

WHO DO I TALK TO ABOUT PSA?



For questions about Psa on-orchard practices, contact your post-harvest technical manager or horticulture retail representative in the first instance.



Find up-to-date Psa resource, management advice, and spray information on our Canopy website - <https://canopy.zespri.com>.
Check our Crop Protection Standard to understand responsibilities for monitoring and justified approval applications.



Report potential new spread of Psa to info@kvh.org.nz or 0800 665 825.
Kiwifruit Vine Health is prepared to respond to new variants of Psa and other biosecurity threats.

DEVELOP A MANAGEMENT PLAN

AUTUMN (RISK INCREASES)	Use copper and Actigard® immediately after harvest. Maintain copper cover throughout leaf fall.
WINTER (RISK CONTINUES)	Apply winter copper before and after winter pruning and immediately before budbreak. Remove infected material. Ensure effective and consistent tool hygiene.
SPRING (VERY HIGH-RISK)	Maintain protective cover from budbreak through to flowering. Include products with different modes of action – Copper, Aureo®Gold, and Actigard®. Consider CPPU for Hayward. Bactericides suit high-risk sites. Remember frost protection and consider a preflower girdle to reduce flower bud infection (Hayward and G14).
SUMMER (LOWER RISK)	Apply copper before significant high-risk weather events. Also consider Aureo®Gold.

PSA SYMPTOMS



Red/orange exudate



Leaf spot

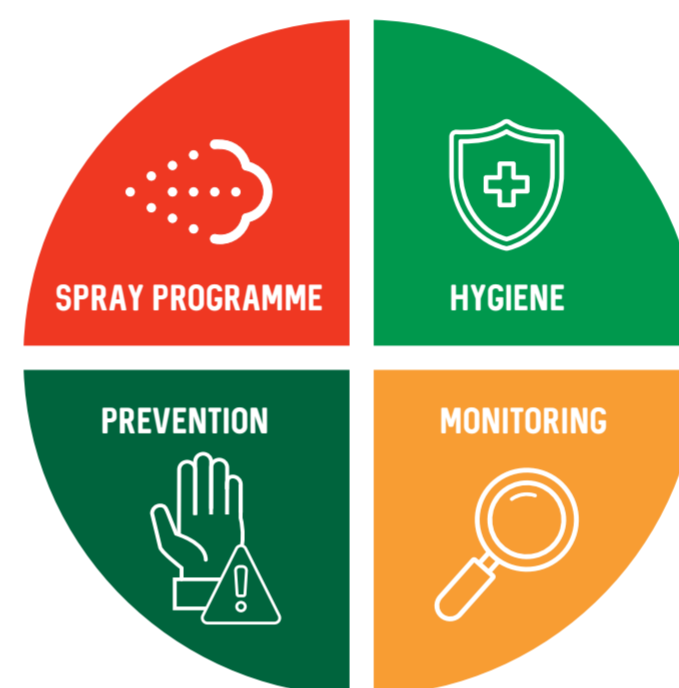


Shoot and cane die-back



Flower bud infection

GOOD PRACTICE PSA MANAGEMENT



WEATHER & DISEASE PORTAL

PSA RISK MODEL

This tool shows the current and forecast daily environmental risk assessment of Psa infection conditions, and can be used to inform good practice decisions on spray and orchard management.



PRE-FLOWERING ACCUMULATION MODEL

Designed to predict the optimum spray timing intervals from local climate conditions. Use between bud-burst to flowering (1st Sept - 30th Nov). The purpose of this tool is to prevent over or under-spraying for Psa management. The tool can be used to show periods of high risk where protectants are necessary, and long periods of low risk where spray use can be reduced.

RESOURCES

SPRING SPRAY PROGRAMME

View the results of a Plant & Food Research trial which showed that a mixed product programme is likely to provide a higher level of protection than copper alone, and that there are alternative spray programmes that provide good efficacy with the added benefit of reduced reliance on copper and bactericides.



PSA DECISION TREE

A resource to help make decisions on orchard preflowering. This resource pays particular attention to vine stress and walks you through the critical time between budbreak and flowering.

← **AUTUMN** → **WINTER** → **SPRING** → **SUMMER** →

		Post-harvest	Leaf fall	Dormancy	Budbreak	Green Tip	Shoot Growth	Flowering/pollination	Fruit Growth
		COPPERS: Apply winter rate copper immediately before budbreak. From budbreak, apply summer rates at 10-14 day intervals to protect expanding leaves, shoots and flower buds ahead of high-risk weather. See Zespri Weather & Disease Portal for guidance. Don't spray open flowers. After harvest apply copper to protect fruit stalks and leaf scars, and winter pruning wounds. Don't 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. IMPORTANT: Any application during 'fruit growth', has a 7 day pre harvest interval.							
Nordox™ 75 WG	✓		55 – 70g/100L			37.5g/100L		DO NOT APPLY	37.5g/100L
Norshield 45WG	✓		92 – 117g/100L			62.5g/100L			62.5g/100L
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	✓		70 – 90g/100L			50 – 90g/100L			50 – 90g/100L
Coptyzin			150 – 300ml/100L			150 – 225ml/100L			125ml/100L
Tri-base Blue®			150ml/100L			150ml/100L			150ml/100L
Kasumin®		BACTERICIDES: Should only be applied in high-risk orchards and only immediately after or prior to high-risk weather events to reduce inoculum. Leaf area is sufficient when leaves reach 25–30mm in diameter (50c coin). Use AI nozzles and drift-reducing adjuvants. Cannot be used within 21 days of flowering. Don't spray any flowers (male or female) or fruit. One pre-flower Kasumin® is allowed. Provides 10-14 days protection. KeyStrepto™ and additional Kasumin® applications require a Justified Approval/JA. Follow user guides and label. NOTE: Future use of KeyStrepto™ in our industry is being reviewed.							
		DO NOT APPLY			500ml/100L	21 DAY GAP		DO NOT APPLY	
Aureo®Gold	✓	BIO-BACTERICIDES: Apply 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. Reapply at 7-14 days, as required. 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. Don't exceed 4.5kg/active/Ha.							
		DO NOT APPLY			50g/100L				DO NOT APPLY
Actigard®		ELICITORS: Apply when early leaves reach 25–30mm diameter (50c coin) to protect against leaf spot and flowerbud infection. Requires 4–7 days for full effect. Reapply prior to flowering allowing 21 days between sprays. Don't apply to stressed plants. Don't spray flowers or fruit. Use immediately after harvest to protect fruit stalks and leaf scars. Avoid drift onto unharvested fruit. Foliage must be actively photosynthesising. Maximum 4 applications per season.							
		20g/100L DO NOT exceed 200g/ha	DO NOT APPLY		20g/100L DO NOT exceed 200g/ha		NON PRODUCING VINES ONLY		
Ambitious 10SL®		CPPU: Apply preventatively to protect against leaf spot. Requires 5-7 days for full effect. Apply when shoots reach 15-25cm and up until 3 weeks before first female flower opens. One pre-flower Ambitious is allowed. Use AI nozzles and drift reducing adjuvants. Ensure even coverage and Good Agricultural Practice spraying conditions. Don't spray female flowers or fruit. Not permitted on Gold3 or Red19 varieties. Not permitted as a growth regulator. Follow CPPU user guide.							
		DO NOT APPLY			50ml/100L	21 DAY GAP		NON PRODUCING VINES ONLY	
BOTRY-Zen®	✓	600g/100L			600g/100L			DO NOT APPLY	
KiwiVax® (Limited Claim)	✓	20g/100L – minimum 200g/ha		DO NOT APPLY		20g/100L – minimum 200g/ha			

Products have ACVM registration for Psa control. Spray rates are for high volume spraying (i.e. 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 Zespri Crop Protections Standard (CPS) for updates.

PLEASE NOTE: The information on this resource is of a general nature and not intended to apply to any specific kiwifruit orchard and/or operation. Zespri cannot guarantee the accuracy, currency, or completeness of the information, nor is Zespri liable for any steps taken in reliance on it. For specific advice about a particular orchard/operation, contact your Zespri Grower Liaison Manager, post-harvest technical manager, or other suitability qualified technical consultant. ©2024 Zespri Group Limited, all rights reserved.