

Comparison of real-time PCR detection methods for the plant pathogen '*Candidatus Liberibacter*' spp. causing the Huanglongbing disease on *Citrus* spp.



Funding

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Contact information

Project coordinator: Gilles Cellier
gilles.cellier@anses.fr

Research consortium

ANSES (FR), CIEHAM (IT), INIAV (PT), INIA (ES), APHIS (US), BCRI (TR)

Goals and objectives

The project aims and objectives are to provide a full performance assessment of the main real-time PCR protocols (Bertolini, *et al.* 2014; Li W. *et al.* 2006; and Morgan *et al.* 2012) and the real-time LAMP protocol (Keremane *et al.*, 2015) for the detection of *Ca. Liberibacter spp.* responsible for the HLB disease on *Citrus* spp.

Therefore, two main activities are planned:

- To assess the intra-laboratory performance of the three main real-time PCR tests found in the literature, in the EPPO PM7/121 and in the IPPC ISPM 27 documentation and the real-time LAMP test.
- To organize a collaborative tests performance study, in order to validate the inter-laboratory reproducibility of the three real-time PCR and LAMP tests.

Key outputs and results

The project will:

- produce a collection of DNA samples prepared from citrus plants and relatives of the *Rutaceae* family covering different species and geographical areas of production;
- assess the performance of the real-time PCR protocols and the real-time LAMP protocol relatively to the species of *Ca. Liberibacter spp.* they are able to detect;
- produce reference data for the real-time PCR performance and the real-time LAMP protocol;
- organise a collaborative tests performance study