PM 5/5(1)

Guidelines on Pest Risk Analysis
Lignes directrices pour l'analyse du risque phytosanitaire

Decision-Support Scheme for an Express Pest Risk Analysis

Specific scope: This standard provides a simplified scheme for the rapid production of pest risk analyses.

Specific approval and amendment: 2012-09

Introduction
The EPPO Standards on Pest Risk Analysis (PRA) are intended to be used by National Plant Protection Organizations (NPPOs), in their capacity as bodies responsible for the establishment of phytosanitary regulations and the application of phytosanitary measures while respecting the requirements of the International Plant Protection Convention, ISPM no. 1 (*Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade*) and ISPM no. 11 (*Pest Risk Analyses for Quarantine Pests including analysis of environmental risks and living modified organisms*). They are also used by the technical bodies of EPPO to formulate recommendations on phytosanitary measures to the NPPOs. In this framework EPPO has developed different Standards to be used in different circumstances. PM 5/2 was developed to provide a simplified PRA scheme to be used when an unfamiliar pest is detected in an imported consignment, in order to decide whether phytosanitary action is needed. PM 5/3 is based on ISPM no. 11 and provides detailed instructions for the following steps of PRA for quarantine pests: initiation, pest categorization, probability of introduction and spread, assessment of potential economic consequences and pest risk management.
This standard provides a simplified scheme for undertaking a rapid PRA to determine whether an organism has the characteristics of a quarantine pest, and if appropriate, to identify potential management options. Its use is particularly suitable to support recommendation of phytosanitary measures for an emerging pest. This scheme may also be used in the framework of a pathway-initiated PRA to evaluate individual pests likely to be carried by this pathway. In the case of an express PRA initiated by an outbreak, risk managers should also use the information provided to consider actions to be taken internally (such as establishing surveillance to confirm the status of the pest in the country).

An EPPO Standard on "*Generic elements for contingency plans*" (PM 9/10) describing essential elements for an emergency response for a pest outbreak or a suspected pest outbreak was adopted in 2009. In addition, a decision-support scheme for prioritizing action during outbreaks is under development to decide on measures to be applied in an outbreak area.

It is important that all steps of the Express PRA should be documented, indicating how each decision was reached and on what information it was based. The assessor may stop the assessment at any point if the evidence provided is sufficient to reach a conclusion on the pest risk.

A computerized version of this Express PRA Scheme with the CAPRA software will be prepared.

Summary[1] of the Express Pest Risk Analysis for "*pest name*"						
PRA area: *specify the PRA area being assessed*						
Describe the endangered area: *(see question 14)*						
Main conclusions *Overall assessment of risk: (Copy your answer from Q 15).* *Phytosanitary Measures: indicate whether the pest should be recommended for immediate action in the PRA area. Summarize your answer from Q 16.* *Note: If the assessment shows that phytosanitary measures are not required for your country but there are indications that other EPPO countries are at higher risk, mention it.*						
Phytosanitary risk for the <u>*endangered area*</u> (*Individual ratings for likelihood of entry and establishment, and for magnitude of spread and impact are provided in the document*)	High	☐	Moderate	☐	Low	☐
Level of uncertainty of assessment (see Q 17 for the justification of the rating. Individual ratings of uncertainty of entry, establishment, spread and impact are provided in the document)	High	☐	Moderate	☐	Low	☐

Other recommendations:
    • *Inform EPPO or IPPC or EU*
    • *Inform industry, other stakeholders*
    • *State whether a detailed PRA is needed to reduce level of uncertainty (if so, state which parts of the PRA should be focused on)*
    • *Specify if surveys are recommended to confirm the pest status*
    • *State what additional work/research could help making a decision.*						

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[1] The summary should be elaborated once the analysis is completed

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Express Pest Risk Analysis:

…………..

(*Pest name*)

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Prepared by: *Name and affiliation of the assessor(s). Contact details.*
Date:

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Stage 1. Initiation

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Reason for performing the PRA: *(e.g. interceptions, outbreak)*
PRA area: *specify the PRA area being assessed*

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Stage 2. Pest risk assessment

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1. Taxonomy: *e.g. Genus, species/ subspecies, Authority, Family, Order**, **Kingdom.*

Include information on strains and populations, etc. if relevant, and synonyms if appropriate.

Common name:

2. Pest overview

- *Summarize the life cycle (e.g. length of life cycle, location of different life stages, temperature thresholds, humidity requirements) and other relevant information (damage should be described in Q 12). If a datasheet is available, this section should only include the basic information. If available place illustrations of the pest and the symptoms caused in Appendix 1.*
- *Host plants (for pests)/habitats (for invasive plants) (more detail should be provided in Q 7)*
- *Symptoms*
- *Detection and identification (note if a diagnostic protocol is available). State if and how the pest can be trapped.*

3. Is the pest a vector? **Yes** ☐ **No** ☐

If the pest is a vector, which organism(s) is (are) transmitted and does it (do they) occur in the PRA area?

4. Is a vector needed for pest entry or spread? **Yes** ☐ **No** ☐

If a vector is needed, which organism(s) serves as a vector and does it (do they) occur in the PRA area? Consider both the pest and the vector in the assessment.

5. Regulatory status of the pest
Is the pest already regulated by any NPPO, or recommended for regulation by any RPPO? (Assessors can check this by reference to EPPO PQR, RPPO and IPPC websites in addition to normal search mechanisms).

6. Distribution

Continent	*Distribution* (list countries, or provide a general indication , e.g. present in West Africa)	*Provide comments on the pest status in the different countries where it occurs* (e.g. widespread, native, introduced….)	*Reference*
Africa			
America			
Asia			
Europe			
Oceania			

Information on distribution may be retrieved from PQR (http://www.eppo.int/DATABASES/pqr/pqr.htm), CAPRA datasets (http://capra.eppo.org/), CABI maps, etc.

Comments on distribution: *(e.g. if known, please comment on the area of origin, how the pest has spread and on any evidence of increasing range / frequency of introductions)*

7. Host plants /habitats* and their distribution in the PRA area

If the host range is large, you may group plants (e.g. deciduous trees, or at the family level, e.g. Brassicaceae, Rosaceae), and/or focus on those occurring in the PRA area. When appropriate, the difference of susceptibility between hosts should be noted. If there are many habitats, focus on those occurring in the PRA area. Reference to [FAOSTAT](#) *and* [EUROSTAT](#) *may help assess distribution of host plants.*

Host Scientific name (common name) / *habitats**	Presence in PRA area (Yes/No)	Comments (e.g. total area, major/minor crop in the PRA area, *major/minor habitats**)	*Reference*

Specify habitat for invasive plants, host plants for other pests.

8. Pathways for entry

Which pathways are possible and how important are they for the probability of entry?

Examples of pathways are:

- *Plants for planting*
  - plants for planting (except seeds, bulbs and tubers) with or without soil attached
  - bulbs or tubers
  - seeds
- *Plant parts and plant products*
  - cut flowers or branches
  - cut trees
  - fruits or vegetables
  - grain
  - pollen
  - stored plant products
- *Wood and wood products*
  - non-squared wood
  - squared wood
  - bark
  - wood packaging material
  - chips, firewood, waste wood…
- *Natural spread*
- *Other possible pathways*
  - other packaging material
  - soil/growing medium as such
  - conveyance and machinery
  - passengers
  - hitchhiking
  - plant waste
  - manufactured plant products
  - intentional introduction (e.g. scientific purposes)

Possible pathways *(in order of importance)*	Short description explaining why it is considered as a pathway	Pathway prohibited in the PRA area? Yes/No	Pest already intercepted on the pathway? Yes/No

Rating of the likelihood of entry	*Low* ☐	*Moderate* ☐	*High* ☐
Rating of uncertainty	*Low* ☐	*Moderate* ☐	*High* ☐

9. Likelihood of establishment outdoors in the PRA area

Consider in particular the presence of host plants/habitats and climatic suitability and describe the area where establishment is most likely (area of potential establishment). Reference to maps such as Köppen-Geiger climate zones, day degrees and hardiness zones may help assess the likelihood of establishment (see e.g. http://capra.eppo.org/files/links/Rating_Guidance_for_climatic_suitability.pdf).

Rating of the likelihood of establishment outdoors	*Low* ☐	*Moderate* ☐	*High* ☐
Rating of uncertainty	*Low* ☐	*Moderate* ☐	*High* ☐

10. Likelihood of establishment in protected conditions in the PRA area

Consider the presence of host plants within protected cultivation (e.g. glasshouses, shade houses) and describe the area of potential establishment. For invasive plants consider if protected conditions are a suitable habitat.

Rating of the likelihood of establishment in protected conditions	*Low* ☐	*Moderate* ☐	*High* ☐
Rating of uncertainty	*Low* ☐	*Moderate* ☐	*High* ☐

11. Spread in the PRA area
- *Natural spread*
- *Human assisted spread*

Briefly describe each mode of spread (e.g. natural flight of invertebrate pests, wind dispersal, carried within plants or plant products, carried with traded commodities), and indicate the rate or distance of spread.

If possible consider how long it would take for the pest to spread widely within the area of potential establishment if no phytosanitary measures are taken. If no specific data are available, compare with similar organisms.

Rating of the magnitude of spread	*Low* ☐	*Moderate* ☐	*High* ☐
Rating of uncertainty	*Low* ☐	*Moderate* ☐	*High* ☐

12. Impact in the current area of distribution
Briefly describe the economic, ecological/environmental and social impacts in the current area of distribution.
Briefly describe the existing control measures applied against the pest.

Rating of the magnitude of impact in the current area of distribution	*Low* ☐	*Moderate* ☐	*High* ☐
Rating of uncertainty	*Low* ☐	*Moderate* ☐	*High* ☐

The rating chosen should be based on the highest type of impact.

13. Potential impact in the PRA area
Consider whether impacts in the area of potential establishment will be similar to that in areas already infested, taking into account availability of plant protection products, natural enemies, cultural practices, etc.in the area of potential establishment. Consider other consequences (e.g. export loss) if applicable.

Will impacts be largely the same as in the current area of distribution? Yes /No

If No

Rating of the magnitude of impact in the area of potential establishment	*Low* ☐	*Moderate* ☐	*High* ☐
Rating of uncertainty	*Low* ☐	*Moderate* ☐	*High* ☐

14. Identification of the endangered area

Define the endangered area (see definition in ISPM 5): describe in which part of the area of potential establishment significant impact is expected.

15. Overall assessment of risk

*Summarize the likelihood of entry, establishment, spread and possible impact without phytosanitary measure. **An overall rating should be given in the summary part which is placed at the beginning of the Express PRA.***
Then consider whether phytosanitary measures are necessary.
If the assessment shows that phytosanitary measures are not required for your country but there are indications that other EPPO countries are at higher risk, mention it.

Stage 3. Pest risk management

16. Phytosanitary measures

Describe potential measures for relevant pathways and their expected effectiveness on preventing introduction (entry & establishment) and / or spread. If possible, specify prospects of eradication or containment in case of an outbreak. Indicate effectiveness and feasibility of the measures

As described in PM 5/3 possible options for phytosanitary measures include
Options at the place of production
> Detection of the pest at the place of production by inspection or testing
> Prevention of infestation of the commodity at the place of production (treatment, resistant cultivars, growing the crop in specified conditions, harvest at certain times of the year or growth stages, production in a certification scheme)
> Establishment and maintenance of pest freedom of a crop, place of production or area

Options after harvest, at pre-clearance or during transport
> Detection of the pest in consignments by inspection or testing
> Removal of the pest from the consignment by treatment or other phytosanitary procedures (remove certain parts of the plant or plant product, handling and packing methods, specific conditions or treatments during transport)

Options that can be implemented after entry of consignments
> Detection during post-entry quarantine
> Consider whether consignments that may be infested be accepted without risk for certain end uses, limited distribution in the PRA area, or limited periods of entry, and can such limitations be applied in practice

Prohibition
Surveillance, eradication, containment

17. Uncertainty

List and describe the main sources of uncertainty within the risk assessment and risk management.
State whether a detailed PRA is needed to reduce key aspects of uncertainty (if so state which parts of the PRA should be focused on). Comment on what work would be needed to address uncertainties (e.g. for distribution the need for surveys, produce epidemiological data…)

18. Remarks

Add any other relevant information or recommendations. For example when phytosanitary measures are not considered appropriate, recommendations for the development of other control strategies can be made (e.g. Integrated Pest Management, certification schemes).

Once the analysis has been completed, a summary should be prepared
(see the summary box at the beginning of the Express PRA)

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19. REFERENCES

Provide references cited above (see Instructions for authors to the EPPO Bulletin)
When referring to websites, include the web address and date accessed.

Appendix 1. Relevant illustrative pictures (for information)

Photo 1 (pest)	Photo 2 (e.g. symptoms)
Source/ copyright owner	Source/ copyright owner