



VINE TALK

Recently I have had the opportunity to travel to a number of wine regions from Margaret River to Mudgee for various technical viticultural days. These events have been well attended with people keen to update their knowledge on pest and disease management, with an optimistic outlook for the season ahead. Across regions and speakers there were a number of common themes, timing being one of the most critical. No matter what products or management techniques you choose, timing is key.

When implementing a successful spray programme, it is important to understand the ideal timing of application for particular products to achieve optimal results. Some systemic products such as RIDOMIL GOLD PLUS have both curative and protectant properties. From a technical perspective, RIDOMIL GOLD PLUS is a highly effective preventative spray for Downy mildew and would ideally be applied as such. Commercially however, it is most commonly used as a curative spray following an infection period. Timing here is critical and for RIDOMIL GOLD PLUS to be most effective it needs to be applied within a few days of the infection period, prior to any visible symptoms, which may take a couple of weeks to develop. Phosphorous acid is also a systemic, curative fungicide although it is not effective when applied as a preventative spray. It provides no forward protection and is effective only when applied just after a Downy infection period. Note that phosphorous acid cannot generally be applied to grapes destined for export wine.

For the 2011-12 season, the CropLife Resistance Management Guidelines for strobilurins (Group 11) has changed to limit their use to no more than two sprays. Strobilurins have been an important part of spray programmes for many years. This isn't cause for unnecessary reaction although it is important that we utilise other products available to ensure we don't over rely on any one particular "mode of action" group. REVUS (Group 40) was recently registered for Downy mildew control and is now listed in the updated version of the AWRI Dog Book for use up to the end of flowering (refer to www.awri.com.au for the most up to date version). As an alternative mode of action to a strobilurin, REVUS could be tank mixed with THIOVIT JET (Group M2) or TOPAS (Group 3) for control of both Powdery and Downy mildew over the critical growth period up to the end of flowering.



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Soil typing leads to sound design



Viticulturist
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How do I identify different soil types in my vineyard? How important is it to identify different soil sub-blocks in my vineyard? Is it a one-off investment? Or, is it an ongoing process?

THERE ARE A number of ways to identify different soils in a vineyard but they generally fall into three categories: visual assessment based on soil colour and texture, in some cases, based broadly on the plant/weed species present; physical/chemical properties based on analytical data; and electromagnetic radiometry (such as EM38 or gamma-ray spectrometry).

Often a combination of all three methods is used, particularly in vineyard establishment.

Generally, the best time to assess the soil types using any of the above categories is prior to planting.

At this stage, sound design decisions can be made so that each block has a minimum of soil types in it.



Geonics EM38 instrument being towed on a Perspex sled for on-the-go survey. Photo supplied by Rob Bramley.



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This should ensure that soils with similar nutrient levels, similar depth and similar moisture holding capacities are grouped or, as a minimum soils that with different characteristics, such as moisture-holding capacity, are put on different irrigation valves.

This, in turn, minimises the complexity of block management and the subsequent variation in grape quality and maximises the final wine quality.

Prior to planting, gross changes to soil chemistry can be achieved easily. For example, pH can be adjusted and phosphate and potassium levels increased by working ameliorants into the soil to some depth. Once planting has occurred these gross changes can be difficult to achieve, however, they are no less important.

Once the vineyard is established, the identification of different soil types within the vineyard is often undertaken by observing the difference in grapevine growth, yield and, ultimately, grape quality. The characteristics of the soil itself are often seen as less important to the overwhelming drive to produce uniform quality grapes (although the drive of the grower has recently been somewhat lessened due to the low returns from growing grapes). When particular problems arise in certain areas that is when soil is often reassessed, and soil types may once again be assessed individually.

Assessing soil types in an established vineyard is often done on a 'whole block sample' where no differentiation is made between stronger and weaker areas.

In these cases, soil ameliorants are applied on a block by block basis, and little consideration is made of the underlying soil types. However, when identification of problems is required, sampling smaller well-defined areas in a block may be warranted. In these cases, a comparative sample is used where a soil type or problem area and a different soil type or non-problem area are compared



Identification of soil types in vineyards is critical in an establishment or redevelopment phase.
Photo: Hallet Manie

with each other and then with recognised soil parameters to identify any limiting factors that may be present.

Yield monitoring and mapping using load cells on harvester conveyors linked to GPS has been successfully utilised to determine vineyard uniformity. This data has been linked to soil mapping and subsequent specific fertiliser application to increase uniformity.

The continual monitoring and improvement on a yearly basis that these services offer are often being overlooked, and, for economic reasons, many growers are returning to a visual assessment and reactive approach.

Identification of soil types in vineyards is critical in an establishment or redevelopment phase and, in these cases, one-off soil survey and soil mapping is justifiable. This is a one-off cost that will provide long-term management gains. However, in an established vineyard the

economics may not justify the expense of soil type identification and an ad hoc approach may be more justifiable.

Read more: A closer look at the soil mapping technology being used to help inform soil management practices in vineyards in Australia and New Zealand is on page 80.

Ben Rose is the principal advisor of Performance Viticulture. Ben has always been involved in wine and viticulture, growing up on the family's Rising Vineyard, in the Yarra Valley, outside Melbourne. Ben established Performance Viticulture in 1997. He is also a Certified Practising Valuer specialising in Wine Industry Assets. You can contact Ben or forward a question for the column on phone: 0418 836 773 or email: ben@performanceviticulture.com.au

Disclaimer:

Information in this article is general in nature and should not be construed as provision of comprehensive advice. Each vineyard site and management situation is different and qualified, specific advice should be sought prior to implementation of any of the ideas discussed in this column.



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