1. Content of the 'Topic Description' document

1.1. Topic area

Diagnostics, field detection, surveillance.

1.2. Topic title

Evaluation of current processes for bacteria detection and identification.

1.3. Description of the problem the research should solve

In the current diagnostic framework for bacteria, there is a requirement to systematically isolate culturable bacteria in order to issue a diagnostic result. Indirect tests have been developed (in particular molecular tests) and validated that can be performed on plant material and are considered sufficient in other disciplines (e.g. mycology) to declare a sample positive. Isolation is presented in diagnostic protocols as a confirmation test and this has also raised some concerns with risk managers as to when phytosanitary measures can be implemented for a consignment, or in an area or place of production. This project aims to evaluate current diagnostic processes as described in EPPO diagnostic protocols for a number of bacteria selected from the list of existing EPPO diagnostic protocols (see section 1.8), in particular the correlation of results between the indirect tests used in bacteriology as detection test with isolation of the bacteria and pathogenicity tests.

<u>Activities envisaged</u>

In the first 12 months of the project, partners will be asked to retrieve information (tests performed and results obtained, matrices tested, tests of symptomatic/asymptomatic material, but also need for re-sampling and/or re-testing and information on surveys and follow-up actions performed in the field) for samples analysed using both indirect test(s) and isolation and pathogenicity tests in use in their laboratories in the 5 years preceding the start of the project. In the second half of the project information will be recorded on new (from 2019 onwards) activities conducted in the framework of official plant pest diagnostics or during ad-hoc experiments. The type of information to be recorded will be determined with project members and the support of the Panel on Diagnostics in Bacteriology. A declaration of proficiency for both the indirect tests and the isolation procedures will be requested to the laboratories involved in the project.

Discussions on the type of data to be collected and their format will be held at the start of the project. An online survey will be organized to gather the results.

Flow diagrams for detection and identification of bacteria in EPPO Diagnostic protocols will be reviewed in the light of the findings of the project and procedures involving indirect tests and isolation may be streamlined in light of the outcome.

1.4. Description of the expected results

- Report on the survey.
- Identification of cases where isolation of bacteria should be required to obtain a reliable result and where it can be optional.
- New approach for the detection and identification of specific bacteria to prepare the revision of current EPPO protocols for culturable bacteria.

1.5. Beneficiaries of this research product

Plant pest diagnostic laboratories, risk managers in NPPOs.

1.6. Research funders and research contribution/ distribution

Funding organisation	Research activity and researchers involved
1. European and Mediterranean Plant Protection Organization, International Françoise Petter fp@eppo.int	-Project coordination Contact person: Françoise Petter E.mail address: fp@eppo.int Contact person: Baldissera Giovani E.mail address:bg@eppo.int
2. Institute for Agricultural and Fisheries Research, Belgium Martine Maes martine.maes@ilvo.vlaanderen.be	-Provision of data -Drafting of the recommendation and of the scientific report Contact persons: tbd E.mail address: tbd
3. Central Institute for Supervising and Testing in Agriculture, Czech Republic Michal Hnizdil michal.hnizdil@ukzuz.cz	-Provision of data -Drafting of the recommendation and of the scientific report Contact persons: tbd E.mail address: tbd
4. Bundesministerium für Ernährung und Landwirtschaft, Germany Bettina Beerbaum Bettina.Beerbaum@bmel.bund.de	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: Eva Fornefeld E.mail address: Eva.fornefeld@julius-kuehn.de
5. Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail, France Géraldine Anthoine geraldine.anthoine@anses.fr	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: tbd E.mail address: tbd
6. Forest Research, Great Britain Joan Webber Joan.Webber@forestry.gsi.gov.uk	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: tbd E.mail address: tbd
7. Ministry of Agriculture, Latvia Kristine Lifanova kristine.lifanova@vaad.gov.lv	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: tbd E.mail address: tbd
8. Nederlandse Voesdel-en-Warenautoriteit, The Netherlands Martijn Schenk M.Schenk1@nvwa.nl	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: Maria Bergsma Vlami E.mail address: m.vlami@nvwa.nl

9. Ministrstvo za kmetijstvo, gozdarstvo in prehrano, Slovenia Erika Oresek erika.oresek@gov.si	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: Maja Ravnikar E.mail address: maja.ravnikar@nib.si Contact person: Tanja Dreo E.mail address: tanja.dreo@nib.si
10. Department of Agriculture, Animal and Plant Health Inspection Service, United States of America Christina Devorshak Christina.devorshak@aphis.usda.gov	-Provision of data -Drafting of the recommendation and of the scientific report Contact person: Stefano Costanzo E.mail address: Stefano.Costanzo@aphis.usda.gov

1.7. Research project partnership outside Euphresco

Euphresco funding ensures a certain level of transnational collaboration among Euphresco member countries. It is possible, if the funding consortium is interested, to contact funding organisations or research groups outside the geographical area covered by Euphresco members. The Euphresco coordinator could advertise the research topic in order to have an enlarged collaboration. If funders are interested in this possibility, please check the case below:

☒ The funding consortium of the topic mentioned in section 1.2 requires to advertise the topic outside the Euphresco network

Information to sharpen the profile of sought partners could be useful (but not mandatory): country/region (if there are preferences), skills/expertise required, etc.

1.8. Any other relevant information on content

List of bacteria that could be covered by the project's activities (choice made to provide a range of bacteria for which isolation is challenging and others for which isolation is less challenging).
Erwinia amylovora
Xanthomonas axonopodis pv*. dieffenbachiae*
Xylella fastidiosa
Clavibacter michiganensis subsp*. michiganensis*
Xanthomonas axonopodis pv*. citri*
Pantoea stewartii subsp*. stewartii*
Xanthomonas arboricola pv*. pruni*
Xanthomonas fragariae
Xylophilus ampelinus
Acidovorax citrulli

2. Euphresco management aspects of the project

2.1. Indication of the topic budget

Funding organisation [a]	Mechanism [b]	Total Budget [c]
1. EPPO (Int.)	NC	€ 10 000
2. ILVO (BE)	NC	€ 5 000
3. CISTA (CZ)	NC	€ 2 000
4. JKI (DE)	NC	€ 10 000
5. ANSES (FR)	NC	€ 29 800
6. UKFC (GB)	NC	€ 45 000
7. VAAD (LV)	NC	€ 4 500
8. NVWA (NL)	NC	€ 7 500
9. MKGP (SI)	NC	€ 11 000
10. APHIS (US)	NC	€ TBC
total		€

2.2. Expected duration of the project (only for non-competitive topics)

36 months.

2.3. Identification of project coordinator

Has the research project coordinator been identified?

☒ Yes
☐ No

2.4. Any other relevant information on topic organisation and management

[a] First member is project coordinator. A minimum of two partners are necessary for each proposal. Add lines as needed.
[b] Please indicate the preferred mechanism (e.g. real pot RP; virtual pot VP; non-competitive NC), or several mechanisms if there is flexibility.
[c] Optional, as this amount can still change in the next phase. In-kind contribution should also be indicated in this column.