

Protecting spring growth

Spring growth of kiwifruit is particularly susceptible to Psa-V infection. Although copper is a useful contact protectant at this time, it does not move within the plant to protect new growth.

ACTIGARD® provides systemic protection against Psa-V infection by eliciting a natural response known as Systemic Acquired Resistance (SAR), which helps to protect the rapidly developing spring canopy.

Trial confirms effectiveness of ACTIGARD

A recent study by the Bio-Protection Research Centre at Lincoln University has confirmed the effectiveness of ACTIGARD when applied up to 7 days prior to a Psa infection period (see trial results overleaf).

A maximum of 4 applications of ACTIGARD can be made in a season, with 2 applications recommended in the spring between the 25 mm leaf diameter and pre-flowering growth stages.

Best use advice for spring applications

- Apply 20 grams of ACTIGARD per 100 litres of water as a dilute spray (200 g/ha).
- As it can take up to 7 days for ACTIGARD to fully activate the plant, the addition of copper is recommended to give immediate protection, especially when applied prior to wet weather events.
- To avoid the risk of residues, DO NOT spray female flowers or fruit with ACTIGARD.
- If vines are under stress, delay application until vines have recovered and are actively growing.
- ACTIGARD is compatible with: Kocide Opti*, Nordox*, Prodigy*, Movento*, Luna* Privilege, Timorex* Gold, and Aureo* Gold. Multiple product mixtures should always be tested for physical compatibility prior to use.

Key timings for spring applications

First ACTIGARD spray – from 25 mm leaf diameter

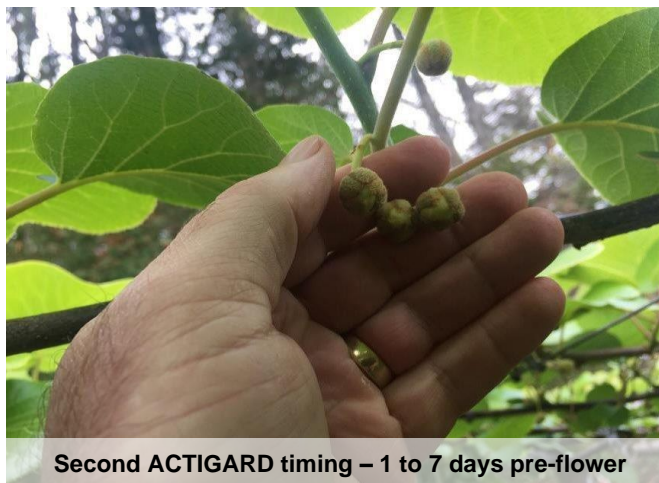
The first recommended application timing of ACTIGARD in spring is when leaves reach approximately 25 mm diameter. This makes best use of its systemic movement to protect rapidly expanding growth and newly produced leaves.

Second ACTIGARD spray – 1 to 7 days pre-flower

The second key application timing for ACTIGARD is 1 to 7 days prior to flowering. This provides systemic protection over the flowering period when options for Psa-V control are limited, and infection risk remains high.



First ACTIGARD timing – from 25 mm leaf diameter



Second ACTIGARD timing – 1 to 7 days pre-flower

(See trial results overleaf...)

Recent study confirms effectiveness of ACTIGARD

Trials have consistently shown the effectiveness of ACTIGARD in controlling Psa, including a recent study conducted in 2019 by the Bio-Protection Research Centre at Lincoln University, using Psa-inoculated kiwifruit seedlings cv. Bruno conducted under controlled environmental conditions (see Fig. 1).

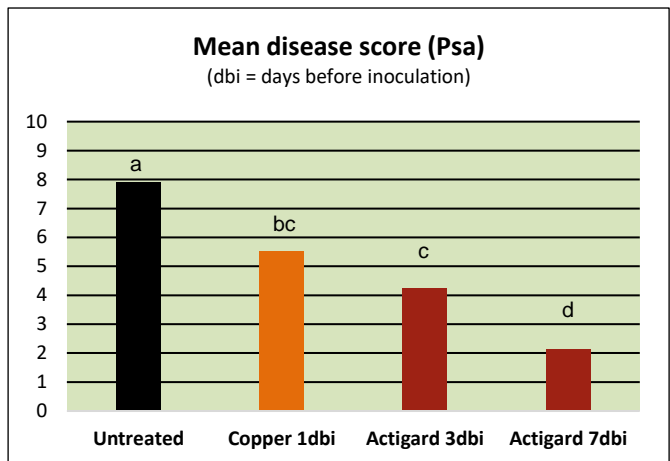
In this laboratory study, plants were assessed for Psa symptom development 5 weeks after inoculation, and an overall mean disease score was given ranging from 1 to 10 for each treatment (see Graph 1).

Trial results

ACTIGARD applied as a spray 7 days before inoculation gave the largest reduction in leaf symptoms (73% reduction) followed by ACTIGARD applied 3 days before inoculation (46% reduction), then copper applied 1 day before inoculation (30% reduction).



Fig. 1: Kiwifruit seedlings cv. Bruno were kept in closed containers to ensure humidity conditions favourable for Psa infection.



Graph 1: Mean disease score – combined, weighted measure of leaf spot severity and number of leaves showing symptoms.

This study highlights the importance of applying ACTIGARD up to 7 days prior to an infection period in the field, to allow enough time for ACTIGARD to fully activate the plant's natural self-defence mechanism. The addition of copper is recommended when applying ACTIGARD, to provide immediate protection prior to high risk weather events.

Crop safety of ACTIGARD in spring

A number of trials have been conducted to evaluate the crop safety of applying ACTIGARD in the spring, and whether it has any impact on canopy growth or fruit at harvest.

During spring 2015 Zespri contracted Plant & Food Research to spray ACTIGARD on unstressed Gold3 and Hayward vines in 4 orchards near Te Puke. In these orchards ACTIGARD did not affect shoot elongation, crop load, fruit size, or the dry matter content of fruit (Ref: *New Zealand Kiwifruit Journal – September/October 2016*).

Syngenta also contracted 3 independent replicated trials (1 on Hayward and 2 on Gold3) in spring 2015, to evaluate if there was a relationship between ACTIGARD timing and the number of applications on canopy growth, yield and fruit quality. The results showed no negative impact on lateral length, leaf diameter, fruit weight or dry matter, either when ACTIGARD was applied alone or in mixture with copper.

For more information please call the Syngenta Technical Advice Line on 0800 333 336 or visit our website at www.syngenta.co.nz



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