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Exploitation of project Results (PDER)**



Validation of diagnostic tests to support plant health



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Abstract:

This document describes the final strategy developed to ensure the appropriate dissemination and exploitation of the outputs of the VALITEST project (Validation of diagnostic tests to support plant health). It presents the objectives of the dissemination and exploitation strategy, the tools used to ensure the dissemination of VALITEST outputs and the training activities organized in the framework of VALITEST. It also details VALITEST exploitation potential and how project partners, end-users and stakeholders can benefit from the final results of the project.

Partners involved: EPPO, IPADLAB and all partners

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Introduction

This document describes the final strategy developed to ensure the appropriate dissemination and exploitation of the outputs of the VALITEST project (Validation of diagnostic tests to support plant health). It presents the objectives of the dissemination and exploitation strategy, the tools used to ensure the dissemination of VALITEST outputs and the dissemination activities either organized by the consortium in the framework of VALITEST or to which partners participated. It also details VALITEST exploitation potential and how project partners, end-users and stakeholders can benefit from the final results of the project.

The **communication strategy** fully adopts the Open Science¹ principles with regards to knowledge dissemination.

The elements presented in this document are based on the Dissemination and training plan (D6.4) and on the Communication and Exploitation strategy plans (D7.2).

1. Overall objectives of the dissemination and exploitation strategy

1.1 Definitions

To understand the dissemination and exploitation approach of VALITEST, it is important to define the signification of results and to point out the differences between dissemination, communication and exploitation.

In this document, the used definitions are reported from H2020 reference terms:

- **Results:** *“Any tangible or intangible output of the action (such as data, knowledge and information, whatever their form or nature, whether or not they can be protected), which are generated in the action, as well as any attached rights, including intellectual property rights.”*
- **Dissemination:** *“Means to make the results of a project public (— by any appropriate means other than protecting or exploiting them, e.g. scientific publications).”*
- **Communication:** *“Communication on projects – it is a strategically planned process that starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about (i) the action and (ii) its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange.”*
- **Exploitation:** *“Means to make use of the results produced in an EU project in further activities (other than those covered by the project, e.g. in other research activities; in developing, creating and marketing a product, process or service; in standardisation activities).”*

Even though dissemination and exploitation activities can be considered separately, they are closely linked and often belong together since one drives the other and vice versa. What differentiate them from one another are the objectives, focus and target groups they address.

While dissemination activities shall make the results of the project visible, the exploitation activities shall guarantee the use of the project results during the project and beyond it. The definition of exploitation does not have a pure commercial meaning, thus opening the scope of application of results at different levels and in different domains. This leads to both commercial and non-commercial exploitation. While commercial exploitation is more related to taking results to the market, non-commercial exploitation is more related to the effective use of knowledge, know-how, methodologies or standards.

¹ <https://ec.europa.eu/digital-single-market/en/open-science>

1.2 Dissemination and training strategy

1.2.1 Objectives set up in the VALITEST project

The objectives of VALITEST dissemination and training activities can be summarised as follows:

- Contributing to the wider harmonization of the validation process
- Sharing validation data generated during the project
- Raising awareness and capacity building among stakeholders
- Increasing the project visibility
- Contributing to promote EU research

1.2.2 Dissemination and training targets

The following stakeholders have been initially identified and were addressed during the project:

- **The scientific community:** Acceptance of the solid scientific and technological foundations and innovative aspects of VALITEST by these groups is an essential step for the credibility of the project results and outputs (procedures and validated diagnostic products).
- **Plant pest diagnostic laboratories:** Dissemination activities directed to this group of stakeholders will include information on the validated tests, guidelines for validation and interlaboratory comparisons revised and information on potential optimization of proficiency assessment. Plant pest diagnostic laboratories will also have the opportunity to participate in test performance studies.
- **Policy and decision makers and governmental authorities:** Policies related to plant health are under development at National, European and International level. Therefore, dissemination to this target group is also essential, not only to disseminate the achievements of the VALITEST project to them, but also with the aim of encouraging feedback and inputs from this group into the activities.
- **Diagnostics industry:** While several of the major diagnostics players in Europe directly participate as project partners, other diagnostic companies should be involved in the project and accessibility of the project outputs to the whole diagnostic industry is also considered as key for the long-term success of the project.
- **Inspection services, NPPOs:** Dissemination activities directed to this group of stakeholders will include information on the validated tests and guidelines produced.
- **Accreditation bodies:** The outputs of the project concerning horizontal assessment of laboratories' proficiency have to be acceptable for accreditation. They will therefore be developed in close collaboration with accreditation bodies. The different outputs of the project (validation data and guidelines) will be presented to accreditation bodies at European and national levels.

The VALITEST dissemination target groups, the key messages to deliver and the dissemination tools are presented in Table 1.

Table 1 – VALITEST dissemination target groups, key messages and dissemination tools		
Target groups	Key messages	Main Dissemination tools
Consumers and Society (general public)	Project objectives and results, with a particular focus on pest impacts and benefits of the outcomes to plant health	website, brochure, leaflets, social media, general press articles (article in CORDIS)
Inspection services and NPPOs Policy and decision makers	Project objectives and results; practical solutions for pest detection (e.g. on-site tools) to support pest management; training on tests. Guidelines (validation, proficiency evaluation)	website, brochure, leaflets, social media, technical and scientific articles, training activities

Scientific community	Project outcomes, Knowledge of end-users' needs (Innovation-driven research)	Scientific papers, posters, conferences and workshops, training activities, EPPO diagnostic Panel meetings
Industries	Project objectives and results; new tools and procedures for diagnostics validation;	website, brochure, leaflets, technical and scientific articles, social media, direct communication by project partners

1.3 Exploitation Strategy

1.3.1 Objectives set up in the VALITEST project

The VALITEST exploitation strategy is focused on exploiting the project results so they can be profitable to all the project participants but also to all the target audiences by supporting the development of new activities and business.

The VALITEST exploitation strategy also aims to spread the project results so that the outputs generated in the project can have an impact beyond the project end.

VALITEST results exploitation will be done through research activities, commercial activities, training and policy making. Each partner shall take measures to ensure "exploitation" of its results by:

- using them in further research activities;
- developing, creating or marketing a product;
- creating and providing a service;
- using them in standardisation activities.

The Exploitation plan describes the way each partner of VALITEST project will exploit jointly and individually the results in order to make them valuable and maximise the project impacts.

1.3.2 Exploitation targets

The exploitation target audiences are entities that can benefit from the project results. The identification of the target audiences allows a more effective exploitation of the project outcomes and results, in order to guarantee that the project results are exploited and are used according to the target needs and expectations.

In this updated version of the Exploitation plan, the profile of target groups is presented in the following table (Table 2):

Target group	Profile
Scientific community	Universities, research institutions
Laboratories	Laboratories (public and private) performing plant pest diagnostic analysis (official, certification, quality control, ...)
Policy and decision makers and governmental authorities	National governments, Environment and Agriculture Ministries, Phytosanitary authorities, European organization, Institutions
Diagnostic industry	Plant pests' diagnostic products manufacturers
Inspection services, NPPOs	National/local inspections services and National Plant Protection Organizations
Accreditation bodies	Accreditation bodies active in plant diagnostic
Farmers/growers, seeds producers, agriculture consulting	All types of professionals related to the field of plant production in agriculture

1.3.3 General expectations for target audiences

VALITEST outcomes and results will generate strong impact on target audiences described in the previous section and the overall plant health diagnostic sector.

To reach the different targets, VALITEST has developed common and individual exploitation strategies based on project results added values and the target groups' expectations listed in the following table (Table 3).

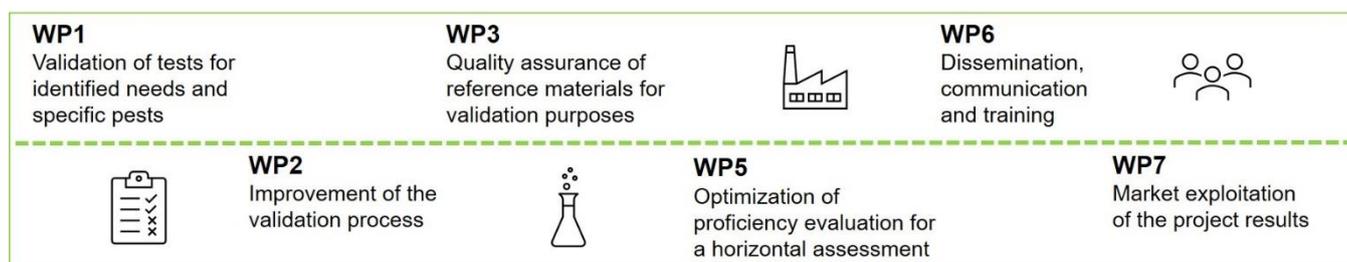
Table 3 – Target groups' expectations	
Target group	Expectations
Scientific community	Further research activities, collaboration and new projects
Laboratories	Improvement of the diagnostic and the validation procedures, standardization, revised guidelines (validation, proficiency, reference material production), validated tests, validation data, training
Policy and decision makers and governmental authorities	Guidelines (validation, evaluation), support for policy decision, dialogue with industry and stakeholders
Diagnostic industry	Validation data, revised guidelines (validation, reference material), improvement of competitiveness, better organization and visibility of the diagnostic industry
Inspection services, NPPOs	Improvement of the diagnostic and the validation procedures, standardization, revised guidelines (validation, proficiency, reference material production), validation data, practical solutions for pest detection to support pest management, training
Accreditation bodies	Guidelines (validation, proficiency), standardization
Farmers/growers, seeds producers, agriculture consulting	Validated tests, practical solutions for pest detection to support pest management, training for in field tests

1.3.4 Project exploitable results

VALITEST exploitable results include a range of outcomes generated by the project partners during the project lifetime. In this section, the list of exploitable results including their description, and the target audiences are reported.

The exploitable results produced by VALITEST address the specific needs of the different target audiences. Through the exploitation planification, they will be of great significance for all the actors of the plant health diagnostic field across Europe.

The project results derive from activities from different work packages:



In the following table, VALITEST exploitable results, the target audiences, and the associated deliverables are listed. This table was established in collaboration with the WP leaders.

Table 4: List of VALITEST exploitable results and associated target audience

N.	WP	VALITEST exploitable results	Target audiences	Deliverable
1	WP1	Description of the process of TPS organization	TPS organizers, EU reference laboratories (in the field of plant health), NPPO	D1.1, D1.4
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	D1.1, D1.2, D1.3, D1.4 and D1.5
3	WP1	Results of validation for the selected tests	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	D1.4 and D1.5
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	D2.1
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	D2.2
6	WP3	List of criteria the reference materials have to meet for use in validation studies	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	D3.1
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)	Reference material producers, NPPOs, diagnostic laboratories	D3.3
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)	Companies and/ or laboratories	D5.1
9	WP5	Approaches to develop an offer of proficiency tests	Companies and/ or laboratories	D5.2
10	WP5	Approaches to develop a participation plan to proficiency tests	Laboratories	D5.2
11	WP6	Addition of validation data in the EPPO database	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	M1.8 and M1.10
12	WP6	Revision of EPPO diagnostic standards	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	–
13	WP6	Training activities (webinars, practical training sessions, tutorials)	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	D6.8

14	WP7	European Plant Diagnostic Industry Association (EPDIA) establishment and EPDIA website	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, manufacturers, farmers/growers	M7.2, M7.3 and D7.2
15	WP7	EU Quality Charter establishment	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	D7.3

2 Communication Tools

2.1 Project contact email

A project contact email was created: contact@valitest.eu. This mailbox has an alias redirecting the messages to the EPPO Staff and to ANSES coordination team and was monitored on a daily basis.

2.2 Visual identity

The visual identity is the representing image of the project, both for its internal and external communication. The VALITEST logo was chosen by the project partners through an internal survey. The chosen logo is displayed here below:



The VALITEST logo was used in all project documents.

2.3 Use of EU emblem and acknowledgement

Any dissemination of project results included certain references and statements, in particular:

- the **EU emblem**



and

- the following text:

“This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement N° 773139”

“The content of this [insert appropriate description, e.g. report, publication, conference, etc.] represents the views of the author only and is his/her sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Research Executive Agency or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.”

Since it is considered as the corporate identity of the VALITEST project, both logos VALITEST and EU emblem were used in all dissemination materials and media, including: letterheads, templates for deliverables, PowerPoint presentations, website, Twitter Account...

2.4 Templates

Based on the same colour palette, fonts and logo, the use of templates ensured that the VALITEST visual identity was consistent throughout the duration of the project. This set of templates includes:

- A template for project deliverables (Annex 1);
- A template for project PowerPoint presentations (Annex 2);
- A template for letterhead example of the invitation letter for TPS (Annex 3).

For TPS organisation, templates were also prepared by WP1 coordination team to communicate with participants (TPS invitation letter, TPS participant information form, TPS participant contract, TPS instruction sheet, TPS technical sheet, TPS acknowledgement of samples receiving, TPS results form). Those templates will be published in the Springer book (see section 3.3) so they can be used more widely by the community.

2.5 The Website

- **External communication**

The website (<https://www.valitest.eu/>) constituted a key communication tool in order to increase the project visibility and to share knowledge and information about the project. It was considered as the most important and immediate point of reference for all target audiences. The website was constructed with a clear and accessible structure and an intuitive system of links in order to make the navigation simple and user-friendly and made available from July 2018 (M 3).

It contains all relevant information about the project (project objectives, information regarding the work packages, the partners and the advisory board, news regarding Test performance studies, training and event announcements) and was regularly updated with all the news about the project, including its outcomes, events, interviews, official articles and publications. Links with social media (twitter) were also inserted. All public deliverables will be accessible on the website at the end of the project after being approved by the Commission (<https://www.valitest.eu/publications/deliverables>).

The average number of users connecting to the VALITEST website per week was ~25 but peaks of connections were observed during surveys, trainings and publication of videos on the website (Fig 1).

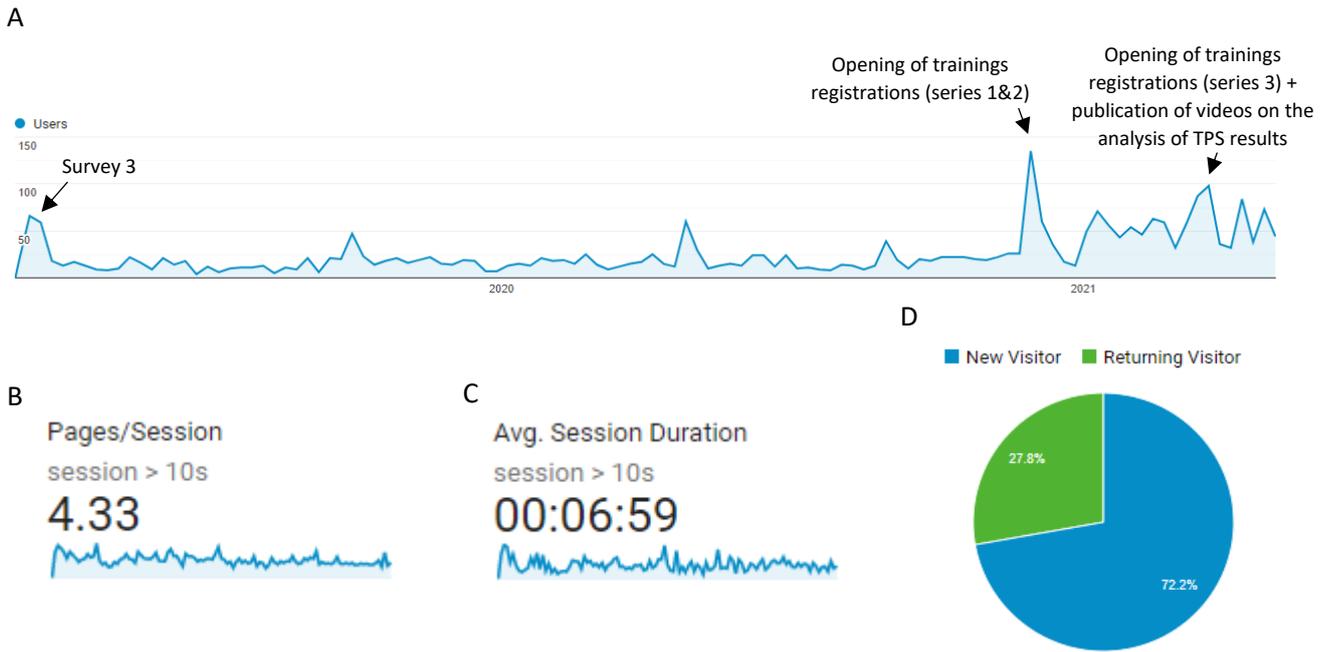


Fig 1 The VALITEST website statistics from March 2019 to May 2021 (only sessions that lasted more than 10s are considered). A. Total number of users per week. B. Number of pages per session. C. Average session duration. D. Percentage of new and returning visitors. A session corresponds to the period of time a user is actively engaged with the website.

- **Internal communication**

Internal communication, which facilitates the flow of information among partners, was considered of crucial importance, since it allows the smooth realization of project activities, besides encouraging knowledge exchange and research initiatives.

The project website has an access point to a secure collaborative workspace where all project partners can easily share, archive and exchange scientific, administrative and financial information and foster their collaboration at all levels. A link has been provided to the EPPO Extranet work space to achieve this objective. A 'Team VALITEST' workspace has been created and all project partners have been granted access to it.

Specific teams have also been created for the VALITEST Steering Committee and for the Advisory board using the Extranet.

The structure of the Work Area has been refined with the Steering Committee workspace.

Mailing lists specific to the different Work Packages have been established as required. Mailing lists are available on EPPO extranet in the excel file: Valitest_List_of_contacts_updated date

The following mailing lists have also been created:

- a list for the participants involved in administrative work/tasks (adm@valitest.eu);
- a list for the participants involved in technical work/tasks (wp_all@valitest.eu);
- a list for the advisory board members (ab@valitest.eu).

2.6 VALITEST social media account

A VALITEST twitter account contains all the news about the project and its activities.

The VALITEST social media account was managed by EPPO which monitored and replied to the user-generated contents. Partners were invited to share news with EPPO to feed the twitter account.

Each trimester, between 10 to 35 tweets were published resulting in ~32 000 impressions. About 32 new followers joined every trimester. More detailed information on twitter activity is available in Fig 2.

At the end of August 2021, the account is followed by 445 people and 230 tweets have been published.

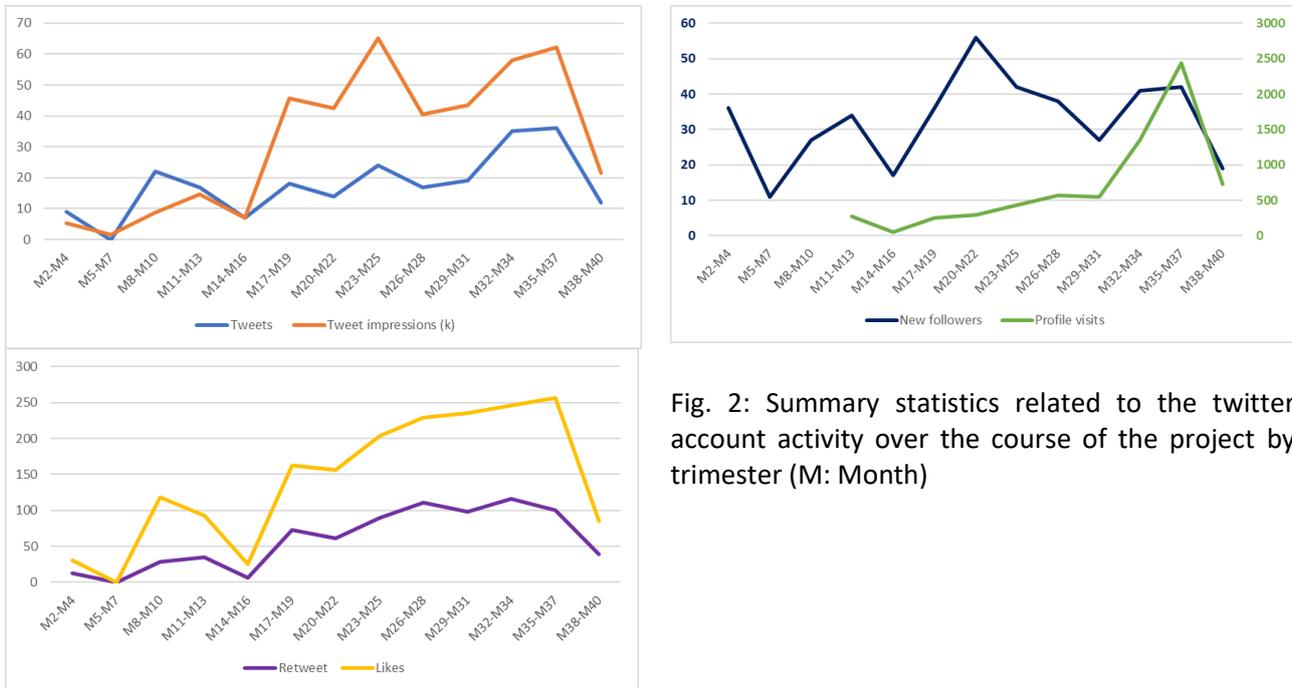


Fig. 2: Summary statistics related to the twitter account activity over the course of the project by trimester (M: Month)

2.7 Brochure and flyers

Based on the summary of the project, information materials (project fact-sheet, flyers, poster) have been developed with the different partners and are available on the extranet and on the website.

2.8 Gathering of stakeholders needs in diagnostics

Target needs of stakeholders and main interests were identified through specific activities. Results from surveys, call for interest and targeted interviews were used to compile and assess end-users' areas of interest. Interview outputs will be worked into impact and market assessments.

2.8.1 Surveys

- Online survey to identify existing tests with validation data (more information on the results of this survey can be found in deliverable D6.3).
- Online surveys in order to precisely understand the needs of the stakeholders:
 - Regarding the improvement of the validation section of the EPPO database on diagnostic expertise (more information on the results of this survey can be found in deliverable D6.2)
 - Regarding testing priorities (more information on the results of this survey can be found in deliverable D4.1)
 - The use of on-site testing kits
 - The use of use of High Throughput Sequencing technologies
 - Regarding proficiency testing needs (more information on the results of this survey can be found in deliverable D5.1)

2.8.2 Call for interest

- Call for interest to the VALITEST training activities.
- Calls for participation in the test performance studies (TPS) using sending emails to targeted laboratories, surveys, the VALITEST website and social media.

2.8.3 Interviews

In the framework of WP4, a small number of face-to-face interviews were held with laboratory staff, policy decision makers and plant health inspectors. Interviews were semi-structured to allow in-depth discussions and help the team to develop an understanding of current communication channels and the role of test performance characteristics and validation (more information can be found in D4.2). These interviews were invaluable for designing the core structure of the framework and allowed subsequent wider engagement with decision makers through an EPPO facilitated workshop. Subsequent ad-hoc feedback on the framework helped to further refine and develop the framework, whose current form is described in deliverable 4.2. Lastly, on-going feedback meant that future development opportunities could be outlined and ensured to be aligned /prioritised according to stakeholder (laboratory and decision maker) needs.

3 Dissemination activities

3.1 Dissemination procedures

All dissemination activities had to be approved by the consortium according to the provisions set in the Consortium Agreement (CA) and the Grant Agreement (GA). Each partner disseminated results, taking into account the confidentiality agreements set in the GA and CA.

Procedures for the dissemination of the results to external events and through publications were defined (see annex 5). A specific procedure was also defined for the dissemination of TPS results (see annex 5).

3.2 Dissemination through participation in events

3.2.1 Project events: Training activities

At the beginning of the project, several training workshops for diagnostics laboratories were planned to be organised at two different levels to minimise travel costs:

- A large training event at the end of the project at EU level.
- At least 3 European and regional workshops gathering VALITEST end-users from different sectors and countries to be organised towards the end of the project, one for Eastern/Central Europe Organized in Poland (Glorin), one in Italy organized by CREA & NIB, one in the Netherlands organized by WR & Fera.

However, due to the Covid-19 pandemics, it was decided to organize all the training activities online. The following online activities were organized in the first semester of 2021:

- Three webinar series (up to 500 possible participants)
 - One on the concept of validation
 - One on the organization of TPS (including the analysis of the results)
 - One on the use and validation of HTS tests
- Online practical training sessions (for a restricted number of participants) to apply the theoretical principles presented during the webinars
 - Analysis of the performance characteristics of a test
 - Training and demonstration on the use of commercial kits
 - How to organize a TPS?
 - How to analyze the results of a TPS?
 - How to use and validate a HTS test in my laboratory?

In addition, several videos were prepared to illustrate specific concepts related to validation (including statistical analysis of validation data), TPS organisation and to share experience from TPS organisers (interviews).

These activities were organized by WP6 in collaboration with partners from different work packages that expressed their interest in participating to these events. Even though training activities had to be organised online due to the Covid-19 pandemic, limiting the possibilities to interact with the participants, the trainings were successful in terms of participation and satisfaction of the participants. They also succeed in the training of the participants as most of them indicated that more than 50% of the information was new to them and in the dissemination of the project results. Finally, with those online activities, the consortium managed to target more participants than they would have with the face-to-face workshops. The recordings of the webinars are accessible on the VALITEST website (and will also be available on the EPPO YouTube channel at the end of the project) and can be further used by laboratories to train people on the concept of validation, on the organisation of TPS and on the use of HTS diagnostic tests.

More information on the organisation of these events can be found in deliverable D6.8.

3.2.2 Dissemination in scientific conferences/events

The objective and the results of the project were presented in more than 45 scientific meetings including international scientific conferences selected for their excellence and attendance of key actors and decision makers (e.g. International Congress of Plant Pathology (ICPP) 2018 in Boston (US), APS conferences, EPPO Panels on diagnostics), national meetings, lectures... The list of all the meetings is available in Annex 6. Because of Covid-19 pandemics, several of those events were organised online in the form of webinars or online conferences. In addition, several conferences were postponed or cancelled. This affects the dissemination of the results of the project. However, dissemination will continue after the end of the project.

3.2.3 Meetings with policy makers

Meetings were organised with European policy-makers to exchange information about validated tests, and about the project (EPPO Executive Committee, EPPO Working Party on Phytosanitary regulations...). The first meetings were mainly used to present the project and seek concrete feedback from policy makers in order to better shape the work. A specific workshop was organised in collaboration with WP4 during the 62nd meeting of the EPPO Working Party on Phytosanitary regulation in order to better understand tests are selected at national levels and whether decision makers are involved in the decision process. This workshop was a good occasion to stress the importance of communication between policy makers and diagnostic laboratories when selecting the diagnostic tests used in specific situations (e.g. surveillance of pest free areas vs management of an outbreak). This topic was also addressed during one webinar of the series on the concept of test validation in plant health (see 4.2.1) to which a specific communication for policy makers was made. The closing assembly of VALITEST allowed the consortium to inform policy makers of the project outputs and provide useful information to shape policies. EC officers (from DGs AGRI and DG SANTE) and advisory board members (USDA-APHIS and IPPC) were invited to participate to the round table of this meeting in order to share their views on the usefulness of the project results at the policy level. Dissemination activities also took place in the framework of the International Year of Plant Health IYPH2020 and through other meetings organized in the EPPO region at this occasion. For example, Ms Anthoine (ANSES) presented the VALITEST project and the importance of validation during the celebration of the International year of plant health and of the first Slovene EU reference laboratories (e.g. National institute of Biology) in front of many Slovene officials.

3.3 Dissemination via publications

The results of the project will be published in several scientific papers, 1 booklet and EPPO Standards (see Annex 7 for the list of expected publications).

One joint paper presenting the objectives and some of the outputs of the VALITEST project was published in the EPPO Bulletin in April 2021.

Regarding the dissemination of the results of workpackage 1, six papers presenting the results of the several TPS (i.e. tomato brown rugose fruit virus, citrus tristeza virus, *Xanthomonas citri* pv. *citri*, *Cryphonectria parasitica*, *Fusarium circinatum* and *Xylophilus ampelinus*) will be submitted to international journals. Results of several TPS will also be disseminated through the publication of revised version of EPPO Diagnostic Protocols.

A book with provisional title *Critical points of test performance study (TPS) organization in microbiology, case study: Plant pathogens* will be published in Plant Pathology in the 21st Century Springer Book series and will include the results of the TSWV TPS.

Regarding the dissemination of the results of work package 2, three publications are planned (two on HTS and one on the guidelines on the statistical analysis of TPS results). The results of this work package will also be disseminated through the revision of the EPPO Standards PM 7/98 and PM 7/122 as well as through the publication of a new EPPO Standard on HTS. Similarly, results of WP3 were used to draft a new EPPO Standard on the production of reference material.

Regarding the dissemination of the results of work package 4, at least one publication is planned on the current functions of the decision support framework described in D4.2.

According to Horizon 2020 legal requirement, open access to all scientific publications relating to project results will be ensured (at least “green” open access/self-archiving, “gold” open access as far as possible).

3.4 Dissemination via publication of the results/data in open access platforms

Validation data are hosted by the European and Mediterranean Plant Protection Organisation in the Section 'validation data for diagnostic tests' of the 'EPPO Database on Diagnostic Expertise' (<https://dc.eppo.int/>). This database already includes validation data for diagnostic tests for regulated pests, generated by various laboratories in EPPO member countries. The validation data are presented according to a common format developed by the EPPO Panel on Diagnostics and Quality Assurance. Validation data can be submitted by any laboratory registered in the EPPO database on diagnostic expertise. During the project, the database has been referenced and the generated data have been uploaded.

Other data-sets are uploaded in machine-readable format on one single OpenAIRE compliant repository (Zenodo) from which data can be found through a web browser and downloaded by a potential interested user.

Regarding peer-reviewed publications, the ‘gold’ open access is preferred, in this case, the article is immediately provided in open access by the publisher. At the minimum the VALITEST partners provide a ‘green’ open access and archive the publications on an online OpenAIRE compliant repository and ensure open access within a maximum of six months.

4 Exploitation of the VALITEST results

Following the definition of the general exploitation strategy and objectives, in the D7.1-“Results exploitation Plan”, the present deliverable presents the action plan for exploitation.

The outcomes produced by VALITEST will have an important impact on plant health diagnostic since they will provide knowledge and tools to the different stakeholders. These results will enable the target audiences to improve plant health diagnostic reliability and implementation in the European countries. The outcomes of the project will also support the establishment of a more structured commercial offer for plant health diagnostic through the establishment of a European Plant Diagnostic Industry Association and the creation of a Quality Charter for commercial products production and validation in plant health diagnostic. Furthermore, the outcomes of VALITEST will also stimulate and improve interactions between stakeholders in plant health for better diagnostic.

To reach the different targets, VALITEST has developed general and individual exploitation strategies based on project results and on target groups expectation previously identified.

4.1 General exploitation plan strategy

The exploitation of the project’s results is a key element for the success of the VALITEST project. The main goal of VALITEST exploitation strategy is to ensure the exploitation of the project results and to enable the target audiences to have access to the project results (data, knowledge and guidelines).

In this section, general exploitation activities have been identified for the effective exploitation of the project outcomes and results:

TO PROVIDE VALIDATION DATA:

Two independent rounds of tests performance studies (TPS1 and TPS2) for prioritized pests in a range of matrices and for a range of diagnostic technology related platforms (both laboratory and on-site based) have been prepared and organized.

These TPSs have produced new validation data (D1.4-“TPS reports with description of the method, materials and software used, as well as the data analysis - Round 1” and D1.5-“ TPS reports with description of the method, materials and software used, as well as the data analysis - Round 2”) for tests where limited validation data were available. Validation data obtained from the two rounds of TPSs will be made available in the EPPO Database on Diagnostic expertise and they will be exploitable by a large audience for the improvement of diagnostic and validation procedures (choice of methods, accreditation, validation of methods, ...). The validation data will be used also by companies to communicate on the performances of their own commercial products or to improve the quality and reliability of the products evaluated.

TO PROVIDE KNOWLEDGE ON TPS ORGANISATION:

Beyond the results of the test performance studies, D1.1 (Minimum performance parameters to select tests for validation and selection of laboratories for TPS) and D1.4 contains the description of TPS organization. This result will be exploitable as recommendation for the improvement of TPS organization by target audiences such as TPS organizers and EU reference laboratories.

TO PROVIDE GUIDELINES AND STANDARDS:

VALITEST has developed guidance for the plant health diagnostic sector that will be useful for EPPO panels to update relevant EPPO Standards.

D2.1-“Guidelines for the revision of the EPPO Standards PM 7/098 and PM 7/122 for validation studies (including TPS)” provide guidelines that describe a new and improved approach to analyse and report data of validation study, including test performance study (TPS) for integration in the appropriate EPPO standards (i.e. PM 7/98 (2019) and PM 7/122 (2014)).

D2.2-““Best practice” guidelines for validation and routine use of non-targeted techniques in diagnostic setting which could serve as a basis for a new EPPO Standard” provide recommendations on the process of selection, development, validation and verification of high-throughput sequencing (HTS) tests and the quality assurance for their routine use as diagnostic tests in plant health laboratories.

D3.1-“List of the criteria the reference materials have to meet for use in validation studies” and D3.3-“Guidelines and Standard Operating Procedures (SOP) finalised for the production of the reference materials” provide a list of recommendations to produce reference materials and an optimisation of the Standard Operating Procedure (SOP) for reference material production. These results will be exploitable by target audiences including reference material producers, NPPOs and diagnostics laboratories that have to produce reference material for their own activities. An EPPO Standard was drafted based on the outcome of WP3.

Although WP5 was not able to demonstrate the suitability of the horizontal proficiency testing approach, D5.2-“Guidelines on an approach to undertake horizontal proficiency testing” highlights important aspects to be taken into account by laboratories for the improvement of proficiency testing strategy. These results will be available for private companies and laboratories that will be interested in the development of business activities on proficiency tests organization. As a follow-up to the work carried out within WP5, a case study has been developed to accompany the EA-4/18 document (EA-4/18 INF:2010 Guidance on the level and frequency of proficiency testing participation). The case study aims at facilitating the implementation of the approach presented in the EA guidance document by laboratories working in the field of plant health. It was presented to the EPPO Panel on Diagnostics and Quality Assurance in March 2021 which supported the case study that was provided to EA to consider the inclusion of this case study in a future revision of the advisory document EA-4/18.

In the framework of the project, the improvement of the validation section of the free access EPPO Database and the expected revision of EPPO standards will be profitable and exploitable by a large target audience including TPS organizers, EU reference laboratories, kits developers and manufacturers, diagnostic laboratories and farmers/growers.

TO ORGANISE TRAINING ACTIVITIES:

VALITEST partners organized dissemination/training activities for diagnostics laboratories on the concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics. Due to the Covid-19 restrictions situation, these activities were held online from January 2021. Three webinars series, practical online sessions and video tutorials were prepared for participants. The recordings of the webinars are accessible on the VALITEST website and can be further used by laboratories to train people on the concept of validation, on the organisation of TPS and on the use of HTS diagnostic tests.

Online training sessions have been organized in conjunction with the dissemination/training activities and are reported in D7.4-“Report on education and training session during the project”.

TO ESTABLISH AN EU ASSOCIATION OF THE PLANT HEALTH DIAGNOSTIC INDUSTRY (EPDIA):

In the framework of WP7, an EU Association of the Plant Health Diagnostic Industry (EPDIA) is established to ensure the market sustainability of the SMEs and to facilitate dialogue with stakeholders and decision makers (M7.3). Information on the establishment and the role of an industrial association from other fields has been collected in order to define the structure and the roles of EPDIA. A questionnaire on the EPDIA establishment has been prepared and sent to different stakeholders. Based on the collected information, the questionnaire answers and the discussion within WP7, the principal members of EPDIA will be the manufacturer companies but the adhesion to EPDIA will be also opened to other actors in the field involved in plant pests diagnostic like research centers and private laboratories. EPDIA will act as a platform for communication within the industry and with the main stakeholders, international organizations, EU and society.

Based on the information collected, the main roles of EPDIA shall be:

- sharing with European institutions and stakeholders on the needs and / or difficulties of end-users in the use of reliable, validated and qualitative phytodiagnosics tools;
- engaging partnerships with EURLs (European Union Reference Laboratories);
- establishing and reinforcing the link with European Institutions and NPPO in order to improve the quality and performance of the tools offered to the market by the plant diagnostics industry (TPS, transfer of validation data, standardization of validation methods, etc.)

Following the final conference, the EPDIA association has been launched and the EPDIA Charter has been presented. A specific event was held on the June 10th 2021 to present and launch the Association.

TO GUARANTEE THE QUALITY AND RELIABILITY OF EU COMMERCIAL TESTS:

In parallel to the establishment of EPDIA, an EU Plant Health Diagnostics Charter (EPDIA Charter) (D7.3) is established to define the quality procedures for EU commercial tests production and validation.

The EPDIA Charter is based on six pillars: legal framework, quality system, quality procedures for products development and validation, quality procedures for products manufacturing, communication and marketing ethics and sustainability and social impact.

The application of the EPDIA Charter will contribute to guarantee end-users of the quality of manufacturers' working processes and the reliability, the quality and the performances of the commercial tests they use. The adhesion to this Charter and its application will permit EU SMEs to increase their competitiveness by ensuring the quality and the reliability of EU manufacturers' product worldwide.

TO ESTABLISH SYNERGIES WITH RELEVANT INITIATIVES:

VALITEST has started to develop synergies and will continue to join forces with other projects and initiatives related with the project at national, European and international levels. In this deliverable the list of these synergies are reported.

In the table 5, the overall plan strategy is summarized by indicating the exploitable results, the target audiences and the expected advantages.

Table 5: General exploitation plan strategy

N.	WP	Valitest exploitable results	Target audiences	Expected advantages for target audiences
1	WP1	Description of the process of TPS organization	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Improvement of the diagnostic and validation procedures – recommendation for TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures
3	WP1	Results of validations for the selected tests	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures, basis for a new EPPO standard
6	WP3	List of criteria the reference materials have to meet for use in validation studies	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Minimum criteria list to produce reference materials to be used in interlaboratory studies and validation procedures
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)	Companies and/ or Laboratories	Business development of proficiency tests organisation
9	WP5	Leads to develop an offer of proficiency tests	Companies and/ or Laboratories	Business development of proficiency tests organisation
10	WP5	Leads to develop a participation plan to proficiency tests	Laboratories	Improvement of the proficiency testing strategy
11	WP6	Addition of validation data in the EPPO database	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)
15	WP7	EU Quality Charter establishment	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Improvement and competitiveness of EU kits manufacturers Contribute to the quality and reliability of the EU products worldwide Guaranty of the kits performance and reliability to end-users

4.2 Individual exploitation plan strategy

Considering that VALITEST exploitable results answer to the precise needs of the target audiences, the exploitation plan strategy requires the definition of individual strategies and activities according to the specificities and the profile of each project partner.

Each individual exploitation plan shall be defined as an integrated part of the general exploitation plan taking into account the strategy and the activity of each partner. Each partner has developed a detailed exploitation strategy that contains the description on how they will exploit the outcomes of the VALITEST project.

Each partner has developed its own individual exploitation plan based on the guidelines indicated in the D7.1-“Results exploitation plan” because of the differentiation of partners in two main groups: industrial partners and research institute partners. Below the guidelines for both groups are reported:

Guidelines for Industrial Partners

Focus on the main market exploitable results from the project (products, services, validation data...) and their commercial feasibility;

Identify validation protocols and methods developed in the project transferable to the Industry and laboratories to improve products and services competitiveness considering the current market needs;

Define how European stakeholders (Inspection services, NPPOs, policy and decision makers and governmental authorities, accreditation bodies,...) can benefit from the exploitation of the results;

Identify possible obstacles to the exploitation plan and define the actions to make the exploitation plan successful;

Develop a timeline for exploitation, showing how the exploitation can be structured in phases and identify the prospective time frame after the end of the project to bring the results to the market through the establishment of EU Plant Health Diagnostics Industry Association (EPDIA) and the EU Plant Health Diagnostics Charter for the market;

Involve marketing, product-management, and sales departments early in the process of the exploitation plan;

If possible, start exploitation of intermediate results already during the project;

Consider connections for exploitation with other EU and national research and innovation projects;

Participate to the establishment of the EU Plant Health Diagnostics Industry Association and the EU Plant Health Diagnostics Charter;

Evaluate intellectual property protection through patents or industrial secret.

<u>Guidelines for Research institutions Partners</u>
<p>Identify validation data and procedures obtained/developed during the project that are transferable to the end-users (reference and official laboratories, accreditation bodies, industry and NPPOs) to improve services quality and competitiveness considering the current needs;</p> <p>Define how European stakeholders (Inspection services, NPPOs, policy and decision makers and governmental authorities, accreditation bodies,...) can profit from the exploitation of the results;</p> <p>Identify possible obstacles to the exploitation plan and define the actions to make the exploitation plan successful;</p> <p>Identify obstacles to a successful exploitation of the project in TPS organization to improve them early on;</p> <p>If possible, start exploitation of intermediate results already during the project.</p> <p>Consider connections for exploitation with other EU and national research and innovation projects;</p> <p>Evaluate intellectual property protection through patents or industrial secret;</p> <p>Organize seminars, conferences, workshops, lab-courses on topics related to the project by showing how they can influence and/or improve education and training;</p> <p>Ensure networking for the duration of the project and engage with new partners in future collaborations.</p> <p>Exploit the project for acquiring new projects and further funding.</p>

Annex 8 gathers the individual exploitation plans developed by Valitest partners.

From the participation of Valitest partners in the exploitation plan, it appears that 10 of the 15 total exploitable results (see Table 6) are relevant for more than 50% of the partners (see Fig. 3).

Table 6. List of Valitest exploitable results relevant for more than 50% of the partners

2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment

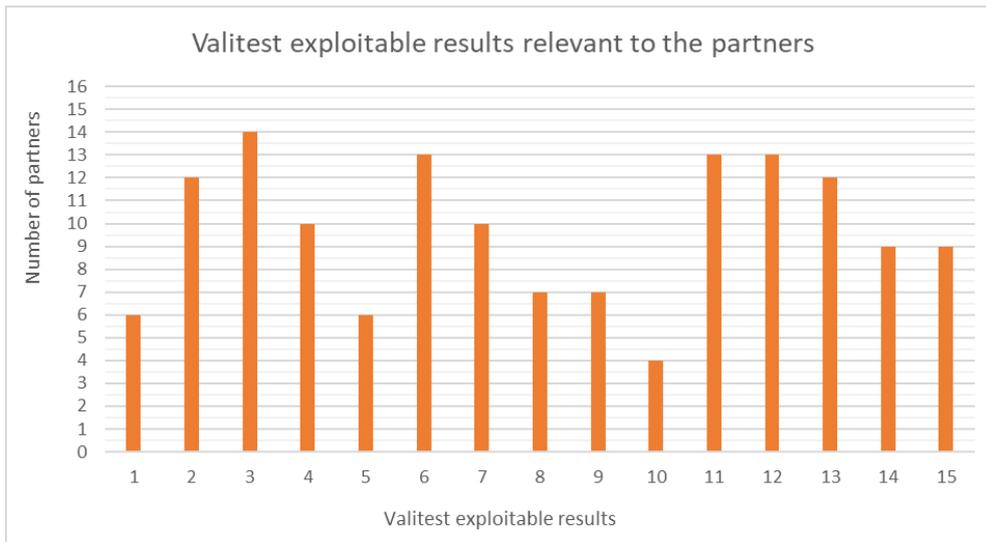


Fig. 3: Summary of Valitest exploitable results relevant to the partners

It is also interesting to note that 6 of the 15 total exploitable results showed an interest greater than 75% (see Table 7).

Table 7. List of Valitest exploitable results relevant for more than 75% of the partners

2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
6	WP3	List of criteria the reference materials have to meet for use in validation studies
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)

The results that are the most exploitable are different for the public and private partners (see Fig. 4).

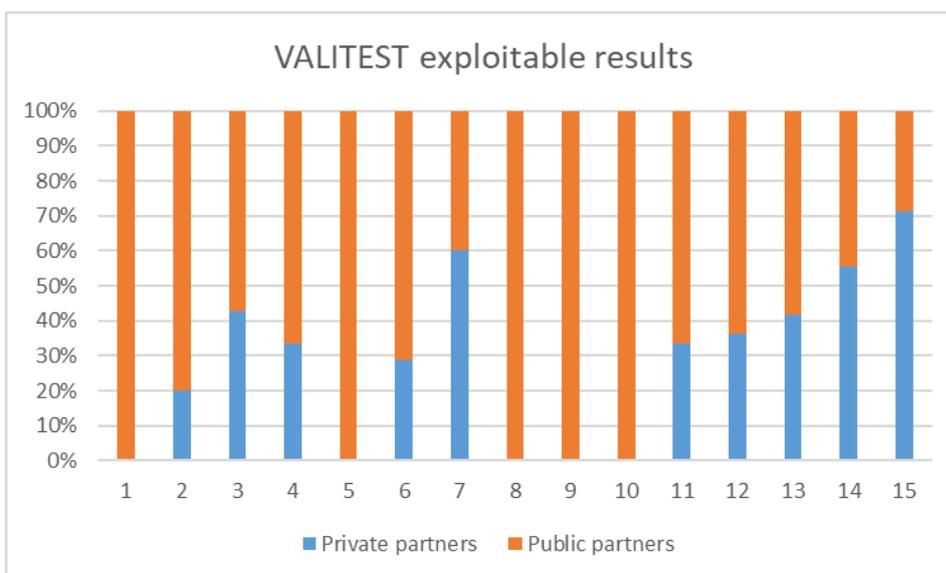


Fig. 4: Summary of Valitest exploitable results for the public and private partners

Public partners represent the largest share of partners who have expressed the greatest willingness to exploit the results presented in Table 8.

Table 8. List of the most exploitable results for public partners

1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
9	WP5	Leads to develop an offer of proficiency tests
10	WP5	Leads to develop a participation plan to proficiency tests

Private partners represent the largest share of partners who have expressed the greatest willingness to exploit the results presented in Table 9.

Table 9. List of the most exploitable results for private partners

7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment

Both public and private partners represent the largest share of partners who have expressed the greatest willingness (see Fig. 5) to exploit the results presented in Table 10.

Table 10. List of the most exploitable results for both public and private partners

3	WP1	Results of validations for the selected tests
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website

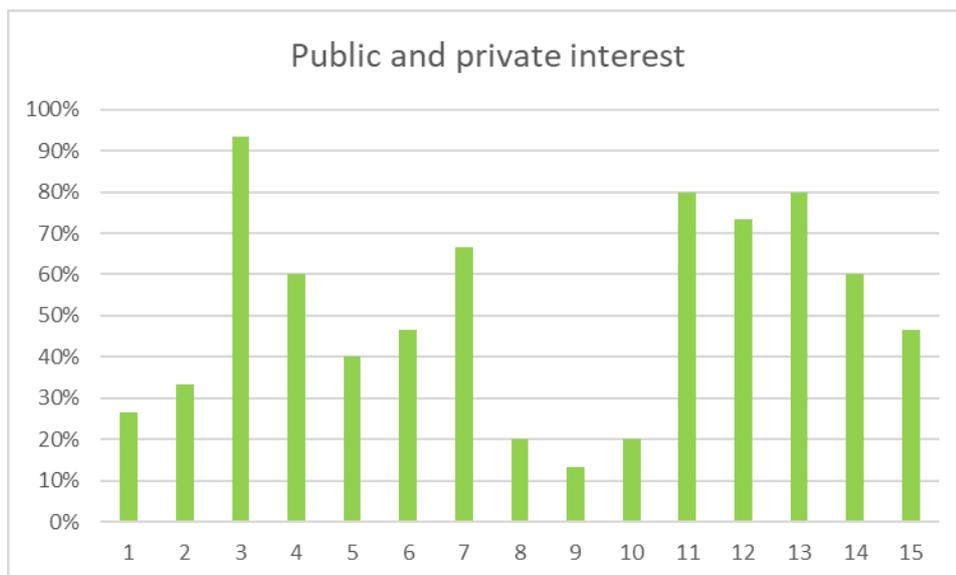


Fig. 5: Summary of Valitest exploitable results for the public and private partners

Conclusion

VALITEST project aims were to improve diagnostic by producing validation data, harmonising processes and enlarging/triggering enlargement of the commercial offer for reliable detection and identification tests. Therefore the main exploitable results expressed both by industrial partners and research institutions correspond to the initial objectives of the project: producing validation data to be added to the EPPO database on diagnostic expertise; harmonising processes with guidelines, EPPO standards and training activities; enlarging/triggering enlargement of the commercial offer with the creation of an EU Association of the Plant Health Diagnostic Industry (EPDIA) to ensure the market sustainability of the SME's and by the development of a quality Charter to guarantee the quality and the reliability of the products to the end-users.

5 List of Annexes

Annex 1: Deliverable template

Annex 2: PowerPoint presentation template

Annex 3: A template for letterhead: example of the invitation letter for TPS

Annex 4: Template of the VALITEST website

Annex 5: Specific procedure for the dissemination of the results of the project

Annex 6: List of external meetings in which the VALITEST project and its results were presented

Annex 7: List of publications

Annex 8: Individual exploitation plans

ANNEX 1- Deliverable template



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773139

Grant agreement N. 773139

DELIVERABLE N°

Title:



Validation of diagnostic tests to support plant health

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The content highlighted in yellow can be modified considering the type of the Deliverable



Due date:	
Actual submission data	
Start date of the project	01-05-2018
Deliverable lead contractor (organization name)	
Participants (Partners short names)	
Author(s) in alphabetical order	
Contact for queries	
Level of dissemination	
Deliverable status	

Abstract:

Partners involved Task X, Y

The content of this deliverable represents the views of the author only and is his/her sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Research Executive Agency or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.

TERMS, ABBREVIATIONS AND DEFINITIONS

If necessary

1 Purpose

The aim of this deliverable is to ...

2 Scope

This deliverable is applicable to ...

3 Methodology (TITLE FONT: CALIBRI, 14, BOLD)

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3.2 XXX... (Title Font: Calibri, 12, Bold)

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4 Conclusion and recommendations

REFERENCES

If necessary

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ANNEX

If necessary

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773139 as requested by the GA, art. 29.4.



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ANNEX 3 - A template for letterhead: example of the invitation letter for TPS



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773139



To whom it may concern

[Day, XX Month, Year]

TPS organizer:
[Institution]

Subject: VALITEST H2020 –Test Performance Study Organization
Encl.: TPS Interest - Information Form



Pest name:
[pest]

Dear Sir or Madam,

We are contacting you in the framework of an EU funded research project, VALITEST (<https://www.valitest.eu>), which aims to improve plant pests diagnostics. Validation is essential to provide information on the performance of the tests that are used in diagnostic. However, most detection and identification tests are currently only validated on an intra-laboratory basis or through limited test performance studies (TPS), and there is a need to further harmonize practices.

Followed by:
[TPS coordinator]

By this message, we are seeking your interest to take part to a test performance study. Indeed, you have been identified as a potential participant for a TPS for the detection of [pest].

Telephone number:
[number]

The expected timeline is as follows:

Period of TPS: [date] - [date]
Sending of the samples: [date] - [date]
Deadline for performing analysis: [date]
Deadline for participants reporting of on the results: [date]

E- mail:
[email]

In the table below you can find the methods to be evaluated together with the scope of TPS for [pest]:

Method			
Sample type			
Matrix			
Suitable for			
Purpose			
Type of controls needed			
No. of samples			
Maximum no. of tests to be evaluated ¹			

¹Please note that the number of methods and tests is indicative at this step. It will be adjusted according to the results of preliminary tests and participation interest.

[Institute, address]
[phone number]
[email]



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773139

If you are not a VALITEST project partner and as the project's budget does not allow any external funding, the participation to the TPS will be at your own cost (consumables, chemicals, reagents). If you are a VALITEST project partner, you already benefit from a dedicated budget for participation to the TPS.

As a participant to the TPS, you would receive the evaluation report and you would be associated to the results exploitation. The samples are expected to include **[DNA, RNA, deactivated plant extracts and/or viable pest]**.

Participants will be selected based on pre-defined criteria. In order to optimize our organization and the reliability of the TPS, we would like to get some practical details concerning your organization.

To express your interest in participating, please, fill in the enclosed excel file named 'TPS Interest - Information Form' and return it in digital form by e-mail to **[email]** by **[date]**. We will inform you about your possibility to participate by **[date]**. There are critical selection criteria, which need to be fulfilled for participation in TPS:

- Time schedule described above compatible with your availability
- Authorization by the national competent authority to work with the specific pest (**[viable pest/ inactivated pest/ DNA/ RNA]** will be shipped)
- Traceability in place / QA in place
- Possibility to obtain an import document or Letter of Authority (EU countries)

Candidates which are able and committed to perform all methods will have an advantage in TPS selection process, **whereas it is necessary to perform all tests for the selected method**. If more than the maximum number of laboratories fulfill all selection criteria for a specific test, participants are selected on "first come, first served" basis.

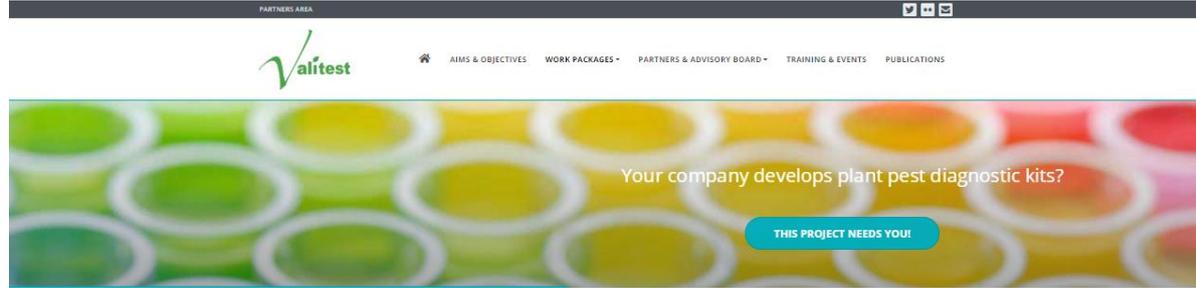
In the frame of the same project TPS for 6 different pathogens altogether will be organized: Tomato Spotted Wilt Virus, *Xylophilus ampelinus*, *Xanthomonas citri* **[pv. citri]**, Tomato Brown Rugose Fruit Virus, *Cryphonectria parasitica*, Plum Pox Virus, therefore, you might have/will receive additional invitation letters for the listed pathogens during September 2019.

Please do not hesitate to contact us should you require additional information.

Yours sincerely,

[TPS coordinator]
TPS coordinator

[Institute, address]
[www] [email]
[phone]



Welcome to VALITEST

2018-05 to 2021-04

Introduction and context

Global food security is the most significant challenge mankind is facing in the 21st century due to the 'perfect storm' of a growing population (estimated to exceed 9 billion by 2050), climate change, demand for energy, increased pressure on natural resources, slowing of agricultural productivity growth and decline in the land area under agriculture. Additionally, although it is estimated that a 50% increase in food production will be needed by 2050, currently a quarter of the world's crops are lost to pests, causing major economic losses and social impacts globally. Protecting crops against these losses from farm to fork is critical for achieving sustainable and competitive agriculture as well as for the protection of biodiversity and ecosystems. Establishing smart surveillance mechanisms is essential to the fulfilment of this important goal, as these enable effective monitoring and control of introduction and spread of plant pest.

Early diagnosis and a rapid response are crucial to reduce the risk of entry and spread of plant pests and ultimately their impacts. Furthermore, it is recognized that plant pests can be managed most effectively when control measures are implemented at an early stage of infestation. National Plant Protection Organizations (NPPOs) routinely perform pest diagnosis as part of export certification, import inspections, pest surveillance and eradication programs. In 2016, the Commission on Phytosanitary Measures adopted a recommendation on diagnostics recognizing that 'pest diagnosis is a cross-cutting issue that underpins most International Plant Protection Convention (IPPC) activities. In order to take action against a pest, it must be accurately identified. To enable safe trade, pest diagnosis must further be completed quickly and to a high level of confidence'.

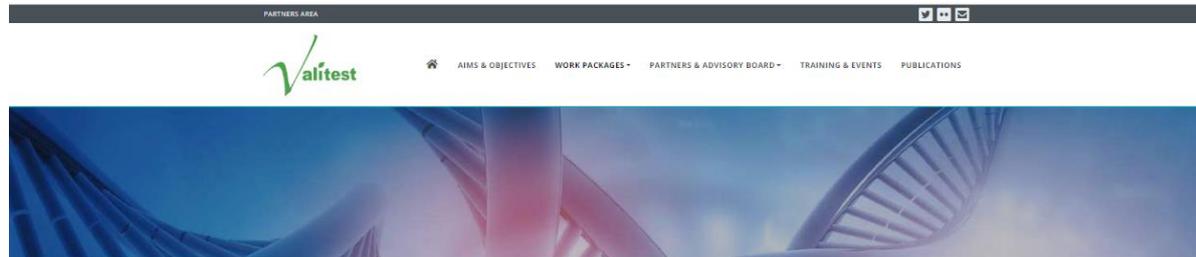
Validation is essential to provide information on the performance of the tests that are used in diagnostic. However, most detection and identification tests are currently only validated on an intra-laboratory basis or through limited test performance studies (TPS), and there is a need to further harmonize practices.

Why companies should be interested?

- VALITEST aims to bring onto the market **tests validated** according to international standards and produced by small and medium size **companies manufacturing diagnostic kits. Even if you are not a partner** there will be opportunities for you to have your kits evaluated during the tests performance studies organized in WP1.
- VALITEST aims to establish an **EU association of the Plant Health Diagnostic Industry**
- VALITEST aims to develop an **EU Plant Health Diagnostic Charter**.

Read more in WP7, and identify partners involved in the project.

Twitter



Work Packages and deliverables

Quick links

- WP 1: VALIDATION OF TESTS FOR IDENTIFIED NEEDS AND SPECIFIC PESTS
- WP 2: IMPROVEMENT OF THE VALIDATION PROCESS
- WP 3: QUALITY ASSURANCE FOR REFERENCE MATERIALS FOR VALIDATION PURPOSES
- WP 4: ANALYSIS OF DEMAND FOR TESTING AND IMPACTS
- WP 5: OPTIMISATION OF PROFICIENCY EVALUATION FOR A HORIZONTAL ASSESSMENT
- WP 6: DISSEMINATION, COMMUNICATION AND TRAINING
- WP 7: MARKET EXPLOITATION OF THE PROJECT RESULTS
- WP 8: MANAGEMENT OF THE CONSORTIUM AND THE PROJECT
- WP 9: ETHICS REQUIREMENTS

Follow Us On



Work Package 1

Validation of tests for identified needs and specific pests
 WP Leaders : Dr. Marcel Westenberg and Dr Maja Ravnikar (until M13)
 WP Leaders : Dr Maja Ravnikar and Dr Géraldine ANTHOINE (from M14)

WP1 focus on validation of tests using different methods (i.e. (real-time) PCR, LAMP, ELISA, LFD) according to EPPO Standard PM 7/098, but improved especially by including a statistical approach developed in the framework of WP2.

Performance criteria of several tests will be determined by organizing interlaboratory test performance studies (TPS) according to EPPO Standard PM 7/122, in which participating laboratories will use the same test for analysing identical sets of reference samples simulating the samples routinely analysed.

Two rounds of tests performance studies will be organised.

- The first round will be organized in early 2019 for six prioritized pests (*Erwinia amylovora*, *Pantoea stewartii*, *citrus tristeza virus*, *plum pox virus*, *Fusarium circinatum* and *Bursaphelenchus xylophilus*) in a range of matrices and for a range of methods.
- The second round will be performed in 2020 on pests and associated tests based on the needs of stakeholders and to the market analysed in the framework of WP4.



List of deliverables for WP1

- 1.1. Report detailing the minimum performance parameters to select tests for validation and selection of laboratories for TPS
- 1.2. List of tests for validation - Round 1
- 1.3. List of tests for validation - Round 2

Partners

All Research Institution SME Intergovernmental Organisation Industry NPPO

 <p>ANSES French agency for food, environmental and occupational health & safety <i>Investigate, evaluate, protect</i></p> <p>French agency for food, environmental and occupational health & safety</p>	 <p>AGRINNOVA University of Turin</p>	 <p>Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra</p> <p>Swiss Confederation Federal Department of Economic Affairs, Education and Research EAER Agroscope</p> <p>Federal Department of Economic Affairs, Education and Research EAER - Agroscope</p>
 <p>LOEWE Loewe Biochemica GmbH</p>	 <p>BIOREBA Your Partner in Agro-Diagnostics</p> <p>Bioreba AG</p>	 <p>European and Mediterranean Plant Protection Organization</p>
 <p>NIB NATIONAL INSTITUTE OF BIOLOGY</p>	 <p>fera Original thinking... applied</p> <p>Fera Science Ltd.</p>	

Training & Events

Archives

- > Spring 2020
- > October 2019
- > September 2019
- > February 2019
- > May 2018

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All TRAINING EVENTS TEST PERFORMANCE STUDIES

2020 SPRING **Second round of test performance studies (TPS) – start date**

The second round of TPS will start in spring 2020. If you are interested in participating to one or several TPS, please send us an email to contact@valitest.eu by **mid-October 2019 at the latest**.

IMPORTANT: If you are not a VALITEST project partner and as the project's budget does not allow any external funding, the participation to the TPS will be at your own cost. As a participant to the TPS, you would receive the evaluation report and you would be associated to the results exploitation.

2019 OCTOBER **VALITEST mid-term conference**

The VALITEST mid-term conference will be held at the **Research Centre for Plant Protection and Certification (CREA-DC)** in Rome on the 1st and 2nd of October 2019.

2019 SEPTEMBER **Second round of test performance studies (TPS) – Pests selection**

The preparation of the second round of Test performance studies (TPS) has started. Six pests (3 virus, 2 bacteria, 1 fungi) have been selected thanks to the collaborative work of the people from WP1 and WP4. The organizers (ANSES, CREA, FERA, NIB, UNITO) of each TPS has been identified. The selection of the tests that will be part of each TPS is ongoing.





Publications

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Dissemination, communication and training

Work Package 6
WP Leader : Mrs Françoise PETER

Valitest Flyer

Valitest - a multi-actor project

Objectives of the project

- To provide high quality and state-of-the-art diagnostic services to plant health professionals in the EU for plant pest diagnostics
- To provide high quality and state-of-the-art diagnostic services to plant health professionals in the EU for plant pest diagnostics
- To provide high quality and state-of-the-art diagnostic services to plant health professionals in the EU for plant pest diagnostics

List of Partners

Valitest Poster

Valitest - a project to improve the validation framework in the EU for plant pest diagnostics

Objectives of the project

- To provide high quality and state-of-the-art diagnostic services to plant health professionals in the EU for plant pest diagnostics
- To provide high quality and state-of-the-art diagnostic services to plant health professionals in the EU for plant pest diagnostics
- To provide high quality and state-of-the-art diagnostic services to plant health professionals in the EU for plant pest diagnostics

A multi-actor project

1. Participation in external events

A specific procedure was defined for dissemination of the project results through participation to external events.

A beneficiary that intends to disseminate its results through participation in events must give an advance notice to the other beneficiaries of at least 20 days before registration submission, together with sufficient information on the results it will disseminate.

This notice should be done through an email sent to all partners (e.g. participants involved in the technical aspect of the project) using the wp_all@valitest.eu mailing list explaining the objective and the content of the dissemination and, if relevant, through the upload on the extranet of the abstract of the communication that will be done. A notice is not required when only general information regarding the project (for example objectives, general description of the workpackages...) are communicated.

Any other beneficiary may object within 10 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests.

When the project participants will actively attend external events (such as conferences, exhibitions, workshops) on behalf of the project, their presence will be highlighted and communicated mainly through the social media platform of the project. This activity will raise the visibility of the project and will show and enhance the scientific exchange between researchers.

2. Publications

VALITEST partners will publish the results they consider relevant (according to the IPR protection strategy and to the GA (Grant Agreement) and the CA (Consortium Agreement)) in scientific journals and magazines. Results will be also published on the VALITEST website and newsletter.

Publications must follow the following provisions according to the statements included in the CA and GA:

- Prior notice of any planned publication shall be given to the other partners at least **45 calendar days** before the publication (Art 29.1 of the GA).
- Any objection to the planned publication shall be made in accordance with the Grant Agreement in writing to the Coordinator and to the Party or Parties proposing the dissemination within **30 calendar days** after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted (Art 29.1 of the GA).
- Any **objection** is justified if the partner can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests (Art 29.1 of the GA).

If an objection is raised, it has to include a precise request for necessary modifications.

If an objection has been raised, the involved parties shall discuss how to overcome the justified grounds for the objection on a timely basis (for example by amendment to the planned publication and/or by protecting information before publication) and the objecting party shall not unreasonably continue the opposition if appropriate measures are taken following the discussion.

Each party **must ensure open access** (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results (see 4.8. Digital research object portal).

Moreover, the partner must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

Each partner shall:

- ensure open access to the deposited publication — via the repository — at the latest: on publication, if an electronic version is available for free via the publisher, or within six months of publication in any other case.
- ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

Grant Agreement number:

773139 — VALITEST

- the terms “European Union (EU)” and “Horizon 2020”;
- the publication date, and length of embargo period if applicable, and
- a persistent identifier.

3. **Specific procedure regarding the dissemination of validation data generated by WP1**

In addition to the procedures described in the previous paragraphs 1 and 2, the following strategy has been agreed by the partners regarding the dissemination of the Test Performance Studies (TPS) results obtained within the framework of WP1.

- By default, the name of all the tests selected for the TPS and the associated validation data can be used for dissemination activities.
- However, before any dissemination of TPS results including tests using commercial kits, teleconferences will be organized by WP1. The relevant commercial partners from WP7 are invited to these meetings so they can discuss the results of the TPS with the TPS organizers. During these meetings, they can oppose the dissemination of the name of their kits and/or of the associated validation data. Summary reports of the TPS results (e.g. power point presentations) are sent to the commercial partners at least 2 weeks before these meetings.

ANNEX 6 – List of external meetings in which the VALITEST project and its results were presented

N°	Name of the meeting or conference	Date	Comment
1	Executive Committee (EPPO administrative body composed of heads of NPPOs)	2018-06-04/05	Face to face
2	Working Party on Phytosanitary Regulations	2018-06	Face to face
3	International Congress on Plant Pathology Boston (US)	2018-07/29-08/03	Face to face
4	EPPO Council	2018-09	Face to face
5	Panel on Diagnostic in Mycology	2018-10	Face to face
6	Panel on Diagnostic in Bacteriology/European Association of Phytobacteriologists	2018-11	Face to face
7	EPPO Workshop on the revision of PM 7/98 with a dedicated session on WP5 (Optimisation of proficiency evaluation for a horizontal assessment)	11-12/02/2019	Face to face
8	Panel on Diagnostics and Quality Assurance	2019-02	Face to face
9	European Mycology Network 22nd annual meeting, Cologne	2019-04-09/11	Face to face
10	EPPO Executive Committee	2019-05-14/15	Face to face
11	EPPO Panel on Diagnostics in Virology and Phytoplasmology	2019-05	Face to face
12	EPPO Working Party on Phytosanitary Regulations	2019-06	Face to face
13	Presentation of WP1 work progress at the Department of Biotechnology and Systems Biology (National Institute of Biology, Ljubljana)	2019-06	Face to face
14	IPPC Technical Panel on Diagnostic Protocols	2019-08	Face to face
15	Meeting of the Nordic Baltic Laboratory Network (Latvia, Lithuania, Estonia, Norway, Denmark, Finland, Poland)	2019-08	Face to face
16	12th Meeting of the Panel on Diagnostics in Nematology (2 presentations: VALITEST project (G. Antoine, ANSES) and Improvement of the validation section of the EPPO Database on diagnostic expertise (C. Trontin, EPPO))	2019-11-12/14	Face to face
17	Bacteriology EURL workshop, Wageningen (NIB)	2019-11-5/6	Face to face
18	AAB, Advances in Nematology (Clear detection)	2019-12-10	Face to face
19	10th Meeting of the Panel on Diagnostics and Quality Assurance (3 presentations: VALITEST project (G. Antoine, ANSES) and Improvement of the validation section of the EPPO Database on diagnostic expertise (C. Trontin, EPPO), Production of reference material (Rene Van der Vlugt))	2020-02-18/20	Face to face

20	International year of plant health and an introduction of the first EU reference laboratories on the National Institute of Biology (G. Anthoine, ANSES)	2020-02-18	Face to face
21	7th Meeting of the Panel Diagnostics in Entomology (EPPO)	2020-03-3/5	Face to face
22	APS webinar (G. Anthoine (ANSES) and F. Petter (EPPO))	2020-04-08	Online
23	4th Meeting of the Panel on Diagnostics in Mycology (EPPO)	2020-04-22/24	Online
24	23rd Meeting of the Panel on Diagnostics in Bacteriology (EPPO)	2020-05-12/15	Online
25	INEXTVIR – presentation of the project Webinar (G. Anthoine, ANSES)	2020-07-02	Online
26	American Phytopathological Society Poster on TSWV (M. Ravnikar, NIB)	2020-08-10/14	Online
27	8th congress of the Slovenian Microbiological Society Posters on <i>P. stewartii</i> and TSWV TPS (Š. Alič, N. Mehle, NIB)	2020-09-23/25	Online
28	German society for plant protection and plant health r. s. (DPG) meeting phyto bacteriology working group Presentation of the VALITEST project (Loewe)	2020-09-29	Face to face
29	EURL Bacteriology workshop Presentations of <i>Pantoea stewartii</i> subsp. <i>stewartii</i> TPS (Tanja Dreo, NIB) and <i>Xanthomonas citri</i> pv. <i>citri</i> TPS (S. Loreti, CREA)	2020-09-30	Online
30	Belgian scientific plant health symposium PROTECTING PLANTS, PROTECTING LIFE – presentation of WP2 guidelines on HTS (S. Massart, ULG)	2020-10-15	Online
31	EPPO Panel on Phytosanitary measures (FERA, EPPO)	2020-11-03/06	Online
32	Fera Science conference (C. Harrisson, FERA)	2020-11-17/19	Online
33	Annual Workshop of the EURL Virology Presentation of the TPS on ToBRFV (M. Luigi, CREA)	2020-11-19	Online
34	EPPO Panel on Diagnostics in Virology and Phytoplasmology Presentation of the TPS on ToBRFV (M. Luigi, CREA), CTV (A. Chabirand, ANSES), TSWV (N. Mehle, NIB), PPV (JP Renvoisé, ANSES and T Rayymakers, NVWA)	2020-11-24/26	Online
35	Lecture (Behavioural Ecology of Insects) Presentation of the VALITEST project (WBF)	2020-11-30	Online
36	Association of Applied Biology webinar Presentation of the TPS on ToBRFV (M. Luigi, CREA)	2020-12-02	Online
37	AAB - Advances in nematology Presentation of the VALITEST project (Clear Detection)	2020-12-15	Online
38	Rapid Methods Europe 2021 Presentation of WP2 guidelines on HTS (ULG)	2021-02-02	Online
39	Lecture (Molecular Plant-Microbe Interactions) Presentation of the VALITEST project (WBF)	2021-02-28	Online

40	Webinar series of the American Phytopathology Association: Technology Transfer: From The Lab To The Diagnostician's Bench Series: High-Throughput Sequencing (HTS) (S. Massart, U. Liege)	2021-03-03	Online
41	EPPO Panel on Diagnostics and Quality Assurance Presentation of HTS guidelines and statistics (S. Massart, U. Liege), Presentation of WP5 work and case study (M Rolland, ANSES), Presentation of WP1 recommendation for TPS organization (M. Ravnikar, NIB)	2021-03-9/12	Online
42	Inextvir/Connected-Virus training school (addressed to PhD students) Presentation of HTS guidelines and statistics guidelines (S. Massart, U. Liege)	2021-03-18	Online
43	EMN 23rd annual meeting, Online, 2021 (EPPO) VALITEST and main achievements	2021-04-19/21	Online
44	International Advances in Plant Virology. Meeting of the Association of Applied Biologist, plant virology section Presentation of HTS guidelines and statistics guidelines (S. Massart, ULG) Presentation of the TPS on TSVW (N. Mehle, NIB) (oral presentation)	2021-04-20/22	Online
45	EPPO Working Party on Phytosanitary Regulations (EPPO)	2021-06-16/18	Online
46	38th annual meeting of the Mid Atlantic Plant Molecular Biology Society Presentation WP2 HTS guidelines (ULG)	2021-08-16	Online
47	Festival Plant Health (UNITO)	Ongoing until the end of 2021	

ANNEX 7 – List of publications

Work package	Results	Publication in a scientific paper	Publication in EPPO Standards
All	Objectives and outputs of VALITEST	Published in EPPO Bulletin	
WP1	Experience gained in the organisation of Test Performance Studies	Planned in the Plant Pathology in the 21st Century Springer Book series (Title: Critical points of test performance study (TPS) organization in microbiology, case study: Plant pathogens)	Yes (PM 7/122)
WP1	<i>Bursaphelenchus xylophilus</i> TPS results		Yes (PM 7/004)
WP1	<i>citrus tristeza virus</i> TPS results	Planned	Yes (PM 7/031)
WP1	<i>plum pox virus</i> TPS results (round 1)		Yes (PM 7/032)
WP1	<i>Xanthomonas citri</i> pv. <i>citri</i> TPS results	Planned	Yes (PM 7/044)
WP1	<i>plum pox virus</i> on-site testing TPS results		Yes (PM 7/032)
WP1	<i>Pantoea stewartii</i> subsp. <i>stewartii</i> TPS results		Yes (PM 7/060)
WP1	<i>Erwinia amylovora</i> TPS results		Yes (PM 7/020)
WP1	<i>tomato spotted wilt virus</i> TPS results	Planned in the Plant Pathology in the 21st Century Springer Book series	
WP1	<i>Fusarium circinatum</i> TPS results	Planned	Yes (PM 7/091)
WP1	<i>Xylophilus ampelinus</i> TPS results	Planned	Yes (PM 7/096)
WP1	<i>Cryphonectria parasitica</i> TPS results	Planned	Yes (PM 7/045)
WP1	<i>tomato brown rugose fruit virus</i> TPS results	Planned	Yes (PM 7/146)
WP2	Statistical analysis of TPS results	Planned (EPPO bulletin)	Yes (PM 7/98 and PM 7/122)
WP2	Preparation of the laboratory to perform HTS tests	Planned (EPPO bulletin)	Yes (new PM 7)
WP2	Development, validation and routine use of HTS tests	Planned	Yes (new PM 7)
WP3	Production of reference material		Yes (new PM 7)
WP4	Functions of the decision support framework described in D4.2.	Planned	

Name of the organisation		1 - ANSES
Focus areas of the organisation		Method development, validation processes, education, research
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
9	WP5	Leads to develop an offer of proficiency tests
10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
VALITEST exploitable results for the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
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10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
1	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Using the description of process of TPS organization to improve our procedures and future TPS organization
2	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Using the approach for systematic collection and comparison of performance characteristics to improve our intern procedures
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Using new validation data for the detection and identification of plant pests that are of interest in the EU

4	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Using selected approaches to improve our procedures and future TPS organization
5	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	To improve our knowledge in the use of HTS
6	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Improvement of the internal procedure for the management of the reference materials
7	Reference material producers, NPPOs, diagnostic laboratories	Improvement of the internal procedure for the management of the reference materials
8	Companies and/ or Laboratories	To improve our knowledge in the business development of proficiency tests organisation
9	Companies and/ or Laboratories	To improve our knowledge in the business development of proficiency tests organisation
10	Laboratories	To improve our knowledge in the proficiency testing strategy
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	The increase of the production of validation data will allow a better accurate and reliable detection and identification of pests
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	The increase of the production of validation data will allow a better accurate and reliable detection and identification of pests The revision of EPPO standards will allow harmonized procedures in Plant Health for validation and organization of TPS
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Organization of webinars, practical training sessions and videos will allow a better knowledge of harmonized procedures for validation and organization of TPS
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	A better information and database of EU produced kits available on the market (technical information) will allow a better understanding of the detection and identification of pests

Name of the organisation		2 - UNITO
Focus areas of the organisation		method development, validation processes, education, research
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
9	WP5	Leads to develop an offer of proficiency tests
10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
VALITEST exploitable results for the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
9	WP5	Leads to develop an offer of proficiency tests
10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
EXPLOITATION OF THE RESULTS		
The results will be exploited by using them in further research activities, creating and providing a service and using them in standardisation activities. The potential users will be: TPS organizers, EU reference laboratories (in the field of plant health), EPPO, companies developing diagnostic tests, diagnostic laboratories.		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
1	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Improvement of the diagnostic and validation procedures – recommendation for TPS organization
2	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
9	Companies and/ or Laboratories	Business development of proficiency tests organisation
10	Laboratories	Improvement of the proficiency testing strategy
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics

Name of the organisation	3 - AGROSCOPE (WBF)	
Focus areas of the organisation	Agroscope is the Swiss Confederation's centre of excellence for agricultural research. It is affiliated with the Federal Office for Agriculture and conducts legal task such as plant protection services	
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
9	WP5	Leads to develop an offer of proficiency tests
10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
EXPLOITATION OF THE RESULTS		
The interesting results are and will be exploited by implementing improved diagnostic and validation procedures The results will be exploitable over time in Switzerland (e.g. "EU" reference laboratories)		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
5	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures, basis for a new EPPO standard
6	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Minimum criteria list to produce reference materials to be used in interlaboratory studies and validation procedures
7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material
8	Companies and/ or Laboratories	Business development of proficiency tests organisation

11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Improvement and competitiveness of EU kits manufacturers Contribute to the quality and reliability of the EU products worldwide Guaranty of the kits performance and reliability to end-users

Name of the organisation		4 - Bioreba AG
Focus areas of the organisation		Method development, kit production, validation processes, education, research
VALITEST results relevant to the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	Companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Results of validations for the selected tests <ul style="list-style-type: none"> Using validation data to improve our products New validation data for the detection and identification of plant pests that are of interest in the EU
4	Companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New and improved approach to analyse and report data of validation study (including TPS) <ul style="list-style-type: none"> Using selected approaches to improve our intern development and production processes Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops
13	TPS organizers, EU reference laboratories (and in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities (webinars, practical training sessions, tutorials) <ul style="list-style-type: none"> Organization of webinars, practical training sessions at Bioreba and at external sites and tutorials available on our website and EPDIA website Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	Companies developing diagnostic tests, diagnostic laboratories, farmers/growers	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website <ul style="list-style-type: none"> Divulagation of EPDIA through webinars, website and personal contact with customers and resellers Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	EU Quality Charter establishment <ul style="list-style-type: none"> Supporting activities for the establishment of EU Quality Charter at the European level with focus on Switzerland Improvement and competitiveness of EU kits manufacturers. Contribute to the quality and reliability of the EU products worldwide. Guaranty of the kits performance and reliability to end-users

Name of the organisation		5 - LOEWE
Focus areas of the organisation		Method development, kit production, research
VALITEST results relevant to the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
9	WP5	Leads to develop an offer of proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
4	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops Improvement of the internal development and validation procedures
7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Improvement and competitiveness of EU kits manufacturers Contribute to the quality and reliability of the EU products worldwide Guaranty of the kits performance and reliability to end-users

Name of the organisation		6 - EPPO
Focus areas of the organisation		Method development, validation processes, education, research
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
1	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Improvement of the diagnostic and validation procedures – recommendation for TPS organization
2	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
4	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops
5	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures, basis for a new EPPO standard
6	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Minimum criteria list to produce reference materials to be used in interlaboratory studies and validation procedures
7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material

8	Companies and/ or Laboratories	Business development of proficiency tests organisation
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)

Name of the organisation		7 - FERA
Focus areas of the organisation		Method development, method selection (decision support), validation prioritization, communication
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
13	WP6	Training activities (webinars, practical training sessions, tutorials)
VALITEST exploitable results for the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
11	WP6	Addition of validation data in the EPPO database
13	WP6	Training activities (webinars, practical training sessions, tutorials)
_	WP4	Decision support framework (D4.2)
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
1	Laboratory staff (indirectly Defra)	Integration into laboratory processes (SOPs & best practice), as well as staff training Better/more standardized processes to support decision making
2	Laboratory staff (indirectly Defra)	Integration into laboratory processes (SOPs & best practice), as well as staff training Better/more standardized processes to support decision making
5	Laboratory staff (indirectly Defra)	Integration into laboratory processes (SOPs & best practice), as well as staff training Better/more standardized processes to support decision making
11	Laboratory staff (indirectly Defra)	Stronger use of database (up and download) Better access to available data
13	Laboratory staff	Integration into internal training for new lab staff; better communication across teams Streamlining & supplementing internal training and communication
_	Laboratory end-users and Defra	WP4: Basis for discussions with laboratory end-users & Defra to facilitate further development and integration into laboratory practices (2021) – next steps to be explored

Name of the organisation	8 - National Institute of Biology (NIB)	
Focus areas of the organisation	Developmental and applicative research in the fields of biotechnology, and system biology, research on biology, biodiversity and epidemiology of microbes to development and validation of new laboratory tools for detection of bacteria, phytoplasmas and viruses method development, education of undergraduate and post-graduate students	
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
VALITEST exploitable results for the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
EXPLOITATION OF THE RESULTS		
The results (for 1, 2, 3, 4, 5, 6, 7) will be used in further research activities, in creating and providing services and in standardisation activities The results (for 11, 12, 13) will be used in standardisation activities. The timeline for exploitation of the results will be in the next five years		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
1	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Improvement of the diagnostic and validation procedures – recommendation for TPS organization
2	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
4	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops
5	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures, basis for a new EPPO standard
6	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Minimum criteria list to produce reference materials to be used in interlaboratory studies and validation procedures

7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics

Name of the organisation		9 - Liege University	
Focus areas of the organisation		Research and education as the main focus with development and diagnostic activities as side focuses	
VALITEST results relevant to the organisation			
-	WP2	Guidelines for the statistical analysis of validation datasets (WP2)	
4	WP2	New and improved approach to analyse and report data of validation study (including TPS) - Statistical analysis of all the results from the different TPS carried out during the Valitest project	
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories	
VALITEST exploitable results for the organisation			
-	WP2	Guidelines for the statistical analysis of validation datasets (WP2)	
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)	
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories	
EXPLOITATION OF THE RESULTS			
N°	POTENTIAL USERS		APPROACH OF EXPLOITATION
4	any plant pest diagnostic laboratory validating tests		<p>Guidelines for statistical analyses:</p> <ul style="list-style-type: none"> • approach of exploitation <ul style="list-style-type: none"> ○ Publication of a scientific paper in the EPPO bulletin ○ Integration of the guidelines in EPPO standards • advantage for the organisation and for the potential users: <ul style="list-style-type: none"> ○ Better design and exploitation of the datasets generated during the validation (intra- or interlaboratory) of diagnostic test • timeline <ul style="list-style-type: none"> ○ Publication will be submitted in 2021
5	Scientific community involved in plant pest research, scientific community involved in plant pest diagnostics development, diagnostic laboratories, Plant Health authorities at national and regional levels		<p>Guidelines for the use of high throughput sequencing:</p> <ul style="list-style-type: none"> • Approach of exploitation: <ul style="list-style-type: none"> ○ Publication of two scientific papers in international journals ○ Writing of international diagnostic standards for the use of HTS in plant pest diagnostics (EPPO standard) ○ Applying these recommendations on the research and diagnostic activities carried out in the laboratory • advantage for the organisation and for the potential users: <ul style="list-style-type: none"> ○ providing guidelines will facilitate the proper use of these technologies for diagnostic purpose but also for research purpose and therefore participate to the generation of more reliable scientific information or pest detection ○ streamlining the writing of official standard for the use of these technologies in plant health • timeline <ul style="list-style-type: none"> ○ The two scientific publications will be published before the end of 2022 ○ The diagnostic standard writing will start most probably in 2022

Name of the organisation		10 - NVWA
Focus areas of the organisation		validation processes, reference material
VALITEST results relevant to the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
1	WP1	Description of the process of TPS organization
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
5	WP2	Guidelines for the selection, development, validation and routine use of high-throughput sequencing analysis in plant diagnostic laboratories
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
EXPLOITATION OF THE RESULTS		
<p>The TPS results have proved to be very useful in NVWA's laboratory for the implementation on novel tests. Furthermore, NVWA extensively used their experiences and acquired knowledge within VALITEST for other projects, e.g. organization of TPSs and PTs. Also, NVWA has been working on the implementation of NGS/HTS in (routine) diagnostics. The ideas put forth under VALITEST were not used directly but will serve as an inspiration for future projects. The guidelines on statistics helps NVWA to substantiate the validation of tests. The addition of validation data by TPS organizers to the EPPO database is very important and will help NVWA. EPPO standards are used often in NVWA's laboratory. Where possible, NVWA tried to aid EPPO in the drafting of revised standards or newly drafted ones. The data produced within VALITEST has already been helpful for the revision for standards (e.g. NVWA contributed data to the standard on plum pox virus). Many of NVWA's employees have joined the training activities provided by VALITEST, these were well received and found valuable. NVWA is happy with the ideas put forth under WP7 and hopes that NVWA and others can reap the benefits from the collaborations that will arise with the EPDIA and the EU Quality Charter establishment.</p>		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
1	TPS organizers, EU reference laboratories (in the field of plant health), EPPO	Improvement of the diagnostic and validation procedures – recommendation for TPS organization
2	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
4	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops

5	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures, basis for a new EPPO standard
6	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Minimum criteria list to produce reference materials to be used in interlaboratory studies and validation procedures
7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Improvement and competitiveness of EU kits manufacturers Contribute to the quality and reliability of the EU products worldwide Guaranty of the kits performance and reliability to end-users

Name of the organisation		11 - CLEARDETECTIONS
Focus areas of the organisation		Plant Diagnostics Kit producer
VALITEST results relevant to the organisation		
3	WP1	Results of validations for the selected tests
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
9	WP5	Leads to develop an offer of proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
-	WP4	D4.2 Report on economic impact of priority tests
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
9	WP5	Leads to develop an offer of proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
-	WP4	D4.2 Report on economic impact of priority tests
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Results will be used as information to increase visibility of our product Real-Time PCR Diagnostic kit for <i>B. xylophilus</i>
6	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Results will be use to update internal SOP on reference material production, adding quality guidelines will potentiate brand value
7	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Results will be use to update internal SOP on reference material production, adding quality guidelines will potentiate brand value
11	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	More data from our products will be included and become visible on these results on important sector stakeholders, increase of brand visibility will potentiate brand value of validation data in the EPPO database
12	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	More data from our products will be included and become visible on these results on important sector stakeholders, increase of brand visibility will potentiate brand value of validation data in the EPPO database
13	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Reached new customers with this activity, materials were developed which remain online and available to share valuable information with new interlocutors, increase brand visibility
14	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Development of an important stakeholder member in the industry that will make more data from our products visible, set quality standards for the industry an establish connections with other important sector stakeholders, increase of brand visibility will potentiate brand value
15	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Development of an important stakeholder member in the industry that will make more data from our products visible, set quality standards for the industry an establish connections with other important sector stakeholders, increase of brand visibility will potentiate brand value
D4.2	Market for diagnostic kits (NPPOs, service labs, research institutes, ...)	Report on economic impact of priority tests; use this message to promote plant health diagnostics and the necessity of testing as something that brings value to the customer. Long term possibility of increase on revenues.

Name of the organisation		12 - Prime Diagnostics (Wageningen Plant Research)
Focus areas of the organisation		Method development, marketing and production of plant diagnostic kits
VALITEST results relevant to the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
2	Kit manufacturers, companies and laboratories and (all) end-users	A systematic and solid approach in the collection and analysis of performance characteristics strengthens the basis for evaluation of diagnostic tests and validation procedures. This is a basic need for the plant diagnostic industry. Timeline: directly after publication by all potential users.
3	Kit manufacturers, companies and laboratories	New validation data for the detection and identification of plant pests that are of interest in the EU New validation data for the selected tests will set a clear benchmark for introducing equivalent plant diagnostic products into the market General advantage: improvement of the quality of newly introduced plant diagnostic products
6	Reference material producers, NPPOs, diagnostic laboratories, kits manufacturers	Standardized reference materials are of key importance for the use and validation of plant diagnostic kits. Well defined, in a structured manner, reference material is necessary to compare different detection methods, TPS of diagnostic kits, in routine laboratory use
7	Reference material producers, NPPOs, diagnostic laboratories	Standardized reference materials are of key importance for the use and validation of plant diagnostic kits. Well defined, in a structured manner, reference material is necessary to compare different detection methods, TPS of diagnostic kits, routine laboratory use. This can be implemented in 1-2 years after publication of the new standards.
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database Broaden the availability of validation data of diagnostic methods and kits is valuable for the plant diagnostic industry, research, and especially for companies and laboratories (end-users). Exploitable: as soon as published.

12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards. Revision or broadening the EPPO diagnostics standards will raise the quality standards and will gear the European Plant Diagnostic Industry (EPDIA) to improve current standards.
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Performing webinars within VALITEST was very helpful to each of the VALITEST partners, to gain practical experience in performing webinars and online communication with a large audience. Exploitable: directly.
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	The establishment of EPDIA within VALITEST, was very helpful and stimulated open communication and collaboration between plant diagnostic companies (founding members of EPDIA). Exploitable: directly. EPDIA's establishment will enhance the communications on available plant diagnostics kits, validation data and promote its use.
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	The EU Quality Charter establishment of EPDIA within VALITEST, was very helpful and stimulates the communication and collaboration between plant diagnostic companies and sets a new baseline for the industry. Exploitable: directly.
New knowledge generated within VALITEST will be implemented in internal procedures and in QA/QC of our products (if applicable).		

Name of the organisation		13 - IpadLab
Focus areas of the organisation		Method development, kit production, validation processes, education, research
VALITEST results relevant to the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
9	WP5	Leads to develop an offer of proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU Improvement of the products Visibility of the tests performed during TPS
4	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of the diagnostic and the validation procedures, revision of EPPO standards PM7/98 and PM 7/122, training workshops Improvement of the internal development and validation procedures
7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material Improvement of the internal procedure for reference material production. Added value of the final products
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database More data available for the tested products will be included and consequently increase of the visibility of validation data. Improvement of the competitiveness
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards More data available for the tested products will be included and consequently increase of the visibility of validation data. Improvement of the competitiveness

13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics Contact with new customers, development and production of materials for future webinars, improvement of the competitiveness, acquired experience in training activities organisation that will be used in the future
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information) More data from commercial kits easily available and improvement of the network between all the stakeholders of the plant health sector
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Improvement and competitiveness of EU kits manufacturers Contribute to the quality and reliability of the EU products worldwide Guaranty of the kits performance and reliability to end-users Improvement of the quality standards for the industry and added value for EU products all around the world.

Name of the organisation		14 - SEDIAG
Focus areas of the organisation		Method development, kit production, research
VALITEST results relevant to the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
8	WP5	Results of a survey concerning the proficiency testing needs of laboratories (D5.1)
9	WP5	Leads to develop an offer of proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
14	WP7	European Plant Diagnostic Industry (EPDIA) establishment and EPDIA website
15	WP7	EU Quality Charter establishment
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
7	Reference material producers, NPPOs, diagnostic laboratories	Optimisation of SOP for reference materials production Use in diagnostic Standard for the production of reference material
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics
14	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Ensure the market sustainability of the SMEs by facilitating dialogue with stakeholders and decision makers Website containing EPDIA information and database of EU produced kits available on the market (technical information)
15	EU reference laboratories (in the field of plant health), plant health experts, private laboratories, policy makers, accreditation bodies, manufacturers, farmers/growers	Improvement and competitiveness of EU kits manufacturers Contribute to the quality and reliability of the EU products worldwide Guaranty of the kits performance and reliability to end-users

Name of the organisation		15 - CREA Research Center for Plant Protection and Certification
Focus areas of the organisation		Research on plant pathogens and pests, focused on their detection, characterizations and diagnostic methodologies development. Support to Italian NPPO.
VALITEST results relevant to the organisation		
2	WP1	Approach for systematic collection and comparison of performance characteristics (from literature and preliminary studies)
3	WP1	Results of validations for the selected tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
11	WP6	Addition of validation data in the EPPO database
EXPLOITATION OF THE RESULTS		
<p>The results obtained in the ToBRFV TPS organization (2; 3; 11; 12) will be published before the end on the year (December 2021). The paper will be focused on the organization of the TPS, will show the results obtain by each participant and the data analysis of the performance criteria obtained for each test. These results could be useful to EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories and farmers/growers, and they can help to improve of diagnostic and validation procedures, add new validation data for the detection and identification of plant pests that are of interest in the EU.</p> <p>Moreover, the training activities (13) made during the first months of the year (from January to March 2021) reporting the experience that matured in the organization of the TPS on ToBRFV could be useful to TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories and farmers/growers to better understand the concept of validation, the steps needed during the organization of TPS with their critical issues and how to interpret the results reported in a final report of a TPS.</p>		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
2	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories	Improvement of diagnostic and validation procedures
3	EPPO, TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	New validation data for the detection and identification of plant pests that are of interest in the EU
11	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Addition of validation data in the EPPO database
12	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Revision of EPPO standards
13	TPS organizers, EU reference laboratories (in the field of plant health), companies developing diagnostic tests, diagnostic laboratories, farmers/growers	Training activities on concept of validation, on the organization of TPS and on the development, validation and routine use of HTS tests for plant health diagnostics

Name of the organisation	16 - GIORiN – Main Inspectorate of Plant Health and Seed Inspection	
Focus areas of the organisation	routine diagnostics, implementation of approved tests (EU Directives, ISPMs, EPPO Diagnostic Protocols)	
VALITEST results relevant to the organisation		
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
7	WP3	Updated Standard Operating Procedure (SOPs) for the production of the reference materials (RM)
10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
VALITEST exploitable results for the organisation		
3	WP1	Results of validations for the selected tests
4	WP2	New and improved approach to analyse and report data of validation study (including TPS)
6	WP3	List of criteria the reference materials have to meet for use in validation studies
10	WP5	Leads to develop a participation plan to proficiency tests
11	WP6	Addition of validation data in the EPPO database
12	WP6	Revision of EPPO diagnostic standards
13	WP6	Training activities (webinars, practical training sessions, tutorials)
EXPLOITATION OF THE RESULTS		
N°	POTENTIAL USERS	APPROACH OF EXPLOITATION
3	diagnostic laboratories	New validation data for the detection and identification of plant pests that are of interest in the EU
4	diagnostic laboratories	Improvement of the internal diagnostic and the validation procedures
6	diagnostic laboratories	Improvement of the internal procedure for the management of the reference materials
10	diagnostic laboratories	Improvement of the internal procedure on PT organization
11	diagnostic laboratories	Use of shared validation data when implementing new/improved tests and its accreditation
12	diagnostic laboratories	Improvement of diagnostic tools, use of improved EPPO standards in routine laboratory practice
13	diagnostic laboratories	Broadening the knowledge on concept validation and TPS organization and putting it into practice