



# PM3 Standards on phytosanitary inspections

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**Workshop for inspectors on tools available for inspections**



[emphasisproject.eu](http://emphasisproject.eu)



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# Standard

*Document established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context [FAO, 1995; ISO/IEC GUIDE 2:1991 definition]*



# Why do we need Standards?

NPPOs perform inspections to detect pests:

on imported consignments  
(imported or exported)

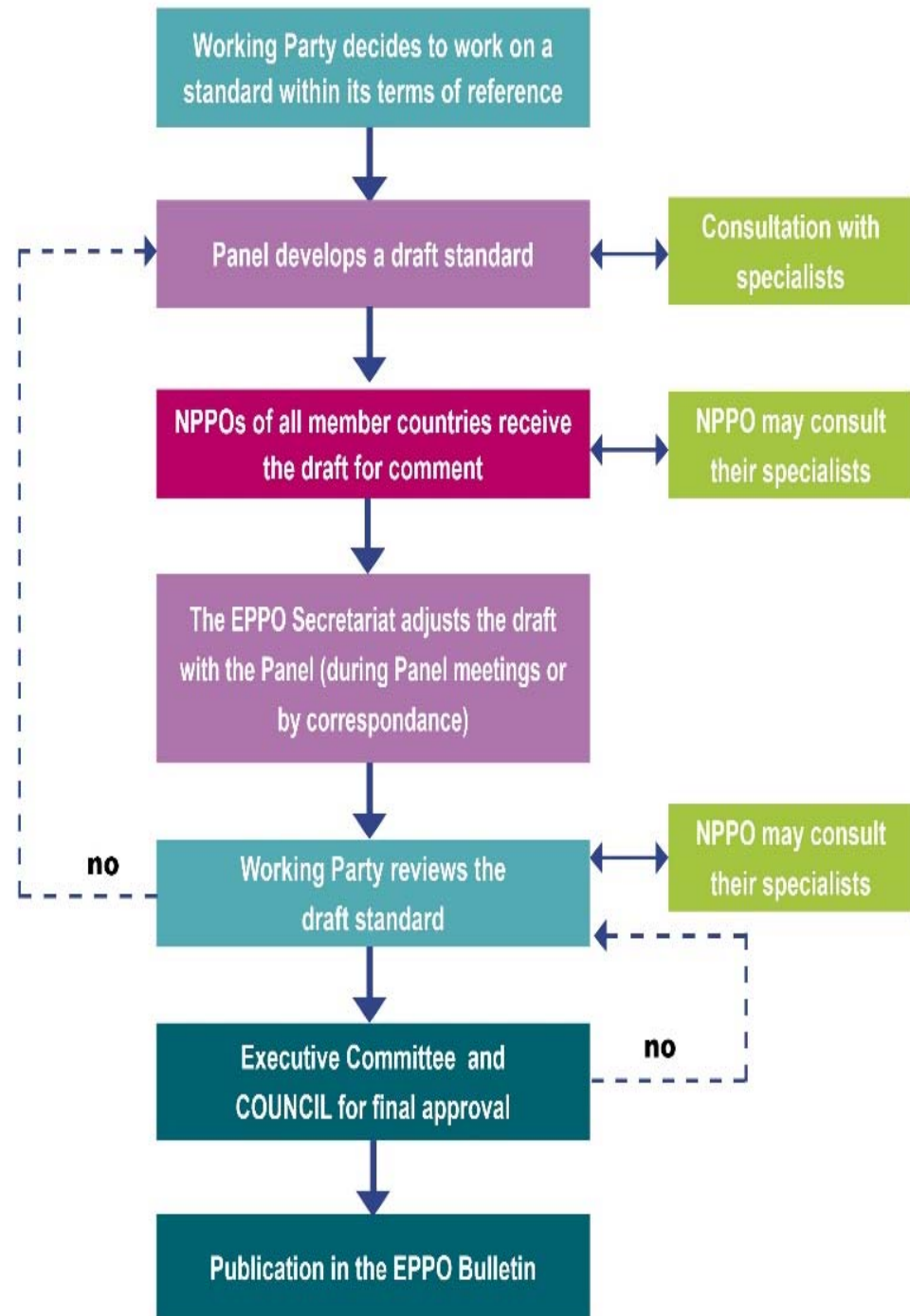


for the surveillance of their  
territory (in fields, nurseries  
glasshouses....)



# Standard setting in EPPO

- Standards are written according to a “common format and content”.
- First drafts of Standards prepared by an assigned expert author(s) or by a drafting team and reviewed by the relevant EPPO Expert groups.
- Standards are approved following an approval procedure which involves a formal written consultation of all EPPO Member countries.
- Standards are published in the EPPO Bulletin and are freely available. Also available from the EPPO Global Database <https://gd.eppo.int/>



# Series of EPPO Standards including guidance on inspection

## PM 3 - Phytosanitary procedures

Standards describing the methods to be followed for performing inspections of commodities moving in trade, or surveys against quarantine pests.

## PM 9 - National Regulatory Control Systems standards

Standards providing procedures for official control with the aim of containing and eradicating pests.

Other standards providing useful information for inspection:

## PM 7- Diagnostic protocols

Standards including elements on detection, symptom description and guidance on plant parts to sample.



# History of the Panel



- EPPPO has a programme on phytosanitary procedures for a number of years
- Work on the Panel work was suspended in 2007
- Activity reactivated in 2013
- Panel was called Phytosanitary procedures, now called Panel on Phytosanitary Inspections





# Terms of reference: Panel on Phytosanitary Inspections

- To develop inspection procedures, including sampling for visual inspection and laboratory testing.
- To review all phytosanitary requirements recommended by EPPO and identify and prioritize those which depend on an 'EPPO-recommended procedure'.
- To review the existing Standards of series EPPO Standards PM3 (except treatments) and plan their revision and updating and to determine the priorities for the preparation of new Standards.
- To identify a Steward responsible for the preparation of the Standard, and to suggest possible experts to participate in an *ad hoc* group.



Terms  
of  
Reference

# Examples of PM 3 Standards

## Generic standards

- PM 3/72 (2): Elements common to inspection of places of production, area-wide surveillance, inspection of consignments and lot identification
- PM 3/65 Sampling of consignments for visual phytosanitary inspection -  
**Replaced by: ISPM no. 31 - Methodologies for sampling of consignment (IPPC, 2008)**

## Specific standards

- PM 3/76 (1) Trees of *Malus*, *Pyrus*, *Cydonia* and *Prunus* spp. - inspection of places of production
- PM 3/77 (1) Vegetable plants for planting under protected conditions - inspection of places of production
- PM 3/78 (1) Consignment inspection of seed and grain of cereals
- PM 3/79 (1) Consignment inspection for *Anoplophora chinensis* and *Anoplophora glabripennis*
- PM 3/80 (1) Consignment inspection of seed of *Solanum lycopersicum*
- PM 3/81 (1) Inspection of consignments for *Xylella fastidiosa*
- PM 3/82 (1) Inspection of places of production for *Xylella fastidiosa*





# Existing standards on phytosanitary procedures for potato (general)

- PM 3/61(1) Pest-free areas and pest-free production and distribution systems for quarantine pests of potato
- PM 3/71(1) General crop inspection procedure for potatoes

## “Satellite standards”

- PM 3/62(2) Production of pathogen-free microplants of potato
- PM 3/63(2) Production of pathogen-free minitubers of potato
- PM 3/70(1) Export certification and import compliance checking for potato tubers



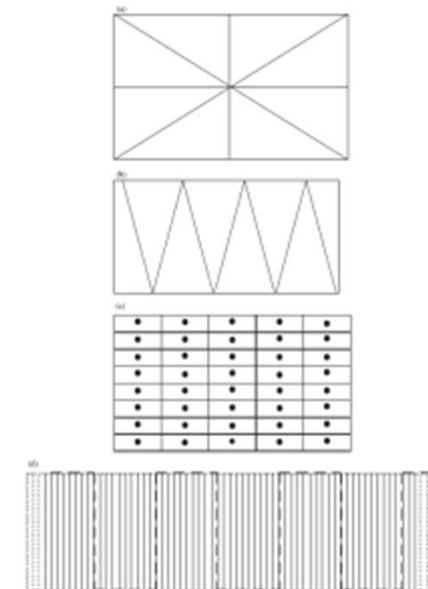
# PM 3/71 General crop inspection procedure for potatoes



- provides guidance on the programme of inspections (visual examination, sample collection and documentary checks) on potatoes for export
- covers inspections for production of seed, ware potatoes and provides guidance on inspections made:
  - In the field before planting
  - On seed potato tubers prior to planting
  - On the growing crop
  - On harvested tubers
  - On surveys to determine pest status



Examples for sampling soil in bare fields



# EPPO Standards on phytosanitary procedures for specific potato pests

- PM 3/59(2) *Synchytrium endobioticum*: soil tests and descheduling of previously infested plots
- PM 3/68(1) Testing of potato varieties to assess resistance to *Globodera rostochiensis* and *Globodera pallida*
- PM 3/69(1) *Meloidogyne chitwoodi* and *M. fallax*: sampling potato tubers for detection



# Specific scope: PM3/82 (1) Inspection of places of production for *Xylella fastidiosa*

## COVERS:

- All potential host plants
- Insects vectors
- Place of production for export
- Place of production for internal country movements
- Place of production part of national survey.



## NOT COVERED:

- Eradication or containment measures in infected areas, or
- measures needed to establish and maintain pest-free places of production within areas where the pest is known to occur.



Symptoms of quick decline on olive observed in Puglia (IT).

# General contents of PM 3 Standards (as of 2016)

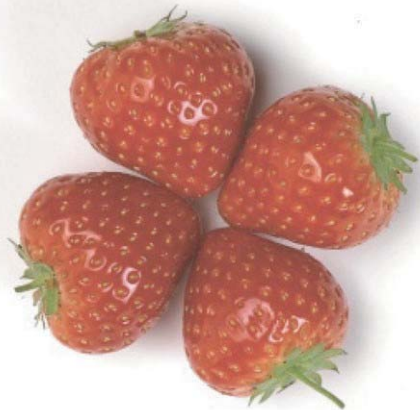
- Specific scope
- Introduction
- Phytosanitary inspections
- Crop / Commodity concerned
- Pests of concern for the EPPO region
- Sampling for laboratory testing
  
- Appendix 1: Specific procedures
- Appendix 2: Short procedure for inspectors



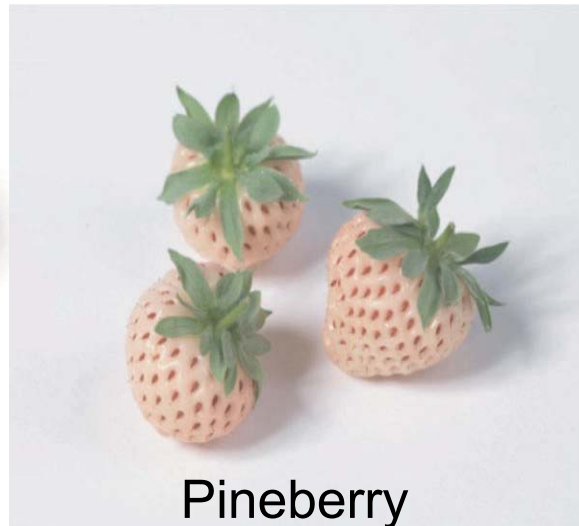


# PM 3/83 (1) *Fragaria* plants for planting – inspection of places of production

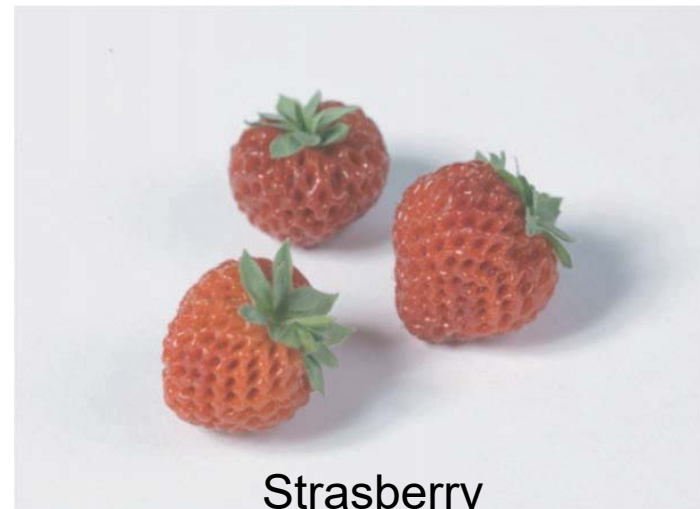
- This Standard describes the procedure for inspection of places of production of *Fragaria* plants for planting.



Garden strawberry



Pineberry



Strasberry

## PM 3/73 Consignment inspection of *Fragaria* plants for planting (EPPO 2008)





# PM 3/83 (1) *Fragaria* plants for planting – inspection of places of production

## General elements for phytosanitary inspections

Specific elements should address the questions:

- What should be selected for inspection? Which parts?
- When should inspections take place and under what conditions (e.g. light, weather)?
- Where should inspections take place, including any inspections in the vicinity?
- What symptoms might be seen?
- How can inspections be targeted to maximise the probability of detection?



# PM 3/83 (1) *Fragaria* plants for planting – inspection of places of production

## General elements for phytosanitary inspections

- A lot defined as a number of plants of the same type and variety (e.g. Elsanta, Dar Select) from the same origin and planted at the same time.
- The size of the unit of inspection should be determined on the basis of lots undergoing inspection, according to ISPM 31 Methodologies for sampling of consignments.
- Inspection of a sample of 4600 plants selected at random provides at least 99% confidence of detecting a level of infection present in 0.1% of plants.



# PM 3/83 (1) *Fragaria* plants for planting – inspection of places of production

Table 1. Specific pests of *Fragaria*

A1 pests	A2 pests	Other pests regulated by specific EPPO member countries
Insects <i>Anthonomus bisignifer</i>		Insects <i>Chaetosiphon fragaefolii</i>
	Bacteria and phytoplasmas <i>Xanthomonas fragariae</i>	
	Fungi and fungi like organisms* <i>Phytophthora fragariae</i> var. <i>fragariae</i>	
	Viruses and viroids <i>Strawberry vein banding virus</i>	Viruses and viroids <i>Strawberry crinkle virus</i> , <i>Strawberry mild yellow edge virus</i> , <i>Strawberry mottle virus</i>

\**Phytophthora fragariae* var. *fragariae* belongs to the Kingdom Chromista.



Table 2. Polyphagous pests

A1 pests	A2 pests	Other pests regulated by specific EPPO member countries
Insects <i>Naupactus leucoloma</i>	Insects <i>Frankliniella occidentalis</i> , <i>Popillia japonica</i> , <i>Scirtothrips dorsalis</i>	Insects <i>Epiphyas postvittana</i>
	Bacteria and phytoplasmas <i>Phytoplasma solani</i>	
	Nematodes <i>Aphelenchoides besseyi</i> <i>Ditylenchus dipsaci</i> <i>Meloidogyne fallax</i>	Fungi <i>Colletotrichum acutatum</i> <i>Aphelenchoides fragariae</i> <i>Aphelenchoides ritzemabosi</i>
	Viruses and viroids <i>Raspberry ringspot virus</i> <i>Tomato ringspot virus</i>	Viruses and viroids <i>Apple mosaic virus</i> <i>Arabidopsis mosaic virus</i> <i>Strawberry latent ringspot virus</i> <i>Tomato black ring virus</i>



# PM 3 Standards provide guidance on sampling for laboratory testing

- Visual inspection alone is not considered to be sufficient
- Many pests may be present in a latent stage or not show any symptoms
- Plants can be traded with few or without any leaves



Laboratory testing should be done as a complementary check

- **Suspected plants** sampled if immediate identification of harmful organism or signs of them not possible
- **Random sampling of symptomless plants** to detect hidden or latent infections
- Sampling on a **lot basis**
- Samples = **complete plants**

**! Keep consignment under official control until test results are available !**



# Appendix 1: Specific procedures

For **each of the regulated pests** information is given on

- Symptoms which could be observed during inspection
- Plant parts most suitable for visual examination and for taking samples for laboratory testing
- Guidance on the sample size in case of random sampling
- Availability of an EPPO Diagnostic Protocol





# Appendix I: Symptoms and sampling for identification of quarantine pests of *Fragaria* plants for planting

## Symptom description

- The beetle skeletonizes the leaves - chewing out tissue between veins
- Leaves may turn brown and fall.
- The larvae simply cause feeding damage to the roots of host plants.

## Sampling and identification

- Adults can be detected by visual examination of green parts of plants
- Larvae by visual examination of roots in soil.
- For adults traps containing food-type lures and/or sex attractants can be used.
- Samples for laboratory testing should be taken for final identification of the pest.
- Details on identification of *P. japonica* included in EPPO Standard PM 7/74 (1)  
*Popillia japonica*





# Appendix 2 – Short procedure for inspectors

- Timing of inspection
- Hygiene measures
- Lot identification
- Visual inspection
- Sampling for laboratory testing



# Role of Stewards

- Each Standard is assigned a Steward
- Responsible for reviewing Standards over time
- Evaluate new research, sampling /identification procedures,
- Reports back to the Panel,

**UPDATE**



# Current Standards being developed by the Panel on Phytosanitary Inspections

- Inspection Standard on Inspection of places of production for *Candidatus Phytoplasma pyri*
- Draft inspection Standard on wood chips
- Draft inspection Standard on citrus fruit consignments
- Draft inspection Standard on grape vine places of production



# Breakout session: needs of inspectors

- 1) What Standards relating to phytosanitary inspections would you like to see produced to improve the way you work?
- 2) What inspection tools do you most commonly work with and do you have ideas for new tools to improve your everyday work life?
- 3) What areas of training do you consider you would most benefit from to improve your everyday work life?
- 4) Where are the main information gaps in phytosanitary inspections, detection and surveillance?
- 5) Networking between inspectors - what can be done so we do it better?





*EPPO's achievements are based on collaboration between experts from our region.*



*Thank you for your attention!*

