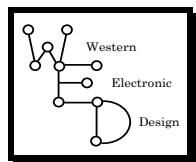




GrowCare Clare



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Powdery Mildew

- In unsprayed or poorly sprayed vineyards, it is likely that powdery mildew is on the go and will appear in the district soon!
- At this time, powdery mildew will be escalating rapidly in the inner parts of unsprayed canopies. This would be 'right on cue' with expectations in relation to the epidemiology of the disease – that is, to the progressive spread of the disease in the vineyard.
- Starting in early-season as flag shoots at low levels in the vineyard, the disease has multiplied slowly and steadily – especially in the mild weather and within the shaded parts of canopies.

Spread of powdery

- Powdery spreads within foci of infection for the first 4-5 weeks and 'breaks out' from these centres of infection around the sites of the flagshoots from about week 6 from budburst. At this time it causes a yellowish blotch or two on leaves along the vineyard row.
- By weeks 6-7 from budburst in an unsprayed vineyard, powdery begins increasing in severity. It develops many more yellow blotches that show the typical white powdery mildew on leaves that previously only showed one or two blotches.
- By weeks 8-10 (that is about now), powdery rapidly increases in severity as the spore load builds up momentum. This is when there are many new powdery blotches on the leaves. It is also the time when infection of the berries and bunch stalks is at greatest risk.
- Interestingly, it is only from now on, that powdery begins to spread from an unsprayed vineyard across headlands to risk infecting nearby patches up to 200-300 m away.

Berries becoming resistant

- Most varieties are now progressing well in berry development. This means that the berries are becoming resistant to powdery infection. They gain resistance about 4 weeks after flowering.

Controls still needed.

- In your sprayed vineyard, the development of powdery mildew will be much slower than the

outline above. Where spray coverage has been effective, the disease will be stopped all together.

- If the powdery mildew can be restricted to a low level of infection for the next 2-3 weeks, the developing fruit will no longer be susceptible to infection.
- This means that more than half the battle against powdery will be over for this season.
- It will still be important to maintain good control of the disease within the canopy to avoid high levels of powdery on the foliage. Understandably, the wineries don't like lots of spores from the leaves washing into the juice at harvest.
- Any registered fungicide is effective against powdery. Sulphur is cheaper than most equivalent products. Though it has no trans-laminar (across the leaf) coverage like the DMI's, it does have volatile activity which helps compensate for reduced spray coverage in dense canopies.
- If using sulphur, apply at the highest recommended rates (600 g/100L) in a high volume of water to ensure the best spray coverage and maximum control of powdery mildew within the dense canopies.

Downy Mildew

- Until recently, the weather has been dry and not favourable for downy. As berries reach pea-size (7mm at EL 31) they become resistant to infection.
- The rains of Saturday 15th November were variable across the district – typical of thunderstorm activity.
- The GrowCare weather station at Sevenhill recorded 28.6mm; 12.2mm was recorded at Auburn and 4.6mm at Stanley Flat. The duration of these falls was too short for development of downy mildew primary infection and generally the temperature and relative humidity were too low for secondary infection.

Bunch Rots

- While the rainfalls were of short duration, the length of wet periods within the canopy ranged from 14-16 hr at the above three sites. These conditions occurred with temperatures dropping from around 17°C down to 8°C in the early hours of Sunday morning.

- As a result, the conditions were favourable for infection by the Botrytis bunch rot fungus at the three sites, if the vines were susceptible at that time.
- However, most varieties are now through flowering and the young berries are resistant to bunch rot infection. If a late-flowering variety was still progressing through capfall and these vines were not protected by a suitable fungicide spray, there is risk of bunch infection from the recent rains.
- Several scenarios exist at present.
 - If the vines: 1) have passed through flowering and 2) are at berry-set or later, the present risk of infection from bunch rot fungi is very low.
 - If the vines: 1) were progressing through flowering, and 2) were covered by a suitable protective spray such as chlorothalonil shortly before the rain event, there is little or no risk of infection and no further spray for bunch rot is needed at present.
 - If the vines 1) were progressing through flowering, and 2) were not adequately protected by a fungicide spray shortly before the rain event, OR you are in doubt about the above options, consider applying a suitable botryticide spray (such as iprodione) as soon as practical.
- Where necessary, consult your winery to determine your preferred fungicide spray to control bunch rot at this stage of the growing season. Some products are not able to be used past 80% capfall (EL 25) and others are restricted in the number of applications during the season. Plan to 'keep' a Botrytis fungicide should a further application be needed later in the season.
- If proceeding with a spray application, choose a fungicide with some 'kick back' activity against Botrytis and apply the spray as soon as possible ie. within the next 3-5 days. Note: A preventative/protective spray at this time will not control any infection that may have occurred in the wet conditions initiated last Saturday.

Soil Moisture Levels

- Given the recent very dry conditions, the rainfall last Saturday gave for some vineyards, a timely addition of moisture to the soil profile.
- It is timely to check current soil moisture levels and where necessary, consider a supplementary irrigation.

Weather Forecasts

- The Bureau of Met is forecasting generally warmer and drier conditions than average for the next month or two.
- While this is good news in terms of risk of the 'wet weather diseases' such as the bunch rots and downy mildew, there is need to keep vines sufficiently

watered for good development of the fruit, and for shoot growth to protect the fruit from sunburn.

- For more detailed long-range rainfall forecasts go to the address below and click on the map for your location:
<http://www.bom.gov.au/climate/outlooks/#/rainfall/total/75/seasonal/0>
- For detailed long-range temperature forecasts, go to:
<http://www.bom.gov.au/climate/outlooks/#/temperature/summary>

LBAM

- GrowCare monitors have reported that LBAM is present at very high levels in some patches. The conditions have been generally good for this pest which has bred up well in some vineyards.
- Monitor vineyards now, looking for both LBAM crawlers and for powdery mildew.
- Use table below to determine if a spray is needed. If so, check with your winery rep before spraying.

Monitoring for LBAM

LBAM lifecycle stage	How to monitor	When to monitor	Common threshold*
Egg masses	Inspect the upper side of expanded leaves on 100 shoots	Once first leaves have expanded and then through the season	>3 viable egg masses per 100 shoots
Larvae on shoots	Inspect shoot tips and leaves webbed together on 100 shoots	Throughout the season	>20 larvae on foliage per 100 shoots
Larvae in bunches	Inspect inflorescences and bunches on 100 shoots	From inflorescence development onwards	>10 larvae within bunches per 100 shoots

* Source: Andrew Weeks and Nicole Pitman, 'Lightbrown Apple Moth', Fact Sheet No. 4, CCW, Berri, SA.

Withholding Periods

- EL29 (berries pepper size - 4mm diameter) and EL31 (berries pea-size - 7mm) are critical stages for the beginning of withholding periods prior to harvest. At and around these growth stages, check company spray diaries and if necessary, winery reps, prior to putting applying any sprays.
- For reference to the AWRI Dog Book that lists the use of chemicals at different times in the season, go to: http://www.awri.com.au/wp-content/uploads/agrochemical_booklet.pdf

*This message was prepared for
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