

Waikato Orchard—Hayward and Gold3: 13 September 2014

Background

This 14 year old organic orchard has Hayward, 2012-grafted Gold3 and 2013-grafted Gold3. The site is well sheltered and previous drainage challenges have been addressed. This highly productive block produced 9,800trays/ha of Hayward and 4,500 trays/ha of Gold3 in 2014.

Winter conditions have been cold with frosts averaging of -4degC and lasting for five days occurring through August. Budbreak is advanced in comparison with previous years with M33 males ahead of the 2012-grafted Gold3 and M91 males. The most advanced Hayward block has terminal buds on some female canes already at bud-break. An increase in Psa-V symptoms occurred in the orchard through late August with disturbing levels of exudate seen in chieftan males within the previous week.

Observations

Hayward

In the most advanced (coldest) block, around 80% of males were showing high levels of red and some white exudate. Many vines were expressing through multiple sites including leaders, shortened later grown canes and through buds on spurs. Where infection levels were high, female canes tied in close to the male leaders were also infected. Removal of infected male canes and shortening of female canes to remove infected buds and avoid further cross-infection was in progress. Care was being taken with tool hygiene to avoid infection transfer.

2013-grafted Gold3

This block had been strung in 2013-4 with around 70% canopy achieved. Strung canes had been lowered late autumn following strong winds and storm conditions. Canes had not been secured in place at this time and by winter pruning time infection was showing at points where canes had been damaged against pergola wires. Infected canes were cut back or where necessary cut out completely, this reducing canopy fill in some bays to around 20%. A number of M91 males had also showed infection within this block and had been removed below the graft. M33 males remain symptom-free.

2012-grafted Gold3

This block was showing fewer Psa-V symptoms than the adjacent 2013-grafted plants. Minimal canes had been removed due to infection. Where infection in leaders was less severe, scraping back of infected bark was being trialled in preference to cut-out. Ongoing monitoring will provide the opportunity to learn more about the value of this management strategy on the site. Coverage of the resultant wounds was recommended.

Autumn frosts and extended periods of sub-zero conditions through winter are likely to have accelerated Psa-V movement in this block. Lack of protective sprays through the autumn /winter period may have also impacted.



Figure 1: Hayward female growth stage.



Figure 2: M33 male



Figure 3: 2012-grafted Gold3



Figure 4: Hayward with female overlap into adjacent male canopy.



Figure 5: Later grown male canes



Figure 6: leader exudate - chieftan males



Figure 7: Multiple infection points - chieftan males.



Figure 8: 2013-grafted Gold3, damaged through wire-rub after being lowered following late autumn storms



Figure 9: 2012-grafted Gold3 canopy



Figure 10: Removed lateral, 2012-grafted Gold3



Figure 11: Infection removal, 2012-grafted Gold3 leader.