Rapid identification of plant-health related bacteria by MALDI-TOF mass spectrometry (MALD-ID)

Euphresco

04/2019-10/2021
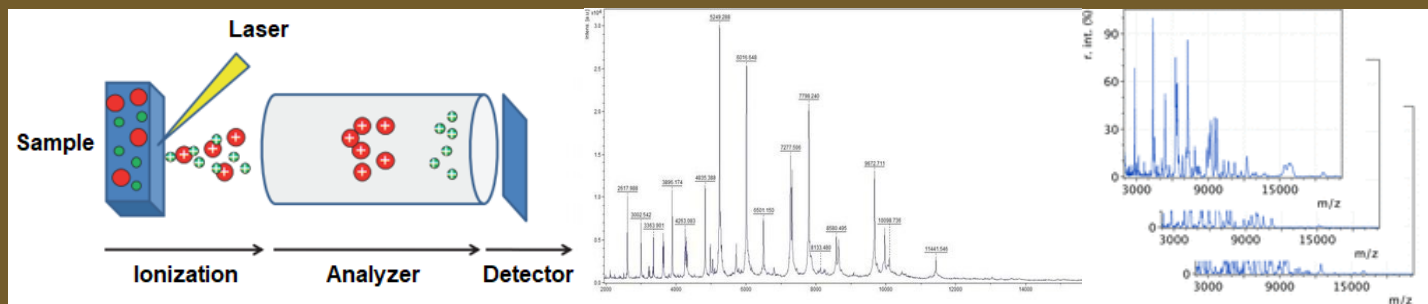
Funding

Non-competitive funding mechanism. Each funder only pays for the participation of their own national researchers. Total funding € 71 000

Research consortium

INRA (FR), JKI (DE), NVWA (NL), FGBU-VNIIKR (RU), MKGP (SI), ZHAW (CH)

Contact information

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Goals and objectives

Recent studies have shown that MALDI-TOF MS can be a useful technique for identification of plant pathogenic bacteria. For example, the technique has sufficient discriminatory power to distinguish members of the genus *Clavibacter* from the related *Curtobacterium* genus, and to distinguish the different subspecies of *Clavibacter michiganensis* from each other (Zaluga *et al*. 2011). But plant-associated bacteria have not been widely evaluated with the MALDI-TOF MS technique and profiles of reference strains of these bacteria are largely absent from commercially available identification databases. At this moment, this limits the application of the technology in plant pathology.

The aim of this project is (1) to identify missing data/needs for increased resolution of plant pathogens in the current database; (2) to characterize a number of plant-health relevant bacteria to initiate the development of reliable database; and (3) to perform interlaboratory comparisons/parallel analysis to check for potential reproducibility/data exchange issues.

Key outputs and results

The project will deliver:

• Harmonised protocols for strain preparation

• Scheme analysis for major genera

• Validated data to build the database