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INTERIM COMMISSION ON PHYTOSANITARY MEASURES

Fourth Session

Rome, 11-15 March 2002

Adoption of International Standards

Agenda Item 5 of the Provisional Agenda

Introduction

1. Six documents, given in Annexes I-VI are submitted to the ICPM for consideration. It is noted that four of these documents represent new ISPMs:

- Integrated approaches for pest risk management (Systems Approaches)
- Guidelines for regulating wood packaging material in international trade
- Pest reporting
- Regulated non-quarantine pests: concept and application

Included also are proposed amendments to the Glossary of Phytosanitary Terms and detailed specifications for standards on living modified organisms (LMOs).

Amendments to the Glossary of Phytosanitary Terms (Annex 1)

2. In the course of formulating new standards, Expert Working Groups and the Interim Standards Committee (ISC) have proposed new terms and definitions to be added to the Glossary or Phytosanitary Terms. They have also identified existing terms and definitions requiring further consideration. These concerns were collected by the Secretariat and referred the Glossary Working Group for its review and recommendations at its meeting 20-21 March 2001 in Paris, France.

3. The recommendations of the Glossary Working Group were submitted to the ISC at its third meeting in May 2001. Changes in the Glossary that were agreed by the ISC were then distributed to governments for consultation from June to October 2001. Comments from governments were collected by the Secretariat and submitted the ISC for consideration at its fourth meeting in November 2001. Changes in response to the comments from governments were agreed by the ISC and the proposed amendments to the Glossary of Phytosanitary Terms were approved for submission to the ICPM for adoption.

Integrated measures for pest risk management systems (Systems Approaches) (Annex 2)

4. The Second Session of the ICPM identified this topic as a priority for the work programme and Australia volunteered to assist the development of the standard by providing a venue and funding for a working group meeting. The standard addresses a specific, contemporary approach to risk management and represents the first standard undertaken by the IPPC with regard to risk management.

5. It is important to note that this standard precedes any concept standard on risk management and therefore includes a certain amount of conceptual background that would not otherwise be necessary. The standard also precedes any other specific standards in the area of risk management (e.g. treatment) and it therefore establishes some precedents regarding the approach and format for such standards in future.

6. An Expert Working Group meeting was held July 2000 in Brisbane, Australia, resulting in the first draft of the standard. Further improvements to the draft continued by correspondence for several months afterward. In May 2001, the draft was submitted to the ISC. After adjustments by the ISC, the draft was approved for distribution to governments for consultation. Comments from governments were collected by the Secretariat and submitted to the ISC for consideration at its Fourth meeting in November 2001. The draft was subsequently amended by the ISC and approved for submission to the ICPM for adoption.

7. The Secretariat notes that while governments have expressed strong support for this standard, many have also indicated the desire for additional explanatory material to assist with the understanding and implementation of the standard. Explanatory material and similar types of documents have been requested for other standards in the past, but not to the extent experienced with this standard. As a result, the Secretariat has undertaken, on a trial basis, to have experts prepare a guide for further understanding the concepts and applications associated with the standard. It is anticipated that this work will be completed in 2002 and will be available for the review and comment of the ICPM at its next session.

Guidelines for regulating wood packaging in international trade (Annex 3)

8. A standard for wood packaging was identified as a high priority by the Second Session of the ICPM. Countries also expressed strong support for the elaboration of a standard on wood packaging in the Committee on Sanitary and Phytosanitary Measures (SPS Committee) of the World Trade Organization (WTO).

9. The North American Plant Protection Organization (NAPPO) offered a venue and support to organize the initial meeting of experts, which was held June 2000 in Ottawa, Canada. A standard adopted by NAPPO on the same topic served as the basis for initiating drafting. Discussion and research papers were also provided for the initial meeting and numerous other reference documents were added as expert meetings and discussions continued.

10. Due to the high level of interest in the topic, the profound implications of such a standard to trade, and the wide range of technical, scientific and other expertise required, the Secretariat and Bureau decided to expand the expert group to include twelve phytosanitary experts and three industry experts. In addition, certain scientific and technical experts were invited to provide specific inputs as ad hoc participants.

11. The first working group meeting was largely concerned with conceptual issues and establishing the framework for the draft standard. Although a preliminary draft was produced, it was agreed that significant additional work would be required. In particular, there were outstanding questions about the availability of research on the efficacy of various treatments for different pests and groups of pests. The working group agreed to collect relevant documents and to use the occasion of the annual NAPPO meeting October 2000 in San Diego, California, USA to convene an ad-hoc meeting to further evaluate the information.

12. A substantial amount of additional information was made available at the ad-hoc meeting, but the meeting was not in a position to be able to review and evaluate the information. The meeting agreed that an additional working group would be required and recommended that information continue to be collected by the Secretariat and then provided as a package in advance of the next meeting.

13. The second meeting of the Expert Working Group was held February 2001 in Mexico City. A substantial portion of this meeting was devoted to reviewing and discussing efficacy data and structural approaches for the standard. Primary issues included:

- the criteria and procedures for determining efficacy
- whether or not a distinction could or should be made between treatments with long-term effects and other treatments
- distinguishing manufactured and non-manufactured wood packaging material
- balancing the strength of measures (level of efficacy) with the feasibility of application (in particular the economic aspects of treatment).

14. The second meeting was able to complete a draft that was then submitted to the third meeting of the ISC in May 2001. The ISC had substantial discussion on the draft with the assistance of one of the working group experts. A number of modifications were made based on the views of the ISC and the draft was approved for distribution to governments for consultation. Comments from governments were collected by the Secretariat and submitted to the ISC for consideration at its fourth meeting in November 2001. The draft was subsequently amended by the ISC and approved for submission to the ICPM for adoption.

15. It is important to note that this standard is the first standard done by the IPPC on a specific commodity and it therefore establishes some precedents regarding the approach and format for such standards in the future. The standard is also the first to prescribe specific treatments. The Expert Working Group indicated that it was handicapped by the absence of any experience in this regard and any agreed, systematic process for collecting and evaluating data, establishing efficacy criteria, and agreeing on measures to be globally applied.

16. The experts working on this standard recommended that the ICPM give a high priority to the elaboration of a standard (or standards) on evaluating the efficacy of measures and also establish internal procedures for the evaluation of measures that are included in standards. Experts noted that specific commodity and treatment standards will become increasingly more important for the IPPC in the future and therefore the establishment of adequate internal mechanisms is important for the long-term international credibility of the ICPM as a body responsible for sound, science-based standards.

Regulated non-quarantine pests: concept and application (Annex 4)

17. The concept of regulated non-quarantine pests (RNQP) originates in the amendments to the IPPC adopted by Resolution 12/97 of the Twenty-ninth Session of FAO Conference. Interim arrangements associated with this resolution call for the Secretariat to work on ISPMs to help understand the concept and its applications. The ICPM has consistently given this topic a high priority.

18. The first Expert Working Group meeting on this topic was organized October 1998 in Asuncion, Paraguay. Although the group was able to prepare a preliminary draft, difficulties arose regarding:

- the role of official control
- adequately describing direct and indirect economic impacts and
- clearly distinguishing the relationship of RNQPs to quarantine pests.

19. The outstanding issues became less troublesome as work progressed in other working groups on the definition of official control and PRA for quarantine pests. Subsequent communications among the experts and across expert working groups resulted in proposals for

additions and amendments the RNQP standard that the working group agreed were consistent with the relevant concepts in other standards and also adequately addressed the needs for the standard on RNQP.

20. A second working group meeting was organized July 2000 in San Jose, Costa Rica. Substantial progress was made toward the completion of the standard at this meeting. An outstanding concern regarding ways to describe indirect economic impacts was resolved afterward. The draft standard was submitted to the ISC at its third meeting in May 2001 where it was slightly modified before being approved for distribution to governments for consultation. Comments from governments were collected by the Secretariat and submitted to the ISC for consideration at its fourth meeting in November 2001. The draft was subsequently amended by the ISC based on comments and approved for submission to the ICPM for adoption.

Pest reporting (Annex 5)

21. The objective of the standard is to provide guidance on the interpretation and application of the obligation from the IPPC (1997) for pest reporting, in particular as regards reporting the occurrence, outbreak and spread of pests. Pest reporting was identified as a priority topic by the Second Session of the ICPM.

22. An expert Working Group met September 2000 in Ljubljana, Slovenia to prepare a first draft of the standard. The draft standard was submitted to the ISC at its third meeting in May 2001 where it was slightly modified before being approved for distribution to governments for consultation. Comments from governments were collected by the Secretariat and submitted to the ISC for consideration at its fourth meeting in November 2001. The draft was subsequently amended by the ISC based on the comments from governments and approved for submission to the ICPM for adoption.

Specifications for standards on living modified organisms (Annex 6)

23. At its Third Session, the ICPM recommended the establishment of an Expert Working Group to develop a detailed specification for standards on living modified organisms to be considered at the Fourth Session of the ICPM. An Open-ended Expert Working Group was subsequently organized for this purpose and met at FAO Headquarters from 12–14 September 2001.

24. The terms of reference specified by the ICPM stated that the Open-ended Expert Working Group develop a detailed standard specification for consideration at ICPM 4 that:

1. identifies the plant pest risks associated with LMOs/products of modern biotechnology
2. identifies elements relevant to the assessment of these plant pest risks
3. considers existing international regulatory frameworks and guidelines
4. identifies areas within PRA standards and other ISPMs that are relevant to the phytosanitary aspects of LMOs/products of modern biotechnology and
5. identifies the plant pest risks associated with LMOs/products of modern biotechnology that are not adequately addressed by existing ISPMs.

25. Fifty-nine participants, representing 40 countries, two international organizations, the Bureau of the Intergovernmental Committee on the Cartagena Protocol (ICCP) and the Secretariat of the IPPC, attended the meeting. The United States provided funding for some participants from developing countries to attend the meeting.

26. Discussion and background papers were provided to participants in advance of the meeting addressing issues identified in the terms of reference. The meeting reviewed the documents and addressed each of the terms of reference before developing specifications for an international standard for phytosanitary measures to address pest risk analysis procedures for living modified organisms (LMOs). The report of the meeting and the draft specification are in Annex 6.

27. The ICPM is invited to:

1. *Adopt* the amendments to the Glossary of Phytosanitary Terms (Annex 1).
2. *Endorse* the recommendations of the Glossary Working Group (Annex 1).
3. *Adopt* as ISPM Pub. No. 14 the new standard Integrated measures for pest risk management systems (Systems Approaches) (Annex 2).
4. *Endorse* the initiative of the Secretariat to develop additional explanatory material for the new standard on Systems Approaches.
5. *Adopt* as ISPM Pub. No. 15 the new standard Guidelines for regulating wood packaging in international trade (Annex 3).
6. *Note* the recommendations of the Expert Working Group on wood packaging to give high priority to the formulation of standards on the efficacy of measures and the development of systematic procedures within the ICPM for the evaluation of measures included in ISPMs.
7. *Adopt* as ISPM Pub. No. 16 the new standard Regulated non-quarantine pests: concept and application (Annex 4).
8. *Adopt* as ISPM Pub. No. 17 the new standard Pest reporting (Annex 5).
9. *Endorse* statements by the OEWG regarding the need for detailed guidance for pest risk analysis for LMOs (Annex 6).
10. *Endorse* statements from the OEWG regarding the need for the IPPC Secretariat to coordinate with activities under the Cartagena Protocol in developing a standard for pest risk analysis for LMOs (Annex 6).
11. *Adopt* the recommendations of the OEWG for the IPPC Secretariat to invite representatives of the Cartagena Protocol to cooperate in the development of a standard for pest risk analysis for LMOs (Annex 6).
12. *Endorse* statements from the OEWG regarding the potential phytosanitary risks posed by LMOs and *adopt* recommendations of the OEWG that these potential phytosanitary risks be considered by an expert working group when drafting a standard for pest risk analysis for LMOs following the specifications formulated by the OEWG (Annex 6).
13. *Endorse* statements and *adopt* recommendations from the OEWG regarding the need for the expert working group to take into consideration relevant regulatory frameworks and guidelines, including ISPM Pub. No. 11, the draft supplement to ISPM Pub. No. 11on environmental risk, the Cartagena Protocol, OECD activities on biotechnology and the discussion paper prepared by the Secretariat of the IPPC for the OEWG (Annex 6).
14. *Endorse* statements from the OEWG regarding the need for capacity building in the area of pest risk analysis for LMOs and *adopt* recommendations from the OEWG that the expert working group also consider the needs of developing countries in formulating a standard on pest risk analysis for LMOs (Annex 6).
15. *Adopt* the specification for a standard for pest risk analysis for LMOs that was formulated by the OEWG (Annex I).

AMENDMENTS TO THE GLOSSARY OF PHYTOSANITARY TERMS
Approved by the Fourth Session of the Interim Standards Committee (November 2001)

1. Revised terms and definitions

Plants *in vitro*	A commodity class for plants growing in an aseptic medium in a closed container [replaces **Plants in tissue culture**]
Phytosanitary measure (agreed interpretation)	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests

The agreed interpretation of the term phytosanitary measure accounts for the relationship of phytosanitary measures to regulated non-quarantine pests. This relationship is not adequately reflected in the definition found in Article II of the IPPC (1997).

Re-exported consignment	Consignment which has been imported into a country from which it is then exported. The consignment may be stored, split up, combined with other consignments or have its packaging changed

2. Terms to be deleted

- Country of re-export
- Plants in tissue culture
- Region

3. Other recommendations

a) Use the term *issue* instead of *issuance* in English text.

b) *Emergency actions* in Article VII.6 of the English version of International Plant Protection Convention (1997) should be interpreted to be consistent with the Glossary term *emergency measures*.

c) Recognize that *actions* in English is interpreted to be consistent with *medidas* (Spanish) and *mesures* (French).

d) Recognize that *outbreak* in English is translated as *apparition* in the French version of the IPPC (1997).

e) Correct the French definition of *analyse* as follows:

Analyse	*Examen officiel, autre que visuel, permettant de déterminer la présence ou l'absence d'organismes nuisibles, ou le cas échéant, de les identifier*

f) Maintain *marchandise* as the French translation of the English term c*ommodity*.

g) Use *exigence* as the French translation for the English term *requirement* recognizing that this is equivalent to *disposition* (as in the heading of Article VII of the New Revised Text of the IPPC) and *prescription* (as in the WTO Agreement on the Application of Sanitary and Phytosanitary Measures).

h) Correct the French definition of *occurrence* to be consistent with the other languages by replacing *and* with *and/or*.

4. New or revised terms and definitions to be added to the Glossary through the adoption of ISPMs

Bark-free wood	Wood from which all bark excluding the vascular cambium, ingrown bark around knots, and bark pockets between rings of annual growth has been removed
Consignment in transit	A consignment which is not imported into a country but passes through it to another country, subject to official procedures which ensure that it remains enclosed, and is not split up, not combined with other consignments nor has its packaging changed
Control point	A step in a system where specific procedures can be applied to achieve a defined effect and can be measured, monitored, controlled and corrected
CPI	Chemical pressure impregnation
Dunnage	Wood packaging material used to secure or support a commodity but which does not remain associated with the commodity
HACCP	Hazard Analysis Critical Control Point
Intended use	Declared purpose for which plant, plant products, or other regulated articles are imported, produced or used
HT	Heat treatment
KD	Kiln drying
Mark	An official stamp or brand, internationally recognized, applied to a regulated article to attest to its phytosanitary status
MB	Methyl bromide
Occurrence	The presence in an area of a pest officially recognized 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 or a sudden increase in an existing population
Raw wood	Wood which has not undergone processing or treatment
Systems approaches	The integration of different pest risk management measures, at least two of which act independently, and which cumulatively achieve the required level of phytosanitary protection
Treatment	Officially authorized procedure for the killing or removal of pests or rendering pests infertile
Wood packaging material	Wood or wood products (excluding paper products) used in supporting, protecting or carrying a consignment

DRAFT STANDARD
November 2001
ISC-2001-2

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

INTEGRATED MEASURES FOR PEST RISK MANAGEMENT (SYSTEMS APPROACHES)

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization of the United Nations
Rome, 200-

INTRODUCTION

SCOPE

This standard provides guidelines for the development and evaluation of integrated measures as an option for pest risk management designed to meet phytosanitary requirements for the import of plants, plant products and other regulated articles. These procedures are known as systems approaches.

REFERENCES

Glossary of phytosanitary terms, 1999. ISPM Pub. No. 5, FAO, Rome.
Guidelines for an integrated system of measures to mitigate pest risk (systems approach), 1998. V 1.2. COSAVE, Asuncion, Paraguay.
Guidelines for pest risk analysis, 1996. ISPM Pub. No. 2, FAO, Rome.
Hazard analysis and critical control point system and guidelines for its application, annex to the recommended international code of practice - general principles of food hygiene, 1969 (Revised 1997). Codex Alimentarius, FAO, Rome.
New Revised Text of the International Plant Protection Convention, 1997. FAO, Rome.
Pest risk analysis for quarantine pests, 2001. ISPM Pub. No. 11, FAO, Rome.
Principles of plant quarantine as related to international trade, 1995. ISPM Pub. No. 1, FAO, Rome.
Requirements for the establishment of pest free areas, 1996. ISPM Pub. No. 4, FAO, Rome.

DEFINITIONS AND ABBREVIATIONS[1]

Area	An officially defined country, part of a country or all or parts of several countries [FAO, 1990; revised FAO, 1995; CEPM, 1999; based on the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures]
Commodity	A type of plant, plant product or other regulated article being moved for trade or other purpose [FAO, 1990; revised ICPM, 2001]
Consignment	A quantity of plants, plant products and/or other articles being moved from one country to another and covered, when required, by a single phytosanitary certificate (a consignment may be composed of one or more lots) [FAO, 1990; revised ICPM, 2001]
Control point*	A step in a system where specific procedures can be applied to achieve a defined effect and can be measured, monitored, controlled and corrected [ISPM Pub. No. *(SA), 2002]
Country of origin (of a consignment of plant products)	Country where the plants from which the plant products are derived were grown [FAO, 1990; revised CEPM, 1996; CEPM, 1999]
Country of origin (of a consignment of plants)	Country where the plants were grown [FAO, 1990; revised CEPM, 1996; CEPM, 1999]

[1] Terms marked with an (*) are new or revised

Country of origin (of regulated articles other than plants and plant products)	Country where the regulated articles were first exposed to contamination by pests [FAO, 1990; revised CEPM, 1996; CEPM, 1999]
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 [FAO, 1995]
Establishment	Perpetuation, for the foreseeable future, of a pest within an area after entry [FAO, 1990; revised FAO, 1995; IPPC, 1997; formerly Established]
HACCP*	Hazard Analysis Critical Control Point [ISPM Pub. No. *(SA), 2002]
Introduction	The entry of a pest resulting in its establishment [FAO, 1990; revised FAO, 1995; IPPC, 1997]
IPPC	International Plant Protection Convention, as deposited in 1951 with FAO in Rome and as subsequently amended [FAO, 1990; revised ICPM, 2001]
Lot	A number of units of a single commodity , identifiable by its homogeneity of composition, origin, etc., forming part of a consignment [FAO, 1990]
National Plant Protection Organization	Official service established by a government to discharge the functions specified by the IPPC [FAO, 1990; formerly Plant Protection Organization (National)]
NPPO	National Plant Protection Organization [FAO, 1990]
Official	Established, authorized or performed by a National Plant Protection Organization [FAO, 1990]
Pathway	Any means that allows the entry or spread of a pest [FAO, 1990; revised FAO, 1995]
Pest	Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products [FAO, 1990; revised FAO,1995; IPPC, 1997]
Pest risk analysis	The process of evaluating biological or other scientific and economic evidence to determine whether a pest should be regulated and the strength of any phytosanitary measures to be taken against it [FAO, 1995; revised IPPC, 1997]
Pest risk assessment (for quarantine pests)	Evaluation of the probability of the introduction and spread of a pest and of the associated potential economic consequences [FAO, 1995; revised ISPM Pub. No. 11, 2001]
Pest risk management (for quarantine pests)	Evaluation and selection of options to reduce the risk of introduction and spread of a pest [FAO, 1995; revised ISPM Pub. No. 11, 2001]

Phytosanitary measure* (agreed interpretation)	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests [FAO, 1995; revised IPPC, 1997; ISC, 2001]

The agreed interpretation of the term phytosanitary measure accounts for the relationship of phytosanitary measures to regulated non-quarantine pests. This relationship is not adequately reflected in the definition found in Article II of the IPPC (1997).

Phytosanitary procedures	Any officially prescribed method for implementing phytosanitary regulations including the performance of inspections, tests, surveillance or treatments in connection with regulated pests [FAO, 1990; revised FAO, 1995; CEPM, 1999; ICPM, 2001]
Phytosanitary regulation	Official rule to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification [FAO, 1990; revised FAO, 1995; CEPM, 1999; ICPM, 2001]
Post-entry quarantine	Quarantine applied to a consignment after entry [FAO, 1995]
PRA	Pest Risk Analysis [FAO, 1995; revised ICPM, 2001]
PRA area	Area in relation to which a pest risk analysis is conducted [FAO, 1995]
Prohibition	A phytosanitary regulation forbidding the importation or movement of specified pests or commodities [FAO, 1990; revised FAO, 1995]
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 [FAO, 1990; revised FAO, 1995; IPPC, 1997]
Spread	Expansion of the geographical distribution of a pest within an area [FAO, 1995]
Systems approach(es)*	The integration of different pest risk management measures, at least two of which act independently, and which cumulatively achieve the required level of phytosanitary protection [ISPM Pub. No. ?, 2002]
Test	Official examination, other than visual, to determine if pests are present or to identify pests [FAO, 1990]
Treatment	Officially authorized procedure for the killing, removal, or rendering infertile of pests [FAO, 1990; revised FAO, 1995]

OUTLINE OF REQUIREMENTS

Integrated measures for pest risk management, also known as systems approaches, provide an alternative to single measures to achieve a level of phytosanitary protection required by an importing country. They can also be developed to provide phytosanitary protection in situations where no single measure is available. A systems approach requires the integration of different measures, at least two of which act independently, with a cumulative effect. Options for measures may be selected from a range of pre- and post harvest measures and may include measures to compensate for uncertainty.

Systems approaches range in complexity. The application of a critical control point system is useful to identify and evaluate points in a pathway where pest risks can be reduced and monitored. The development and evaluation of a systems approach may use quantitative or qualitative methods. Exporting and importing countries should consult and cooperate in the development and implementation of a systems approach. The decision regarding the acceptability of systems approach lies with the importing country, subject to consideration of technical justification, transparency, non-discrimination, equivalence, and operational feasibility. Systems approaches are usually aimed at developing options that are equivalent to but less trade restrictive than other measures.

REQUIREMENTS

1. Purpose of Systems Approaches

A systems approach integrates pest risk management measures to achieve the level of phytosanitary protection required by the importing country. Systems approaches provide, where appropriate, an equivalent alternative to procedures such as disinfestation 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 risk management options because the integration of measures may be less trade restrictive than other risk management options (particularly where the alternative is prohibition).

2. Characteristics of Systems Approaches

A systems approach requires two or more measures that are independent of each other, and may include any number of measures that are dependent on each other. An advantage of the systems approach is the ability to address variability and uncertainty by modifying the number and strength of measures to provide the desired level of protection and confidence.

Measures used in a systems approach may be applied pre- and/or post harvest wherever NPPOs have the ability to oversee and ensure compliance with official phytosanitary procedures. Thus a systems approach may include measures applied in the place of production, during the post harvest period, at the packinghouse, or during shipment and distribution of the commodity.

Cultural practices, field treatment, post harvest disinfestation, inspection and other procedures may be integrated in a systems approach. Risk management measures designed to prevent contamination or re-infestation are generally included in a systems approach (e.g. maintaining the integrity of lots, requiring pest-proof packaging, screening packing areas, etc.). Likewise, procedures such as pest surveillance, trapping and sampling can also be components of a systems approach.

Measures that do not kill pests or reduce their prevalence but reduce their potential for entry or establishment (safeguards) can be included in a systems approach. Examples include designated harvest or shipping periods, restrictions on the maturity, color, hardness, or other condition of the commodity, the use of resistant hosts, and limited distribution or restricted use at the destination.

3. Relationship with PRA and Available Risk Management Options

The conclusions from pest risk assessment are used to decide whether risk management is required and the strength of measures to be used (Stage 2 of PRA). Pest risk management, (Stage 3 of PRA), is the process of identifying ways to react to a perceived risk, evaluating the efficacy of these procedures, and recommending the most appropriate options.

A combination of pest risk management options in a systems approach may be selected as the basis for import requirements corresponding to the level of protection required by the importing country. As in the development of all pest risk management procedures, the measures should take into account uncertainty. (see ISPM Pub. No. 11: *Pest risk analysis for*

quarantine pests) Because systems approaches use a combination of measures, the uncertainty arising from individual measures is compounded (e.g. multiplied). Therefore, supplementary measures may be required to compensate for this.

The following summarizes many of the options commonly used:

Pre-planting

- use of healthy planting material
- resistant or less susceptible cultivars
- pest free areas, places or sites of production
- producer registration and training

Pre-harvest

- field certification/management (e.g. inspection, pre-harvest treatments, pesticides, biocontrol, etc.)
- protected conditions (e.g. glasshouse, fruit bagging, etc.)
- pest mating disruption
- cultural controls (e.g. sanitation/weed control)
- low pest prevalence (continuous or at specific times)
- testing

Harvest

- harvesting plants at a specific stage of development or time of year
- removal of infested products, inspection for selection
- stage of ripeness/maturity
- sanitation (e.g. removal of contaminants, “trash”)
- harvest technique (e.g. handling)

Post harvest treatment and handling

- treatment to kill, sterilize or remove pests (e.g. fumigation, irradiation, cold storage, controlled atmosphere, washing, brushing, waxing, dipping, heat, etc.)
- inspection and grading (including selection for certain maturity stages)
- sanitation (including removal of parts of the host)
- certification of packing facilities
- sampling
- testing
- method of packing
- screening of storage areas

Transportation and distribution

- treatment or processing during transport
- treatment or processing on arrival
- restrictions on end use, distribution and ports of entry
- restrictions on the period of import due to difference in seasons between origin and destination
- method of packing
- post entry quarantine
- inspection and/or testing
- speed and type of transport

- sanitation (freedom from contamination of conveyances).

4. Independent and Dependent Measures

A systems approach may be composed of independent and dependent measures (including safeguards). By definition, a systems approach must have at least two independent measures. An independent measure may be composed of several dependent measures.

Example:
A pest-free glasshouse where both double-door and screening of all openings is required is an example where dependent measures are combined to form an independent measure. Both are needed for either to be effective. The probability of failure is additive. If the probablility that the screening fails is 0.1 and the probabilitiy that the double doors fail is 0.1, then the probability that the glasshouse will be infested is the approximate sum of the two values. In this example the probability is 0.19 (0.1 + 0.1 - 0.01), since both the measures could fail at the same time.

Where measures are independent of each other, both measures must fail for the system to fail. With independent measures, the probability of failure is the product of all the independent measures. For example, if the inspection of a shipment has a 0.05 probability of failure and the limiting of movement to certain areas has a 0.05 probability of failure, then the probability of the system failing would be 0.0025 (0.05 x 0.05).

5. Circumstances for Use

Systems approaches should be considered when:

- a particular procedure is:
  - not adequate to meet the level of phytosanitary protection required by the importing country
  - not available (or likely to become unavailable)
  - detrimental (to commodity, human health, environment)
  - not cost effective
  - overly trade restrictive
  - not feasible
- the pest and pest-host relationship is well known
- a systems approach has been demonstrated to be effective for a similar pest/commodity situation
- there is the possibility to assess the effectiveness of individual measures either qualitatively or quantitatively
- relevant growing, harvesting, packing, transportation and distribution practices are well-known and standardized
- individual measures can be monitored and corrected
- prevalence of the pest(s) is known and can be monitored
- a systems approach is cost effective considering the value and/or volume of commodity.

6. Types of Systems Approaches

Systems approaches range in complexity and rigor from systems that simply combine independent measures known to be effective to more complex and precise systems such as

critical control point systems. A critical control point system would involve the following procedures:

1. determine the hazards and the objectives for measures within a defined system
2. identify independent procedures that can be monitored and controlled
3. establish criteria or limits for the acceptance/failure of each independent procedure
4. implement the system with monitoring as required for the desired level of confidence
5. take corrective action when monitoring results indicate that criteria are not met
6. review or test to validate system efficacy and confidence
7. maintain adequate records and documentation.

An example of this type of system is practiced in food safety and is termed a Hazard Analysis Critical Control Point (HACCP) system.

The application of a critical control point system for phytosanitary purposes may be useful to identify and evaluate hazards as well as the points in a pathway where risks can be reduced and monitored and adjustments made where necessary. The use of a critical control point system for phytosanitary purposes does not imply or prescribe that application of controls is necessary to all control points. However, critical control point systems only rely on specific independent procedures known as control points. These are addressed by risk management procedures whose contribution to the efficacy of the system can be measured and controlled.

Therefore, systems approaches for phytosanitary purposes may include components that do not need to be entirely consistent with critical control point concept because they are considered to be important elements in a systems approach for phytosanitary purposes. For example, certain measures or conditions exist or are included to compensate for uncertainty. These may not be monitored as independent procedures (e.g. packhouse sorting), or may be monitored but not controlled (e.g. host preference/susceptibility).

Other systems based on a combination of measures that do not meet the requirements for a critical control point system may be considered effective. However, the application of the critical control point concept is generally useful for the development of other systems approaches. For example, non-phytosanitary certification programmes may have elements that are also valuable as risk management measures and may be included in a systems approach provided the phytosanitary elements of the process are made mandatory and can be overseen and controlled by the NPPO.

The minimum requirements for a measure to be considered a required component for a systems approach are that the measure:

- is clearly defined
- has a known level of efficacy
- is officially required (mandatory)
- can be monitored and controlled by the responsible NPPO.

7. Efficacy of Measures

Systems approaches may be developed or evaluated in either a quantitative or qualitative manner or a combination of both. A quantitative approach may be more appropriate where suitable data are available, such as those usually associated with measuring the efficacy of treatments. A qualitative approach should be considered more appropriate where efficacy is estimated by expert judgement.

The efficacy of independent measures that may be used to reduce pest risk can be expressed in different ways (e.g. mortality, reduction in prevalence, host susceptibility). The overall efficacy of a systems approach is based on the combination of the efficacy of required independent measures. Wherever possible this should be expressed in quantitative terms with a confidence interval. For example, efficacy for a particular situation may be determined to be no more than five infested fruit from a total population of one million fruit with 95% confidence. Where such calculations are not possible or are not done, the efficacy may be expressed in qualitative terms such as high, medium, and low.

8. Developing Systems Approaches

The development of a systems approach may be undertaken by the importing country, or by the exporting country, or ideally through the cooperation of both countries. The process of developing systems approaches may include consultation with industry, the scientific community, and trading partner(s). However, the NPPO of the importing country decides the suitability of the systems approach in meeting its requirements.

A systems approach may include measures that are added or strengthened to compensate for uncertainty due to data gaps, variability, or lack of experience. The level of such compensation included in a systems approach should be commensurate with the level of uncertainty.

Experience and the provision of additional information may provide the basis for renewed consideration of the number and strength of measures with a view to modifying the systems approach accordingly.

The development of a systems approach involves:

- obtaining from a PRA the identity of the pest risk and the description of the pathway
- identifying where and when management measures occur or can be applied (control points)
- distinguishing between measures that are essential to the system and other factors or conditions
- identifying independent and dependent measures and options for the compensation for uncertainty
- assessing the individual and integrated efficacy of measures that are essential to the system
- assessing feasibility and trade restrictiveness
- consultation
- implementation with documentation and reporting
- review and modification as necessary.

9. Evaluating Systems Approaches

The evaluation of systems approaches prior to acceptance, to determine their acceptability involves:

- considering the relevance of existing systems approaches for similar or the same pest(s) on other commodities
- considering the relevance of systems approaches for other pest(s) on the same commodity

- evaluating information provided on:
    - efficacy of measures
    - surveillance and interception, sampling data (prevalence of pest)
    - pest host relationship
    - crop management practices
    - verification procedures
    - trade impacts and costs, including the time factor
- considering data against desired confidence levels and taking into account options for the compensation for uncertainty where appropriate.

9.1 Possible outcomes of evaluation

These may include determination that the systems approach is:

- acceptable
- unacceptable:
    - efficacious but not feasible
    - not sufficiently effective (requires an increase in the number or strength of measures)
    - unnecessarily restrictive (requires a reduction of the number or strength of measures)
    - not possible to evaluate due to insufficient data or unacceptably high uncertainty.

Where the systems approach has been found unacceptable, the rationale for this decision should be described in detail and made available to trading partners to facilitate the identification of possible improvements.

10. Responsibilities

Countries share the obligation to observe the principle of equivalence by considering risk management alternatives that will facilitate safe trade. Systems approaches provide significant opportunities to develop new and alternative risk management strategies, but their development and implementation requires consultation and cooperation. Depending on the number and nature of measures included in a systems approach, a significant amount of data may be required. Both exporting countries and importing countries are responsible for the provision of sufficient data and the timely exchange of relevant information in all aspects of the development and implementation of systems approaches.

10.1 Importing country responsibilities

The importing country should provide specific information regarding its requirements. This includes:

- specification of information and system requirements:
    - identify pests of concern
    - describe level of protection required
    - describe types and level of assurance required (e.g. certification)
    - identify points requiring verification.

Importing countries, in consultation with the exporting country where appropriate, should select least trade restrictive measures where there are options.

Other responsibilities of the importing country may include to:

- propose improvements or alternative options
- audit (planned evaluation and verification of the systems approach)
- specify actions for non-compliance
- review and give feedback.

In some cases, certain components of the systems approach may be the responsibility of the importing country (e.g. limits on distribution).

10.2 Exporting country responsibilities

The exporting country should provide sufficient information to support evaluation and acceptance of the systems approach. This may include:

- commodity, place of production and expected volume and frequency of shipments
- relevant production, harvest, packing/handling, transport details
- pest-host relationship
- risk management measures proposed for a systems approach, and relevant efficacy data
- relevant references.

Other responsibilities of the exporting country include:

- monitoring/auditing and reporting on system effectiveness
- taking appropriate corrective actions
- maintaining appropriate records
- providing phytosanitary certification in accordance with requirements of the system.

DRAFT STANDARD
NOVEMBER 2001
ISC-2001-2

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

GUIDELINES FOR REGULATING WOOD PACKAGING MATERIAL IN INTERNATIONAL TRADE

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization of the United Nations
Rome, 200-

INTRODUCTION

SCOPE

This standard describes phytosanitary measures to reduce the risk of introduction and/or spread of quarantine pests associated with wood packaging material, made of coniferous and non-coniferous raw wood, in use for the transport of commodities in international trade.

REFERENCES

Agreement on the Application of Sanitary and Phytosanitary Measures, 1994. World Trade Organization, Geneva.
Export certification system, 1997. ISPM Pub. No. 7, FAO, Rome.
Glossary of phytosanitary terms, 1999. ISPM Pub. No. 5, FAO, Rome.
Guidelines for phytosanitary certificates, 2001. ISPM Pub. No. 12, FAO, Rome.
Guidelines on notification of non-compliance and emergency action, 2001. ISPM Pub. No. 13, FAO, Rome.
ISO 3166-1-ALPHA-2 CODE ELEMENTS
(http://www.din.de/gremien/nas/nabd/iso3166ma/codlstp1/en_listp1.html)
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[1]

Bark-free wood*	Wood from which all bark excluding the vascular cambium, ingrown bark around knots, and bark pockets between rings of annual growth has been removed [ISPM Pub. No. *(WP), 2002]
Chemical pressure impregnation*	Treatment of wood with a chemical preservative through a process of pressure in accordance with an officially recognized technical specification [ISPM Pub. No. *(WP), 2002]
Certificate	An official document which attests to the phytosanitary status of any consignment affected by phytosanitary regulations [FAO, 1990]
Commodity	A type of plant, plant product, or other article being moved for trade or other purpose [FAO, 1990; revised ICPM, 2001]
Consignment	A quantity of plants, plant products and/or other articles being moved from one country to another and covered, when required, by a single phytosanitary certificate (a consignment may be composed of one or more commodities or lots) [FAO, 1990; revised ICPM, 2001]
CPI*	Chemical pressure impregnation [ISPM Pub. No. *(WP), 2002]
Debarking	Removal of bark from round wood (debarking does not necessarily make the wood bark-free) [FAO, 1990]

[1] Terms marked with an (*) are new or revised

Dunnage*	Wood packaging material used to secure or support a commodity but which does not remain associated with the commodity [FAO, 1990; revised ISPM Pub. No. *(WP), 2002]
Emergency action	A prompt phytosanitary action undertaken in a new or unexpected phytosanitary situation [ICPM, 2001]
Emergency measure	A phytosanitary regulation or procedure established as a matter of urgency in a new or unexpected phytosanitary situation. An emergency measure may or may not be a provisional measure [ICPM, 2001]
Free from (of a consignment, field, or place of production)	Without pests (or a specific pest) in numbers or quantities that can be detected by the application of phytosanitary procedures [FAO, 1990; revised FAO, 1995; CEPM, 1999]
Fumigation	Treatment with a chemical agent that reaches the commodity wholly or primarily in a gaseous state [FAO, 1990; revised FAO, 1995]
Heat treatment*	The process in which a commodity is heated until it reaches a minimum temperature for a minimum period of time according to an officially recognized technical specification [ISPM Pub. No. *(WP), 2002]
HT*	Heat treatment [ISPM Pub. No. *(WP), 2002]
Infestation (of a commodity)	Presence in a commodity of a living pest of the plant or plant product concerned. Infestation includes infection [CEPM, 1997; revised CEPM, 1999]
Interception (of a pest)	The detection of a pest during inspection or testing of an imported consignment [FAO, 1990; revised CEPM, 1996]
KD*	Kiln drying [ISPM Pub. No. *(WP), 2002]
Kiln-drying*	A process in which wood is dried in a closed chamber using heat and/or humidity control to achieve a required moisture content [ISPM Pub. No. *(WP), 2002]
Mark*	An official stamp or brand, internationally recognized, applied to a regulated article to attest its phytosanitary status [ISPM Pub. No. *(WP), 2002]
NPPO	National Plant Protection Organization [FAO, 1990; ICPM, 2001]
Official	Established, authorized or performed by a National Plant Protection Organization [FAO, 1990]
Pest risk analysis	The process of evaluating biological or other scientific and economic evidence to determine whether a pest should be regulated and the strength of any phytosanitary measures to be taken against it [FAO, 1990; revised IPPC, 1997]
Phytosanitary action	An official operation, such as inspection, testing, surveillance or treatment, undertaken to implement phytosanitary regulations or procedures [ICPM, 2001]

Phytosanitary measure* (agreed interpretation)	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests [FAO, 1995; revised IPPC, 1997; ISC, 2001; ISPM Pub. No. *(WP), 2002]

The agreed interpretation of the term phytosanitary measure accounts for the relationship of phytosanitary measures to regulated non-quarantine pests. This relationship is not adequately reflected in the definition found in Article II of the IPPC (1997).

Phytosanitary procedure	Any officially prescribed method for implementing phytosanitary regulations including the performance of inspections, tests, surveillance or treatments in connection with regulated pests [FAO, 1990; revised FAO, 1995; CEPM, 1999; ICPM, 2001]
Phytosanitary regulation	Official rule to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification [FAO, 1990; revised FAO, 1995; CEPM, 1999; ICPM, 2001]
Plant products	Unmanufactured material of plant origin (including grain) and those manufactured products that, by their nature or that of their processing, may create a risk for the introduction and spread of pests [FAO, 1990; revised IPPC, 1997; formerly Plant product]
PRA	Pest risk analysis [FAO, 1995]
Processed wood material*	Products that are a composite of wood constructed using glue, heat, pressure, or any combination thereof [ISPM Pub. No. *(WP), 2002]
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 [FAO, 1990; revised FAO, 1995; IPPC, 1997]
Raw wood*	Wood which has not undergone processing or treatment [ISPM Pub. No. *(WP), 2002]
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 [CEPM, 1996; revised CEPM, 1999; ICPM, 2001]
Test	Official examination, other than visual, to determine if pests are present or to identify pests [FAO, 1990]
Treatment*	Officially authorized procedure for the killing or removal of pests or rendering pests infertile [FAO, 1990; revised FAO, 1995; ISPM Pub. No. *(WP), 2002]
Wood	A commodity class for round wood, sawn wood, wood chips or dunnage, with or without bark [FAO, 1990; revised ICPM, 2001]

Wood packaging material*	Wood or wood products (excluding paper products) used in supporting, protecting or carrying a consignment [ISPM Pub. No. *(WP), 2002]

OUTLINE OF REQUIREMENTS

Wood packaging material made of unprocessed raw wood is a pathway for the introduction and spread of pests. Because the origin of wood packaging material is often difficult to determine, globally approved measures that significantly reduce the risk of pest spread are described. NPPOs are encouraged to accept wood packaging material that has been subjected to an approved measure without further requirements. Such wood packaging material includes dunnage, but excludes processed wood packaging material.

Procedures to verify that an approved measure, including the application of a globally recognized mark, has been applied should be in place in both exporting and importing countries. Wood packaging material that does not comply with the requirements should be disposed of in an approved manner.

REGULATORY REQUIREMENTS

1. Basis for Regulating

Wood packaging material is frequently made of raw wood that may not have undergone sufficient processing or treatment to remove or kill pests and therefore becomes a pathway for the introduction and spread of pests. Furthermore, wood packaging material is very often re-used, recycled or re-manufactured (in that packaging received with an imported consignment may be used to accompany an exported consignment), and the true origin of any piece of wood packaging material is difficult to determine and thus its phytosanitary status cannot be ascertained. Therefore the normal process of undertaking risk analysis to determine if measures are necessary and the strength of such measures is frequently not possible for wood packaging material because its origin and phytosanitary status may not be known. For this reason, this standard describes globally accepted measures that may be applied to wood packaging material by all countries to practically eliminate the risk for most quarantine pests and significantly reduce the risk from a number of others that may be associated with that material.

2. Regulated Wood Packaging Material

These guidelines are for coniferous and non-coniferous raw wood packaging material that poses a threat to living trees. They cover wood packaging material such as pallets, dunnage, crating, packing blocks, drums, cases, load boards, pallet collars, and skids which can be present in almost any imported consignment, including consignments which would not normally be the target of phytosanitary inspection.

Wood packaging made wholly of wood-based products such as plywood, particle board, oriented strand board or veneer that have been created using glue, heat and pressure or a combination thereof should be considered sufficiently processed to have eliminated the risk associated with the raw wood and is unlikely to be infested by raw wood pests during its use and therefore should not be regulated for these pests.

Wood packaging material such as veneer peeler cores[2], sawdust, wood wool, and shavings, and raw wood cut into thin[3] pieces may not be pathways for introduction of quarantine pests and should not be regulated unless technically justified.

3. Measures for Wood Packaging Material

3.1 Approved measures

Any treatment, process, or a combination of these that is significantly effective against most pests should be considered effective in mitigating pest risks associated with wood packaging material used in transport. The choice of a measure for wood packaging material is based on consideration of:

- the range of pests that may be affected
- the efficacy of the measure

[2] Veneer peeler cores are a by-product of veneer production involving high temperatures and comprising the center of a log remaining after the peeling process.

[3] Thin wood is considered to be 6mm thickness or less according to the Customs Harmonized Commodity Description and Coding System (the Harmonized System or HS).

- a change in the character of the wood packaging material which has an effect in reducing risk
- the technical and/or commercial feasibility.

Measures should be accepted by all NPPOs as the basis for authorizing the entry of wood packaging material without further requirements except where it is determined through interceptions and/or PRA that specific quarantine pests associated with certain types of wood packaging material from specific sources require more rigorous measures.

Approved measures are specified in Annex I.

Wood packaging material subjected to these measures should be made from debarked wood and should display a specified mark shown in Annex II.

The use of marks addresses the operational difficulties associated with the verification of compliance with treatment for wood packaging material. A universally recognized, non-language specific mark facilitates verification inspection at point of export and point of entry.

References for supporting documentation on approved measures are available from the IPPC Secretariat.

3.2 Measures pending approval

Other treatments or processes for wood packaging material will be approved when demonstrated to provide an appropriate level of phytosanitary protection (Annex III). The existing measures identified in Annex I continue to be under review, and new research may point, for example, to other temperature/time combinations. NPPOs should be aware that measures may be added or changed and should have sufficiently flexible import requirements for wood packaging to accommodate changes as they are approved.

3.3 Other measures

NPPOs may accept any measures other than those listed in Annex I by arrangement with their trading partners, especially in cases where the measures listed in Annex I can not be applied or verified in the exporting country. Such arrangements should be technically justified and respect the principles of transparency, non-discrimination and equivalence.

For example, the NPPO of importing countries may consider other arrangements for wood packaging material associated with exports from any country (or particular source) where evidence is provided to demonstrate that the pest risk is adequately managed or absent (e.g. areas with similar phytosanitary situations).

Certain movements of wood packaging material (e.g. tropical hardwoods associated with exports to temperate countries) may be considered to meet the import requirements without further measures, where the importing NPPO has determined that such products are not important pathways for the introduction and spread of quarantine pests.

3.4 Review of Measures

The approved measures specified in Annex I and the list of measures under consideration in Annex III should be reviewed based on new information provided to the Secretariat by NPPOs. This standard should be amended appropriately by the ICPM.

OPERATIONAL REQUIREMENTS

To meet the objective of preventing the spread of pests, both exporting and importing countries should verify that the requirements of this standard have been met.

4. Dunnage

Ideally, dunnage should also be marked in accordance with Annex II of this standard as complying with an approved measure. If not, it requires special consideration and should be as a minimum made from bark-free wood that is free from pests and signs of live pests, and should be refused entry or immediately disposed of in authorized manner (see section 6).

5. Procedures Used Prior to Export

5.1 Compliance checks on procedures applied prior to export

The NPPO of the exporting country has responsibility for ensuring that systems for exports meet the requirements set out in this standard. It includes monitoring certification and marking systems that verify compliance, and establishing inspection procedures (see also ISPM Pub. No. 7: *Export certification system*), registration or accreditation and auditing of commercial companies that apply the measures, etc.

5.2 Transit arrangements

Where consignments moving in transit have exposed wood packaging material that has not met the requirements for approved measures, the NPPOs of the transit countries may require measures in addition to those of the importing country to ensure that wood packaging material does not present an unacceptable risk. The NPPO of the exporting country should consult with the NPPO of the importing and transit country to reach agreement on the requirements to be met for consignments in transit.

6. Procedures upon Import

The regulation of wood packaging material requires that NPPOs have policies and procedures for other aspects of their responsibilities related to wood packaging material.

6.1 Measures for non-compliance at point of entry

Where wood packaging material does not carry the required mark, or is found to be infested with a quarantine pest, action may be taken. This action may take the form of treatment, disposal or refused entry. The NPPO of the exporting country should be notified (see ISPM Pub. No. 13: *Guidelines on notification of non-compliance and emergency action*).

Where the wood packaging material does carry the required mark, but evidence of the presence of live pests is found, action can still be taken.

6.2 Cooperation

Since wood packaging materials are associated with almost all shipments, including those not normally the target of phytosanitary inspections, cooperation with agencies, organizations, etc. not normally involved with meeting phytosanitary export conditions or import requirements is important. For example, cooperation with Customs organizations should be reviewed to ensure effectiveness in detecting potential non-compliance of wood packaging material. Cooperation with the producers of wood packaging material also needs to be developed.

6.3 Disposal

Disposal of wood packaging material is a risk management option that may be used by the NPPO of the importing country upon arrival of the wood packaging material where treatment is not available or desirable. The following methods are recommended for the destruction of wood packaging material where this is required. Wood packaging material that requires emergency action should be appropriately safeguarded prior to treatment or disposal to prevent escape of any pest between the time of the detection of the non-compliance and the time of treatment or disposal.

Incineration
Complete burning

Burial
Deep burial in sites approved by appropriate authorities. (Note: not a suitable disposal option for wood infested with termites). The depth of the burial may depend on climatic conditions and the pest, but is recommended to be at least 1 metre. The material should be covered immediately after burial and should remain buried.

Processing
Chipping and further processing in a manner approved by the NPPO of the importing country for the elimination of pests of concern (e.g. manufacture of oriented strand board).

Other methods
Procedures endorsed by the NPPO as effective for the pests of concern.

The methods should be applied with the least possible delay.

ANNEX I

APPROVED MEASURES ASSOCIATED WITH WOOD PACKAGING MATERIAL

Heat treatment (HT)

Wood packaging material should be made from debarked wood and should be heated in accordance with a specific time-temperature schedule that achieves a minimum wood core temperature of 56°C for a minimum of 30 minutes[4]. For example, CPI may meet the HT specification through the use of steam, hot water, or dry heat. Heat treatment is indicated by the mark HT. (see Annex II)

Kiln drying (KD), chemical pressure impregnation (CPI), or other treatments may be considered HT treatments to the extent that these meet the HT specifications.

Methyl bromide (MB) fumigation for wood packaging material

The wood packaging material should be made from debarked wood. Methyl bromide treatment is indicated by the mark MB. The minimum standard for methyl bromide fumigation treatment for wood packaging material is as follows:

Temperature	Dosage rate	Minimum concentration (g/m^3) at:			
		0.5hrs.	2hrs.	4hrs.	16hrs.
21°C or above	48	36	24	17	14
16°C or above	56	42	28	20	17
11°C or above	64	48	32	22	19

The minimum temperature should not be less than 10^0C and the minimum exposure time should be 16 hours.[5]

List of most significant pests killed by HT and MB

Members of the following pest groups associated with wood packaging material are practically eliminated by HT and MB treatment in accordance with the specifications listed above:

Pest group
Insects
Anobiidae
Bostrichidae
Buprestidae
Cerambycidae
Curculionidae
Isoptera
Lyctidae (with some exceptions for HT)
Oedemeridae
Scolytidae
Siricidae
Nematodes
Bursaphelenchus xylophilus

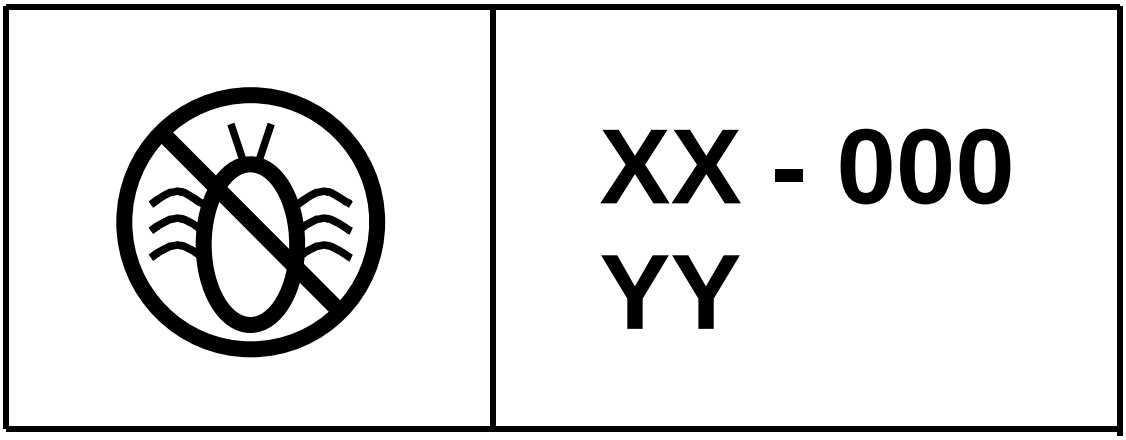
[4] A minimum core temperature of 56° C for a minimum of 30 min. is chosen in consideration of the wide range of pests for which this combination is documented to be lethal and a commercially feasible treatment. Although it is recognized that some pests are known to have a higher thermal tolerance, quarantine pests in this category are managed by NPPOs on a case by case basis.

[5] Certain countries require that the minimum commodity temp should be higher

ANNEX II

MARKING FOR APPROVED MEASURES

The mark shown below is to certify that the wood packaging material that bears the mark has been subjected to an approved measure.



The mark should at minimum include the:

- symbol
- ISO two letter country code followed by a unique number assigned by the NPPO to the producer of the wood packaging material, who is responsible for ensuring appropriate wood is used and properly marked
- IPPC abbreviation according to Annex I for the approved measure used (e.g. HT, MB).

NPPOs, producers or suppliers may at their discretion add control numbers or other information used for identifying specific lots. Other information may also be included provided it is not confusing, misleading, or deceptive.

Markings should be:

- according to the model shown here
- legible
- permanent and not transferable
- placed in a visible location, preferably on at least two opposite sides of the article being certified.

The use of red or orange should be avoided since these colors are used in the labeling of dangerous goods.

Recycled, remanufactured or repaired wood packaging material should be re-certified and re-marked. All components of such material should have been treated. Old marks should be removed or covered.

Shippers should be encouraged to use appropriately marked wood for dunnage.

ANNEX III

MEASURES BEING CONSIDERED FOR APPROVAL UNDER THIS STANDARD

Treatments[6] being considered and which may be approved when appropriate data becomes available, include but are not limited to:

Fumigation
Phosphine
Sulfuryl fluoride
Carbonyl sulphide

CPI
High-pressure/vacuum process
Double vacuum process
Hot and cold open tank process
Sap displacement method

Irradiation
Gamma radiation
X-rays
Microwaves
Infra red

Controlled atmosphere

[6] Certain treatments such as phosphine fumigation and some CPI treatments are generally believed to be very effective but at present lack experimental data concerning efficacy which would allow them to be either general or approved measures. This present lack of data is specifically in relation to the elimination of raw wood pests present at the time of application of the treatment.

DRAFT STANDARD
November 2001
ISC-2001-2

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

PEST REPORTING

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization of the United Nations
Rome, 200-

INTRODUCTION

SCOPE

This standard describes the responsibilities of and requirements for contracting parties in reporting the occurrence, outbreak and spread of pests in areas for which they are responsible. It also provides guidance on reporting successful eradication of pests and establishment of pest free areas.

REFERENCES

Determination of pests status in an area, 1998. ISPM Pub. No. 8, FAO, Rome.
Glossary of phytosanitary terms, 1999. ISPM Pub. No. 5, FAO, Rome.
Guidelines for pest eradication programmes, 1999. ISPM Pub. No.9, FAO, Rome.
Guidelines for pest risk analysis, 1996. ISPM Pub. No. 2, FAO, Rome.
Guidelines for surveillance, 1998. ISPM Pub. No. 6, FAO, Rome.
Guidelines for the notification of non-compliance and emergency action, 2001. ISPM Pub. No. 13, FAO, Rome.
New Revised Text of the International Plant Protection Convention, 1997. FAO, Rome.
Pest risk analysis for quarantine pests, 2001. ISPM Pub. No. 11, FAO, Rome.
Requirements for the establishment of pest free areas, 1996. ISPM Pub. No. 4, FAO, Rome.

DEFINITIONS AND ABBREVIATIONS[1]

Area	An officially defined country, part of a country or all or parts of several countries [FAO, 1990; revised FAO, 1995; CEPM, 1999; based on the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures]
Commodity	A type of plant, plant product or other article being moved for trade or other purpose [FAO, 1990; revised ICPM, 2001]
Eradication	Application of phytosanitary measures to eliminate a pest from an area [FAO, 1990; revised FAO, 1995; formerly Eradicate]
IPPC	International Plant Protection Convention, as deposited in 1951 with FAO in Rome and as subsequently amended [FAO, 1990; revised ICPM, 2001]
NPPO	National Plant Protection Organization [FAO, 1990; revised ICPM, 2001]
Occurrence*	The presence in an area of a pest officially recognized to be indigenous or introduced and/or not officially reported to have been eradicated [FAO, 199O; revised FAO, 1995; ISPM Pub. No. *(PR), 2002; formerly Occur]
Official	Established, authorized or performed by a National Plant Protection Organization[FAO, 1990]

[1] Terms marked with an (*) are new or revised

Outbreak*	An isolated pest population, recently detected and expected to survive for the immediate future or a sudden increase in an existing pest population [FAO, 1995; ISPM Pub. No. *(PRs), 2002]
Pathway	Any means that allows the entry or spread of a pest [FAO, 1990; revised FAO, 1995]
Pest	Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products [FAO, 1990; revised FAO, 1995; IPPC, 1997]
Pest categorization	The process for determining whether a pest has or has not the characteristics of a quarantine pest or those of a regulated non-quarantine pest [ISPM No. 11, 2001]
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 [FAO, 1995]
Pest risk analysis	The process of evaluating biological or other scientific and economic evidence to determine whether a pest should be regulated and the strength of measures to be taken against it [FAO, 1995; revised IPPC, 1997]
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 [CEPM, 1997; revised ICPM, 1998]
Phytosanitary action	An official operation such as inspection, testing, surveillance or treatment, undertaken to implement phytosanitary regulations or procedures [ICPM, 2001]
Phytosanitary certification	Use of phytosanitary procedures leading to the issue of a phytosanitary certificate [FAO, 1990]
Phytosanitary measure* (agreed interpretation)	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests [FAO, 1995; revised IPPC, 1997; ISC, 2001]

The agreed interpretation of the term phytosanitary measure accounts for the relationship of phytosanitary measures to regulated non-quarantine pests. This relationship is not adequately reflected in the definition found in Article II of the IPPC (1997).

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 [FAO, 1990; revised FAO, 1995; IPPC, 1997]

Regulated article	Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harboring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved [FAO, 1990; revised FAO, 1995; IPPC, 1997]
Regulated non-quarantine pest	A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party [IPPC, 1997]
Regulated pest	A quarantine pest or a regulated non-quarantine pest [IPPC, 1997]
RPPO	Regional Plant Protection Organization [FAO, 1990]
Spread	Expansion of the geographical distribution of a pest within an area [FAO, 1995]
Surveillance	An official process which collects and records data on pest occurrence or absence by survey, monitoring or other procedures [CEPM, 1996]
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 [FAO, 1990; revised CEPM, 1996]
Transience	Presence of a pest that is not expected to lead to establishment [ISPM Pub. No. 8, 1998]

OUTLINE OF REQUIREMENTS

The International Plant Protection Convention (1997) requires countries to report on the occurrence outbreak, and spread of pests with the purpose to communicate immediate or potential danger. National Plant Protection Organizations (NPPOs) have the responsibility to collect pest information by surveillance and to verify the pest records thus collected. Occurrence, outbreak or spread of pests that are known (on the basis of observation, previous experience, or pest risk analysis [PRA]) to be of immediate or potential danger should be reported to other countries, in particular to neighbouring countries and trading partners.

Pest reports should contain information on the identity of the pest, location, pest status, and nature of the immediate or potential danger. They should be provided without undue delay, preferably through electronic means, through direct communication, openly available publication and/or the International Phytosanitary Portal (IPP)[2].

Reports of successful eradication and the establishment of pest free areas may also be provided utilizing the same reporting procedure.

[2] The IPP is the electronic mechanism provided by the IPPC Secretariat to facilitate the exchange of official phytosanitary information (including pest reporting) between NPPOs, RPPOs, and/or the IPPC Secretariat.

REQUIREMENTS

1. Provisions of the IPPC Regarding Pest Reporting

The IPPC (1997), in relation to its main purpose of "*securing common and effective action to prevent the spread and introduction of pests of plants and plant products,* (Article I.1) requires countries *to make provision, to the best of their ability, for an official national plant protection organization*," (Article IV.1) whose responsibilities include the following:

*"…the surveillance of growing plants, including both areas under cultivation (*inter alia *fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation, particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests, including the reporting referred to under Article VIII paragraph 1(a)*..." (Article IV.2b).

Countries are responsible for the distribution of information within their territories regarding regulated pests (Article IV.3a), and they are required, "*to the best of their ability, to conduct surveillance for pests and develop and maintain adequate information on pest status in order to support categorization of pests, and for the development of appropriate phytosanitary measures. This information shall be made available to contracting parties, on request.*"(Article VII.2j). They are required to "*designate a contact point for the exchange of information connected with the implementation*" of the IPPC (Article VIII.2).

With these systems in operation, countries are able to fulfil the requirement under the IPPC:

"…to cooperate with one another to the fullest practicable extent in achieving the aims of this Convention (Article VIII.1), and in particular to *cooperate in the exchange of information on plant pests, particularly the reporting of the occurrence, outbreak or spread of pests that may be of immediate or potential danger, in accordance with such procedures as may be established by the Commission* ...(Article VIII.1a).

2. Purpose of Pest Reporting

The main purpose of pest reporting is to communicate immediate or potential danger. Immediate or potential danger normally arises from the occurrence, outbreak or spread of a pest that is a quarantine pest in the country in which it is detected, or a quarantine pest for neighbouring countries and trading partners.

The provision of reliable and timely pest reports confirms the operation of effective surveillance and reporting systems within countries.

Pest reporting allows countries to adjust as necessary their phytosanitary requirements and actions to take into account any changes in risk. It provides useful current and historical information for operation of phytosanitary systems. Accurate information on pest status facilitates technical justification of measures and helps to minimize unjustified interference with trade. Every country needs pest reports for these purposes, and can only obtain them by the cooperation of other countries. It should be emphasized that countries should not overreact to

pest reports. The phytosanitary measures that are taken by importing countries should be commensurate with the risk and technically justified.

3. National Responsibilities

NPPOs should make provision to ensure the collection, verification, and analysis of domestic pest reports.

3.1 Surveillance

Pest reporting depends on the establishment, within countries, of national systems for surveillance, as required by the IPPC (1997) (Article IV.2b). Information for pest reporting may be derived from either of the two types of pest surveillance systems defined in ISPM Pub. No. 6 (*Guidelines for surveillance*), general surveillance or specific surveys. Systems should be put in place to ensure that such information is sent to and collected by the NPPO. The surveillance and collection systems should operate on an ongoing and timely basis. Surveillance should be conducted in accordance with ISPM Pub. No. 6.

3.2 Sources of information

Information for pest reporting may be obtained directly by the NPPO or may be available to the NPPO from a variety of other sources (research institutions and journals, websites, growers and their journals, other NPPOs, etc). General surveillance by the NPPO includes the review of information from other sources.

3.3 Verification and analysis

NPPOs should put in place systems for verification of domestic pest reports from official and other sources (including those brought to their attention by other countries). This should be done by confirming the identification of the pest concerned and making a preliminary determination of its geographical distribution– and thus establishing its "pest status" in the country, according to ISPM Pub. No. 8 (*Determination of pest status in an area*). NPPOs should also put in place systems of Pest Risk Analysis (PRA) to determine whether new or unexpected pest situations constitute an immediate or potential danger to their country (i.e. the reporting country), requiring phytosanitary action. PRA may also be used to identify, as appropriate, whether the situations that have been reported may be of concern to other countries.

3.4 Motivation for domestic reporting

Where possible, countries should provide incentives for domestic reporting. Growers and others may be required officially to report on new or unexpected pest situations and may be encouraged in this, for example, by publicity, community action, rewards, or penalties.

4. Reporting Obligations

The obligation identified under the IPPC (1997, Article VIII.1a) is to report the occurrence, outbreak and spread of pests that may be of immediate or potential danger. Countries may optionally make other pest reports. Such reporting satisfies the general recommendation under the IPPC to cooperate in achieving the objectives of the Convention but is not a specific obligation. This standard considers all cases of pest reporting.

4.1 Reporting of immediate or potential danger

An immediate danger is considered to be one that has already been identified (pest already regulated) or is obvious on the basis of observation or previous experience. A potential danger is one that is identified as the result of a PRA. Both immediate and potential danger of a pest found in the reporting country normally lead to phytosanitary or emergency action in that country.

The occurrence, outbreak and spread of pests which is of immediate or potential danger to the reporting country may be of immediate or potential danger to other countries. There is an obligation to report it to other countries.

Countries have an obligation to report occurrence, outbreak or spread of pests that are not of danger to them but are known to be regulated by or of immediate danger to other countries. This will normally concern trading partners (for relevant pathways) and neighbouring countries to which the pest could spread without trade.

4.2 Reporting of other pests

Countries may also, as appropriate, use the same reporting systems to provide pest reports on other pests, or to report to other countries, if this contributes usefully to the exchange of information on plant pests foreseen under Article VIII of the IPPC. They may also enter into bilateral or multilateral agreements on pest reporting, e.g. through RPPOs.

4.3 Reporting of changed status, absence or correction of earlier reports

Countries may also report cases where immediate or potential danger has changed or is absent (including in particular pest absence). Where there has been an earlier report indicating immediate or potential danger and it later appears that the report was incorrect or circumstances change so that the risk changes or disappears, countries should report the change. Countries may also report that all or part of their territory has been categorized as a pest free area, according to ISPM Pub. No. 4 (*Requirements for the establishment of pest free areas*), or report successful eradication according to ISPM Pub. No. 9 (*Guidelines for pest eradication programmes*), or changes in the pest status of a pest according to host range or one of the descriptions in ISPM Pub. No. 8 (*Determination of pest status in an area*).

4.4 Reporting of pests in imported consignments

Reporting the pests detected in imported consignments is covered by the ISPM Pub. No. 13 (*Guidelines for the notification of non-compliance and emergency action*) and not by this standard.

5. Initiation of Reports

Pest reports are initiated by the occurrence, outbreak, spread, or successful eradication of pests, or any other new or unexpected pest situation.

5.1 Occurrence

Occurrence should normally be reported where the presence of a pest is newly determined, which is known to be regulated by neighbouring countries or trading partners (for relevant pathways).

5.2 Outbreak

An outbreak refers to a recently detected pest population. An outbreak should be reported when its presence corresponds at least to the status of **Transient: actionable** in ISPM Pub. No. 8 (*Determination of pest status in an area*), which means that it should be reported even when the pest may survive in the immediate future, but is not expected to establish.

The term outbreak also applies to an unexpected situation associated with an established pest, which results in new pathways, or which results in a significant increase in risk to the reporting country, neighbouring countries or trading partners, particularly if it is known that the pest is regulated.

5.3 Spread

Spread concerns an established pest that expands its geographical distribution, resulting in a significant increase in risk to the reporting country, neighbouring countries or trading partners, particularly if it is known that the pest is regulated.

5.4 Successful eradication

Eradication may be reported when it is successful. Success occurs when an established or transient pest is eliminated from an area and the absence of that pest is verified. (see ISPM Pub. No. 9: *Guidelines for pest eradication programmes*)

5.5 Establishment of pest free area

The establishment of a pest free area may be reported where this constitutes a change in the pest status in that area. (see ISPM Pub. No. 4: *Requirements for the establishment of pest free areas*)

6. Pest Reporting

6.1 Content of reports

A pest report should clearly indicate:

- the identity of the pest with scientific name (where possible, to the species level, and below species level, if known and relevant)
- the date of the report
- host(s) or articles concerned (as appropriate)
- the status of the pest under ISPM Pub. No. 8
- geographical distribution of the pest (including a map, if appropriate)
- the nature of the immediate or potential danger, or other reason for reporting.

It may also indicate the phytosanitary measures applied or required, their purpose, and any other information as indicated for pest records in ISPM Pub. No. 8 (*Determination of pest status in an area*).

If all the information is not available on the pest situation then a preliminary report should be made and updates made, as further information becomes available.

6.2 Timing of reporting

Reports on occurrence, outbreak and spread should be provided without undue delay. This is especially important when the risk of immediate spread is high. It is recognized that the operation of the national systems for surveillance and reporting (see above), and in particular the processes of verification and analysis, require a certain time, but this should be kept to a minimum.

Reports should be updated, as new and fuller information becomes available.

6.3 Mechanism of reporting and destination of reports

Pest reports which are obligations under the IPPC should be made by NPPOs using at least one of the following three systems:

- direct communication to all countries, through official contact points (mail or e-mail)–countries are encouraged to use electronic means of pest reporting to facilitate wide and timely distribution of information
- publication on an openly available, official national website (such a website may be designated as part of an official contact point)–precise information on the website access address to the pest reports should be made available to other countries, or at least to the Secretariat
- the International Phytosanitary Portal (IPP), once it is fully functional.

In addition, for pests of known and immediate danger to other countries, direct communication to those countries, by mail or e–mail, is recommended in any case.

Countries may also address pest reports to RPPOs, to privately contracted reporting systems, through bilaterally agreed reporting systems, or in any other manner acceptable to the countries involved. Whatever reporting system is used, the NPPO should retain responsibility for the reports.

Publication of pest reports in a scientific journal, or in an official journal or gazette that typically have limited distribution, does not meet the requirements of this standard.

6.4 Good reporting practices

Countries should follow the "good reporting practices" set out in ISPM Pub. No. 8: (*Determination of pest status in an area*).

If the status of a pest in a country is questioned by another country, then an attempt should be made to resolve the matter bilaterally, in the first instance.

6.5 Confidentiality

Pest reports should not be confidential. However, national systems for surveillance, domestic reporting, verification, and analysis may contain confidential information.

Countries may have in place requirements regarding confidentiality of certain information, e.g. identity of growers. National requirements should not affect basic reporting obligations (content of reports, timeliness).

Confidentiality in bilateral arrangements should not conflict with international reporting obligations.

6.6 Language

There are no IPPC obligations in relation to the language used for pest reporting, except where countries request information under Article VII.2j (IPPC, 1997), when one of the five official languages of FAO should be used for the reply. Countries are encouraged to provide pest reports in English, in particular for purposes of global electronic reporting.

7. Additional Information

On the basis of pest reports, countries may request additional information through official contact points. Information required under Article VII.2j (IPPC, 1997) should, to the best of its ability, be supplied by the reporting country.

8. Review

NPPOs should undertake periodic review of their pest surveillance and reporting systems to ensure that they are meeting their reporting obligations and to identify possibilities for improving reliability and timeliness. They should make adjustments as appropriate.

9. Documentation

National pest surveillance and reporting systems should be adequately described and documented and this information should be made available to other countries on request (see ISPM Pub. No. 6 (*Guidelines for surveillance*).

DRAFT STANDARD
November 2001
ISC-2001-2

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

REGULATED NON-QUARANTINE PESTS: CONCEPT AND APPLICATION

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization
of the United Nations
Rome, 200-

INTRODUCTION

SCOPE

This standard describes the concept of regulated non-quarantine pests and identifies their characteristics. It describes the application of the concept in practice and the relevant elements for regulatory systems.

REFERENCES

Agreement on the Application of Sanitary and Phytosanitary Measures, 1994. World Trade Organization, Geneva.
Determination of pest status in an area, 1998. ISPM Pub. No. 8, FAO, Rome.
FAO. 1967. *Types of losses caused by plant diseases*, by J.C. Zadoks. FAO Symposium on crop losses. Rome, 2-6 October 1967, pp. 149-158.
Glossary of phytosanitary terms, 1999. ISPM Pub. No. 5, FAO, Rome.
Glossary supplement no. 1: Guidelines on the interpretation and application of the concept of official control for regulated pests, 2001. ISPM Pub. No. 5, FAO, Rome.
Guidelines for pest risk analysis, 1996. ISPM Pub. No. 2, FAO, Rome.
Guidelines for surveillance, 1998. ISPM Pub. No. 6, 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[1]

Containment	Application of phytosanitary measures in and around an infested area to prevent spread of a pest [FAO, 1995]
Eradication	Application of phytosanitary measures to eliminate a pest from an area [FAO, 1990; revised FAO, 1995; formerly **Eradicate**]
Intended use*	Declared purpose for which plants, plant products, or other regulated articles are imported, produced, or used [ISPM Pub. No. *(RNQP), 2002]
Official control	The active enforcement of mandatory phytosanitary regulations and the application of mandatory phytosanitary procedures with the objective of eradication or containment of quarantine pests or for the management of regulated non-quarantine pests [ICPM, 2001]
Pathway	Any means that allows the entry or spread of a pest [FAO, 1990; revised FAO, 1995]
Pest	Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products [FAO, 1990; revised FAO, 1995; IPPC, 1997]

[1] Terms marked with an (*) are new or revised

Pest risk analysis	The process of evaluating biological or other scientific and economic evidence to determine whether a pest should be regulated and the strength of any phytosanitary measures to be taken against it [FAO, 1995; revised IPPC, 1997]
Phytosanitary action	An official operation, such as inspection, testing, surveillance, or treatment, undertaken to implement phytosanitary regulations or procedures [ICPM, 2001]
Phytosanitary measure* (agreed interpretation)	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of pests [FAO, 1995; revised IPPC, 1997; ISC, 2001]

The agreed interpretation of the term phytosanitary measure accounts for the relationship of phytosanitary measures to regulated non-quarantine pests. This relationship is not adequately reflected in the definition found in Article II of the IPPC (1997).

Phytosanitary regulation	Official rule to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification [FAO, 1990; revised FAO, 1995; CEPM, 1999; ICPM, 2001]
Plants	Living plants and parts thereof, including seeds and germplasm [FAO, 1990; revised IPPC, 1997]
Planting (including replanting)	Any operation for the placing of plants in a growing medium, or by grafting or similar operations, to ensure their subsequent growth, reproduction or propagation [FAO, 1990; revised CEPM, 1999]
Plants for planting	Plants intended to remain planted, to be planted or replanted [FAO, 1990]
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 [FAO, 1990; revised FAO, 1995; IPPC, 1997]
Regulated area	An area into which, within which and/or from which plants, plant products and other regulated articles are subjected to phytosanitary regulations or procedures in order to prevent the introduction and/or spread of quarantine pests or to limit the economic impact of regulated non-quarantine pests [CEPM, 1996; revised CEPM, 1999; ICPM, 2001]
Regulated non-quarantine pest	A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party [IPPC, 19997]
RNQP*	Regulated Non-Quarantine Pest [ISPM Pub. No. *(RNQP), 2002]
Suppression	The application of phytosanitary measures in an infested area to reduce pest populations [FAO, 1995; revised CEPM, 1999]

OUTLINE OF REQUIREMENTS

Pests that are not quarantine pests may be subject to phytosanitary measures because their presence in plants for planting results in economically unacceptable impacts. They are defined in the IPPC (1997) as regulated non-quarantine pests (RNQPs). Several provisions of the IPPC (1997) deal with RNQPs.

The distinction between RNQPs and quarantine pests, both of which are regulated pests, can be described in terms of the pest status, presence, pathway/commodity, economic impacts, and type of official control. Phytosanitary measures should not be required for non-regulated pests.

The application of the concept of RNQPs follows the principles of technical justification , risk analysis, managed risk, minimal impact, equivalence, non-discrimination, and transparency. Each element of the definition of RNQPs has a specific meaning, and as a consequence, host-pest interactions, non-phytosanitary certification programmes that contain elements suitable for phytosanitary certification, tolerances, and non-compliance actions all need to be considered when defining the requirements for the application of measures for RNQPs.

GENERAL REQUIREMENTS

1. Background

Certain pests that are not quarantine pests are subject to phytosanitary measures because their presence in plants for planting results in economically unacceptable impacts associated with the intended use of the plants. Such pests are known as regulated non-quarantine pests (RNQPs) and are present and often widespread in the importing country. Where official control is applied to plants for planting produced within countries to protect them from such pests, then the same or equivalent phytosanitary measures may be applied to those pests on imported plants for planting of the same species for the same intended use.

2. Provisions of the IPPC Regarding Regulated Non-Quarantine Pests

In addition to definitions found in Article II, as well as other references to regulated pests in the IPPC (1997), the following provisions of the IPPC (1997) are relevant to regulated non-quarantine pests.

Article VII.1
With the aim of preventing the introduction and/or spread of regulated pests into their territories, contracting parties shall have sovereign authority to regulate, in accordance with applicable international agreements, the entry of plants and plant products and other regulated articles and, to this end, may:

a) *prescribe and adopt phytosanitary measures…*
b) *refuse entry or detain, or require treatment, destruction or removal …*
c) *prohibit or restrict the movement of regulated pests….*

Article VI.1
Contracting parties may require phytosanitary measures for quarantine pests and regulated non-quarantine pests, provided that such measures are:

a) *no more stringent than measures applied to the same pests, if present within the territory of the importing contacting party; and*
b) *limited to what is necessary to protect plant health and/or safeguard the intended use and can be technically justified by the contracting party concerned.*

Article VI.2
Contracting parties shall not require phytosanitary measures for non-regulated pests.

Article IV.3
Each contacting party shall make provision, to the best of its ability, for the following:

a) *the distribution of information within the territory of the contracting party regarding regulated pests and the means of their prevention and control ...*

Article VII.2i
Contracting parties shall, to the best of their ability, establish and update lists of regulated pests, using scientific names, and make such lists available to the Secretary (of the Commission on Phytosanitary Measures), to regional plant protection organizations of which they are members and, on request, to other contracting parties.

ANNEX:
Text of the Model Phytosanitary Certificate:
This is to certify that the plants, plant products or other regulated articles described herein

have been inspected and/or tested according to appropriate official procedures and are considered to be free from the quarantine pests specified by the importing contracting party and to conform with the current phytosanitary requirements of the importing contracting party, including those for regulated non-quarantine pests.

*They are deemed to be practically free from other pests.**

**Optional clause*

3. Comparison between RNQPs and Other Pests

3.1 Comparison with quarantine pests

Quarantine pests and RNQPs can be compared on the basis of four elements of their defining criteria: pest status in the importing country, pathway/commodity, economic impacts associated with the pest, and the application of official control.

The table below provides a summary of the distinctions.

Comparison of Quarantine Pests and RNQPs

Defining criteria	Quarantine pest	RNQP
Pest status	Absent or of limited distribution	Present and may be widely distributed
Pathway	Phytosanitary measures for any pathway	Phytosanitary measures only on plants for planting
Economic impact	Impact is predicted	Impact is known
Official control	Under official control if present with the aim of eradication or containment	Under official control within the specified plants for planting with the aim of suppression

3.1.1 Pest status

In the case of quarantine pests, phytosanitary measures focus on reducing the likelihood of introduction, or if the pest is present, reducing the likelihood of spread. This means that in the case of a quarantine pest, the pest is absent or is being prevented from invading new areas and is being officially controlled where it occurs. In the case of an RNQP, the likelihood of introduction is not relevant as a criterion, because the pest is present and quite possibly widespread.

3.1.2 Pathway

Phytosanitary regulations and procedures may be applied for quarantine pests associated with any host or pathway. For RNQPs, the only pathway that may be regulated is plants for planting of specified host(s) for a particular intended use.

3.1.3 Economic impacts

The main difference between the definitions of a quarantine pest and an RNQP with respect to economic impacts is the distinction between potential economic importance for quarantine pests and known economically unacceptable impacts for regulated non-quarantine pests. Since the RNQP is present in the country, detailed first-hand information should be available about its impacts, which are therefore known rather than predicted as for quarantine pests that are not yet present in that country. Furthermore, the potential economic importance associated with quarantine pests may include consideration of factors such as market access into other countries and environmental effects that are not relevant for RNQPs, because the pests are usually

established.

3.1.4 Official control

All regulated pests are subject to official control. If present in an area, quarantine pests are subject to official control, in the form of phytosanitary measures for their eradication and/or containment. RNQPs are subject to official control in the form of phytosanitary measures for their suppression in the specified plants for planting.

3.2 Non-regulated pests

Some pests, which are neither quarantine pests nor RNQPs, may cause unacceptable impacts (i.e. damage) of a non-phytosanitary nature (e.g. commercial or food safety). Measures applied to plants damaged in this way are not phytosanitary measures. Pests causing such damage have been termed non-regulated pests in the context of this standard.

4. Criteria that Define RNQPs

The definition of RNQPs provides criteria to distinguish this category of pests from quarantine pests. Further understanding of certain words in the definition is important for the proper interpretation and application of the concept.

4.1 "Plants for planting"

The concept of RNQPs is specifically limited in application to "plants for planting". Plants are defined as "living plants and parts thereof, including seeds". Therefore, "plants for planting" includes seeds, bulbs and tubers, and various kinds of vegetative propagating material, which may be whole plants or parts of plants (such as cuttings).

Since plants for planting includes "plants intended to remain planted", potted plants (including bonsais) are included. Risks associated with plants that are intended to remain planted may be less than for plants intended for multiplication.

4.2 "Intended use"

The intended use of plants for planting may be:

- growing for direct production of other commodity classes (e.g. fruits, cut flowers, wood, grain, etc.)
- to remain planted (e.g. ornamentals)
- increasing the number of the same plants for planting (e.g. tubers, cuttings, seeds).

Risk of economically unacceptable impact varies with different pests, commodities, and intended use. Distinctions may be made between commercial use (involving a sale or intention to sell or transfer for a consideration), and non-commercial use (not involving a sale and limited to a low number of plants for planting for private use), where such a distinction is technically justified.

4.3 "Those plants"

"Those plants" refers to the specific plants (species, varieties, etc.) for planting, either imported or domestically produced for the intended use, that are regulated by the importing country with respect to RNQPs.

4.4 "Economically unacceptable impact"

The definition for a regulated non-quarantine pest refers to an economically unacceptable impact. This means that losses are measured in terms of economic impacts, and judged to be acceptable or unacceptable.

For quarantine pests, economic impacts include effects on market access as well as those impacts that may be less easily quantified in direct economic terms, such as certain effects on the environment as related to plant health. Because RNQPs are already present, there are not new or additional impacts related to market access or environmental health. Therefore these impacts are not considered relevant factors in determining economic impacts for RNQPs.

Relevant factors in determining economically unacceptable impacts should be those impacts that result from direct losses.

Examples of direct losses are:

- reduction of quantity of marketable yield (e.g. reduction in yield)
- reduction of quality (e.g. reduced sugar content in grapes for wine, downgrading of marketed product)
- extra costs of pest control (e.g. roguing, pesticide application)
- extra costs of harvesting and grading (e.g. culling)
- costs of replanting (e.g. due to loss of longevity of plants)
- loss due to the necessity of growing substitute crops (e.g. due to need to plant lower yielding resistant varieties of the same crop or different crops).

In particular cases, pest effects on host plants at the place of production may be considered relevant factors.

Calculations of economically unacceptable impacts of RNQPs should not include indirect losses such as economic and social implications of these pests beyond their immediate agricultural effects.

Examples of indirect losses are:

- increase of unemployment
- decreased returns on investments
- increased costs to consumers
- increased requirements for subsidies
- decreased purchasing power of producers.

4.5 "Regulated"

"Regulated" in the definition of RNQP refers to official control. An official control programme for RNQPs can be applied on a national, sub-national, or local area basis. (see *Glossary supplement no. 1: Guidelines on the interpretation and application of the concept of official control for regulated pests,* 2001)

5. Relevant Principles and Obligations

The application of the concept of RNQPs follows in particular the principles and obligations of

technical justification, risk analysis, managed risk, minimal impact, equivalence, non-discrimination, and transparency.

5.1 Technical justification

Phytosanitary measures covering RNQPs should be technically justified as required by the IPPC (1997). The classification of a pest as an RNQP and any restrictions placed on the import of the plant species with which it is associated should be justified by pest risk analysis.

5.2 Risk assessment

Pest risk assessment for RNQPs is not the same as pest risk assessment performed for a potential quarantine pest because it is not necessary to evaluate the probability of establishment, nor the long-term economic impact of an RNQP. It is, however, necessary to demonstrate that plants for planting are a pathway for the pest, and the plants for planting are the main source of infestation that result in economically unacceptable impacts.

5.3 Managed risk, minimal impact and equivalence

Risk management for RNQPs requires a decision regarding whether the economic impact determined through risk assessment represents an "unacceptable level of risk". Decisions regarding the strength of the measures to be used for risk management should be in accordance with the principles of non-discrimination, managed risk, and minimal impact, and should allow for the acceptance of equivalent measures where appropriate.

5.4 Non-discrimination

Phytosanitary measures for RNQPs should respect the principle of non-discrimination both between countries and between domestic and imported consignments. A pest can only be an RNQP if there is official control within the territory of the contracting party requiring that no plants for planting with the same intended use (of the same or similar species of host plants), irrespective of their origin, be sold or planted if containing the pest, or containing the pest above a specified tolerance. A pest on an imported consignment can only be an RNQP if the plants are to be sold or planted within the territory of the importing country, or within that part of its territory, where the official control for the pest applies.

5.5 Transparency

National regulations and requirements for RNQPs, including details of official control programmes should be published and transmitted to any contracting party that may be directly affected (Article VII.2b). The technical justification for categorizing a pest as an RNQP and the justification for the strength of the measures applied for RNQPs should be made available by the importing contracting party upon request of another contracting party (Article VII.2c).

6. Application

When an NPPO wants to designate certain pests as RNQPs, the NPPO needs to consider the elements described above. In addition, some specific issues, such as host-pest interactions, and the existence of certification programmes (e.g. seed certification) for plants for planting may be considered.

6.1 Host-pest interaction

RNQPs should be defined in relation to a specified host or hosts because the same pest might not be regulated as an RNQP on other hosts. For example, a virus may cause economically unacceptable impact in one species of plants for planting, but not in another. Distinctions should be made regarding the specified taxonomic level of the host plants for the application of phytosanitary requirements for RNQPs where information available on host-pest interaction supports such distinctions (e.g. varietal resistance/susceptibility, pest virulence).

6.2 Certification schemes[2]

Programmes for the certification of plants for planting (sometimes known as "certification schemes") frequently include specific requirements for pests, in addition to non-phytosanitary elements such as requirements for varietal purity, color and size of the product, etc. The pests concerned may be RNQPs if this can be technically justified and if the certification programme is mandatory, and this can be considered to be official control, i.e. established or recognized by the national government or NPPO under appropriate legislative authority. In general, the pests for which certification programmes are intended are those which cause economically unacceptable impact for the crop concerned and are mainly transmitted in plants for planting, thereby qualifying as RNQPs. However, not all pests mentioned in certification programmes are necessarily RNQPs. Some existing programmes may include tolerances for pests or pest damage whose technical justification has not been demonstrated.

6.3 Tolerances

The application of the concept of RNQPs requires acceptance and establishment of appropriate tolerances for RNQP levels in official control programmes and corresponding requirements at import. The level of tolerance depends on the technical justification and follows in particular the principles of managed risk, non-discrimination, and minimal impact. In some cases, if technically justified, this tolerance may be zero, based on specified sampling and testing procedures.

6.4 Non-compliance

Phytosanitary action taken for non-compliance with phytosanitary requirements for RNQPs should be in accordance with the principles of non-discrimination and minimal impact.

Options include:

- downgrading (change commodity class or intended use)
- treatment
- redirection for another purpose (e.g. processing)

[2] This certification is not to be confused with phytosanitary certification.

- redirection to origin or another country
- destruction.

SPECIFICATIONS FOR STANDARDS ON LIVING MODIFIED ORGANISMS

REPORT OF THE ICPM OPEN-ENDED WORKING GROUP ON SPECIFICATIONS FOR AN INTERNATIONAL STANDARD FOR PHYTOSANITARY MEASURES ON LIVING MODIFIED ORGANISMS

The Third Session of the Interim Commission on Phytosanitary Measures (ICPM) endorsed the following statements regarding the role of the IPPC with respect to living modified organisms (LMOs):

The ICPM:

- *Notes* that, consistent with the IPPC mandate to protect plant health, plant pest concerns that may be presented by LMOs/products of modern biotechnology fall within the scope of the IPPC.
- *Notes* that IPPC risk analysis and management systems are appropriate for assessing and managing, if necessary, the direct or indirect risks of pests to cultivated and wild flora and plant products that may be presented by LMOs/products of modern biotechnology.
- *Notes* that IPPC systems and procedures are relevant to, and adequate for, managing the risks posed by LMOs/products of modern biotechnology as they relate to the protection of plant health.
- *Notes* that the existing national mechanisms and structures for phytosanitary systems may form a basis or a model for developing other practical approaches to managing risks associated with LMOs/products of modern biotechnology.

The ICPM also decided that an Open-ended Working Group (OEWG)[1] should be formed to develop specifications for an ISPM on pest risk analysis for LMOs/products of modern biotechnology to be considered by the ICPM at its Fourth Session (March 2002). Terms of reference for this meeting were agreed.

The OEWG met at FAO in Rome 12 –14 September 2001. The meeting considered that there was a need to provide detailed guidance on pest risk analysis for LMOs and recommended that an Expert Working Group be formed to draft a standard according to the specification proposed by the OEWG. The OEWG also developed statements elaborated below in response to the specific terms of reference.

The OEWG considered that the phytosanitary risks of any LMOs should be considered.

The OEWG recommended that the IPPC Secretariat explore the best approach to ensure that the IPPC standard setting process is coordinated with the activities under the Cartagena Protocol. The OEWG recommended that ICPM formally invite representatives of the Cartagena Protocol to cooperate on the development of the PRA for LMOs.

The OEWG recommended that the scope of the IPPC's standard setting activities in this area be limited to LMOs as they are defined in the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (CP). The terminology used in this document is consistent with this recommendation and the term "products of modern biotechnology" has not been used.

[1] The ICPM endorsed an Open-Ended Expert Working Group. For internal administrative reasons, the organization of this meeting used the title Open-Ended Working Group rather than Open Ended Expert Working Group.

RESPONSES OF THE OEWG TO THE TERMS OF REFERENCE

Pest risk associated with LMOs
Potential phytosanitary risks include:

Changes in adaptive characteristics which may increase the potential invasiveness including for example:
- drought tolerance of plants
- herbicide tolerance of plants
- alterations in reproductive biology
- dispersal ability of pests
- pest resistance
- pesticide resistance.

Gene flow including for example:
- transfer of herbicide resistance genes to compatible species
- the potential to overcome existing reproductive and recombination barriers.

Potential to adversely affect non-target organisms including for example:
- changes in host range of biological control agents or organisms claimed to be beneficial
- effects on other organisms such as biological control agents, beneficial organisms, soil microflora that result in a phytosanitary impact (indirect effects).

Possibility of phytopathogenic properties including for example:
- phytosanitary risks presented by novel traits in organisms not normally considered a phytosanitary risk
- enhanced virus recombination, trans-encapsidation and synergy events related to the presence of virus sequences
- phytosanitary risks associated with nucleic acid sequences (markers, promoters, terminators, etc.) present in the insert.

The potential phytosanitary risks identified above could also be associated with non-LMOs. It was acknowledged that risk analysis procedures of the IPPC are generally concerned with phenotypic characteristics rather than genotypic characteristics. Genotypic characteristics may need to be considered when assessing the phytosanitary risks of LMOs.

The OEWG considered that all phytosanitary risks were within the scope of the IPPC including those posed by the unintentional and intentional presence of organisms.

Identify elements relevant to these plant pest risks*:*

In identifying elements of PRA for LMOs the OEWG:

- considered that there was a need to amplify elements of PRA for LMOs;
- considered that the normal components of PRA (Initiation, Risk Assessment and Risk Management) were appropriate for PRA of LMOs;
- considered that there was a need for more detailed guidance for each of these components; and
- recommended that the Expert Working Group consider Annex III of the CP, ISPM No. 11, the draft NAPPO standard(s) on transgenic plants and any other relevant regulatory framework and guidelines.

Consider existing international regulatory frameworks and guidelines

Development of the PRA on LMOs should take into account relevant aspects of the CP, the OECD activities on biotechnology oversight and any other relevant regulatory frameworks and guidelines. The IPPC draft supplement on environmental risk should also be taken into account. In addition to the working papers provided for this meeting, the OEWG discussed aspects of the OECD "Safety Considerations for Biotechnology: Scale-Up of Crop Plants" and the UNEP "International Technical Guidelines for Safety in Biotechnology".

Identify areas within pest risk analysis (PRA) standards and other ISPMs that are relevant to the phytosanitary aspects of LMOs

The OEWG noted that the IPPC Secretariat's Discussion Paper (OEWG-2001/REF 5) identified areas within PRA and other aspects of ISPMs that may be relevant to assessing the phytosanitary risks of LMOs. This paper should be considered by the expert working group with the other information documents provided to the OEWG in developing the PRA for LMOs.

Identify plant pest risks associated with LMOs that are not adequately addressed by existing ISPMs

The OEWG identified the need for more guidance as regards risk analysis for LMOs.
The phytosanitary risks identified above should be taken into account by the Expert Working Group in considering the adequacy of ISPMs in addressing the analysis of phytosanitary risks that may be presented by LMOs. The adequacy and relevance of the draft supplement to ISPM 11 should also be considered in the development process. The Expert Working Group should also consider the CP and other relevant systems and guidelines to ensure that the standard comprehensively addresses phytosanitary risks of LMOs.

Other issues

The OEWG considered that the standard should be clear, easy to understand and provide comprehensive guidance on PRA for LMOs.

Although not formally in the terms of reference for the OEWG, the meeting also discussed the issue of capacity building as regards risk analysis for LMOs. The OEWG considered that the needs of developing countries be taken into account in any standards development.

The OEWG recommended that the Expert Working Group also consider the need to develop background documents, manuals, training modules etc. to assist countries in understanding and conducting PRA for LMOs.

The OEWG recommended that the IPPC explore the possibility of extending assistance to developing countries in building capacity in developing or conducting PRA for LMOs.

DRAFT SPECIFICATION FOR ISPMS: OEWG PROPOSAL FOR ICPM-4

Title: Pest risk analysis for living modified organisms

Scope:
Provide guidance on pest risk analysis (PRA) procedures as regards the phytosanitary risks that may be presented by living modified organisms (LMOs).
(more details from Terms of Reference)

Tasks:
- Consider existing PRA procedures and standards (IPPC and others that may be relevant).
- Identify relevant hazards and methods for the evaluation of the potential phytosanitary risks presented by LMOs.
- Formulate a draft standard providing guidance on the conduct of PRA for LMOs consistent with relevant aspects of the Cartagena Protocol, taking account Annex III of the CP and statements from the OEWG (September 2001) [as amended by ICPM-4].
- The OEWG considered that the standard should be clear, easy to understand and provide comprehensive guidance on PRA for LMOs.

Provision of resources:
IPPC regular programme and other (to be determined).

Proposed work programme:
Expert Working Group in September 2002 to formulate first draft. (Venue to be determined).

Steward: (to be determined)

Collaborator: (to be determined)

Expertise:
Approximately 10 experts. Requires expertise in risk analysis (phytosanitary and environmental); expertise in relevant aspects of genetic engineering; familiarity with phytosanitary systems; and familiarity with the provisions and implementation of the Cartagena Protocol.

Participants:
Phytosanitary experts, technical expert(s) (e.g. GM technology) and representatives of the CBD/Cartagena Protocol, including adequate representation from developing countries.

Approval:
[ICPM-4, March 2002]

References:
ISPM Nos. 2, 3, and 11; Cartagena Protocol; Reference document No. 5 from the OEWG; other discussion or reference documents as may be provided by the participants or Secretariat.