RNQP Project

… a 2-year project contracted with the EU COM for benefit to the entire EPPO region

WORKSHOP ON REGULATED PESTS: Risk analysis & listing

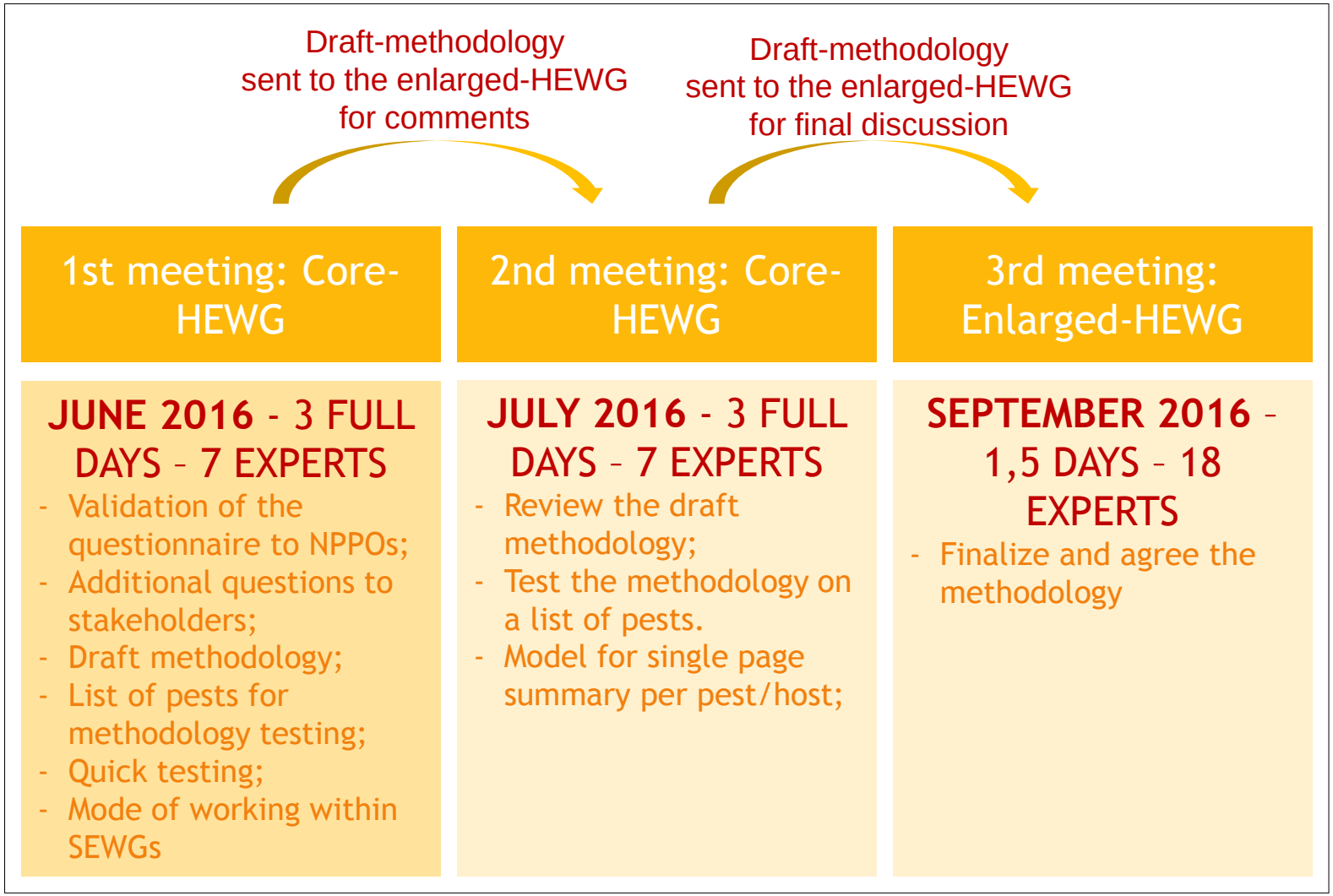
SESSION 2: Assessment of the RNQP status

2. Methodology developed ;

Introduction: Basic principles

- A methodology with elimination/qualification questions to evaluate approximately 1400 pest/host intended use combinations;
- A single page summary for each pest/host combination;

1 – Development of a methodology within an Horizontal EWG



A methodology tested on 13 entries/21 pests

Some discussions/conclusions:

- *Listing pests as RNQP (e.g.* Dickeya *and* Pectobacterium *on* Solanum tuberosum*) even if measures may be based on symptoms (e.g. Blackleg);*

- *Listing a virus as RNQP (e.g. TSWV) without listing the vector (e.g.* Frankliniella occidentalis*); even though treatments on the vector are defined in the recommended risk management measures;*

- *Listing a pest at genus rather than at species level (e.g. pospiviroïds) is also a question of simplification of the regime (and cost) vs. targetting of measures;*

- 2016-09: Agreement of 18 experts on the developped methodology
- 2017-06: Endorsement by the EPPO Working Party on Phytosanitary Regulations;

- 2017-10: Publication in the EPPO Bulletin;
https://onlinelibrary.wiley.com/doi/abs/10.1111/epp.12420

Bulletin OEPP/EPPO Bulletin (2017) 47 (3), 551–558 ISSN 0250-8052. DOI: 10.1111/epp.12420

A methodology for preparing a list of recommended regulated non-quarantine pests (RNQPs)

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The concept of 'regulated non-quarantine pest' (RNQP) was introduced in the revised text of the FAO International Plant Protection Convention (IPPC) approved in 1997. Measures against quarantine pests (exclusion, eradication, containment) aim to prevent unacceptable economic, environmental and social impacts resulting from the introduction and/or spread of these pests. On the contrary, the concept of RNQPs is intended to prevent an unacceptable economic impact on the intended use of plants for planting by pests that are already present in the area. RNQPs have been introduced in the new EU plant health regulation, in line with available international standards. This regulation entered into force in December 2016 and will be implemented in the following 3 years. In this context, EPPO agreed to undertake a 2-year project on RNQPs: the EU Quality Pest Project. The objective of this project was to develop a methodology and then to apply this methodology to a list of about 1400 pest–host combinations to identify which should be recommended as RNQPs.

This methodology is presented in this paper, as well as the main issues discussed during its development.

Introduction

The phytosanitary concept 'regulated non-quarantine pest'

To date, few countries have used the RNQP concept explicitly. Those that have include Uruguay, Brazil (De Hoop, 2011), Azerbaijan, Russia and the Ukraine (EPPO

2 – Different steps for the application of the methodology

- **The initiation stage:** listing + naming of candidate pests and hosts, including resolution of current taxonomic status

[mainly done by EPPO Secretariat]

- **The initial categorisation**: elimination of those pests which do not fulfil the essential criteria for RNQP status

[done by EPPO secretariat based on scientific data and literature, supplemented by questionnaire responses and then validated and/or completed by Sector Expert Working Groups]

- **Assessment:** finalisation of the categorisation to recommend a list of RNQP

[based on scientific data, literature, and/or practical expertise within Sector Expert Working Groups]

3 – The different criteria defined

Mainly coming from EU Regulation 2016/2031, ISPM16, ISPM21

- Qualification question: based on PM4;
- Elimination question: on Taxonomy, Status in the EU, Pathways, Economic impact, Risk Management Measures;
- Final question: on the Data quality;

A – PM4 (qualification question)

PM4

A1 – Is the pest already listed in a PM4 standard on the concerned host plant? [by EPPO]

Yes: Recommended for the RNQP status – based on PM4

No

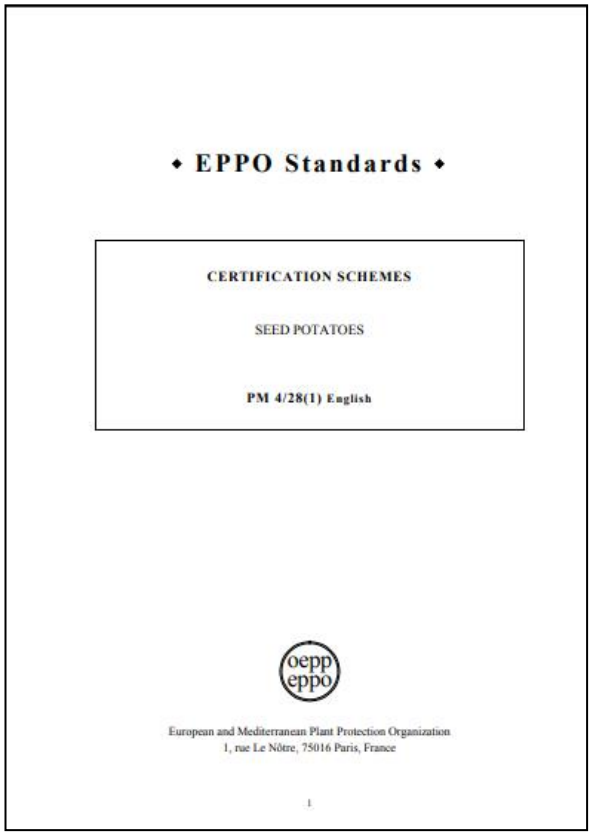
Continue

Justification: through a peer reviewed process there was an agreement at EPPO level that this pest was relevant for certification.

Remark: Categorisations may be reviewed by the SEWG and further evaluation is not excluded (e.g. when pests are transmitted by vectors).

Ex: *Rhizoctonia solani* (Black scurf) on **seed potatoes**

Photo from https://www.unece.org



◆ EPPO Standards ◆

CERTIFICATION SCHEMES

SEED POTATOES

PM 4/28(1) English

oepp eppo

European and Mediterranean Plant Protection Organization
1, rue Le Nôtre, 75016 Paris, France

1

B – Taxonomy (elimination questions)

TAXONOMY

B1 - Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank? [by EPPO]

No → ✗

Yes → **B2 -** Is the pest defined at the species level or lower*? [by EPPO]

No → ✗

Yes → **B4 -** Is it justified that the pest is listed at a taxonomic rank below* species level? [by SEWGs]

Yes → **B3 -** Can listing of the pest at a taxonomic level higher** than species be supported by scientific reasons or can species be identified within the taxonomic rank which are the (main) pests of concern *(If Yes, please list the species)* ? [by EPPO, using Q.]

No → ✗

Yes → **Continue**

No → ✗

Remark: According to ISPM21, the **'identity of the pest'** and the **'taxonomic listing of hosts'** should be generally the species level. The use of a higher or lower taxonomic level should be supported by a scientifically sound rationale (for hosts, this was checked directly by SEWGs).

Ex: Blackleg disease on seed potatoes and the listing of ***Dickeya*** and ***Pectobacterium*** at the genus level

Photo from https://www.unece.org

C – Status in the EU (elimination questions)

STATUS IN EU

C1 - Is this pest already a quarantine pest for whole EU? [by EPPO]

Yes → ✗

No ↓

C2 - Is this pest present in the EU? [by EPPO]

No → ✗

Yes ↓

Continue

Remark (C1): ”quarantine pest for the whole EU” are considered those pests which are currently listed in **Annex I** and **Annex II** of Council Directive 2000/29/EC and in Commission emergency measures, apart from those proposed as RNQPs by the IIA2AWG.

-> Replace ‘EU’ by ‘area’ when used in another context

Remark (C2): For pest for which there is uncertainty concerning the presence in the EU, the answer to the question should be yes.

Ex: *Burkholderia caryophylli* on *Dianthus* plants (carnation)

Uncertainties about the presence in the EU and EPPO region linked to the application of efficient national voluntary certification schemes.

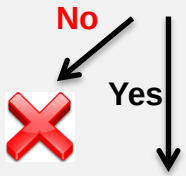
D – Pathways (elimination question)

PATHWAYS

D1 - Are the listed plants for planting the main pathway for the pest/host/intended use combination?

(to evaluate if it is the "main" pathway, we evaluate if plants for planting is a significant pathway compared to other pathways)

[by EPPO + SEWGs]



Continue

- *Justify that the plant species is a host, that the pest can be transported on the part of the plant that constitutes the plant for planting;*
- *List the other possible pathways;*
- *Give an assessment of the relative contribution of the pathways.*

Note:
The relative importance of plants for planting as a pathway should only be considered in relation to areas where the pest is present, not for movement into areas which are free from the pest.

Ex: *Paysandisia archon* on Palm trees

Plants for planting are not the main pathway in areas where the pest is present because of the natural dispersal capacity:
The pest is a strong flier: daily flight distance of minimum 6 m, mean 310 m and maximum 3 km (EFSA-PLH, 2014).

https://gd.eppo.int/taxon/PAYSAR/photos

D – Pathways (elimination question)

PATHWAYS

D1 - Are the listed plants for planting the main pathway for the pest/host/intended use combination?

(to evaluate if it is the "main" pathway, we evaluate if plants for planting is a significant pathway compared to other pathways)

[by EPPO + SEWGs]

No

Yes

Continue

Control measures or cultural practices can reduce the contribution of pathways other than plant for planting.

Ex: *Giberella fujikuroi* on ***Oryza sativa*** *seeds*

In case of a rotation with wheat (e.g. Camargue, France) or alfalfa, rice seeds can be considered as a significant pathway compared to other pathways.
In absence of rotation, or in case of rotation with highly sensitive crops, main source of contamination will come from the soil.

Rice seeds are considered to be a significant pathway compared to other pathways.

Photo: https://www.cropscience.bayer.com/en/crop-compendium/pests-diseases-weeds/diseases/gibberella-fujikuroi

E – Economic impact (elimination questions)

ECONOMIC IMPACT

E1 - Are there documented reports of any economic impact on the host? [by EPPO, using Q.]

No

Yes

E2 - What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures (= official measures)? [by SEWGs]

Minimal, Minor, Medium, Major, Massive

E3 - Is the economic impact due to the presence of the pest on the named host plant for planting, acceptable to the propagation and end user sectors concerned? [by SEWGs, using Q.]

Yes

No

E4 - Is there unacceptable economic impact caused to other hosts (or the same host with a different intended use) produced at the same place of production due to the transfer of the pest from the named host plant for planting ? [by SEWGs]

Continue

No

Yes

Continue

Note: Impacts of vectors pathogens combinations may need to be considered as well as direct impacts.

Remark (E2): Five level scale adapted from EPPO PM 5/3

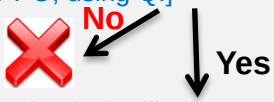
Ex (E4): *Citrus exocortis viroid* on tomato plants: economic impact on tomato, due to the transfer of **CEVd** from aubergine, even though it has no impact on aubergine;

Ex (E4): '*Candidatus* Phytoplasma mali' on ornamental *Malus*: economic impact on apple trees for fruit production, due to the transfer of **'*Ca.* P. mali'** from **ornamental** apple trees, even the impact is acceptable on ornamentals.

E – Economic impact (elimination questions)

ECONOMIC IMPACT

E1 - Are there documented reports of any economic impact on the host? [by EPPO, using Q.]



E2 - What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures (= official measures)? [by SEWGs]

Minimal, Minor, Medium, Major, Massive

E3 - Is the economic impact due to the presence of the pest on the named host plant for planting, acceptable to the propagation and end user sectors concerned? [by SEWGs, using Q.]

Continue

E4 - Is there unacceptable economic impact caused to other hosts (or the same host with a different intended use) produced at the same place of production due to the transfer of the pest from the named host plant for planting ? [by SEWGs]

Continue

Remark: Since RNQPs are present in the area, detailed first-hand information should be available.

However, RNQPs may already be subject to a certification scheme which may limit any unacceptable economic impact being observed.

F – Risk management measures (elimination question)

RMM

F1 - Are there feasible and effective measures available to prevent the presence of the pest on the plants for planting at an incidence above a certain threshold (including zero) to avoid an unacceptable economic impact as regards the relevant host plants? [by SEWGs]

No

Yes

Continue

Effective measures available to be listed.

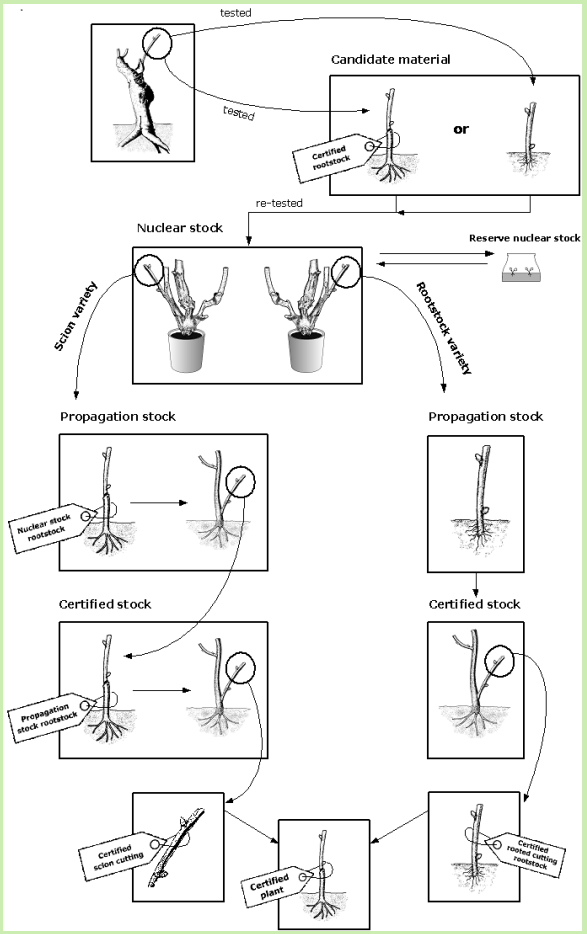


Photo: C. Picard

G – Data quality

DATA QUALITY

G1 - Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?? [by SEWGs]

↗ **Yes: Recommended for the RNQP status – based on data**

↘ **No: Recommended for the RNQP status – by default**

Remark: In case of uncertainties due to a lack of data, the pest was recommended "by default" for the RNQP status *[because pest/host combinations analysed were already regulated]*.

PM4

A1 – Is the pest already listed in a PM4 standard on the concerned host plant? [by EPPO]

Yes: Recommended for the RNQP status – based on PM4 ← **No** → **Continue**

TAXONOMY

B1 - Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank? [by EPPO]

No → ✗ | Yes → **B2 -** Is the pest defined at the species level or lower*? [by EPPO]

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Yes → **B3 -** Can listing of the pest at a taxonomic level higher** than species be supported by scientific reasons or can species be identified within the taxonomic rank which are the (main) pests of concern *(If Yes, please list the species)* ? [by EPPO, using Q.]

No → ✗ | Yes → **Continue**

No → ✗

STATUS IN EU

C1 - Is this pest already a quarantine pest for whole EU? [by EPPO]

Yes → ✗ | No → **C2 -** Is this pest present in the EU? [by EPPO]

No → ✗ | Yes → **Continue**

PATHWAYS

D1 - Are the listed plants for planting the main pathway for the pest/host/intended use combination?

(to evaluate if it is the "main" pathway, we evaluate if plants for planting is a significant pathway compared to other pathways)

[by EPPO + SEWGs]

No → ✗ | Yes → **Continue**

ECONOMIC IMPACT

E1 - Are there documented reports of any economic impact on the host? [by EPPO, using Q.]

No → ✗ | Yes → **E2** - What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures (= official measures)? [by SEWGs]

Minimal, Minor, Medium, Major, Massive

E3 - Is the economic impact due to the presence of the pest on the named host plant for planting, acceptable to the propagation and end user sectors concerned? [by SEWGs, using Q.]

Yes → **Continue** | No → **E4** - Is there unacceptable economic impact caused to other hosts (or the same host with a different intended use) produced at the same place of production due to the transfer of the pest from the named host plant for planting ? [by SEWGs]

No → ✗ | Yes → **Continue**

RMM

F1 - Are there feasible and effective measures available to prevent the presence of the pest on the plants for planting at an incidence above a certain threshold (including zero) to avoid an unacceptable economic impact as regards the relevant host plants? [by SEWGs]

No → ✗ | Yes → **Continue**

DATA QUALITY

G1 - Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?? [by SEWGs]

Yes: Recommended for the RNQP status – based on data

No: Recommended for the RNQP status – by default

Remarks / Elements for discussion

- Relative importance of plants for planting as a pathway should only be considered in relation to areas where the pest is present, not for movement into areas which are free from the pest;

- Developed methodology considered suitable for evaluation for listing of pest plants for which seed (of other species) is a pathway, even though it has not been tested so far.

Compatible with ISPM 16 and ISPM 21

- the intended use was always specified with a reference to the sector. It may also refer to the category of material (Pre-basic, Basic, Certified, Non-certified).

- Evaluation of economic impact was based on a qualitative approach, i.e. expert judgment (vs. use of quantitative economic techniques).

Conclusion

- The methodology developed for the EU territory should be applicable, with a few changes, to the EPPO region.

- Publication of this methodology should contribute to harmonizing the assessment of the RNQP status of pests throughout the EPPO region, or a wider area.

- Implementation of the RNQP definition will contribute to the adoption of international standards and therefore improve the transparency of regulations - RNQPs are not a subcategory of QPs.

- This should bring the fields of plant health and plant reproductive material closer & facilitate discussions on the possible inclusion of a pest in an obligatory certification scheme when it does not qualify for QP status.