

KVH recommended spray programme—post-harvest to bud break

This is a best practice guide to reducing orchard exposure to Psa-V. **Key principles:** ‘Reduce inoculum levels’ and ‘protect all wounds’. Wounds, eg, fruit stalks, leaf scars and pruning cuts are a proven entry point for Psa-V. They remain susceptible to infection for several weeks.

	1. Post-harvest	2. After natural leaf fall begins	3. Leaf fall	4. Wound protection	5. Post pruning
What to do	Apply post-harvest copper.	Use defoliating sprays to speed up and condense natural leaf fall.	Apply copper through the leaf fall period.	Apply wound protection to wounds created during pruning.	Apply copper to pruned canopy.
Purpose	<ul style="list-style-type: none"> ●Protect the large number of ‘fresh’ wounds (fruit stalks). ●Reduce inoculum level in the orchard. 	<ul style="list-style-type: none"> ●Shortens the period where ‘fresh’ wounds (leaf scars) occur. 	<ul style="list-style-type: none"> ●Protect wounds (leaf scars) created as leaves fall. ●Reduce inoculum level in the orchard. 	<ul style="list-style-type: none"> ●Cover and protect wounds. ●Reduce inoculum level at the wound site. 	<ul style="list-style-type: none"> ●Protect any wounds missed by painting, including cicada wounds and cracked canes. ●Reduce inoculum level in the orchard.
How to do	<ul style="list-style-type: none"> ●Apply spray at 1000L per hectare. Target fruit stalks. <u>Use summer rates:</u> e.g. Nordox 37.5gm per 100L Kocide Opti 70gm per 100L Champ Flo 130ml per 100L 	<ul style="list-style-type: none"> ●Apply spray at 2000L per hectare. Target the whole canopy. Apply copper sulphate at 12.5kg per hectare. ●Add a spreader to improve spray effectiveness (use label rates). 	<ul style="list-style-type: none"> ●Apply spray at 1000L per hectare. Target leaf scars. <u>Use winter rates:</u> e.g. Nordox 55gm per 100L Kocide Opti 70gm per 100L Champ Flo 130ml per 100 	<ul style="list-style-type: none"> ●Paint all large cuts with a wound sealant that includes a bactericide/sterilant as soon as practical. 	<ul style="list-style-type: none"> ●Apply spray at 1000L per hectare. Target the whole canopy. <u>Use winter rates:</u> e.g. Nordox 55gm per 100L Kocide Opti 70gm per 100L Champ Flo 130ml per 100L
Notes	<ul style="list-style-type: none"> ●Apply immediately after picking. ●Additional copper formulations and rates are listed in the Zespri Crop Protection Program, Section 4.7 	<ul style="list-style-type: none"> ●Do not use copper sulphate before natural leaf fall begins. ●Add urea to spray mix at 50kg/ha to improve effectiveness of leaf drop and breakdown. ●Alternatively, apply products to dropped leaf to aid leaf breakdown. 	<ul style="list-style-type: none"> ●Winter (dormancy) is a low risk period for phytotoxicity. ●Winter rates should increase persistence and maximise inoculum knockdown. ●Addition of a spreader will improve spray coverage. ●Multiple applications will be required if leaf fall is prolonged. 	<ul style="list-style-type: none"> ●Maintain tool hygiene throughout pruning. 	<ul style="list-style-type: none"> ●Apply as soon as possible after pruning. ●Addition of a spreader will improve spray coverage. ●Do not apply coppers 1 week either side of bud break enhancers.

In areas with high cicada pressure refer to ZESPRI Kiwitech Bulletin N61 for control option.

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