


KVH recommended programme—removing susceptible varieties in preparation for grafting

Updated 24 April 2013

Key principles: ‘Remove infected material’ ‘reduce inoculum’ and ‘protect wounds’.

View a video demonstration on the ‘[Vine removal and disposal](http://www.kvh.org.nz)’ section on the KVH website: www.kvh.org.nz

	1. Cutting out plant material	2. Removal of cut material	3. Disposal of plant material	4. Post-cutting management	5. Protect stumps and apply clean up spray
What to do	Spray canopy and remove existing susceptible variety.	Remove all plant material from the orchard floor.	Dispose of plant material <u>on site</u> .	Cut trunks below the graft union and dispose of interstock.	Apply copper spray to stumps and orchard floor. Protect stumps.
Purpose	Reduce inoculum level in the orchard and inoculum risk for neighbouring orchards.	Reduce inoculum level in the orchard and inoculum risk for neighbouring orchards.	Reduce inoculum level in the orchard and inoculum risk for neighbouring orchards.	Remove all susceptible variety interstock, eg, Hort16A.	Reduce the inoculum level in the orchard. Minimise the risk of stump infection.
How to do	<ul style="list-style-type: none"> ● Apply Copper spray at 1000L/ha. Target canopy. <u>Use winter rates</u> e.g. Nordox 55gm/100L Kocide Opti 70gm/100L ● Cut the tops off vines and remove canopy. ● Remove the most infected areas first. 	<ul style="list-style-type: none"> ● Buck rake the cut canopy and sweep the orchard floor. ● Remove all plant material from the block as soon as possible. ● Remove susceptible variety rootstocks if necessary. 	<ul style="list-style-type: none"> ● Ideally, <u>bury</u>. Ensure plant material is covered with at least 0.5m of soil. ● Alternatively, <u>burn</u>. Use accelerants to ensure the fire is hot enough to effectively burn all material. ● Least preferred, <u>mulch</u>. Mulch finely. Ground apply CAN (100kg/ha) or Digester (6L/ha) to haste decomposition of plant material. 	<ul style="list-style-type: none"> ● Identify the graft union and cut below this. ● Where possible position the cut to provide a 100mm length of straight stump to assist later graft positioning. ● Dispose of interstock by burial or burning. 	<ul style="list-style-type: none"> ● Apply copper spray at 1000L/ha. Target stumps and orchard floor. Also spray the path to the disposal site and surrounding disposal area. <u>Use winter rates</u> e.g. Nordox 55gm/100L Kocide Opti 70gm/100L ● Paint stumps with a wound sealant that includes a bactericide/sterilant.
Notes	<ul style="list-style-type: none"> ● In <u>heavily infected blocks</u>, apply an elicitor post-harvest, then commence cut-out 5-7 days later, in dry weather. ● In notch-grafted vines with good new variety growth cut fruiting canopy after harvest. ● In <u>non-infected vines</u> leave vines uncut until early leaf fall to maintain stump health. ● Continue to apply proven protectants. 	<ul style="list-style-type: none"> ● Avoid working in wet/windy weather. ● Avoid dragging infected material through/near vulnerable blocks (especially young developing blocks). ● Complete vehicle/implement hygiene at job completion or at the end of each day. 	<ul style="list-style-type: none"> ● Ensure safety around fires and pits. ● Fire permits are required. ● Restrict movement through mulched orchards to avoid material spread. Live PsA-V can be detected in orchard prunings for more than 15 weeks. 	<ul style="list-style-type: none"> ● Sterilise tools between vines. This reduces risk of disease transfer. eg. PsA-V, armillaria and other kiwifruit diseases 	<ul style="list-style-type: none"> ● Use wound sealants that provide a persistent physical barrier. ● Maintain an on-going protectant spray program to reduce inoculum levels.

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