BAROSSA GRAPE & WINE

VitiWatch

27 October 2020

Bulletin 20-21 E2 #3

DOWNY MILDEW UPDATE – 27 October

Downy Mildew

Since the wet-weather event of 4 to 9 October a very small number of **isolated cases of Downy Mildew oilspots** were reported in Barossa Valley vineyards from 16 October. Whilst disease modelling using weather station data determined that the conditions did not meet the known criteria for a primary infection, these oilspots indicate some sites (likely those that were slightly warmer and/or had more prolonged ground wetness) may have experienced a primary infection on unprotected foliage on 8 October.

Weather conditions were also favourable on the night of 16 October for a Secondary Infection (>13ºC & >98% RH for >4hrs at night) with visual signs reported in isolated cases where oilspots were present. This had the potential to create a second generation of oilspots on unprotected foliage on 16 October, whereas if a protectant spray had been applied about 5 days beforehand in vineyards with oilspots (eg. between 10 and 16 October) the risk of new oilspots would be minimal. If the conditions were favourable for this second generation of oilspots, these could have appeared from 24 October as 'clusters' of oilspots on several leaves and vines adjacent to the initial primary infection. The initial primary infection only creates an oilspot every 50 to 100m along the vine row, hence potential clusters could be missed if monitoring is insufficient. There were further warm-wet nights on 22 and 26 October which have the potential to produce new oilspots 5-7 days later if there were existing active oilspots. Exceptions to these scenarios would be if a post-infection spray (eg metalaxyl) had been applied before potential secondary events, or preventative spray cover had been maintained to protect new foliage. The rain event in Barossa on 23-24 October was not conducive to a primary infection (but was in Clare Valley). **If clusters of oilspots are found, then a post-infection spray** (eg metalaxyl) **should be applied as soon as possible.**

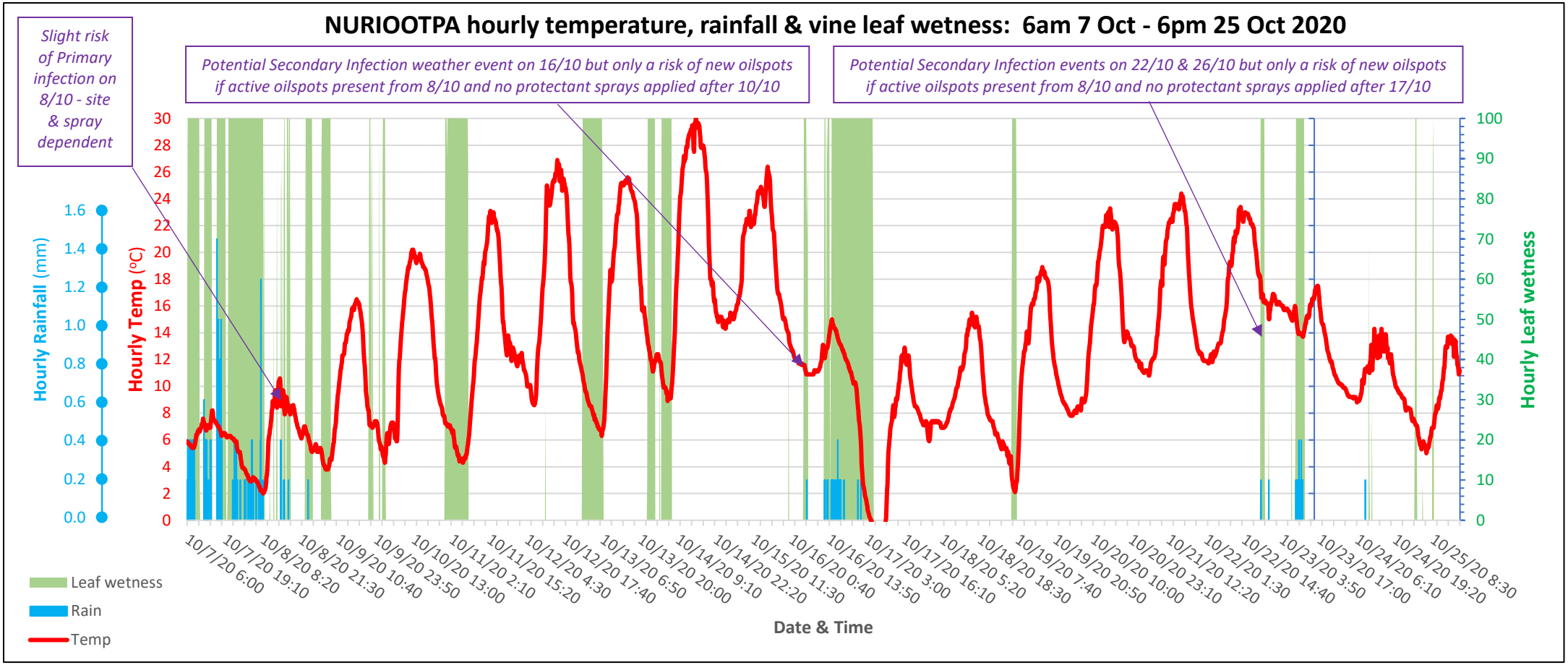
Tracking various weather events and disease cycles with reference to vineyard-specific sprays can become complex in wetter springs where there are multiple events. Normal protectant sprays can often be well-timed to mitigate the risk of each weather event and/or potential disease cycle, however in some vineyards this might be compromised by factors such as weather access, contractor availability and cost considerations. Post-infection sprays are most effective before oilspot appearance, although many people will reserve these for higher-risk situations or when disease levels are visually very evident. This approach can increase disease risk and fungicide-resistance development risk but is an understandable approach in lower-risk climates. The event on 8 October presented low risk of Downy Mildew in most Barossa Valley vineyards and even lower risk in Eden Valley. The current risk of Downy Mildew presence and potential crop damage in most Barossa vineyards is very low, however this is **now the most vulnerable period of the growing season so high vigilance is warranted**.

The chart below provides an overview of recent weather events and where normal protectant spray timing could have mitigated significant risks of Downy Mildew so far this season. In view of the elevated risk of Downy Mildew this season, and especially with the sensitive flowering period approaching (or already underway in some earlier varieties/sites), the most important actions from hereon will be:

- **Regular monitoring for Downy Mildew oilspots**
- **Maintaining Downy Mildew protectant cover until at least pea-size berry stage**
- **Seeking expert advice if you are unsure on anything or need support with spray decisions**

Powdery Mildew risk has also been elevated over recent weeks due to often mild and overcast conditions and many vine canopies are now reaching a density where internal spray coverage is becoming more difficult. **Now is the time to adjust spray units to achieve the best possible spray coverage, especially in varieties / blocks that are close to flowering.** Whilst not a disease risk index as such, calculated evaporation (mm ETo excluding rainfall) from weather stations can provide some insights into comparative Powdery Mildew risk, as low spring evaporation conditions are often associated with conditions that favour this disease – ie. mild temperatures, higher humidity and lower sunlight. Calculated ETo values at Nuriootpa since 15 September are 22% lower compared to the same period last year. This and good late-winter and spring rains have of course substituted irrigation needs with more vine spraying and weed control compared to the last two seasons, but by all accounts this is a welcome change and closer to what many would call the 'old normal'.

NURIOOTPA hourly temperature, rainfall & vine leaf wetness: 6am 7 Oct - 6pm 25 Oct 2020



LEFT

Downy Mildew single oilspot from initial primary infection

Barossa Valley 17 October 2020

RIGHT

Downy Mildew secondary infection on back of oilspot

Barossa Valley 17 October 2020

RIGHT

Example of Downy Mildew oilspots 'cluster' from multiple infections (second generation)

Photo credit: DPIRD, WA agric.wa.gov.au