REPORT

**Rome,
Italy,
07-11 April
2003**

Fifth Interim Commission on Phytosanitary Measures

Food and Agriculture Organization of the United Nations

ICPM 03 / REPORT

Report of the

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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REPORT

1. OPENING OF THE SESSION

1. The Chairperson, Mr Felipe Canale, opened the meeting by welcoming the delegates. Ms Louise Fresco, Assistant Director-General, FAO Agriculture Department, gave an opening statement. She noted the accomplishments of the past year, especially with regard to capacity building initiatives of the ICPM. She discussed ongoing efforts towards capacity building and in particular the continued development of the Phytosanitary Capacity Evaluation tool developed as a pilot project by New Zealand and endorsed previously by the Interim Commission.

2. The ICPM was informed that the IPPC had faced financial difficulties in the past year but that reallocations have been made from other programmes of the Plant Protection Service to increase the funding of the IPPC. The ICPM was also informed that Ms Fresco had given the highest priority in the Agriculture Department to increase the resources of the Secretariat. She welcomed the initiative of the Bureau of the Interim Commission to draft a Business Plan that outlines the resource needs and constraints of the IPPC work programme and noted that the Business Plan was referred to at the FAO Programme Committee and Council. The ICPM was informed that the Programme Committee and Council and also, last week, the Committee on Agriculture had accorded the highest priority to the work of the IPPC and that, as a result, FAO has received from its Members a clear direction to increase resources for the IPPC. The ICPM was informed that FAO Conference will make a decision on the IPPC budget when it meets next in November 2003.

3. Ms Fresco highlighted how the ICPM has been working to take environmental concerns into greater consideration as part of the work programme. She discussed the increased cooperation and collaboration between the IPPC and the Convention on Biological Diversity including the Memorandum of Understanding between the two Secretariats. It was also noted that there are two standards up for adoption by the Interim Commission that are linked to this element of the work programme and that, in addition, a working group has drafted another supplement to the PRA standard to address potential plant health risks associated with LMOs.

4. Ms Fresco thanked Mr Robert Griffin, former Coordinator of the IPPC for his years of service to the Secretariat and expressed her wishes for a successful meeting of the ICPM.

2. ADOPTION OF THE AGENDA

5. The ICPM adopted the agenda[1] after it agreed to proposed changes to Agenda Item 4 with the addition of Agenda Item 4.5: other information, moving of Agenda Item 11 dealing with the implications of phase-out of methyl bromide to Agenda Item 6 and the addition of Agenda Item 6.4: treatments for wood packaging. It was also agreed to discuss Agenda Item 6.1.2 before discussing Agenda Item 6.1.1.

6. The ICPM noted the submission of the statement of competence by the European Community and its Member states.

[1] ICPM 03/1 Rev

3. REPORT BY THE CHAIRPERSON

7. Mr Canale presented a report on the implementation of the IPPC according to elements of the Strategic Plan and in reference to the limited resources of the Secretariat. He discussed the standard-setting programme and noted that the development of an average of two standards per year is insufficient to meet current needs of Members. The lack of specific standards is seen to have a particular impact on international trade. He further mentioned the initiative of the Bureau in requesting Members and RPPOs to submit their priorities for specific ISPMs for consideration by this meeting. Mr Canale suggested that the ICPM could also consider a fast track approval process for standards developed by other international or regional organizations.

8. The ICPM was informed of developments with regard to the work programme for information exchange. It was noted that the International Phytosanitary Portal (IPP) continues to undergo further development in all languages as the information exchange tool agreed by the ICPM.

9. The Chairperson noted that the development of dispute settlement procedures by the ICPM is an important opportunity for Members and could be helpful for developing countries to avoid the high costs that arise in the formal WTO dispute settlement procedures. The ICPM was informed that the Dispute Settlement Subsidiary Body met prior to this meeting.

10. The Chairperson discussed the participation of developing countries in standard setting and other activities of the ICPM. It was noted that participation of members from developing countries was funded for expert working groups, the Standards Committee and other informal working groups including the Strategic Planning and Technical Assistance informal working group.

11. The ongoing development and implementation of the Phytosanitary Capacity Evaluation (PCE) was also discussed. The Chairperson noted that the PCE plays an important role as a technical assistance tool as a means of identifying key factors that may limit the full implementation of the IPPC in developing countries. He urged the ICPM to continue its support of this tool and to consider the development of additional technical assistance tools. The ICPM was also asked to consider the need for a working group for Technical Assistance that would meet to further discuss this issue.

12. The Chairperson discussed the capacity of the Secretariat and noted that inadequate staffing and resources is a limiting factor on the work that can be accomplished in particular with regard to standard setting and technical assistance. He noted that the Business Plan developed by the Bureau proposes an incremental increase in staffing and resources so that the work programme of the ICPM can be sufficiently addressed.

13. The Chairperson also discussed ongoing efforts for cooperation and collaboration with other relevant international organizations including the World Trade Organization SPS Committee and the Secretariat of the Convention on Biological Diversity (CBD). He noted the recommendations of the Strategic Planning and Technical Assistance Working Group that the ICPM consider mechanisms for furthering cooperation with research and academic institutions.

14. In connection with the suggestion that the ICPM consider mechanisms for collaboration with research and academic institutions, the Chairperson also suggested that the ICPM could consider mechanisms for liaison with organizations, such as RPPOs or the International Seed Trade Association, that develop standards with international or regional recognition. He noted that the ICPM could explore means to review such standards using a fast-track approval process as a means of increasing the standard-setting programme.

15. The Chairperson concluded his report by reiterating that the limited financial and staffing resources available are clearly insufficient to meet the goals agreed by the ICPM as seen in the Strategic Plan. He noted that an increase in resources, both financial and for staffing, would be

necessary to ensure that the standard setting, information exchange and technical assistance elements of the work programme meet the needs of Members.

4. REPORT OF THE SECRETARIAT

4.1 Budget

16. The Secretariat informed the ICPM that the IPPC budget is provided from FAO Regular Programme Funds and that expenditure is approved by the FAO Conference. The budget for the 2002-3 biennium was approved in 2001. The Secretariat gave an overview of the expenditure in 2002 and indicated future procedures for budget planning and reporting. The ICPM was informed that there had been a financial shortfall during 2002, which had had an impact on the work programme resulting in several proposed activities being curtailed; nevertheless there had been an over-expenditure of US$110 000 in 2002, which had been redirected from other programmes in FAO's Plant Protection Service. A budget for 2003 was provided, which was again higher then the original biennial budget provisions. It was noted that there could be a shortfall again with the work programme in 2003, in particular, as the ICPM may be more expensive than budgeted and the costs for registration of the wood certification mark were not foreseen. Two possible budget scenarios for 2004-5 were presented, one with an increase of US$500 000 per biennium and one with an increase of approximately US$2 000 000. Their possible acceptance will depend on the decisions of the FAO Conference later in the year.

17. Concern was expressed by some members regarding the possible budget scenarios, as the options had not been determined by FAO.

18. The ICPM:

1. *Noted* the new format for budget reporting and *welcomed* the improved transparency it provided, which would aid the planning of the work programme.

4.2 Standard Setting

19. The Secretariat summarized the standard-setting activities undertaken during 2002. Due to resource constraints the anticipated Work Programme for Standard Setting suffered and it was noted that only three Expert Working Group (WG) meetings were convened, one of which was funded by Canada. The First and Second Meetings of the Standards Committee (SC) were held, which resulted in the approval of the drafts of two standards, two supplements to standards and amendments to the *Glossary of phytosanitary terms* for submission to the ICPM for consideration and subsequent approval.

20. The Secretariat summarized the status of ISPMs currently under development as it is anticipated that the 2003 Work Programme will give priority to the items that were not completed in the 2002 Work Programme.

21. The Secretariat reported that FAO's Biodiversity Programme had agreed to fund the revision of ISPM No. 3 (*Code of conduct for the import and release of exotic biological control agents*). Some Members indicated that insufficient information had been made available on the revision of ISPM No. 3. Other Members complimented the Secretariat for finding funding for work on standards outside of the regular programme funding. Some Members also proposed that a procedure be established for the review and update of ISPMs.

4.3 Information Exchange and the International Phytosanitary Portal

22. The Secretariat reported on the information exchange work programme. It reported on the availability of the new ISPMs, the brochure *Guide to the International Plant Protection Convention*

(IPPC), the *Quick Guide to the IPPC*, and four Information Notes on various aspects of the IPPC work programme in all FAO languages.

23. The Secretariat noted the significant support received from NAPPO in providing Spanish translation for the ISPMs, including broad consultation with Spanish-speaking countries. A CD-ROM of the IPP has been produced and distributed to Members of the ICPM. Despite initial problems with the IPP, the Portal was being used frequently and by a wide range of Members. Navigation in the IPP is being developed in other FAO languages as fast as IPPC resources allow. The IPP Support Group was functional and Members were encouraged to provide comments and suggestions for the improvement of the IPP.

24. Members wishing to assist in populating the IPP with country-specific information were encouraged to contact the Secretariat so that they can be registered in the IPP to receive their user name and password. The ICPM was informed that the IPP support group has already started working and that a prototype of a pest reporting programme had been developed.

25. The ICPM:

1. *Expressed* its gratitude to NAPPO for their assistance with Spanish translation;
2. *Urged* Members to assist the Secretariat wherever possible with the translation of official documents;
3. *Reminded* Members that official contact points have the responsibility for the dissemination of information as appropriate in their country;
4. *Encouraged* Members to provide and update official contact points; and
5. *Supported* the further development of the IPP.

4.4 Technical Assistance

26. The Secretariat summarized the status of the technical assistance activities under the FAO Technical Assistance Programme (TCP), the Special Programme for Food Security (SPFS) as well as activities under the Prevention of Food Losses (PFL) project. Regional workshops conducted for phytosanitary capacity building and for review of the PCE were noted. The workshops held for potential national and TCDC Consultants emphasized PCE application, the ISPMs and, the institutionalization of PRA and surveillance as national systems.

27. The ICPM noted the severe limitations on its ability to provide technical support to the formulation, implementation and management of phytosanitary capacity building projects, which resulted in long delays in their implementation.

28. The ICPM:

1. *Noted* the report of the Secretariat regarding Technical Assistance.

4.5 Other Work Programme Related Information

29. The Secretariat summarized other relevant Work Programme information on work undertaken during 2002. In an effort to manage the limited resources, the Secretariat continues to seek means of funding priorities of the Work Programme including funds from outside the regular programme budget.

30. The ICPM expressed its gratitude to Canada, New Zealand, United Kingdom and the United States of America for their funding contributions to the programme of work.

31. The ICPM agreed to the Secretariat seeking an agreement with the International Forest Quarantine Research Group and the International Consultative Group on Food Irradiation to utilize their expertise to review scientific data on treatments of wood and treatments using irradiation,

respectively. Treatment recommendations would be provided to Expert Working Groups or the Standards Committee for their consideration.

32. The ICPM noted the request of the WTO that the ICPM continue its work on equivalence. The ICPM agreed to include work on equivalence in the work programme.

33. The Secretariat provided an update on the status of ISPM No. 15, *Guidelines for regulating wood packaging material in international trade.* It was noted that for legal reasons it had proved to be impossible to use the symbol of the certification mark. To avoid possible legal claims, the Secretariat had recommended to countries to suspend the implementation of the standard. Only recently, the Secretariat had felt it was adequate to suspend only the use of the symbol of the certification mark instead of the whole standard. It was noted that ISPM No. 15 remained valid except for the use of the original symbol of the certification mark.

34. The Secretariat is currently in the process of registering the new certification symbol. It was noted that FAO, on behalf of its Members, would be the owner of the symbol and that National Plant Protection Organizations would be licensed to use the symbol. NPPOs would then be responsible for the use of the symbol in their country. The ICPM was informed that the process of registration was expensive and registration in even a limited number of countries would already cost in the range of US$50 000 to 60 000, and it was expected that the total final cost could significantly exceed this amount. However, the ICPM was informed that its Members would not incur any costs as a result. It was expected that the symbol would be available for use shortly, once the registration is completed in a number of countries.

35. In view of the experience with ISPM No. 15, the ICPM also discussed possible procedures that may be required if issues arise in relation to an ISPM after approval by the ICPM. The ICPM decided to request the SPTA to consider this issue and make a recommendation for its consideration at its next session.

5. ADOPTION OF INTERNATIONAL STANDARDS

36. The Secretariat introduced the five documents for consideration by the ICPM, which consisted of two new standards, the amendments to the *Glossary of phytosanitary terms*, a supplement to ISPM No. 11, and a supplement to the Glossary. An open-ended working group was established to consider the standards. Ms Bast-Tjeerde (Canada) was elected chair of this working group and reported to the ICPM.

5.1 Amendments to the Glossary of Phytosanitary Terms

37. The ICPM:

1. *Adopted* the amendments to the *Glossary of phytosanitary terms* provided in Appendix II[2].

5.2 Glossary of Phytosanitary Terms, Supplement No. 2: Guidelines on the Understanding of Potential Economic Importance and Related Terms including Reference to Environmental Considerations

38. The meeting discussed the Purpose and Scope (Section 1) and Application (Section 5) of the standard. It was noted that some of the terms that relate to the environment, such as habitat, ecosystem and invasive alien species are not defined in the *Glossary of phytosanitary terms*. It was agreed to recommend that the Glossary working group should study these definitions, taking into account work in other international conventions and the report of the ICPM exploratory open-ended working group

[2] ICPM 03/9 Annex I

on Phytosanitary Aspects of GMOs, Biosafety and Invasive Species which had taken place in June 2000.

39. The ICPM:

1. *Adopted* the supplement to ISPM No. 5 (*Glossary of phytosanitary terms*), *Guidelines on the understanding of* potential economic importance *and related terms including reference to environmental considerations,* based on the recommendation of the working group. (Appendix III[3])

5.3 Supplement to ISPM No. 11 (*Pest Risk Analysis for quarantine pests*): Analysis of Environmental Risks

40. The Secretariat introduced the supplement to ISPM No. 11 (*Pest Risk Analysis for quarantine pests*): *analysis of environmental risks*. Some questions arose over the use of terms including intended and unintended habitats, as well as the use of the term imported plants. Most modifications concerned clarification of the text in relation to these and associated terms.

41. The ICPM:

1. *Adopted* the supplement, *Analysis of environmental risks* (Appendix IV[4]);
2. *Agreed* that the text of the supplement should be integrated into ISPM No. 11 as soon as possible.

5.4 Guidelines for the Use of Irradiation as a Phytosanitary Measure

42. The Secretariat introduced the standard for G*uidelines on the use of irradiation as a phytosanitary measure*. Concerns were raised over the required response of a treatment. The text was modified to clarify the difference between treatments for which mortality is the required response, and those for which mortality is not the required response. It was accepted that verification methods to determine whether the required response has been achieved should be described by the exporting country at the request of the importing country.

43. Japan considered it necessary that the NPPO of the exporting country should obtain approval of the importing country prior to using irradiation, and the ICPM recognized that Japan's concern was covered by the provisions in ISPM No. 12 (*Guidelines for phytosanitary certificates*).

44. The text was amended to state that the appendices on estimated minimum absorbed doses and research protocol are given for reference only.

45. The ICPM:

1. *Adopted* the standard, *Guidelines for the use of irradiation as a phytosanitary measure* based on the recommendation of the working group. (Appendix V[5])

5.5 Guidelines on Lists of Regulated Pests

46. The Secretariat introduced the standard on *Guidelines on lists of regulated pests*. Discussion took place on the required information for listed pests, and it was noted that information on host commodities or other regulated articles could be provided for those that are specified as regulated for the listed pests.

[3] ICPM 03/9 Annex II
[4] ICPM 03/9 Annex III
[5] ICPM 03/9 Annex IV

47. The ICPM:

1. *Adopted* the standard, *Guidelines on lists of regulated pests* based on the recommendation of the working group. (Appendix VI[6])

6. ITEMS ARISING FROM THE FOURTH SESSION OF THE ICPM

6.1 Report of the Standards Committee

48. The Chairperson of the Standards Committee (SC) presented a report on the work of the SC during 2002.

49. At the first meeting of the SC, Mr Vereecke (European Community) was elected as Chairperson of the SC and Mr Sosa (Belize) as Vice-Chairperson. The Working Group of the SC (SC-7) was also elected with one representative from each FAO region and Mr Klag (USA) elected as Chairperson.

50. The ICPM was informed that the SC had considered its Terms of Reference and the Rules of Procedure at its first meeting. He informed the ICPM that the SC was proposing modifications to the Rules of Procedure that: each FAO region may devise its own procedures for electing its members (Rule 1); it should be specified that the Chair and Vice-Chair are elected by the SC from its membership (Rule 3); full meetings of the SC would be held once per year in November and the SC7 would meet once per year after the ICPM (Rule 4); and the Chair of the SC should report to the ICPM (Rule 7). It was also noted that the SC considered that the Secretariat should only provide the rationale for accepting or not accepting proposals for modifications to specifications or draft standards upon request from an ICPM Member.

51. Two draft standards, two supplements to existing standards and amendments to the Glossary that were submitted to the first meeting of the SC were approved for country consultation in May 2002. Comments on the draft ISPMs received from countries and the Regional Technical Consultations on draft ISPMs were considered by the SC-7 at its first meeting in October 2002 and subsequently by the second meeting of the SC. The drafts were amended taking into account the comments received, and the SC approved the drafts for consideration by the ICPM.

52. Mr Vereecke considered that the SC was working positively and effectively. He congratulated the members of the SC-7 for their achievement in reviewing the comments prior to the second meeting of the SC, and proposed a number of points for consideration by the ICPM.

53. Mr Vereecke informed the ICPM that there was a very limited amount of time for the SC to consider comments because of the long consultation period. He suggested that the ICPM could consider amending the procedures for the development of standards to shorten the consultation period to give the SC more time to consider comments. The ICPM discussed the length of the consultation period. A number of members felt that countries would not be able to participate adequately if the current period of 120 days was reduced.

54. Mr Vereecke also noted the importance of the Regional Technical Consultations on draft ISPMs. He informed the ICPM that the SC received many valuable comments from the Regional Technical Consultations and urged that these should continue in the future. He also suggested that the participation of a member of the SC in any Regional Technical Consultation on draft ISPMs could be useful in the review of draft ISPMs during these meetings.

[6] ICPM 03/9 Annex V

55. The ICPM:

1. *Noted* the report of the Chair person of the Standards Committee;
2. *Encouraged* Members to provide comments on draft standards through the Secretariat or through their regional representatives in the SC-7;
3. *Agreed* that the Regional Technical Consultations on draft ISPMs were of great value.

6.1.1 Amended Terms of Reference for the Standards Committee

56. Argentina submitted a proposal to give more transparency to the standard setting process. It was agreed that this would be considered by the Focus Group on standards development as referred to in Appendix IX.

57. The ICPM:

1. *Amended* the Terms of Reference and the Rules of Procedure for the SC as provided in Appendix VII[7].

6.1.2 Asia concerns about the Composition of the Standards Committee

58. The Asia Region members proposed that the Committee be comprised of 24 members instead of the current representation of 20 members. The Asia Region proposed that the Committee be composed of four members from each of the regions of Europe, Africa, Asia, Latin America and Caribbean, and the Near East and two members from each of the North America and South West Pacific Regions.

59. A number of members supported the proposal, while other members considered that the current Standards Committee should be given time to operate because it was only constituted in 2002. The ICPM considered the merits and constraints associated with the proposal of increasing the size of the Standards Committee, including the potential financial impact of the proposal.

60. The ICPM:

1. *Agreed* to consider the issue of representation on the Standards Committee at the Sixth Session of the ICPM.

6.1.3 Standards Committee Membership

61. The ICPM was informed that three regions had agreed upon and nominated new Standards Committee members. These were:

Africa: Mr Abdella Challaoui (Morocco)
Near East: Mr Ali Kamal Mahqoub (Sudan)
North America: Mr Gregory Wolff (Canada).

62. The ICPM:

1. *Confirmed* the new members of the Standards Committee.

6.2 Report of the Subsidiary Body on Dispute Settlement

63. The Chairperson of the Subsidiary Body on Dispute Settlement (SBDS) informed the ICPM of the outcome of the first meeting of the SBDS that was held in Rome on 3-4 April 2003. The meeting was attended by five members of the SBDS, the Chairperson of the ICPM and the Vice-Chairperson of the ICPM (Finland).

64. The ICPM was informed that Mr Hedley (New Zealand) was elected as Chair of the SBDS. The group had considered the Terms of Reference for the Subsidiary Body on Dispute Settlement,

[7] ICPM 03/10

which was based on the terms of reference of the Standards Committee. The ICPM was informed that it is available for members to view and that it would be presented to ICPM-6 for adoption.

65. The SBDS had considered the reporting arrangements of the SBDS and had proposed that the Secretariat present results of informal and formal consultations and other dispute settlement issues with the agreement of both parties to the dispute to the ICPM. The SBDS considered the topic of non-compliance, which had been discussed at ICPM-3 and ICPM-4. As the issue had not been adopted as a standing agenda item by the ICPM in its fourth session, the SBDS recommended that the issue be considered again by the SBDS in three years. In considering the work programme for the SBDS, under the item of providing guidance, the SBDS would hope to produce a draft guidance document for consideration by the ICPM at its sixth session. The chairperson of the SBDS would consider how to deal with the creation of inventories of dispute settlement bodies. The group considered that the creation of rosters of experts could be practically achieved by calling for experts as the need arises and adding the names submitted by NPPOs to a roster at that time.

66. The ICPM:

1. *Welcomed* the report of the Chairperson of the SBDS;
2. *Noted* the future work programme of the SBDS; and
3. *Agreed* to consider the terms of reference for the SBDS for adoption at the Sixth Session of the ICPM and to have the report on the Dispute Settlement Subsidiary Body placed as an agenda item for the next ICPM.

6.3 Methyl Bromide

67. The ICPM was informed by Mr Stephen Ashby (UK), Chairperson of the 14th Technical Consultation (TC) among RPPOs, of the recommendations of the TC regarding the future use of methyl bromide for phytosanitary purposes. It was noted that the issue of the use of methyl bromide had been referred to the TC by the ICPM-4 and that the Secretariat had prepared a discussion document for consideration by the TC. It was noted that, under the Montreal Protocol, methyl bromide use for non-essential phytosanitary purposes will be phased out in 2005.

68. A number of members supported the recommendations of the TC and some also urged the need to develop alternatives to methyl bromide whilst other members stressed that there will be a demand for methyl bromide even in the future.

69. The ICPM discussed the need to inform the Technical and Economic Assessment Panel (TEAP) of the Montreal Protocol of the continued requirement for methyl bromide as a phytosanitary treatment so that this requirement may be taken into consideration at the 2003 meeting of the Parties to the Montreal Protocol. A document reflecting this was prepared for this meeting. The ICPM urged members to liaise with participants of the TEAP.

70. The representative of Indonesia noted the need for methyl bromide for other critical or emergency uses and pre-shipment which are also allowable under the Montreal Protocol.

71. The ICPM:

1. *Agreed* to recommendations in Appendix VIII[8].

[8] ICPM 03/28; ICPM 03/CRP-10

6.4 Treatments for Wood Packaging

72. The ICPM was informed by the Republic of Korea of the outcome of an experiment undertaken in conjunction with China to determine the efficacy of methyl bromide as a treatment against pine wood nematode.

73. The ICPM noted that this was the first case of additional scientific evidence being presented for consideration in relation to a standard that had been adopted by the ICPM. The ICPM considered, however, that as more specific standards were adopted, new scientific information would become available relatively frequently. The ICPM considered that there should be a mechanism for the review of technical data and the subsequent amendment of standards.

74. The ICPM:

1. *Noted* the data on the efficacy of methyl bromide against pine wood nematode provided by the Republic of Korea and China;
2. *Agreed* to refer the data for scientific review by the International Forest Quarantine Research Group; and
3. *Agreed* that the SPTA consider a procedure for dealing with the review of scientific data and amendment of ISPMs for presentation at the sixth session of the ICPM.

7. TOPICS AND PRIORITIES FOR STANDARDS

75. The Secretariat introduced the paper on topics and priorities for standards and recalled the document on Establishment of Procedures for Identifying Topics and Priorities for Standards from ICPM-4 (Appendix XIV to the Report of the Fourth Session of the ICPM). It was noted that the SPTA had recommended that the Chairperson of the ICPM request from Members topics and priorities for standards, including specific standards. As a result of the letter from the Chairperson to Members, over 140 suggestions for topics for standards were received. The Chairperson commented that the list identified standards for prioritization, provided evidence that more specific standards are needed by Members and demonstrate that the pace of standard setting needs to be increased.

76. A number of Members suggested that the ICPM consider developing a procedure for prioritization of topics for new standards considering the large number of specific standards proposed by Members in response to the Chairperson's letter. It was also agreed that the ICPM consider a mechanism and criteria for a "fast track" approach for the development of new standards. Non-concept standards approved by RPPOs or proposals recommended by the Technical Consultation among RPPOs were suggested as material for early consideration for the fast track procedure.

77. The ICPM:

1. *Agreed* to establish a focus group to consider criteria and procedures for a "fast track" mechanism for the development of new standards taking into account the financial and personnel resources of the ICPM to be presented at ICPM-6;
2. *Agreed* to the procedure set out in Appendix IX to carry out the work.

8. STRATEGIC PLANNING

8.1 Amendments to the Strategic Plan

78. The Chairperson of the SPTA, Mr Hedley (New Zealand), informed the ICPM of changes to the Strategic Plan that had been proposed by the SPTA at its meeting in October 2002. These were mainly editorial changes for clarity and to take into account the accomplishments of the ICPM in 2002.

79. The ICPM discussed two further amendments to the Strategic Plan and clarified that an agenda item on dispute settlement would comprise a consideration of the status of the work of the Subsidiary Body on Dispute Settlement and the outcome of any disputes handled under the IPPC procedures.

80. The EC and its Member States suggested an amendment to the Strategic Plan regarding the involvement of RPPOs in the development of ISPMs and to promote technical cooperation.

81. The ICPM:

1. *Agreed* to the inclusion of a regular Agenda item on dispute settlement;
2. *Adopted* the proposed amendments to the Strategic Plan. (Appendix X[9])

8.2 ICPM Resources

82. The Chairperson of the SPTA explained to the ICPM that a focus group comprising the two Vice-Chairpersons of the ICPM, and Mr Carberry (Canada) had been convened in July 2002 to work with the Secretariat to produce a Business Plan[10], which is available from the Secretariat and on the IPP. The Business Plan had been presented to FAO Council and the Programme and Finance Committees and used to provide background information to explain the requirement for more resources from the FAO Regular Programme to support the ICPM work programme. The Chairperson of the SPTA noted that the FAO Council and the Programme and Finance Committees and more recently the COAG had highlighted the importance of the IPPC and proposed that adequate funding is provided by FAO.

83. The ICPM:

1. *Expressed its appreciation* to the members of the focus group for their assistance with the production of the Business Plan;
2. *Welcomed* the development of the Business Plan and *noted* its usefulness;
3. *Endorsed* the Business Plan;
4. *Agreed* to the annual review of the Business Plan;
5. *Agreed* to proceed with the programme for increasing Regular Programme funding of the IPPC as proposed by the Business Plan; and
6. *Urged* Members to request the support of their delegates to the meetings of key FAO Bodies for increased funding to the IPPC.

8.3 An Analysis of Advantages and Disadvantages of a Trust Fund

84. The Secretariat informed the ICPM of an analysis of the advantages and disadvantages of a trust fund, which had been considered by the SPTA at its meeting in October 2002 following a request by the Fourth Session of the ICPM. The ICPM welcomed the analysis produced by the Secretariat and it was noted that the Director General of FAO has the authority to set up special trust funds, it was considered appropriate for the Special Trust Fund to be endorsed by the ICPM. It was noted that the Special Trust Fund would involve only voluntary contributions.

85. The Secretariat also presented a proposal for financial guidelines for the Special Trust Fund. A number of Members suggested that the possible uses of such a trust fund should be prioritized following the Strategic Plan and priorities identified by the ICPM. It was also agreed the trust fund should have the following three basic conditions for the operation:

- exclusive use to the direct benefit of developing countries;
- supplementary character of such funding; and
- ICPM responsibility for the selection of outputs to be funded out of this source.

[9] ICPM 03/15
[10] ICPM 03/16 Annex I

It was stated that the participation of developing countries in the standard-setting process prioritized by the ICPM, including participation in working groups, could be done using the trust fund resources.

86. The ICPM:

1. *Endorsed* the proposal to establish a multi-donor trust fund called the Special Trust Fund for the International Plant Protection Convention;
2. *Noted* that the trust fund would be used according to financial guidelines agreed by the ICPM; and
3. *Adopted* financial guidelines for the special trust fund of the International Plant Protection Convention (Appendix XI[11]).

8.4 Budget Transparency

87. The Chairperson of the SPTA informed the ICPM of the proposed procedures for budget planning and reporting that had been produced by the SPTA at their meeting in October 2002. The ICPM noted that the Secretariat had been working through FAO to enable budgeting and reporting systems according to the Strategic Directions of the IPPC. The ICPM noted that the proposed procedures increased the transparency of the budgeting process.

88. The ICPM:

1. *Welcomed* the modified budget reporting format used by the Secretariat; and
2. *Adopted* procedures for budget planning and reporting (Appendix XII[12]).

8.5 IPPC-CBD Cooperation

89. The Secretariat informed the ICPM of the continuing collaboration between the IPPC and the Convention on Biological Diversity (CBD). It was noted that the SPTA had assigned a high priority to ongoing collaboration between the IPPC and CBD. It was noted that the role of the IPPC had been fully recognized by the COP-6 of the CBD. The Secretariat reported on the results of a meeting between the Bureau, the Secretariat and the CBD Secretariat in Montreal in February 2003 to discuss joint activities as identified in the COP-6 report. It noted that a Memorandum of Understanding had been agreed by the two Secretariats and will be signed soon. In addition, the ICPM was informed that the IPPC Secretariat participated in a number of CBD meetings that were related to the IPPC programme of work. The ICPM was also informed that a number of CBD experts had participated in relevant IPPC meetings and working groups.

90. The Secretariat also informed the ICPM of FAO's activities relating to biosecurity. It was noted that a technical consultation had taken place in January 2003. It was noted that the consultation recognized the need for cooperation among relevant international organizations such as the WTO, IPPC, Codex Alimentarius, the Office International des Epizooties and the CBD, as well as the need for a joint approach of the different sectors to capacity building in order to make the best possible use of synergies. A number of Members mentioned that this sort of cooperation was especially important at the national level. The ICPM was informed that FAO Members at the COAG meeting agreed to the need for international cooperation, the development of the International Portal for Food Safety and Animal and Plant Health and to the need for joint capacity building in these areas.

91. The ICPM was informed that the Government of Germany had provided resources for a Consultation, jointly organized by the Government of Germany and the IPPC, on the Role of the IPPC for Managing Risks of Invasive Alien Species to be held 22-26 September 2003 in Braunschweig, Germany.

[11] ICPM 03/17 ANNEX REV. 1
[12] ICPM 03/18

92. The ICPM:

1. *Noted* recent decisions and developments resulting from COP-6;
2. *Noted* the participation of CBD experts in IPPC meetings;
3. *Supported* the strategic directions set out by the SPTA which give a high priority to ongoing collaboration and liaison between the IPPC and CBD;
4. *Supported* the participation of the Bureau and the Secretariat in representing the ICPM at CBD meetings relevant to the work programme of the ICPM;
5. *Noted* the work of FAO on Biosecurity; and
6. *Encouraged* interested Members to participate in the workshop on invasive alien species.

8.6 Liaison with Research and Educational Institutions

93. The Chairperson of the SPTA informed the ICPM of the possible benefits from associations with research and educational institutions that had been identified by the SPTA. It was noted that although there was good cooperation with research and educational institutions in some areas, a systematic approach to liaison could enhance the possibilities for the ICPM to fulfil its work programme.

94. The ICPM discussed the recommendation of the SPTA to establish an Informal Working Group on Research and Educational Liaison and was supportive of the initiative. The ICPM noted that there could be benefits for the ICPM if research and educational institutions were persuaded to include phytosanitary issues in their work programmes. A number of Members expressed concerns regarding the resources required to support an Informal Working Group and proposed delaying the scheduling of a Working Group. The ICPM considered that starting the process without undue delay was important and tentatively programmed a meeting for the beginning of 2004, depending on the availability of resources in the work programme at that time.

95. The ICPM:

1. *Noted* the potential benefits arising from liaison with research and educational institutes; and
2. *Agreed* to the creation of an Informal Working Group on Research and Educational Liaison to develop an information package and to identify other ways to develop and increase liaisons in the beginning of 2004 as increased financial resources will be available.

8.7 Information Exchange Work Programme

96. The Secretariat reported on the anticipated ICPM information exchange work programme. In addition to routine information exchange obligations, the Secretariat noted the production of IPPC advocacy publications and requested comments from Members on content and scope. The continued development of the IPP was also outlined and the need for substantial capacity building in the area of information exchange highlighted. The Secretariat noted that the IPP had benefited from its participation in the development of the International Portal for Food Safety, Animal and Plant Health.

97. The ICPM:

1. *Supported* the continued development of the IPP;
2. *Noted* the need to develop the IPP in all official FAO languages as soon as practically possible and if appropriate to make use of the Arab Society for Plant Protection when undertaking Arabic translation for the IPP;
3. *Expressed* its gratitude to NAPPO for continued assistance with Spanish translation and *urged* Members and RPPOs to cooperate with NAPPO in this regard;
4. *Urged* Members to assist the Secretariat wherever possible with capacity building for information exchange, particularly with respect to extra-budgetary resources for regional, sub-regional and national capacity building.

8.8 Technical Assistance Work Programme

98. The Secretariat introduced the topic of the Phytosanitary Capacity Evaluation (PCE) tool and noted that it is the first Technical Assistance tool developed and adopted by the ICPM. The ICPM was informed that the PCE had been applied in over 35 countries and that there was growing interest in the use of the PCE as a model tool for other organizations including Codex and OIE. This approach was increasingly seen as critical to supporting technical assistance and donor confidence towards financing projects. The ICPM was also informed that further support to the PCE had been made available through the FAO project for the Prevention of Food Losses. A number of Members expressed their appreciation for the PCE and noted that it had been useful for approaching donor agencies.

99. The ICPM:

1. *Encouraged* the further development and application of the PCE.
2. *Noted* that the PCE should be available to other potential donor agencies as the preferred capacity evaluation tool of the ICPM;
3. *Expressed* its appreciation to FAO for the support provided for PCE development through FAO's PFL project, and support the PCE in the work programme;
4. *Noted* the proposed programme for PCE development and maintenance and agreed to establish an informal expert group to provide the Secretariat with guidance on PCE activities and to manage other technical assistance initiatives of the ICPM;
5. *Noted* the initiative by the Secretariat and FAO Legal Office to develop guidelines for phytosanitary legislation and agreed to the need for other technical assistance tools.

8.9 Programme of Work

100. The ICPM considered the programme of work as provided by the Secretariat. It was noted that, because of financial constraints, there would probably be limitations to the number of working groups that could be conducted over the next year. The Secretariat informed Members that other items identified as priorities could also be taken up by funding from external sources, and encouraged them to identify potential sources of funding.

101. The observer from the World Trade Organization informed the ICPM of the interest of Members of the SPS Committee to see the ICPM commence further work on the issue of equivalence. It was noted that the development of the standard on efficacy of measures was a necessary first step before the matter of equivalence could be resolved in the IPPC.

102. The ICPM:

1. *Considered* the topics and priorities recommended by the SPTA;
2. *Noted* the limitations of the work programme;
3. *Adopted* the work programme as provided in Appendix XIII[13] taking into account the recommendations of the SPTA.

8.10 Provisional Calendar

103. The ICPM reviewed the provisional calendar. It determined the priorities for working group meetings funded by the regular programme budget. Additional priorities were decided should extra-budgetary resources become available.

104. The ICPM:

1. *Noted* the activities proposed for the 2003 work programme;
2. *Considered* the provisional calendar in light of the priorities decided for the work programme and available resources;
3. *Adopted* the provisional calendar as shown in Appendix XIV[14];

[13] ICPM 03/23; ICPM 03/CRP-12

4. *Recommended* the Secretariat implement the work programme to the extent possible based on the provisional calendar;
5. *Urged* Members to express their interest in participating or assisting in work programme activities.

8.11 Guidelines for the Composition and Organization of Expert Working Groups

105. Mr Lopian (Finland) introduced the proposed guidelines for the composition and organization of the expert working groups that had been agreed by the SPTA. It was noted that in cases of administrative contingencies, deviations from the proposed criteria would be necessary. A number of Members questioned whether observers should be allowed in expert working groups. It was noted that observers are allowed in other stages of the standard-setting process to ensure transparency but would not be allowed in expert working groups. One member indicated that it might make a proposal providing rules for observers in the future.

106. The ICPM:
1. *Noted* the recommendations of the SPTA for guidelines for the composition and organization of expert working groups;
2. *Adopted* the guidelines as provided in Appendix XV[15];
3. *Noted* the need for flexibility and agreed that deviations from the procedures may be necessary on a case-by-case basis for administrative contingencies.

9. WORK PROGRAMME FOR HARMONIZATION

107. The Secretariat informed the ICPM of the programme of work for harmonization. The ICPM was informed that in addition to the topics identified by the Secretariat in ICPM 03/26, additional topics had been proposed.

108. The ICPM:
1. *Noted* the topics for inclusion in the priority work programme; and
2. *Adopted* the priority work programme as provided in Appendix XVI[16].

10. STATUS OF THE INTERNATIONAL PLANT PROTECTION CONVENTION

109. The ICPM was informed by the Secretariat that the IPPC (1997) had been accepted by 44 contracting parties. In addition, the number of contracting parties to the IPPC had increased to 120.

110. The ICPM:
1. *Encouraged* FAO Members that are not contracting parties to the IPPC (1997) to submit their instruments of adherence; and
2. *Encouraged* contracting parties that have not accepted the IPPC (1997) to submit their instrument of acceptance.

[14] ICPM 03/24; ICPM 03/CRP-13
[15] ICPM 03/25
[16] ICPM 03/26; ICPM 03/CRP-14

11. REPORT OF THE TECHNICAL CONSULTATION

111. The Chairperson of the Technical Consultation introduced the report of the 14th Technical Consultation among RPPOs. It was noted that points regarding the phase-out of methyl bromide had been addressed under Agenda Item 6. It was also noted that the RPPOs had noted the need for the use of less complex language in standards.

112. The ICPM:

1. *Noted* the list of recommendations, including the need to use simple language in standards, the discussion regarding the need for alternatives to methyl bromide, support for the creation of Near East Plant Protection Organization (NEPPO), and suggestions for new standards;
2. *Welcomed* the paper on the role and function of the Technical Consultation (Appendix XVII);
3. *Agreed* that the report of the 15th Technical Consultation should feature at an early point in the agenda of the Sixth Session of the ICPM; and
4. *Endorsed* the continuation of the Technical Consultation and the need for the continued participation of the IPPC Secretariat.

12. OTHER BUSINESS

113. The WTO representative summarized the phytosanitary trade concerns expressed in the SPS Committee. The ICPM requested the addition of a standing agenda item to show the trends in such concerns as this would be useful in strategic planning. The WTO representative thanked the Secretariat for its contribution in participating in WTO–SPS technical assistance workshops and encouraged the IPPC to continue its collaboration in this respect.

114. The ICPM expressed its gratitude to Mr Robert Griffin, the former Coordinator of the IPPC for his outstanding contributions over the last six years to the international phytosanitary community.

115. The representative of Jamaica, speaking on behalf of the Members who had received funding to attend the meeting, thanked the Trade Department of the European Commission for providing funding for their participation.

13. DATE AND VENUE OF THE NEXT MEETING

116. The ICPM *decided* that the next meeting would be held from 29 March to 2 April 2004 in Rome, Italy.

14. ELECTION OF THE BUREAU

117. The ICPM *agreed* at the beginning of the meeting that nominations for the Bureau should be submitted by April 10 2003. The Secretary indicated that three nominations were received:

- Chairperson: Mr Ralf Lopian (Finland)
- Vice-Chairperson: Mr Felipe Canale (Uruguay)
- Vice-Chairperson: Mr Maghespren Chinappen (Mauritius).

118. The ICPM *elected* the Bureau by acclamation.

119. Mr Lopian recognized the contribution made by Mr Canale to the ICPM over the last two years, in particular with respect to technical assistance. He noted that Mr Canale has promoted the

PCE and that as a result the PCE had gained international recognition. The ICPM expressed its appreciation for Mr Canale's accomplishments as Chair during the past two years.

15. ADOPTION OF THE REPORT

120. The ICPM *adopted* the report.

INTERIM COMMISSION ON PHYTOSANITARY MEASURES

7-11 April 2003

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
3. Report by the Chairperson
4. Report of the Secretariat
   - 4.1 Budget
   - 4.2 Standard setting
   - 4.3 Information exchange and the IPP
   - 4.4 Technical assistance and the PCE
   - 4.5 Other information
5. Adoption of International Standards
   - 5.1 Amendments to the *Glossary of phytosanitary terms*
   - 5.2 Glossary Supplement No. 2: *Guidelines on the understanding of* potential economic importance *and related terms including reference to environmental considerations*
   - 5.3 Supplement to ISPM No. 11 (*Pest risk analysis for quarantine pests*): *Analysis of environmental risks*
   - 5.4 *Guidelines for the use of irradiation as a phytosanitary measure*
   - 5.5 *Guidelines for regulated pest lists*
6. Items arising from the Fourth Session of the Interim Commission on Phytosanitary Measures
   - 6.1 Report of the Standards Committee
     - 6.1.1 Amended Rules of Procedure
     - 6.1.2 Asia concerns about the composition of the Standards Committee
     - 6.1.3 Standards Committee Membership: Nominations
   - 6.2 Report of the Subsidiary Body on Dispute Settlement
   - 6.3 Methyl bromide
   - 6.4 Wood packaging
7. Topics and Priorities for Standards
8. Strategic Planning and Technical Assistance
   - 8.1 Amendments to the strategic plan
   - 8.2 ICPM resources
   - 8.3 Analysis of advantages and disadvantages of a trust fund
   - 8.4 Budget transparency
   - 8.5 IPPC-CBD cooperation
   - 8.6 Liaison with research and educational institutions
   - 8.7 IPPC information exchange work programme
   - 8.8 Technical assistance work programme
   - 8.9 Programme of work
   - 8.10 Provisional calendar 2003
   - 8.11 Guidelines on the composition and organization of expert working group meetings
9. Work Programme for Harmonization

10. Status of the International Plant Protection Convention
11. Report of the Technical Consultation Among Regional Plant Protection Organizations
12. Other Business
13. Date and Venue of the Next Meeting
14. Election of the Bureau
15. Adoption of the Report

AMENDMENTS TO ISPM NO. 5 (*GLOSSARY OF PHYTOSANITARY TERMS*)

New and Revised Terms and Definitions

growing period (of a plant species)	Time period of active growth during a growing season
growing season	Period or periods of the year when plants actively grow in an area, place of production or production site
incursion	An isolated population of a pest recently detected in an area, not known to be established, but expected to survive for the immediate future
outbreak	A recently detected pest population, including an incursion, or a sudden significant increase of an established pest population in an area

Supplement N° 2 to ISPM No. 5 (*Glossary of phytosanitary terms*)
GUIDELINES ON THE UNDERSTANDING OF *POTENTIAL ECONOMIC IMPORTANCE* AND RELATED TERMS INCLUDING REFERENCE TO ENVIRONMENTAL CONSIDERATIONS

1. Purpose and Scope

These guidelines provide the background and other relevant information to clarify *potential economic importance* and related terms, so that such terms are clearly understood and their application is consistent with the International Plant Protection Convention (IPPC) and the International Standards for Phytosanitary Measures (ISPM). These guidelines also show the application of certain economic principles as they relate to the IPPC's objectives, in particular in protecting uncultivated/unmanaged plants, wild flora, habitats and ecosystems with respect to invasive alien species that are plant pests.

These guidelines clarify that the IPPC:

- can account for environmental concerns in economic terms using monetary or non-monetary values;
- asserts that market impacts are not the sole indicator of pest consequences;
- maintains the right of members to adopt phytosanitary measures with respect to pests for which the economic damage caused to plants, plant products or ecosystems within an area cannot be easily quantified.

They also clarify, with respect to plant pests, that the scope of the IPPC covers the protection of cultivated plants in agriculture (including horticulture or forestry), uncultivated/unmanaged plants, wild flora, habitats and ecosystems.

2. Background

The IPPC has historically maintained that the adverse consequences of plant pests, including those concerning uncultivated/unmanaged plants, wild flora, habitats and ecosystems, are measured in economic terms. References to the terms *economic effects*, *economic impacts*, *potential economic importance* and *economically unacceptable impact* and the use of the word *economic* in the IPPC and in ISPMs has resulted in some misunderstanding of the application of such terms and of the focus of the IPPC.

The scope of the Convention applies to the protection of wild flora resulting in an important contribution to the conservation of biological diversity. However, it has been misinterpreted that the IPPC is only commercially focused and limited in scope. It has not been clearly understood that the IPPC can account for environmental concerns in economic terms. This has created issues of harmonization with other agreements, including the Convention on Biological Diversity and the Montreal Protocol on Substances that Deplete the Ozone Layer.

3. Economic Terms and Environmental Scope of the IPPC and ISPMs

The economic terms found in the IPPC and ISPMs may be categorized as follows.

Terms requiring judgement to support policy decisions:

- *potential economic importance* (in the definition for *quarantine pest*);

- *economically unacceptable impact* (in the definition for *regulated non-quarantine pest*);
- *economically important loss* **(**in the definition for *endangered area*).

Terms related to evidence that supports the above judgements:

- *limit the economic impact* (in the definition for *phytosanitary regulation* and the agreed interpretation of *phytosanitary measure*);
- *economic evidence* (in the definition for *Pest Risk Analysis*);
- *cause economic damage* (in Article VII.3 of the IPPC, 1997);
- *direct and indirect economic impacts* (in ISPM No. 11 and ISPM No. 16);
- *economic consequences and potential economic consequences* (in ISPM No.11);
- *commercial and non-commercial consequences* (in ISPM No. 11).

ISPM No. 2 refers to *environmental damage* as a factor to consider in the assessment of potential economic importance. Section 2.2.3 includes many items demonstrating the broad scope of economic impacts that is intended to be covered.

ISPM No. 11 notes in section 2.1.1.5 with respect to pest categorization, that there should be a clear indication that the pest is likely to have an unacceptable economic impact, which may include environmental impact, in the PRA area. Section 2.3 of the standard describes the procedure for assessing potential economic consequences of an introduction of a pest. Effects may be considered to be direct or indirect. Section 2.3.2.2 addresses analysis of commercial consequences. Section 2.3.2.4 provides guidance on the assessment of the non-commercial and environmental consequences of pest introduction. It acknowledges that certain types of effects may not apply to an existing market that can be easily identified, but it goes on to state that the impacts could be approximated with an appropriate non-market valuation method. This section notes that if a quantitative measurement is not feasible, then this part of the assessment should at least include a qualitative analysis and an explanation of how the information is used in the risk analysis. *Environmental or other undesirable effects of control measures* are covered in section 2.3.1.2 (Indirect effects) as part of the analysis of economic consequences. Where a risk is found to be unacceptable, Section 3.4 provides guidance on the selection of risk management options, including measurements of cost-effectiveness, feasibility and least trade restrictiveness.

In April 2001 the ICPM recognized that under the IPPC's existing mandate, to take account of environmental concerns, further clarification should include consideration of the following five proposed points relating to potential environmental risks of plant pests:

- reduction or elimination of endangered (or threatened) native plant species;
- reduction or elimination of a keystone plant species (a species which plays a major role in the maintenance of an ecosystem);
- reduction or elimination of a plant species which is a major component of a native ecosystem;
- causing a change to plant biological diversity in such as way as to result in ecosystem destabilization;
- resulting in control, eradication or management programs that would be needed if a quarantine pest was introduced, and impacts of such programs (e.g. pesticides or the release of non-indigenous predators or parasites) on biological diversity.

Thus it is clear, with respect to plant pests, that the scope of the IPPC covers the protection of cultivated plants in agriculture (including horticulture and forestry), uncultivated/unmanaged plants, wild flora, habitats and ecosystems.

4. Economic Considerations in PRA

4.1 Types of economic effect

In PRA, economic effects should not be interpreted to be only market effects. Goods and services not sold in commercial markets can have economic value and economic analysis encompasses much more than the study of market goods and services. The use of the term *economic effects* provides a framework in which a wide variety of effects (including environmental and social effects) may be analysed. Economic analysis uses a monetary value as a measure to allow policy makers to compare costs and benefits from different types of goods and services. This does not preclude the use of other tools such as qualitative and environmental analyses that may not use monetary terms.

4.2 Costs and benefits

A general economic test for any policy is to pursue the policy if its benefit is at least as large as its cost. Costs and benefits are broadly understood to include both market and non-market aspects. Costs and benefits can be represented by both quantifiable measurements and qualitative measurements. Non-market goods and services may be difficult to quantify or measure but nevertheless are essential to consider.

Economic analysis for phytosanitary purposes can only provide information with regard to costs and benefits, and does not judge if one distribution is necessarily better than another distribution of costs and benefits of a specific policy. In principle, costs and benefits should be measured regardless to whom they occur. Given that judgments about the preferred distribution of costs and benefits are policy choices, these should have a rational relationship to phytosanitary considerations.

Costs and benefits should be counted whether they occur as a direct or indirect result of a pest introduction or if a chain of causation is required before the costs are incurred or the benefits realized. Costs and benefits associated with indirect consequences of pest introductions may be less certain than costs and benefits associated with direct consequences. Often, there is no monetary information about the cost of any loss that may result from pests introduced into natural environments. Any analysis should identify and explain uncertainties involved in estimating costs and benefits and assumptions should be clearly stated.

5. Application

The following criteria[1] should be met before a plant pest is deemed to have *potential economic importance*:

- a potential for introduction in the PRA area;
- the potential to spread after establishment; and
- a potential harmful impact on plants, for example:
  - crops (for example loss of yield or quality); or
  - the environment, for example damage to ecosystems, habitats, or species; or
  - some other specified value, for example recreation, tourism, aesthetics.

[1] With respect to the first and second criteria, IPPC (1997) Article VII.3 states that for pests which may not be capable of establishment, measures taken against these pests must be technically justified.

As stated in Section 3, environmental damage, arising from the introduction of a plant pest, is one of the types of damage recognized by the IPPC. Thus, with respect to the third criterion above, contracting parties to the IPPC have the right to adopt phytosanitary measures even with respect to a pest that only has the potential for environmental damage. Such action should be based upon a Pest Risk Analysis that includes the consideration of evidence of potential environmental damage. When indicating the direct and indirect impact of pests on the environment, the nature of the harm or losses arising from a pest introduction should be specified in Pest Risk Analysis.

In the case of regulated non-quarantine pests, because such pest populations are already established, introduction in an area of concern and environmental effects are not relevant criteria in the consideration of *economically unacceptable impacts* (see ISPM No. 16: *Regulated non-quarantine pests: concept and application*).

References

International Plant Protection Convention, 1997. FAO, Rome.
Glossary of phytosanitary terms, 2002. ISPM No. 5, FAO, Rome.
Guidelines for Pest Risk Analysis, 1996. ISPM No. 2, FAO, Rome.
Pest Risk Analysis for quarantine pests, 2001. ISPM No. 11, FAO, Rome.
Regulated non-quarantine pests: concept and application, 2002. ISPM No. 16, FAO, Rome.
Report of the Third Session of the Interim Commission on Phytosanitary Measures (includes the working group document in Appendix XII), 2001. FAO, Rome.

APPENDIX

This appendix provides additional clarification of some terms used in this supplement. It is not a prescriptive part of this supplement.

Economic analysis: It primarily uses monetary values as a measure to allow policy makers to compare costs and benefits from different types of goods and services. It encompasses more than the study of market goods and services. Economic analysis does not prevent the use of other measures that do not use a monetary value; for example, qualitative or environmental analysis.

Economic effects: This includes market effects as well as non-market effects, such as environmental and social considerations. Measurement of the economic value of environmental effects or social effects may be difficult to establish. For example, the survival and well being of another species or the value of the aesthetics of a forest or a jungle. Both qualitative and quantitative worth may be considered in measuring economic effects.

Economic impacts of plant pests: This includes both market measures as well as those consequences that may not be easy to measure in direct economic terms, but which represent a loss or damage to cultivated plants, uncultivated plants or plant products.

Economic value: This is the basis for measuring the cost of the effect of changes (e.g. in biodiversity, ecosystems, managed resources or natural resources) on human welfare. Goods and services not sold in commercial markets can have economic value. Determining economic value does not prevent ethical or altruistic concerns for the survival and well-being of other species based on cooperative behavior.

Qualitative measurement: This is the valuation of qualities or characteristics in other than monetary or numeric terms.

Quantitative measurement: This is the valuation of qualities or characteristics in monetary or other numeric terms.

Supplement to ISPM No. 11 (*Pest Risk Analysis for quarantine pests*)
ANALYSIS OF ENVIRONMENTAL RISKS

SCOPE OF THIS SUPPLEMENT

This supplement to ISPM No. 11 (*Pest Risk Analysis for quarantine pests*) provides details regarding the analysis of risks of plant pests to the environment and biological diversity, including those risks affecting uncultivated/unmanaged plants, wild flora, habitats and ecosystems contained in the PRA area.
This supplement should only be used in conjunction with ISPM No. 11. It is not a stand-alone document. The elements it describes are relevant to any PRA for quarantine pests. The supplement does not describe an independent PRA process.

PURPOSE OF THIS SUPPLEMENT

This supplement provides more detailed guidance on the analysis of the consequences for the environment and biological diversity of the introduction of quarantine pests, as part of the assessment of potential economic consequences described in ISPM No. 11: *Pest Risk Analysis for quarantine pests*. It also provides additional information, to allow ISPM No. 11 to address the full range of pests covered by the IPPC.

The full range of pests covered by the IPPC extends beyond pests directly affecting cultivated plants. According to recommendation C34/1 of ICPM-3, "the coverage of the IPPC definition of plant pests includes weeds and other species that have indirect effects on plants", and "the Convention applies to the protection of wild flora." The scope of the IPPC also extends to organisms which are pests because they:

- *directly affect uncultivated/unmanaged plants*

Introduction of these pests may have few commercial consequences, and therefore they have been less likely to be evaluated, regulated and/or placed under official control. An example of this type of pest is Dutch elm disease (*Ophiostoma novo-ulmi*).

- *indirectly affect plants*

In addition to pests that directly affect host plants, there are those, like most weeds/invasive plants, which affect plants primarily by other processes such as competition (e.g. for cultivated plants: Canada thistle (*Cirsium arvense*) [weed of agricultural crops], or for uncultivated/unmanaged plants: Purple loosestrife (*Lythrum salicaria*) [competitor in natural and semi-natural habitats]).

- *indirectly affect plants through effects on other organisms*

Specific guidance is needed on pests that primarily affect other organisms, but thereby cause deleterious effects on plant species, or plant health in habitats or ecosystems. Examples include parasites of beneficial organisms, such as biological control agents.

To protect the environment and biological diversity without creating disguised barriers to trade, environmental risks and risks to biological diversity should be analyzed in a PRA.

INTRODUCTION

SCOPE

The standard provides details for the conduct of pest risk analysis (PRA) to determine if pests are quarantine pests. It describes the integrated processes to be used for risk assessment as well as the selection of risk management options.

REFERENCES

Agreement on the Application of Sanitary and Phytosanitary Measures, 1994. World Trade Organization, Geneva.
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Determination of pest status in an area, 1998. ISPM Pub. No. 8, FAO, Rome.
Requirements for the establishment of pest free places of production and pest-free production sites, 1999. ISPM Pub. No. 10, FAO, Rome.

DEFINITIONS AND ABBREVIATIONS

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]
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]
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]
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]
Endangered area	An area where ecological factors favour the establishment of a pest whose presence in the area will result in economically important loss [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**]
Introduction	The entry of a pest resulting in its establishment [FAO, 1990; revised FAO, 1995; IPPC, 1997]
IPPC	The International Plant Protection Convention, as deposited in 1951 with FAO in Rome and as subsequently amended [FAO, 1990; revised ICPM, 2001]

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; revised ICPM, 2001]
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 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 Pub. 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 free production site	A defined portion of a place of production in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period and that is managed as a separate unit in the same way as a pest free place of production [ISPM Pub. No. 10, 1999]
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 certificate	Certificate patterned after the model certificates of the IPPC [FAO, 1990]
Phytosanitary measure	Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of pests [FAO, 1995; revised 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]
Post-entry quarantine	Quarantine applied to a consignment after entry [FAO, 1995]
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]

Regional Plant Protection Organization	An intergovernmental organization with the functions laid down by Article IX of the IPPC [FAO, 1990; revised FAO, 1995; CEPM, 1999; **formerly Plant Protection Organization (Regional)**]
RPPO	Regional Plant Protection Organization [FAO, 1990; revised ICPM, 2001]
Spread	Expansion of the geographical distribution of a pest within an area [FAO, 1995]

OUTLINE OF REQUIREMENTS

The objectives of a PRA are, for a specified area, to identify pests and/or pathways of quarantine concern and evaluate their risk, to identify endangered areas, and, if appropriate, to identify risk management options. Pest risk analysis (PRA) for quarantine pests follows a process defined by three stages:

Stage 1 (initiating the process) involves identifying the pest(s) and pathways that are of quarantine concern and should be considered for risk analysis in relation to the identified PRA area.

Stage 2 (risk assessment) begins with the categorization of individual pests to determine whether the criteria for a quarantine pest are satisfied. Risk assessment continues with an evaluation of the probability of pest entry, establishment, and spread, and of their potential economic consequences.

Environmental consequences are included in economic consequences.

Stage 3 (risk management) involves identifying management options for reducing the risks identified at stage 2. These are evaluated for efficacy, feasibility and impact in order to select those that are appropriate.

PEST RISK ANALYSIS FOR QUARANTINE PESTS

1. Stage 1: Initiation

The aim of the initiation stage is to identify the pest(s) and pathways which are of quarantine concern and should be considered for risk analysis in relation to the identified PRA area.

1.1 Initiation points

The PRA process may be initiated as a result of:

- the identification of a pathway that presents a potential pest hazard
- the identification of a pest that may require phytosanitary measures
- the review or revision of phytosanitary policies and priorities.

The initiation points defined in ISPM No. 11 frequently refer to "pests." The IPPC defines a pest as "any species, strain or biotype of plant, animal, or pathogenic agent, injurious to plants or plant products." In applying these initiation points to plants as pests, it is important to note that the plants concerned should satisfy this definition. Pests directly affecting plants satisfy this definition. In addition, many organisms indirectly affecting plants also satisfy this definition (such as weeds/invasive plants). The fact that they are injurious to plants can be based on evidence obtained in an area where they occur. In the case of organisms where there is insufficient evidence that they affect plants indirectly, it may nevertheless be appropriate to assess on the basis of available pertinent information, whether they are potentially injurious in the PRA area by using a clearly documented, consistently applied and transparent system. This is particularly important for plant species or cultivars that are imported for planting.

1.1.1 PRA initiated by the identification of a pathway

The need for a new or revised PRA of a specific pathway may arise in the following situations:

- international trade is initiated in a commodity not previously imported into the country (usually a plant or plant product, including genetically altered plants) or a commodity from a new area or new country of origin
- new plant species are imported for selection and scientific research purposes

- a pathway other than commodity import is identified (natural spread, packing material, mail, garbage, passenger baggage, etc.).

A list of pests likely to be associated with the pathway (e.g. carried by the commodity) may be generated by any combination of official sources, databases, scientific and other literature, or expert consultation. It is preferable to prioritize the listing, based on expert judgement on pest distribution and types of pests. If no potential quarantine pests are identified as likely to follow the pathway, the PRA may stop at this point.

1.1.2 PRA initiated by the identification of a pest

A requirement for a new or revised PRA on a specific pest may arise in the following situations:

- an emergency arises on discovery of an established infestation or an outbreak of a new pest within a PRA area
- an emergency arises on interception of a new pest on an imported commodity
- a new pest risk is identified by scientific research
- a pest is introduced into an area
- a pest is reported to be more damaging in an area other than in its area of origin
- a pest is repeatedly intercepted
- a request is made to import an organism
- an organism is identified as a vector for other pests
- an organism is genetically altered in a way which clearly identifies its potential as a plant pest.

1.1.3 PRA initiated by the review or revision of a policy

A requirement for a new or revised PRA originating from policy concerns will most frequently arise in the following situations:

- a national decision is taken to review phytosanitary regulations, requirements or operations
- a proposal made by another country or by an international organization (RPPO, FAO) is reviewed
- a new treatment or loss of a treatment system, a new process, or new information impacts on an earlier decision
- a dispute arises on phytosanitary measures
- the phytosanitary situation in a country changes, a new country is created, or political boundaries have changed.

1.2 Identification of PRA area

The PRA area should be defined as precisely as possible in order to identify the area for which information is needed.

1.3 Information

Information gathering is an essential element of all stages of PRA. It is important at the initiation stage in order to clarify the identity of the pest(s), its/their present distribution and association with host plants, commodities, etc. Other information will be gathered as required to reach necessary decisions as the PRA continues.

Information for PRA may come from a variety of sources. The provision of official information regarding pest status is an obligation under the IPPC (Art. VIII.1c) facilitated by official contact points (Art. VIII.2).

The variety of sources of information will generally be wider for environmental risks than traditionally used by NPPOs. Broader inputs may be required. These sources may include environmental impact assessments, but it should be recognized that such assessments usually do not have the same purpose as PRA and cannot substitute for PRA.

1.3.1 Previous PRA

A check should also be made as to whether pathways, pests or policies have already been subjected to the PRA process, either nationally or internationally. If a PRA exists, its validity should be checked as circumstances and information may have changed. The possibility of using a PRA from a similar pathway or pest, that may partly or entirely replace the need for a new PRA, should also be investigated.

1.4 Conclusion of initiation

At the end of Stage 1, the initiation point, the pests and pathways of concern and the PRA area will have been identified. Relevant information has been collected and pests have been identified as possible candidates for phytosanitary measures, either individually or in association with a pathway.

2. Stage 2: Pest Risk Assessment

The process for pest risk assessment can be broadly divided into three interrelated steps:

- pest categorization
- assessment of the probability of introduction and spread
- assessment of potential economic consequences (including environmental impacts).

In most cases, these steps will be applied sequentially in a PRA but it is not essential to follow a particular sequence. Pest risk assessment needs to be only as complex as is technically justified by the circumstances. This standard allows a specific PRA to be judged against the principles of necessity, minimal impact, transparency, equivalence, risk analysis, managed risk and non-discrimination set out in ISPM Pub. No. 1: *Principles of plant quarantine as related to international trade* (FAO, 1995).

2.1 Pest categorization

At the outset, it may not be clear which pest(s) identified in Stage 1 require a PRA. The categorization process examines for each pest whether the criteria in the definition for a quarantine pest are satisfied.

In the evaluation of a pathway associated with a commodity, a number of individual PRAs may be necessary for the various pests potentially associated with the pathway. The opportunity to eliminate an organism or organisms from consideration before in-depth examination is undertaken is a valuable characteristic of the categorization process.

An advantage of pest categorization is that it can be done with relatively little information, however information should be sufficient to adequately carry out the categorization.

2.1.1 Elements of categorization

The categorization of a pest as a quarantine pest includes the following primary elements:

- identity of the pest
- presence or absence in the PRA area
- regulatory status
- potential for establishment and spread in PRA area
- potential for economic consequences (including environmental consequences) in the PRA area.

2.1.1.1 Identity of pest

The identity of the pest should be clearly defined to ensure that the assessment is being performed on a distinct organism, and that biological and other information used in the assessment is relevant to the organism in question. If this is not possible because the causal agent of particular symptoms has not yet been fully identified, then it should have been shown to produce consistent symptoms and to be transmissible.

The taxonomic unit for the pest is generally species. The use of a higher or lower taxonomic level should be supported by scientifically sound rationale. In the case of levels below the species, this should include evidence demonstrating that factors such as differences in virulence, host range or vector relationships are significant enough to affect phytosanitary status.

In cases where a vector is involved, the vector may also be considered a pest to the extent that it is associated with the causal organism and is required for transmission of the pest.

2.1.1.2 Presence or absence in PRA area

The pest should be absent from all or a defined part of the PRA area.

2.1.1.3 Regulatory status

If the pest is present but not widely distributed in the PRA area, it should be under official control or expected to be under official control in the near future.

Official control of pests presenting an environmental risk may involve agencies other than the NPPO. However, it is recognized that ISPM No. 5 Glossary of phytosanitary terms, Supplement No. 1 on official control, in particular Section 5.7, applies.

2.1.1.4 Potential for establishment and spread in PRA area

Evidence should be available to support the conclusion that the pest could become established or spread in the PRA area. The PRA area should have ecological/climatic conditions including those in protected conditions suitable for the establishment and spread of the pest and where relevant, host species (or near relatives), alternate hosts and vectors should be present in the PRA area.

2.1.1.5 Potential for economic consequences in PRA area

There should be clear indications that the pest is likely to have an unacceptable economic impact (including environmental impact) in the PRA area.

Unacceptable economic impact is described in ISPM No. 5, Glossary of phytosanitary terms, Supplement No. 2: *Guidelines on the understanding of* potential economic importance *and related terms*.

2.1.2 Conclusion of pest categorization

If it has been determined that the pest has the potential to be a quarantine pest, the PRA process should continue. If a pest does not fulfil all of the criteria for a quarantine pest, the PRA process for that pest may stop. In the absence of sufficient information, the uncertainties should be identified and the PRA process should continue.

2.2 Assessment of the probability of introduction and spread

Pest introduction is comprised of both entry and establishment. Assessing the probability of introduction requires an analysis of each of the pathways with which a pest may be associated from its origin to its establishment in the PRA area. In a PRA initiated by a specific pathway (usually an imported commodity), the probability of pest entry is evaluated for the pathway in question. The probabilities for pest entry associated with other pathways need to be investigated as well.

With respect to a plant being assessed as a pest with indirect effects, wherever a reference is made to a host or a host range, this should be understood to refer instead to a suitable habitat[1] (that is a place where the plant can grow) in the PRA area.

The intended habitat is the place where the plants are intended to grow and the unintended habitat is the place where the plants are not intended to grow.

In the case of plants to be imported, the concepts of entry, establishment and spread have to be considered differently.

Plants for planting that are imported will enter and then be maintained in an intended habitat, probably in substantial numbers and for an indeterminate period. Accordingly, Section 2.2.1 on Entry does not apply. The risk arises because of the probability that the plant may spread from the intended habitat to unintended habitats within the PRA area, and then establish in those habitats. Accordingly, section 2.2.3 may be considered before section 2.2.2. Unintended habitats may occur in the vicinity of the intended habitat in the PRA area.

Imported plants not intended to be planted may be used for different purposes (e.g. used as bird seed, as fodder, or for processing). The risk arises because of the probability that the plant may escape or be diverted from the intended use to an unintended habitat and establish there.

For risk analyses that have been initiated for a specific pest, with no particular commodity or pathway under consideration, the potential of all probable pathways should be considered.

The assessment of probability of spread is based primarily on biological considerations similar to those for entry and establishment.

2.2.1 Probability of entry of a pest

In the case of plants to be imported, the plants will enter and an assessment of probability of entry will not be required. Therefore this section does not apply. However, this section does apply to pests that may be carried by such plants (e.g. weed seeds with seeds imported for planting).

[1] In the case of organisms that affect plants indirectly, through effects on other organisms, the terms host/habitat will extend also to those other organisms.

The probability of entry of a pest depends on the pathways from the exporting country to the destination, and the frequency and quantity of pests associated with them. The higher the number of pathways, the greater the probability of the pest entering the PRA area.

Documented pathways for the pest to enter new areas should be noted. Potential pathways, which may not currently exist, should be assessed. Pest interception data may provide evidence of the ability of a pest to be associated with a pathway and to survive in transport or storage.

2.2.1.1 Identification of pathways for a PRA initiated by a pest

All relevant pathways should be considered. They can be identified principally in relation to the geographical distribution and host range of the pest. Consignments of plants and plant products moving in international trade are the principal pathways of concern and existing patterns of such trade will, to a substantial extent, determine which pathways are relevant. Other pathways such as other types of commodities, packing materials, persons, baggage, mail, conveyances and the exchange of scientific material should be considered where appropriate. Entry by natural means should also be assessed, as natural spread is likely to reduce the effectiveness of phytosanitary measures.

2.2.1.2 Probability of the pest being associated with the pathway at origin

The probability of the pest being associated, spatially or temporally, with the pathway at origin should be estimated. Factors to consider are:

- prevalence of the pest in the source area
- occurrence of the pest in a life-stage that would be associated with commodities, containers, or conveyances
- volume and frequency of movement along the pathway
- seasonal timing
- pest management, cultural and commercial procedures applied at the place of origin (application of plant protection products, handling, culling, roguing, grading).

2.2.1.3 Probability of survival during transport or storage

Examples of factors to consider are:

- speed and conditions of transport and duration of the life cycle of the pest in relation to time in transport and storage
- vulnerability of the life-stages during transport or storage
- prevalence of pest likely to be associated with a consignment
- commercial procedures (e.g. refrigeration) applied to consignments in the country of origin, country of destination, or in transport or storage.

2.2.1.4 Probability of pest surviving existing pest management procedures

Existing pest management procedures (including phytosanitary procedures) applied to consignments against other pests from origin to end-use, should be evaluated for effectiveness against the pest in question. The probability that the pest will go undetected during inspection or survive other existing phytosanitary procedures should be estimated.

2.2.1.5 Probability of transfer to a suitable host

Factors to consider are:

- dispersal mechanisms, including vectors to allow movement from the pathway to a suitable host
- whether the imported commodity is to be sent to a few or many destination points in the PRA area
  - proximity of entry, transit and destination points to suitable hosts
  - time of year at which import takes place
- intended use of the commodity (e.g. for planting, processing and consumption)
- risks from by-products and waste.

Some uses are associated with a much higher probability of introduction (e.g. planting) than others (e.g. processing). The probability associated with any growth, processing, or disposal of the commodity in the vicinity of suitable hosts should also be considered.

2.2.2 Probability of establishment

In the case of plants to be imported, the assessment of the probability of establishment concerns the unintended habitats.

In order to estimate the probability of establishment of a pest, reliable biological information (life cycle, host range, epidemiology, survival etc.) should be obtained from the areas where the pest currently occurs. The situation in the PRA area can then be compared with that in the areas where it currently occurs (taking account also of protected environments such as glass- or greenhouses) and expert judgement used to assess the probability of establishment. Case histories concerning comparable pests can be considered. Examples of the factors to consider are:

- availability, quantity and distribution of hosts in the PRA area
- environmental suitability in the PRA area

- potential for adaptation of the pest
- reproductive strategy of the pest
- method of pest survival
- cultural practices and control measures.

In considering probability of establishment, it should be noted that a transient pest (see ISPM Pub. No. 8: *Determination of pest status in an area*) may not be able to establish in the PRA area (e.g. because of unsuitable climatic conditions) but could still have unacceptable economic consequences (see IPPC Art. VII.3).

2.2.2.1 Availability of suitable hosts, alternate hosts and vectors in the PRA area

Factors to consider are:

- whether hosts and alternate hosts are present and how abundant or widely distributed they may be
- whether hosts and alternate hosts occur within sufficient geographic proximity to allow the pest to complete its life cycle
- whether there are other plant species, which could prove to be suitable hosts in the absence of the usual host species
- whether a vector, if needed for dispersal of the pest, is already present in the PRA area or likely to be introduced
- whether another vector species occurs in the PRA area.

The taxonomic level at which hosts are considered should normally be the "species". The use of higher or lower taxonomic levels should be justified by scientifically sound rationale.

2.2.2.2 Suitability of environment

Factors in the environment (e.g. suitability of climate, soil, pest and host competition) that are critical to the development of the pest, its host and if applicable its vector, and to their ability to survive periods of climatic stress and complete their life cycles, should be identified. It should be noted that the environment is likely to have different effects on the pest, its host and its vector. This needs to be recognized in determining whether the interaction between these organisms in the area of origin is maintained in the PRA area to the benefit or detriment of the pest. The probability of establishment in a protected environment, e.g. in glasshouses, should also be considered.

Climatic modelling systems may be used to compare climatic data on the known distribution of a pest with that in the PRA area.

2.2.2.3 Cultural practices and control measures

Where applicable, practices employed during the cultivation/production of the host crops should be compared to determine if there are differences in such practices between the PRA area and the origin of the pest that may influence its ability to establish.

Pest control programs or natural enemies already in the PRA area which reduce the probability of establishment may be considered. Pests for which control is not feasible should be considered to present a greater risk than those for which treatment is easily accomplished. The availability (or lack) of suitable methods for eradication should also be considered.

2.2.2.4 Other characteristics of the pest affecting the probability of establishment

These include:

- *Reproductive strategy of the pests and method of pest survival* - Characteristics, which enable the pest to reproduce effectively in the new environment, such as parthenogenesis/self-crossing, duration of the life cycle, number of generations per year, resting stage etc., should be identified.
- *Genetic adaptability* - Whether the species is polymorphic and the degree to which the pest has demonstrated the ability to adapt to conditions like those in the PRA area should be considered, e.g., host-specific races or races adapted to a wider range of habitats or to new hosts. This genotypic (and phenotypic) variability facilitates a pest's ability to withstand environmental fluctuations, to adapt to a wider range of habitats, to develop pesticide resistance and to overcome host resistance.
- *Minimum population needed for establishment* - If possible, the threshold population that is required for establishment should be estimated.

2.2.3 Probability of spread after establishment

A pest with a high potential for spread may also have a high potential for establishment, and possibilities for its successful containment and/or eradication are more limited. In order to estimate the probability of spread of the pest, reliable biological information should be obtained from areas where the pest currently occurs. The situation in the PRA area can then be carefully compared with that in the areas where the pest currently occurs and expert judgement used to assess the probability of spread. Case histories concerning comparable pests can usefully be considered. Examples of the factors to consider are:

- suitability of the natural and/or managed environment for natural spread of the pest
- presence of natural barriers
- the potential for movement with commodities or conveyances
- intended use of the commodity
- potential vectors of the pest in the PRA area
- potential natural enemies of the pest in the PRA area.

In the case of plants to be imported, the assessment of spread concerns spread from the intended habitat or the intended use to an unintended habitat, where the pest may establish. Further spread may then occur to other unintended habitats.

The information on probability of spread is used to estimate how rapidly a pest's potential economic importance may be expressed within the PRA area. This also has significance if the pest is liable to enter and establish in an area of low potential economic importance and then spread to an area of high potential economic importance. In addition it may be important in the risk management stage when considering the feasibility of containment or eradication of an introduced pest.

Certain pests may not cause injurious effects on plants immediately after they establish, and in particular may only spread after a certain time. In assessing the probability of spread, this should be considered, based on evidence of such behaviour.

2.2.4 Conclusion on the probability of introduction and spread

The overall probability of introduction should be expressed in terms most suitable for the data, the methods used for analysis, and the intended audience. This may be quantitative or qualitative, since either output is in any case the result of a combination of both quantitative and qualitative information. The probability of introduction may be expressed as a comparison with that obtained from PRAs on other pests.

2.2.4.1 Conclusion regarding endangered areas

The part of the PRA area where ecological factors favour the establishment of the pest should be identified in order to define the endangered area. This may be the whole of the PRA area or a part of the area.

2.3 Assessment of potential economic consequences

Requirements described in this step indicate what information relative to the pest and its potential host plants should be assembled, and suggest levels of economic analysis that may be carried out using that information in order to assess all the effects of the pest, i.e. the potential economic consequences. Wherever appropriate, quantitative data that will provide monetary values should be obtained. Qualitative data may also be used. Consultation with an economist may be useful.

In many instances, detailed analysis of the estimated economic consequences is not necessary if there is sufficient evidence or it is widely agreed that the introduction of a pest will have unacceptable economic consequences (including environmental consequences). In such cases, risk assessment will primarily focus on the probability of introduction and spread. It will, however, be necessary to examine economic factors in greater detail when the level of economic consequences is in question, or when the level of economic consequences is needed to evaluate the strength of measures used for risk management or in assessing the cost-benefit of exclusion or control.

2.3.1 Pest effects

In order to estimate the potential economic importance of the pest, information should be obtained from areas where the pest occurs naturally or has been introduced. This information should be compared with the situation in the PRA area. Case histories concerning comparable pests can usefully be considered. The effects considered may be direct or indirect.

The basic method for estimating the potential economic importance of pests (section 2.3.1) also applies to:

- pests affecting uncultivated/unmanaged plants;
- weeds and/or invasive plants; and
- pests affecting plants through effects on other organisms.

Specific evidence is needed of direct and indirect environmental effects.

In the case of plants to be imported for planting, the long-term consequences for the intended habitat may be included in the assessment. Planting may affect further use or have a harmful effect on the intended habitat.

Environmental effects and consequences considered should result from effects on plants. Such effects, however, on plants may be less significant than the effects and/or consequences on other organisms or systems. For example, a minor weed may be significantly allergenic for humans or a minor plant pathogen may produce toxins that seriously affect livestock. However, the regulation of plants solely on the basis of their effects on other organisms or systems (e.g. on human or animal health) is outside the scope of this standard. If the PRA process reveals evidence of a potential hazard to other organisms or systems, this should be communicated to the appropriate authorities which have the legal responsibility to deal with the issue.

2.3.1.1 Direct pest effects

For identification and characterization of the direct effects of the pest on each potential host in the PRA area, or those effects which are host-specific, the following are examples that could be considered:

- known or potential host plants (in the field, under protected cultivation, or in the wild)
- types, amount and frequency of damage
- crop losses, in yield and quality
- biotic factors (e.g. adaptability and virulence of the pest) affecting damage and losses
- abiotic factors (e.g. climate) affecting damage and losses
- rate of spread
- rate of reproduction
- control measures (including existing measures), their efficacy and cost
- effect on existing production practices
- environmental effects.

For each of the potential hosts, the total area of the crop and area potentially endangered should be estimated in relation to the elements given above.

Examples of direct pest effects on plants and/or their environmental consequences that could be considered include:

- reduction of keystone plant species;
- reduction of plant species that are major components of ecosystems (in terms of abundance or size), and endangered native plant species (including effects below species level where there is evidence of such effects being significant);
- significant reduction, displacement or elimination of other plant species.

The estimation of the area potentially endangered should relate to these effects.

2.3.1.2 Indirect pest effects

For identification and characterization of the indirect effects of the pest in the PRA area, or those effects that are not host-specific, the following are examples that could be considered:

- effects on domestic and export markets, including in particular effects on export market access. The potential consequences for market access which may result if the pest becomes established, should be estimated. This involves considering the extent of any phytosanitary regulations imposed (or likely to be imposed) by trading partners
- changes to producer costs or input demands, including control costs
- changes to domestic or foreign consumer demand for a product resulting from quality changes
- environmental and other undesired effects of control measures
- feasibility and cost of eradication or containment
- capacity to act as a vector for other pests
- resources needed for additional research and advice
- social and other effects (e.g. tourism).

Examples of indirect pest effects on plants and/or their environmental consequences that could be considered include:

- significant effects on plant communities;
- significant effects on designated environmentally sensitive or protected areas;
- significant change in ecological processes and the structure, stability or processes of an ecosystem (including further effects on plant species, erosion, water table changes, increased fire hazard, nutrient cycling, etc.);
- effects on human use (e.g. water quality, recreational uses, tourism, animal grazing, hunting, fishing); and
- costs of environmental restoration.

As noted above, effects on human and animal health (e.g. toxicity, allergenicity), water tables, tourism, etc. could also be considered, as appropriate, by other agencies/authorities.

2.3.2 Analysis of economic consequences

Section 2.3.2.4 states that some effects concern "some type of value, but do not have an existing market which can be easily identified" and that "these impacts could be approximated with an appropriate non-market valuation method", or that "qualitative information about the consequences may be provided." Section 2.3.3 allows, along with assessment in monetary

value, that "economic consequences can also be expressed qualitatively or using quantitative measures without monetary terms."

Application of ISPM No. 11 to environmental hazards requires clear categorization of environmental values and how they can be assessed. The environment can be valued using different methodologies, but these methodologies are best used in consultation with experts in economics. Methodologies may include consideration of "use" and "non-use" values. "Use" values arise from consumption of an element of the environment, such as accessing clean water, or fishing in a lake, and also those that are non-consumptive, such as use of forests for leisure activities. "Non-use" values may be subdivided into:

- "option value" (value for use at a later date);
- "existence value" (knowledge that an element of the environment exists); and
- "bequest value" (knowledge that an element of the environment is available for future generations).

Whether the element of the environment is being assessed in terms of use or non-use values, methods exist for their valuation, such as market-based approaches, surrogate markets, simulated markets, and benefit transfer. Each has advantages, disadvantages and situations where it is particularly useful.

The assessment of consequences may be either quantitative or qualitative and in many cases, qualitative data is sufficient. A quantitative method may not exist to address a situation (e.g. catastrophic effects on a keystone species), or a quantitative analysis may not be possible (no methods available). Useful analyses can be based on non-monetary valuations (number of species affected, water quality), or expert judgement, if the analyses follow documented, consistent and transparent procedures.

Economic impact is described in ISPM No. 5: Glossary of phytosanitary terms, Supplement No. 2: *Guidelines on the understanding of potential economic importance and related terms*.

2.3.2.1 Time and place factors

Estimations made in the previous section related to a hypothetical situation where the pest is supposed to have been introduced and to be fully expressing its potential economic consequences (per year) in the PRA area. In practice, however, economic consequences are expressed with time, and may concern one year, several years or an indeterminate period. Various scenarios should be considered. The total economic consequences over more than one year can be expressed as net present value of annual economic consequences, and an appropriate discount rate selected to calculate net present value.

Other scenarios could concern whether the pest occurs at one, few or many points in the PRA area and the expression of potential economic consequences will depend on the rate and manner of spread in the PRA area. The rate of spread may be envisaged to be slow or rapid; in some cases, it may be supposed that spread can be prevented. Appropriate analysis may be used to estimate potential economic consequences over the period of time when a pest is spreading in the PRA area. In addition, many of the factors or effects considered above could be expected to change over time, with the consequent effects of potential economic consequences. Expert judgement and estimations will be required.

2.3.2.2 Analysis of commercial consequences

As determined above, most of the direct effects of a pest, and some of the indirect effects will be of a commercial nature, or have consequences for an identified market. These effects, which may be positive or negative, should be identified and quantified. The following may usefully be considered:

- effect of pest-induced changes to producer profits that result from changes in production costs, yields or prices
- effect of pest-induced changes in quantities demanded or prices paid for commodities by domestic and international consumers. This could include quality changes in products and/or quarantine-related trade restrictions resulting from a pest introduction.

2.3.2.3 Analytical techniques

There are analytical techniques which can be used in consultation with experts in economics to make a more detailed analysis of the potential economic effects of a quarantine pest. These should incorporate all of the effects that have been identified. These techniques may include:

- *partial budgeting*: this will be adequate, if the economic effects induced by the action of the pest to producer profits are generally limited to producers and are considered to be relatively minor
- *partial equilibrium*: this is recommended if, under point 2.3.2.2, there is a significant change in producer profits, or if there is a significant change in consumer demand. Partial equilibrium analysis is necessary to measure welfare changes, or the net changes arising from the pest impacts on producers and consumers
- *general equilibrium*: if the economic changes are significant to a national economy, and could cause changes to factors such as wages, interest rates or exchange rates, then general equilibrium analysis could be used to establish the full range of economic effects.

The use of analytical techniques is often limited by lack of data, by uncertainties in the data, and by the fact that for certain effects only qualitative information can be provided.

2.3.2.4 Non-commercial and environmental consequences

Some of the direct and indirect effects of the introduction of a pest determined in 2.3.1.1 and 2.3.1.2 will be of an economic nature, or affect some type of value, but not have an existing market which can be easily identified. As a result, the effects may not be adequately measured in terms of prices in established product or service markets. Examples include in particular environmental effects (such as ecosystem stability, biodiversity, amenity value) and social effects (such as employment, tourism) arising from a pest introduction. These impacts could be approximated with an appropriate non-market valuation method.

If quantitative measurement of such consequences is not feasible, qualitative information about the consequences may be provided. An explanation of how this information has been incorporated into decisions should also be provided.

2.3.3 Conclusion of the assessment of economic consequences

Wherever appropriate, the output of the assessment of economic consequences described in this step should be in terms of a monetary value. The economic consequences can also be expressed qualitatively or using quantitative measures without monetary terms. Sources of information, assumptions and methods of analysis should be clearly specified.

2.3.3.1 Endangered area

The part of the PRA area where presence of the pest will result in economically important loss should be identified as appropriate. This is needed to define the endangered area.

2.4 Degree of uncertainty

Estimation of the probability of introduction of a pest and of its economic consequences involves many uncertainties. In particular, this estimation is an extrapolation from the situation where the pest occurs to the hypothetical situation in the PRA area. It is important to document the areas of uncertainty and the degree of uncertainty in the assessment, and to indicate where expert judgement has been used. This is necessary for transparency and may also be useful for identifying and prioritizing research needs.

The assessment of the probability and consequences of environmental hazards of pests of uncultivated and unmanaged plants often involves greater uncertainty than for pests of cultivated or managed plants. This is due to the lack of information, additional complexity associated with ecosystems, and variability associated with pests, hosts or habitats.

2.5 Conclusion of the pest risk assessment stage

As a result of the pest risk assessment, all or some of the categorized pests may be considered appropriate for pest risk management. For each pest, all or part of the PRA area may be identified as an endangered area. A quantitative or qualitative estimate of the probability of introduction of a pest or pests, and a corresponding quantitative or qualitative estimate of economic consequences (including environmental consequences), have been obtained and documented or an overall rating could have been assigned. These estimates, with associated uncertainties, are utilized in the pest risk management stage of the PRA.

3. Stage 3: Pest Risk Management

The conclusions from pest risk assessment are used to decide whether risk management is required and the strength of measures to be used. Since zero-risk is not a reasonable option, the guiding principle for risk management should be to manage risk to achieve the required degree of safety that can be justified and is feasible within the limits of available options and resources. Pest risk management (in the analytical sense) is the process of identifying ways to react to a perceived risk, evaluating the efficacy of these actions, and identifying the most appropriate options. The uncertainty noted in the assessments of economic consequences and probability of introduction should also be considered and included in the selection of a pest management option.

In considering the management of environmental risks, it should be stressed that phytosanitary measures are intended to account for uncertainty and should be designed in proportion to the risk. Pest risk management options should be identified, taking account of the degree of uncertainty in the assessment of economic consequences, probability of introduction, and the respective technical justification of those options. In this respect, the management of risks to the environment caused by plant pests does not differ from the management of other plant pest risks.

3.1 Level of risk

The principle of "managed risk" (ISPM Pub. No. 1: *Principles of plant quarantine as related to international trade*) states that: "Because some risk of introduction of a quarantine pest always exists, countries shall agree to a policy of risk management when formulating phytosanitary measures." In implementing this principle, countries should decide what level of risk is acceptable to them.

The acceptable level of risk may be expressed in a number of ways, such as:

- reference to existing phytosanitary requirements
- indexed to estimated economic losses
- expressed on a scale of risk tolerance
- compared with the level of risk accepted by other countries.

3.2 Technical information required

The decisions to be made in the pest risk management process will be based on the information collected during the preceding stages of PRA. This information will be composed of:

- reasons for initiating the process
- estimation of the probability of introduction to the PRA area
- evaluation of potential economic consequences in the PRA area.

3.3 Acceptability of risk

Overall risk is determined by the examination of the outputs of the assessments of the probability of introduction and the economic impact. If the risk is found to be unacceptable, then the first step in risk management is to identify possible phytosanitary measures that will reduce the risk to, or below an acceptable level. Measures are not justified if the risk is already acceptable or must be accepted because it is not manageable (as may be the case with natural spread). Countries may decide that a low level of monitoring or audit is maintained to ensure that future changes in the pest risk are identified.

3.4 Identification and selection of appropriate risk management options

Appropriate measures should be chosen based on their effectiveness in reducing the probability of introduction of the pest. The choice should be based on the following considerations, which include several of the *Principles of plant quarantine as related to international trade* (ISPM Pub. No. 1):

- *Phytosanitary measures shown to be cost-effective and feasible* - The benefit from the use of phytosanitary measures is that the pest will not be introduced and the PRA area will, consequently, not be subjected to the potential economic consequences. The cost-benefit analysis for each of the minimum measures found to provide acceptable security may be estimated. Those measures with an acceptable benefit-to-cost ratio should be considered.
- *Principle of "minimal impact"* - Measures should not be more trade restrictive than necessary. Measures should be applied to the minimum area necessary for the effective protection of the endangered area.
- *Reassessment of previous requirements* - No additional measures should be imposed if existing measures are effective.
- *Principle of "equivalence"* - If different phytosanitary measures with the same effect are identified, they should be accepted as alternatives.
- *Principle of "non-discrimination"* - If the pest under consideration is established in the PRA area but of limited distribution and under official control, the phytosanitary measures in relation to import should not be more stringent than those applied within the PRA area. Likewise, phytosanitary measures should not discriminate between exporting countries of the same phytosanitary status.

The major risk of introduction of plant pests is with imported consignments of plants and plant products, but (especially for a PRA performed on a particular pest) it is necessary to consider the risk of introduction with other types of pathways (e.g. packing materials, conveyances, travellers and their luggage, and the natural spread of a pest).

The principle of non-discrimination and the concept of official control also apply to:

- pests affecting uncultivated/unmanaged plants;
- weeds and/or invasive plants; and
- pests affecting plants through effects on other organisms.

If any of these become established in the PRA area and if official control is applied, then phytosanitary measures at import should not be more stringent than the official control measures.

The measures listed below are examples of those that are most commonly applied to traded commodities. They are applied to pathways, usually consignments of a host, from a specific origin. The measures should be as precise as possible as to consignment type (hosts, parts of plants) and origin so as not to act as barriers to trade by limiting the import of products where this is not justified. Combinations of two or more measures may be needed in order to reduce the risk to an acceptable level. The available measures can be classified into broad categories which relate to the pest status of the pathway in the country of origin. These include measures:

- applied to the consignment
- applied to prevent or reduce original infestation in the crop
- to ensure the area or place of production is free from the pest
- concerning the prohibition of commodities.

Other options may arise in the PRA area (restrictions on the use of a commodity), control measures, introduction of a biological control agent, eradication, and containment. Such options should also be evaluated and will apply in particular if the pest is already present but not widely distributed in the PRA area.

3.4.1 Options for consignments

Measures may include any combinations of the following:

- inspection or testing for freedom from a pest or to a specified pest tolerance; sample size should be adequate to give an acceptable probability of detecting the pest
- prohibition of parts of the host
- a pre-entry or post-entry quarantine system - this system could be considered to be the most intensive form of inspection or testing where suitable facilities and resources are available, and may be the only option for certain pests not detectable on entry
- specified conditions of preparation of the consignment (e.g. handling to prevent infestation or reinfestation)
- specified treatment of the consignment - such treatments are applied post-harvest and could include chemical, thermal, irradiation or other physical methods
- restrictions on end use, distribution and periods of entry of the commodity.

Measures may also be applied to restrict the import of consignments of pests.

The concept of “consignments of pests” may be applied to the import of plants considered to be pests. These consignments may be restricted to species or varieties posing less risk.

3.4.2 Options preventing or reducing infestation in the crop

Measures may include:

- treatment of the crop, field, or place of production
- restriction of the composition of a consignment so that it is composed of plants belonging to resistant or less susceptible species
- growing plants under specially protected conditions (glasshouse, isolation)
- harvesting of plants at a certain age or a specified time of year
- production in a certification scheme. An officially monitored plant production scheme usually involves a number of carefully controlled generations, beginning with nuclear stock plants of high health status. It may be specified that the plants be derived from plants within a limited number of generations.

3.4.3 Options ensuring that the area, place or site of production or crop is free from the pest

Measures may include:

- pest-free area - requirements for pest-free area status are described in ISPM Pub. No. 4: *Requirements for the establishment of pest free areas*

- pest-free place of production or pest-free production site - requirements are described in ISPM Pub. No. 10: *Requirements for the establishment of pest free places of production and pest-free production sites*
- inspection of crop to confirm pest freedom.

3.4.4 Options for other types of pathways

For many types of pathways, the measures considered above for plants and plant products to detect the pest in the consignment or to prevent infestation of the consignment, may also be used or adapted. For certain types of pathways, the following factors should be considered:

- Natural spread of a pest includes movement of the pest by flight, wind dispersal, transport by vectors such as insects or birds and natural migration. If the pest is entering the PRA area by natural spread, or is likely to enter in the immediate future, phytosanitary measures may have little effect. Control measures applied in the area of origin could be considered. Similarly, containment or eradication, supported by suppression and surveillance, in the PRA area after entry of the pest could be considered.
- Measures for human travellers and their baggage could include targeted inspections, publicity and fines or incentives. In a few cases, treatments may be possible.
- Contaminated machinery or modes of transport (ships, trains, planes, road transport) could be subjected to cleaning or disinfestation.

3.4.5 Options within the importing country

Certain measures applied within the importing country may also be used. These could include careful surveillance to try and detect the entry of the pest as early as possible, eradication programmes to eliminate any foci of infestation and/or containment action to limit spread.

Where there is a high level of uncertainty regarding pest risk from plants to be imported, it may be decided not to take phytosanitary measures at import, but only to apply surveillance or other procedures after entry (e.g. by or under the supervision of the NPPO).

3.4.6 Prohibition of commodities

If no satisfactory measure to reduce risk to an acceptable level can be found, the final option may be to prohibit importation of the relevant commodities. This should be viewed as a measure of last resort and should be considered in light of the anticipated efficacy, especially in instances where the incentives for illegal import may be significant.

3.5 Phytosanitary certificates and other compliance measures

Risk management includes the consideration of appropriate compliance procedures. The most important of these is export certification (see ISPM Pub. No. 7: *Export certification system*). The issuance of phytosanitary certificates (see ISPM Pub. No. 12: *Guidelines for Phytosanitary Certificates*) provides official assurance that a consignment is " 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." It thus confirms that the specified risk management options have been followed. An additional declaration may be required to indicate that a particular measure has been carried out. Other compliance measures may be used subject to bilateral or multilateral agreement.

3.6 Conclusion of pest risk management

The result of the pest risk management procedure will be either that no measures are identified which are considered appropriate or the selection of one or more management options that have been found to lower the risk associated with the pest(s) to an acceptable level. These management options form the basis of phytosanitary regulations or requirements.

Phytosanitary measures taken in relation to environmental hazards should, as appropriate, be notified to relevant competent authorities responsible for national biodiversity policies, strategies and action plans.

It is noted that the communication of risks associated with environmental hazards is of particular importance to promote awareness.

The application and maintenance of such regulations is subject to certain obligations, in the case of contracting parties to the IPPC.

3.6.1 Monitoring and review of phytosanitary measures

The principle of "modification" states: "As conditions change, and as new facts become available, phytosanitary measures shall be modified promptly, either by inclusion of prohibitions, restrictions or requirements necessary for their success, or by removal of those found to be unnecessary" (ISPM Pub. No. 1: *Principles of plant quarantine as related to international trade*).

Thus, the implementation of particular phytosanitary measures should not be considered to be permanent. After application, the success of the measures in achieving their aim should be determined by monitoring during use. This is often achieved by inspection of the commodity on arrival, noting any interceptions or any entries of the pest to the PRA area. The information supporting the pest risk analysis should be periodically reviewed to ensure that any new information that becomes available does not invalidate the decision taken.

4. Documentation of Pest Risk Analysis

4.1 Documentation requirements

The IPPC and the principle of "transparency" (ISPM Pub. No. 1: *Principles of plant quarantine as related to international trade*) require that countries should, on request, make available the rationale for phytosanitary requirements. The whole process from initiation to pest risk management should be sufficiently documented so that when a review or a dispute arises, the sources of information and rationale used in reaching the management decision can be clearly demonstrated.

The main elements of documentation are:

- purpose for the PRA
- pest, pest list, pathways, PRA area, endangered area
- sources of information
- categorized pest list
- conclusions of risk assessment
    - probability
    - consequences
- risk management
    - options identified
- options selected.

Publication No. 18
April 2003

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

GUIDELINES FOR THE USE OF IRRADIATION AS A PHYTOSANITARY MEASURE

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization of the United Nations
Rome, 2003

INTRODUCTION

SCOPE

This standard[1] provides technical guidance on the specific procedures for the application of ionizing radiation as a phytosanitary treatment for regulated pests or articles. This does not include treatments used for:

- the production of sterile organisms for pest control;
- sanitary treatments (food safety and animal health);
- the preservation or improvement of commodity quality (e.g. shelf life extension); or
- inducing mutagenesis.

REFERENCES

Export certification system, 1997. ISPM No. 7, FAO, Rome.
Guidelines for phytosanitary certificates, 2001. ISPM No. 12, FAO, Rome.
Glossary of phytosanitary terms, 2002. ISPM No. 5, FAO, Rome.
Guidelines for Pest Risk Analysis, 1996. ISPM No. 2, FAO, Rome.
International Plant Protection Convention, 1997. FAO, Rome.
Pest Risk Analysis for quarantine pests, 2001. ISPM No. 11, FAO, Rome.
Principles of plant quarantine as related to international trade, 1995. ISPM No. 1, FAO, Rome.
The use of integrated measures in a systems approach for pest risk management, 2002. ISPM No. 14, FAO, Rome.

DEFINITIONS AND ABBREVIATIONS[2]

absorbed dose	Quantity of radiation energy (in gray) absorbed per unit of mass of a specified target [ISPM No. 18, 2003]
consignment in transit	A consignment that 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 [FAO, 1990; revised CEPM, 1996; CEPM 1999; ICPM, 2002 formerly country of transit]
commodity	A type of plant, plant product, or other article being moved for trade or other purpose [FAO, 1990; revised ICPM, 2001]
devitalization	A procedure rendering plants or plant products incapable of germination, growth or further reproduction [ICPM, 2001]
dose mapping	Measurement of the absorbed dose distribution within a process load through the use of dosimeters placed at specific locations within the process load [ISPM No. 18, 2003]

[1] Nothing in this standard shall affect the rights or obligations of contracting parties under other international agreements or national legislation, including those applicable to irradiation of food.
[2] The references listed in brackets refer to the definition or revision of the term.

dosimeter	A device that, when irradiated, exhibits a quantifiable change in some property of the device which can be related to absorbed dose in a given material using appropriate analytical instrumentation and techniques [ISPM No. 18, 2003]
dosimetry	A system used for determining absorbed dose, consisting of dosimeters, measurement instruments and their associated reference standards, and procedures for the system's use [ISPM No. 18, 2003]
efficacy (treatment)	A defined, measurable, and reproducible effect by a prescribed treatment [ISPM No. 18, 2003]
gray (Gy)	Unit of absorbed dose where 1 Gy is equivalent to the absorption of 1 joule per kilogram 1 Gy = 1 $J.kg^{-1}$
inactivation	Rendering micro-organisms incapable of development [ISPM No. 18, 2003]
inspection	Official visual examination of plants, plant products or other regulated articles to determine if pests are present and/or to determine compliance with phytosanitary regulations [FAO, 1990; revised FAO, 1995; formerly inspect]
ionizing radiation	Charged particles and electromagnetic waves that as a result of physical interaction, creates ions by either primary or secondary processes [ISPM No. 18, 2003]
irradiation	Treatment with any type of ionizing radiation [ISPM No. 18, 2003]
minimum absorbed dose (Dmin)	The localized minimum absorbed dose within the process load [ISPM No. 18, 2003]
NPPO	National Plant Protection Organization [FAO, 1990; ICPM, 2001]
official	Established, authorized or performed by a National Plant Protection Organization [FAO, 1990]
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]
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; ICPM, 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).

PRA	Pest Risk Analysis [FAO, 1995; revised ICPM, 2001]
process load	A volume of material with a specified loading configuration and treated as a single entity [ISPM No. 18, 2003]
regulated pest	A quarantine pest or a regulated non-quarantine pest [IPPC, 1997]
required response	A specified level of effect for a treatment [ISPM No. 18, 2003]
treatment	Officially authorized procedure for the killing, inactivation or removal of pests, or for rendering pests infertile or for devitalization [FAO, 1990, revised FAO, 1995; ISPM No. 15, 2002; ISPM No. 18, 2003]

OUTLINE OF REQUIREMENTS

Treatment with ionizing radiation (irradiation) may be used for pest risk management. NPPOs should be assured that the efficacy of the treatment is scientifically demonstrated for the regulated pest(s) of concern and the required response. Application of the treatment requires dosimetry and dose mapping to ensure that the treatment is effective in particular facilities and with specific commodity configurations. The NPPO is responsible for ensuring that facilities are appropriately designed for phytosanitary treatments. Procedures should be in place to ensure that the treatment can be conducted properly and commodity lots are handled, stored and identified to ensure that phytosanitary security is maintained. Recordkeeping by the treatment facility and documentation requirements for the facility and NPPO are required and should include a compliance agreement between facility operator and the NPPO stipulating in particular the specific requirements for phytosanitary measures.

GUIDELINES FOR THE USE OF IRRADIATION AS A PHYTOSANITARY MEASURE

1. Authority

The NPPO is responsible for the phytosanitary aspects of evaluation, adoption and use of irradiation as a phytosanitary measure. To the extent necessary, it is the NPPO's responsibility to cooperate with other national and international regulatory agencies concerned with the development, approval, safety and application of irradiation, or the distribution, use or consumption of irradiated products. Their respective responsibilities should be identified to avoid overlapping, conflicting, inconsistent or unjustified requirements.

2. Treatment Objective

The objective of using irradiation as a phytosanitary measure is to prevent the introduction or spread of regulated pests. This may be realized by achieving certain responses in the targeted pest(s) such as:

- mortality;
- preventing successful development (e.g. non-emergence of adults);
- inability to reproduce (e.g. sterility); or
- inactivation.

Phytosanitary uses of irradiation also include the devitalization of plants (e.g. seeds may germinate but seedlings do not grow; or tubers, bulbs or cuttings do not sprout).

2.1 Efficacy

The required treatment efficacy should be specifically defined by the NPPO of the importing country. It consists of two distinct components:

- a precise description of required response;
- the statistical level of response required.

It is not sufficient to only specify a response without also describing how this is to be measured.

The choice of a required response is based on the risk as assessed through PRA, considering in particular the biological factors leading to establishment and taking into account the principle of minimal impact. A response such as mortality may be appropriate where the treatment is for the vector of a pathogen, whereas sterility may be an appropriate response for pest(s) that are not vectors and remain on or in the commodity.

If the required response is mortality, time limits for the effect of the treatment should be established.

A range of specific options may be specified where the required response is the inability of the pest to reproduce. These may include:

- complete sterility;
- limited fertility of only one sex;
- egg laying and/or hatching without further development;
- altered behaviour; and
- sterility of F_1 generation.

3. Treatment

Ionizing radiation may be provided by radioactive isotopes (gamma rays from cobalt-60 or cesium-137), electrons generated from machine sources (up to 10MeV), or by x-rays (up to 5 MeV) (limits set by Codex Alimentarius[3]). The unit of measurement for absorbed dose should be gray (Gy).

Variables to consider when implementing treatments include the dose rate, treatment time, temperature, humidity, ventilation, and modified atmospheres; these should be compatible with treatment effectiveness. Modified atmospheres may reduce treatment efficacy at a prescribed dose.

Treatment procedures should also ensure that the minimum absorbed dose (Dmin) is fully attained throughout the commodity to provide the prescribed level of efficacy. Owing to the differences in the configuration of treatment lots, higher doses than the Dmin may be required to ensure that the Dmin is achieved throughout the configured consignment or lot. The intended end use of the product should be considered when conducting irradiation treatments.

Because mortality will rarely be technically justified as the required response, live target pests may be found. Therefore it is essential that the irradiation treatment ensures they are unable to reproduce. In addition, it is preferable that such pest(s) are unable to emerge or escape from the commodity unless they can be practically distinguished from non-irradiated pest(s).

3.1 Application

Irradiation can be applied:

- as an integral part of packing operations;
- to bulk unpackaged commodities (such as grain moving over a belt);
- at centralized locations such as the port of embarkation.

When safeguards are adequate and transit movement of the untreated commodity is operationally feasible, treatment may also be performed at:

- the point of entry;
- a designated location in a third country;
- a designated location within the country of final destination.

Treated commodities should be certified and released only after dosimetry measurements confirm that the Dmin was met. Where appropriate, re-treatment of consignments may be allowed, provided that the maximum absorbed dose is within the limits allowed by the importing country.

The purpose of Annex 1 [to be completed] is to list the doses for specific approved treatments as part of this ISPM. Appendix 1, which is attached for information only, provides some published information on absorbed dose ranges for certain pest groups.

According to the pest risks to be addressed and the available options for pest risk management, irradiation can be used as a single treatment or combined with other treatments as part of a systems approach to meet the level of efficacy required (see

[3] *Codex general standard for irradiated food*: *Codex Stand.* 106-1983. Codex Alimentarius, Section 7.1, Col. 1A (currently under revision).

ISPM No. 14: *The use of integrated measures in a systems approach for pest risk management*).

4. Dosimetry

Dosimetry ensures that the required Dmin for a particular commodity was delivered to all parts of the consignment. The selection of the dosimetry system should be such that the dosimeter response covers the entire range of doses likely to be received by the product. In addition, the dosimetry system should be calibrated in accordance with international standards or appropriate national standards (e.g. Standard ISO/ASTM 51261 *Guide for Selection and Calibration of Dosimetry Systems for Radiation Processing*).

Dosimeters should be appropriate for the treatment conditions. Dosimeters should be evaluated for stability against the effects of variables such as light, temperature, humidity, storage time, and the type and timing of analyses required.

Dosimetry should consider variations due to density and composition of the material treated, variations in shape and size, variations in orientation of the product, stacking, volume and packaging. Dose mapping of the product in each geometric packing configuration, arrangement and product density that will be used during routine treatments should be required by the NPPO prior to the approval of a facility for the treatment application. Only the configurations approved by the NPPO should be used for actual treatments.

4.1 Calibration of components of the dosimetry system

All components of the dosimetry system should be calibrated according to documented standard operating procedures. An independent organization recognized by the NPPO should assess performance of the dosimetry system.

4.2 Dose mapping

Dose mapping studies should be conducted to fully characterize the dose distribution within the irradiation chambers and commodity, and demonstrate that the treatment consistently meets the prescribed requirements under defined and controlled conditions. Dose mapping should be done in accordance with documented standard operating procedures. The information from the dose mapping studies is used in the selection of locations for dosimeters during routine processing.

Independent dose mapping for incomplete (partially-filled) as well as first and last process loads is required to determine if the absorbed-dose distribution is significantly different from a routine load and to adjust the treatment accordingly.

4.3 Routine dosimetry

An accurate measurement of absorbed dose in a consignment is critical for determining and monitoring efficacy and is part of the verification process. The required number, location and frequency of these measurements should be prescribed based on the specific equipment, processes, commodities, relevant standards and phytosanitary requirements.

5. Approval of Facilities

Treatment facilities should be approved by relevant nuclear regulatory authorities where appropriate. Treatment facilities should also be subject to approval (qualification, certification

or accreditation) by the NPPO in the country where the facility is located prior to applying phytosanitary treatments. Phytosanitary approval should be based on a common set of criteria plus those specific to the site and commodity programmes (see Annex 2).

Phytosanitary re-approval should be done on an appropriate regular basis. Documented dose mapping should be done following repairs, modifications or adjustments in equipment or processes that affect the absorbed dose.

6. Phytosanitary System Integrity

Confidence in the adequacy of an irradiation treatment is primarily based on assurance that the treatment is effective against the pest(s) of concern under specific conditions and the treatment has been properly applied and the commodity adequately safeguarded. The NPPO of the country where the facility is located is responsible for ensuring system integrity, so that treatments meet the phytosanitary requirements of the importing country.

Efficacy research and dosimetry provide assurance that only effective treatments are used. Well-designed and closely monitored systems for treatment delivery and safeguarding assure that treatments are properly conducted and consignments protected from infestation, reinfestation or loss of integrity.

6.1 Phytosanitary security measures at the treatment facility

Because it is not usually possible to visually distinguish irradiated from non-irradiated products, treated commodities should be adequately segregated, clearly identified, and handled under conditions that will safeguard against contamination and/or infestation, or misidentification.

A secure means of moving the commodity from receiving areas to treatment areas without misidentification or risk of cross-contamination and/or infestation is essential. Appropriate procedures specific to each facility and commodity treatment programme should be agreed upon in advance. Commodities that are unpackaged or exposed in packaging require safeguarding immediately following treatment to ensure that they are not subject to infestation, reinfestation, or contamination afterwards.

Packaging prior to irradiation may be useful to prevent reinfestation if irradiation is done prior to export, or to prevent the accidental escape of target pest(s) if treatment is done at the destination.

6.2 Labelling

Packages should be labelled with treatment lot numbers and other identifying features allowing the identification of treatment lots and trace-back (i.e. packing and treatment facility identification and location, dates of packing and treatment).

6.3 Verification

The adequacy of treatment facilities and processes should be verified through monitoring and audit of facility treatment records that include, as necessary, direct treatment oversight. Direct, continuous supervision of treatments should not be necessary provided treatment programmes are properly designed to ensure a high degree of system integrity for the facility, process and commodity in question. The level of oversight should be sufficient to detect and correct deficiencies promptly.

A compliance agreement should be concluded between the facility and the NPPO of the country where the facility is located. Such an agreement may include the following elements:

- approval of the facility by the NPPO of the country where the facility is located;
- the monitoring programme as administered by the NPPO of the country where treatments are conducted;
- audit provisions including unannounced visits;
- free access to documentation and records of the treatment facility; and
- corrective action to be taken in cases of non-compliance.

7. Documentation by the Treatment Facility

The NPPO of the country where the facility is located is responsible for monitoring recordkeeping and documentation by the treatment facility and ensuring that records are available to concerned parties. As in the case of any phytosanitary treatment, trace-back capability is essential.

7.1 Documentation of procedures

Documented procedures help to ensure that commodities are consistently treated as required. Process controls and operational parameters are usually established to provide the operational details necessary for a specific authorization and/or facility. Calibration and quality control programmes should be documented by the facility operator. At a minimum, an agreed written procedure should address the following:

- consignment handling procedures before, during, and after treatment;
- orientation and configuration of the commodity during treatment;
- critical process parameters and the means for their monitoring;
- dosimetry;
- contingency plans and corrective actions to be taken in the event of treatment failure or problems with critical treatment processes;
- procedures for handling rejected lots;
- labelling, recordkeeping, and documentation requirements.

7.2 Facility records and traceability

Packers and treatment facility operators should be required to keep records. These records should be available to the NPPO for review, e.g. when a trace-back is necessary.

Appropriate treatment records for phytosanitary purposes should be kept by the irradiation facility for at least one year to ensure traceability of treated lots. The facility operator should keep all records for every treatment. Dosimetry records must be kept by the treatment facility for at least one full year after treatment. In most cases, these records are required under other authorities, but these records should also be available to the NPPO for review. Other information that may be required to be recorded includes:

- identification of facility and responsible parties;
- identity of commodities treated;
- purpose of treatment;
- target regulated pest(s);

- packer, grower and identification of the place of production of the commodity;
- lot size, volume and identification, including number of articles or packages;
- identifying markings or characteristics;
- quantity in lot;
- absorbed doses – target and measured;
- date of treatment;
- any observed deviation from treatment specification.

8. Inspection and Phytosanitary Certification by the NPPO

8.1 Export inspection

Inspection to ensure the consignment meets the phytosanitary requirements of the importing country should include:

- documentation verification, and
- examination for non-target pests.

Documentation is checked for completeness and accuracy as the basis for certifying the treatment. Inspection is done to detect any non-target pests. This inspection may be done before or after the treatment. Where non-target pests are found, the NPPO should verify whether these are regulated by the importing country.

Live target pests may be found after treatment but should not result in the certification being refused except when mortality is the required response. Where mortality is required, live target pests may be found during the period immediately following the treatment application depending on the specification for efficacy (see section 2.1). If live pests are found, certification could be based on audit checks which confirm that mortality will be attained. When mortality is not the required response, it is more likely that live target pests may persist in the treated consignment. This should also not result in the certification being refused. Audit checks, including laboratory analyses may be undertaken to ensure that the required response is achieved. Such checks may be part of the normal verification programme.

8.2 Phytosanitary certification

Certification in accordance with the IPPC validates the successful completion of a treatment when required by the importing country. The Phytosanitary Certificate or its associated documentation should at least specifically identify the treated lot(s), date of treatment, the target minimum dose, and the verified Dmin.

The NPPO may issue Phytosanitary Certificates based on treatment information provided to it by an entity approved by the NPPO. It should be recognized that the Phytosanitary Certificate may require other information supplied to verify that additional phytosanitary requirements have also been met (see ISPM No. 7: *Export certification system* and ISPM No.12: *Guidelines for Phytosanitary Certificates*).

8.3 Import inspection

When mortality is not the required response, the detection of live stages of target pests in import inspection should not be considered to represent treatment failure resulting in non-compliance unless evidence exists to indicate that the integrity of the treatment system was inadequate. Laboratory or other analyses may be performed on surviving target pest(s) to verify treatment efficacy. Such analyses should only be required

infrequently as part of monitoring unless there is evidence to indicate problems in the treatment process. Where mortality is the required response, this may be confirmed. Where mortality is required, live target pests may be found when transport times are short, but should not normally result in the consignment being refused, unless the established mortality time has been exceeded.

The detection of pests other than target pest(s) on import should be assessed for the risk posed and appropriate measures taken, considering in particular the effect the treatment may have had on the non-target pest(s). The consignment may be detained and any other appropriate action may be taken by the NPPO of the importing country. NPPOs should clearly identify the contingency actions to be taken if live pests are found:

- target pests—no action to be taken unless the required response was not achieved;
- non-target regulated pests:
  - no action if the treatment is believed to have been effective;
  - action if there is insufficient data on efficacy or the treatment is not known to be effective;
- non-target non-regulated pests—no action, or emergency action for new pests.

In case of non-compliance or emergency action, the NPPO of the importing country should notify the NPPO of the exporting country as soon as possible (see ISPM No. 13: *Guidelines for the notification of non-compliance and emergency action*).

8.4 Verification methods for treatment efficacy in export and import inspection

Verification methods, including laboratory tests or analysis to determine if the required response has been achieved should be described by the exporting country at the request of the importing country.

8.5 Administration and documentation by the NPPO

The NPPO should have the ability and resources to evaluate, monitor, and authorize irradiation undertaken for phytosanitary purposes. Policies, procedures and requirements developed for irradiation should be consistent with those associated with other phytosanitary measures, except where the use of irradiation requires a different approach because of unique circumstances.

The monitoring, certification, accreditation and approval of facilities for phytosanitary treatments is normally undertaken by the NPPO where the facility is located, but by cooperative agreement may be undertaken by:

- the NPPO of the importing country;
- the NPPO of the exporting country; or
- other national authorities.

Memoranda of Understanding (MOUs), compliance agreements, or similar documented agreements between the NPPO and the treatment applicator/facility should be used to specify process requirements and assure that responsibilities, liabilities, and the consequences of non-compliance are clearly understood. Such documents also strengthen the enforcement capability of the NPPO if corrective action may be necessary. The NPPO of the importing country may establish cooperative

approval and audit procedures with the NPPO of the exporting country to verify requirements.

All NPPO procedures should be appropriately documented and records, including those of monitoring inspections made and Phytosanitary Certificates issued, should be maintained for at least one year. In cases of non-compliance or new or unexpected phytosanitary situations, documentation should be made available as described in ISPM No. 13: *Guidelines for the notification of non-compliance and emergency action*.

9. Research

Appendix 2 provides guidance on undertaking research for the irradiation of regulated pests.

ANNEX 1

SPECIFIC APPROVED TREATMENTS

This annex is a prescriptive part of the standard. Its purpose is to list irradiation treatments that may be approved for specified applications. Treatment schedules to be added as agreed by the ICPM in future.

ANNEX 2

CHECKLIST FOR FACILITY APPROVAL

This annex is a prescriptive part of the standard. The following checklist is intended to assist persons inspecting or monitoring facilities seeking to establish/maintain facility approval and certification of irradiated commodities for international trade. The failure to receive an affirmative response to any item should result in the refusal to establish, or the termination of, an approval or certification.

Criteria	Yes	No
1. Premises		
Irradiation facility meets the approval of the NPPO as regards phytosanitary requirements. The NPPO has reasonable access to the facility and appropriate records as necessary to validate phytosanitary treatments		
Facility buildings are designed and built to be suitable in size, materials, and placement of equipment to facilitate proper maintenance and operations for the lots to be treated		
Appropriate means, integral to the facility design, are available to maintain non-irradiated consignments and/or lots separate from treated consignments and/or lots		
Appropriate facilities are available for perishable commodities before and after treatment		
Buildings, equipment, and other physical facilities are maintained in a sanitary condition and in repair sufficient to prevent contamination of the consignments and/or lots being treated		
Effective measures are in place to prevent pests from being introduced into processing areas and to protect against the contamination or infestation of consignments and/or lots being stored or processed		
Adequate measures are in place to handle breakage, spills, or the loss of lot integrity		
Adequate systems are in place to dispose of commodities or consignments that are improperly treated or unsuitable for treatment		
Adequate systems are in place to control non-compliant consignments and/or lots and when necessary to suspend facility approval		
2. Personnel		
The facility is adequately staffed with trained, competent personnel		
Personnel are aware of requirements for the proper handling and treatment of commodities for phytosanitary purposes		
3. Product handling, storage, and segregation		
Commodities are inspected upon receipt to ensure that they are suitable for irradiation treatment		
Commodities are handled in an environment that does not increase the risk of contamination from physical, chemical, or biological hazards		
Commodities are appropriately stored and adequately identified. Procedures and facilities are in place to ensure the segregation of treated and untreated consignments and/or lots. There is a physical separation between incoming and outgoing holding areas where required		

Criteria	**Yes**	**No**
4. Irradiation treatment		
Facility is able to perform required treatments in conformity with a scheduled process. A process control system is in place providing criteria to assess irradiation efficacy		
Proper process parameters are established for each type of commodity or consignment to be treated. Written procedures have been submitted to the NPPO and are well known to appropriate treatment facility personnel		
Absorbed dose delivered to each type of commodity is verified by proper dosimetric measurement practices using calibrated dosimetry. Dosimetry records are kept and made available to the NPPO as needed		
5. Packaging and labelling		
Commodity is packaged (if necessary) using materials suitable to the product and process		
Treated consignments and/or lots are adequately identified or labelled (if required) and adequately documented		
Each consignments and/or lot carries an identification number or other code to distinguish it from all other consignments or lots		
6. Documentation		
All records about each consignment and/or lot irradiated are retained at the facility for the period of time specified by relevant authorities and are available for inspection by the NPPO as needed		
The NPPO has a written compliance agreement with the facility		

APPENDIX 1

This appendix is for reference purposes only and is not a prescriptive part of the standard. The list is not exhaustive and should be adapted to specific circumstances. The references here are widely available, easily accessible and generally recognized as authoritative. The list is not comprehensive or static; nor is it endorsed as a standard under this ISPM.

ESTIMATED MINIMUM ABSORBED DOSES FOR CERTAIN RESPONSES FOR SELECTED PEST GROUPS[4]

The following table identifies ranges of minimum absorbed dose for pest groups based on treatment research reported in the scientific literature. Minimum doses are taken from many publications that are in the references listed below. Confirmatory testing should be done before adopting the minimum dose for a specific pest treatment.

To ensure the minimum absorbed dose is achieved for phytosanitary purposes, it is recommended to seek information about the Dmin for a particular target species and also to take into consideration the note in Appendix 2.

Pest group	Required response	Minimum Dose Range (Gy)
Aphids and whiteflies (Homoptera)	Sterilize actively reproducing adult	50-100
Seed weevils (Bruchidae)	Sterilize actively reproducing adult	70-300
Scarab beetles (Scarabidae)	Sterilize actively reproducing adult	50-150
Fruit flies (Tephritidae)	Prevent adult emergence from 3rd instar	50-250
Weevils (Curculionidae)	Sterilize actively reproducing adult	80-165
Borers (Lepidoptera)	Prevent adult development from late larva	100-280
Thrips (Thysanoptera)	Sterilize actively reproducing adult	150-250
Borers (Lepidoptera)	Sterilize late pupa	200-350
Spider Mites (Acaridae)	Sterilize actively reproducing adult	200-350
Stored product beetles (Coleoptera)	Sterilize actively reproducing adult	50-400
Stored product moths (Lepidoptera)	Sterilize actively reproducing adult	100-1,000
Nematodes (Nematoda)	Sterilize actively reproducing adult	~4,000

References

International Atomic Energy Agency. 2002. International Database on Insect Disinfestation and Sterilization. (available at http://www-ididas.iaea.org).

Hallman, G. J. 2001. Irradiation as a quarantine treatment. *In*: Molins, R.A. (ed.) *Food Irradiation Principles and Applications*. New York: J. Wiley & Sons. p. 113-130.

Hallman, G. J. 2000. Expanding radiation quarantine treatments beyond fruit flies. *Agricultural and Forest Entomology*. 2:85-95.

http://www.iaea.org/icgfi is also a useful site for technical information on food irradiation.

[4] Not conclusively demonstrated with large scale testing. Based on literature review by Hallman, 2001.

APPENDIX 2

This appendix is for reference purposes only and is not a prescriptive part of the standard.

RESEARCH PROTOCOL[5]

Research materials

It is recommended to archive samples of the different developmental stages of the pests studied in order to, among other reasons, resolve possible future disputes on identification. The commodity to be used should be of normal commercial condition.

To perform treatment research to control quarantine pests it is necessary to know its basic biology as well as define how the pests used in the research will be obtained. The experiments with irradiation should be carried out on the commodity infested naturally in the field and/or with laboratory-reared pests that are used to infest the commodity preferably in a natural form. The method of rearing and feeding should be carefully detailed.

Note: Studies done with pests *in vitro* are not recommended because the results could be different from those obtained when irradiating the pests in commodities unless preliminary testing indicates that results from in vitro treatments are no different than in situ.

Dosimetry

The dosimetry system should be calibrated, certified and used according to recognized international standards. The minimum and maximum doses absorbed by the irradiated product should be determined striving for dose uniformity. Routine dosimetry should be conducted periodically.

International ISO Guidelines are available for conducting dosimetry research on food and agricultural products (see Standard ISO/ASTM 51261 *Guide for Selection and Calibration of Dosimetry Systems for Radiation Processing*).

Estimation and confirmation of minimum absorbed dose for treatment

Preliminary Tests

The following steps should be carried out to estimate the dose required to ensure quarantine security:

- Radiosensitivity of the different stages of development of the pest in question that may be present in the commodity that is marketed must be established with the purpose of determining the most resistant stage. The most resistant stage, even if it is not the most common one occurring in the commodity, is the stage for which the quarantine treatment dose is established.
- The minimum absorbed dose will be determined experimentally. If pertinent data do not already exist, it is recommended to use at least five (5) dose levels and a control for each developmental stage, with a minimum of 50 individuals where possible for each of the doses and a minimum of three (3) replicates. The relationship between dose and response for each stage will be determined to identify the most resistant stage. The optimum dose to interrupt

[5] Based primarily on insect pest treatment research.

the development of the most resistant stage and/or to avoid the reproduction of the pests needs to be determined. The remainder of the research will be conducted on the most radiotolerant stage.

- During the period of post-treatment observation of the commodities and associated pests, both treated and control, must remain under favorable conditions for survival, development, and reproduction of the pests so that these parameters can be measured. The untreated controls must develop and/or reproduce normally for a given replicate for the experiment to be valid. Any study where the control or check mortalities are high indicates that the organisms were held and handled under sub-optimal conditions. These organisms may give misleading results if their treatment mortality is used to predict an optimum treatment dose. In general, mortality in the control or check should not exceed 10%.

Large Scale (Confirmatory) Tests

- To confirm if the estimated minimum dose to provide quarantine security is valid, it is necessary to treat a large number of individuals of the most resistant stage of the organism while achieving the desired result, be it prevention of pest development or sterility. The number treated will depend on the required level of confidence. The level of efficacy of the treatment should be established between the exporting and importing countries and be technically justifiable.
- Because the maximum dose measured during the confirmatory part of the research will be the minimum dose required for the approved treatment, it is recommended to keep the maximum-minimum dose ratio as low as possible.

Recordkeeping

Test records and data need to be kept to validate the data requirements and should upon request be presented to interested parties, for example the NPPO of the importing country, for consideration in establishing an agreed commodity treatment.

Publication No. 19
April 2003

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

GUIDELINES ON LISTS OF REGULATED PESTS

Secretariat of the International Plant Protection Convention
Food and Agriculture Organization of the United Nations
Rome, 2003

INTRODUCTION

SCOPE

This standard describes the procedures to prepare, maintain and make available lists of regulated pests.

REFERENCES

Determination of pest status in an area, 1998. ISPM No. 8, FAO, Rome.
Glossary of phytosanitary terms, 2002. ISPM No. 5, FAO, Rome.
Guidelines for Pest Risk Analysis, 1996. ISPM No. 2, FAO, Rome.
Guidelines for Phytosanitary Certificates, 2001. ISPM No. 12, FAO, Rome.
Guidelines for the notification of non-compliance and emergency action, 2001. ISPM No. 13, FAO, Rome.
International Plant Protection Convention, 1997. FAO, Rome.
Pest Risk Analysis for quarantine pests, 2001. ISPM No. 11, FAO, Rome.

DEFINITIONS AND ABBREVIATIONS[1]

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]
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; ICPM, 2001]
official	Established, authorized or performed by a National Plant Protection Organization [FAO, 1990]
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 (see Glossary Supplement N° 1) [ICPM, 2001]
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]

[1] The references listed in brackets refer to the definition or revision of the term.

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 Certificate	Certificate patterned after the model certificates of the IPPC [FAO, 1990]
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; ICPM, 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]
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 harbouring 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; revised ICPM, 2001]

OUTLINE OF REQUIREMENTS

The International Plant Protection Convention (IPPC) requires contracting parties to the best of their abilities to establish, update and make available lists of regulated pests.

Lists of regulated pests are established by an importing contracting party to specify all currently regulated pests for which phytosanitary measures may be taken. Specific lists of regulated pests by commodity are a subset of these lists. Specific lists are provided on request to the NPPOs of exporting contracting parties as the means to specify the regulated pests for the certification of particular commodities.

Quarantine pests, including those subject to provisional or emergency measures, and regulated non-quarantine pests should be listed. Required information associated with the listing includes the pest's scientific name, the pest category and commodities or other articles that are regulated for the pest. Supplementary information may be provided such as synonyms and references to data sheets and pertinent legislation. Updating of the lists is required when pests are added or deleted or when required information or supplementary information changes.

Lists should be made available to the IPPC Secretariat, to Regional Plant Protection Organizations (RPPOs) of which the contracting party is a member and, on request, to other contracting parties. This may be done electronically and should be in an FAO language. Requests should be as specific as possible.

REQUIREMENTS

1. Basis for Lists of Regulated Pests

Article VII.2i of the IPPC (1997) states:

> *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, to regional plant protection organizations of which they are members and, on request, to other contracting parties.*

Therefore, contracting parties to the IPPC have the explicit obligation to prepare and make available, to the best of their abilities, lists of regulated pests. This is closely associated with other provisions of Article VII regarding the provision of phytosanitary requirements, restrictions and prohibitions (VII.2b) and the provision of the rationale for phytosanitary requirements (VII.2c).

In addition, the certifying statement of the Model Phytosanitary Certificate annexed to the Convention implies that lists of regulated pests are necessary by referring to:

- quarantine pests specified by the importing contracting party;
- phytosanitary requirements of the importing contracting party, including those for regulated non-quarantine pests.

The availability of lists of regulated pests assists exporting contracting parties to issue Phytosanitary Certificates correctly. In instances where a list of regulated pests is not supplied by the importing contracting party, the exporting contracting party can only certify for pests it believes to be of regulatory concern (see ISPM No. 12: *Guidelines for Phytosanitary Certificates*, section 2.1).

The justification for regulating pests corresponds to the provisions of the IPPC requiring that:

- pests meet the defining criteria for quarantine or regulated non-quarantine pests to be regulated (Article II – "regulated pest");
- only regulated pests are eligible for phytosanitary measures, (Article VI.2);
- phytosanitary measures are technically justified, (Article VI.1b); and
- PRA provides the basis for technical justification, (Article II – "technically justified").

2. Purpose of Lists of Regulated Pests

The importing contracting party establishes and updates lists of regulated pests in order to assist it in preventing the introduction and/or spread of pests and to facilitate safe trade by enhancing transparency. These lists identify those pests that have been determined by the contracting party to be quarantine pests or regulated non-quarantine pests.

A specific list of regulated pests, which should be a subset of those lists, may be provided by the importing contracting party to the exporting contracting party as the means to make known to the exporting contracting party those pests for which inspection, testing or other specific procedures are required for particular imported commodities, including phytosanitary certification.

Lists of regulated pests may also be useful as the basis for harmonization of phytosanitary measures where several contracting parties with similar and shared phytosanitary concerns

agree on pests that should be regulated by a group of countries or a region. This may be done through Regional Plant Protection Organizations (RPPOs).

In developing lists of regulated pests, some contracting parties identify non-regulated pests. There is no obligation for listing such pests. Contracting parties shall not require phytosanitary measures for non-regulated pests (Article VI.2 of the IPPC, 1997). The provision, however, of this information may be useful, for example for facilitating inspection.

3. Preparation of Lists of Regulated Pests

Lists of regulated pests are established and maintained by the importing contracting party. The pests to be listed are those that have been determined by the NPPO to require phytosanitary measures:

- quarantine pests, including pests which are the subject of provisional or emergency measures; or
- regulated non-quarantine pests.

A list of regulated pests may include pests for which measures are required only in certain circumstances.

4. Information on Listed Pests

4.1 Required information

The required information to be associated with listed pests includes:

Name of pest – The scientific name of the pest is used for listing purposes, at the taxonomic level which has been justified by PRA (see also ISPM No. 11: *Pest Risk Analysis for quarantine pests*). The scientific name should include the authority (where appropriate) and be complemented by a common term for the relevant taxonomic group (e.g. insect, mollusc, virus, fungus, nematode, etc.).

Categories of regulated pests – These are quarantine pest, not present; quarantine pest, present but not widely distributed and under official control; or regulated non-quarantine pest. Pest lists may be organized using these categories.

Association with regulated article(s) – The host commodities or other articles that are specified as regulated for the listed pest(s).

Where codes are used for any of the above, the contracting party responsible for the list should also make available appropriate information for its proper understanding and use.

4.2 Supplementary information

Information that may be provided where appropriate includes:

- synonyms;
- reference to pertinent legislation, regulations, or requirements;
- reference to a pest data sheet or PRA;
- reference to provisional or emergency measures.

4.3 NPPO responsibilities

The NPPO is responsible for procedures to establish lists of regulated pests and to produce specific lists of regulated pests. Information used for necessary PRA and

subsequent listing may come from various sources within or outside the NPPO including other agencies of the contracting party, other NPPOs (in particular where the NPPO of the exporting contracting party requests specific lists for certification purposes), RPPOs, scientific academia, scientific researchers and other sources.

5. Maintenance of Lists of Regulated Pests

The contracting party is responsible for the maintenance of pest lists. This involves updating lists and appropriate recordkeeping.

Lists of regulated pests require updating when pests are added or deleted, or the category of listed pests changes, or when information is added or changed for listed pests. The following are some of the more common reasons for updating these lists:

- changes to prohibitions, restrictions or requirements;
- change in pest status (see ISPM No. 8: *Determination of pest status in an area*);
- result of a new or revised PRA;
- change in taxonomy.

The updating of pest lists should be done as soon as the need for modifications is identified. Formal changes in legal instruments, where appropriate, should be adopted as quickly as possible.

It is desirable for NPPOs to keep appropriate records of changes in pest lists over time (e.g. rationale for change, date of change) for reference and to facilitate response to inquiries that may be related to disputes.

6. Availability of Lists of Regulated Pests

Lists may be included in legislation, regulations, requirements or administrative decisions. Contracting parties should create operational mechanisms for establishing, maintaining and making available lists in a responsive manner.

The IPPC makes provision for the official availability of lists and languages to be used.

6.1 Official availability

The IPPC requires that contracting parties make lists of regulated pests available to the IPPC Secretariat and RPPOs to which they are members. They are further obliged to provide such lists to other contracting parties upon request (Article VII.2i of the IPPC, 1997).

Lists of regulated pests should be made available officially to the IPPC Secretariat. This may be done in written or electronic form, including the Internet.

The means for making pest lists available to RPPOs is decided within each organization.

6.2 Requests for lists of regulated pests

NPPOs may request lists of regulated pests or specific lists of regulated pests from other NPPOs. In general, requests should be as specific as possible to the pests, commodities, and circumstances of concern to the contracting party.

Requests may be for:

- clarification of the regulatory status for particular pests;
- specification of quarantine pests for certification purposes;
- obtaining regulated pest lists for particular commodities;
- information concerning regulated pests not associated with any particular commodity;
- updating previously provided pest list(s).

Pest lists should be provided by NPPOs in a timely manner, with highest priority given to requests for lists necessary for phytosanitary certification or to facilitate the movement of commodities in trade. Copies of regulations may be provided where pest lists included in these regulations are considered adequate.

Both requests and responses for pest lists should be through official contact points. Pest lists may be provided by the IPPC Secretariat when available, but such provision is unofficial.

6.3 Format and language

Lists of regulated pests made available to the IPPC Secretariat, and in response to requests from contracting parties, should be provided in one of the five official languages of FAO (required under Article XIX.3c of the IPPC, 1997).

Pest lists may be provided electronically or by access to an appropriately structured Internet website where contracting parties have indicated this is possible and the corresponding organizations have the capability for such access and have indicated willingness to use this form of transmission.

TERMS OF REFERENCE AND RULES OF PROCEDURE FOR THE STANDARDS COMMITTEE

Terms of Reference for the Standards Committee

1. Establishment of the Standards Committee
The Standards Committee (SC) was established by the Third Interim Commission on Phytosanitary Measures.

2. Scope of the Standards Committee
The Standards Committee manages the standard-setting process and assists in the development of International Standards for Phytosanitary Measures (ISPM) which have been identified by the ICPM as priority standards.

3. Objective
The main objective of the Standards Committee is to prepare draft ISPMs according to the standard-setting procedures in the most expeditious manner for adoption by the ICPM.

4. Structure of the Standards Committee
The Standards Committee consists of 20 members, including three members drawn from each the FAO Regions, and two from North America. The distribution for each region will be:

Africa (3)
Asia (3)
Europe (3)
Latin America and the Caribbean (3)
Near East (3)
North America (2)
Southwest Pacific (3)

An expert group of seven members, the Standards Committee Working Group (SC-7) is selected by the Standards Committee from its membership.
The functions of the SC-7 are determined by the Standards Committee and include the review and revision of specifications, working group drafts and drafts from the consultation process. Temporary or permanent working groups and drafting groups may be established by the Standards Committee as required to assist the SC-7.

5. Functions of the Standards Committee
The Standards Committee serves as a forum for:
- approval of draft specifications or amendment of specifications;
- finalization of specifications;
- designation of the members of the SC-7 and identification of tasks of the group;
- designation of membership of working groups and drafting groups as required;
- review of draft ISPMs;
- approval of draft standards to be submitted to ICPM Members for consultation;
- establishment of open-ended discussion groups where appropriate;
- revision of draft ISPMs in cooperation with the Secretariat taking into account comments of ICPM Members and RPPOs;
- approval of final drafts of ISPMs for submission to the ICPM;
- review of existing ISPMs and those requiring reconsideration;
- identification of priorities for ISPMs under development;

- ensuring that language used in draft ISPMs is clear, simple and focused;
- assigning stewardship for each ISPM[1]; and
- other functions related to standard setting as directed by the ICPM.

6. IPPC Secretariat
The Secretariat provides administrative, technical and editorial support as required by the Standards Committee. The Secretariat is responsible for reporting and recordkeeping regarding the standard.

Rules of Procedure for the Standards Committee

Rule 1. Membership
Members should be senior officials designated by governments and have qualifications in a scientific biological discipline (or equivalent) in plant protection, and experience and skills particularly in the:
- practical operation of a national or international phytosanitary system;
- administration of a national or international phytosanitary system; and
- application of phytosanitary measures related to international trade.

Each FAO Region may devise its own procedures for selecting its members of the Standards Committee. The Secretariat is notified of the selections that are submitted to the ICPM for confirmation.

The Standards Committee is responsible for selecting the SC-7 members from within its membership for confirmation by FAO. Members selected for the SC-7 will meet the above-mentioned qualifications and experience.

Rule 2. Period of Membership
Members of the Standards Committee shall serve for two years, with a maximum of six years. Only seven members are replaced every 2 years to ensure continuity.
Membership of SC-7 lapses with membership of the Standards Committee or upon resignation.
Replacements to the Standards Committee are decided by the FAO Region concerned. Replacements to the SC-7 are selected by the Standards Committee.

Rule 3. Chair
The Chairperson and Vice-Chairperson of the Standards Committee are elected by the Standards Committee from its membership and serve for two years, with a possibility of re-election for an additional term of two years.
The Chair of the SC-7 is elected by members of the SC-7. The term is for 2 years with the possibility of re-election.

Rule 4. Sessions
Meetings of the Standards Committee are normally held at FAO-Headquarters in Rome.
The Standards Committee meets at least once per year primarily to facilitate the approval procedures within the standard-setting process.

[1] The assigning of stewardship involves designating an individual to be responsible for managing the development of a particular standard from its inception to its completion according to the specifications for the standard and any additional directions provided by the SC and IPPC Secretariat.

Regular sessions

Unless otherwise decided by the ICPM, meetings of the Standards Committee shall be held in November. The Standards Committee may authorize the SC-7 or special-purpose groups to meet more frequently than the Standards Committee within the limits of available resources.

Extraordinary sessions

The Standards Committee, in consultation with the Bureau of the ICPM may call an extraordinary session of the Standards Committee within the limits of available resources.
A majority of the Standards Committee shall constitute a quorum.

Rule 5. Approval

Approvals relating to specifications or draft standards are sought by consensus. Final drafts of ISPMs which have been approved by the Standards Committee are submitted to the ICPM without undue delay.

Rule 6. Observers

For observer status, Rule 7 of the Rules of Procedure of the ICPM will apply.

Rule 7. Reports

Standards Committee meeting records shall be kept by the Secretariat. The report of the meetings shall include:

- approval of draft specifications for ISPMs;
- finalization of specifications with a detailed explanation including reasons for changes; and
- reasons why a draft standard has not been approved.

The Secretariat shall endeavor to provide to ICPM Members upon request the rationale of the Standards Committee for accepting or not accepting proposals for modifications to specifications or draft standards.

A report on the activities of the Standards Committee shall be made by the Chairperson of the Standards Committee to the annual session of the ICPM.

Reports shall be adopted by the Standards Committee before they are made available to Members of the ICPM and RPPOs.

Rule 8. Language

The business of the Standards Committee shall be conducted in the English language.

Rule 9. Amendments

Amendments to the Rules of Procedures and the Terms of Reference may be promulgated by the ICPM as required.

RECOMMENDATION ON THE FUTURE OF METHYL BROMIDE FOR PHYTOSANITARY PURPOSES

The ICPM recognises the need to retain methyl bromide for critical quarantine treatments until suitable alternative phytosanitary treatments or procedures are available.

The ICPM calls on its Members to:

- Take necessary and possible actions to minimize the use of methyl bromide, e.g. by restricting it to essential purposes, with a corresponding reduction in pre-shipment and other non-phytosanitary uses;
- increase the use of alternative phytosanitary measures such as systems approaches (as outlined in ISPM No. 14), recognition of pest free areas (ISPM No. 4) and pest free places of production and pest free production sites (ISPM No. 10);
- reduce as far as possible the incidence of emergency action fumigation; and
- reduce the loss of methyl bromide to the atmosphere e.g. through the use of gas recovery technologies.

The ICPM sees the need to:

- develop ISPMs for the application and verification of alternative treatments; and
- provide guidance on the necessity for emergency action fumigation and on alternative phytosanitary measures based on more accurate knowledge of the pests concerned.

The ICPM stresses the need for improved linkages between the IPPC Secretariat and technical bodies operating under the Montreal Protocol in order to:

- obtain greater understanding of the work being done in both bodies; and
- communicate phytosanitary concerns arising through reduced or lost availability of methyl bromide.

ICPM Members are urged to communicate details of essential phytosanitary uses of methyl bromide to other relevant agencies and interest groups in their countries.

TOPICS AND PRIORITIES FOR STANDARDS: PROCESS FOR A FAST TRACK ADOPTION PROCEDURE FOR STANDARDS

1. A focus group would meet in June/July 2003 to work out procedures on how to increase substantially the number of standards that are adopted each year. This would include the consideration of a fast track adoption procedure and the development of criteria for such a procedure.

2. The procedure developed by the focus group would be communicated to the 15th Technical Consultation among Regional Plant Protection Organizations (15th TC) for consideration.

3. The procedure, and the comments from the 15th TC on the procedure, would be reviewed by the Informal Working Group on Strategic Planning and Technical Assistance (SPTA). The conclusions of the SPTA would be submitted to the Sixth Session of the ICPM for its consideration and, if appropriate, its approval.

STRATEGIC PLAN AS AMENDED

STRATEGIC DIRECTIONS AND GOALS

Strategic Direction No. 1: The development, adoption and monitoring of the implementation of International Standards for Phytosanitary Measures (ISPMs)

Setting international phytosanitary standards is a basic and unique role identified in the IPPC, particularly given the status accorded IPPC standards as a result of the WTO SPS Agreement. Internationally accepted phytosanitary standards form the basis for the harmonization of phytosanitary measures that protect natural and cultivated plant resources while ensuring fair and safe trade. An increased number of international standards is necessary to facilitate international trade as envisaged by the WTO SPS Agreement.

Goals for Strategic Direction No. 1

1.1 Maintain an effective standard development and adoption system using the ICPM and SC
1.1.1 Increase the number of standards to meet targets established in the ICPM work programme
1.1.2 Develop specific standards where relevant concept standards are in place
1.1.3 Develop concept standards where necessary for the preparation of specific standards in priority areas
1.1.4 Involve RPPO cooperation in the development of ISPMs
1.2 Improve the standard-setting mechanism
1.2.1 Establish "Guidelines on the establishment of commodity or pest-specific standards"
1.3 Ensure that ISPMs take account of the protection of the environment
1.3.1 Establish a mechanism to review standards
1.4 Increase transparency and participation in the standard-setting process
1.4.1 Increase the participation by developing countries in standard setting
1.4.2 Develop efficient information sharing systems concerning standard-setting activities and procedures
1.5 Facilitate the implementation of standards
1.5.1 Establish explanatory documents corresponding to ISPMs if needed
1.5.2 Encourage RPPOs to assist their members in the implementation of ISPMs

Strategic direction No. 2: Information exchange

This strategic direction covers members and the IPPC Secretariat's obligations to provide information as specified in the IPPC and information exchange that may be specified by the ICPM or in ISPMs, including such information as pest lists, pest reports, and phytosanitary measures. Information exchange activities ensure that members communicate officially on phytosanitary regulations and other issues of phytosanitary significance, and determine the means by which the IPPC Secretariat makes them available to other members.

Goals for Strategic Direction No. 2

2.1 Establish procedures for pest reporting and information exchange
2.2 Promote increased access and use of electronic communication/Internet
2.3 Develop the IPP for provision of official information by countries
2.4 Establish systems to identify sources of information on pests

Strategic Direction No. 3: The provision of dispute settlement mechanisms

This relates to the non-binding dispute settlement provisions contained in Article XIII of the IPPC (1997). The ICPM is charged to develop rules and procedures for dispute settlement under the IPPC. The Convention explicitly recognizes the complimentary role of the IPPC in this area given the formal binding dispute settlement process that exists under the WTO.

Goals for Strategic Direction No. 3

3.1 Increase awareness of dispute settlement mechanism
3.1.1 Develop information material concerning the requirements for effective preparation of a dispute settlement
3.2 Provide supporting information on IPPC and other dispute settlement systems
3.2.1 Establish an inventory of other dispute settlement systems
3.2.2 Provide rulings/precedents from dispute settlements (e.g. WTO)
3.2.3 Establish a regular ICPM agenda item for dispute settlement

Strategic Direction No. 4: The development of the phytosanitary capacity of Members by promoting the provision of technical assistance

Article XX in the IPPC (1997) requires members to promote the provision of technical assistance especially to developing contracting parties, either bilaterally or through appropriate international organizations with the purpose of facilitating implementation of the IPPC. Adequate capacity and infrastructure for all Members are critical to accomplish the IPPC's goals.

Goals for Strategic Direction No. 4

4.1 Develop and maintain methods and tools for individual countries to evaluate and develop their phytosanitary capacity as well as their needs and demands for technical assistance
4.1.1 Maintain and update Phytosanitary Capacity Evaluation (PCE)
4.1.2 Promote use of the PCE
4.1.3 Identify and develop additional technical assistance tools
4.2 Promote technical cooperation to support the working programme of the ICPM
4.2.1 Increase the number of workshops and other activities to improve the understanding and application of international standards
4.2.2 Increase assistance for the establishment, revision and updating of national legislation
4.2.3 Establish a checklist on phytosanitary legal and associated institutional issues
4.2.4 Establish a process to identify and rank priorities for the ICPM's activities in technical assistance
4.3 Provide information to help Members obtain technical assistance from donors
4.4 Promote the improvement and development of RPPOs
4.4.1 Assist RPPOs in the establishment of information systems

Strategic direction No. 5: The maintenance of an effective and efficient administrative framework

To function effectively, the ICPM must establish organizational structures and procedures, identify funding mechanisms, and address various support and administrative functions, including internal review and evaluation mechanisms. This strategic direction is to make provision for the ICPM to address its administrative issues and strategies, making continual improvement to ensure its business practices are effective and efficient.

Goals for Strategic Direction No. 5

5.1 Establish planning, reporting and review mechanisms
5.1.1 Provide a transparent budget
5.1.2 Increase Secretariat capacity through the use of FAO resources
5.1.3 Review business plan annually
5.1.4 Establish internal planning, review and evaluation mechanisms
5.1.5 Report on activities of the Secretariat, including reporting by Secretariat on the implementation of the strategic plan
5.1.6 Update strategic plan and operational programme annually
5.2 Establish strategies for increasing resources available to the IPPC
5.3 Identify the relationship of the IPPC Secretariat in the context of FAO
5.4 Establish procedures to identify issues where common action of the ICPM is required
5.5 Establish costing of all activities in Strategic Plan

Strategic Direction No. 6: Promotion of IPPC and cooperation with relevant international organizations

This strategy direction recognizes the need to communicate IPPC issues, obligations, processes and interests to all concerned, including other bodies with similar or overlapping interests, and to encourage RPPOs to promote regionally the implementation of the IPPC.

Goals for Strategic Direction No. 6

6.1 Promote the IPPC

6.1.1 Encourage Members to deposit their instrument of acceptance for the New Revised Text (IPPC, 1997)

6.1.2 Encourage non-contracting parties to adopt the IPPC

6.1.3 Communicate IPPC issues, obligations, processes and interests to all concerned, including other bodies with similar or overlapping interests

6.1.4 Request RPPOs to promote regionally the implementation of the IPPC

6.2 Strengthen cooperation with other international organizations

6.2.1 Establish relations, identify areas of common interest, and where appropriate, develop coordinated activities and joint programmes with other relevant organizations including the CBD, OIE, Codex and WTO

6.2.2 Strengthen cooperation and coordination with relevant organizations on technical assistance

6.3 Establish linkages with research and education institutions to identify a plan of action for the provision of scientific and technical support for the IPPC

6.3.1 Develop a plan of action for the provision of scientific and technical support for IPPC implementation

Tables indicating the timing, priorities and means for achieving goals recommended by the ICPM Technical Consultation on Strategic Planning.

Table 1. Strategic Direction No. 1: The development, adoption and monitoring of the implementation of international standards for phytosanitary measures (ISPMs)

Goals	Timing	Priority	Means
1.1 Maintain an effective standard development and adoption system using the ICPM and SC	Ongoing	High	SC and ICPM
1.1.1 Increase the number of standards to meet targets established in the ICPM work programme	Ongoing	High	
1.1.2 Develop specific standards where relevant concept standards are in place	Ongoing	High	ICPM
1.1.3 Develop concept standards where necessary for the preparation of specific standards in priority areas	Ongoing	High	
1.1.4 Involve RPPO cooperation in the development of ISPMs	Ongoing	Low	ICPM and Secretariat
1.2 Improve the standard-setting mechanism			
1.2.1 Establish "Guidelines on the establishment of commodity or pest-specific standards"	Ongoing	Medium	ICPM
1.3 Ensure that ISPMs take account of the protection of the environment	Ongoing	High	ICPM, Bureau and Secretariat
1.3.1 Establish a mechanism to review standards	Ongoing	High	ICPM, Bureau and Secretariat
1.4 Increase transparency and participation in the standard-setting process	Ongoing	High	ICPM
1.4.1 Increase the participation by developing countries in standard setting	Ongoing	High	ICPM WG
1.4.2 Develop efficient information sharing systems concerning standard-setting activities and procedures	Ongoing	Medium	ICPM and Secretariat
1.5 Facilitate the implementation of standards	2003	High	ICPM
1.5.1 Establish explanatory documents corresponding to ISPMs if needed	2003	Medium	SC
1.5.2 Encourage RPPOs to assist their members in the implementation of ISPMs	Ongoing	Medium	ICPM

Table 2. Strategic Direction No. 2: Information exchange

Goals	Timing	Priority	Means
2.1 Establish procedures for pest reporting and information exchange	In process	High	SC
2.2 Promote increased access and use of electronic communication/Internet	Ongoing	Medium	Secretariat
2.3 Develop the IPP for provision of official information by countries	2003	High	Secretariat
2.4 Establish systems to identify sources of information on pests	2004	Medium	Working group

Table 3. Strategic Direction No. 3: Dispute settlement

Goals	Timing	Priority	Means
3.1 Increase awareness of dispute settlement mechanism	Ongoing	Medium	Secretariat report to ICPM
3.1.1 Develop information material concerning the requirements for effective preparation of a dispute settlement	2004	Medium	Subsidiary body
3.2 Provide supporting information on IPPC and other dispute settlement systems	2004	Medium	Subsidiary body
3.2.1 Establish an inventory of other dispute settlement systems	2004	Medium	Subsidiary body
3.2.2 Provide rulings/precedents from dispute settlements (e.g. WTO)	2004	Medium	Subsidiary body
3.2.3 Establish a regular ICPM agenda item for dispute settlement	2003	Medium	ICPM

Table 4. Strategic Direction No. 4: The development of phytosanitary capacity of Members by promoting the provision of technical assistance

Goals	Timing	Priority	Means
4.1 Develop and maintain methods and tools for individual countries to evaluate their phytosanitary capacity as well as their needs and demands for technical assistance	Ongoing	Medium	ICPM and Secretariat
4.1.1 Maintain and update Phytosanitary Capacity Evaluation (PCE)	Ongoing	Medium	SPTA and Secretariat
4.1.2 Promote use of the PCE	Ongoing	Medium	Secretariat and Bureau
4.1.3 Identify and develop additional technical assistance tools	Ongoing	Medium	SPTA and Secretariat
4.2 Promote technical cooperation to support the working programme of the ICPM	Ongoing	High	ICPM and Bureau
4.2.1 Increase the number of workshops and other activities to improve the understanding and application of international standards	Ongoing	High	Secretariat
4.2.2 Increase assistance for the establishment, revision and updating of national legislation	Ongoing	High	Secretariat
4.2.3 Establish a checklist on phytosanitary legal and associated institutional issues	In process	High	Secretariat
4.2.4 Establish a process to identify and rank priorities for the ICPM's activities in technical assistance	2004	Medium	ICPM
4.3 Provide information to help Members obtain technical assistance from donors	2003	High	Bureau and Secretariat
4.4 Promote the improvement and development of RPPOs	Ongoing	Medium	Members and the Secretariat
4.4.1 Assist RPPOs in the establishment of information systems	Ongoing	Medium	Members and the Secretariat

Table 5. Strategic Direction No. 5: The maintenance of an effective and efficient administrative framework

Goals	Timing	Priority	Means
5.1 Establish planning, reporting and review mechanisms	2003	High	SPTA, Secretariat and ICPM
5.1.1 Provide a transparent budget	Ongoing	High	Secretariat
5.1.2 Increase Secretariat capacity through the use of FAO resources	Ongoing	High	ICPM, Bureau and Members
5.1.3 Review business plan annually	2002 and ongoing	High	Bureau and Secretariat
5.1.4 Establish internal planning, review and evaluation mechanisms	2003	High	SPTA
5.1.5 Report on activities of the Secretariat, including reporting by Secretariat on the implementation of the strategic plan	Ongoing	High	Secretariat
5.1.6 Update strategic plan and operational programme annually	Ongoing	High	SPTA and ICPM
5.2 Establish strategies for increasing resources available to the IPPC	Ongoing	High	SPTA and ICPM
5.3 Identify the relationship of the IPPC Secretariat in the context of FAO	Ongoing	Low	ICPM
5.4 Establish procedures to identify issues where common action of the ICPM required	Ongoing	Low	ICPM
5.5 Establish costing of all activities in Strategic Plan	2003	High	Secretariat

Table 6. Strategic Direction No. 6: Promotion of IPPC and cooperation with other international bodies

Goals	Timing	Priority	Means
6.1 Promote the IPPC	Ongoing	High	Members and Secretariat
6.1.1 Encourage Members to deposit their instrument of acceptance for the New Revised Text (IPPC, 1997)	Ongoing	High	Members and Secretariat
6.1.2 Encourage non-contracting parties to adopt the IPPC	Ongoing	High	Members and Secretariat
6.1.3 Communicate IPPC issues, obligations, processes and interests to all concerned, including other bodies with similar or overlapping interests	Ongoing	High	Secretariat
6.1.4 Request RPPOs to promote regionally the implementation of the IPPC	Ongoing	High	ICPM
6.2 Strengthen cooperation with other international organizations	Ongoing	High	Secretariat
6.2.1 Establish relations, identify areas of common interest, and where appropriate, develop coordinated activities and joint programmes with other relevant organizations including the CBD, OIE, Codex and WTO	Ongoing	High	Secretariat and Bureau
6.2.2 Strengthen cooperation and coordination with relevant organizations on technical assistance	Ongoing	Medium	ICPM and Secretariat
6.3 Establish linkages with research and education institutions to identify a plan of action for the provision of scientific and technical support for the IPPC	Ongoing	Medium	ICPM and Secretariat
6.3.1 Develop a plan of action for the provision of scientific and technical support for IPPC implementation	Ongoing	Medium	Bureau

FINANCIAL GUIDELINES FOR THE SPECIAL TRUST FUND OF THE INTERNATIONAL PLANT PROTECTION CONVENTION

Scope

The objective of the fund is to provide resources to benefit developing countries:

- through their attendance at the standard setting meetings
- through participating in a training programme and internet exchange for information exchange
- through regional workshops on draft standards and implementing standards
- through development and guidance for countries to use in the evaluation of institutional and regulatory aspects of national phytosanitary systems
- by encouraging individual members to utilize Phytosanitary Capacity Evaluation and formulate national Phytosanitary plans.
- through any other project agreed by the ICPM.

I. Applicability

1. These guidelines shall govern the financial administration of the Special Trust Fund of the International Plant Protection Convention.

2. These guidelines shall apply to the activities of the Special Trust Fund for matters not covered by the FAO financial rules and procedures concerning trust funds.

II. The Financial Period

The financial period shall be one calendar year.

III. The Budget

1. The budget estimates shall be prepared by the Secretary of the Commission for submission to the Commission held in the year before the financial year covered by the Budget.

2. Before the submission to the Commission, the budget estimates shall be reviewed by the SPTA for consideration by the bureau of the ICPM, which will make a final recommendation on its adoption to the Commission.

3. The Budget shall be circulated to all Members of the Commission not less than 60 days before the opening session of the Commission at which the budget is to be adopted.

4. The Commission shall adopt the Budget of the Special Trust Fund by consensus of its Members provided, however, that if, after every effort has been made, a consensus cannot be reached in the course of that session, the matter will be put to a vote and the Budget shall be adopted by a two-thirds majority of its Members.

5. The Budget Estimates shall cover income and expenditures for the financial period to which they relate, and shall be presented in United States dollars.

6. The Budget Estimates shall reflect the programme of work for the financial period elaborated by appropriate information and data, and shall include the programme of work and such other information, annexes or explanatory statements as may be requested by the Commission.

7. The Budget shall comprise:

The Budget relating to voluntary contributions of Members, non-Members and other contributors, and expenditures chargeable to the Special Trust Fund, in accordance with its scope. The Budget shall also refer in an appropriate manner the expenses to be borne by FAO and by the General Trust Fund relating to funds made available during the financial period.

8. The Budget of the Special Trust Fund for the financial period shall consist of provisions for:

- Administrative Expenditures, including an amount to cover the Organization's costs equal to 4.5% of the Special Trust Fund of the Commission.
- Expenditure for the activities of the Commission. Estimates under this chapter may be presented in a single total only but detailed estimates for each particular project will be prepared and approved as "supplementary details" of the Budget.

9. Contingencies: The Budget of the Special Trust Fund shall be adopted by the Commission with such amendments as the Commission may deem necessary.

10. The Budget of the Special Trust Fund of the Commission shall be submitted to the Finance Committee of the Organization for its information.

11. The Commission shall set priorities among outputs to take account of possible shortfall in funding.

IV. Provision of Funds

1. Funds may be provided on a voluntary basis by a variety of sources, including members, non-members, non-governmental entities and natural persons.

2. Special assignment of individual contributions for specific outputs is only possible to fund those outputs that are approved by the Commission.

3. The Secretary in consultation with the Bureau is authorized to finance budgeted expenditure for the purposes outlined in the scope from the uncommitted balance of the Budget of the Special Trust Fund.

4. The Secretary shall acknowledge promptly the receipt of all pledges and contributions and shall inform members annually twice a year of the status of pledges and contributions.

V. Funds

1. All contributions received shall be placed in a Trust Fund under the guidance of the ICPM administered by the Director-General in conformity with the Financial Regulations and rules of FAO.

2. With respect to the Trust Fund the Organization shall maintain a general Account to which shall be credited receipts of all contributions paid and from which shall be met all expenditure chargeable against the sums allocated to the annual Special Trust Fund Budget.

VI. Financial reports

The Secretary will provide financial reports on the Special Trust Fund to the Commission on an annual basis, taking into account all financial resources available to the Commission. These reports should include links to objectives, activities and outputs as they relate to strategic directions.

VII. Amendment

These Guidelines may be amended by the Commission.

PROCEDURES FOR BUDGET PLANNING AND REPORTING

(parentheses refer to the current programme as an example)

Step	Timing	Action
Step 1	April	The ICPM establishes the work programme priorities for the next year (e.g. in 2003 the ICPM will determine priorities for 2004) and is informed by the Secretariat of the current FAO budget (2003). The ICPM is requested to adopt the proposed budget for Trust Fund activities (if applicable).
Step 2	September	Costs for the future work programme (2004) are estimated by the Secretariat based on: • core function costs based on the anticipated or known contribution of FAO (FAO Conference decision); plus • additional costs anticipated to meet the desired work programme.
Step 3	October	The SPTA reviews the programme budget provided by the Secretariat (for 2004) and recommends adjustments as appropriate. The SPTA also recommends a new work programme for one year ahead (2005).
Step 4	November	The ICPM Bureau reviews recommendations of the SPTA (for 2005) for core FAO funding and Trust Funds as appropriate, and agrees on a proposal to submit to the ICPM for its information (FAO regular programme) or approval (Trust Funds). → return to Step 1

WORK PROGRAMME BASED ON STRATEGIC DIRECTIONS

An absolute priority is the annual Session of the ICPM and three meetings of the Standards Committee (two meetings of the Standards Committee working group and one meeting of the full Committee).

Strategic Direction No. 1: The development, adoption and monitoring of the implementation of international standards for phytosanitary measures (ISPMs)
The priorities for standard setting in 2003 are:

- Equivalence
- Low pest prevalence
- Revision of ISPM No. 2 (Guidelines for pest risk analysis)
- Glossary of phytosanitary terms—including standards scheduled for review
- Pest risk analysis for regulated non-quarantine pests—prepare draft
- Surveillance for citrus canker—complete drafting
- Inspection methodology—draft to be completed
- Principles of plant quarantine as related to international trade (ISPM No. 1)—to be reviewed and revised.

The Glossary of Phytosanitary terms, Surveillance for citrus canker and the review and revision of ISPM 1 could be completed through email correspondence.

In addition, the need for regional consultations on draft standards is again highlighted as an important aspect of the standard-setting programme that is identified by the ICPM as a high priority but currently depends entirely on the provision of extra-budgetary resources.

Strategic Direction No. 2: Information exchange
The recommendations are:

- continue the development and improvement of the International Phytosanitary Portal (IPP);
- encourage input of official national information.

In the event that additional resources are available, it is suggested that the following topics are added as appropriate:

- one meeting of the information exchange support group;
- accelerate improvement of the IPP; and
- initiate regional training programmes for the IPP.

Strategic Direction No. 3: The provision of dispute settlement mechanisms
The recommendation is:

- one meeting of the new Dispute Settlement Body (in connection with ICPM-6).

Strategic Direction No.4: The development of the phytosanitary capacity of Members by promoting the provision of technical assistance
The recommendations are:

- updating and enhancement of the Phytosanitary Capacity Evaluation (PCE) in each language;
- creation and distribution of an updated CD-ROM version of the PCE;
- one coordination meeting of expert facilitators; and
- workshops for training on the implementation of PCE.

In the event that additional resources are available, it was agreed that an informal working group on technical assistance be formed and begin providing guidance to the Secretariat and recommendations to the ICPM.

Strategic Direction No. 5: The maintenance of an effective and efficient administrative framework
The recommendations are:

- one meeting of the SPTA;
- one meeting of the focus group on standard development.

Strategic Direction No. 6: Promotion of the IPPC and cooperation with relevant international organizations
The recommendations to the Secretariat and, where appropriate, the Bureau are to:

- attend relevant WTO-SPS Committee meetings;
- attend relevant CBD meetings;
- attend main CPPC and APPPC meetings (FAO obligation); and
- organize and attend the Technical Consultation among Regional Plant Protection Organizations.

In the event that additional resources are available, the SPTA suggests:

- Secretariat attend and contribute to relevant meetings of RPPOs;
- Secretariat and the Bureau undertake to establish a programme to promote relations with relevant research and academic institutions;
- Secretariat liaison with other organizations and institutions as appropriate (e.g. World Bank);
- Printing and updating of guides and advocacy materials.

PROVISIONAL CALENDAR FOR ICPM WORK PROGRAMME 2003-2004*

2003	Standard setting	Other
Feb	**Glossary Working Group** **PRA for regulated non-quarantine pests**	
Mar		
Apr		**Dispute Settlement Subsidiary Body ICPM-5**
May	**Standards Committee Working Group**	
June	**Expert working group** *Government consultation on draft ISPMs; June to October*	Information Exchange Support Group
July	Expert working group	**Focus group on standard development** PCE Facilitators Group
Aug	Regional Technical Consultation(s) on draft ISPMs	PCE workshop
Sep	**Expert working group**	**Technical Consultation among RPPOs** *International workshop on invasive alien species and the IPPC, Braunschweig, Germany*
Oct	Expert working group	**Strategic Planning and Technical Assistance**
Nov	**Standards Committee Working Group** **Standards Committee**	
Dec		Preparation of documents for ICPM-6
2004		
Jan	**Expert working group**	Informal Working Group on Technical Assistance
Feb		Informal Working Group on Research and Educational Liaison
Mar		
Apr		**Dispute Settlement Subsidiary Body ICPM-6**

*Bold indicates priority activities that the Secretariat expects to support with Regular Programme resources. Italics indicate important background activities.

Note: The ICPM decided that priority for funding for Expert Working Groups to develop standards would be given to (in sequence of priority):

- Equivalence
- Low pest prevalence
- Revision of ISPM 2

The work of the Glossary Working Group in 2004 and the Review of ISPM 1 will be pursued by email.

In cases of additional funding, Expert Working Groups would be arranged according to priorities for standards in Appendix XVI.

GUIDELINES FOR THE COMPOSITION AND ORGANIZATION OF EXPERT WORKING GROUPS

1. Criteria for the composition of Expert Working Groups

An Expert Working Group:

- should have 6-10 participants;
- should have members representing a wide geographic area (including proportional developing country participation);
- should allow a participant from the host country to participate regardless of the Expert Working Group composition;
- should have a member from the Standards Committee if possible (e.g. steward);
- may be attended by any member of the ICPM Bureau;
- may invite representatives of industry or others to provide expertise, but not to participate as members; and
- should not allow observers.

2. Members of Expert Working Groups should:

- have necessary qualifications (scientific expertise, subject matter experience or experience in phytosanitary risk management); and
- be available to participate and contribute to the proceedings (e.g. discussion papers).

3. Procedure for nomination and selection of Expert Working Group members:

- nominations are requested at the time of adoption of the work programme or specifications for standards are suggested at the ICPM or later when the specifications are put on the IPP;
- governments, NPPOs or RPPOs nominate experts to the Standards Committee;
- Standards Committee designates members of the Expert Working Group and submits a list to the ICPM Bureau and IPPC Secretariat for confirmation; and
- lists of Expert Working Group members, and representatives of industry or others, are added to the IPP.

4. Criteria for the organization of Expert Working Group meetings

- Expert Working Group members from developed countries should, wherever possible, be funded by their governments or employers for all costs connected to their participation.
- Expert Working Group meetings should usually be organized to minimize incurring costs (e.g. administrative, accommodation, travel).

TOPICS AND PRIORITIES FOR STANDARDS

The following standards have been identified by the ICPM as a priority for development:

- Efficacy of measures
- Supplement on PRA for living modified organisms
- PRA for regulated non-quarantine pests
- Import regulatory systems (redrafting)
- Glossary of phytosanitary terms
- Surveillance for citrus canker (redrafting)
- Revision of ISPM No. 1
- Low pest prevalence
- Inspection methodology (redrafting)
- Guidelines for equivalence
- Revision of ISPM No. 2
- Revision of ISPM No. 3 (being pursued outside of the regular programme)
- Transit
- Requirements for diagnostic procedures for regulated pests
- Systems approach to the control of citrus canker.

The listing does not reflect an order of priority.

ROLE AND FUNCTIONS OF THE TECHNICAL CONSULTATION

Background

Prior to the existence of the Interim Commission on Phytosanitary Measures (ICPM), the Technical Consultation of RPPOs was the sole international forum for discussion of phytosanitary matters. As such, the Technical Consultation of RPPOs was instrumental in the development of several of the early International Standards for Phytosanitary Measures (ISPMs). In addition, the Technical Consultation of RPPOs played an active role in the revision of the IPPC and the plans for an ICPM. These activities are summarized in the following Table:

No.	Location	Host	Date	Special activity
1	Rome	FAO	Sep 4-8, 1989	Response to GATT initiative
2	Rome	FAO	May 14-18, 1990	Harmonized principles of plant quarantine
3	Rome	FAO	May 13-17, 1991	Possible international approval mechanisms for harmonized guidelines, recommendations and standards
4	San Salvador	OIRSA	May 11-15, 1992	Possibilities for harmonized phytosanitary procedures
5	Rome	FAO	May 17-21, 1993	Draft guidelines on PRA; proposal to create CEPM
6	Rome	FAO	May 16-20, 1994	Associated with first CEPM; glossary group
7	Nouméa (NC)	APPPC	Sep 4-8, 1995	Creation of PPPO
8	Paris (FR)	EPPO	Sep 10-13, 1996	Revision of IPPC
9	Brasilia (BR)	COSAVE	Sep 8-12, 1997	Priorities for ISPMs
10	Rome	FAO	Nov 9-10, 1998	Emergency response
11	Rome	FAO	Sep 29/Oct 1, 1999	Reporting obligations
12	San Diego (US)	NAPPO	Oct 11-13, 2000	Recognition of RPPOs; generic standards
13	Auckland (NZ)	APPPC	Oct 29-31, 2001	Methyl bromide, complexity of language
14	Marrakech (MA)	EPPO	Dec 9-11, 2002	See main report

Current situation

The Technical Consultation continues to be the most important point of contact between the RPPOs, which have no other opportunity to consult as a group. Since the establishment of the new revised text of the IPPC and the creation of the ICPM, the Technical Consultation has concentrated its objectives on its aims as stated in Article IX/4 of the IPPC:

a) promote the development and use of relevant international standards for phytosanitary measures; and

b) encourage inter-regional cooperation in promoting harmonized phytosanitary measures for controlling pests and in preventing their spread and/or introduction.

The new revised text of the IPPC (1997) also creates the concept of the Regional Standard on Phytosanitary Measures, their establishment being one activity of RPPOs to "achieve the objectives of this Convention" (Article IX/2, X/3).

Interest in the Technical Consultation remains high with 8 of the 9 existing RPPOs represented at the 14th Technical Consultation held on December 9 and 10, 2002 in Marrakech, Morocco. The RPPOs representing developing countries stress the value of this opportunity for information exchange with other RPPOs.

Whereas the Technical Consultation previously met at FAO Headquarters in Rome, with the organizational support of the FAO Plant Protection Service and then the IPPC Secretariat, it has now taken steps to minimize the costs to the IPPC Secretariat. Since 1996, it has met only once in Rome, and the location of its annual meetings now rotates among the RPPOs. The individual RPPOs and host countries now provide secretariat support for the meeting, propose the agenda, distribute documents before the meeting and prepare the report after the meeting. The presence of a representative of the IPPC Secretariat remains necessary for overall coordination between the IPPC Secretariat, the ICPM and the Technical Consultation of RPPOs.

Contribution of the Technical Consultation to the Work Programme of the ICPM

The Technical Consultation is attended by experienced phytosanitary experts representing all regions of the world. In addition to its support for regional programmes under the IPPC, the Technical Consultation can contribute to the work programme of the ICPM are as follows:

- identification of problems associated with the implementation of ISPMs and recommendations to the ICPM regarding their resolution;
- development of explanatory documents to support ISPMs;
- discussion of draft concept papers and regional standards for phytosanitary measures (RSPMs) and proposal of RSPMs as the basis for ISPMs (Article X/3);
- contribution to the standard-setting process;
- support of the country consultation process of draft ISPMs;
- platform for identifying new phytosanitary priorities for standard setting;
- supporting technical capacity building in developing countries;
- contributions to the achievement of the Programme of Work of the ICPM in alignment with Article IX of the IPPC.

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