Infection of ZESPRI® GOLD kiwifruit (*Actinidia chinensis* 'Hort16A') lenticels by *Pseudomonas syringae* pv. *actinidiae*

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Pseudomonas syringae pv. *actinidiae* (Psa) is a bacterium whose virulent form (Psa-V) causes severe infections of kiwifruit, particularly *Actinidia chinensis* 'Hort16A'. Lenticels on kiwifruit canes function as pores, allowing gaseous exchange. The lenticellular structure penetrates through the periderm, potentially allowing bacterial entry and subsequent cortex infection. Bacteria have been observed inside and directly below lenticels from ca 3-year-old woody tissue from the field. To investigate this pathway of bacterial infection further, lenticels from three wood ages were inoculated with a strain of Psa-V at 10^9 cfu/ml. Brown staining was observed on lenticels 3 days after inoculation on the youngest wood (< 1 year old). Lenticels were sectioned 2 and 4 weeks after inoculation, and isolations were conducted from sterilised tissue after 4 weeks. Psa was visible inside lenticels of the youngest wood 2 weeks post-inoculation, and was also isolated from the youngest tissue after 4 weeks. Bacteria were not observed in lenticels of older wood, and Psa was not isolated.

Influence of leaf age of *Actinidia* cultivars 'Hayward' and 'Hort16A' on infection by *Pseudomonas syringae* pv. *actinidiae*

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The influence of leaf age on infection by *Pseudomonas syringae* pv. *actinidiae* (Psa) was investigated using potted 'Hayward' and 'Hort16A' kiwifruit plants. Leaves were spray inoculated with an isolate of Psa (haplotype NZ-V) at a rate of 6.9×10^8 cfu/ml. Plants were maintained in a saturated environment in a plastic hot house within the confines of a containment laboratory at Plant & Food Research, Mt Albert Research Centre, Auckland. All leaves were assessed for symptoms 8 days after inoculation and thereafter at approximately weekly intervals for 4 weeks. At each assessment, changes in symptom expression on the leaves were recorded. Flecking was evident on some of the leaves 8 days after inoculation. Many of these flecks later became necrotic spots with halos similar to Psa infections that have been observed in the field. A higher percentage of leaves, that were 2-3 weeks of age at inoculation, had flecking and spotting than leaves of other ages. Leaves that were 7 weeks or older did not show any symptoms of infection by Psa. Overall, leaves on 'Hort16A' showed slightly more flecking and spotting than 'Hayward'.