


BEXYL
BEYOND XYLELLA

# Project Website & Collaborative Platform for Management

Deliverable 10.1

29 November 2022

Authors: Dario Prestigiacomo (P26-SURRENDER MS), Blanca B. Landa & Ana Sanchez (P1-CSIC)

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# ABSTRACT

The project website has been designed and it will be public available at **www.bexylproject.org**. The website will be the point of reference of all the communication about the project activities. The most relevant content produced during the project will be published on this website, including a monthly newsletter on the progress and results of the action.

The website is also a tool to establish a long-term community of researchers, working beyond the end of the project, in which scientists, stakeholders, and lay public are involved in preventing new *Xylella fastidiosa* introductions and spread of current outbreaks in Europe. For this purpose, it will maintain and make accessible all the documents and the latest information of interest for: a) BeXyl consortium members; (b) the international scientific community contributing to the research programs on *Xylella fastidiosa*; (c) for stakeholders, policy makers and Plant Health Authorities; d) journalists.

The website will also be a support tool for the raising awareness campaign focused on the background, impacts and results of the project.



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# 1. INTRODUCTION

According to the Grant agreement n. 101060593, a project website is foreseen in the framework of the actions of Work packages 9 and 10. The website aims to provide an overview of the BeXyl project to the wide audience, an introduction to the consortium and team members, project activities and results as well as contact information for any party interested in collaborating with the consortium beneficiaries. It is also a cornerstone for disseminating information on the progress of project activities and results.

The website was designed to allow the direct participation of all project partners in writing and updating the contents. The contents of website sections are written by the partner P26-Surrender MS team and national partners of the project, and will be used not only to highlight the developments and results of the project's actions, but also to stimulate the management and coordination of the community, i.e. partners, stakeholders, the general public, etc.

In line with this objective, the website will be the platform for dissemination on the general communication network of the BeXyl project. This network includes the project's social media, the websites and social media of the partners, and the newsletter subscribers. P26-Surrender MS is in charge of coordination, management and updating the website and the social media channels.

The project website has a general edition in English. P26-Surrender MS team will manage the website, the contents of the English section and a monthly newsletter, covering all the main news related to the project and to *Xylella fastidiosa* in Europe and beyond.



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# 2. WEBSITE STRUCTURE AND CONTENTS

The website was created during the first three months of the project. It consists of two parts:

- A public website for dissemination activities;
- A private members area for the creation and management of content by partners.

The public website provides an overview of the BeXyl project to the wide audience, an introduction to the consortium and team members, project activities and results as well as contact information for any party interested in collaborating with the consortium beneficiaries. It is also a cornerstone for disseminating information on the progress of project activities and results, and all the main news related to *Xylella fastidiosa* in Europe and beyond. Thanks to a special "Multimedia" section, the public website will also be a support tool for the raising awareness campaign focused on the background, impacts and results of the project.

All these contents are divided into different sections which are described at the sitemap of the webpage (**Figure 1**).

BeXyl will develop diverse end-user friendly formats and modes of communication to reach a wide variety of audiences using coverage by TV, radio, video, print and online media. Many of those materials will be included in the "Multimedia" section of the web page. The website has been designed to allow the direct participation of all project partners in writing and updating the contents. The contents will be used not only to highlight the developments and results of the project's actions, but also to stimulate the management and coordination of the community, i.e. partners, stakeholders, the general public, journalists, etc. Additionally, the website will be a tool for the raising awareness campaign.

For citizen, civil society and end-user engagement, BeXyl will catalyse and co-design workshops and focus groups with stakeholders, NPPOs and EPPO participating in outbreak response programs for *X. fastidiosa* as well as farmers implementing crop restoration and IPM programs in current outbreak areas in the EU. These events will also be disseminated through a special section of the website.

Through these tools, the achievements and developments of the Bexyl project will be disseminated in wide audiences, making the outcomes of the project widely visible, more accessible and further exploitable. BeXyl implements the mandatory and recommended open science practices foreseen in the Horizon Europe program. This will increase the efficiency of research and accelerate the advancement in relation to the prevention of new *X. fastidiosa* introductions and management of current outbreak areas in Europe.



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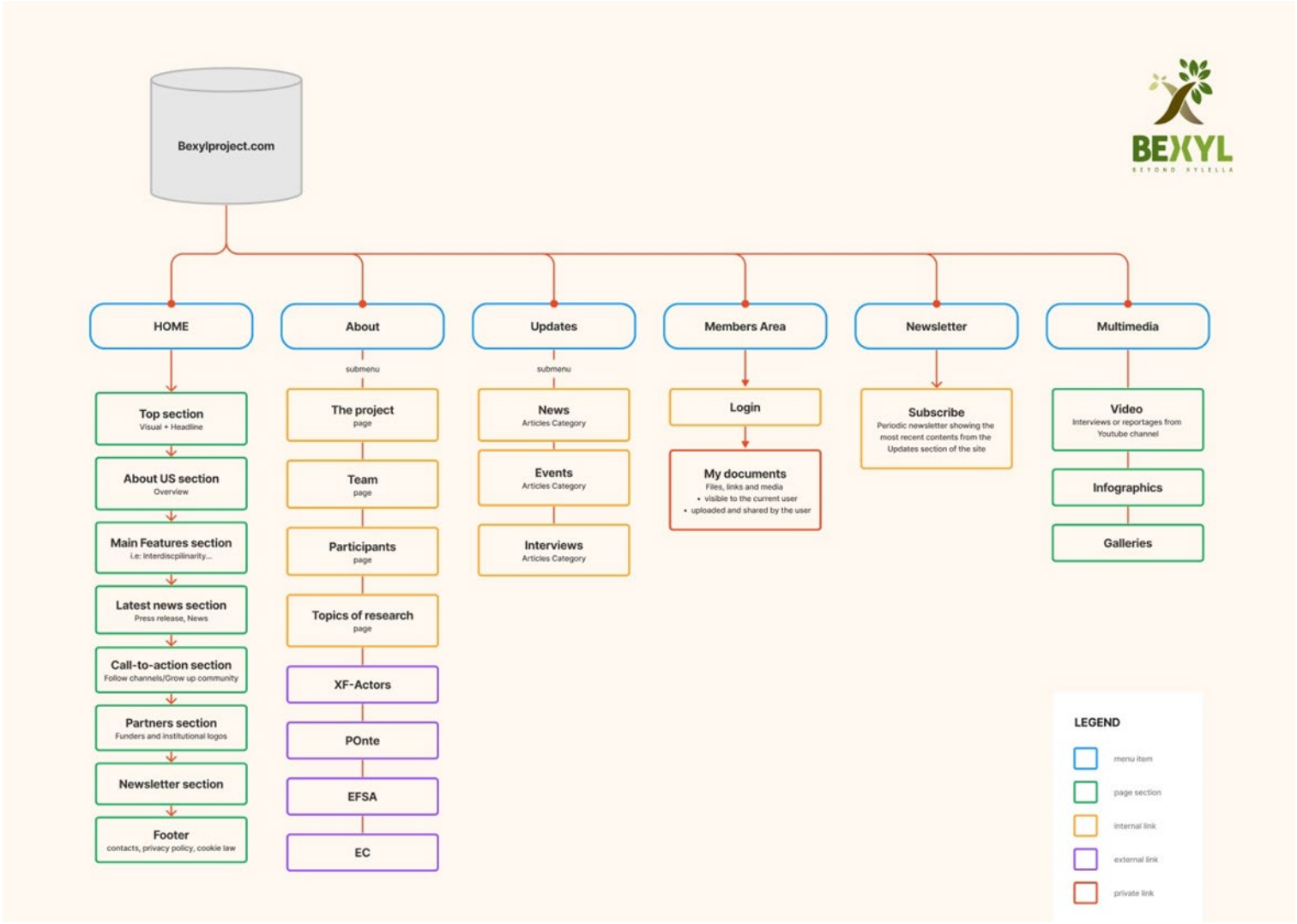



**Figure1.** Sitemap of BeXyl web page



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## 2.1. Homepage and main sections

The public website is based on a homepage (**Figure 2**) which provides a summary of the project as a whole, and also shows the project logo along with the latest project news and information. The different sections available on the homepage are:

- Header including BeXyl logo, contact information, access to member area, and links to sections “Contacts”, “Newsletter”, “About”, “Updates”, “Publications” and “Multimedia” (**Figure 2**);
- The section “About” (**Figure 3**) includes: “The project”, “Team”, “Participants”, “Topics of research” (**Figure 5**), “*XF*-Actors”, “POnTe”, “EFSA”, “European Commission”;
- The section “Update” will collect the following communication activities: “News” (**Figure 4**); “Events”, and “Interviews”
- The section “Multimedia” will collect “Video – Interviews or reportages from YouTube channel”, “Infographics”, and “Galleries” (**Figure 2**);
- The section “Newsletter” will host the periodic project's newsletter. A "Subscribe" button has been inserted on the page to allow members of the partners, stakeholders and the general public to receive the Newsletter (**Figure 2**);
- The section “Contacts” shows the main contacts of the project.
- Footer (**Figure 2**) with reference to the Horizon programme, project acronym, grant agreement (101060593), EC visual identity, privacy policy, cookie policy, and links to the social media accounts of BeXyl.

The homepage has been designed to allow users to have a clear framework about all the fundamental aspects of the Bexyl project activities and the actors involved. The website pages have been designed to ensure easy navigation for all users, in particular for those who intend to learn more about the themes and activities envisaged by the project. This was done not only for the scientific community, stakeholders, policy makers and Plant Health Authorities, but also for journalists and all operators in the information sector in general and in particular specialized in agriculture, environment and science.

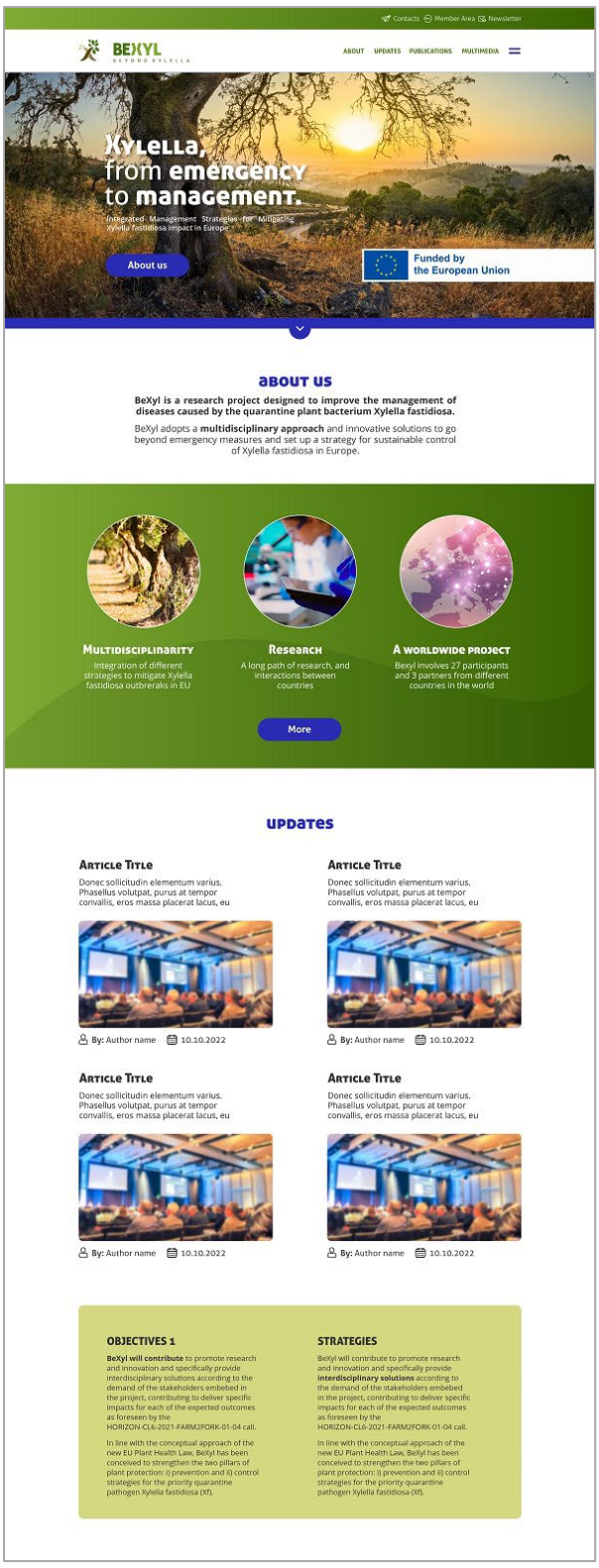
## 2.2. Members area

The project website was designed to allow the direct and collaborative participation of all project partners in writing and updating the contents. For this purpose, a “Members area” has been created. This area will allow all partners to access the content and upload tools within the website management system.

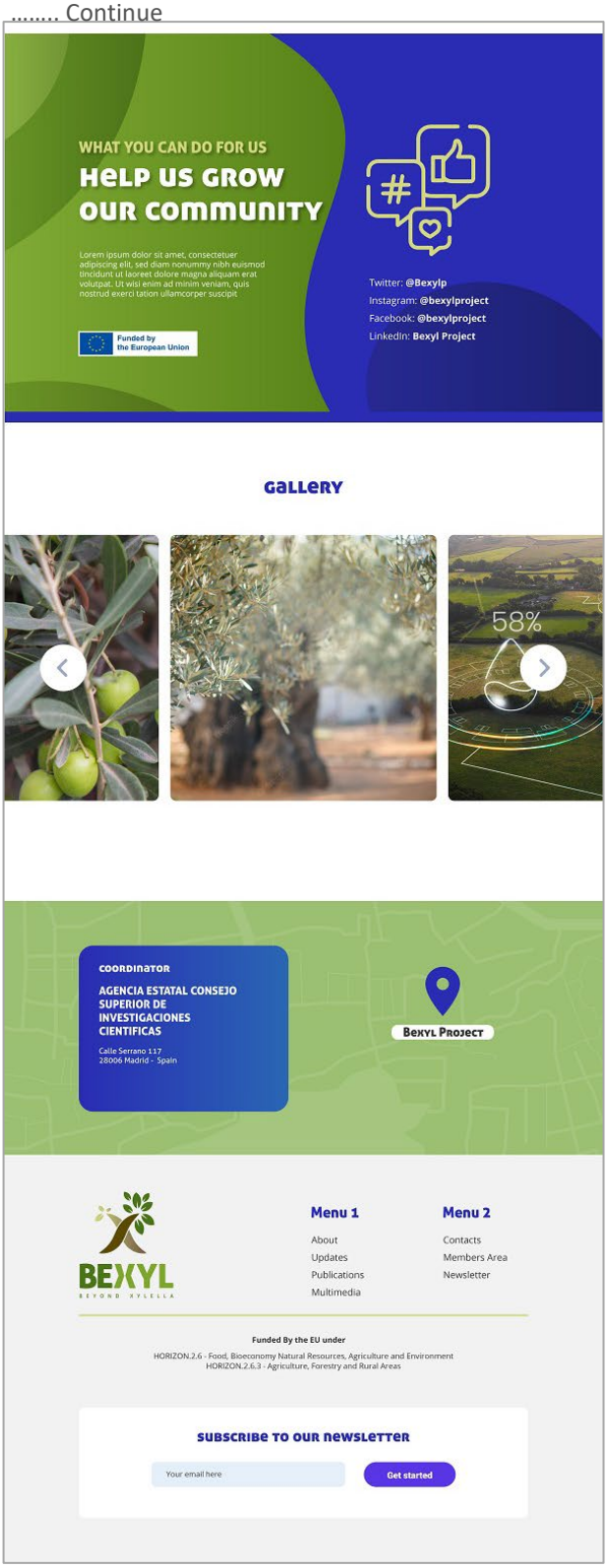
Once logged in, authorized users will be able to access the "My documents" section to upload any form of content, be it a scientific article, news, factsheet, video or photo gallery. SMS will take care of member training and coordination. SMS will take care of the training of the members and the publication of the contents in the framework of the more general coordination activity within WP9.



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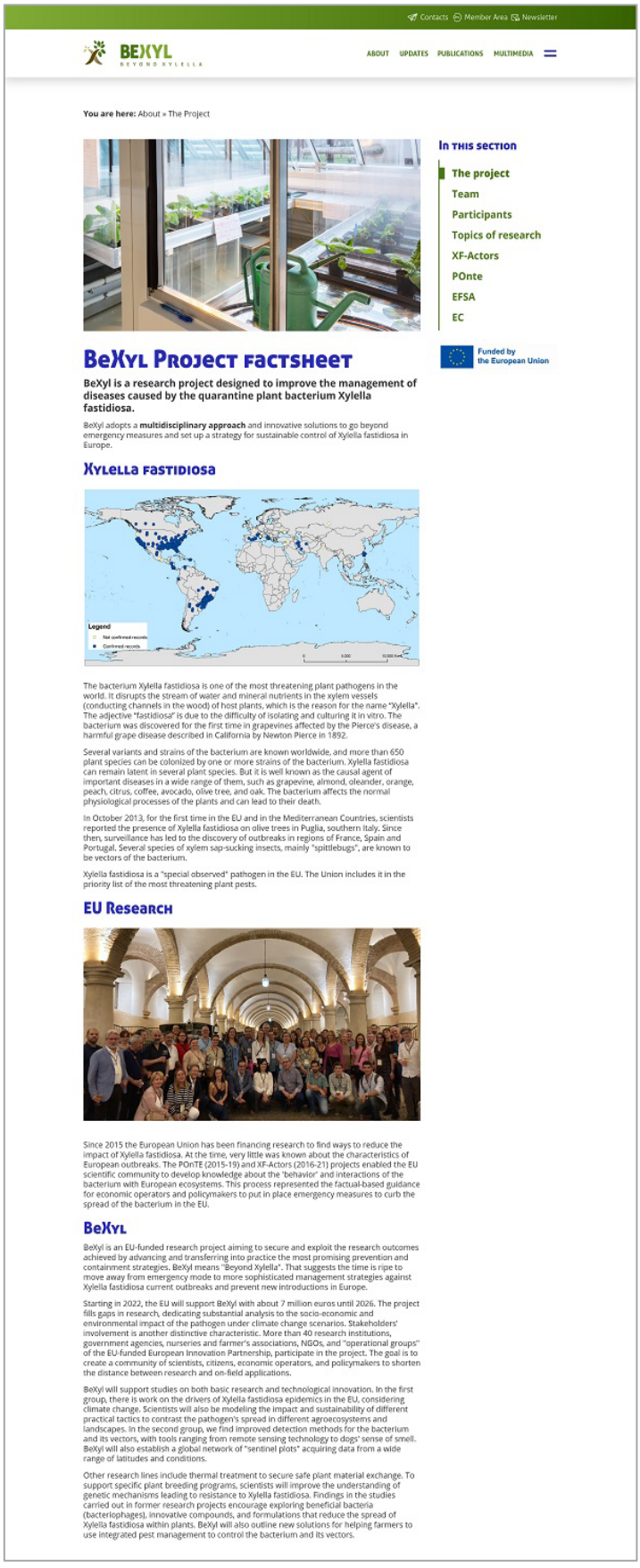



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**Figure2.** 'Homepage' of BeXyl web page



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Contacts Member Area Newsletter

BEXYL BEYOND XYLELLA

ABOUT UPDATES PUBLICATIONS MULTIMEDIA

**You are here:** About » The Project



**In this section**

- The project
- Team
- Participants
- Topics of research
- XF-Actors
- POnte
- EFSA
- EC

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# BeXyl Project factsheet

**BeXyl is a research project designed to improve the management of diseases caused by the quarantine plant bacterium Xylella fastidiosa.**

BeXyl adopts a **multidisciplinary approach** and innovative solutions to go beyond emergency measures and set up a strategy for sustainable control of Xylella fastidiosa in Europe.

## Xylella fastidiosa




The bacterium Xylella fastidiosa is one of the most threatening plant pathogens in the world. It disrupts the stream of water and mineral nutrients in the xylem vessels (conducting channels in the wood) of host plants, which is the reason for the name "Xylella". The adjective "fastidiosa" is due to the difficulty of isolating and culturing it in vitro. The bacterium was discovered for the first time in grapevines affected by the Pierce's disease, a harmful grape disease described in California by Newton Pierce in 1892.

Several variants and strains of the bacterium are known worldwide, and more than 650 plant species can be colonized by one or more strains of the bacterium. Xylella fastidiosa can remain latent in several plant species. But it is well known as the causal agent of important diseases in a wide range of them, such as grapevine, almond, oleander, orange, peach, citrus, coffee, avocado, olive tree, and oak. The bacterium affects the normal physiological processes of the plants and can lead to their death.

In October 2013, for the first time in the EU and in the Mediterranean Countries, scientists reported the presence of Xylella fastidiosa on olive trees in Puglia, southern Italy. Since then, surveillance has led to the discovery of outbreaks in regions of France, Spain and Portugal. Several species of xylem sap-sucking insects, mainly "spittlebugs", are known to be vectors of the bacterium.

Xylella fastidiosa is a "special observed" pathogen in the EU. The Union includes it in the priority list of the most threatening plant pests.

## EU Research



Since 2015 the European Union has been financing research to find ways to reduce the impact of Xylella fastidiosa. At the time, very little was known about the characteristics of European outbreaks. The POnTE (2015-19) and XF-Actors (2016-21) projects enabled the EU scientific community to develop knowledge about the 'behavior' and interactions of the bacterium with European ecosystems. This process represented the factual-based guidance for economic operators and policymakers to put in place emergency measures to curb the spread of the bacterium in the EU.

## BeXyl

BeXyl is an EU-funded research project aiming to secure and exploit the research outcomes achieved by advancing and transferring into practice the most promising prevention and containment strategies. BeXyl means "Beyond Xylella". That suggests the time is ripe to move away from emergency mode to more sophisticated management strategies against Xylella fastidiosa current outbreaks and prevent new introductions in Europe.

Starting in 2022, the EU will support BeXyl with about 7 million euros until 2026. The project fills gaps in research, dedicating substantial analysis to the socio-economic and environmental impact of the pathogen under climate change scenarios. Stakeholders' involvement is another distinctive characteristic. More than 40 research institutions, government agencies, nurseries and farmer's associations, NGOs, and "operational groups" of the EU-funded European Innovation Partnership, participate in the project. The goal is to create a community of scientists, citizens, economic operators, and policymakers to shorten the distance between research and on-field applications.

BeXyl will support studies on both basic research and technological innovation. In the first group, there is work on the drivers of Xylella fastidiosa epidemics in the EU, considering climate change. Scientists will also be modeling the impact and sustainability of different practical tactics to contrast the pathogen's spread in different agroecosystems and landscapes. In the second group, we find improved detection methods for the bacterium and its vectors, with tools ranging from remote sensing technology to dogs' sense of smell. BeXyl will also establish a global network of "sentinel plots" acquiring data from a wide range of latitudes and conditions.

Other research lines include thermal treatment to secure safe plant material exchange. To support specific plant breeding programs, scientists will improve the understanding of genetic mechanisms leading to resistance to Xylella fastidiosa. Findings in the studies carried out in former research projects encourage exploring beneficial bacteria (bacteriophages), innovative compounds, and formulations that reduce the spread of Xylella fastidiosa within plants. BeXyl will also outline new solutions for helping farmers to use integrated pest management to control the bacterium and its vectors.

**Figure 3.** 'About' section page



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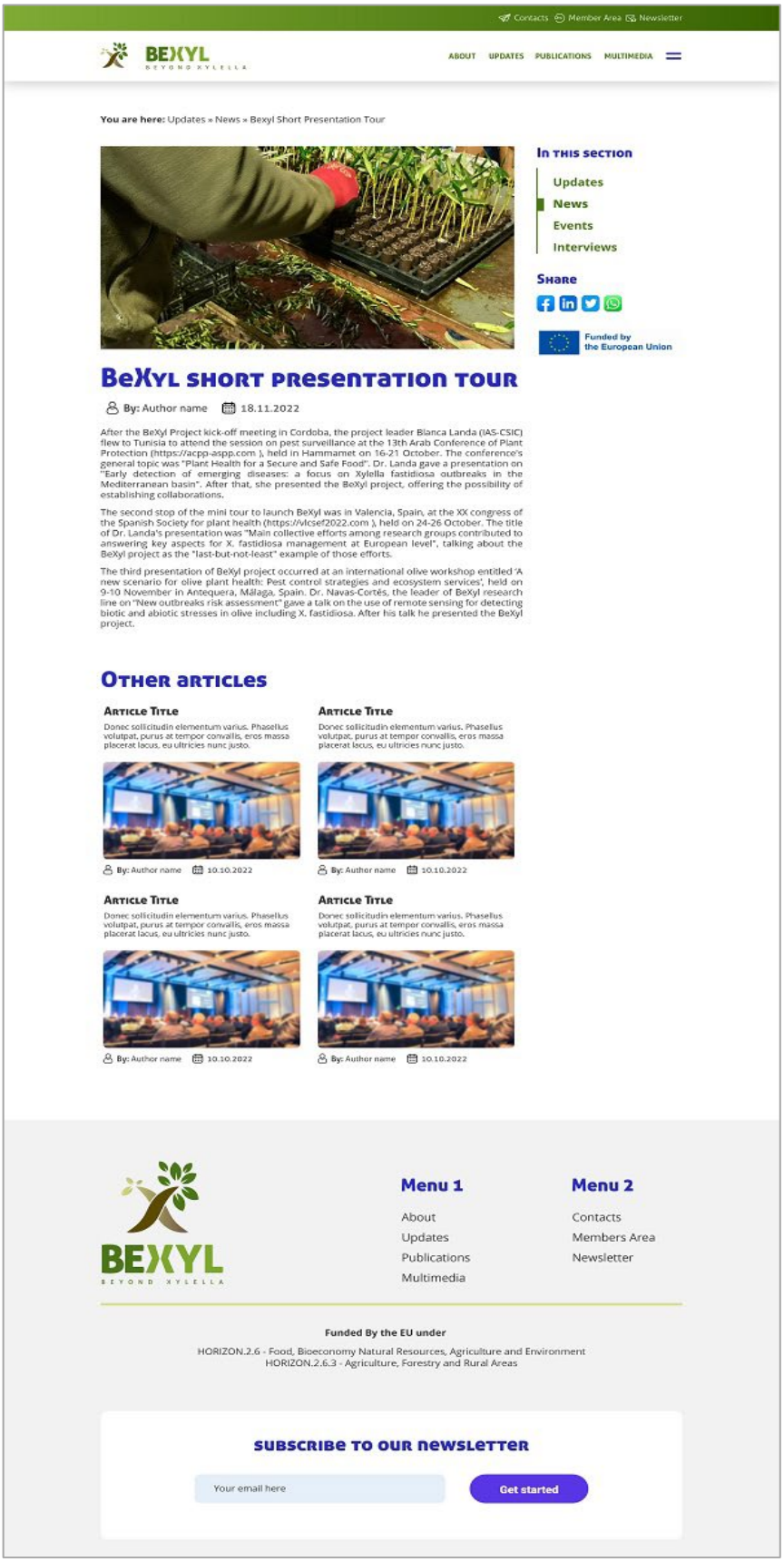



**Figure 4.** 'News' (Sample)



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**Figure 5.** 'Topics'



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## CONTROL

### Host plants resistance

Plant host resistance to infection is one of the most effective ways to neutralize the effects of diseases caused by plant pests. The quarantine plant bacterium Xylella fastidiosa (Xf) makes no exception. In Europe, olive and almond are the most severely affected and threatened crops by Xf-driven diseases caused by strains of the subspecies "pauca" and "multiplex" respectively. The EU-funded research projects POnTE and XF-ACTORS supported studies to understand the genetics of resistance to the former subspecies. However, exploiting these results to increase the available resistant genotypes requires further research and investments. Information concerning resistance to the latter needs to be substantially improved.

One of the goals of the BeXyl project is to identify new Xf-resistant host genotypes in main perennial crops and to unravel the mechanisms of resistance to Xf, mainly on olives and almonds. That will provide new tools for genomics-assisted breeding and selecting long-term resistant olive and almond plants.

### Vectors

Several species of sap-sucking insects, mainly "spittlebugs", are known to be vectors of the quarantine plant bacterium Xylella fastidiosa (Xf). The control of their population is essential to manage the Xf threat. However, some actions to pursue this objective, such as the massive use of synthetic insecticides, can be detrimental to ecosystems.

Former EU-funded research projects provided knowledge on the life cycle, host-plant association, dispersal, transmission biology, feeding behavior and control of spittlebug vectors of Xf in Europe. The BeXyl project goes beyond. Research focuses on new innovative biological tools and nature-derived insecticides (from plants and microbes) to control Xf vector populations and reduce its transmission efficiency. Biological control agents, such as new natural enemies, fungi and viruses pathogenic to spittlebugs, are examples of the investigation in that area.

### Control in the plants

No chemical or organic pesticide can fully treat the quarantine plant bacterium Xylella fastidiosa (Xf). In recent years research has focused on the plant microbiome to find micro-organisms able to eliminate or reduce Xf population in the plant vessels. Other solutions of Xf control in the host plants involve mineral nutrients, botanical extracts, or microbial strains. Each of them, however, has yet to succeed so far.

The BeXyl project interacts with other EU projects, Life Resilience and BIOVEXO, to develop new methodologies of plant disease control. The goal is to use microbiome modification, the application of new antimicrobials and bacteriophages to attain the production of plants at the nursery scale with increased resilience to Xf infection.

### Control on the ground

Outbreaks of the quarantine plant bacterium Xylella fastidiosa may have harsh economic, social, and ecological consequences. Thus, there is an urgent need to provide farmers, nurseries, and national plant protection organizations with effective Integrated Pest Management solutions to mitigate the impacts of infections. Those must take into consideration the stakeholders' needs and perspectives.

The BeXyl Project investigates and validates sustainable tactics and strategies. Firstly, setting up integrated modeling tools for risk assessment at different spatial and temporal scales and in different agroecosystems. In the second stage, experimental trials will test and validate the disease control options for different crops and agroecosystems. The tests will include: best agronomic practices for tolerant/resistant cultivars in infected areas and innovative solutions developed within BeXyl for controlling the vector populations. In the framework of the project, a plots' network will contribute to demonstrating innovative tools for managing Xf. All the data and information collected will provide a comparative evaluation of management solutions for Xf for specific risk and management contexts.

## ECOLOGY AND SOCIETY

Plant disease control measures, such as tree felling or chemical insecticides application, may have undesirable repercussions on public opinion. When a local community rejects the management measures, the pest containment action may be compromised. That has been the case for the quarantine plant pest Xylella fastidiosa (Xf), and the social reaction to the first outbreaks in Europe.

The BeXyl Project wants to provide social, ecological, and economic evidence enabling policy and decision-makers to design effective and socially acceptable interventions. To that aim, researchers will draw lessons from the EU and national strategies to tackle Xf outbreaks, outlining innovative plans for plant health management in future outbreaks. BeXyl will identify potential barriers preventing the adoption of Integrated Pest Management schemes and support their adoption by providing an economic analysis of the implementation of those schemes at the regional and farm level.

**Figure 5.** 'Topics' (Continuation)



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# 3. COLLABORATIVE PLATFORM FOR MANAGEMENT

In addition to the website, another online platform has been created for the management of the documents, files and information for download produced during the BeXyl project. The Collaborative platform for management is currently operative in the SACO portal from CSIC (**saco.csic.es**). Using this platform, all project partners can easily share and exchange information, download and update reports, documents and files. This platform is intended to foster collaboration between all partners.

The structure of the information includes the following folders:

1. Consortium
2. Official Documents
3. Meeting
4. Deliverables
5. Milestones
6. Dissemination
7. Templates
8. Reporting

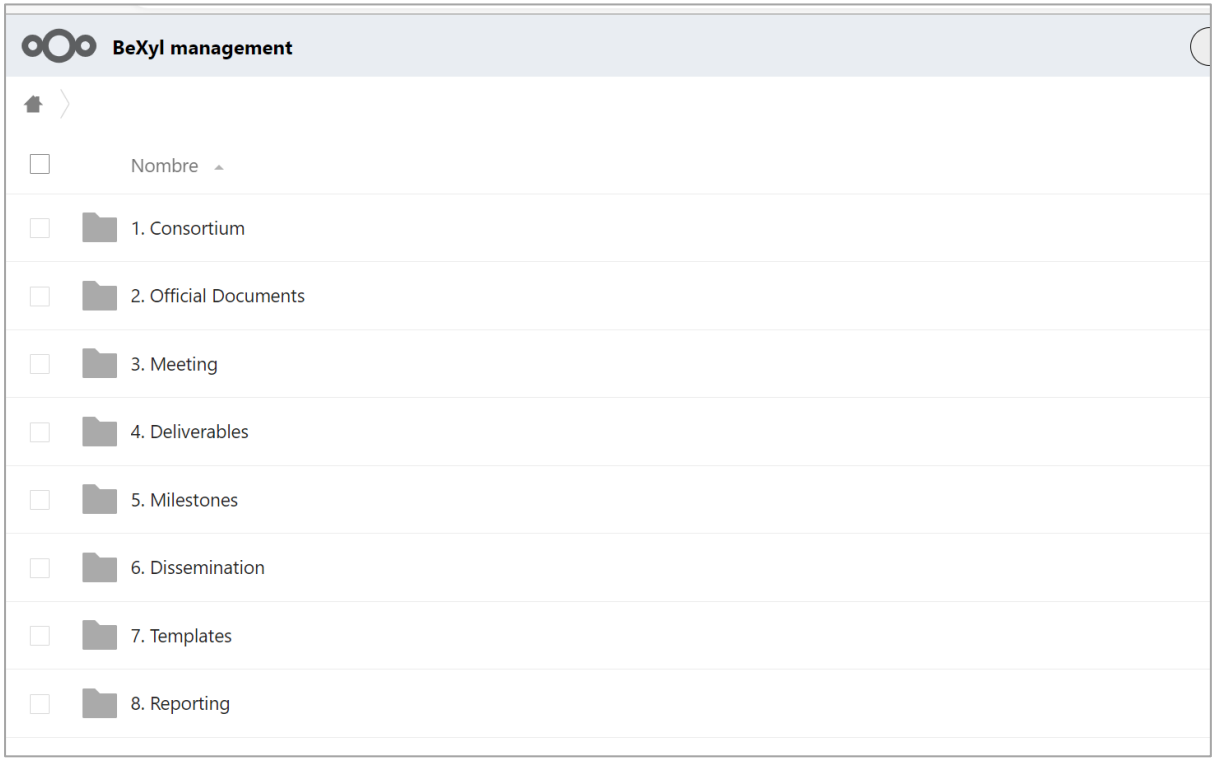



**Figure 6.** Collaborative Platform at saco.csic.es



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# 4. CONCLUSIONS

The project website was a requirement defined in Annex I of the Grant Agreement 101060593 for exchanging information among the Consortium beneficiaries, and an unavoidable tool for maximizing the dissemination level of the project results. The first version of this website has been uploaded at an internet site and its content explained with this deliverable.

This deliverable provides an overview on the website and the Collaborative platform for management that will be used for the dissemination and internal communication of the BeXyl project. The project website (**www.bexylproject.org**) will provide general information on the project and constant updating of activities, results and news related to the project and more generally to the theme of *X. fastidiosa*, including a monthly newsletter on the progress and results of the project. Additionally, an online platform has been created for internal use of all beneficiaries and to help in the management of the documents, files and information produced during the BeXyl project.

All the information available in the website will be updated during the project lifetime following project and partners' needs and suggestions.

In conclusion, the project website and the online platform will be the point of reference of all the communication about the project activities in which the most relevant content produced during the project will be published.



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