew Risk Index. Using the model is the best way to both control the disease and save money on fungicide applications. **Please make it a point to attend one of these meetings - it is worth your time to learn how to use this very effective tool in controlling powdery mildew.**

The disease: The fungus which causes grape powdery mildew (*Uncinula necator*) is the most common disease on grapes. It is an obligate parasite, which means it must grow on grape tissue and will not parasitize any other species of plants. Some grape varieties, Rubired, Grey Riesling, Royalty, are highly resistant to the disease. However, on those varieties which are highly susceptible to this disease, Carignane, Chardonnay, Cabernet Sauvignon, Fiesta, it can stunt growth, defoliate leaves, delay color, and greatly reduce the quality and quantity of the crop. Thompson Seedless, Chenin blanc, Barbera, and Zinfandel are moderately susceptible to this disease.

Powdery mildew growth is temperature dependant and careful monitoring can determine when control measures are necessary. The past two seasons (2001 - 02) June weather was very hot, and use of the U.C. Davis Powdery Mildew Risk Index could have saved several sprays. **Using the U.C. Powdery Mildew Index can save money and materials in controlling this vineyard disease. Two sprays in 2001 and three sprays in 2002 were eliminated in our trials using the model.**

U.C. Davis Powdery Mildew Risk Index: The index is calculated by adding 20 each time there are at least **six continuous hours** during the day with **canopy** temperatures between 70 and 85° F. If there are less than 6 hours in that range or if the maximum daily temperature is greater than 95° F **in the canopy**, then 10 is subtracted from the index. The total index never goes above 100 or below zero. The spray interval is doubled when the index is zero, lengthened when it is between 10-30, normal at 40-50, and shortened when it is 60 or over. A short interval for sulfur is 7 days while 10-14 days could be the longer interval. By

using this index, growers can apply materials on a timely and more effective manner and get better control. An example is provided at the end of this article. In heavy pressure seasons the grower may apply more material, but will gain better control. **The real advantage of this index will be during periods of low pressure when spray intervals can be safely lengthened thereby saving growers time and money as well as reducing chemical applications.**

Temperature monitoring devices are available from a number of suppliers that provide the information needed for disease assessment. Some can be read in the field while other systems download up to 50 recording devices via radio telemetry to a computer base station. The secret to controlling grape powdery mildew is monitoring the index and optimal timing of fungicide sprays. Remember, the disease will continue while you are irrigating, on vacation, sick or when your machine is broken. **Apply the control measures on time or you will have powdery mildew.**

Sources of information: There are several sources, both private and public, which make available the **mildew index** near your location. One source of information is through Sun-Maid (897-6225), and is available to the public. Updated information about vineyard pests and diseases can be heard through a recorded message. The recorded message will give general data for the San Joaquin Valley. Another site is provided by Gowan at www.rubigan.com This site has colored maps that correspond to the mildew index for locations in the San Joaquin Valley.

The University of California Cooperative Extension (Farm Advisors Office) has a system of weather stations covering Madera and Fresno Counties. There are currently 8 stations on line with 2-4 more to be operational by mildew time. Station information can be accessed via the internet at the following net address:

<http://www.ipm.ucdavis.edu/WEATHER/wxretrieve.html>

On the California Weather Data and Products page click on stations in Networks, select Pest-Cast Fresno-Madera Grape and then click on Submit. A new page "Research Weather Database" comes up showing different stations. The find the exact location of each station click on MAP in the top box and when the map appears you can click on a

specific station and find the location. Select the station closest to your location and click on Daily (not hourly) for the station you want. Another page will appear with that station shown. You then need to enter a time frame - Once bud break occurs use that as your starting date. Just below the date is **Select Daily interval variables** - The All Variables is automatically selected. Simply click on "All Variables" to **deselect** that option and then click on

"Temperature Threshold Hours." Scroll to the bottom of the page and click on "Retrieve Data." Three columns appear for temperatures under 32 F, 70-85 F, and >95 F. Use these numbers to add up the mildew index for the station you have selected. **Questions? - Call Me . . . 559-675-7879 x 206.**

POWDERY MILDEW DISEASE INDEX

The Grape Powdery Mildew Disease Index is calculated by adding 20 each time there are least 6 continuous hours during the day when temperatures are between 70 and 85⁰ F. If there are less than 6 hours or if the maximum temperature in the canopy that day is greater than 95⁰ F, then 10 is subtracted from the index. The disease index never exceeds 100 or goes below zero.

Example:

Day 1	7 hours	between 70 & 85	20
2	6 hours		40
3	6 hours		60***

4	5 hours	Even though the model started ----- Cool rainy weather set in --	50
5	5 ½ hours	So we waited for better conditions	40
6	5 hours	while the index dropped.	30
7	4 hours		20
8	3 hours		10
9	5 hours		0
10	7 hours	Storm over - warmer weather	20
11	6 ½ hours		40
12	8 hours	At this point we began applications	60***
13	6 hours	as the weather warmed and the index	80
14	5 ½ hours	began climbing rapidly. Results??	70
15	7 hours	We saved one sulfur application.	90
16	8 hours		100
17	5 hours		90
18	4 hours		80
19	5 hours		70
20	6 hours		90
21	7 hours		100
22	9 hours	max temp 98 ⁰ F	90
23	8 hours		100
24	7 hours		100
25	8 hours		100
26	9 hours		100

*** Warning level - possible start of mildew.

When disease risk index is 0, spray interval is doubled.

When it is 10- 30, spray interval is lengthened.

At 40-50 the interval is normal

When the index is 60 or more, spray interval is shortened.

A short interval for sulfur dust is 7 days. A longer interval is 10 days. Never go more than 3 weeks

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