

Hort 16A Integrated PSA Management Plan

1. **Spray 1 litre/ha humates (humic acid + fulvic acid +(if available mugenolic acid + avenic acid).** This is to bioremediate the copper in the soil so that the beneficial bacteria can proliferate and toxic levels of copper do not enter the vine.
2. **Inject Kasumin 1ml – 3ml/vine when approved and available.** The ai Kasugamycin is a systemic antibiotic. The injection technique will prevent environmental contamination.
3. **ThemoMax** –This is to increase plant temperature. PSA is a low temperature bacteria and it is capable of making water freeze at temperatures above freezing.
4. **Agrizest 4 sprays PRE flowering.** To strengthen the vines immune system and increase OGR. Some relevant benefits are
 - To mediate soil salinity problem,
 - As an alternative to girdling,
 - To reduce leaf breakdown disorder,
 - To overcome frost damage stress,
 - To improve productivity and reduce secondary growth (summer pruning).

I have suggested all 4 sprays are applied PRE blossom to strengthen the plant quickly. If you are unable to get all 4 sprays on before flowering, wait until post flowering, then apply the remaining applications.

5. **Pseudomonas fluorescence.** If approved and available, this bacterium, like PSA, is active in low temperatures and is a well known antagonist of Pseudomonas syringae.
6. **Blow torch.** If exudates appear use a blow torch to singe (not burn) the exudates.

Hayward Green Kiwifruit Integrated PSA Management Plan

1. **Spray 1 litre/ha humates (humic acid + fulvic acid + (if available mugenoic acid + avenic acid).** This is to bioremediate the copper in the soil so that the beneficial bacteria can proliferate and toxic levels of copper do not enter the vine.
2. **ThemoMax.** This is to increase plant temperature. PSA is a low temperature bacteria and it is capable of making water freeze at temperatures above freezing.
3. **Agrizest 2 sprays PRE flowering and 2 sprays POST flowering.** To strengthen the vines immune system and increase OGR. Some relevant benefits are:
 - to mediate soil salinity problems,
 - as an alternative to girdling,
 - to reduce leaf breakdown disorder,
 - to overcome frost damage stress,
 - to improve productivity and reduce secondary growth (summer pruning).

All our trials show that 2 sprays, 3 to 7 days apart, before flowering, followed by 2 more sprays 7 days apart immediately after flowering, resulted in the best quality fruit and highest OGR.