Weather forecast: Cool to cold days, with an increasing prevalence of frost.

El Niño

The Bureau of Meteorology (BOM) officially declared a major El Niño event this week, which is likely to lead to prolonged drier, hotter conditions across much of eastern Australia until Autumn 2016.

The potential impacts of El Niño in the vineyard include:

- A drier than average winter to spring period
- Increased daytime temperatures in southern Australia from winter onwards
- Increased risk of frosts in winter due to dry soils and less cloud
- An earlier and more extreme fire season

More information about the long-term weather forecast can be accessed from the Bureau of Meteorology.

Riverina mulch and compost workshop

The mulch and compost workshop held at Hanwood last week as part of the NSW DPI Skills Development Program was attended by 20 viticulturists and winemakers. The workshop included an overview of the benefits provided by different types of mulch and compost and participants took part in a field walk to observe a range of locally available mulches and composts applied under the vines at the NSW DPI Hanwood vineyard. A copy of the presentations from the workshop can be accessed here.

Darren Fahey discusses a range of mulches and compost at the demonstration site in the Riverina at the Mulch and compost workshop last week.
2014/15 Seasonal weather overview

Many growers noted that the past spring seemed warmer than usual. A comparison of the observed temperatures with long term average (LTA) temperatures (Figure 1) confirms this, with maximum temperatures in October and November found to be well above LTA. Some observers attribute the earlier than usual harvest experienced across NSW to the warm spring conditions.

Figure 1. Average maximum temperatures from across the five weather stations in the Riverina (left) and Mudgee (right) across the growing season compared to LTA. Minimum temperatures measured at Bureau of Meteorology weather stations (Griffith airport and Mudgee).

Minimum temperatures across the weather stations in the Riverina were predominantly in line with the LTA, the exception being in March where cooler conditions were recorded (Figure 2). Mudgee experienced warmer minimum temperatures than the LTA during November and December.

Figure 2. Average minimum temperatures from across the five weather stations in the Riverina (left) and Mudgee (right) across the growing season compared to LTA.
Primary bud necrosis/bud dissections

Compound buds that are left on the vine at pruning, contain the primordia for the leaves and bunches that may emerge in the following season. Each compound bud contains a primary bud and two secondary buds (Figure 3). Primary buds tend to be more fruitful than the secondary buds. Primary bud necrosis (PBN), or the death of the primary bud within the compound bud (Figure 3), promotes the emergence of the secondary buds which, because they are less fruitful, result in reduced overall yield. As a consequence of the lower yield, vines with PBN may exhibit more vigorous growth. The most common variety to be affected by PBN is Shiraz.

Several factors have been identified as possible causes of PBN including excessive vine vigour and water stress, particularly if water stress occurs during the period of bud differentiation (at around flowering).

An effective method to determine the presence of PBN is using bud dissection. The compound bud can be cut open under a microscope which allows observation of the internal structures of the bud. This technique is also used to assess the overall fertility of the vineyard which can be used to predict potential yield. Armed with this information, vineyard managers can make informed decisions when setting pruning levels.

The timing of bud dissection is important, with the optimum time being late autumn/early winter prior to pruning. More information about PBN can be found here.

Figure 3. A cross-section of a healthy compound bud showing the primary (a) and secondary buds (b) (left) and a compound bud with a necrotic primary bud (right). Photos provided by Belinda Rawnsley.
Pests to look out for:

Grapevine scale
When allowed to proliferate grapevine scale can lead to a reduction in grape yield and quality. During the early winter period immature winter scales can be identified by their dark brown skin (Figure 4) and by spring, adult scales can be up to 7 mm long and oval-shaped. Often this pest is identified when ants are found crawling on the cordon as they are attracted to the honeydew released by the scale. They can be found on canes and bark of older wood. After leaf fall is the easiest time to identify the pest. Control can be gained using petroleum oils during dormancy with emphasis on spraying early in dormancy to target the smaller-sized scale.

Fruit fly
Queensland fruit fly has been identified in various crops throughout NSW in the past few months. This is a reminder to be vigilant as grapes can be a host for fruit fly (although they are not preferred by the insect). More information can be found here.

Pruning reminders
Now that many of you have started pruning, this is a reminder to consider the following in your pruning plan:

- Vineyard hygiene – ensure that contractors follow proper protocols for cleaning equipment before they enter your property
- Weather - avoid pruning during wet weather. Rainfall can stimulate the release of spores of Eutypa lata, an increasingly problematic trunk disease. More information is available in this fact sheet
- Timing - consider the time of budburst for different varieties. Prune early bursting varieties, e.g. Chardonnay, as late as possible to avoid potential frost risk. You could also consider staggering the time of pruning for large areas of a single variety to spread the time of ripening
- Bud dissections - results will guide the type (cane versus spur) and level of pruning
- Access - will you be able to access blocks that get very wet during winter?
Things to do in the vineyard now:

- **Irrigation maintenance** – where harvesters may have damaged valves/dripper lines, undertake repair work while the damage is still fresh in your mind. Now is also a good time to conduct maintenance on pumps and/or dripper lines. If soil moisture monitoring equipment experienced any issues during the growing season, this is also a good time to address them.

- **Service electronic equipment** – irrigation controllers, soil moisture monitors and pump starter motors are all examples of equipment that often gets forgotten about until next season when it is needed.

- **Pre-pruning** – once leaf fall has occurred, mechanical pruners can be used to saw down the majority of the canopy.

- **Replanting** – if considering replanting/grafting for next season, ensure you place orders with nurseries early to ensure supply.

**NSW DPI Viticulture Skills Development Program**

For further information about the program, please contact Darren Fahey darren.fahey@dpi.nsw.gov.au

**Contact the AWRI for support**

The Australian Wine Research Institute provides technical support for Australia’s grapegrowers and winemakers. This service is free and confidential. If you require additional assistance on grapegrowing, including the identification and management of vineyard pests and diseases or agrochemical advice, please contact Mardi Longbottom or Marcel Essling on 08 8313 6600 or helpdesk@awri.com.au.

**Disclaimer:** The VineWatch bulletin is provided by The Australian Wine Research Institute to support grapegrowers in New South Wales, specifically the Riverina and Central Ranges. This information is intended to be generic in nature. Always seek professional advice specific to your vineyard.