



## **VI20085: Contribution of pollen naturally contaminated by *Pseudomonas syringae* pv. *actinidiae* to disease incidence in a commercial kiwifruit orchard**

### **Cover Note**

Some scientific literature has previously extrapolated that the artificial pollination of kiwifruit with Psa-contaminated pollen is a major factor in the overall spread and incidence of Psa in a kiwifruit orchard. However, this claim has never been checked experimentally in a commercial orchard with pollen naturally contaminated by Psa.

This project aimed to determine the contribution of pollen naturally contaminated by Psa to the overall disease incidence in the canopy of a commercial kiwifruit orchard already infected with Psa.

To identify the effects of the applied pollen on the canopy, disease incidence (i.e, leaf spot) was compared between trap plants exposed to Psa-contaminated pollen and plants not exposed to the pollen (i.e, plants bagged during the artificial pollination round).

Also, on the same orchard, the project compared the percentage fruit set of flowers pollinated with Psa-free pollen and flowers pollinated with Psa-contaminated pollen.

The key findings from year one were:

- Trap plants exposed to Psa contaminated pollen in the orchard were not found to have more leaf spots than unexposed trap plants.
- Vine location had a more influence on the percentage of fruit set, than the influence of whether the pollen used for pollination was contaminated by Psa or not.

To confirm these findings, work was repeated in year two. The effect of covering trap plants with bags was also checked to identify whether this had any effect on results.

Findings from year two were:

- The bags used to cover the trap plants had no effect on disease incidence confirming the conclusions made in year one were valid.

The authors recommended that although Psa-contaminated pollen is not the main cause of the spread of Psa within an orchard, these research results should not be used to justify using Psa-contaminated or potentially contaminated pollen in Psa undetected orchards or regions where Psa is not present. Similarly, pollen contaminated with a variant of Psa showing new characteristics (virulence, host range or resistance to phytosanitary compounds) should not be used in an orchard where similar strains do not exist.