EURL
European Union Reference Laboratory
for Plant Pathogenic Bacteria

How the EURL Bacteriology supports international phytosanitary policy makers on issues related to plant quarantine bacteria diagnostics

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EPPO Conference on Diagnostics of Plant Pests

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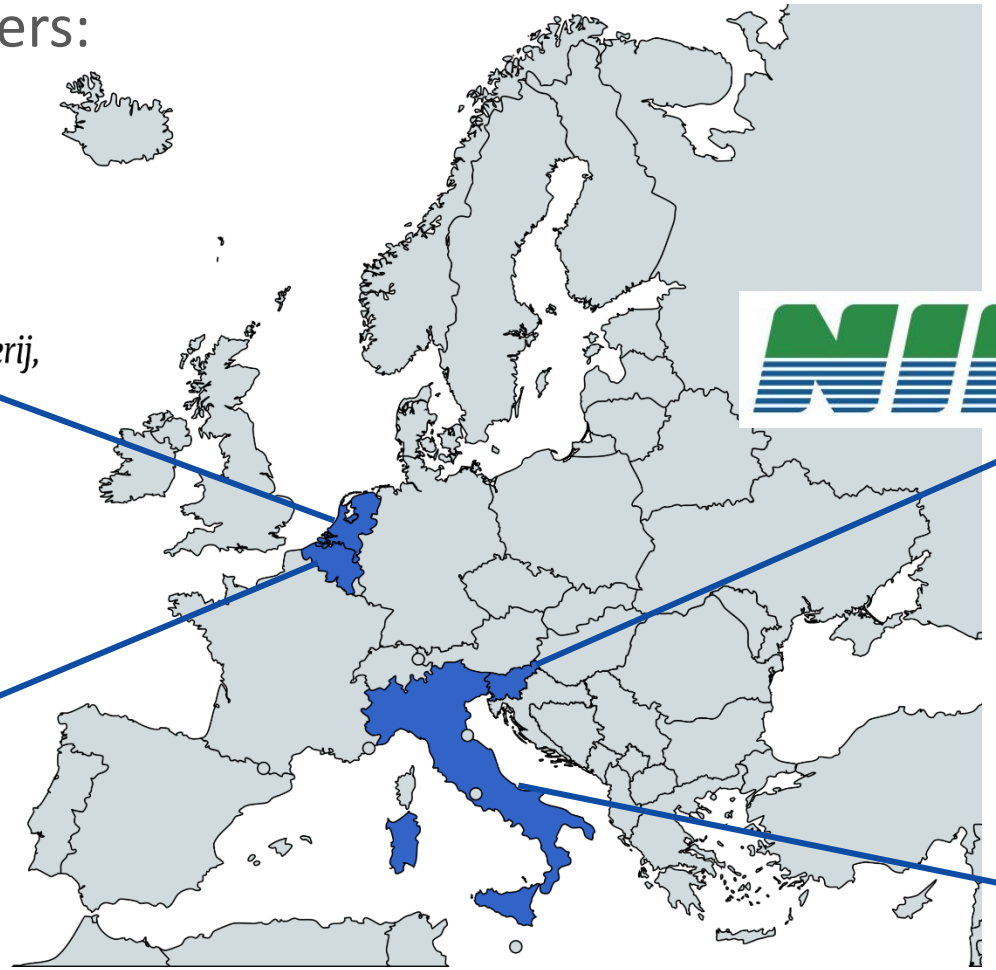
the European Union

EURL
European Union Reference Laboratory
for Plant Pathogenic Bacteria

EURL-Bacteriology

- Consortium of 4 partners:



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Supporting policy makers – EU regulations

- European Commission has regulations on 3 EU-quarantine bacteria:

- *Xylella fastidiosa*

COMMISSION IMPLEMENTING REGULATION (EU) 2020/1201

of 14 August 2020

as regards measures to prevent the introduction into and the spread within the Union of *Xylella fastidiosa* (Wells *et al.*)

(OJ L 269, 17.8.2020, p. 2)

- *Ralstonia solanacearum*

COMMISSION IMPLEMENTING REGULATION (EU) 2022/1193

of 11 July 2022

establishing measures to eradicate and prevent the spread of *Ralstonia solanacearum* (Smith 1896) Yabuuchi *et al.* 1996 emend. Safni *et al.* 2014

- *Clavibacter sepedonicus*

COMMISSION IMPLEMENTING REGULATION (EU) 2022/1194

of 11 July 2022

establishing measures to eradicate and prevent the spread of *Clavibacter sepedonicus* (Spieckermann & Kotthoff 1914) Nouioui *et al.* 2018

Supporting policy makers – EU regulations

- *Xylella fastidiosa,* regulation 2020/1201, Annex IV
- Original from August 2020

B. Molecular tests for the identification of the subspecies of *Xylella fastidiosa*

1. Multi Locus Sequence Typing (MLST) based on Yuan et al., 2010 determining all subspecies;
2. PCR based on Hernandez-Martinez et al., 2006 determining the subspecies *fastidiosa*, *multiplex* and *sandyi*;
3. PCR based on Pooler & Hartung 1995 determining the subspecies *pauca*.

Supporting policy makers – EU regulations

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- Since 17-10-2024

B. Molecular tests for the identification of the subspecies of *Xylella fastidiosa*

1. Multi Locus Sequence Typing (MLST) based on Yuan et al., 2010 determining all subspecies ([11]);
2. PCR based on Hernandez-Martinez et al., 2006 determining the subspecies *fastidiosa*, *multiplex* and *sandyi* ([12]);
3. PCR based on Pooler & Hartung 1995 determining the subspecies *pauca* ([13]);

▼M5 ●

4. Real time PCR based on Dupas et al. 2019, determining all subspecies ([14]);
5. Real time PCR based on Hodgetts et al. 2021, determining all subspecies ([15]).

2 real-time PCR assays added

Supporting policy makers – EU regulations

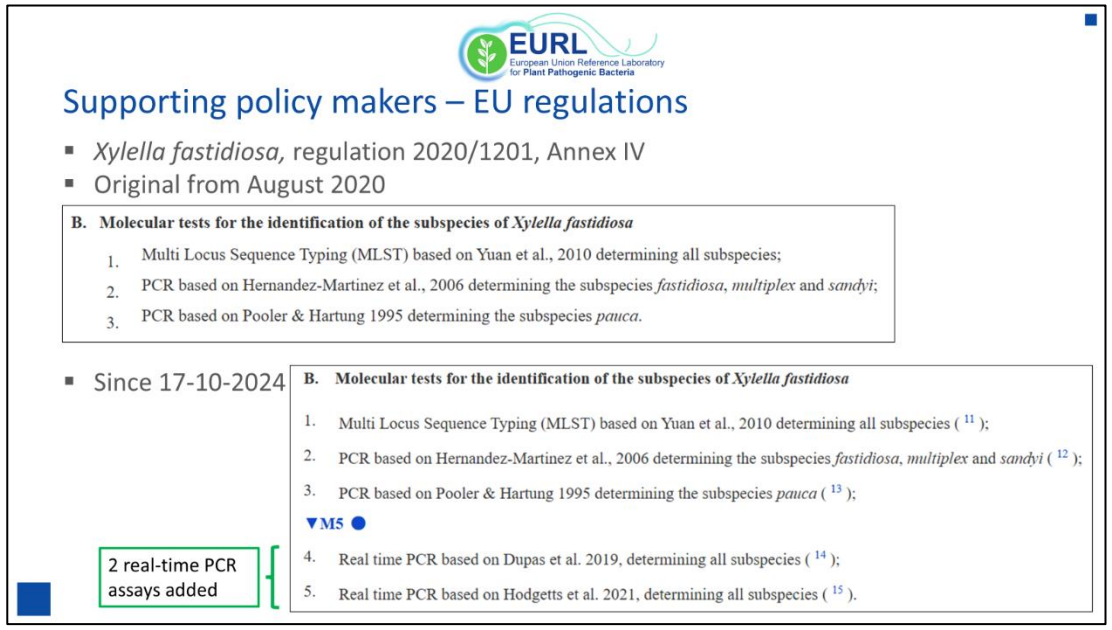
- Similar changes in 2022-version of *Ralstonia solanacearum* regulation was drafted.

R. solanacearum detection tests

2006/63 (EC)	**(EU) 2022/1193**
Stem streaming test	X
Detection of poly-β-hydroxybutyrate granules	X
Serological agglutination test	X
Selective isolation	Selective isolation
Immunofluorescence (IF)	Immunofluorescence (IF)
Conventional PCR (4x)	Conventional PCR (1x)
Fluorescent in-situ hybridization test	X
ELISA	X
Bioassay test	X
	Real-time PCR (4x)
	LAMP (1x)

Supporting policy makers – EU regulations

- Give advice on the use of tests
- Give comments to draft texts
- Collect or generate performance data of tests



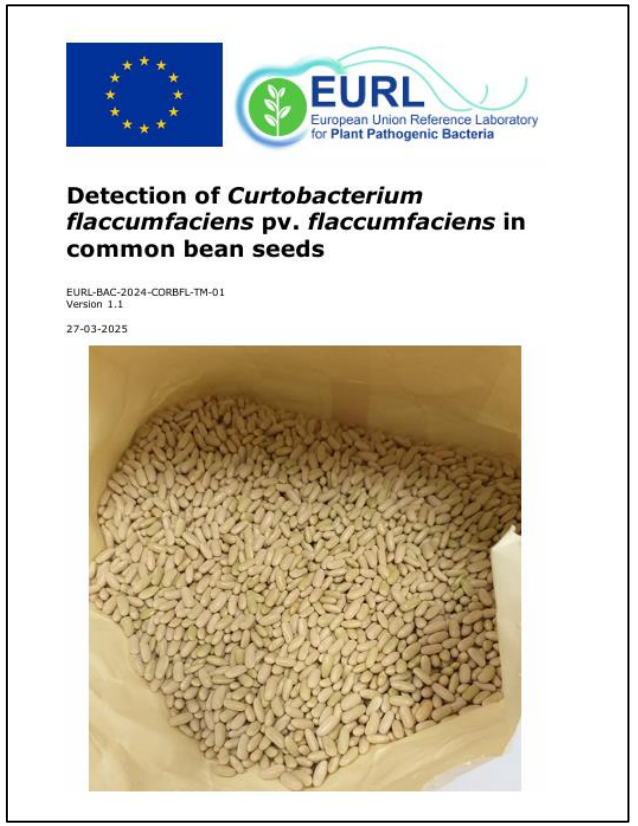
Report on TPS EURL_BAC_TPS_2023_01_Xf: Molecular detection and subspecies determination of *Xylella fastidiosa* by real-time PCR (Dupas *et al.*, 2019, Hodgetts *et al.*, 2021)

Supporting policy makers – EURL protocols

- Findings of *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* in bean plants
  - 2021
  - 2024
- Findings of *C. flaccumfaciens* pv. *flaccumfaciens* in imported bean seeds

- Importmonitoring for *C. flaccumfaciens* pv. *flaccumfaciens* in bean seeds?
  - Need for good test for screening seed batches
  - EPPO standard PM7/102(1) from 2011
  - New real-time PCR assays available

- Publication of (validated) EURL-protocol



Acknowledgements

- EURL-Bacteriology partners
- TPS/PT participants
- European Union

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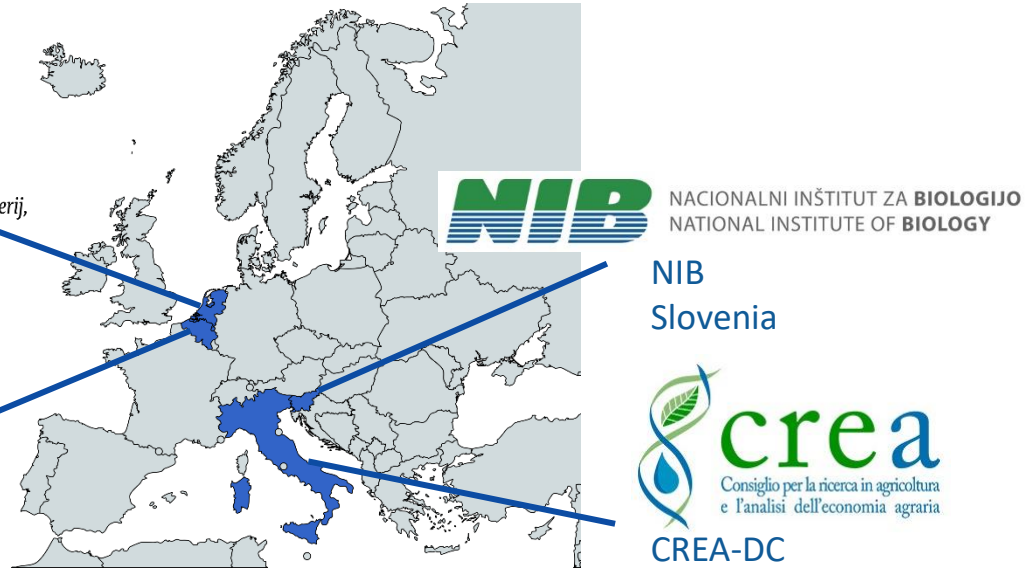

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Questions