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Strategic issues associated with pest diagnoses

Agenda item 20

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1. Background

Pest diagnosis is a cross-cutting issue that underpins most IPPC activities. Contracting parties regularly undertake pest diagnoses, for example to support export certification, import inspections, pest surveillance and eradication programmes.

The IPPC has an established standard setting procedure for developing harmonised guidance. Many International Standards for Phytosanitary Measures (ISPMs) rely on availability of expertise and facilities for the identification of quarantine pests. CPM has adopted ISPM 27 (*Diagnostic protocols for regulated pests*) and seven diagnostic protocols (DPs) to date. Other resources are available, for example the phytosanitary resources page (www.phytosanitary.info) contains DPs adopted by Regional Plant Protection Organizations (RPPOs) or developed by national governments.

In the IPPC call for topics in 2013, EPPO proposed that there should be an ISPM on *General principles for operation of laboratories*. The purpose was to identify general principles to ensure that by implementing them, test results could be accepted by importing countries with confidence as dependable and comparable. In November 2013, the Standards Committee decided that there was no need for a harmonised approach to the operation of official laboratories. It was noted that some contracting parties already use systems controlled by national accreditation bodies for laboratory accreditation (e.g. ISO 17025) and the CPM has stated that there is no requirement to adopt ISO standards in order to implement the Convention. Countries are free to agree to common approaches for diagnostic methods and quality systems for their laboratories.

There remains an issue that importing countries do not always have confidence in the methods or procedures being used in exporting countries. More guidance on sample handling and pest diagnostic procedures in official laboratories may be useful for contracting parties to ensure all countries agree about the types of procedures and management that should be used.

Apart from the specific aspect of operation of laboratories, IRSS surveys have identified that there is a wider capacity issue associated with the ability of countries to undertake pest diagnosis. This might involve not only a lack of laboratory resources (trained lab staff and scientists, rooms, equipment, reagents) but also a lack of reliable inspections (including sampling) by independent trained inspectors. These aspects are very relevant to the issue of building and maintaining confidence between trading partners and also relate to the ability of countries to undertake core activities under the Convention.

As requested by CPM-9 (2014), the Strategic Planning Group discussed strategic issues associated with pest diagnosis in October 2014 and agreed that a CPM Recommendation would be appropriate (see document CPM 2015/28).

2. Problems associated with diagnostic support

2.1 Problems within countries

Results from the IRSS general survey of implementation of the Convention and ISPMs indicate that whilst countries are implementing standards directly related to imports and

exports, they reported difficulties in implementing standards relating to pest status, pest risk analysis and pest management.

These activities rely not just on inspection and sampling procedures but also on having adequate expertise in pest diagnosis and access to appropriate laboratory facilities. The lack of implementation of standards underpinning phytosanitary systems may undermine confidence in ability of countries to meet export requirements and set meaningful import requirements.

Countries indicated that they were unable to update or make available pest status information due to lack of:

- well-trained scientific professionals,
- physical infrastructure,
- financial resources.

The results of this and other IRSS surveys indicate the general problem with access to diagnostic support. This undermines the ability of some countries to undertake surveillance, determine pest status, undertake pest risk analysis etc. This is a fundamental issue that countries and the IPPC should address.

DPs contain the minimum requirements for diagnosis of a pest and often include relatively sophisticated techniques, which may cause problems for implementation by countries that have limited access to diagnostic support.

There may be many reasons for the problems with pest diagnosis, for example:

- Lack of political awareness and priority given to phytosanitary activities
- Lack of funding for infrastructure and staff
- Lack of availability of training for staff
- Rapid turn-over of trained staff
- Focus on particular commodities for export and lack of infrastructure for other crops/plants
- Lack of feedback from potential trading partners of problems with regulations or pest status data
- Focus on specific tests for specific pests, rather than for a broad range of pests
- Increased importance of molecular tests and lack of availability in all laboratories.

2.2 Global reductions in expertise

In addition to problems within countries, many regions have identified a general trend in reduced expertise in core scientific disciplines, the taxonomy of pests, and classical diagnostic skills. An example is EPPO's statement in 2004 (https://www.eppo.int/STANDARDS/position_papers/madeira.htm).

3. Activities to address the problem

This is not a new problem; the Capacity Development Committee identified pest diagnosis as an area requiring increased capacity. There are some positive aspects; there are a number of initiatives relating to pest diagnosis, for example:

- CPM adopted a list of pests for development of DPs that reflected the most urgent priorities for countries. The process for adopting DPs has been streamlined.
- DPs adopted by the IPPC contain methods to identify regulated pests. As they have been through the standard setting process, the methods are accepted as being appropriate for diagnosis of pests nationally and in international trade.
- National and regional DPs have been published on the phytosanitary resources pages and the list of experts on these pages should help countries to find relevant experts.

- RPPOs are involved in knowledge exchange and facilitating the development of expertise in diagnostics within their region. EPPO, for example, has adopted standards on laboratory management and many DPs, created a database of diagnosticians and published a database of validation data for diagnostic methods. Conferences are also held regularly relating to pest diagnosis.
- NPPOs are increasingly making use of diagnostic capacity in other countries and regions.
- Companies such as CABI have set up diagnostic networks to help with field diagnosis (e.g. Plantwise).
- A manual on diagnostics is under development in relation to the pilot implementation programme on surveillance.
- The national reporting obligations advisory group addressed pest reporting.

4. Recommendations for the CPM:

- 1) *Agree* that improvement of diagnostic capacities of countries is important.
- 2) *Ensure* pest diagnosis is covered in the proposed implementation programme on surveillance.
- 3) *Investigate*, with the participation of RPPOs and under consideration of the IRSS review report, whether and how pest diagnosis could be developed into a future implementation programme.
- 4) *Investigate* in how far international standardization could help to contribute to the acceptability of diagnostic services and results.
- 5) *Urge* contracting parties to participate in the development of diagnostic protocols by nominating experts and reviewing drafts.
- 6) *Endorse* activities such as:
 - Establishment of laboratories in developing countries with appropriate resources and staff.
 - Sharing of information on pest identification methods and networks to aid information on pest outbreaks.
 - Training courses for diagnosticians, including remote training courses.
 - Creation of networks of diagnosticians.
 - Remote identification via digital microscopy.
 - Low cost rapid diagnostic methods.
 - Sharing of proficiency testing arrangements with developing countries.
- 7) *Urge* contracting parties to consider whether further guidance is needed by NPPOs on requirements for management systems, facilities and expertise in diagnostics when considering the capacity development activities or in response to the call for topics in 2015.
- 8) *Urge* RPPOs to continue work to develop and enhance diagnostic capability within their region.