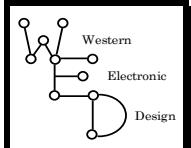




# GrowCare Clare

Brought to you by your local Regional association



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**2013/14 Volume 4 Issue 1**

## GrowCare Clare 2013/14

- It's that time again! Welcome to the fourth season of GrowCare. These bulletins come to you through your membership of the Clare Region Winegrape Growers Association (CRWGA).
- We will continue to provide disease, pest and other vineyard information. When the risk of a disease is high or there is a significant vineyard event, GrowCare will bring this to your attention.
- If you know of other members who are not receiving these vineyard updates but who may want to do so, ask them to be in touch with the Association.

## Vineyard Weather Stations

- As before, the Association has automatic weather stations (AWS) placed across the region.



*This AWS, a Model T MetStation, provides data on vineyard temperature, rainfall, leaf wetness and relative humidity at 10 minute intervals to improve decisions in relation to downy mildew infection events. (Photo: David Olssen)*

We have been monitoring two of these so far this season and expect to have other AWS delivering data soon. At present we have reviewed data from AWS at Stanley Flat and Sevenhill.

### Recent Rains and Downy Mildew

- For downy mildew primary infection to develop, rain or irrigation is needed to wet the soil for 16hrs or more at temperatures sufficient for oospores to germinate and release zoospores in the soil ( $\geq 8^{\circ}\text{C}$ ). After that, rainfall is needed 1) to splash the zoospores into the air currents to disperse the spores to the underside of leaves in the grapevine canopy; and 2) to keep the leaves wet while it was warm enough for long enough for infection to be completed.
- This is the more complete detail that is summarised by the 10:10:24 rule of thumb.
- In recent days, there have been several rain events that have brought risk of downy mildew. The last of these finished only mid-afternoon yesterday, Wednesday 18<sup>th</sup> September. As a result, this message was delayed till now to ensure that we did not miss in warning you of an infection event if it were still occurring.
- The table below summarises the details of each step in the conditions that are needed for downy mildew primary infection and indicates if the conditions were met.

### **GrowCare Clare Weather Stations: Mon. 16<sup>th</sup> – Wednesday 18<sup>th</sup> September 2013 - Primary Infection**

District	Date	Rain (mm)	Soil wet & warm enough to begin germinating oospores	Soil wet & warm for 16 hr to release zoospores	Soil wet & warm enough for zoospores to survive	Rainfall to splash zoospores to leaves	Foliage wet & warm enough to infect leaves	Risk of Primary Infection
Stanley Flat	12-13 <sup>th</sup> Sept	14.0	+	+	+	-	-	No
	16 <sup>th</sup> Sept	9.1	+	+	+	-	-	No
	17-18 <sup>th</sup> Sept	4.5	+	-	-	-	-	No
Sevenhill	12-13 <sup>th</sup> Sept	35.1	+	+	+	-	-	No
	16 <sup>th</sup> Sept	21.5	+	+	+	-	-	No
	17-18 <sup>th</sup> Sept	11.7	+	-	-	-	-	No
			<b>(+) = condition satisfied</b>			<b>(-) = condition not satisfied</b>		

- The weather data show in each of the three rain events (on 12<sup>th</sup>, 16<sup>th</sup> and the 17<sup>th</sup> September) that the conditions favoured the start of the primary infection process. However, all the possible events faded away because the duration of rain events were too short or they were too far apart. Although the spores in the soil began to germinate, they were not splashed to the vine and so, died.
- As a result there was no risk of downy mildew at the sites near the above weather stations. As always, you will need to make an assessment of the conditions in your vineyard and act accordingly. It is worth pointing out that none of the rain events for which we have data favoured the completion of a primary infection, despite the heavy rain falls and the high totals at some of the sites.

### **Powdery Mildew**

- **Powdery mildew has an epi-season** (season of epidemic) that extends over two growing seasons. This means that inoculum (spores) from uncontrolled disease last season carries over into this season.
- As early season shoot growth develops, buds infected last season produce diseased shoots known as '**flag shoots**' – they 'flag' where powdery will be starting in your vineyard this season.
- **Spores from flagshoots** initially spread the disease in a radius of foliage 30-50 cm diameter. This area gradually expands unless well-timed sprays are applied.
- **The first 40 days from budburst** are critical in the development of the disease. The success of your controls in the next few weeks will have a major influence on the disease status of your crop at vintage this season AND the amount of powdery mildew that will carry over in your vineyard to next season.
- **Shoots 3-5cm in length (EL 7-9)** provide a sufficient target to be worth spraying and this is the ideal time to begin spraying for powdery though it might vary with the design of your canopy and the configuration and effectiveness of your spray machinery.

### **Monitoring Vine Growth**

- As the new shoot growth continues to expand rapidly, the task of maintaining good spray cover for diseases like powdery mildew is very difficult.
- One way to assess the amount of new foliage since you last sprayed is to use a text pen to mark a one centimetre

square on an opened leaf and to tie a tag or clip a breadbag clip to the petiole (leaf stem) of the top-most fully opened (flat) leaf. By returning several days later, you can see how much the leaves have expanded and how many new leaves have formed since your last visit.

- If you do this on the day you spray, the amount of newly expanded and therefore unsprayed foliage tissue there is, can be easily assessed. You can use this approach to judge when the next spray is needed.



A one centimetre square marked on a mature leaf and a small tag placed beneath the youngest flat leaf at the shoot tip give an easy guide to the growth of the foliage and to the need for a spray for powdery mildew. (Photo: David Olssen)

### **Buying Fungicides**

- A note of caution: The wet winter season has meant that there has been a higher than average use of fungicides in field crops. This has depleted the nation's stock, especially of protectant fungicides that might be used to defend against downy mildew.
- Now is a good time to check your stock and if needed get more so that you have at least one vineyard spray in the shed.
- When purchasing new stocks of fungicides and other chemicals, particularly if selecting new chemistry, be sure to check with your winery for any restrictions on use and withholding periods.

*This message was prepared for  
The Clare Region Winegrape Growers Association by  
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