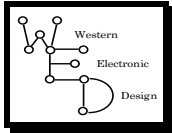




MAGAREY PLANT PATHOLOGY



GrowCare Barossa



Brought to you by the Barossa Grape & Wine Association

This message was posted by 5pm Thursday 18 September 2014 and will be updated as necessary for best management of vineyard issues.

2014/15 V2 # 1

Welcome to GrowCare Barossa 2014/15

This disease and pest information service is brought to you by the Barossa Grape & Wine Association.

- It will keep you up-to-date with the best management options, especially for downy and powdery mildew when disease risk is high;
- It will include other vineyard issues and regional news.

The service is provided in partnership with Magarey Plant Pathology (MPP) and Western Electronic Design (WED):

- Data are collected by weather stations (AWS) that are owned by Barossa Grape & Wine;
- The AWS are located at Craneford, Lyndoch, Gomersal and Ebenezer. Another AWS at the Nuri Vit Station is also providing data;
- The AWS provide details of temperature, rainfall, relative humidity and leafwetness;
- These data are accessed via a web-link by MPP for assessment of vineyard micro-climate and risk of disease events, especially downy mildew;
- If the risk is high, we will send you a GrowCare e-message.

Powdery Mildew

The new season is well underway and many varieties are now past budburst. This means:

- It is time to consider first sprays against powdery. **Early-season sprays are critical.**
- Infection (usually) starts from buds infected early last season. These produce 'flag shoots' that emerge with the disease already on the leaves and spreading spores.
- Sometimes overwintering cleistothecia also provide spores but with the rains in late winter, many of these fruiting bodies are likely to have discharged their spores before budburst when there was no green shoot growth to infect.

Powdery mildew's epidemic season, called its 'epi-season', covers two growing seasons. We are now entering the epi-season for 2014-16. As a result:

- What we do early this growing season will determine how much inoculum (spores) we allow to carry-over to the next growing season;
- Effective control early this season will reduce the disease levels this season and, if so, fewer sprays will be needed both this season and next.

The **Three T's** of effective spraying are:

- Timing, Treatment and Technique.

Timing

Begin spraying for powdery mildew when shoots reach 3-5cm length (EL 7-9).

Note that:

- The first 40 days from budburst is critical;
- Apply sprays 2, 4 and 6 weeks after budburst, or at least three sprays before flowering;
- Spraying at flowering may be too late.

What you achieve in the first 6 weeks (42 days) this season will determine:

- The level of control achieved this year;
- The amount of inoculum carry-over; and
- The ease of controlling powdery next season.

Treatment

- Any fungicide registered for powdery mildew is effective; but
- Sulphur (at 600g/100L) just after budburst will also help control mites. It is a low-cost alternative, and has no resistance problems.

Technique

- Good spray coverage with high water volume is the best way to control powdery mildew.
- Be sure to check the configuration and effectiveness of your spray machinery and adjust your spray swath to fit the foliage.

For more information about controlling powdery mildew and the concepts of 'epi-season', 'inheritance/legacy' and 'lag phase spraying', an easy-read fact sheet is available at:

<http://research.agwa.net.au/wp-content/uploads/2012/09/2010-12-FS-Powdery-Mildew-QA.pdf>

Soil Moisture Levels

An evaluation in late winter by the Barossa Viticulture Technical Group, reported high soil moisture levels in vineyards. The top 100cm of soil was at field capacity. The dry conditions since then have changed this.

- Currently, the top 10-20cm has dried out in most vineyards, especially so in sandy soils;
- Most vineyards have wet soils at depths varying from 40-120cm, providing a good source of moisture for later in the season.
- Vineyards with light soils in the upper 10-20cm may need an irrigation to refill this portion of the soil profile in the next few weeks – if it doesn't rain in the meantime.
- Take care not to overfill the upper layers. This could waterlog the lower profile and inhibit root growth.

Bud Mites

Applications of sulphur in early-season at or shortly after budburst and up to four weeks later, may help reduce levels of bud mite.

- For maximum control, ensure sprays are applied prior to mid-woolly bud stage.

Snails and Earwigs

The rains from late winter have encouraged snails and earwigs which sometimes damage young vines and growing shoot-tips.

- Remember to check inside vine guards and under loose bark when monitoring for these pests, especially for earwigs.

If **snails** are a problem, apply baits as soon as possible after rain or irrigation.

- Use metaldehyde or a registered snail bait sprinkled at the base of vines.

Earwigs are commonly found during the day sheltering beneath the bark of vines, inside cracks



Figure 1: Female (top) and male (bottom) adult European earwigs. (sourced from Cotsaris, D., et al, Fact Sheet No. 6 European Earwig, CCW, Berri, SA)

and holes of posts and strainers, and under debris on the vineyard floor.

- Use a torch to look for earwigs on shoots at night – the insects feed on shoot tips and are easily seen.
- Control is usually not required because the damage is usually not economically significant.
- Also, earwigs help control a number of soft bodied insect pests such as light brown apple moth larvae, mealy-bugs and mites.

Reducing the Risk of Frost

The bad frosts of last season and the prevailing dry weather with clear skies at times, is reason to prepare the vineyard to reduce the risk of frost. Last night, temperatures at 1.6m height got down to 0.3°C at Craneford, and 0°C at Ebenezer from around midnight through until 4am.

- Given the right conditions, frost develops more in low lying areas in which heat loss from the vineyard is highest.

This risk is higher in vineyards with:

- Tilled, dry soils, or vineyards with tall, unmown grass cover.
 - dry soils have less capacity to hold heat than wet soils. This is made worse when the soil surface is disturbed – these radiate heat more rapidly than others.
 - tall ground covers such as unmown grass radiate heat more rapidly than short plant growth – the latter has a lesser surface area from which to lose heat.
 - a weed-free, moist, compact soil provides the best vineyard floor treatment against frost.

To reduce frost risk:

- Mow ground covers. Keep them as low as possible or keep the soil bare;
- Maintain soil moisture levels and, if possible, irrigate during a high-risk frost period.
- Keep soils compact or rolled.
- Maintain vine health and sap activity. If needed, fertilise soil to assist vine growth.

MetEye: a new weather service

The Bureau of Meteorology has launched a new online service called MetEye.

- It provides access to the latest information including weather observations, radar and detailed site-specific weather forecasts.
- These weather data are available for each 6km x 6km grid across South Australia. For a look at this very informative and practical web-site (as detailed for Nuriootpa), go to: <http://www.bom.gov.au/places/sa/nuriootpa/>
- The site also provides daily derived evapotranspiration (Et₀) figures from all Bureau weather stations.
- These scores allow you to assess water use in the vineyard.
- To learn more about this service, go to: <http://research.agwa.net.au/wp-content/uploads/2014/07/Bureau-of-Meteorology-MetEye1.pdf>
- MetEye also provides a range of information that warns of heat extremes and consequent periods of high water use.
- This allows you to apply more water ahead of heat events.
- MetEye is an easy-to-use site, well worth investigating.

This message has been prepared by the Barossa Grape & Wine Association in partnership with Magarey Plant Pathology and Western Electronic Design. It will be updated as soon as possible after the next significant rain event.
