



European Commission



# AGRI RESEARCH FACTSHEET PLANT HEALTH

## Why do research and innovation on plant health matter?

Plant health is under mounting pressure due to the increasing number and frequency of new and re-emerging pests resulting from intensification, globalisation, trade development and climate change, which increase their potential to establish themselves and spread. The introduction and spread of plant pests are a serious threat that can have far-reaching economic, social and environmental consequences. European agriculture and forestry need to be granted sufficient means to cope with

the above-mentioned threats to ensure their vital functions, avoid trade disruptions and ensure consumer confidence in food by mitigating the potential risks to plant health. Tackling numerous and highly dynamic biotic threats requires integrated approaches and the development of a wide range of tools for prevention, monitoring, control and management of pests and diseases along with risk management strategies. This includes seeking alternatives to contentious pesticides.

## Plant health under Horizon 2020 societal challenge 2



**29**

Projects or expected grants



**161 M€**

EU contribution 2014-2020



**370**

Participations in selected projects

### Key themes

Integrated pest management – Emerging diseases – alternative to pesticides – ecosystem services



## Plant health under EIP-AGRI activities

<b>Focus group:</b> Integrated Pest Management for Brassica	<a href="https://bit.ly/2J6n1Nz">bit.ly/2J6n1Nz</a>
<b>Focus group:</b> Integrated Pest Management practices for soil-borne diseases	<a href="https://bit.ly/2lfNoiK">bit.ly/2lfNoiK</a>
<b>Operational groups (OG)</b> on pest management	<a href="https://bit.ly/2GXnsZT">bit.ly/2GXnsZT</a>
OG example: Innovative pilot project in the fight against the olive fruit fly	<a href="https://bit.ly/2uCwHfw">bit.ly/2uCwHfw</a>
OG example: Biological pest control in commercial apple plantations	<a href="https://bit.ly/2GoLkV7">bit.ly/2GoLkV7</a>

## SC2 collaborative projects on plant health

<b>EMPHASIS</b> <a href="http://www.emphasisproject.eu">www.emphasisproject.eu</a> Total cost: 7 M€ EC contribution: 6,5 M€ Coordinator: University of studies of Torino Mar. 2015 – Feb. 2019	EMPHASIS addresses native and alien pest threats for a range of both natural ecosystems and farming systems. The overall goal is to ensure a European food security system and the protection of biodiversity and of ecosystems services while developing integrated mechanisms of response measures to predict, to prevent and to protect agriculture and forestry systems from native and alien pest threats.
<b>WINETWORK</b> <a href="http://www.winetwork.eu">www.winetwork.eu</a> Total cost: 2 M€ EC contribution: 2 M€ Coordinator: Institut français de la vigne et du vin Apr. 2015 – Sep. 2017	WINETWORK worked on the exchange and transfer of innovative knowledge between European wine-growing regions to increase the productivity and sustainability of the sector. Project partners exchanged their knowledge on two important vines diseases: grapevine trunk disease and Flavesence dorée. The project approach was based on interactions between a network of facilitator agents, regional working groups and two scientific working groups.
<b>nEUROSTRESSPEP</b> <a href="http://neurostresspep.eu">neurostresspep.eu</a> Total cost: 7 M€ EC contribution: EUR 7 M€ Coordinator: University of Glasgow Jun. 2015 - May 2019	nEUROSTRESSPEP seeks to identify new and 'greener' ways of controlling pest insect populations in the context of integrated pest management. The project plans to use the insects own neuropeptide hormones, or synthetic mimetics, to selectively control insect pests of agriculture, horticulture and forestry, while preserving beneficial insects (such as honeybees), covering the full spectrum from research lab to test field.
<b>EUCLID</b> <a href="http://www.euclidipm.org">www.euclidipm.org</a> Total cost: 4,1 M€ EC contribution: 3 M€ Coordinator: INRA Sep. 2015 to Sep. 2019	EUCLID aims at developing more sustainable pest management methods in Europe and China in order to reduce the negative effects of pesticides on human health and the environment, to reduce economic losses in agriculture, and to provide scientific support to EU and China policies. Tomatoes, leaf vegetables and grapes are the main crops of research of the project. Beyond these crops, the project will consider the entire food chain.
<b>POnTE</b> <a href="http://www.ponteproject.eu">www.ponteproject.eu</a> Total cost: 6,9 M€ EC contribution: 6,8 M€ Coordinator: Italian National research council Nov. 2015 – Oct. 2019	POnTE focuses its activities on the investigation of three main pathosystems that threaten strategic crops and natural landscapes in the EU. The targets are Xylella fastidiosa and its vectors, 'Ca. Liberibacter solanacearum' and its vectors, Hymenoscyphus fraxineus and Phytophthora spp. Diseases surveillance and epidemiology given by current methods will integrate improved survey protocols and remote sensing. Innovative Integrated pest management will include microbiome studies and sustainable biocontrol strategies.
<b>NEURICE (C)</b> <a href="http://neurice.eu">neurice.eu</a> Total cost: 4,7 M€ EC contribution: 4,6 M€ Coordinator: U de Barcelona Mar. 2016 to Feb. 2020	NEURICE will develop strategies for rice productivity, stability and quality. It will do so by developing new commercial rice varieties harbouring salt tolerance alleles to protect the sector against deteriorating water quality in Mediterranean basins and apple snail invasion linked to salinization. The availability of commercial salt tolerant rice will prevent further dispersion of this devastating pest.

<p><b>My Toolbox</b>  <a href="http://www.mytoolbox.eu">www.mytoolbox.eu</a>  Total cost: 5,2 M€  EC contribution: 5 M€  Coordinator: Universitaet Fuer  Bodenkultur Wien  Mar. 2016 – Feb. 2020</p>	<p>My Toolbox aims to develop novel interventions aimed at achieving a 20-90% reduction in crop losses due to fungal and mycotoxin contamination. It will not only pursue a field-to-fork approach but will also consider safe use options of contaminated batches, such as the efficient production of biofuels.</p>
<p><b>MycOKey</b>  <a href="http://www.mycOkey.eu">www.mycOkey.eu</a>  Total cost: 6,4 M€  EC contribution: 5 M€  Coordinator: Consiglio  Nazionale Delle Ricerche  April 2016 – March 2020</p>	<p>MycOKey aims to generate innovative and integrated solutions that will support stakeholders in effective and sustainable mycotoxin management along food and feed chains. The project will contribute to reduce mycotoxin contamination mainly in Europe and China, where frequent and severe mycotoxin contaminations occur in crops, and where international trade of commodities and contaminated batches are increasing.</p>
<p><b>XF-ACTORS</b>  <a href="http://www.xfactorsproject.eu">www.xfactorsproject.eu</a>  Total cost: 7,1 M€  EC contribution: 6,9 M€  Coordinator: Italian National  Research Council  Nov. 2016 to Oct. 2020</p>	<p>XF-ACTORS is the first research project in Europe entirely devoted to research on the bacterium <i>Xylella fastidiosa</i>. It seeks to develop scientific knowledge on the pathogenicity, transmissibility and host susceptibility to the <i>Xylella fastidiosa</i> strains recovered in the EU outbreaks. This knowledge will be used for the implementation of tools for pest risk assessment, for prevention and reduction of the impact of the <i>Xylella</i>-induced diseases.</p>
<p><b>TROPICSAFE</b>  <a href="http://www.tropicsafe.eu">www.tropicsafe.eu</a>  Total cost: 4 M€  EC contribution: 4 M€  Coordinator: University of  Bologna  May 2017 – Apr. 2021</p>	<p>TROPICSAFE aims to address economically important insect-borne prokaryote-associated diseases of perennial crops grown in tropical and subtropical areas, which are seriously affecting the trade of agricultural products and materials worldwide. Knowledge and technologies available in the EU will be deployed in tropical and subtropical regions for carrying out epidemiologic studies and develop integrated pest management strategies.</p>
<p><b>IWMPRAISE</b>  <a href="http://iwmpraise.eu">iwmpraise.eu</a>  Total cost: 7 M€  EC contribution: 6,6 M€  Coordinator: Aarhus University  Jun. 2017 to May 2022</p>	<p>IWMPRAISE aims to support the implementation of Integrated Weed Management (IWM). It will demonstrate that adoption of IWM supports more sustainable cropping systems both agronomically and environmentally, which are resilient to external impacts without jeopardising profitability or the steady supply of food, feed and biomaterials. IWMPRAISE aims to develop, test and assess management strategies delivered across whole cropping systems for four contrasting scenarios representing typical crops in Europe.</p>
<p><b>MUSA</b>  <a href="http://www.projectmusa.eu">www.projectmusa.eu</a>  Total cost: 4 M€  EC contribution: 4 M€  Coordinator: Italian National  Research Council  June 2017 – May 2021</p>	<p>Nematodes and weevils of banana with Panama disease globally affect food security, causing yearly crop losses in Canary Islands, Caribbean and Africa. MUSA will develop integrated pest management methods based on microbial consortia and banana germplasm, studying plant reactions to different biotic stresses. This will be achieved by screening, testing and evaluating in the field, selected banana lines, seeking to identify genes involved in resistance and interaction with microorganisms.</p>

## Interesting activities under other Horizon 2020 sections

**Marie- Skłodowska Curie Actions** contribute to the development of plant health science by supporting scholarships in most wanted academic fields, Innovative training networks (ITN) and research and innovation staff exchange (RISE). Interesting examples include:

- **Ochravine Control:** a research and innovation staff exchange (RISE) project which works on precision agriculture management strategies to reduce the occurrence

of ochratoxins along the vine value chain products (EC contribution: 1,2 M€ - [bit.ly/2pRyDvM](https://bit.ly/2pRyDvM))

- **BINGO:** an innovative training network working on breeding of invertebrates for the next generation of Biocontrol (EC contribution: 3,3 M€ - [www.bingo-itn.eu](http://www.bingo-itn.eu))

Basic science in the field is also supported by the **European Research Council** while more applied innovation is supported by the **SME instrument**.

## In the pipeline – 10 projects to start under 2017 and 2018 SC2 calls (49 M€)

Validation of diagnostic tools for animal and plant health	(1 project, 3 M€)
Emerging diseases and pests in plants and terrestrial livestock	(2 projects, 10 M€)
Innovations in plant protection	(3 projects, 10 M€)
Biodiversity in action: across farmland and the value chain	(2 projects, 14 M€)
Stepping up integrated pest management	(1 project, 5 M€)
New and emerging risks in plant health	(1 project, 7 M€)

## Funding opportunities - Open SC2 calls for 2019 (22 M€) - 2020

<b>SFS-04-2019-2020: Integrated health approaches and alternatives to pesticide use</b>	
A. (2019) Integration of plant protection in a global health approach	(1 project, 15 M€)
B. (2020) Biocidal and plant protection products	
<b>SFS-05-2018-2019-2020: New and emerging risks to plant health</b>	
(2019)	(1 project, 7 M€)
(2020)	
<b>SFS-06-2018-2020: Stepping up integrated pest management</b>	
B. (2020) EU wide demonstration farm network	

