

Which pathovars of *Pseudomonas syringae* infect stone fruit trees in WA?

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Background: Bacterial diseases of fruit trees caused by pathovars (pv) of *Pseudomonas syringae* are of major concern in fruit producing areas worldwide. They are exceedingly difficult to control, and result in significant economic losses. Currently there are six pv of *P. syringae* that are pathogens of fruit trees: *P. syringae* pv *avii* (wild cherry); *Ps* pv. *coryli* (European hazelnut); *Ps* pv. *morsprunorum* (stone fruit); *Ps* pv. *papulans* (apple); *Ps* pv. *persicae* (peach); and *Ps* pv. *syringae* (mango, stone fruit, apple and pear). Of these pv, only *Ps* pv. *syringae* has officially been recorded in WA; *Ps* pv. *morsprunorum* is recorded in NSW and *Ps* pv. *persicae* is recorded in New Zealand.

In 2000, bacterial galls on trunks and twigs of cherry trees were found in Japan and the bacterium isolated was similar to *Pseudomonas syringae*. The isolated bacterium was classified as a new pv of *P. syringae*, and the name *Pseudomonas syringae* pv. *cerasicola* pv. nov. is proposed.

In the last 12 to 18 months a small number of plum trees in the Manjimup horticultural area have been observed with bacterial galls from which *Pseudomonas syringae* has been consistently isolated. Further study is needed to (i) investigate the presence of bacterial galls on stone fruit in WA; and (ii) determine the bacterial pathogens affecting stone fruit (galls, spots and cankers) in WA; in particular *Pseudomonas syringae* pathovars.

Aim/Outcome: To characterise the pathovars of *Pseudomonas syringae* on stone fruit that occur in WA

Materials and Methods:

1: Survey

- a) Survey WA Prunus cultivars and collect samples of galls, cankers and spots for bacterial isolations.
- b) Assess isolates of bacterial pathogens from fruit trees lodged in the WA Plant Pathogen Collection (WAC).

2: Laboratory analysis

- a) Bacterial isolations
- b) Biochemical tests

3: Glasshouse Pathogenicity tests

Logistics:

Provided by Quarantine Plant Pathology and Horticulture at DAFWA.