



PSA-V SEASONAL MANAGEMENT WALL CHART 2021-2022

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BUILD A PLAN THAT MATCHES YOUR ORCHARD

- Consider variety, vine age, region, orchard environment, management practices and seasonal conditions when creating your plan.
- Use cultural methods to reduce Psa risk.
- Maintain a protective spray programme year-round.
- Use the Psa Risk Model (www.kvh.org.nz) to help plan spray timings and orchard work.

Scan for the Psa Risk Model.

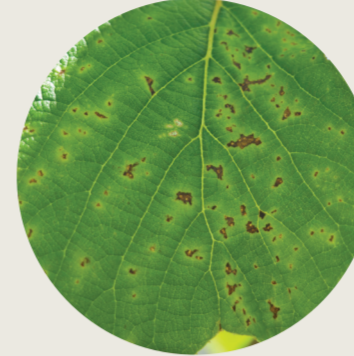


CULTURAL METHODS

Monitor regularly to identify presence of Psa symptoms



Red/orange exudate



Leaf spot



Shoot and cane die-back

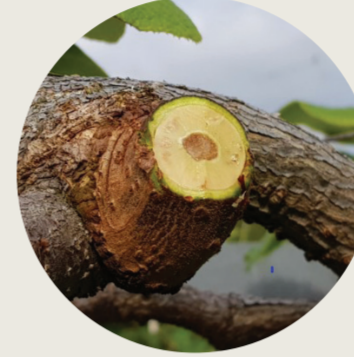


Flower bud infection

Prune out infected material and remove from the orchard to reduce risk of Psa



Check for staining



Cut back to clean wood



Treat wounds



Always sanitise tools

Pre-flower girdle (Hayward and G14) to reduce flower-bud infection

- Girdle 30 days pre-flower on high-risk Hayward sites
- Avoid stressed vines
- Check girdle depth



- Girdle in dry weather only
- Sanitise tools between plants
- Apply summer rate copper to protect girdles

SPRAY PLAN

Develop a plan that considers orchard Psa risk, and weather risk, and be sure to protect wounds

Spring (very high-risk)	Maintain protective copper cover from budbreak through to flowering. Include products with different modes of action – Aureo Gold, Actigard and consider CPPU (for Hayward). Bactericides suit high-risk sites.
Summer (lower risk)	Apply copper prior to significant high-risk weather events.
Autumn (risk increases)	Use copper and Actigard immediately post-harvest. Maintain copper cover throughout leaf fall.
Winter (risk continues)	Apply winter copper before and after winter pruning and immediately prior to budbreak.

Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
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COPPERS: Apply winter rate copper immediately prior to budbreak. From budbreak, apply summer rates at regular intervals to protect expanding leaves, shoots and flower buds. Do NOT spray open flowers. After harvest apply copper to protect fruit stalks and leaf scars, and winter pruning wounds. Do NOT apply within 7 days of bud enhancing sprays. Always apply in good drying conditions and always use label rates. Max 8kg active/Ha/yr or 3kg for organics.

Product	Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
Nordox™ 75 WG	37.5g/100L (summer)				37.5g/100L (summer)		55 – 70g/100L (winter)	
AG Copp 75	37.5g/100L (summer)				37.5g/100L (summer)		55 – 70g/100L (winter)	
Kocide® Opti™	70 – 90g/100L				70 – 90g/100L		70 – 90g/100L	
Champion++®	70 – 90g/100L				70 – 90g/100L		70 – 90g/100L	
Hortcare™ Copper Hydroxide 300	(Limited claim) 50 – 90g/100L (summer)				50 – 90g/100L (summer)		70 – 90g/100L (winter)	
Coptyzin	150 – 225ml/100L (spring)				125ml/100L (summer)		150 – 300ml/100L (winter)	
Champ® DP	(Limited claim) 50 – 75g/100L (summer)				DO NOT APPLY		107 – 140g/100L (winter)	
Tri-base Blue®	150ml/100L (summer)				150ml/100L (summer)		150ml/100L (winter)	

BACTERICIDES: Apply in high-risk orchards to reduce inoculum prior to, or immediately after, high-risk weather events. Leaf area is sufficient when leaves reach 25–30mm in diameter (50c coin). Use AI nozzles and drift-reducing adjuvants. Do NOT spray any flowers (male or female) or fruit. One pre-flower Kasumin® is allowed. Additional bactericide applications (Kasumin or KeyStrepto) require a JA. Follow user guides.

Product	Application Rate	Interval	Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
Kasumin®	500ml/100L	21 DAY GAP				DO NOT APPLY				
KeyStrepto™	60g/100L (JA ONLY)	1 WEEK GAP				DO NOT APPLY				DO NOT APPLY

BIO-BACTERICIDES: Can be applied when early leaves reach 25–30mm diameter (50c coin), and up until 6 weeks after flowering. Apply before high-risk weather to protect against leaf spot and flower bud infection. Do not apply closer than 10 days after Kocide or 14 days after Nordox. DO NOT TANK MIX with coppers. Adjuvant use is recommended. Maximum 10 applications/year. Do not exceed 4.5kg/active/Ha.

Product	Application Rate	Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
Aureo®Gold	50g/100L					DO NOT APPLY		DO NOT APPLY	

ELICITORS: Apply when early leaves reach 25–30mm diameter (50c coin) to protect against leaf spot and flowerbud infection. Reapply prior to flowering. Requires 4–7 days for full effect. Do NOT apply to stressed plants. Do NOT spray flowers or fruit. Use immediately after harvest to protect fruit stalks and leaf scars. Foliage must be actively photosynthesising. Maximum 4 applications per season.

Product	Application Rate	Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
Actigard™	20g/100L DO NOT exceed 200g/ha				NON PRODUCING VINES ONLY		20g/100L DO NOT exceed 200g/ha		DO NOT APPLY

CPPU: Apply preventatively when shoots reach 15-25cm long, to protect against leaf spot. Requires 5–7 days for full effect. One pre-flower Ambitious is allowed. Additional use requires a JA. Use AI nozzles and drift-reducing adjuvants. Do NOT spray female flowers or fruit. **Not permitted on Gold3 or Red varieties.** Not permitted as a growth regulator. Follow CPPU user guide.

Product	Application Rate	Interval	Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
Ambitious 10SL™	50ml/100L	1 WEEK GAP				NON PRODUCING VINES ONLY				DO NOT APPLY
Gro-tech	50ml/100L									

BIOLOGICALS: Use in a programme. Suits lower risk sites. For BOTRY-Zen® use sufficient water to achieve run-off. Reapply after 10-14 days. Apply KiwiVax® soil drench in damp conditions when temperatures are above 10°C.

Product	Application Rate	Bud break	Green tip	Shoot growth	Flowering/pollination	Fruit growth	Post harvest	Leaf fall	Dormancy
BOTRY-Zen®	600g/100L					DO NOT APPLY		600g/100L	
KiwiVax®	(Limited claim) 20g/100L – minimum 200g/ha				20g/100L – minimum 200g/ha (JA only)			20g/100L – minimum 200g/ha	DO NOT APPLY

KVH RECOMMENDED PRODUCT LIST

Products have ACVM registration for Psa control. Spray rates are for high volume spraying (ie.volumes to the point of run-off). Adjust product rates per 100L if concentrate spraying. Use water rates appropriate for the size of the canopy to give complete coverage. This table is subject to change – refer to the KVH website for updates.