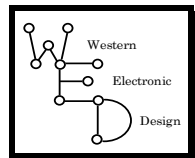




MAGAREY PLANT PATHOLOGY

GrowCare Clare

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The Expanding Canopy

- The good growing conditions this season have led to a rapidly expanding canopy. Favourable temperatures and solar radiation have spurred lots of action from the 'food factories' (the leaves) producing much new growth in recent days.
- In the previous GrowCare message (GCC 3.1) we outlined a simple method to allow you to monitor the rate of canopy growth in your vineyard. A grower in Auburn has used this on some Riesling vines - see photos opposite.
- A square was marked out with a black pen and a shoot was tagged just below the youngest (newly opened) flat leaf and was assessed 10 days later.
- The original square (illustrated by the small thick black square overlaid on top of the original square) was 1cm x 1cm (total area = 1 square cm). Note the growth of the leaf which has extended the leaf area within the square (overlaid on the photo with the thin black line) to 1.7cm x 1.7cm, now = 2.9 square cm. This is close enough to a 3-fold increase in leaf area in just 10 days!
- Measuring shoot growth in the same time period from 18th to 28th October, indicated an expanded length of ~23cm and significantly, three new leaves had developed on the new shoot tissue. This part of the canopy is completely unprotected.
- It is likely that these measurements reflect the growth in vine canopies across the Clare District.
- Current growth stages being seen at present range from Riesling and Shiraz – 8-12 leaves separated (EL 15-17) and Merlot – 7-11 leaves (EL 14-17).

Controlling Powdery Mildew

- Effective spraying for powdery mildew in particular, requires an effective spray cover to be maintained in your vineyard. As seen in the canopy measurements above, this is not easy.
- Some of the original spray cover can be seen on the leaf marked with the black square (see above). These deposits will still be giving protective control against powdery mildew in the zones immediately adjacent to each droplet ... If it was sulphur that was sprayed, these droplets will be effective for at least 50 days! But these droplets are now much more separated – there is 3 times the leaf space between



A 1 cm square marked on a leaf allows you to assess how much a leaf has expanded since the last spray. Together with assessing the number of new leaves (as above), you can assess when the next spray is needed – especially for powdery mildew. (Photo: David Olssen)



Measuring the length of shoot growth since the last spray application also lets you count how many new (and unprotected) leaves have developed. In the 10 days since the pink tag was placed beneath the youngest open leaf (on 18th Oct.), this Riesling shoot has extended ~23cm and produced three new leaves. These are exposed to powdery mildew infection. (Photo: David Olssen)

the deposits than 10 days ago, leaving much more leaf tissue exposed to the powdery spores floating in from nearby in your vineyard.

- Powdery mildew is likely to be showing up now in vineyards with less than the best coverage especially where levels were high last season.
- Though the high risk time for powdery will decrease after flowering, it is critical to maintain good control at least until around pea-size. Berries have gained resistance to powdery before that time.
- Vines with smaller canopies allow good access for ventilation to reduce bunch rot and for fungicide sprays. As the density of the canopy increases, these aspects become restricted.
- Many growers use sulphur to good effect, spraying at 600gm/100L with good spray coverage. Some choose to apply a DMI or similar 'single-site' fungicide around flowering to 'alternate the

chemistry' or 'for better coverage in the denser canopies'. Other users suggest that if good control is being achieved with sulphur, why change to the more expensive DMI and similar 'single-site' fungicides which, unlike sulphur products, are at risk of fungicide resistance.

- Highlighting this is the development of resistance to the 'strobi' group of fungicides. The strobilurins include azoxystrobin (eg Amistar), trifloxystrobin (eg Flint), and pyraclostrobin (eg Cabrio). Resistance to these products has shown up in populations of the powdery fungus in some districts. Some suggest a useful resistance management strategy is to tank mix a 'strobi' with sulphur to extend the use of these chemicals. While this will work, the question to ask is: 'Then why not just use the sulphur, it works and is cheaper?'

Bunch Rots

- Some rain is forecast for early next week. This may bring some periods of leafwetness and as a result, some risk of bunch rot (Botrytis) in any varieties that will be at capfall at that time.
- There is no need to spray for bunch rots at flowering if the weather remains dry. Botrytis is a fungus and all fungi except powdery mildew, need free water present before they can grow and infect. For good control of botrytis bunch rot in rainy weather, a spray at early and late flowering is a good idea – though in some seasons, it may prove of little value if the season is dry at harvest!
- The relatively dry season to date has not favoured the build up of botrytis inoculum in the canopy nor the risk of the disease at and around capfall. As a result, the risk of bunch rots is not as high as in some recent years at this time. None-the-less, a spray of a suitable registered fungicide before early next week for bunch rot and even downy, mixed in with a spray for powdery, may be worth considering. For botrytis, products including captan, chlorothalonil (eg Bravo) or azoxystrobin (eg Amistar) will also give some protection against downy. The latter will protect against powdery too.

Downy Mildew

- For downy mildew primary infection to develop, rain or irrigation is needed to wet the soil for 16hrs at temperatures sufficient for oospores to germinate and release zoospores in the soil ($\geq 8^{\circ}\text{C}$). Then rainfall is needed to splash the zoospores to the grapevine canopy and to keep the leaves wet while it was warm enough for long enough for infection to be completed.

Frost

- Another frost event was reported on the morning of the 27th October. There has been significant crop loss in some areas.

LBAM monitoring



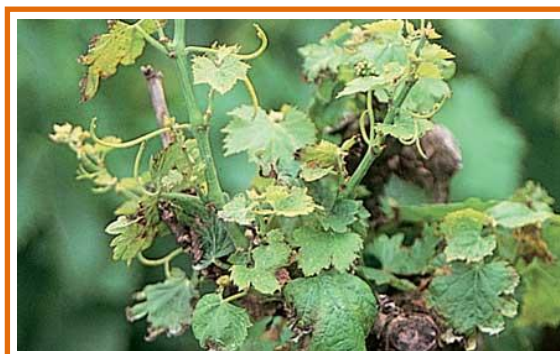
LBAM Second Instar – look for these in the shoot tips. Photo: from GWRDC web-site: www.crcv.com.au/viticare/vitinotes/

- It is worth looking for LBAM (light brown apple moth) in shoot tips of any varieties affected by LBAM last season. The next generation of LBAM are expected to show up at when berries are pea-size (EL 31) but control at that time is difficult to achieve. If in doubt about levels of LBAM you find and action thresholds for spraying, contact your winery rep for advice on action required, if any.

Petiole Sampling

- As the vines approach flowering, it is a good time to consider taking petiole samples for assessment of nutrient needs. Excess nitrogen leads to softer berries which are more susceptible to diseases like bunch rots.

Eutypa Dieback



After the recent refresher workshop on Eutypa Dieback (held on October 16th), now is a good time to monitor for symptoms in your vineyard. Look for yellow, tattered and upward curled leaves on stunted shoots and brown speckles on small and yellow leaves with scorched margins. Photo: PA Magarey

*This message was prepared for
The Clare Region Grape Growers Association by
Magarey Plant Pathology and Western Electronic Design.*
