PEST FREE AREAS: HOW EPPO CAN HELP ITS MEMBER COUNTRIES IMPLEMENTING AND RECOGNIZING PFAs?

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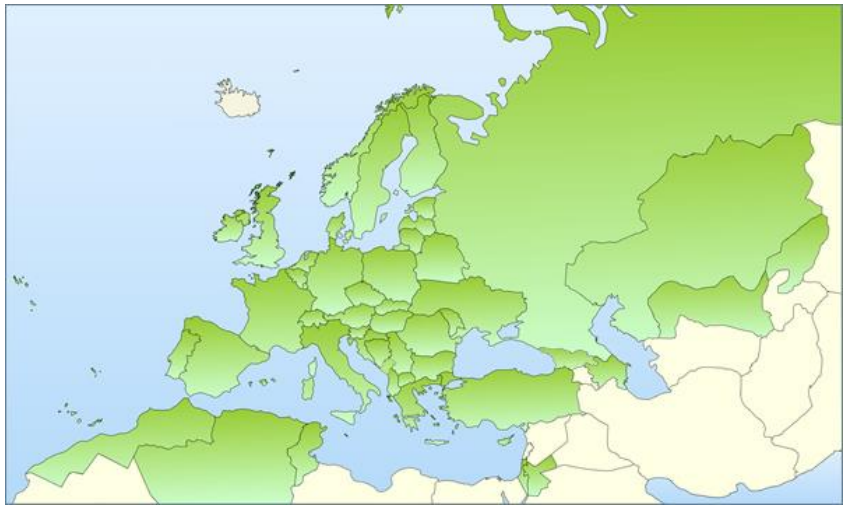
European and Mediterranean Plant Protection Organization

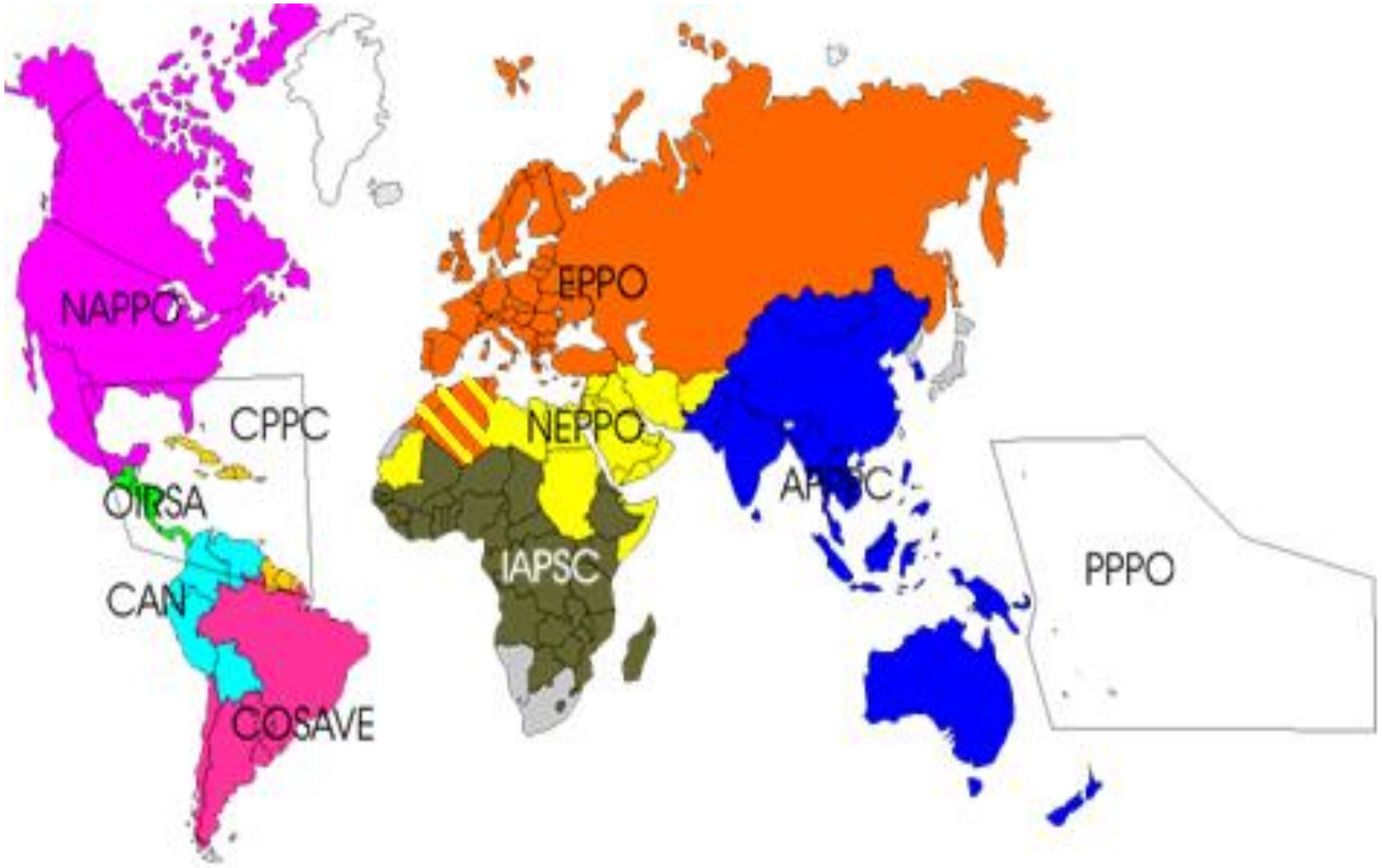
- EPPO is an intergovernmental organization
- Created in 1951 by 15 countries
- It has now 52 member countries
- Two Permanent Observers (EEC and EC)
- International cooperation in plant protection: plant quarantine and pest control



extends to the far east of Russia

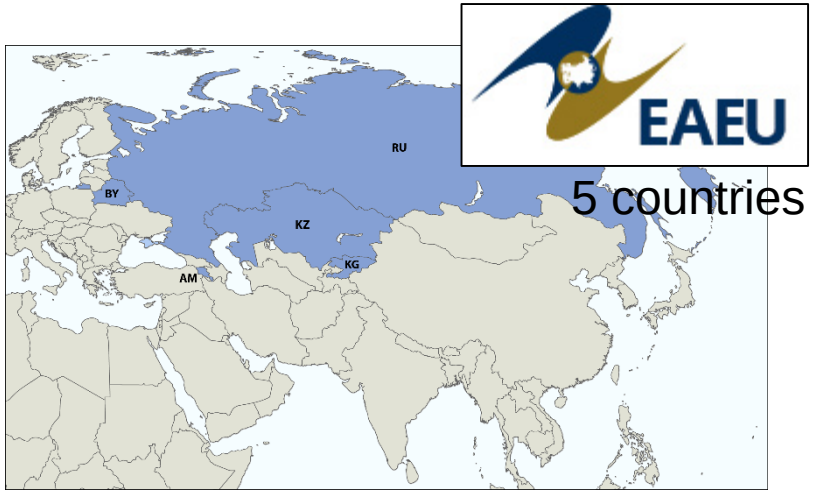
Work with National Plant Protection Organizations - NPPOs (Plant Protection Services)

One of the 10 Regional Plant Protection Organizations in the World

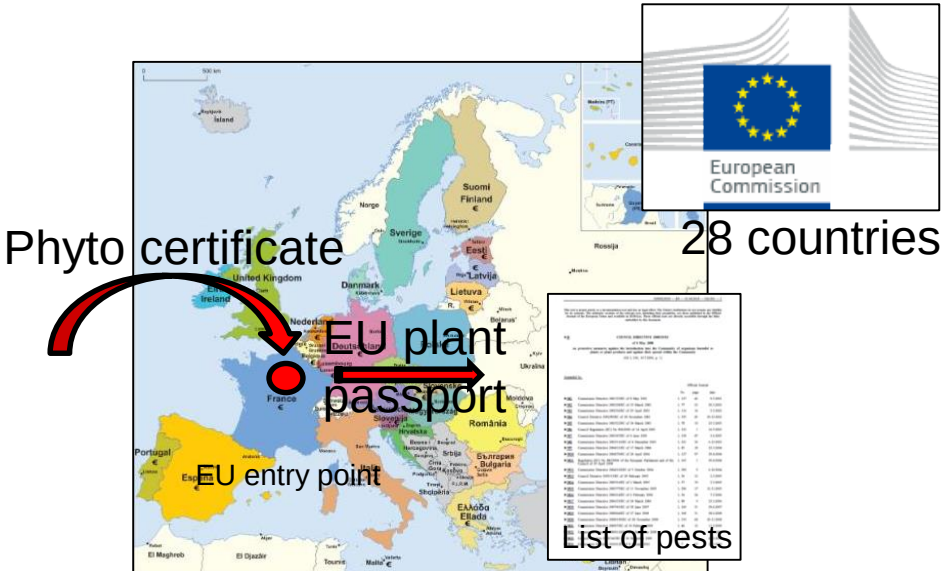


EPPO and regulations in countries

- EPPO makes recommendations
- Plant health regulations generally defined at national level



- 2 common markets (EU, EAEU) with common pest lists & harmonized regulations



EPPO's remit

- Plant quarantine
- Efficacy of plant protection products
- Invasive alien plants
- Biological control agents

BY

- **Preparation and adoption of regional technical standards**
- **Input to development of international standards**
- **Provision of information to EPPO members**
- **Promotion of sharing of information and expertise through networks**

EPPO's missions in plant quarantine

Prevent entry and spread of harmful organisms (crops, forests, natural environments)

- Early warning/horizon scanning

  e.g. Alert list: pests presenting a risk *may be selected later for conducting a PRA*

- Recommendations on pests which should be regulated as quarantine pests

  A1 list: pests not present in the EPPO region

  A2 list: pests present in the EPPO region (limited distribution)

  Including recommendations of phytosanitary measures

- Prepare standards (e.g. phytosanitary inspections, diagnostic protocols)

Provide information to EPPO members on pests

- Regulated pests
- Pests which may present a risk to the EPPO region

Guidance for Pest-free areas in EPPO are given in

Pest Specific Pest Risk Analysis (include measures that can be recommended for imported consignments)

Standards on Official Control (PM 9) (include elements relevant for the establishment and maintenance of PFAs)

Measures recommended at import are based on Pest Risk Analysis

Decision-Support Schemes developed in EPPO since the 1990s

Assessment: PM 5/5 (1) Decision-Support Scheme for an Express Pest Risk Analysis

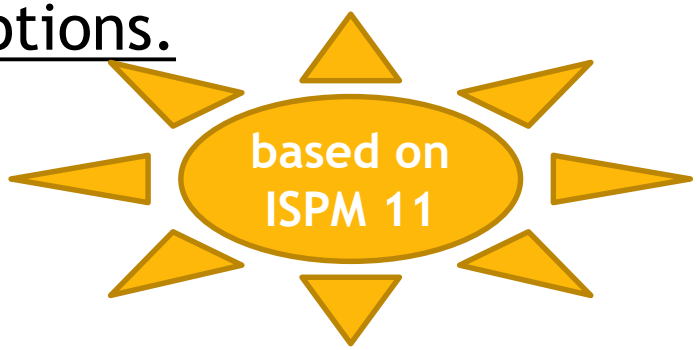
- to determine whether an organism has the characteristics of a quarantine pest

Remark: EPPO is developing a detailed guidance for PM 5/5 to be included in an online tool to perform PRAs

Management : Section 7 of PM 5/3 (5) Decision-support scheme for quarantine pests

- to identify potential management options.

Available at https://gd.eppo.int/standards/PM5/



Since 2005 a system in place for performing and reviewing PRAs

EPPO lists of regulated pests (since 1975)

A1 list of pests not present in the EPPO region

A2 list of pests present in the EPPO region

2019 nearly 400 pests

The addition of a pest to the EPPO lists must be supported by a PRA

PRA prepared by an individual country or another organization e.g. EFSA

PRAs performed by EPPO Expert Working Groups for PRA

PRAs reviewed by the Panel on Phytosanitary Measures, Quarantine Pest for Forestry, Measures for Potatoes or the Panel on Invasive Alien Plants for plants

EPPO Council recommends to EPPO members to add the pests to their list of regulated pests

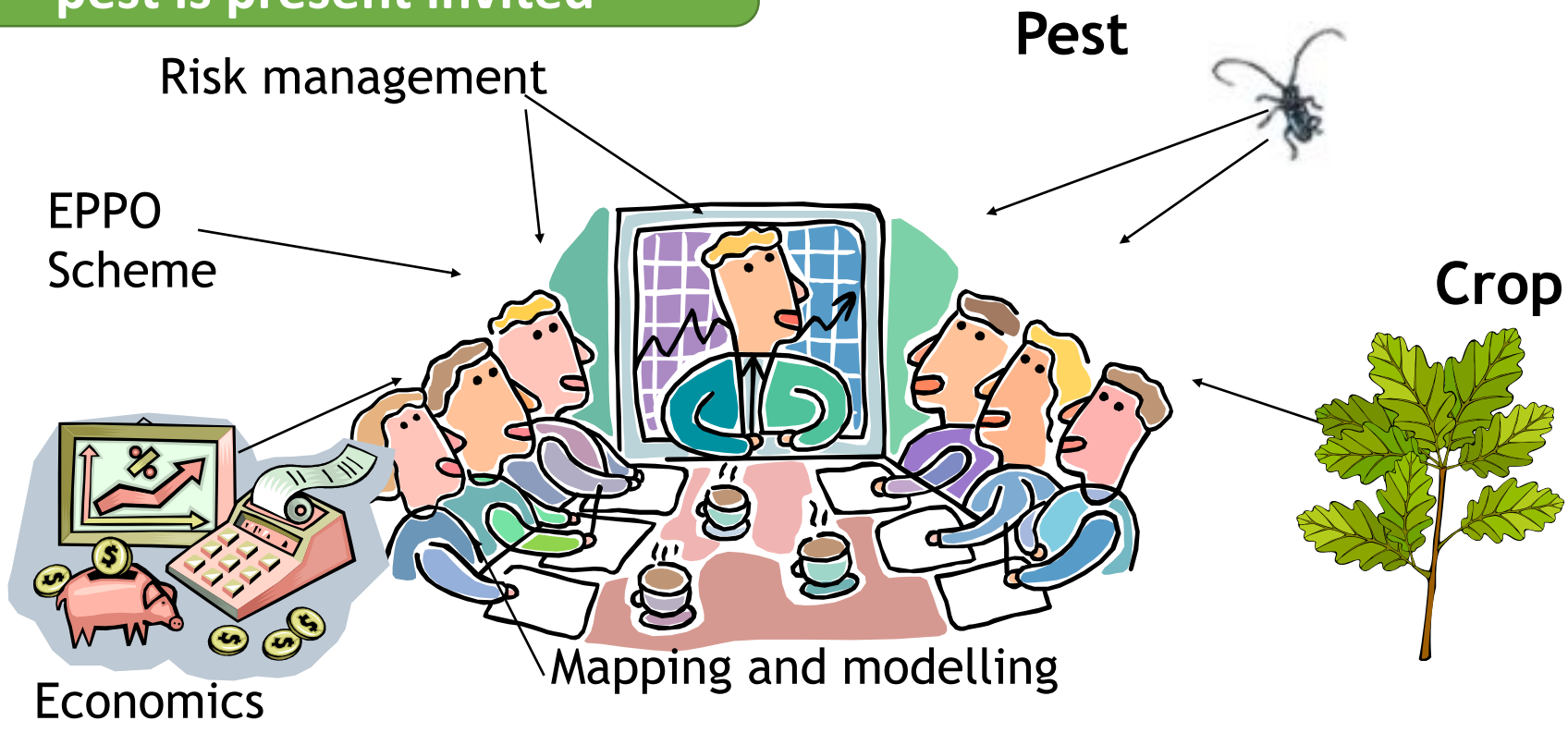
EPPO Expert Working Groups for PRA

Objectives:
Perform risk assessment
Identify the endangered area
Identify risk management options

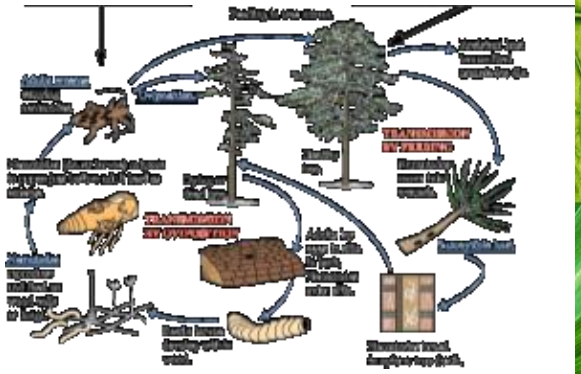
Core members + *ad hoc* members

Since 2005 approx 5 EWGs per year organized

Experts from area(s) where the pest is present invited



The process:
Use of PM 5/5 and PM 5/3 which cover all section of ISPM 11



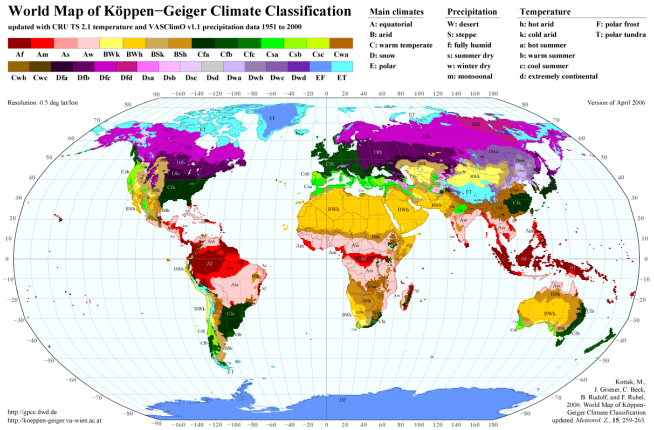
Stage 1. Initiation

- Reason for performing the PRA
- PRA area

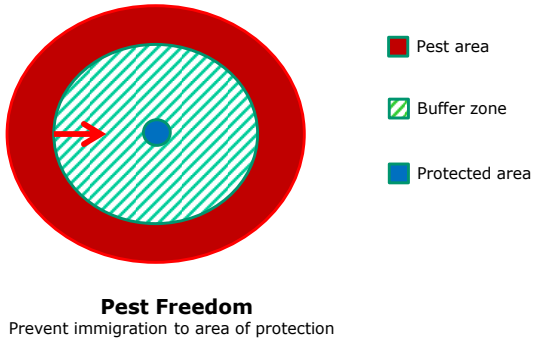
Stage 2. Pest risk assessment

PM 5/5

- Taxonomy
- Pest overview
- Host plants
- Need for vector
- Geographical distribution
- Possible pathways for entry
- Likelihood of establishment in the PRA area;
- Spread in the PRA area
- Impact in the current area of distribution
- Potential impact in the PRA area
- Identification of the endangered area



Stage 3. Pest risk management (according to section 7 of PM 5/3)



Pest Freedom
Prevent immigration to area of protection

Phytosanitary measures

- **at origin or in the exporting country**
- at the point of entry or
- within the importing country or invaded area

Pest Free Area is one of the option considered

Combination of measures in a System Approach

Prohibitions

Restrictions

PM 5/3
Section 7

Hot water treatment of grapevine

Phosphine treatment

Surveillance

Pest Free Areas in PM 5/3

Establishment and maintenance of pest freedom of a crop, place of production or area

*Based on **pest spread capacity** without prejudice to any other measure that can be recommended.*

Very low rate of natural spread (<10m)	**pest freedom of the crop, or pest-free place of production or pest-free area**
Low to moderate rate of natural spread (>10 m but <10 km)	**pest-free place of production or pest free area**
High to very high rate of natural spread (>10 km)	**pest-free area**

Pest Free Area recommended as a measure for all types of natural spread capacity but next question

Can pest freedom of an area be reliably guaranteed?

i.e. it should be possible to fulfil the requirements outlined in ISPM 4. Consideration to be given to unintentional movement of the pest by human assistance

Discussions between experts on the spread capacity (simplified expert elicitation) and other elements to establish the conditions suitable for a PFA

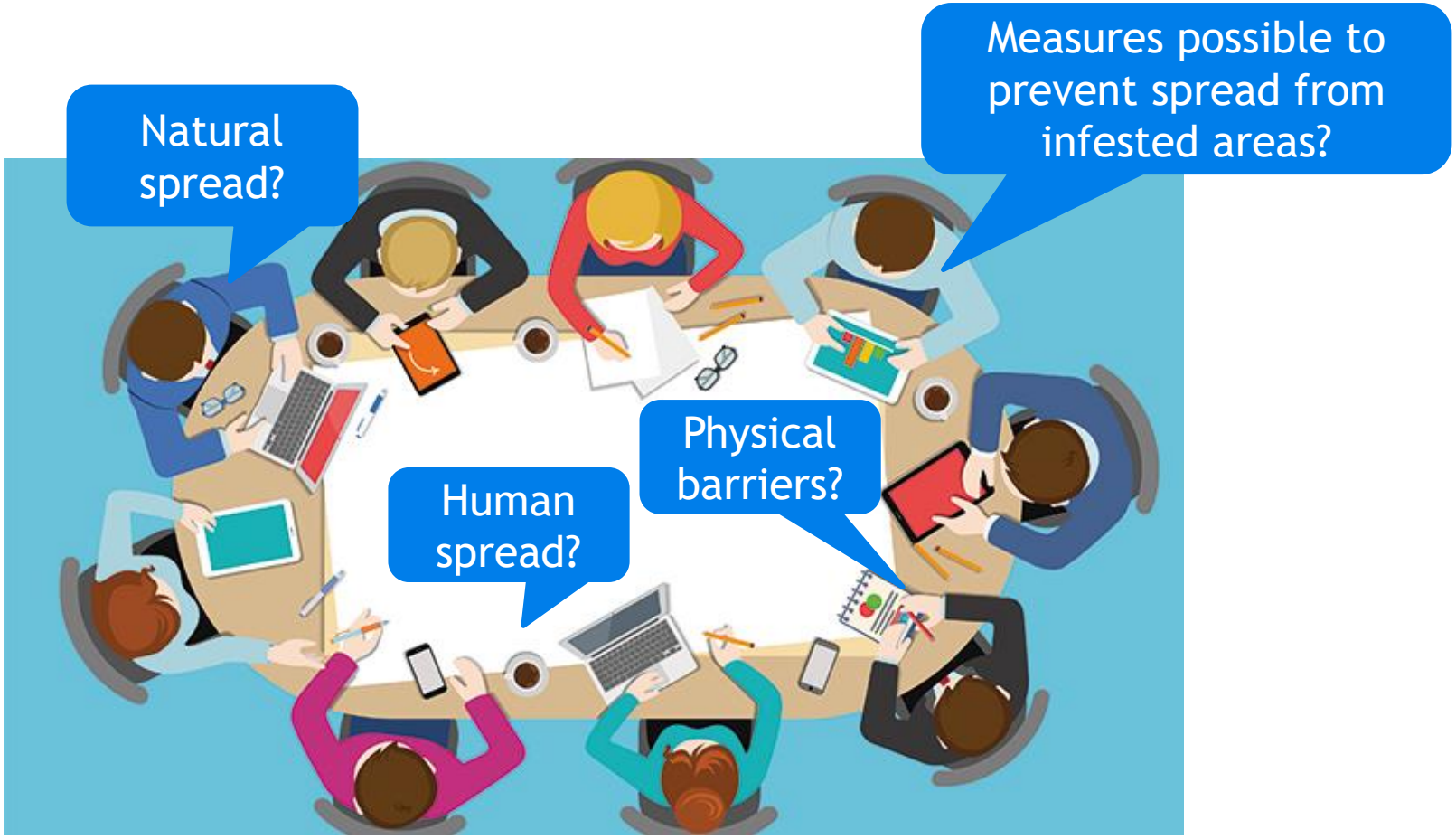


Illustration with a few examples

Recommendations for a PFA for *Agrilus planipennis* (2013) also for *A. bilineatus* & *A. fleischeri* (2019)

- Minimum distance of **100 km between the PFA and the closest known area where the pest is known to be present**.
- Detailed surveys and monitoring (using trapping and other methods) should be conducted in the area in **the three years prior to establishment of the PFA and continued every year**.
- **Specific surveys** should also be carried out in the zone between the PFA and known infestation **to demonstrate pest freedom**. Surveys should be targeted for the pest and based on appropriate combination of trapping, branch sampling and visual examination of host trees.
- Surveys should include high risk locations, such as places where potentially infested material may have been imported.
- **Restrictions on movement of host material** (originating from areas where the pest is known to be present) into the PFA, and into the area surrounding the PFA, especially the area between the PFA and the closest area of known infestation.

Not considered applicable in the native range of *A. bilineatus* & *A. fleischeri*

Massicus raddei- oak longhorn beetle

- Surveillance data required from exporting country to demonstrate pest absence and on how pest freedom is maintained.
- If present in part of the country,
  - specific surveys should be conducted to delimitate and to maintain the PFA
  - Prevention of movement of infested plants or wood to the PFA
  - PFA should be distant from any infestation. EWG considered that at least 2 km is appropriate for a PFA situation (based on Anoplophora – EU Implementing decision 2015/893)
  - At least two official inspections for any signs of *M. raddei* annually at appropriate times and no signs of the organism should have been found in the past 6 years (corresponding to 2 generations)
  - Trapping
  - Inspection of consignments including targeted destructive sampling

Requirements for a PFA for *Lycorma delicatula (2016)*

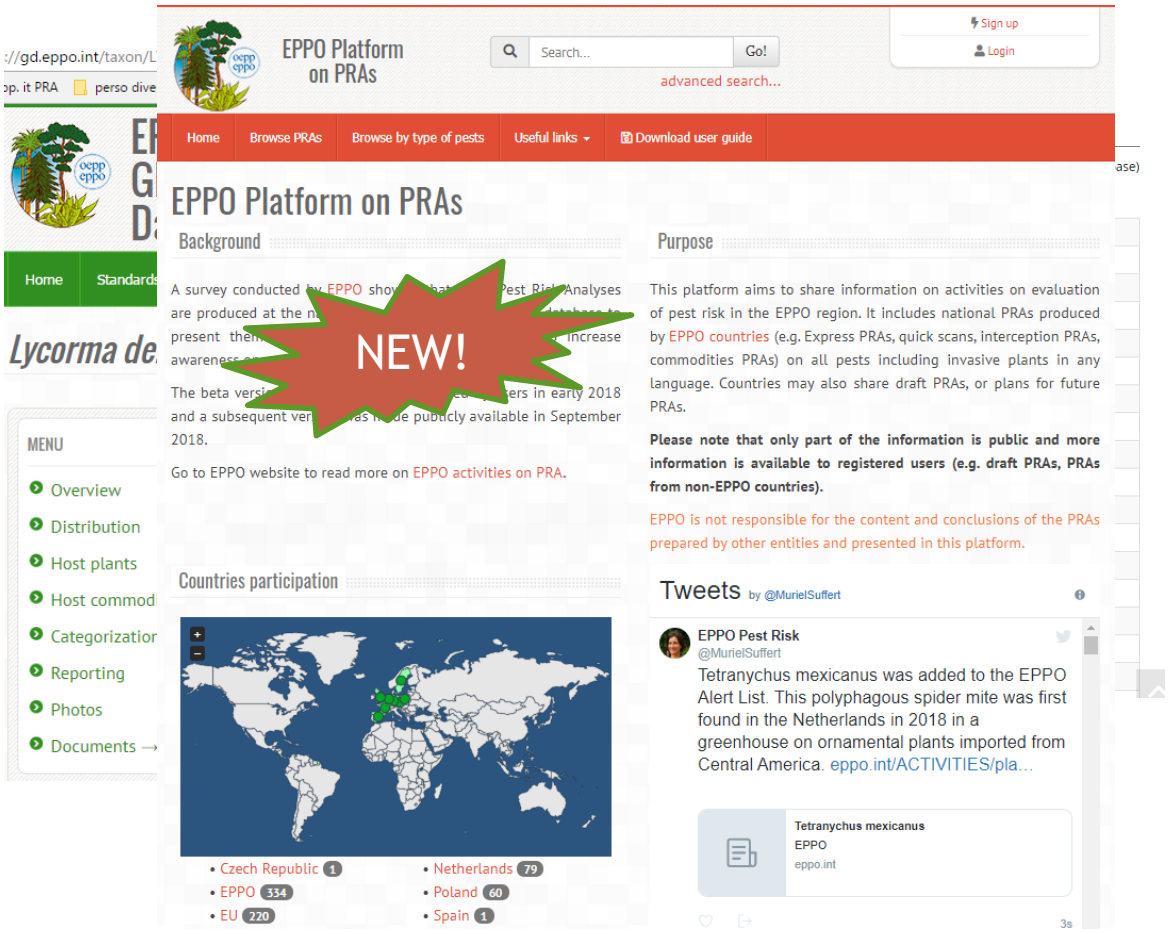
- Use of brown sticky traps for nymphs
- Specialized identification capacities should be available but nymphs and adults are quite characteristic
- limited natural spread, but may progress locally by **human-assisted movement** on various materials
- control on movement of hosts, equipment and packaging, etc. as well as relevant manmade items in and out of the area. Egg masses may be transported on a wide variety of such items, and **such controls may be difficult to implement in practice**
- Consequently maintaining PFAs may not be feasible in some circumstances
- Natural spread: the EWG considered (based on the flight distance of an adult, on expert observations and knowledge) that a distance of 200 m from an infested area was appropriate for a spread distance for 95% of the population

Communication on PRA

PRA documents available in EPPO Global Database and Platform on PRAs:

Datasheets

Reports of PRA



These working-procedures provide to EPPO member countries appropriate information for the technical justification of phytosanitary measures established for certain pests

Standards on Official control developed by different EPPO Panels

- Panel on Quarantine Pests for Forestry
- Panel on Phytosanitary Measures
- Panel on Phytosanitary Measures for Potato
- Panel on Invasive Alien Plants



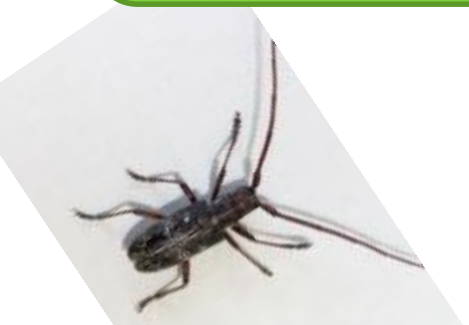

Complemented by Standards on Phytosanitary Inspections and on Diagnostics

PM 9/1 (6): Guidance on detection surveys for Pine Wood Nematode (Extract)

Annual surveys should concentrate on :

1. Weakened trees
2. 1–2-year-old logging sites
3. Trees in non-forest locations (e.g. parks, street trees) close to potential points of introduction of *B. xylophilus* and wood-processing yards
4. Immediate vicinity of collection stations for fuel wood and trees

Guidance distinguishing situations where wilt symptoms are likely to occur or not



Trapping for vectors followed by testing, sampling of tress with signs of activities of *Monochamus*

PM 9/25 (1) *Bactericera cockerelli* and '*Candidatus* Liberibacter solanacearum'

The objectives of the control system for *B. cockerelli* and '*Ca*. L. solanacearum' haplotypes A and B are:

…..

- to determine if the pests are present in the country through surveillance of potential hosts (e.g. solanaceous hosts) and, if present, to determine their distribution

…..

Surveillance

- Use of existing systems for the certification of seed potatoes, inspections during harvesting, grading or in storage, annual surveys for other pests (Cms, Rs) (symptoms described in EPPO Datasheets)
- Specific surveys to establish or confirm the pest-free status
- Trapping for vectors
- Surveys of potato and other solanaceous crops including weeds (visual examination of foliage for vectors in early stages, focussing on field edges)

More in https://gd.eppo.int/standards/PM9/

Challenges of establishing Pest Free Areas

- Evaluation of spread capacity of the pest
  - lack of data,
  - identifying if data are extreme data

Difficult to establish the distance between the nearest infested zone and PFA and to determine size of buffer zones

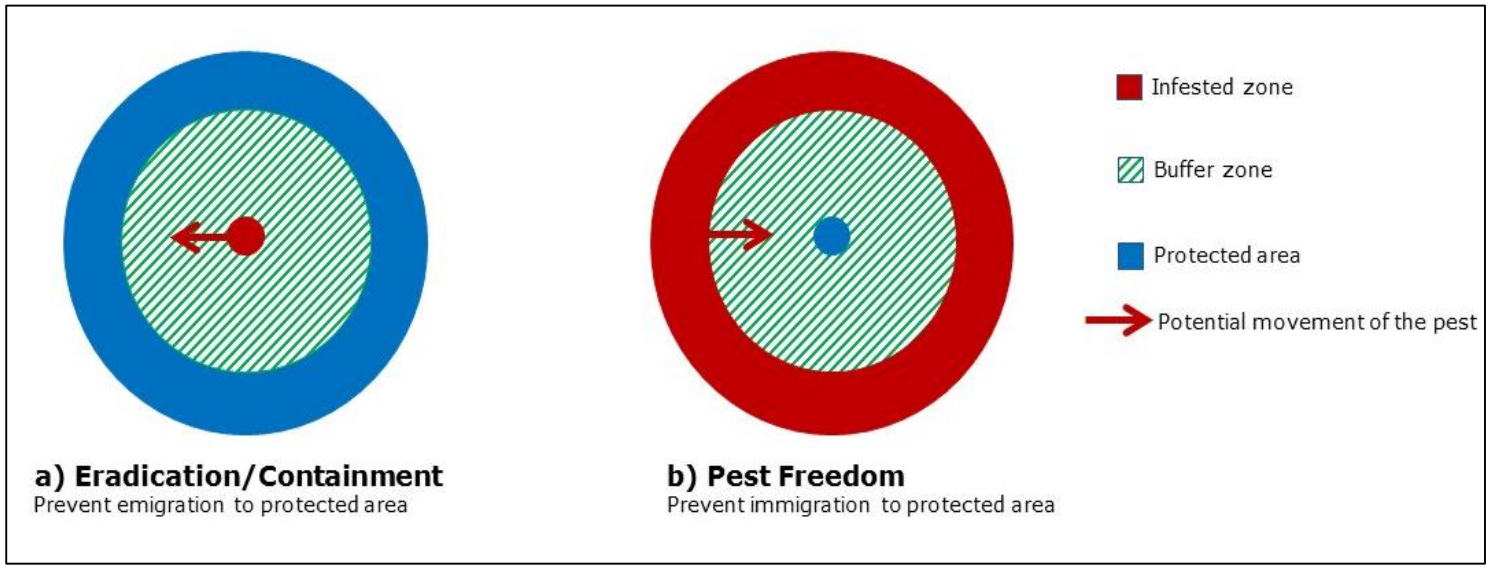
- E.g. PRA for *Heterobasidion irregulare* & Thousand cankers disease *(Geosmithia morbida* and *Pityophthorus juglandis)*
  - PFA conditions: area isolated by appropriate physical barriers (e.g. absence of hosts or sufficient distance) **or minimum distance from the limits of infested areas of 100km.**

Rationale for the distance challenged by the EPPO Working Party on Phytosanitary Regulations

Guidelines on the design and implementation of buffer zones (in progress)

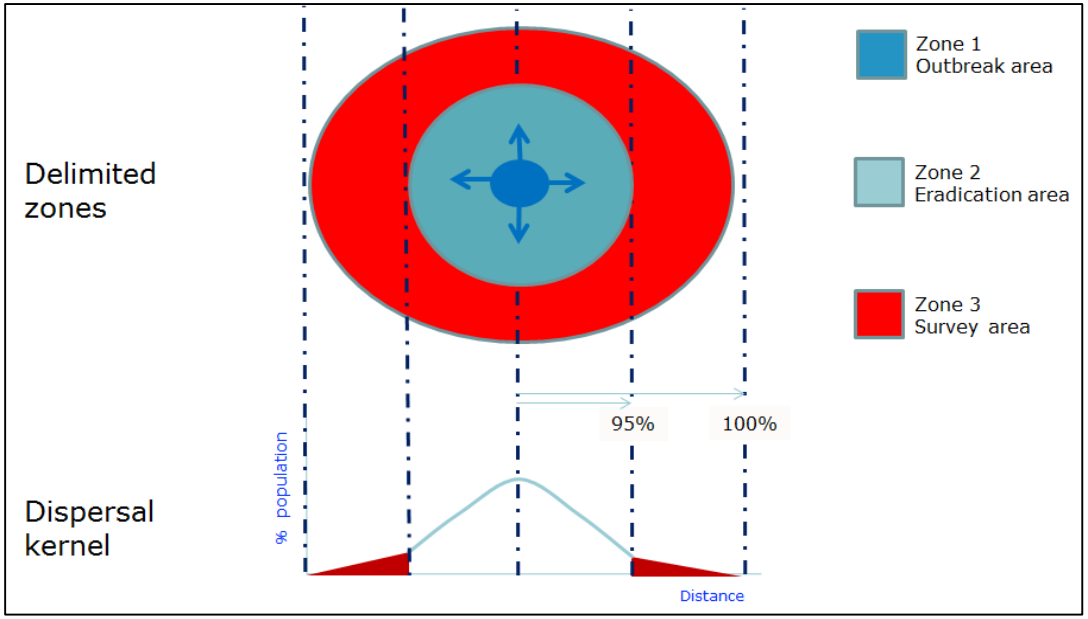
Guidelines on the design and implementation of a buffer zone

- **Scope:** provides general guidance on how to design buffer zones to minimize the probability of spread of a pest into or out of delimited areas
- **Public:** risk assessors and risk managers, to help traceability of recommendations in Pest Risk Analysis or contingency plans, or when deciding on measures for an outbreak



Key element: Estimation of dispersal behaviour

- Based on Literature review, data retrieval & expert judgement
- Dispersal behaviour usually described by a dispersal kernel



- When possible, models analyzing suitable data should be used
- Estimation of a risk parameter can also be done using expert knowledge elicitation (EKE): estimation of the range, median, lower and upper quartile of a parameter

-> EWG with experts on the biology, risk manager & a facilitator

Testing the guidance

Draft guidance developed by an expert group, and circulated to EPPO countries for consultation. It should now be tested in an expert group for 2 pests to revise recommendations made in the PRAs.

Objective: finalization in 2020

Heterobasidion irregulare

Geosmithia morbida (the thousand cankers disease) and its vector *Pityophthorus juglandis*

EPPO's achievements are only possible because of the collaboration of experts from our region but also from other parts of the world. Thanks to all!

All EPPO Standards and recommendations are available in Global Database