



**HAL**  
open science

## Impact of ground cover on *Pseudomonas syringae* communities in kiwifruit orchards

Benoit Borschinger, Christelle Lacroix, Charlotte Chandeysson, Caroline Guilbaud, Luciana Parisi, Jean-François Bourgeay, Odile Berge, Claudia Bartoli, Daniel Pavon, Elise Buisson, et al.

### ► To cite this version:

Benoit Borschinger, Christelle Lacroix, Charlotte Chandeysson, Caroline Guilbaud, Luciana Parisi, et al.. Impact of ground cover on *Pseudomonas syringae* communities in kiwifruit orchards. 10. International symposium on phyllosphere microbiology, Jul 2015, Ascona, Switzerland. 2015. hal-02743486

**HAL Id: hal-02743486**

**<https://hal.inrae.fr/hal-02743486v1>**

Submitted on 3 Jun 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

**Preferred type of presentation**

**Poster presentation**

**Genetic diversity and population structure of *Pseudomonas syringae* on ground covers in apricot and kiwi orchards**

**Benoit Borschinger<sup>1,2</sup>, Christelle Lacroix<sup>1</sup>, Charlotte Chandeysson<sup>1</sup>, Caroline Guilbaud<sup>1</sup>, Luciana Parisi<sup>1</sup>, Jean-François Bourgeay<sup>1</sup>, Odile Berge<sup>1</sup>, Claudia Bartoli<sup>3</sup>, Daniel Pavon<sup>2</sup>, Elise Buisson<sup>2</sup>, Cindy E. Morris<sup>1\*</sup>**

1-INRA, Unité de Pathologie Végétale, Domaine de St Maurice, BP 94, 84140 Montfavet, France

2-Institut Méditerranéen de Biodiversité et d'Ecologie marine et continentale (IMBE), Université d'Avignon et des Pays de Vaucluse, UMR CNRS IRD Aix Marseille Université, Site Agroparc BP 61207, 84911 Avignon, France

3-INRA, Laboratoire des Interactions Plantes Micro-organismes, Auzeville, 31326 Castanet Tolosan, France

\* Email: [cindy.morris@avignon.inra.fr](mailto:cindy.morris@avignon.inra.fr)

The phyllosphere is known for hosting a great diversity of fungi, yeasts and bacteria. These microorganisms interact with each other and with the host plant in the form of symbiosis, mutualism, commensalism, parasitism, competition or simply neutralism. *Pseudomonas syringae* is a ubiquitous epiphytic bacterium commonly found in these microbial communities. The phylogeny complex of *P. syringae* comprises 13 phylogroups, containing strains that are well-known pathogens and strains that apparently have limited capacity as pathogens. Emblematic among the pathogens are *P. syringae* pv. *syringae* (Pss) and *P. syringae* pv. *actinidiae* (Psa) belonging respectively to phylogroups 2 and 1. Bacterial blights of fruit trees caused by *P. syringae* lead to significant economic losses worldwide. With the expansion of bacterial blight of kiwifruit caused by *P. syringae* pv. *actinidiae* and bacterial blight of apricot caused by *P. syringae* pv. *syringae*, the identification of reservoirs of these pathogenic strains and an understanding of the role of the accompanying diversity of *P. syringae* in disease epidemiology are needed. Here we describe the structure of *P. syringae* populations on orchard ground covers based on a series of PCR that specifically identify most of the phylogroups of this species. This efficient technique allows us to link population structure on ground covers to those associated with trees and to the botanical diversity and location of the ground cover reservoirs. The overall goal of these analyses are to identify microbiological contexts that are unfavorable for disease and to conceive management strategies of ground covers to foster these microbiological contexts.