Meeting Report
AGP/1998

REPORT OF THE FIFTH MEETING
OF THE
COMMITTEE OF EXPERTS ON PHYTOSANITARY MEASURES

Rome, Italy : 11-14 May 1998

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1998

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1. OPENING OF MEETING

Dr A. Sawadogo, Assistant Director-General, FAO Agriculture Department and Dr M. Duwaryi, Director, FAO Plant Production and Protection Division; opened the Fifth Meeting of the CEPM. Dr Duwaryi, noted the importance of the work of the participants, and welcomed two new members: Mr I. McDonell, representing North America, and Dr S. Olembo as the representative from Africa. He also introduced two new members of the IPPC Secretariat: Dr D. Nowell, Plant Pathologist and Mr J. Jones, Plant Quarantine Officer. Dr Duwaryi briefly covered the history of the CEPM, stating it was in a transition stage following approval of the New Revised Text of the International Plant Protection Convention by the 29th Session of FAO Conference held in November 1997. The revision formalized the role of the IPPC as the global institution for phytosanitary standard-setting, including making provision for a Secretariat and Commission on Phytosanitary Measures as support structures to facilitate implementation of the Convention. Dr N.A. Van der Graaff, Chief, FAO Plant Protection Service, welcomed the participants, noting that this was the first time their recommendations would be reported through the first Interim Commission on Phytosanitary Measures scheduled for November 1998. The CEPM was asked to anticipate concerns by the Commission on its role and structure, and the elaboration of future standards in light of the priorities of the New Revised Text of the IPPC.

Dr R. Griffin, Coordinator, IPPC Secretariat, presented the programme of work for the meeting and identified areas of special concern. Dr M. Vereecke was invited to continue as Chair. The Provisional Agenda (Annex 1) was amended and adopted. The Report of the Fourth Meeting of the CEPM was provided for reference to earlier discussions on the standards and other topics under consideration in this meeting.

2. REVIEW OF DRAFT STANDARDS

The Chair asked the participants to provide their general comments on the draft standards presented for approval and to review specific modifications proposed concerning the technical content of the texts. He also asked that they approve two standards returned from government consultation with various comments, so that they could be submitted to the Interim Commission on Phytosanitary Measures in November 1998.

2.1 *Pest Risk Analysis for Quarantine Pests*

The IPPC Secretariat Coordinator introduced an amended draft of this standard that included comments provided by some participants following its introduction at the CEPM meeting in October 1997. A draft revision of the "Guidelines for Pest Risk Analysis" (ISPM No. 2, 1996), also requested during that meeting, was presented by the Secretariat with alternate options for its acceptance as an updating of the standard to bring it into alignment with the New Revised IPPC, or for incorporating into the present draft. The issue concerned the relationship of the standards to regulated non-quarantine pests and quarantine pests.

After some discussion, it was agreed to maintain the standards as separate entities as the general text of the concept standard covered both pest categories, while the second had in its redrafting become more specific to quarantine pests. It was considered that a third standard could be prepared in future concerning pest risk analysis for regulated non-quarantine pests. Elements of the concept standard would be incorporated into the second to harmonize overlapping aspects of the PRA process, and specific links identified. It was also agreed that

the level of detail used in the "Guidelines" should be included in the present standard. It was decided to title the standard: "Pest Risk Analysis for Quarantine Pests".

Areas for further development were identified as the Scope where the purpose needed emphasis, and the Outline and General Requirements. The term "potential" was substituted for "probability" in many of the general instances where it related to 'introduction'. The new terms: 'Acceptable Level of Risk', 'pest tolerance', 'risk tolerance', 'rate of spread', and 'exclusion', as well as 'mitigated' and 'unmitigated risk', needed further review. These were subsequently substituted with more widely accepted terms or deleted.

For 'Initiation' and 'Establishment', it was agreed that additional details were needed and those given in ISPM No. 2 should be used for this section. For 'Pest Categorization', it was recommended that this section be reorganized under 'Risk Assessment', for consistency in its widely accepted definition which includes the element of pest categorization. The genetic adaptability of the pest was considered important and reworded to address whether or not a pest species or subspecies could adapt to conditions in the PRA area that are significantly different from those in its own area of origin. Experience that a pest is polymorphic with host-specific race(s) adapted to different environments was thought to be a useful indicator of adaptive potential.

'Economic Impact Assessment' was considered well structured, but required some reorganization and linkage to ISPM No. 2 in considering 'Types of Effects'. As it was recognized to be a difficult subject, a proposal was made that the Secretariat consider providing more guidance on carrying out economic assessments, perhaps in a special standard.

In discussions on 'Pest Risk Management', which had no significant change, the Secretariat noted that now was a good time to begin working with regional organizations and countries already preparing recording systems to document the PRA process, to both harmonize these and further develop them as models for other countries.

'Identification and Selection of Appropriate Phytosanitary Measures' was amended to take into account restrictions on number and size of commodity that may be imported. The option of prohibition of commodity imports was reviewed further as well as transparency where some members supported strengthening text referring to the publication of pest lists.

As further time was lacking for discussion, the participants were requested to submit any additional comments by 15 June 1998 for incorporation into the final draft that would be sent for government consultation.

2.2 *Guidelines for Surveillance for Specific Pests: Xanthomonas campestris pv. citri (Citrus canker)*

The Secretariat noted that a significant interest in the technical detail of this standard had been shown, and that requests had been received by member countries to extend the consultation period and number of experts contributing to its review. It was therefore agreed to delay the full assessment of this standard to the next CEPM meeting.

2.3 *Guidelines for Phytosanitary Certificates*

Most of the discussion centred on the model certificates attached to the standard, particularly as to whether the model certificates should be attached as annexes to the standard or just refer

to those attached to the IPPC. It was queried why only the two models attached to the Convention were indicated in the standard when others including a "Model Phytosanitary Certificate for Other Regulated Articles" had been proposed in the earlier draft. It was noted that many countries carry out certifications beyond what is specified on the model certificates of the Convention. There was also some concern as to how the new certification statement should work and that the standard needed to help clarify export and re-export requirements. It was queried whether the present "paper certificate" models would be relevant in the future as electronic certificates were being increasingly developed and introduced into the certification process. Such models should be viewed as general guides rather than be presented as structured formats. It was agreed that the models should be kept attached to the standard, but needed to be more flexible in their construction and better guide completion of the certificates.

A key point raised was whether in future other models should be annexed to the Convention or to this standard. It was also suggested that as systems for electronic certification were being developed, it would also be a good initiative for the IPPC Secretariat to help prepare standards appropriate for the processing of such systems.

2.4 *Guidelines for an Import Regulatory System*

This standard could not be reviewed for lack of time. The participants were encouraged to provide their comments as soon as possible on the final draft of this standard introduced at the Fourth Meeting in October 1997, to avoid further delay in its finalization.

3. REVIEW OF COMMENTS ON STANDARDS IN CONSULTATION

3.1 *Determination of Pest Status in an Area*

The Secretariat introduced this standard as one of four that had been sent for government consultation since the last meeting of the CEPM, noting that the comments received had been largely editorial. Only a few fundamental conceptual issues had been raised: whether the standard was limited only to 'distribution' and 'occurrence', did it address 'phytosanitary significance' such as damage caused by the pest, and whether 'interceptions' are a part of the standard.

It was noted that the standard did not just concern 'absence/presence' but had also been intended to address phytosanitary significance and lacked this emphasis. It had also been suggested that 'pest status' be substituted with 'pest distribution'. After discussion it was agreed that 'status' should be maintained as it was a broader term that covered 'phytosanitary significance' and 'distribution' was more limited. It was agreed to retain 'interceptions of pests' so that the concept was well defined and not open to misuse.

Several specific comments were noted concerning the table and appendix list of references. Regarding the table where record sources are ranked by reliability, it was recognized under 'Technical identification', that biochemical or molecular diagnosis and type collection identification could be ranked in either order as the most reliable, but it was better to place the former first as preferable when possible. In discussion of the appendix, concern was raised on whether the list should form part of the standard in the documentation of records. Many good references were also only available in English. It was recognized that this list was not intended to be exhaustive but was useful as it directed users to widely available, easily accessible reliable sources of information. It was agreed to keep the appendix and amend the text accordingly.

Multilingual sources had priority listing, but English was acknowledged as a common language for technical references in quarantine documentation.

The revised text was recommended by the CEPM for submission to the Interim Commission on Phytosanitary Measures in November 1998.

3.2 *Guidelines for Pest Eradication Programmes*

The Secretariat noted that two conceptual issues had been raised by the comments received: the application of this standard to 'places of production', and that there wasn't enough guidance provided concerning emergency and small eradication programmes, as the present draft was more directed to large, well-organized eradication programmes. Discussion was held whether to include 'places of production' with 'area' in one standard or to develop separate standards for each situation. It was agreed that 'place of production' was adequately covered under 'in an area'. Concerning emergency and small eradication programmes, some text had been proposed to cover such situations, and it was agreed to include it.

The Secretariat also noted that it had been proposed to list institutes or experts that could be contacted for assistance in carrying out such programmes. It was decided that it was better to make this type of information available through the Secretariat or a Regional Plant Protection Organization rather than in a standard.

This standard was also recommended by the CEPM to be presented to the Interim Commission in November 1998.

4. REVIEW OF DISCUSSION PAPERS

Two draft discussion papers prepared by the Secretariat were provided for consideration by the participants as agreed during the Fourth CEPM Meeting. The first covered regulated non-quarantine pests, for which a working group was scheduled to meet in autumn 1998 to draft a standard. No time was available to discuss this subject.

The second was a proposed revision of the "Principles of Plant Quarantine as Related to International Trade", to align it with the revision of the IPPC. It was decided to postpone its discussion to a later CEPM meeting so that the New Revised Text could be thoroughly reviewed.

5. REVIEW OF GLOSSARY TERMS

A document covering new phytosanitary terms and definitions had been prepared by the Secretariat for final review by the CEPM with some marked for suggested inclusion in the "Glossary of Phytosanitary Terms". Although no time was available to cover these beyond their discussion in context of the standards reviewed, it was accepted that the following terms and definitions from "Determination of Pest Status in an Area" were recommended, as amended, for the Glossary: 'incursion', 'pest record' and 'pest status in an area'. 'Non-actionable occurrence' was deleted. The amended list of new terms and definitions for "Pest Risk Analysis for Quarantine Pests" would be provided at the next CEPM meeting for final approval. Assistance in completing missing definitions in Spanish approved by the CEPM was kindly provided by Messrs. Morales and Berg. Some concern was raised about keeping the Glossary up to date and it was acknowledged that CEPM members should take advantage of

future meetings together at regional and working group level to also consider relevant additions and deletions to the Glossary.

6. OTHER BUSINESS

Two documents were provided by the Secretariat with information relevant to the priority agenda items of the forthcoming first Interim Commission meeting. This covered the process of developing and harmonizing international standards for phytosanitary measures and major points from the New Revised IPPC, Conference Resolution 12/97 and Report of the 29th FAO Conference.

6.1 Translations

The continuing financial and time constraints associated with translating draft standards for submission for government consultation was noted. Dr Smith offered again to assist with French translations; this was kindly accepted.

6.2 Status of International Standards for Phytosanitary Measures (up to May 1998)

As requested by the CEPM, a list detailing the status of published and draft standards was provided by the Secretariat. The standard-setting process entails identifying priorities, conceptualization, development, consultation and endorsement.

ISPMs endorsed and published

No. 1: Principles of Plant Quarantine as Related to International Trade, 1995.
No. 2: Guidelines for Pest Risk Analysis, 1996.
No. 3: Code of Conduct for the Import and Release of Exotic Biological Control Agents, 1996.
No. 4: Requirements for the Establishment of Pest Free Areas, 1996.
No. 5: Glossary of Phytosanitary Terms, 1997.
No. 6: Guidelines for Surveillance, 1998.
No. 7: Export Certification System, 1997.

CEPM approved standards recommended for endorsement by the Interim Commission on Phytosanitary Measures in November 1998

Determination of Pest Status in an Area
Guidelines for Pest Eradication Programmes

Finalized standards in government consultation

Requirements for the Establishment of Pest Free Places of Production
Inspection Methodology
Pest Risk Analysis for Quarantine Pests (pending final comments received by 15 June 1998)

Final drafts pending review and approval by the CEPM

Guidelines for an Import Regulatory System
Guidelines for Phytosanitary Certificates
Guidelines for Surveillance for Specific Pests: *Xanthomonas campestris* pv. *citri* (Citrus canker)

First drafts prepared by the Secretariat of published standards to update and align with New Revised Text of IPPC
Principles of Plant Quarantine as Related to International Trade (ISPM No. 1)
Guidelines for Pest Risk Analysis (ISPM No. 2)

Priorities for future standards
In addition to work underway on a standard dealing with "technical justification for regulating non-quarantine pests" (see Section 4.), a number of other subjects have been targeted by regional and national experts:

- Guidelines for the preparation of regulated pest lists*
- Guidelines for notification - interceptions and non-compliance*
- Systems approaches for risk management *(discussion paper in preparation)*
- Low pest prevalence*
- Quarantine nomenclature for plants and plant products*
- Dispute settlement *(draft standard in preparation)*
- Procedures for the preparation of a standard
  (pending discussion by the Commission on Phytosanitary Measures)
- Pest-specific monitoring and testing requirements*
- Training and accreditation of inspectors*
- Pest control procedures*
- Procedures for post-entry quarantine*
- Systems for approving phytosanitary treatments*
- Guidelines for research requirements for treatment efficacy*
- Commodity-specific standards*.

** (no draft standard or discussion paper prepared yet)*

7. CLOSURE OF MEETING

It was noted that another meeting of the CEPM appeared urgent prior to the Interim Commission meeting in November, to review the two standards returning with comments from government consultation, and draft standards and discussion papers for which time had been insufficient in this meeting. The financial and logistical problems of organizing another meeting would be considered. The participants were thanked for their assistance and the meeting was adjourned.

ANNEX I

COMMITTEE OF EXPERTS ON PHYTOSANITARY MEASURES
FIFTH SESSION

Rome: 11-14 May 1998

PROVISIONAL AGENDA

1. Opening of Session

2. Welcome Address

3. Election of Chair

4. Adoption of Agenda

5. Review of Draft Standards:

Pest Risk Analysis for Quarantine Pests	For approval
Guidelines for Phytosanitary Certificates	For approval
Guidelines for an Import Regulatory System	For approval
Guidelines for Pest Surveillance: Citrus canker	For approval

6. Review of Comments on Standards in Consultation:

   Guidelines for Pest Eradication Programmes
   Requirements for the Establishment of Pest Free Places of Production

7. Review of Discussion Papers

8. Review of Glossary Terms

9. Other Business

10. Closure

ANNEX II

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FIFTH SESSION

Rome: 11-14 May 1998

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DRAFT STANDARD

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

DETERMINATION OF PEST STATUS IN AN AREA

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization
of the United Nations
Rome, 199-

CONTENTS

INTRODUCTION

SCOPE

This standard describes the content of a pest record, and the use of pest records and other information in the determination of pest status in an area. Descriptions of pest status categories are provided as well as recommendations for good reporting practices.

REFERENCES

Glossary of phytosanitary terms, 1997. ISPM Pub. No. 5, FAO, Rome.
Guidelines for pest eradication programmes, FAO, Rome (in consultation).
Guidelines for pest risk analysis, 1996. ISPM Pub. No. 2, FAO, Rome.
Guidelines for surveillance, 1998. ISPM Pub. No. 6, FAO, Rome.
International Plant Protection Convention, 1992. FAO, Rome.
New Revised Text of the International Plant Protection Convention, 1997. FAO, Rome.
Principles of plant quarantine as related to international trade, 1995. ISPM Pub. No. 1, FAO, Rome.

DEFINITIONS AND ABBREVIATIONS

Area	An officially defined country, part of a country or all or parts of several countries.
Delimiting survey	Survey conducted to establish the boundaries of an area considered to be infested by or free from a pest.
Detection survey	Survey conducted in an area to determine if pests are present.
Establishment	Perpetuation, for the foreseeable future, of a pest within an area after entry.
Incursion	The presence of an individual or an isolated population of a pest in an area where it may survive into the immediate future but is not expected to establish.
Interception (of a pest)	The detection of a pest during inspection of an imported consignment.
IPPC	The International Plant Protection Convention, a multilateral treaty for cooperation in plant protection, approved and deposited in 1951 with FAO in Rome, having come into force in 1952 and amended in 1979 (the Revised Text) and 1997 (the New Revised Text).

Monitoring survey	Ongoing survey to verify the characteristics of a pest population.
National Plant Protection Organization (NPPO)	Official service established by a government to discharge the functions specified by the IPPC.
Occurrence	The presence in an area of a pest officially reported to be indigenous or introduced and/or not officially reported to have been eradicated.
Official	Established, authorized or performed by a National Plant Protection Organization.
Outbreak	An isolated pest population, recently detected and expected to survive for the immediate future.
Pest	Any species, strain or biotype of plant, animal, or pathogenic agent, injurious to plants or plant products.
Pest free area (PFA)	An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained.
Pest record	A document providing information concerning the presence or absence of a specific pest at a particular location at a certain time, within an area (usually a country) under described circumstances.
Pest status (in an area)	Presence or absence, at the present time, of a pest in an area, including where appropriate its distribution as officially determined using expert judgement on the basis of current and historical pest records and other information.
Phytosanitary measure	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of pests.
Phytosanitary regulation	Official rule to prevent the introduction and/or spread of quarantine pests, by regulating the production, movement or existence of commodities or other articles, or the normal activity of persons, and by establishing schemes for phytosanitary certification.

Quarantine pest	A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled.
Regional Plant Protection Organization (RPPO)	Intergovernmental organization with the functions laid down by Article IX of the IPPC.
Regulated pest	A quarantine pest or a regulated non-quarantine pest.
Survey	An official procedure conducted over a defined period of time to determine the characteristics of a pest population or to determine which species occur in an area.
Transience	Presence of a pest that does not lead to establishment.

OUTLINE OF REQUIREMENTS

Pest records are essential components of the information used to establish the status of a pest in an area. All importing and exporting countries need information concerning the status of pests for risk analyses, the establishment of and compliance with import regulations, and the establishment and maintenance of pest free areas.

A *pest record* provides information concerning the presence or absence of a pest, the time and location of the observations, the damage observed, as well as references or other relevant information pertaining to a single observation. The reliability of pest records is based on consideration of the data in regard to: the collector/identifier, the means of technical identification, the location and date of the record, and the recording/publication of the record.

The *determination of pest status* requires expert judgement concerning the information available on the present-day occurrence of a pest in an area and the significance of its presence. Pest status is determined using information from individual pest records, pest records from surveys, data on pest absence, findings of general surveillance, and scientific publications and databases.

Pest status is outlined in this standard in terms of three categories incorporating various final determinations:

- *presence* of the pest - leading to determinations such as “present in all parts of the area”, “present only in specified areas”, etc.

- *absence* of the pest - leading to determinations such as “no pest records”, “pest eradicated”, “pest no longer present”, etc.

- *transience* of the pest - leading to determinations such as “non-actionable incursion”, “actionable incursion”, and “outbreak under eradication”.

To facilitate international cooperation among contracting parties in meeting their obligations in reporting the occurrence, outbreak or spread of pests, the National Plant Protection Organizations (NPPOs), or other organizations or persons involved in recording the presence, absence, or transience of pests, should follow good reporting practices. These practices concern the use of accurate, reliable data for pest records, the sharing of pest status information in a timely manner, respecting the legitimate interests of all parties concerned, and taking into account the pest status determinations in this standard.

GENERAL REQUIREMENTS FOR DETERMINATION OF PEST STATUS

1. Purposes of Pest Status Determination

A pest record is documented evidence[1] that indicates the presence or absence of a specific pest at a particular location and certain time, within an area, usually a country, under described circumstances. Pest records are used in conjunction with other information for the determination of the status of the given pest in the area.

In general, the provision of reliable pest records and the determination of pest status are vital components of a number of activities covered under the International Plant Protection Convention (IPPC) and by the principles noted in the ISPM: *Principles of plant quarantine as related to international trade*, and the international standards for phytosanitary measures that have been developed from them.

Importing countries need pest status information to:

- conduct a pest risk analysis (PRA) on a pest in another country
- establish phytosanitary regulations to prevent the entry, establishment or spread of a pest
- conduct a PRA on a non-quarantine pest in their own territory with a view to regulating it.

Exporting countries need pest status information to:

- comply with import regulations by not exporting consignments infested with the regulated pests of the importing country
- meet requests for information from other countries for the purpose of PRA on pests in their territory.

All countries may use pest status information for:

- PRA purposes
- planning national, regional or international pest management programmes
- establishing national pest lists
- establishing and maintaining pest free areas.

Information on the status of a pest in areas, countries and regions may be used to establish the global distribution of a pest.

[1] Including electronic documentation

2. Pest Records

2.1 Pest record

The ISPM: *Guidelines for surveillance* describes the elements of information from general surveillance and specific surveys that may be included in a pest record. The basic information needed in a pest record includes the following:

- current scientific name of the organism including, as appropriate, subspecific terms (strain, biotype, etc.)
- life stage or state
- taxonomic group
- identification method
- year, and month if known, recorded. Normally the day will only be required for specific circumstances (e.g. the first detection of a particular pest, pest monitoring)
- locality, e.g. location codes, addresses, geographical coordinates. Important conditions such as if under protected cultivation (e.g. greenhouses) should be indicated
- scientific name of host, as appropriate
- host damage, or circumstances of collection (e.g. trap or soil sample), as appropriate
- prevalence, indication of the level of pest presence or pest numbers
- bibliographical references, if any.

A list of references is noted in the Appendix to this standard for consultation in the preparation of a pest record.

2.2 Reliability

Pest record information is available from many sources and has varying levels of reliability. Some key components are identified in the following Table. Although the Table ranks the categories in descending order of relative reliability, it must be recognized that these are not rigid and are only designed to provide guidance in evaluating the record. In particular, it should be noted that pests differ in the level of expertise needed for their identification.

NPPOs have responsibility to provide accurate information on pest records upon request.

Table. Guidance for Evaluating the Reliability of a Pest Record (Sources listed from most reliable to least reliable.)

1. Collectors / Identifiers	2. Technical identification	3. Location and date	4. Recording / Publication
a. Taxonomic specialist	a. Discriminating biochemical or molecular diagnosis (if available)	a. Delimiting or detection surveys	a. NPPO record/RPPO publication (where refereed)
b. Professional specialist, diagnostician	b. Specimen or culture maintained in official collection, taxonomic description by specialist	b. Other field or production surveys	b. Scientific or technical journal refereed
c. Scientist	c. Specimen in general collection	c. Casual or incidental field observation, possibly with no defined location/date	c. Official historical record
d. Technician	d. Description and photo	d. Observation with/in products or byproducts; interception	d. Scientific or technical journal non-refereed
			e. Specialist amateur publication
e. Expert amateur	e. Visual description only	e. Precise location and date not known	f. Unpublished scientific or technical document
f. Non-specialist			g. Non-technical publication; periodical/newspaper
g. Collector/identifier not known	f. Method of identification not known		h. Personal communication; unpublished

3. Pest Status in an Area

3.1 Describing pest status in an area

Determination of pest status requires expert judgement on the current distribution of a pest in an area and on its phytosanitary significance. This judgement is based on a synthesis of pest records and information from other sources. Both current and historical records are used in assessing the present-day situation. Pest status can be described under the following categories:

3.1.1 Presence

A pest is present if records indicate that it is indigenous or introduced. If a pest is present and sufficient reliable records are available, then it may be possible to characterize its distribution using phrases, or a combinations of phrases, such as the following examples:

Present: in all parts of the area
Present: only in specified areas
Present: except in specified pest free areas
Present: in all parts of the area where host crop(s) are grown
Present: only in specified areas where host crop(s) are grown
Present: only in protected cultivation
Present: seasonally
Present: but managed[2]
Present: under eradication
Present: at low prevalence.

Other similar descriptive phrases may be used, as appropriate. If few reliable records are available, it will be difficult to characterize the distribution.

As appropriate, it is useful to characterize the prevalence of the pest (e.g. common, occasional, rare), and the level of damage and/or losses caused by the pest on relevant hosts.

3.1.2 Absence

If there are no records of the presence of the pest in the general surveillance data of an area, it may be reasonable to conclude that a pest is or has always been absent. This may be supported by specific records of absence.

It is also possible to conclude that a pest is absent even if there are pest records suggesting the contrary. These different situations are described below. Absence may also be confirmed by specific surveys (see ISPM: *Guidelines for surveillance*) and, in that case, the phrase "**confirmed by survey**" should then be added.

[2] According to: (details to be listed)

Absent: no pest records
General surveillance indicates that the pest is absent now and has never been recorded.

Absent: pest eradicated
Pest records indicate that the pest was present in the past. A documented pest eradication programme was conducted and was successful (see ISPM: *Guidelines for pest eradication programmes*). Surveillance confirms continued absence.

Absent: pest no longer present
Pest records indicate that the pest was transient or established in the past, but general surveillance indicates the pest is no longer present. The reason(s) may include:

- climate or other natural limitation to pest perpetuation
- changes in hosts cultivated
- changes in cultivars
- changes in agricultural practices.

Absent: pest records invalid
Pest records indicate the presence of a pest, but the conclusion is reached that the records are invalid or no longer valid, as in the following officially declared cases:

- changes in taxonomy
- misidentification
- erroneous record
- changes in national borders where reinterpretation of the record may be needed.

Absent: pest records unreliable
Pest records indicate the presence of a pest, but the determination leads to the conclusion that the records are unreliable, as in the following officially declared cases:

- ambiguous nomenclature
- outdated identification or diagnostic methods
- records cannot be considered reliable (see Table).

Absent: intercepted only
The pest has only been reported on consignments at a point of entry or initial destination or while under detention before release, treatment or destruction. Surveillance confirms that the pest has not established.

3.1.3 Transience
Pest status is considered transient when a pest is present but establishment is not expected to occur. There are three types of transients:

Transient: non-actionable incursion
The pest has only been detected as an individual occurrence or isolated population, not expected to survive and no phytosanitary measures have been applied.

Transient: actionable incursion
The pest has been detected as an isolated population that may survive into the immediate future, but is not expected to establish. Appropriate surveillance is being conducted.

Transient: outbreak under eradication
The pest has been detected as an isolated population which may survive into the immediate future and, without phytosanitary measures for eradication, may establish. Appropriate phytosanitary measures have been applied for its eradication.

3.2 Determination of pest status in an area

Determination of the status of a pest is normally carried out by an NPPO. It results in deciding upon the most appropriate description of the pest status in an area (see Section 3.1) based on supporting information. This may include:

- individual pest records
- pest records from surveys
- records or other indication of pest absence
- results of general surveillance
- information from scientific publications and databases
- phytosanitary measures used to prevent introduction or spread
- other information relevant to assessing pest absence or presence.

The reliability and consistency of the information should be considered. In particular, careful judgement is needed when there is conflicting information.

4. Recommended Reporting Practices

Contracting parties have obligations under the IPPC (see New Revised Text: Article VIII 1a) to report "the occurrence, outbreak or spread of pests", of which, in the terms of this standard, information pertaining to "pest status in an area" is a part. This standard is not concerned with reporting obligations, but with the quality of the reported information. Accurate reports are an essential part of the international cooperation to facilitate trade. Failure to discover and report pests, or inaccurate, incomplete, untimely, or misinterpreted reports can lead to the establishment of unjustified trade barriers, or to the introduction and/or spread of pests.

Persons or organizations involved in collecting pest records should follow the recommendations in this standard, and provide the NPPO with accurate and complete details before reporting the information generally.

To observe good reporting practices, NPPOs should:

- base determinations of pest status in an area on the most reliable and timely information available

- take into account the categories and pest status determinations set out in this standard when exchanging pest status information between countries

- inform the NPPO of trading partners as soon as possible, and their Regional Plant Protection Organization (RPPO) where appropriate, of relevant changes in pest status and especially reports of newly established pests

- report interceptions of regulated pests which suggest a change in pest status in the exporting country to other countries only after consultation with the exporting country

- when becoming aware of an otherwise unreported record of a pest in another country, the NPPO may report it to other countries or RPPOs only after informing and where possible consulting with the NPPO concerned

- exchange pest status information in conformity with Articles VII (2j) and VIII (1a and 1c) of the IPPC to the extent practicable, and in a medium and language acceptable to both parties.

Appendix. Useful References.

This listing is for reference purposes only. The references here are widely available, easily accessible and generally recognized as authoritative. The list is not comprehensive or static, nor is it endorsed as a standard under this ISPM.

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DRAFT STANDARD

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

GUIDELINES FOR PEST ERADICATION PROGRAMMES

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization
of the United Nations
Rome, 199-

CONTENTS

INTRODUCTION

SCOPE

This standard describes the components of a pest eradication programme which can lead to the establishment or re-establishment of pest freedom in an area.

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DEFINITIONS AND ABBREVIATIONS

Area	An officially defined country, part of a country or all or parts of several countries.
Containment	The application of phytosanitary measures in and around an infested area to prevent spread of a pest.
Control (of a pest)	Suppression, containment or eradication of a pest population.
Delimiting survey	Survey conducted to establish the boundaries of an area considered to be infested by or free from a pest.
Detection survey	Survey conducted in an area to determine if pests are present.
Endangered area	An area where ecological factors favour the establishment of a pest whose presence in the area will result in economically important loss.
Entry (of a pest)	Movement of a pest into an area where it is not yet present, or present but not widely distributed and being officially controlled.
Eradication	Application of phytosanitary measures to eliminate a

	pest from an area.
Establishment	Perpetuation, for the foreseeable future, of a pest within an area after entry.
Introduction	Entry of a pest resulting in its establishment.
IPPC	The International Plant Protection Convention, a multilateral agreement for cooperation in plant protection, approved and deposited in 1951 with FAO in Rome, having come into force in 1952 and amended in 1979 (the Revised Text) and 1997 (the New Revised Text).
Monitoring survey	Ongoing survey to verify the characteristics of a pest population.
National Plant Protection Organization (NPPO)	Official service established by a government to discharge the functions specified by the IPPC.
Occurrence	The presence in an area of a pest officially reported to be indigenous or introduced and/or not officially reported to have been eradicated.
Outbreak	An isolated pest population, recently detected and expected to survive for the immediate future.
Pathway	Any means that allows the entry or spread of a pest.
Pest	Any species, strain or biotype of plant, animal or pathogenic agent, injurious to plants or plant products.
Pest free area	An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained.
Phytosanitary legislation	Basic laws granting legal authority to a National Plant Protection Organization from which phytosanitary regulations may be drafted.
Phytosanitary measure	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of pests.

Quarantine pest	A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled.
Regulated article	Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harbouring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved.
Spread	Expansion of the geographical distribution of a pest within an area.
Surveillance	An official process which collects and records data on pest occurrence or absence by survey, monitoring or other procedures.
Survey	An official procedure conducted over a defined period of time to determine the characteristics of a pest population or to determine which species occur in an area.
Treatment	Officially authorized procedure for the killing, removal or rendering infertile of pests.

OUTLINE OF REQUIREMENTS

A programme for pest eradication may be developed by a National Plant Protection Organization (NPPO) as:

- an emergency measure to prevent establishment and/or spread of a pest following its recent entry (re-establish a pest free area), or
- a measure to eliminate an established pest (establish a pest free area).

After a preliminary investigation that includes the consideration of data collected at the site(s) of detection or occurrence, the extent of the infestation, information on the biology and potential economic impact of the pest, current technology and available resources for eradication, a cost-benefit analysis of the pest eradication programme should be undertaken. Whenever possible, it is also useful to gather information concerning the geographical origin of the pest, and pathways for its reintroduction. Pest risk analysis (PRA) provides a scientific basis for informed decision-making (see ISPM *Guidelines for pest risk analysis*). From these studies, one or more options should be made available to decision-makers.

The eradication process involves three main activities: surveillance, containment, and treatment and/or control measures.

When an eradication programme is completed, the absence of the pest must be verified. The verification procedure should use criteria established at the beginning of the programme and should be supported by adequate documentation of programme activities and results. The verification stage is integral to the programme, and should involve independent analysis if trading partners require this reassurance. Successful programmes result in a declaration of eradication by the NPPO. When unsuccessful, all aspects of the programme should be reviewed, including the biology of the pest to determine if new information is available, and the cost-benefit of the programme.

GENERAL REQUIREMENTS FOR PEST ERADICATION PROGRAMMES

This standard provides guidance on the development of a pest eradication programme and for reviewing the procedures of an existing eradication programme. In most instances, the pests considered for these programmes have newly entered the area where eradication is undertaken, and emergency eradication measures may be needed. However, eradication programmes may also be directed toward established exotic pests or indigenous pests in defined areas.

1. General Information and Planning Processes

1.1 Evaluation of pest reports

NPPOs should systematically evaluate pest reports and the impact of these pests to determine if eradication is required. This should involve an official contact point for pest reports and, to the extent possible, experts available to evaluate the information and recommend a course of action.

1.2 Contingency plans

It is desirable to have contingency plans to address specific pests or pest groups that have a high potential for introduction, and for which an eradication plan is deemed to be both feasible and necessary, before the pest is found in an area. The development of such plans is advantageous because it provides additional time for deliberation, evaluation and research necessary to ensure that an eradication programme is well designed and can be executed quickly and effectively. Such plans are particularly important where cooperative programmes are anticipated, as they allow for the actions of cooperating parties to be specified and agreed upon prior to implementing the programme. Knowledge gained from previous successful eradication programmes can be extremely useful for developing contingency plans or judging the feasibility of eradication programmes under consideration. A general contingency plan is also particularly useful for ensuring rapid action in the case of emergency eradication measures.

It should be recognized that the biology of pests varies considerably as do the technologies available for eradication. Therefore, not all the factors listed in this standard for consideration will be of value in planning every eradication programme.

1.3 Reporting requirements and information sharing

Verification of the occurrence of a new pest of immediate or potential danger initiates the process that leads to reporting requirements for the NPPO under the International Plant Protection Convention (see New Revised Text: Article VII 2j and Article VIII 1a and 1c) and is described in the ISPM: *Determination of pest status in an area***.**

Prior to the implementation of a pest eradication programme, public information programmes or other means for sharing information with broader audiences such as growers, residents, and local governments, should be considered for raising the level of awareness and understanding of the programme.

2. Decision to Undertake an Eradication Programme

The decision to undertake an eradication programme results from an evaluation of the circumstances of detection of a pest, its identification, the risk identified by a pest-initiated PRA, estimation of the present and potential distribution of the pest, and assessment of the feasibility of conducting an eradication programme. It is normally good practice to give due consideration to all the elements recommended. However, this approach may be limited in practice by the availability of data and resources. Particularly in cases where emergency eradication measures seem necessary (e.g. recent entry of a pest capable of rapid dispersal), the need to take action rapidly should be carefully balanced against the benefits of more detailed analyses and planning.

2.1 Initiation

The eradication programme may be initiated by detection of a new pest arising from general surveillance or specific surveys (see ISPM: *Guidelines for surveillance*). In the case of established pests, the eradication programme will be initiated by policy considerations (e.g. a decision taken to establish a pest free area).

2.2 Identification

Accurate identification of the pest is essential so that the appropriate means of eradication can be selected. NPPOs should proceed with the identification process recognizing that it may have to withstand scientific or legal challenge. Therefore, it may be appropriate to have the identification confirmed by acknowledged independent experts.

Identification may be immediate when the pest is easily and confidently recognized by the NPPO.

Identification methods may range from recognition based only on morphological characteristics to more sophisticated bioassay, chemical or genetic analyses. The method ultimately adopted by the NPPO will depend on the organism in question and the most widely accepted and practical means to confirm identification.

In cases where a conclusive identification is not immediately possible, the actions to be taken may be justified by other factors such as the extent of damage to host plants.

2.3 Estimating present and potential pest distribution

An estimate of the present distribution of the pest is necessary for both new and established pests. The potential distribution is usually of greater importance for new pests, but may have relevance as well in evaluating established pests. The data elements identified for initial investigation include a level of detail not necessarily required for a programme directed toward established pests.

2.3.1 Initial investigation

Data associated with the detection of a new pest, the geographical origin of the pest, and the pathway, should be compiled and reviewed. This information is not only useful for decision-making related to eradication, but is also helpful for identifying and correcting weaknesses in pest exclusion systems that may have contributed to the entry of the pest.

2.3.1.1 Data gathered at the site of detection or occurrence

Information should be gathered concerning the pest and conditions at the site of detection or occurrence, including:

- geographical location
- hosts infested at the site
- extent and impact of damage and level of pest prevalence
- how the pest was detected and identified
- recent imports of plants or plant products
- history of the pest on the property or in the area
- movement of people, products, equipment, conveyances
- mechanism of spread within the area
- climatic and soil conditions
- condition of infested plants
- cultivation practices.

2.3.1.2 Geographical origin

To the extent possible, information should be obtained on the country or area most likely to be the origin of the pest. Information concerning countries of re-export or transit may also be considered when attempting to determine the source and pathway.

2.3.1.3 Pathways of the pest

To the extent possible, the NPPO should determine the pathways by which the pest may have entered or spread, to ensure that eradication programmes are not jeopardized by new pest entries, and to help identify potential exclusion options. Pathway information includes identifying the commodities or items that may have carried the pest as well as the possible mode of movement. Where there is a possible association with newly imported plants or plant products, similar material should be located and examined.

2.3.2 Distribution

The preliminary processes should provide sufficient information to determine if a survey is required.

Surveys may be of two types:

- delimiting survey at each outbreak
- survey based on pathway studies.

These surveys should be designed and executed to provide the level of statistical confidence necessary for the results to be meaningful for regulatory purposes.

In cases where survey data are to provide the basis for establishing a pest free area for export purposes, it may be desirable to consult trading partners in advance to determine the quantity and quality of data necessary to meet their phytosanitary requirements.

2.3.3 Predicting spread

Data collected during a preliminary investigation should be used to estimate the potential for spread and the anticipated rate of spread, and to identify endangered areas.

2.4 Feasibility of undertaking an eradication programme

An estimate of the impact and extent of the infestation, the potential for spread, and the anticipated rate of spread is necessary to judge the feasibility of an eradication programme. PRA provides a scientific basis for this estimate (see ISPM: *Guidelines for pest risk analysis*). Possible eradication options and cost-benefit factors should also be considered.

2.4.1 Biological and economic information

Information needs to be obtained on:

- pest biology
- potential hosts
- potential spread and anticipated rate of spread
- possible eradication strategies:
  - financial and resource costs
  - availability of the technology
  - logistical and operational limitations
- impact on industry and the environment:
  - without eradication
  - with each eradication option identified.

2.4.2 Conducting cost-benefit analysis for eradication programmes

One of the first actions to be taken is the preparation of a list of the most feasible eradication techniques. The total cost and the cost-benefit ratio for each strategy should be estimated over the short and long term. The option to take no action, or to take a pest management approach, should be considered as well as eradication options.

All feasible options should be described or discussed with decision-makers. Anticipated advantages and disadvantages, including cost-benefit should be outlined to the extent possible. One or more options should be recommended, recognizing that the ultimate decision requires consideration of the technical options, cost-benefit, the availability of resources, and political and socio-economic factors.

3. Eradication Process

The eradication process involves the establishment of a management team followed by the conduct of the eradication programme, which should preferably follow an established plan. Three main activities are included in the programme:

- surveillance: to fully investigate the distribution of the pest
- containment: to prevent the spread of the pest
- treatment: to eradicate the pest when it is found.

Direction and coordination should be provided by a management authority (normally the NPPO), ensuring that criteria are established to determine when eradication has been achieved

and that appropriate documentation and process controls exist to provide sufficient confidence in the results. It may be necessary to consult with trading partners over some aspects of the eradication process.

3.1 Establishment of a management team

A management team is established to provide direction and coordination to eradication activities once it has been decided to undertake an eradication programme. The size of the management team will vary depending on the scope of the programme and the resources available to the NPPO. Large programmes may require a steering committee or an advisory group including the various interest groups that may be affected. Where a programme includes several countries, a regional steering committee should be considered.

The management team should have responsibility for:

- ensuring that the eradication programme meets the agreed criteria for successful eradication
- formulating, implementing, and modifying as necessary an eradication plan
- ensuring programme operators have appropriate authority and training to undertake their duties
- financial and resource management
- appointing and defining duties of operators, ensuring operators understand their responsibilities, and documenting their activities
- managing communication, including a public relations programme
- communicating with affected parties, e.g. growers, traders, other government departments and non-governmental organizations
- implementing an information management system, including programme documentation and appropriate record-keeping
- daily management of the programme
- continuous monitoring and evaluation of critical elements
- periodic overall programme review.

3.2 Conducting the eradication programme

3.2.1 Surveillance

A delimiting survey should be completed either initially or to confirm earlier surveys. Monitoring surveys should then continue in accordance with the eradication plan to check the distribution of the pest and assess the effectiveness of the eradication programme (see ISPM: *Guidelines for surveillance*). Surveillance may include a pathway analysis to identify the source of the pest and its possible spread, the inspection of clonally and/or contact-linked material, inspection, trapping, and aerial observation. This may also include targeted inquiries to growers, those responsible for storage and handling facilities, and the public.

3.2.2 Containment

The NPPO should define a quarantine area using surveillance information. The initial investigations will provide information that is used to identify plants, plant products, or other articles whose movement out of the quarantine area needs to be regulated to prevent the spread of the pest. Owners of affected plants, plant products and other

regulated articles should be notified of the regulations. Others interested or affected by regulations should also be provided with adequate information. It may be appropriate to verify compliance using methods described in the eradication plan.

Arrangements should be made for the release of plants, plant products or other regulated articles from the quarantine area, by clearance following verification of compliance with phytosanitary measures such as inspection, treatment or destruction. Provision should be made for the withdrawal of regulations when an eradication programme has been declared to be successful.

3.2.3 Treatment and/or control measures

Methods to eradicate pests may include:

- host destruction
- disinfestation of equipment and facilities
- chemical or biological pesticide treatment
- soil sterilants
- leaving land fallow
- host-free periods
- the use of cultivars that suppress or eliminate pest populations
- restriction of subsequent cropping
- trapping, lures or other physical control methods
- inundative release of biological control agents
- use of sterile insect technique
- processing or consumption of infested crop.

In most cases, eradication will involve the use of more than one treatment option. The selection of treatment and/or control options may be limited by legislative restrictions or other factors. In such situations, exceptions for emergency or limited use may be available to the NPPO.

3.3 Verification of pest eradication

This involves verification by the management authority (normally the NPPO) that the criteria for successful pest eradication established at the beginning of the programme have been achieved. The criteria may specify the intensity of the detection method and how long the survey must continue to verify the absence of the pest. The minimum period of time of pest freedom to verify eradication will vary according to the biology of the pest, but should take into consideration factors such as:

- sensitivity of detection technology
- ease of detection
- life cycle of the pest
- climatic effects
- efficacy of treatment.

The eradication plan should specify the criteria for a declaration of eradication and steps for the withdrawal of regulations.

3.4 Documentation

NPPOs should ensure that records are kept of information supporting all stages of the eradication process. It is essential that NPPOs maintain such documentation in case trading partners request information to support claims of pest freedom.

3.5 Declaration of eradication

A declaration of eradication by the NPPO follows the completion of a successful eradication programme. The status of the pest in the area is then '**absent : pest eradicated'** (see ISPM: *Determination of pest status in an area*). It involves communication with affected and interested parties, as well as appropriate authorities concerning the fulfilment of programme objectives. Programme documentation and other relevant evidence supporting the declaration should be made available to other NPPOs upon request.

4. Programme Review

Throughout the eradication, the programme should be subject to periodic review to analyse and assess information gathered, to check that objectives are being achieved, and/or to determine if changes are required. Reviews should take place at:

- any time when unforeseen circumstances are encountered that could affect the programme
- pre-set intervals
- the termination of the programme.

Where the criteria for eradication are not met, the eradication plan should be reviewed. This review should take into account any newly gained knowledge that might have contributed to that result. Cost-benefit factors and operational details should be reviewed to identify inconsistencies with initial predictions. Depending on the outcome, a new eradication plan may be developed or altered to become a pest suppression or pest management programme.