

Definitions

- ⦿ **PZ: Psa Priority Zone**
- ⦿ **HRA: High-Risk Area (greater Te Puke area)**
- ⦿ **MRA: Medium-Risk Area (wider New Zealand)**

Background

- ⦿ Rapid response to Psa infection is essential to reduce the risk of spread and potential vine dieback.
- ⦿ Growers are strongly encouraged to monitor regularly and report their findings by email to the ZESPRI Grower Contact Centre.
- ⦿ Frequent orchard monitoring will ensure the infection is detected as early as possible.
- ⦿ Leaf spotting can be caused by other organisms. Lab testing is required to positively identify Psa.
- ⦿ Identifying changes in the level or degree of symptoms is important.

Responsibility

- ⦿ Growers are responsible for ensuring their orchard is monitored for Psa. Post-harvest operators or Pest Monitoring Centres (PMCs) may be involved.
- ⦿ Formal monitoring may be carried out by PMCs. However all staff working in orchards should be familiar with Psa symptoms and encouraged to report any suspicious symptoms.

Frequency

- ⦿ Growers should remain alert for signs of Psa at any time especially during or after cooler, wetter weather and any significant climatic events that give rise to plant injury e.g. wind storm or hail event.
- ⦿ Monitoring frequency and intensity are dependent on orchard Psa status, location, variety and time of the year. Different monitoring plans have been developed and growers should select the most appropriate plan for their orchard situation.

Identification of Symptoms

- ⦿ If any symptoms are seen, confirm that the symptoms are typical of Psa by using the Psa Resource 'Identification of Psa Symptoms'.
- ⦿ Mark vines with symptoms with a coloured tape. Date the tapes and record the symptoms.
- ⦿ Different length of tape may be used to denote different levels of symptoms.

- ⦿ Establish the level of symptoms in the immediate vicinity by monitoring the rest of the block, walking every row.
- ⦿ Take a close up digital photo of the symptoms (or representative photos if there are a number of similar symptoms).
- ⦿ Record details of the severity - either by estimating the number of leaves or photographing the area.

Reporting of Symptoms

- ⦿ Enter monitoring details on the Symptom Monitoring Sheet (available from www.kvh.org.nz or www.zespricanopy.com) – there is an additional form for multiple Kpins. Use the comments field to capture information on location within the orchard and intensity of disease spread within the orchard.
- ⦿ Ensure the correct contact details are entered on the monitoring sheet. This should be the person that can be contacted should a sample be required and the person that is advised of any test results.
- ⦿ Email this sheet, along with any photos taken, to contactcanopy@zespri.com. It is important to report both when symptoms have been observed, and when monitoring has identified no symptoms.
- ⦿ Staff will review the photos and decide if a laboratory test is required.
- ⦿ You will be advised if a sample is required from your orchard - or if the photos do not appear to be Psa.
- ⦿ Ensure you maintain agreed levels of communication with your post-harvest operator.

Sampling

- ⦿ If a sample is required KVH will arrange for an independent sampler to visit your property and collect this sample.
- ⦿ The sampler will contact the person listed on the monitoring sheet.
- ⦿ Please ensure there is someone available who can take the sampler to the vines where symptoms were found and photos have been taken.
- ⦿ If this is not possible, please mark these sites on a clear map of the orchard, including row number and advise the sampler where the map will be left.
- ⦿ The contact person should be advised of the results of the test within two days. Refer to Psa Resource 'Psa Sampling Appendix - Sampling and Test Result Timeframes'.

SPRING AND SUMMER PSA MONITORING PLAN

Applies to

HRA & MRA orchards only

- Monitoring for Psa during the Spring/Summer Monitoring period.

Responsibility

- Growers are responsible for ensuring their orchard is monitored for Psa. Post-harvest operators or Pest Monitoring Centres may be involved.

Frequency

- Commencing shortly after budburst, monitor at least fortnightly until the end of December (at the earliest).
- Monitor an orchard by walking every third row scanning the canopy for any signs of Psa symptoms.
- Walk a different set of rows for each monitoring round (over the course of 4-6 weeks all rows in the orchard should be checked for Psa symptoms).
- Focus on areas of stress in the orchard - e.g. frost pockets, wet areas, wind damaged areas or areas that have previously recorded leaf spot.
- It is not necessary to search for the odd leaf with a small number of spots. Look for areas where there are several leaves with easily visible areas of spotting.
- In areas where leaf spotting is found:
 - Monitor the canopy around the area frequently (e.g. twice per week) for at least four weeks to determine if there is any progression in symptoms.

- Continue to monitor these areas to determine if the level of spotting is increasing or remains constant and if there is a change in the level or type of symptoms.
- Even if canes/shoots with spotting are removed the area should be monitored for further symptom development.
- Be on the lookout for any secondary symptoms. Investigate all shoots with dark discolouration, shoot wilting or cane dieback and any signs of orange or whitish vine ooze.

Identification of Symptoms

- If any symptoms are seen, confirm that the symptoms are typical of Psa by using the Psa Resource 'Identification of Psa Symptoms'.
- Check that the cane wilting/dieback is not the result of physical damage e.g. pruning damage, wind blow.
- DO NOT remove the affected cane(s) until someone has visited the orchard and has agreed on the action to be taken.

POST-HARVEST (AUTUMN & WINTER) PSA MONITORING PLAN-

Applies to

HRA & MRA orchards only

- Advice on monitoring during autumn and winter will be provided at a later date

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