IPPC Webinar on Pest Status, Surveillance and Systems Approaches
22 October 2021
Questions & Answers

This document compiles Questions & Answers from the Pest Status, Surveillance and Systems Approaches webinar on 22 October 2021. Three hundred and fifty-four (354) participants from seventy-seven (77) countries attended the webinar.
The agenda, recordings and presentations from the webinar may found at https://www.ippc.int/en/news/workshops-events/webinars/ippc-webinar-on-new-implementation-and-capacity-development-products-status-surveillance-and-systems/
The questions are organized by subject: General information, Pest status guide, Surveillance guide and Systems approach online tools.

General Information about IPPC Guides and training materials

Q1: What are IPPC Guides and training materials?
A1: IPPC Guides and training materials are tools that assist national plant protection organizations (NPPOs) to implement the International Plant Protection Convention (IPPC), international standards for phytosanitary measures (ISPMs) and Commission on Phytosanitary Measures (CPM) recommendations. They do this by:

- Providing accurate and easy to understand technical information.
- Providing best practices to facilitate the establishment and operation of national phytosanitary systems.
- Providing NPPOs with a basis to develop national legislation, policies, guides, SOPs, training materials and courses.
- Building national phytosanitary capacities.

Q2: What IPPC Guides and training materials are available and where can I find them?
A2: The list of available IPPC Guides and training materials may be found on the International Phytosanitary Portal: https://www.ippc.int/en/core-activities/capacity-development/guides-and-training-materials/
Here are direct links to the two guides that were presented during this webinar:
Pest Status Guide: https://doi.org/10.4060/cb6103en
Surveillance Guide: https://doi.org/10.4060/cb7139en

Q3: How can I get started using the Systems approach online tools?
A3: The Systems approach online tools and other information about systems approaches may be found on the International Phytosanitary Portal: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/systems-approach/

Q4: Where can I find the video about systems approaches that was presented during the webinar?
A4: The video, titled *Understanding systems approach*, is available on YouTube: https://www.youtube.com/watch?v=iHXAxy7Ihyo&list=PLzp5NgJ2-dK4T7GE2fsGujftlxSX1rCTC&index=4

Q5: Are these implementation and capacity development products available in other FAO languages?
A5: The *Pest Status Guide* is currently being translated to French and Spanish and the *Surveillance Guide* is currently being translated to Spanish. The *Understanding systems approach video* will soon be available in all six FAO languages (En, Ar, Es, Fr, Ru, Zh).
The translation of IPPC Guides and training materials into additional FAO languages depends on support from contracting parties, international organizations and other partners. The first step is for potential collaborators to contact the IPPC Secretariat (ippc@fao.org) to discuss their interest in helping to translate a particular guide or training material. Collaboration may take the form of an in-kind contribution to translate the material or the provision of funds to pay the costs associated with the translation by FAO translators.

Pest Status Guide

Q6: Who is responsible for determining pest status?
A6: Pest status is determined exclusively by the NPPO responsible for the area concerned and is categorized under "presence" or "absence". The quality of the reported information and the reliability and uncertainty of the data are important considerations to be taken into account by the NPPO when determining pest status in an area.
Additional information outlining the responsibilities of NPPOs in relation to pest status determination may be found in Table 1 of the *Pest Status Guide*.

Q7: Does the Pest Status Guide provide guidance on how to change a pest record in situations where the original record is incorrect or no longer valid?
A7: As indicated, the NPPO is responsible for determining the status of pests within their territories. If new evidence is provided, the NPPO should adjust the pest statusaccordingly
Section 6.2.3 of the *Pest Status Guide* discusses situations where an NPPO might consider that a pest record is invalid or no longer valid. It provides a few examples, including situations where there have been changes in taxonomy; the original specimen was misidentified; specific surveillance failed to confirm the presence of a reported pest; and when there are errors in the original pest record. The Guide also suggests the steps that an NPPO may follow to correct a pest record that is published in the scientific literature, but invalid.

Q8: Where can I find guidance on how to publish a pest report?
A8: Chapter 8 of the *Pest Status Guide* discusses the importance of exchanging pest status information with other NPPOs and making pest reports available, particularly where there is an immediate or potential threat arising from the occurrence, outbreak or spread of a pest in the country in which it is detected. This chapter includes several recommendations for good reporting practices related to pest status and provides links to other helpful resources. NPPOs should develop and maintain adequate information on pest status and, on request, make such information available to other NPPOs. Information on pest status and supporting technical and biological information should be communicated directly between contracting parties. Pest reports should contain information that allows neighboring countries and trading partners to adjust their phytosanitary import requirements and to take actions as a result of any changes in pest risk.
Pest reports should be posted on the International Phytosanitary Portal: https://www.ippc.int/en/core-activities/information-exchange/nro/.
ISPM 17 (*Pest reporting*) describes the requirements and responsibilities of contracting parties in reporting the occurrence, outbreak and spread of pests in territories for which they are responsible: https://www.ippc.int/en/publications/606/.
The *Guide to National Reporting Obligations* provides detailed information to assist NPPOs to create and update pest reports: https://www.ippc.int/en/publications/80405/

Q9 Where can I find guidance on preparing and updating regulated pest lists?
A9 Lists of regulated pests are established and maintained by the importing contracting party. The pests listed are those that have been determined by the NPPO to be either quarantine pests or regulated non-quarantine pests. Providing regulated pest lists is a basic reporting obligation and NPPOs should make their regulated pest lists available on the International Phytosanitary Portal: https://www.ippc.int/en/core-activities/information-exchange/nro/.
A list of regulated pests should not be confused with a list of pests occurring within a country or a list of pests associated with a commodity. These types of pest lists are often prepared to support the completion of a PRA and to support market access and are not an obligation in the IPPC.
Chapter 8 of the Pest Status Guide highlights that one of the common reasons for updating regulated pest lists is to reflect a change in pest status: pests should be removed from the list if their status is changed from quarantine to non-quarantine because they can no longer be considered as being "absent" or "present: not widely distributed and under official control".
Guidance on lists of regulated pests, including the information that should be provided for each organism as a regulated pest, is provided in ISPM 19 (*Guidelines on lists of regulated pests*): https://www.ippc.int/en/publications/603/.

Q10: Is specific surveillance necessary to establish absence if a pest is not expected to establish and spread?
A10: The *Pest Status Guide* identifies some reasons why a pest might not be expected to establish and spread. Although specific surveillance may not be justified, the NPPO should be prepared to provide information to support pest absence. The lack of documented pest detections may contribute to a declaration of pest absence, especially if information is available that supports the declaration, such as:

- Climatic or other environmental conditions are not suitable for the pest's survival.
- Suitable hosts are not available, so the pest cannot complete its life cycle.
- Vectors to spread the pest are not present.

Q11: If there is no negative impact on the crop yield, and quality, can we conclude that the pest is absent from the area?
A11: No, a lack of economic damage to a crop is generally not sufficient to indicate that a pest is absent from an area. The lack of crop damage may simply indicate that control measures applied to the crop were effective. Whenever possible, the NPPO should base declarations of pest absence on the results of surveillance or other scientific evidence. A lack of information due to inadequate or insufficient surveillance activities is generally not sufficient for determining pest absence. Additional guidance on determining whether a pest is present or absent in the area under consideration may be found in Chapter 5 of the *Pest Status Guide*.

Surveillance Guide

Q12: Are there any IPPC protocols for conducting specific surveillance on particular crops?
A12: There are no IPPC protocols for conducting specific surveillance and most national surveillance programmes target specific pests, rather than crops.
However, the International Phytosanitary Portal includes links to a number of relevant contributed resources (including surveillance manuals, guides, and protocols). Contributed resources are phytosanitary technical resources that were developed by National Plant Protection Organizations (NPPOs), Regional Plant Protection Organizations (RPPOs) and other organizations for their own use and which are shared with the entire IPPC community. Contributed resources are posted on the IPP: https://www.ippc.int/en/core-activities/capacity-development/guides-and-training-materials/contributed-resource-list/
A number of relevant contributed resources can be found on the phytosanitary system webpage for surveillance, including links to some pest-specific protocols: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/surveillance/surveillance/.

Q13: Are any surveillance methods case study available for soil borne pathogens?
A13: Yes, there are a number of genus and species-specific surveillance protocols (methods and guides) that are used for the design and delivery of soil pathogens surveys (such as nematodes and *Phytophthora* spp.), however these are national and have not been developed under the auspices of the IPPC Secretariat but could still be useful. Given the unique nature of soil sampling, sample processing and curation for soil borne pathogens, it is important to use scientifically validated and consistent surveillance and diagnostic protocols, especially for delimiting and monitoring surveillance over large surveillance areas.
A number of relevant contributed resources from NPPOs may be found on the International Phytosanitary Portal, including links to the national surveillance programmes of Australia and Canada and the USDA's Golden nematode program manual: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/surveillance/surveillance/.

Q14: How can countries minimize the risk of transmitting pests to other countries?
A14: We strongly encourage NPPO's to use both the Surveillance and the Pest Status Guides to improve their national phytosanitary systems. Establishing a strong national surveillance program and a robust process for pest status determination and pest reporting are integral to preventing the introduction and spread of pests.
It is very difficult to prevent the movement of transboundary pests such as FAW or TR4 between countries, however communication and pest reporting and information exchange across countries is very important, especially for countries to strengthen their preparedness and response capabilities.

Q15: Could you provide information on the use of Geographical Information Systems (GIS) and remote sensing in surveillance for plant pests?
A15: The use of remote sensing and geographical information systems are becoming more common tools to enhance plant pest surveillance. They may be used to guide surveillance and early detection activities and other phytosanitary measures undertaken by National Plant Protection Organizations. Remote sensing technologies allow the development of precise maps of the earth's surface that identify plants, crops and trees. These tools may be used to detect signs of stress in plants, such as the stress caused by plant pests, before they are visible to the naked eye.
The IPPC Secretariat recently facilitated a workshop webinar on the use of 'remote sensing to support plant health surveillance activities' on the 2nd November, and this presentation will soon be available on the IPPC website: https://www.ippc.int/en/news/workshops-events/webinars/remote-sensing-to-support-plant-health-surveillance-activities/

Q16: In some countries plant health risk, and surveillance in particular, seems to be handled by a variety of organizations. How do you advise other NPPOs to organize their surveillance activities where no such coordinated and shared approach exists?
A16: Many NPPOs do not have an adequate number of surveillance officers, nor the funding, equipment and diagnostic resources required to undertake all the plant health surveillance activities that would be necessary to maintain early detection, delimiting and monitoring surveillance activities for all pests and all priority plant hosts and crops.
There are many organizations at a regional and national level such as universities, industry groups, citizen science groups, as well as professional agronomists and crop scouts that conduct surveillance activities that may support and compliment the work of the NPPO. It is important that these efforts are well coordinated, planned and delivered across diverse surveillance stakeholders. The use of national plant surveillance protocols should be used to ensure consistency, and priority pest and crop surveillance strategies can be used to assist in the coordination and harmonization of these joint surveillance efforts.
It is important that all surveillance activities and results are reported to and validated by the NPPO to ensure that pest samples are curated and diagnosed using nationally consistent and scientifically validated methods, and that all new pest reports and surveillance data be reviewed and validated by the NPPO before being reported through the NRO process. Section 2 of the new *Surveillance Guide* describes organizational arrangements for surveillance activities in detail.

Q17: Could you suggest how to carry out surveillance for khapra beetle (Trogoderma granarium) in a situation where this pest has been reported in association with an export?

A17: Delimiting and monitoring surveys should be conducted by the NPPO if there are reports of a new priority pest detection through a non-compliance report from an importing country. If there is no official pest report submitted through the national reporting obligation (NRO) process, surveillance should be conducted in the exporting country to determine the status of the pest, as per ISPM 8: *Determination of pest status in an area* (https://www.ippc.int/en/publications/612/). The *Pest status guide* provides additional guidance and outlines the steps that NPPOs should follow when determining the status of a pest in their country.

Chapter 11 of the *Surveillance guide* provides information on designing pest-specific surveillance programmes. In addition, many NPPOs have national khapra beetle surveillance protocols, surveillance guides and manuals, surveillance training, rapid diagnostic tools and diagnostic protocols that could assist in the design, planning, coordination and delivery of khapra beetle targeted surveillance activities.

Links to the national surveillance programmes of Australia and Canada and the USDA's Goldeen nematode program manual may be found here: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/surveillance/surveillance/.

Systems Approach online tools

Q18: Who are the Systems Approach facilitators for my region?

A18: You can find a systems approach facilitator in your region on our web page: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/systems-approach/beyond-compliance-facilitators/

Q19: How can I evaluate the potential effectiveness of a systems approach?

A19: The Systems approach online tools which may be found on the International Phytosanitary Portal can help you evaluate your options: https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/systems-approach/systems-approach-online-tools/

One of these online tools is the Decision Support for Systems Approach (DSSA). The DSSA was developed to allow users in importing or exporting countries to assemble and assess phytosanitary measures that contribute to pest risk reduction and the implementation of management plans. Specifically, the DSSA supports evaluation of the potential effectiveness of a Systems Approach, based on data, publications, experience, and expert opinion.

Q20: Given that a systems approach integrates more than two measures to give an appropriate level of protection, are the tools capable of precisely determining the effectiveness of each single phytosanitary measure being integrated?

A20: The proposed measures should be evaluated by experts with an extensive knowledge of local agronomy of the crop and specific knowledge of pest management in the region and detailed knowledge of the performance of current and novel measures. The experts rate both the contribution of the measure has in reducing the pest risk and their uncertainty in the risk rating they have provided. These rankings are based on their personal experience and, where possible, evidence from scientific publications. The ratings are a measure of the contribution of each measure to the overall pest risk reduction. The acceptance of the systems approach depends on the level of protection required by the importing country and the feasibility and acceptability of the measures to producers, the sector and society are also rated as is the ability to verify effect of measures.

Q21: How does applying a systems approach help to secure or maintain market access?

A21: A systems approach integrates measures to meet phytosanitary import requirements. Systems approaches provide, where appropriate, an equivalent alternative to procedures such as treatments or replace more restrictive measures like prohibition. This is achieved by considering the combined effect of different conditions and procedures. Systems approaches provide the opportunity to consider both pre- and post-harvest procedures that may contribute to the effective management of pest risk. It is important to consider systems approaches among pest risk management options because the integration of measures may be less trade restrictive than other risk management options (particularly where the alternative is prohibition)

The Systems Approach online tools support the development of pest risk management plans by providing a

structure for considering and discussing options along the production or pathway chain. An easily-understood record of data, expert opinion and other evidence is used to select pest risk management options. This makes it easier to communicate and reach agreement – or to be clear about exactly where any disagreement occurs so that resources can be focused on that issue. While the tools do not provide a single 'right' answer, they lay out criteria to consider when choosing the most suitable management options. Which criteria is most important may vary from country to country. If the import requirements are not suitable for an exporting country, then it is up to the NPPO to propose equivalent measures to reach the required level of protection.

Q22: Who is responsible for verifying the systems approach used by the exporting country? Will the NPPO certify the export when they issue the Phytosanitary certificate?

A22: When accessing export markets, you will need to negotiate what measures are justified and accepted by the importing country. The IPPC stipulates general responsibilities of exporting and importing countries. Export verification and the issuance of a phytosanitary certificate are the responsibility of the exporting country and imports may be verified at the point of entry by the importing country.

The implementation of the systems approach may be verified if the exporting country NPPO issues a Phytosanitary Certificate. The importing country NPPO may require other confirmations at the point of export or import, as well.

Q23: Are details regarding the systems approaches prepared by different countries available?

A23: Systems approach examples, cases studies and contributed resources will be shared on this phytosanitary systems page (https://www.ippc.int/en/core-activities/capacity-development/phytosanitary-system/systems-approach/)

The North American Plant Protection Organization (NAPPO) recently held a seminar titled: *Opportunities and challenges in the use of systems approaches as sustainable risk management tools for the future*.

The recording of this seminar may be found on the NAPPO website at: https://www.nappoannualmeeting2021.com/node/400710/conferencecenter/1186948?snc=400710#lct=conferencecenter--1185764-calendar_459940_5ondemand