



Research support to pest risk assessment at EFSA

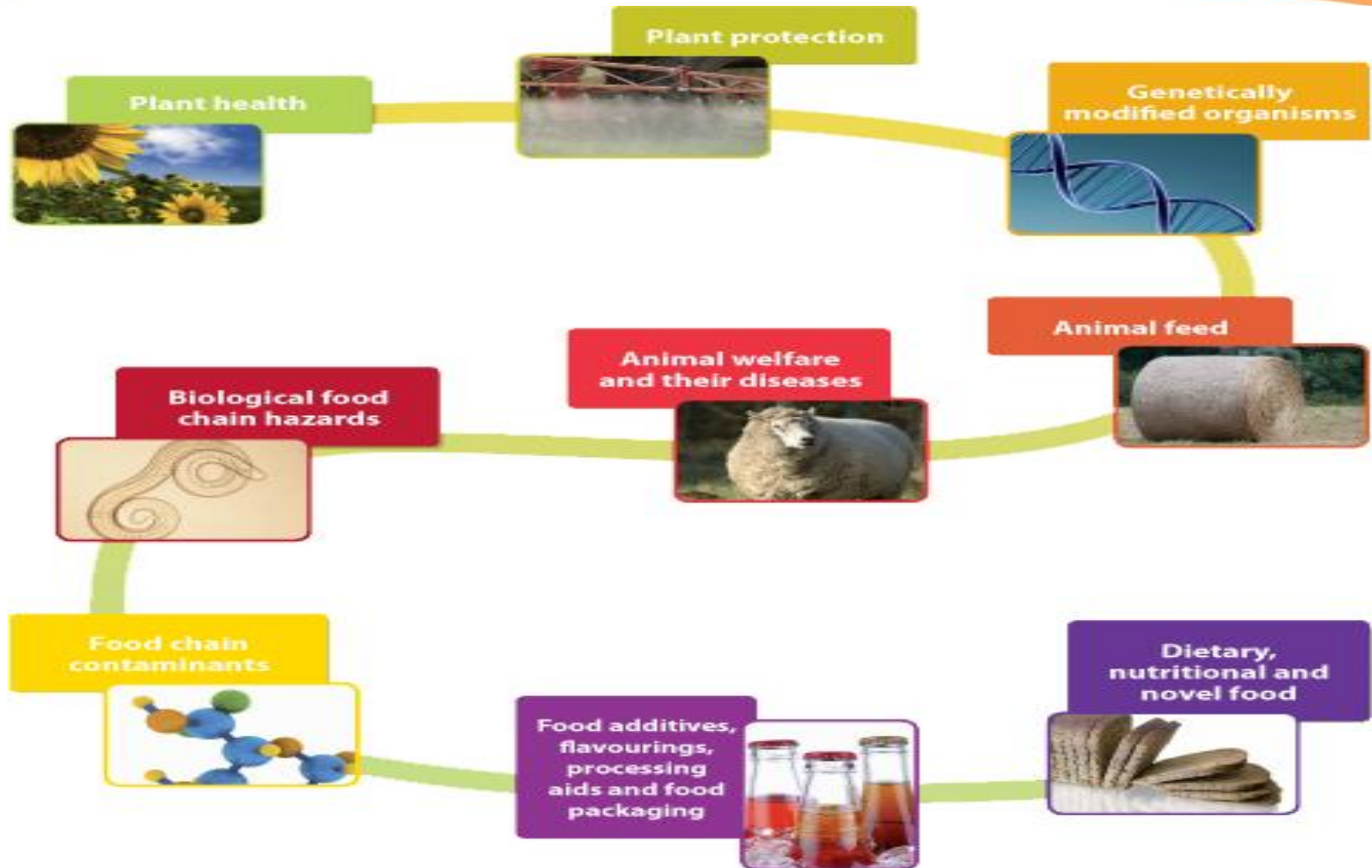
Giuseppe Stancanelli, Virag Kertesz, Mike Jeger and Sybren Vos

EFSA EPPO Joint Workshop on Data Collection and Information Sharing in Plant Health

- EFSA
- Plant Health Risk Assessment at EFSA
- Research and Plant Health Risk Assessment

- The European Food Safety Authority (EFSA) is an independent European agency funded by the EU budget that operates separately from the EU risk managers (European Commission, European Parliament and EU Member States)
- EU body for **Risk Assessment** and **Risk Communication** on risks associated with the food chain: **food and feed safety, animal and plant health.**
- Aims to provide **independent, evidence-based and fit for purpose scientific advice**

Advice on food and feed safety and animal and plant health throughout the food chain



Two main risk assessment areas

- EFSA's advice serves to inform the policies and decisions of EU risk managers on risks associated with the food chain:
 - ❑ **Regulated products/applications** (GM, Pesticides, Feed additives, Food additives, Flavorings, Food packaging, Health claims in labels....)
 - ❑ **Generic risk assessment for the food chain** (biological hazards, chemical contaminants, animal health and welfare, plant health, ...)

Communication – EFSA publications

publication on
the EFSA
Webpage

www.efsa.europa.eu

Languages:

EN opinion

+ DE, EN, FR, IT

background information



The screenshot shows the EFSA website with the 'Panels & units' tab selected. The 'Plant health' section is highlighted, featuring a sunflower image and a description of the Panel on Plant Health (PLH). The 'Publications' and 'News' sections are also visible, listing various reports and updates. A blue arrow points from the text 'publication on the EFSA Webpage' to the 'Publications' section.

efsa
European Food Safety Authority
Committed since 2002 to ensuring that Europe's food is safe

Search site Go

About EFSA News & events Topics A-Z Publications **Panels & units** Cooperation Applications helpdesk Calls & consultations

Home > Panels & units > Plant health

Plant health

The Panel on Plant Health (PLH) deals with organisms posing a risk to plant health. These include both plant pests which threaten crop production and species which threaten biodiversity. The Panel is supported by the Plant Health Unit.

Visit the different sections to find out about the Panel and its work.

Publications

- Qualitative methods to assess the effectiveness of risk reduction options
External Scientific Report - Published: 13 June 2012
- Guidance on evaluation of risk reduction options
Guidance of the PLH Panel - Published: 13 June 2012
- Report of the public consultation of the draft guidance on evaluation of risk reduction options
Technical report - Published: 13 June 2012
- Literature search: PCN and PCN-host interaction
External Scientific Report - Published: 19 April 2012

News

- Bee health: How EFSA is helping to protect our pollinators
30 March 2012
- EFSA opens up scientific meetings to Observers in pilot project
7 March 2012
- EFSA assesses pine wood nematode threat
24 January 2012

Events

- 37th plenary meeting of the PLH Panel
Bremen, 22 May 2012
- 36th plenary meeting of the PLH Panel
Parma, 21 March 2012
- 3rd meeting of the EFSA Scientific Network for Risk Assessment in Plant Health
Parma, 19 March 2012

Plant Health Risk Assessment at EFSA

International and EU Framework

SPS Agreement recognises as standard setting organisation for plant health the FAO's Secretariat of the **International Plant Protection Convention** <https://www.ippc.int/>

- **2000** EU Plant Health Directive (Dir. 2000/29/EC)
- **2002** Regulation EC 178/2002. EFSA responsible for RA on food and feed safety, animal health and welfare, nutrition, plant protection and **plant health**
- **2006** Commission Regulation (EC) No 575/2006. EFSA Scientific Panel on Plant Health established.



The EFSA Plant Health (PLH) Panel



Objectives

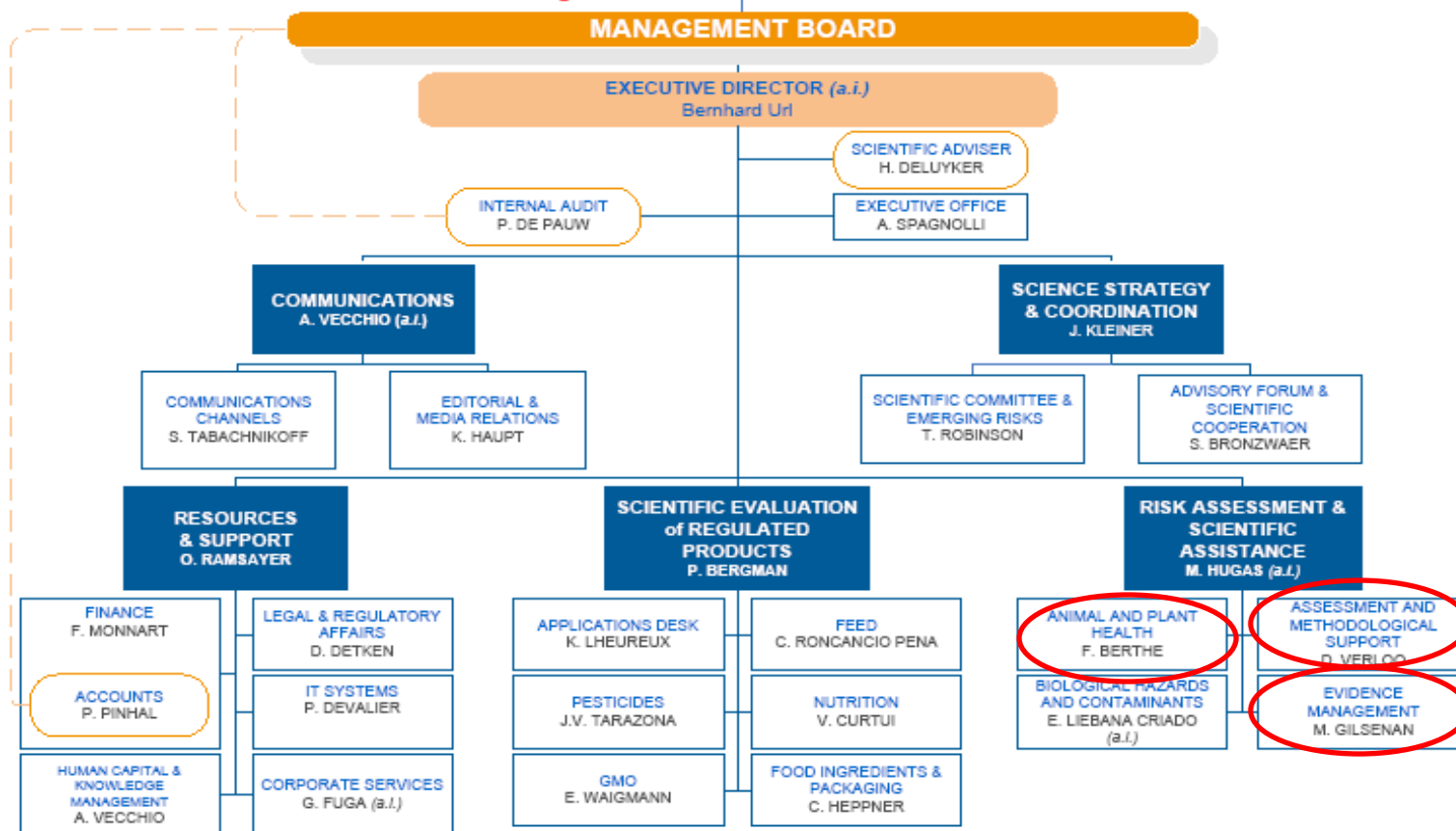
- ☐ Provision of high-quality, independent and transparent **scientific advice to EU risk managers**
- ☐ Contribution to development of **science-based approach for phytosanitary pest risk assessment**

PLH Panel (3rd term 2012-2015)

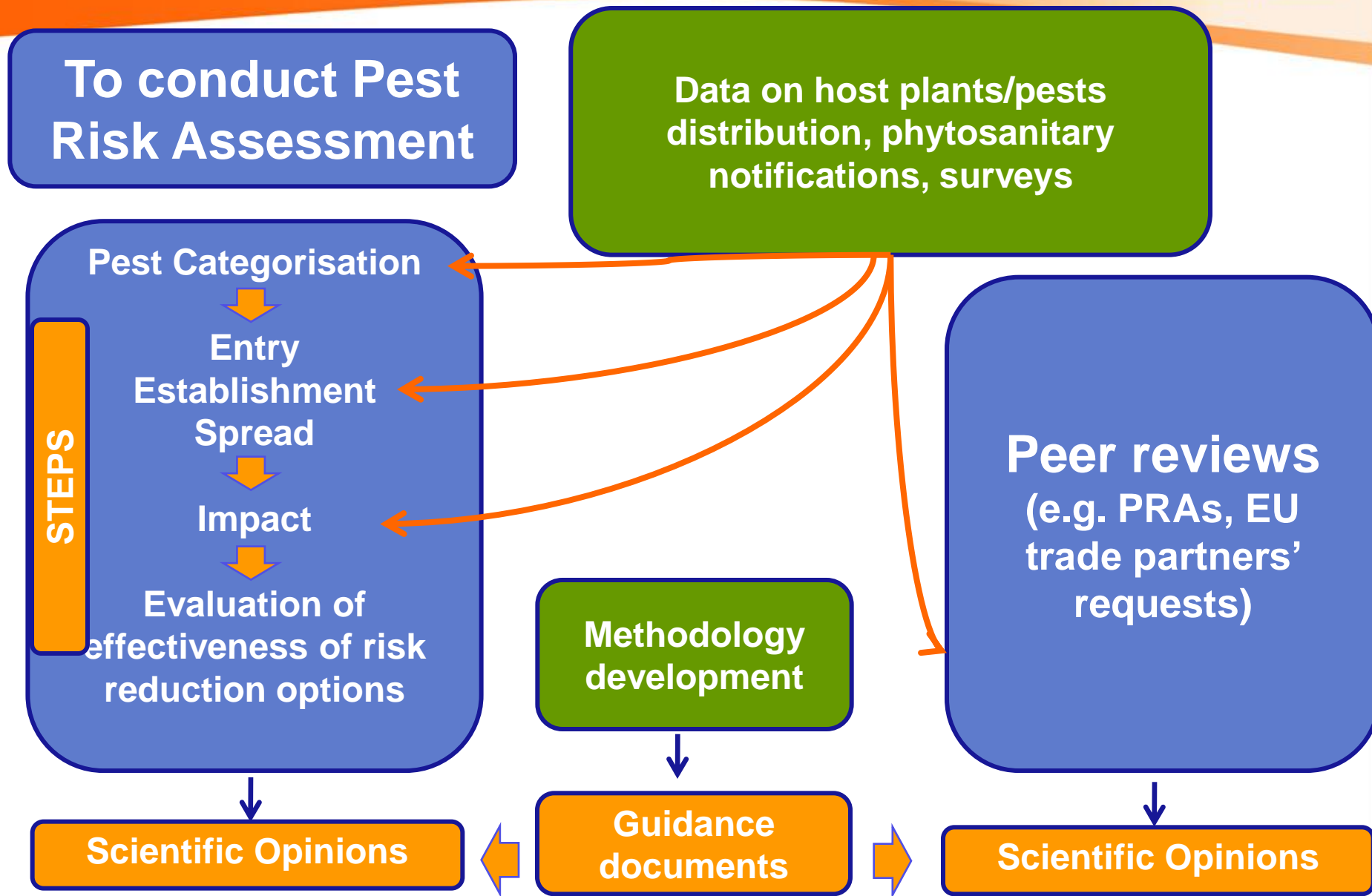
21 members of 13 different nationalities from academia, research and risk assessment

EFSA Units and Pest Risk Assessment

Organisational Structure on 1/2/2014



PLH Panel: remit



Evaluation (peer review) of pest risk assessments and risk management options prepared by third parties

Evaluation of risk reduction options



Harmonised framework for EU pest risk assessment



Environmental risk assessment of plant pests.
Validation → Apple snail

PLH Panel: risk assessments of global relevance / emerging risks



Citrus canker
JANUARY 2014



Bemisia tabaci and viruses
APRIL 2013



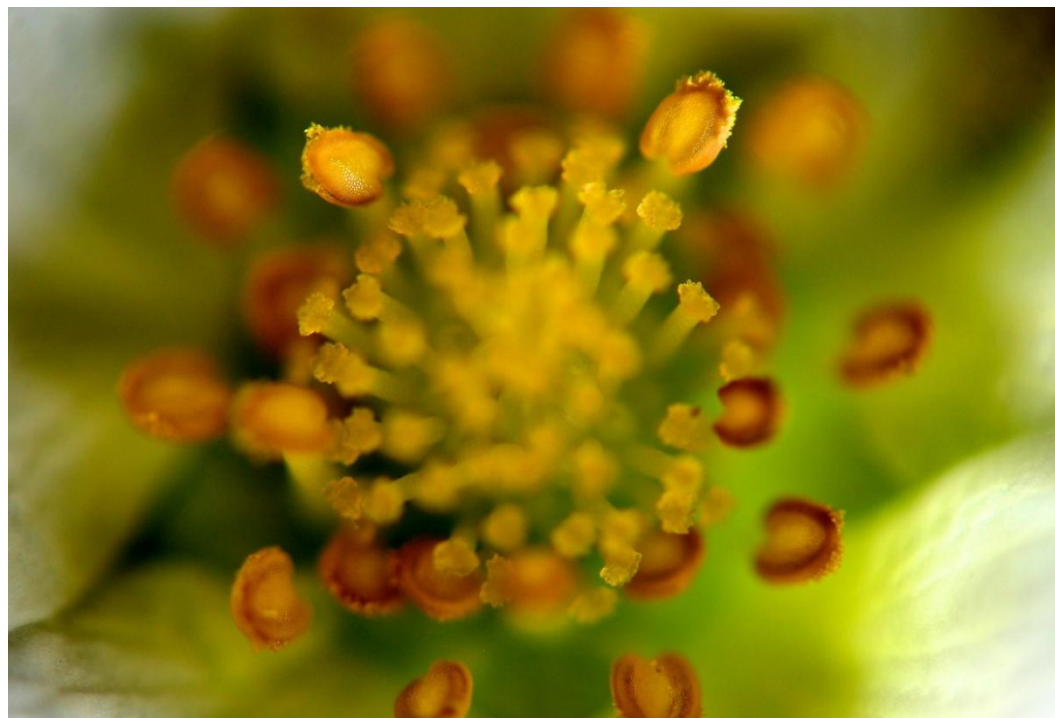
Xylella fastidiosa
NOVEMBER 2013
NOVEMBER 2014

PLH Panel: commodity-based risk assessment



Risk of plant viruses introduction with pollen of *Prunus*, *Malus*, *Pyrus*, *Cydonia*, *Fragaria*, *Ribes* and *Rubus*.
SEPTEMBER 2013

Risk for plant health of soil and growing media
ONGOING (2015)



EFSA support to new Plant Health law: PRAs to update EU lists

PRA for listed pests in EFSA funded cooperation project *Prima phacie* 2009-2012

22 PRA for listed pests by EFSA PLH Panel in 2012-2013

40 pest categorisations of listed pests (2 steps approach, fit for purpose advice) by EFSA PLH Panel in 2014.



Research and Plant Health Risk Assessment

- The assessment of plant health risk include the identification and analysis of uncertainties
- The analysis of uncertainties helps to identify key knowledge gaps for quarantine pests and provide recommendations for future research

Laboratory research

- Taxonomy
- Ecoclimatic requirements
- Host susceptibility
-

“Dry laboratory”

- Modelling
- Literature review
- Media monitoring
-

Field research

- Surveys/host range
- Epidemiology
- Ecology
-

EU RESEARCH

- Sixth framework Programme FP6 (2002-2006)
http://ec.europa.eu/research/fp6/index_en.cfm
- Seventh Framework Programme FP7 (2007-2013)
http://cordis.europa.eu/fp7/home_en.html
- Horizon 2020 The EU Framework Programme for Research and Innovation (2014-2020)
<http://ec.europa.eu/programmes/horizon2020/en>

EUPHRESKO phytosanitary ERA-net TRANSNATIONAL RESEARCH

- Euphresco I
- Euphresco II
- Euphresco at EPPO



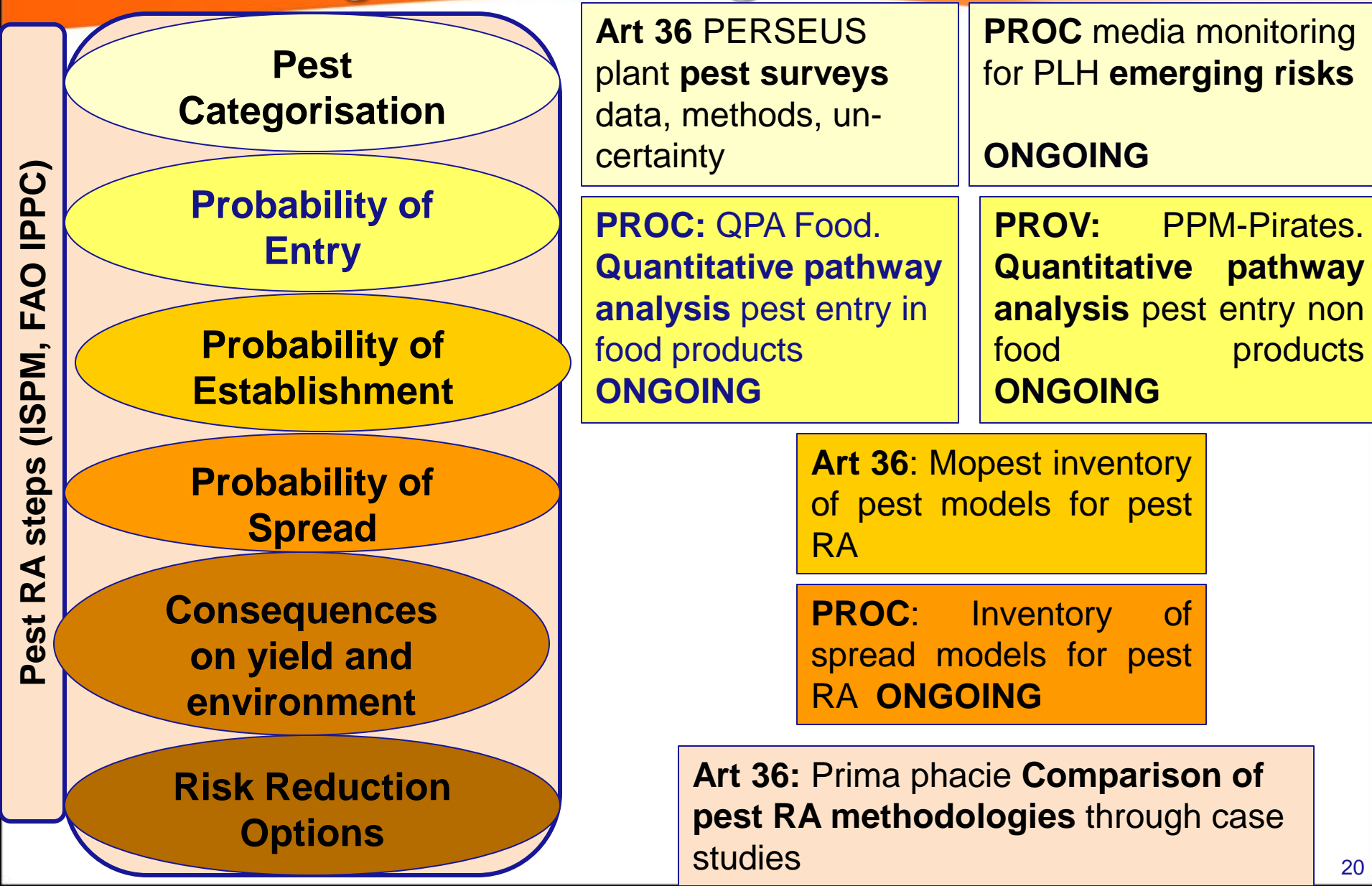
NATIONAL PLANT HEALTH RESEARCH

28 EU Member States

EFSA PLANT HEALTH RESEARCH

- Cooperation
<http://www.efsa.europa.eu/en/calls/art36grants.htm>
- Procurements
<http://www.efsa.europa.eu/en/procurement/tenders.htm>

EFSA plant health cooperation and outsourcing: methodologies



EFSA plant health cooperation and outsourcing : data

Pest RA steps (ISPM, FAO IPPC)

**Pest
Categorisation**

**Probability of
Entry**

**Probability of
Establishment**

**Probability of
Spread**

**Consequences
on yield and
environment**

**Risk Reduction
Options**

PROC: Experiment on splash dispersal of **Citrus black spot** fungus from infected oranges

PROC **JRC:**
CLIMPEST EU
climate suitability

PROC JRC: EU plant hosts and environment **Forestry** maps

Art 36: Prassis
inventory data
sources for pest RA

PROC: FWC framework contract for **Statistics** and data management **ONGOING**

PROC: FWC
Framework contract for **Systematic Literature Review**
ONGOING

PROC: FWC framework contract for data generation, compilation and interpretation. **NEW PLANNED**

Example of “dry lab” research for a commodity risk assessment



Extensive Literature Search for:

- ☐ Inventory of soil & growing media
- ☐ Inventory of pests associated with soil & growing media

LEI Wageningen UR (NL)

Benaki Phytopathological Institute (EL)



Risk assessment for plant health of
soil and growing media
(ONGOING)

Example of field research for pest risk assessment

Small scale experimental studies: The relative role of human activities and psyllid vectors in the dissemination of European stone fruit yellows in apricot orchards

*Sauvion
and
Labonne,
INRA
Montpellier*

“exchanges between wild *Prunus* and apricot trees are significant as a natural pathways for the spread of ESFY: psyllids acquiring the pathogen from wild *Prunus* sp. transmitted them in the orchards”



Risk assessment for *Candidatus Phytoplasma prunorum* for the EU territory, In MacLeod et al., 2012. Prima phacie report . Pest risk assessment for the EU Plant Health. A comparative approach with case studies. Available at www.efsa.europa.eu/publications

Example of laboratory research for pest risk assessment



Perryman and
West, 2014

Splash dispersal of *Phyllosticta citricarpa* conidia from infected citrus fruit. Available online:

<http://www.efsa.europa.eu/en/supporting/pub/560e.htm>



Risk assessment for *Phyllosticta citricarpa* for the EU territory
<http://www.efsa.europa.eu/en/efsajournal/pub/3557.htm>

- PRA and its uncertainties help to identify knowledge gaps for quarantine pests and provides recommendations for future research to reduce these uncertainties
- PRA uncertainties can contribute to:
 - ❑ Prioritisation of research topics
 - ❑ A shared plant health research agenda

Questions

