REPORT

**Rome,
Italy,
22-26 March
2010**

Fifth Session of the Commission on Phytosanitary Measures

Food and Agriculture Organization of the United Nations

CPM-5 (2010) / REPORT

Report of the

Fifth Session of the Commission on Phytosanitary Measures

Rome, 22-26 March 2010

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2010

CONTENT

FIFTH SESSION OF THE COMMISSION ON PHYTOSANITARY MEASURES

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REPORT

1. OPENING OF THE SESSION

1. The representative of Canada announced that the Chairperson, Ms Bast-Tjeerde, had had an accident and had to return to Canada. He conveyed her disappointment at being unable to chair the meeting. The Commission on Phytosanitary Measures (CPM) expressed wishes for her quick recovery.

2. In the absence of the Chairperson, Mr Kedera (Vice Chairperson) chaired the meeting.

3. On behalf of the Director-General of FAO, Mr Traoré (Assistant Director General) welcomed the delegates and His Excellency the Honourable Peter Daka, Minister of Agriculture and Cooperatives of Zambia, who would open the meeting. The Assistant Director General mentioned the important role of the CPM and the IPPC in achieving food security. He noted that FAO placed significant emphasis on the work of the IPPC, which was addressed in the FAO reform and reflected in the appointment of the first full-time secretary to the IPPC. He noted the need for synchronizing CPM and FAO processes, and for ensuring uniform policy for resource-based management. Extra-budgetary resources for the IPPC should be addressed by members as a matter of urgency, since the possibility to obtain additional resources through FAO had been exhausted. He urged members to contribute to the Trust Fund for the IPPC. He noted that the gap between standard development and implementation was growing, and mentioned some areas of particular importance for IPPC activities, such as enhancing developing countries' participation, phytosanitary capacity building, and surveillance and monitoring of the emergence of plant pests.

4. His Excellency the Honourable Peter Daka, Minister of Agriculture and Cooperatives of Zambia stressed the importance of the IPPC. He mentioned the need to achieve more recognition, and gain political and financial support in order to improve implementation. He emphasized the importance of pathway management and safe trade to avoid the introduction of pests. There was also a need to quantify the economic or potential losses due to new invasive pests in developing countries in order to justify resources and increase national priority. In developing countries, social and environmental impacts are also important, as most production is through small-scale farming, and pest introductions often have an impact on food security. The Minister cited several pests introduced into Africa in past years that had had great negative impact, such as the larger grain borer, the Asian fruit fly, cassava brown streak virus and banana bacterial wilt.

5. The Minister urged members and FAO to encourage non-member countries to join the IPPC. Assistance is needed for countries that do not have enough resources to develop their national phytosanitary capacity. Some countries, like Zambia, joined the IPPC many years ago and have started participating actively in discussions, but now need to implement fully the results of these discussions. He concluded that standards that are developed take their full value when they are implemented and countries get the benefits of increased market access. The Minister declared the 5th session of the CPM open.

6. The Chairperson noted this was the first time that the CPM had been opened by a Minister and noted the importance of such support in promoting the Convention to the wider global public.

7. The new Secretary of the IPPC, Mr Yokoi, expressed the challenge and expectations associated with becoming the first full-time secretary of the IPPC. He noted the need for management as a team, of strategic thinking and action, and of smart utilization of broad and varied resources, especially outside resources. Through his initial observation, he had found that the IPPC is facing serious situations in terms of human and financial resources. Having identified as priorities streamlining of decision processes and accelerating of action on staffing, he announced that the position of implementation officer had just been filled. His first goals after CPM would be to enhance strategic arrangements as well as exposure of the IPPC to the eyes of broader society, to widen and strengthen participation of members, and to ensure broader

linkages to other organizations. He offered special thanks to Ms Bast-Tjeerde for her commitment to the IPPC and to the former Secretary, Mr Kenmore.

8. Mr Kenmore, former Secretary, thanked Ms Bast-Tjeerde, the expanded Bureau, the SPTA, the Secretariat staff for their tremendous work in the various areas of IPPC activities, and the regional and sub-regional plant protection officers.

9. The CPM noted the Statement of Competence and Voting Rights[1] submitted by the European Union and its 27 member states.

2. ADOPTION OF THE AGENDA

10. The agenda[2] was modified to add an item to "any other business" and was adopted (Appendix 1).

3. ELECTION OF THE RAPPORTEUR

11. The CPM received two nominations for rapporteur and elected both: Mr Van Alphen (Netherlands) and Mr Holtzhausen (South Africa).

4. CREDENTIALS

4.1 Election of a Credentials Committee

12. The CPM elected a Credentials Committee in conformity with customary rules[3]. It was composed of seven members, one per FAO region, as well as one CPM Bureau member. The Committee was assisted by the FAO Legal Office in determining the validity of members' credentials.

13. The CPM elected Ms Monorath (Suriname), Mr Lijun (China), Ms Sjöblom (Sweden), Ms MacDonald (Canada), Mr Mahmoud (Oman), Mr Yamanea (Papua New Guinea) and Mr Charicauth (Gabon) as members of the Committee. A CPM Bureau member (Mr Katbeh-Bader, Jordan) represented the Bureau. The Committee elected Ms Sjöblom as its Chair.

14. The Credentials Committee established two lists. List A contained 84 members whose credentials were found valid. List B contained 25 members which had submitted credentials in an acceptable form in conformity with current rules established for the Committee. A total of 109 credentials were accepted thereby establishing a quorum of members of the Commission.

15. The Committee authorised the Secretariat and the FAO Legal office to review last minute submissions by contracting parties and to update the numbers in producing the CPM-5 report.

4.2 Future of credentials

16. The Secretariat presented a paper on the future of credentials[4]. The last meeting of the SPTA had made recommendations on this issue, but a review of the credential process in all organisations of the United Nations has started, and it might be premature to make changes. A proposal will be made to CPM when the outcome of this process is known.

5. REPORT BY THE CPM CHAIRPERSON

[1] CPM 2010/INF/20
[2] CPM 2010/1/Rev.1, CPM 2010/CRP/2, CPM 2010/INF/14
[3] CPM 2010/7
[4] CPM 2010/INF/21

17. In the absence of the CPM Chairperson, the Chairperson of CPM-5 presented the report[5]. Challenges facing the CPM were outlined. During the year the Bureau had to make adjustments to the budget, look at expenditures and realign the plan to make sure that the Secretariat continued to have the resources to continue to deliver activities. Through efforts outlined in other agenda items, there was now a full-time Secretary and continued work would be required by the Secretary to ensure full staffing for the IPPC Secretariat. Some challenges were noted, especially resource mobilization to secure means to deliver the work needed under the IPPC, the phytosanitary capacity building strategy, and the implementation review and support system (IRSS). The CPM Chairperson thanked the Bureau, members and Secretariat for their support over the past two years, and urged them to continue to work together to build a stronger CPM and a Secretariat which would be prepared to face new challenges in the future.

6. REPORT BY THE SECRETARIAT

18. The Secretary introduced the report by the Secretariat[6] for 2009 and drew the attention of the CPM to the new annexes which cross-referenced the planned activities with those delivered. Some members thanked the Secretariat for the comprehensive report, especially the annexed progress report which increased transparency, and acknowledged progress with various activities.

19. Responding to a request that a report of this kind be updated twice a year, the Secretary noted that the FAO accounting system may not allow this, but solutions would be envisaged.

20. The representative of the Republic of Korea announced that his country would again be hosting the Regional workshop for the review of draft ISPMs for the Asia region in 2010.

21. The CPM:

1. *Expressed* its gratitude to countries and organizations that have provided assistance and resources to the work programme.
2. *Noted* the information provided by the Secretariat on the work undertaken in 2009 on the CPM work programme.

7. REPORT OF THE TECHNICAL CONSULTATION AMONG REGIONAL PLANT PROTECTION ORGANIZATIONS

22. Mr Mezui M'Ella (Inter African Phytosanitary Council of the African Union) presented the report of the 21st Technical Consultation among Regional Plant Protection Organizations (TC-RPPOs)[7]. He emphasized the need for capacity building.

23. One member noted that the Caribbean Plant Protection Commission is not in operation, and that the new organization Caribbean Agricultural Health and Food Safety Agency (CAHFSA) would take leadership in the Caribbean region. One member noted that the founding act of the Near East Plant Protection Organization had been ratified; he urged countries from the Near East to ensure the organization came in operation. One member noted the need for a sub-regional RPPO for better coordination in order to support implementation of the IPPC. One member sought assistance in relation to grain-eating birds and rodents as a regional problem.

24. The CPM:

1. *Noted* the report.

8. REPORT OF OBSERVER ORGANIZATIONS

8.1 Report of the World Trade Organization – Committee on Sanitary and Phytosanitary Measures

[5] CPM 2010/INF/4
[6] CPM2010/23
[7] CPM 2010/12

25. The representative of the WTO Secretariat presented a report[8] on relevant activities of the Committee on Sanitary and Phytosanitary Measures (SPS) of the World Trade Organization (WTO). It was noted that in 2009, one new phytosanitary issue was raised for the first time in the SPS Committee relating to China's concerns regarding US rules on the importation of wooden handicrafts, and one phytosanitary issue that had previously been brought to the attention of the SPS Committee had been reported as having been resolved, namely Pakistan's concerns regarding Mexico's import restrictions on rice. The representative outlined the upcoming SPS regional workshops and other planned SPS technical activities for 2010 (G/SPS/GEN/997). A workshop was also held in October 2009 on the relationship between the WTO-SPS Committee and the Codex, IPPC and OIE, three standard setting organizations referenced in the SPS Agreement, in order to clarify their respective roles. Regarding the issue of private standards, the WTO representative noted that there was much interest, in particular on the part of developing countries, for the SPS Committee to address the issue of private standards in a practical manner. A group of Members was working informally on this issue with the Chairperson and the Secretariat, with a view to identifying possible actions that could be taken by the Committee and/or Members to address concerns regarding the effects of private SPS standards. Finally, with regards to dispute settlement activities the WTO representative noted that, as of February 2010, 13 panels had been established to consider 15 SPS related issues, and three of those SPS cases related to plant pests and quarantine requirements.

26. The Chairperson reminded the CPM that interventions related to specific disputes should not be raised under this agenda item.

27. The CPM:
1. *Noted* the report.

8.2 Report of the Convention on Biological Diversity

28. The representative of the Convention on Biological Diversity (CBD) presented a report[9] which highlighted that 2010 had been declared by the United Nations as the International Year of Biodiversity. She stressed that conserving biodiversity is a global imperative. The CBD Conference of the Parties (COP) had invited the IPPC to expand its mandate to cover standard setting to address alien invasive species (IAS), including aquatic IAS. The Secretariats of the CBD and IPPC would continue to collaborate, including on Living Modified Organisms (LMO) covered by the Cartagena Protocol to the CBD, risk analysis, risk assessment and risk management. The CBD's 2010 biodiversity target would unfortunately not be met and plant pests were a contributory factor. A post 2010 target would be agreed, as would a monitoring and evaluation mechanism. The CBD new strategic plan provided an opportunity for strengthening cooperation between the CBD and the IPPC at the national level. Both Conventions shared the goal of protecting life on earth.

29. The CPM:
1. *Noted* the report.

8.3 Report of the International Atomic Energy Agency

30. The representative of the International Atomic Energy Agency (IAEA) presented a report[10] which listed relevant IAEA activities. The activities mostly focused in irradiation as phytosanitary treatments, area wide control of pests, areas of low pest prevalence for fruit flies and capacity building for the implementation of ISPMs. The IAEA planned further activities in South America and West Africa. In West Africa, it would complement an STDF initiative with a project that would last until 2014. The IAEA was also collaborating with the Technical Panel on Phytosanitary Treatments (TPPT). It also planned to continue to host and fund the work of the Technical Panel on Pest Free Areas and Systems Approaches for Fruit Flies (TPFF), including on the development of technical manuals, until the work of this panel had been exhausted.

[8] CPM 2010/INF/8
[9] CPM 2010/INF/9
[10] CPM 2010/INF/22

31. The CPM:
1. *Noted* the report.

8.4 Report of the Ozone Secretariat

32. The IPPC Secretariat presented the report of the Ozone Secretariat[11] as its representative was unable to attend. The report highlighted activities under the Montreal Protocol. The Ozone Secretariat had held a workshop in Egypt on methyl bromide use for quarantine and pre-shipment (QPS) purposes, which the IPPC Secretariat and one Bureau member attended. Invitations were also sent to IPPC contact points. This workshop was well attended.

33. Following the workshop, the 21st meeting of the parties to the Montreal Protocol made several decisions requesting its technical bodies to work with the IPPC Secretariat to consider the technical and economic feasibility of alternatives to methyl bromide, the drivers for the implementation of alternatives and the impacts of restricting the quantities of methyl bromide production and consumption for QPS use. In addition, parties to the Montreal Protocol were encouraged to implement the CPM recommendation on *Replacement or reduction of the use of methyl bromide as a phytosanitary measure*.

34. One member suggested that IPPC and the Ozone Secretariat identify alternatives to the use of methyl bromide and their trade impacts, and noted that methyl bromide was still an important option for satisfying phytosanitary requirements of importing countries and encouraged the IPPC Secretariat to take initiatives for resolving this issue. Some members reiterated their strong support for the recommendation for reducing the use of methyl bromide and advocated rapid progress in developing and adopting alternative treatments. These members had already banned the use of methyl bromide for pre-shipment and quarantine purposes on their territory.

35. The CPM:
1. *Noted* the report.

8.5 Report of the Standards and Trade Development Facility

36. The representative of the Standards and Trade Development Facility (STDF) presented a paper[12] on their recent activities. Information from an STDF workshop on the use of economic analysis to inform SPS-related decision-making held in Geneva in October 2009 was on the STDF website. They had also issued briefing notes on climate change and on fruit flies. The representative highlighted a film produced in June 2009 which featured three case studies on how countries meet SPS standards in order to access and maintain markets. In 2010 the STDF planned a technical meeting on indicators and a workshop on private-public partnerships in capacity building, in the second half of the year.

37. The CPM:
1. *Noted* the report.

8.6 Report of other observer organizations

8.6.1 World Organisation for Animal Health

38. The representative for the World Organisation for Animal Health (OIE) presented a report[13] and noted that there were some important parallels between the OIE and the IPPC. Common interests included pests, pest risk assessment, private standards, capacity building etc. The concept of regionalization and compartmentalization were important for facilitating trade. In 2009 the OIE had produced a Handbook for risk analysis which provides practical guidance. There was also an advisory document on guidance for resolving trade disputes. The OIE had discussed possible problems and benefits of private standards. An OIE questionnaire on private standards had yielded significant differences in views on this issue.

[11] CPM 2010/INF/13
[12] CPM 2010/INF/11
[13] CPM 2010/INF/10/Rev.1

39. The CPM:
1. *Noted* the report.

8.6.2 Codex Alimentarius Commission

40. The representative of the Codex Secretariat presented a paper[14] on the activities of the Codex Alimentarius Commission (CAC). Informal liaison between Codex and IPPC Secretariats continues in order to seek synergies for matters of mutual interest, such as work on e-certification. In this regard, the last CAC adopted a Generic Model Official Certificate to streamline certification procedures including those for e-certification. The CAC had also been very active regarding foods derived from modern biotechnology, contaminants (mycotoxins), pesticide residues, amongst others. The Database on pesticide residues in food and feed and the Codex Standard for Contaminants and Toxins in Food and Feed (including codes of practices for the prevention and reduction of contamination by various mycotoxins arising from the production, manufacture, processing, preparation, treatment, packing, packaging, transport or holding of food) are available online at: http://www.codexalimentarius.net. The Codex Alimentarius Commission looked forward to promoting cooperation in relevant areas where collaborative work can be developed with the IPPC.

41. The CPM:
1. *Noted* the report.

8.6.3 Inter-American Institute for Cooperation on Agriculture

42. The representative of the Inter-American Institute for Cooperation on Agriculture (IICA) extended greetings from the new Director General of IICA. He reiterated IICA's commitment to improve and protect phytosanitary resources within the framework of IPPC[15]. He highlighted the many ways in which IICA has strengthened its ties to Regional Plant Protection Organizations in the Americas such as COSAVE, the Andean Community, OIRSA and CAHFSA which was recently launched. He informed the CPM of a methodology and handbook which has been developed for preparing "phytosanitary hazard profiles" for border posts. He also notified the CPM of a handbook which has been developed to provide guidance to inexperienced delegates on what they need to do before, during and after international meetings of the Committee on Sanitary and Phytosanitary Measures of the World Trade Organization (WTO), and the committees of the Codex Alimentarius, the OIE and the IPPC.

43. The CPM:
1. *Noted* the report.

8.6.4 Commission on Genetic Resources for Food and Agriculture

44. The representative of the Commission on Genetic Resources for Food and Agriculture (CGRFA) provided a verbal report. She noted that the CGRFA covered the whole range of organisms and not just plants. The commission had decided to include consideration of invertebrates and microorganisms in its work programme, given the important role that these organisms play, e.g. as pollinators, soil biodiversity and biological control. She indicated that the CGRFA congratulated the work by IPPC on ISPM 3 (*Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms*) and she also welcomed the inclusion of the topic on the import of plant breeding material for research and education purposes in the IPPC standard setting work programme. She noted that the CGRFA would like to strengthen its interactions with the IPPC.

45. The CPM:
1. *Noted the* report.

8.6.5 International Forestry Quarantine Research Group

[14] CPM 2010/CRP/5
[15] CPM 2010/INF 23

46. The representative of the International Forestry Quarantine Research Group (IFQRG) presented a report[16] and noted that IFQRG has a 7-year history in providing support to international standards. Scientific experts work on the group activities throughout the year, often at the direct request of the Technical Panel on Forest Quarantine (TPFQ). He encouraged scientific experts to participate in the forthcoming meeting to be held 27 September-10 October in Beirut, Lebanon.

9. GOAL 1: A ROBUST INTERNATIONAL STANDARD SETTING AND IMPLEMENTATION PROGRAMME

9.1 Report by the Standards Committee Chairperson

47. The Chairperson of the Standards Committee, Mr Ribeiro da Silva (Brazil), had prepared a DVD intervention in relation to his report[17] as he was not able to attend the meeting and had also resigned from the SC because of a change of career. He concluded that the scope of the IPPC relates to regulated pests, but that the Convention also mentions cooperation activities and other pests in general. Work on other pests (e.g. those not relevant for export but that have an impact on production, or pests whose greatest effect is not on crops but on products made from these crops) might have an important role to play in the future in the CPM.
Members expressed their appreciation of the excellent work of the SC Chairperson and the CPM thanked him for his achievements.

9.2 Adoption of international standards: regular process

48. The Secretariat introduced nine draft texts for consideration by the CPM[18], which consisted of:

- a new ISPM on *Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade*
- an appendix to ISPM 26 (*Establishment of pest free areas for fruit flies (Tephritidae*)) on *Fruit fly trapping*
- a new ISPM on *Design and operation of post-entry quarantine stations for plants*
- an amendment to ISPM 5 (*Glossary of phytosanitary terms*)
- an annex to ISPM 28 (*Phytosanitary treatments for regulated pests*) - Irradiation treatment for *Conotrachelus nenuphar*
- an annex to ISPM 28 (*Phytosanitary treatments for regulated pests*) - Irradiation treatment for *Cylas formicarius elegantulus*
- an annex to ISPM 28 (*Phytosanitary treatments for regulated pests*) - Irradiation treatment for *Euscepes postfasciatus*
- an annex to ISPM 28 (*Phytosanitary treatments for regulated pests*) - Irradiation treatment for *Grapholita molesta*
- an annex to ISPM 28 (*Phytosanitary treatments for regulated pests*) - Irradiation treatment for *Grapholita molesta* under hypoxia.

49. The Secretariat thanked members that had sent written comments 14 days in advance of the meeting as this had facilitated discussion by allowing the Secretariat to compile and make comments available to members prior to the CPM. The steward for each draft ISPM had made a preliminary study of comments and in some cases proposals for modification of the text. No additional comment was submitted during the plenary.

50. The Secretariat mentioned that a new format and presentation for standards had been designed, as shown in the ISPMs presented for adoption at CPM-5. It was noted that the new presentation and format would be applied to adopted standards when publishing the next book of ISPMs, with the status box on the front page removed after adoption.

[16] CPM 2010/INF/12
[17] CPM 2010/INF/7
[18] CPM 2010/2

51. The CPM was reminded that translation issues should be solved through the new process adopted under agenda item 9.7.

52. The CPM thanked the individuals involved in the development of the standards.

9.2.1 New ISPM on *Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade*[19]

53. The working group chaired by Mr Ashby (UK) discussed the draft ISPM and the comments. The text was adjusted based on the comments.

54. The CPM:

1. *Adopted* as ISPM 33: *Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade*, contained in Appendix 2.

9.2.2 Appendix to ISPM 26 (*Establishment of pest free areas for fruit flies (Tephritidae)*) on *Fruit fly trapping*[20]

55. The Secretariat noted that both the stewards of this standard and the TPFF had recommended that this standard be returned to the SC for further consideration due to the number and extent of comments. Some members agreed with this option, given the technical nature of the standard, the number of comments, the opposing views of different comments, hence the need to avoid CPM taking the role of the SC. Some other members noted their desire for this standard to be discussed at CPM, given the need for guidance on trapping, the fact that larger number of member comments on other standards had been dealt with in previous CPMs, the fact that this is the only opportunity to adopt this standard this year and the fact that most contracting parties are represented in the CPM.

56. A friends of the Chair meeting was convened to consider how to proceed with this draft ISPM. It recommended sending this draft back to the SC for their April 2010 meeting with the following recommendation:

- that the steward and the TPFF work expeditiously, considering only the 84 comments submitted 14 days prior to CPM-5, to revise the draft for presentation to the November 2010 SC meeting,
- that the draft will maintain its format as an appendix,
- that the SC considers waiving the 100-day member consultation, and
- that the draft be submitted for adoption at CPM-6.

57. The CPM:

1. *Agreed* to send back the draft to the April 2010 meeting of the SC, with the recommendation as detailed in paragraph 56 of CPM-5 report.

9.2.3 Design and operation of post-entry quarantine stations for plants[21]

58. The working group chaired by Mr Ashby (UK) discussed the draft ISPM and the comments. The text was adjusted based on the comments.

59. The CPM:

1. *Adopted* as ISPM 34: *Design and operation of post-entry quarantine stations for plants*, contained in Appendix 3.

9.2.4 Amendment to ISPM 5: proposed deletion of the term and definition "beneficial organism"[22]

60. The representative of Japan asked for Japan's comment[23] to be officially recorded by CPM.

[19] CPM 2010/2/Annex 1, CPM 2010/INF/15, CPM 2010/CRP/1
[20] CPM 2010/2/Annex 2, CPM 2010/INF/16, CPM 2010/CRP/1
[21] CPM 2010/2/Annex 3, CPM 2010/INF/17
[22] CPM 2010/2/Annex 4

61. The CPM:

1. *Agreed* to the deletion of the term and definition for "beneficial organism" from ISPM 5 (*Glossary of phytosanitary terms*).

9.2.5 Irradiation treatments as annexes to ISPM 28 (*Phytosanitary treatments for regulated pests*)[24]

62. Formal objections had been received on the irradiation treatments for *Cylas formicarius elegantulus* and *Euscepes postfasciatus.* The steward in conjunction with the TPPT had recommended that these treatments be sent back to the SC for further consideration.

63. Other treatments and comments were discussed during the working group chaired by Mr Ashby (UK). The texts were adjusted based on the comments. The footnote of treatments was adjusted and the working group recommended that, for consistency, the footnote be adjusted retroactively in all treatments already adopted by CPM (annexes to ISPM 28), and in treatments under development, including in the two treatments above, which are returned to the SC.

64. The CPM:

1. Adopted the irradiation treatments for *Conotrachelus nenuphar* (Appendix 4), for *Grapholita molesta* (Appendix 5), and for *Grapholita molesta* under hypoxia (Appendix 6).
2. *Adopted* the revised footnote as in the irradiation treatments above, and *requested* the Secretariat to retroactively adjust the footnote of annexes to ISPM 28.
3. *Requested* the SC to consider further the irradiation treatments for *Cylas formicarius elegantulus* and *Euscepes postfasciatus*, with the formal objections received.

9.3 Adoption of international standards: special process (diagnostic protocol for Thrips palmi)

65. The Secretariat introduced the draft protocol on *Thrips palmi* submitted to CPM-5 for adoption under the special process[25]. No formal objections had been received during the comment period 14 days prior to CPM-5. One member, whilst agreeing to the adoption, noted the need for capacity building in association with this standard. This is the first diagnostic protocol adopted under the IPPC. The CPM thanked the individuals involved in the development of this standard.

66. The CPM:

1. *Adopted* as annex to ISPM 27 (*Diagnostic protocols for regulated pests*) the diagnostic protocol for *Thrips palmi* contained in Appendix 7-.

9.4 IPPC standard setting work programme

67. The Secretariat presented the paper[26] and the attached standard setting work programme. The discussions led to modifications of the decisions[27]. The issues raised related to the priority to be given to the topics of minimizing pest movement by containers and conveyances; the importance of involving non-agricultural stakeholders at national and international level; the international movement of seed; the need for considering acceleration of the standard setting process for diagnostic protocols and phytosanitary treatments, including alternatives to methyl bromide; the proposed topic for biological control of forest pests; the need to evaluate the framework for standards to develop a strategic vision; and the reminder that the CPM had requested a review of the technical standard setting process after treatments and diagnostic protocols had been adopted.

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[23] CPM 2010/INF/18
[24] CPM 2010/2/Annex 5-9; CPM 2010/INF/19, CPM 2010/CRP/1
[25] CPM 2010/10
[26] CPM2010/11
[27] CPM 2010/CRP/9

68. In addition, one member noted that international standards should be user friendly, practical, and have some economic considerations, but that some of the ISPMs recently developed now require a high level of technical knowledge.

69. The representative of Zambia offered assistance for compiling comments received during member consultation if necessary. Other countries and organizations volunteered, such as Malaysia, United Kingdom, the Philippines and COSAVE.

70. The CPM:

1. *Adopted* the addition of revisions of ISPMs and their associated priorities, as presented in Appendix 8.
2. *Adopted* the addition of new topics and their associated priorities, as presented in Appendix 8.
3. *Adopted* changes in priorities from high to normal for the following topics: *Pre-clearance for regulated articles* and *Systems for authorizing phytosanitary activities.*
4. *Noted* the deletion of the irradiation treatment for *Omphisia anastomosalis*.
5. *Requested* the Standards Committee, when developing the specification for biological control of forest pests to restrict the scope of the standard to the concept of biological control as part of a systems approach for phytosanitary measures.
6. *Requested* the Secretariat to include a brief summary of the submission for each topic proposed when presenting these recommendations for additions to the work programme.
7. *Requested* the Secretariat to work on the topics related to containers and conveyances moved in international trade as a matter of urgency.
8. *Requested* the Bureau, with input from the SPTA, to consider a framework for standards, using available information, and develop a strategic vision for what standards are needed in the future in order to deliver the objectives of the IPPC. In addition[28], the Bureau in consultation with the Standards Committee should consider how best to accelerate the development of draft technical standards for presentation to the CPM.
9. *Requested* the Standards Committee to explore all possibilities to recommend the wood packaging material treatments which are alternatives to methyl bromide to be submitted for adoption at CPM as a matter of urgency.
10. *Noted* that the Secretariat will again conduct the member consultation periods for the regular and special processes concurrently in June-September 2010.
11. *Requested* members to involve non-agricultural stakeholders in the consultation process as appropriate.
12. *Noted* that the Secretariat, in consultation with the SC, will submit the equivalent of five draft ISPMs for member consultation in 2010.
13. *Requested* the Secretariat to make available to NPPOs and RPPOs, draft technical standards under the special process, when these drafts are presented to the Standards Committee for its consideration prior to sending them for member consultation.
14. *Requested* members to consider volunteering to compile comments if necessary.
15. *Noted* that calls for nominations of experts will be made for expert drafting groups to develop standards on topics on the standard setting work programme, and *encourages* submission of nominations of experts by NPPOs and RPPOs.

9.5 Recommendations regarding consistency in ISPMs

71. The Secretariat introduced the paper[29], and noted the huge work undertaken by the Technical Panel for the Glossary (TPG) to review ISPMs for consistency prior to review by the SC. The Chairperson noted that the process previously agreed to by CPM implied adoption of proposed consistency changes as ink amendments. Some members proposed to return three consistency ink amendments to the SC (in annex 1 of CPM 2010/8: rows 7 and 13 for ISPM 10, row 14 for ISPM 14). They asked that the SC consider the way in which ink amendments are proposed, in order to prevent submission of non-appropriate ink amendments in the future.

72. Some members noted that CPM had agreed to a process at its last meeting, involving the TPG and the SC, and noting by CPM; this process should be followed or amended, but the CPM should not

[28] ICPM-6 (2004), Paragraph 77
[29] CPM 2010/8

review details of the three problematic consistency changes above. One member suggested that the Secretariat deal with these three problematic consistency changes. One member noted that the process to review adopted ISPMs for consistency is still in development, but that if next year there were still objections to some consistency changes proposed by the SC, the CPM should reconsider the consistency review.

73. The CPM:

1. *Noted* the ink amendments needed to correct inconsistencies in the use of terms in ISPMs 3, 10, 13, 14, 22 and Supplement 1 to ISPM No. 5 as modified.
2. *Requested* the Secretariat to apply these ink amendments as modified to ISPMs 3, 10, 13, 14, 22 and Supplement 1 to ISPM 5 (together with the general recommendations applying to these standards) .
3. *Requested* the Secretariat to review three consistency ink amendments (in annex 1 of CPM 2010/8, rows 7 and 13 of ISPM 10; row 14 of ISPM 14), and consider how to handle them.

9.6 Corrections of inconsistencies and errors in translations

74. The Secretariat introduced the paper[30]. There were no interventions.

75. It was noted that co-publishing agreements had been signed between IPPC/FAO and Brazil, EPPO and Japan regarding the publication of ISPMs in, respectively, Portuguese, Russian and Japanese. One member felt that that it would be useful if the Secretariat notified members of the existence of these unofficial language versions and made them available.

76. The CPM:

1. *Noted* that the Spanish versions of ISPMs 3, 10, 13, 14, 22 and Supplement 1 to ISPM 5 will be updated to incorporate changes.
2. *Noted* that the French version of ISPM 5 (Glossary of phytosanitary terms) will be updated to modify the translation of the term “germplasm” from “matériel génétique” to “germoplasme”.

9.7 Adjusting translations, formatting and editing of adopted ISPMs

77. The Secretariat presented the paper[31], including a procedure proposed for members having concerns with translations of standards adopted at CPM-5 to organize a language review group and propose changes within 1 month after CPM. The language review groups would operate on their own, without Secretariat resources. Answering the query of why this process would not be applied to other standards, the Secretariat noted that it would be tried out in 2010; extending it could be considered later.

78. Some members proposed rewording to specify that the procedure relates to standards adopted this year; to look at language versions other than English; to have a member coordinate the process for each language group. A friends of the Chair meeting was convened to reword the procedure.

79. The CPM:

1. *Agreed* to the process for correcting mistakes in ISPMs in language versions other than English after adoption as presented in Appendix 9.
2. *Invited* members of each FAO language group to consider whether they have concerns with the translation of ISPMs adopted at CPM-5 and, if so, to form a Language Review Group (LRG). The LRGs should inform the Secretariat about their structure and their coordinator, and describe how they will organize to assemble comments from their members on the preferred use of terminology, editorials and formatting and also their decision making procedures.
3. *Invited* established Language Review Groups to review ISPMs adopted at CPM-5 and submit comments through their coordinator to the Secretariat within 1 month of adoption of ISPMs by the CPM.

9.8 Update on registration of the ISPM 15 symbol

[30] CPM 2010/9
[31] CPM 2010/18

80. The Secretariat provided an update on the registration of the ISPM 15 symbol[32]. The following applications have been made for registration: under the international Madrid system to cover 7 additional countries; under the regional system of the Organisation Africaine de la Propriété Intellectuelle (OAPI) to cover 16 additional countries. National registration had been initiated in 16 member countries that responded to the IPPC Secretary's letter in February 2008. The funds available for registration are limited and the process is slow. The registration to protect the ISPM 15 symbol has not been initiated in over 80 countries. Terms of reference for a legal consultant to study the situation of registration and propose alternatives had been drafted, but no consultant identified to date. The Secretariat requested assistance in this regard and some members offered assistance.

81. Some members suggested that the current registration process for the ISPM 15 symbol should not continue given the huge resources needed for staff to manage this process and track the information, and the high costs of registration and re-registration, and that other options should be considered. One member noted that the symbol could be protected nationally, for example by adding the national logo to the IPPC symbol. The representative of the FAO legal service noted that protection of the symbol would globally be possible if it was registered in the name of the FAO, but it would be difficult to proceed if it was registered under each country's name.

82. The CPM:

1. *Noted* the need to identify a legal consultant to review options for protection of the ISPM 15 symbol.
2. *Requested* the Bureau to discuss further the issues related to the protection of the ISPM 15 symbol and report to CPM-6 through SPTA.

9.9 Description of member consultation periods

83. The Secretariat introduced a document on member consultation periods[33] and informed the CPM that it had been requested by the Bureau to clear up any confusion members might have regarding when they could submit comments on draft ISPMs, i.e. the June-September member consultation and the period up to 14 days prior to CPM. The Chairperson emphasized the point that CPM needed to respect the established structures and procedures of the standard setting process and that members should strive to avoid turning the CPM into an opportunity to perform the functions of the SC with respect to the standard being considered.

84. Some members commented on the decisions and suggested rewordings. One member also recommended that comments received during the consultation periods be translated into FAO official languages, in order to improve participation in standard setting. The Secretary highlighted the implications in terms of time and resources of this proposal. A friends of the Chair meeting was convened to reword the decisions to ensure appropriate use of comment periods, with the objective of minimizing unnecessary comments where possible.

85. The CPM:

1. *Noted* that the 100 day June-September consultation period is the key comment period.
2. *Noted* that comments made until 14 days prior to CPM should be only substantive comments clearly linked to revised text or for correction of evident errors.
3. *Noted* that comments from all members received during both periods are considered when developing ISPMs, but that only the comments received just prior to CPM are distributed and discussed at CPM.
4. *Noted* that some member countries would be likely to participate more actively if comments on draft ISPMs that are submitted in FAO official languages other than English are translated into English. Any further consideration of this issue should be based on the implications for resources, timing and efficiency in developing ISPMs.

9.10 Presentation of the diagnostic protocols in English

[32] CPM 2010/INF/2
[33] CPM 2010/6

86. The Secretariat introduced a paper[34] describing how the diagnostic protocols are developed by an international group of experts. Most of the work is done in English and most of the reference documents are in English, and translating the protocols before adoption has a great cost. The proposal was to develop these protocols in English and translate into languages after adoption.

87. Some members, although they empathized with non-English speakers, supported the development of diagnostic protocols in English to save time and financial resources. However, some other members, while understanding the reasons for the proposal, suggested that the translation should continue to ensure that all technical experts have access to the diagnostic protocols.

88. A friends of the Chair meeting was convened and agreed a compromise. The steward of the TPDP thanked the members for the solution reached and hoped that this process will permit faster development of protocols.

89. The CPM:

1. *Agreed* that diagnostic protocols be translated at two stages in the following way:
   - before the 100-day consultation period: translation into official FAO languages be provided on request of any member;
   - as normal, prior to the adoption of the diagnostic protocol by CPM.
2. *Requested* the Secretariat to provide a mechanism for the requests for translation into FAO languages before the 100-day consultation period.
3. *Agreed* that this mechanism be re-evaluated at CPM-6.

10. GOAL 2: INFORMATION EXCHANGE SYSTEMS APPROPRIATE TO MEET INTERNATIONAL PLANT PROTECTION CONVENTION (IPPC) OBLIGATIONS

10.1 Information management work programme for 2010

90. The Secretariat noted that there was no paper for this agenda item as the work programme was incorporated in the 2010 operational plan[35]. Following requests from previous years, the information exchange programme was increasingly playing a service role by providing increasing support to the standards setting and now the capacity building programme through the revised PCE.

91. The Secretariat informed the CPM that an IPPC communications strategy is under development, to support the resource mobilization strategy, to increase awareness of the IPPC and explain why the IPPC is important. This communication strategy will be developed closely with the Bureau and the SPTA and should be presented at CPM-6. The communication strategy is considered essential to provide the appropriate background for the resource mobilization strategy.

92. The Secretariat noted that most feedback on the revised IPPC website has been positive; however some continuing challenges have been identified and the Secretariat is working to resolve these issues. The Secretariat requested members to examine their e-mail systems to ensure IPPC e-mail communications are not blocked.

93. Some members welcomed the new portal and considered that it was user friendly. A request was made to make the ISPMs more easily accessible on the website home page. One RPPO observed that not all countries have been able to benefit from the capacity-building programme with regards to information exchange and urged that this programme be expanded to more countries. The Secretariat noted that resources for information exchange capacity building are limited.

94. The CPM:

1. *Noted* the report.

11. GOAL 3: EFFECTIVE DISPUTE SETTLEMENT SYSTEMS

[34] CPM 2010/5
[35] CPM 2010/27

95. The Secretariat presented a verbal report. There had been no activity regarding dispute settlement since CPM-4.

96. One member questioned the future role and reason for the Subsidiary Body on Dispute Settlement (SBDS) if there were no disputes. The Secretariat noted that informal discussions between members had often been sufficient to resolve phytosanitary disputes, but that the system put in place under the IPPC was still useful even if not used so far. The Chairperson of the SBDS, Mr Hedley (New Zealand), noted that the SBDS had been established as a consultative technical body and was available for members should they wish to use it. The IPPC dispute settlement system should remain available to contracting parties and he hoped that it would be used in the future.

97. Some members mentioned details of phytosanitary concerns. The representative of Brazil raised a concern relating to the provisions of Plant Protection Agreement for the Asia and Pacific Region (APPPC) imposing restrictions to plants from regions where South American Leaf Blight is endemic. Some members also mentioned concerns relating to a draft regional standard by NAPPO on Asian gypsy moth and possible impact on trade.

98. Some members noted that ICPM-4 (2002, paragraph 100) had agreed that the agenda of the CPM should not include issues similar to those raised in the WTO-SPS Committee. Instead members wishing to raise such phytosanitary concerns were advised to follow the IPPC dispute settlement process.

12. GOAL 4: IMPROVED PHYTOSANITARY CAPACITY OF MEMBERS

12.1 Revised capacity building strategy

99. The Secretariat presented a document[36] including a concept paper and a revised phytosanitary capacity building strategy. The development of the strategy is a direct response to a CPM-3 decision to have the strategy finalized, and had been revised by the SPTA and later modified by an open-ended working group held during December 2009.

100. One member, on behalf of the members of Southern African Development Community (SADC), thanked SADC and the Southern African Confederation of Agricultural Unions (SACAU) for funding and organising a preparatory meeting for CPM-5 for Southern Africa. This meeting had increased involvement in IPPC and CPM, and promoted a better understanding of the topics to be discussed in CPM-5. The implementation of IPPC issues was now given priority in countries that are working on becoming contracting parties.

101. The CPM:
1. *Approved* the concept paper on national phytosanitary capacity presented in Appendix 10.
2. *Approved* the revised national phytosanitary capacity strategy presented in Appendix 11.

12.2 Outcome of the open-ended working group on the development of the operational plans and framework for the IPPC national capacity building strategy

102. The Secretariat introduced the paper[37] presenting the outcome of the open-ended working group. The open-ended working group had developed a detailed operational plan[38].

103. A working group was convened to consider and discuss the proposed operational plan and actions, and to make recommendations to CPM. It proposed the creation of an expert working group, intended to be long-standing. It redrafted the decisions and proposed the terms of reference for an expert group to review and refine the phytosanitary capacity development operational plan and assist the Secretariat with capacity building.

[36] CPM 2010/19
[37] CPM 2010/21
[38] CPM 2010/21/Annex 1

104. The CPM:

1. *Considered* the phytosanitary capacity building operational plan as presented in the paper.
2. *Noted* that the capacity building operational plan arranges all current capacity building activities in a logical and coordinated manner and does not only reflect the activities of the IPPC Secretariat.
3. *Agreed* to establish an expert working group to review and refine the phytosanitary capacity development operational plan that will assist the Secretariat with developing national phytosanitary capacity. The revised plan will be presented to CPM-6 for approval.
4. *Agreed* to the terms of reference of the expert working group in Appendix 12.
5. *Encouraged* each FAO region to select a contact person to work with the Secretariat to encourage contracting parties and other stakeholders to catalogue current and planned phytosanitary development activities. The results will be provided to the Secretariat before the meeting of the expert working group.
6. *Noted* that the operational plan (logical frameworks) and work plans will be used as a basis for the IPPC Secretariat to develop and implement capacity building.
7. *Agreed* that the priorities for the current CPM capacity building programme include:
   i) The development of advocacy materials targeted at donors for them to partner in and support IPPC capacity development. These advocacy materials are to be developed as an extension of the general IPPC communication strategy (Strategic Area 4, 1.3; Strategic Area 5) and could include:
      - case studies
      - customized material for specific donors of target areas
      - videos such as that recently developed for the STDF.
   ii) The use of the PCE by countries to establish their national capacity building strategy and prioritize needs (Strategic Area 1, 1.1 1.2).
   iii) The collation of data on capacity building activities by working with specific individuals or organizations to begin building this database e.g. STDF (Strategic Area 4, 2.1).
   iv) The implementation of standards (Strategic Area 2b).
      - Help desk (Strategic Area 3a, 2.1).
   v) Coordination of capacity building initiatives at all levels (Strategic Area 3a).

12.3 IPPC phytosanitary capacity building work programme for 2010

105. The Secretariat noted that the work programme for 2010 is included in the 2010 operational plan[39] and would be considered under agenda item 13.4.2.

12.4 Implementation Review and Support System

106. The Secretariat informed the CPM[40] that work on the implementation review and support system (IRSS) would begin in 2010. The Secretariat explained that the programme would be initiated using secretariat resources but emphasized that limited funding was only available for 2010. Some members noted that this activity was critical to the implementation of the IPPC and expressed their support.

107. The CPM:

1. *Noted* the paper.
2. *Urged* contracting parties to support the activity by contributing to the Trust Fund for the IPPC.

12.5 PCE update

108. The Secretariat presented a paper[41] giving an update on the development of the PCE tool. This had resumed in 2010 and a working version would be field-tested. Some members expressed their appreciation of the PCE tool, their interest in the new version and willingness to take part in field testing.

109. The CPM:

1. *Noted* the development of the revised PCE.

[39] CPM 2010/27
[40] CPM 2010/17
[41] CPM 2010/20

2. *Encouraged* members to participate in field-testing the new PCE by providing resources to test in a number of countries, or allocating staff and time to test the programme.

12.6 Guide to phytosanitary forestry practices and international standards

110. The Secretariat presented a paper on the development of a guide to phytosanitary forestry practices and international standards[42]. Some members welcomed the initiative. Some also suggested that the guide should be published with a clarifying statement that it is not an official legal interpretation of the IPPC or its related documents, and is produced for public information only. One member hoped that such guides could be developed in other areas, such as seeds, grain, horticulture, timber.

111. One RPPO supported the development of forestry quarantine guidelines, and the need to have collaboration between forestry and quarantine agencies and a common understanding of quarantine measures.

13. GOAL 5: SUSTAINABLE IMPLEMENTATION OF THE IPPC

13.1 Report of the eleventh meeting of the CPM informal working group on strategic planning and technical assistance (SPTA)

112. A member of the Bureau, Mr Roberts (Australia) presented the report of the SPTA[43]. He emphasized some discussions of particular importance, such as: the simplified and consolidated way the financial reports and budgets would be presented to CPM in the future; development of the business plan 2012-2017; review of the priorities for standards on the standard setting work programme; pest reporting through RPPOs; the future of SPTA; and technical manuals and resources in FAO that could be used to produce guidance material.

113. The CPM:
1. *Noted* the report.

13.2 State of membership of the IPPC

114. The Secretariat presented a paper[44]. The IPPC now has 172 contracting parties. Two new countries had adhered since CPM-4 (2009): Botswana and Montenegro. The CPM welcomed the new contracting parties.

13.3 Acceptance of correspondence in electronic format

115. The Secretariat presented a document[45] on the acceptance of electronic correspondence and noted that, since the paper was written in December 2009, 7 additional countries had opted to receive correspondence in electronic format, raising the total to 55 NPPOs and RPPOs.

116. Members could notify their wish to receive all correspondence in electronic format by either using the form attached to the document, or by using the option provided on the IPP.

117. One RPPO expressed its willingness to receive correspondence in electronic format. One member and one RPPO wondered about options to ensure that official information reaches the right person, even when an official contact point changes. The Secretariat noted that it is important that contracting parties notify the Secretariat of changes of contact points as soon as possible (a form is available on the IPP) and that contact points are responsible for maintaining their own contact details up-to-date (especially email addresses).

[42] CPM 2010/INF/1
[43] CPM 2010/INF/3
[44] CPM 2010/INF/5
[45] CPM 2010/13

118. In answer to a question, the Secretariat noted that the proposal to make IPPC communications paperless did not relate to the possible developments of electronic certification.

119. A few members noted that the date proposed for phasing out paper communication (31 December 2012) would be difficult for some countries. The Secretariat noted that the decisions allowed countries to request to receive paper correspondence if needed after that date. It was noted that the choice of either paper or electronic correspondence applied to all IPPC correspondence.

120. The CPM:
1. *Encouraged* members to opt to receive electronic correspondence only as soon as practically possible, either by choosing that option on the IPP or by sending the model text in CPM 2010/13.
2. *Agreed* that all IPPC communications will be paperless (i.e. electronic only) from 31 December 2012.
3. *Agreed* that after 31 December 2012, individual contracting parties may request in writing paper copies of IPPC communications and documents.

13.4 Financial report and budget with operational plans

121. The Secretariat explained that the financial reports and budgets had been consolidated and presented in a simplified format as requested by the Bureau and SPTA. The papers presented the three main sources of funds to cover IPPC Secretariat activities i.e. FAO regular programme, the Trust Fund for the IPPC and the European Trust Fund. Expenditures are aggregated by the seven goals of the 5-year business plan and to staff costs. Additional costs for consultants were reflected in the expenditure under each goal. It was also brought to the attention of the CPM that CPM approves only the financial report and budget for the Trust Fund for the IPPC.

122. It was noted that the minor adjustments to the *Financial guidelines of the Trust Fund for the IPPC* adopted at CPM-4 (2009) had been reflected in the CPM-4 report but not in the corresponding appendix. The correct version would be attached to the current report (Appendix 13) and would replace all previous versions.

13.4.1 2009 financial report and operational plan

123. The Secretariat presented the 2009 financial report[46]. It was noted that in-kind contributions are not covered in the financial report, but reflected in the Secretariat's report[47]. The Secretariat detailed a correction for the carry forward from previous years in the financial statement for the Trust Fund for the IPPC and subsequent changes were made.

124. Some members requested that the financial report be expanded in the future to include details under each goal. The Secretariat noted that detailed reporting was complicated due to differences in activities in the operational plan and the way expenses are recorded in FAO accounting system. This would require staff resources.

125. The CPM:
1. *Noted* the contributions and expenditures of the IPPC Secretariat for 2009.
2. *Noted* the staffing situation of the IPPC Secretariat for 2009.
3. *Adopted* the 2009 financial statements for the Trust Fund for the IPPC as presented in Appendix 14.
4. *Thanked* Japan and the United States of America for their contribution to the Trust Fund for the IPPC.
5. *Thanked* the European Union for its contribution to a trust fund to help facilitate developing country participation in the CPM and in the standard setting process.
6. *Thanked* Japan and the United States of America for their contribution to their Associate Professional Officer trust funds.

[46] CPM 2010/25
[47] CPM 2010/23

13.4.2 2010 budget and operational plan

126. The Secretariat presented the 2010 budget and operational plan[48].

127. The Secretariat announced a correction relating to the carry forward in the budget of the Trust Fund for the IPPC, which resulted in an adjustment to the 2009 Trust Fund for the IPPC financial report. The figure allocated to capacity building in the 2010 operational plan seemed low; this was because some activities had been paid for in advance in 2009. The document also indicated detailed activities in the 2010 operational plan, as well as an indicative calendar.

128. In relation to the Trust Fund for the IPPC, some members requested the Secretariat to explain in the future how the allocations benefit developing countries. They reminded the Secretariat that item 4.3 of the financial guidelines for the Trust Fund for the IPPC state (point 4.3) that 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. This should be taken into account in the future. The Secretariat explained that this would not be possible with the current reporting schedule as the FAO financial system is not finalized until the end-February.

129. The CPM:

1. *Noted* the anticipated contributions and budgeted expenditures of the IPPC Secretariat for 2010.
2. *Noted* the staffing situation of the IPPC Secretariat for 2010.
3. *Adopted* the 2010 Budget for the Trust Fund for the IPPC as presented in Appendix 15.
4. *Noted* the CPM Operational Plan for 2010 as presented in Appendix 16.
5. *Noted* the calendar of meetings for IPPC activities planned for 2010.
6. *Noted* that the activities identified in the Operational Plan may be modified depending on availability of resources (funding and staff).
7. *Requested* the Secretariat to update the budget and Operational Plan for 2010 to reflect decisions made at CPM-5.
8. *Noted* that as at 31 December 2009, the Secretariat had received no notification from any donor of an intention to contribute to the Trust Fund for the IPPC in 2010.
9. *Urgently encouraged* contracting parties to contribute to the Trust Fund for the IPPC.
10. *Encouraged* contracting parties to contribute in kind to help deliver activities in the CPM's Operational Plan.

13.5 Development of a Resource Mobilization Strategy for the IPPC

130. The Secretary of the IPPC presented the proposed approach for developing a resource mobilization strategy[49]. A group of 8-10 senior experts would be convened during the summer of 2010 to develop a resource mobilization strategy and implementation plan for a multiyear funding strategy for the IPPC.

131. The Secretary urged members to provide comments before 30 June 2010.

132. The CPM:

1. *Noted* the approach to developing a resource mobilization strategy outlined in Appendix 17.
2. *Agreed* to funding for the expert group to develop a 5 year resource mobilization strategy and implementation plan for a multiyear funding strategy for the IPPC.
3. *Agreed* to provide recommendations or ideas regarding resource mobilization to the Secretary before 30 June 2010.

[48] CPM 2010/27
[49] CPM 2010/26

13.6 CPM Recommendations

133. The paper prepared by the CPM Chairperson[50] was presented by a member of the Bureau (Mr Ashby, UK). The paper highlighted (I)CPM decisions which could be envisaged as CPM Recommendations, and provided the format for such recommendations. This discussion had started at CPM-3 (2008), a format had been adopted at CPM-4 (2009) and CPM-4 had also requested the Secretariat to identify any previous (I)CPM decisions that should be presented as CPM Recommendations. The paper listed the 6 decisions which could become CPM recommendations. It was proposed that these recommendations would be reviewed, with a view to updating them.

134. Some members recommended that the two recommendations from ICPM-3 and ICPM-7 concerning invasive alien species be combined during the proposed review, as they overlap. They also suggested that the recommendation from CPM-3 on replacement or reduction of the use of methyl bromide be published prominently on the IPP as soon as possible, independently from the CPM-3 report.

135. One member noted that CPM recommendations should be clearly distinguished from ISPMs so that CPM recommendations are not used to circumvent the lengthy procedure for establishing ISPMs.

136. The CPM:

1. *Considered* the previous discussions, considerations and decisions regarding CPM Recommendations.
2. *Noted* the scope of CPM Recommendations.
3. *Agreed* to revoke the ICPM-5 (2003) decision on the recommendation on the future of methyl bromide for phytosanitary purposes and agreed that it has been replaced by the IPPC Recommendation on replacement or reduction of the use of methyl bromide as a phytosanitary measure adopted by CPM-3 (2008).
4. *Requested* the Secretariat to review the remaining (I)CPM decisions(paragraph 19 of CPM 2010/3) with a view to updating them, if required, and to present them to the next CPM for approval as CPM-6 Recommendations.
5. *Requested* the Secretariat to publish the recommendation CPM-3/2008 on *Replacement or reduction of the use of methyl bromide as a phytosanitary measure* prominently on the IPP independently from the report of CPM-3.

14. GOAL 6: INTERNATIONAL PROMOTION OF THE IPPC AND COOPERATION WITH RELEVANT REGIONAL AND INTERNATIONAL ORGANIZATIONS

14.1 Report on promotion of the IPPC and cooperation with relevant international organizations

137. The Secretariat presented the papers[51], and detailed activities with international organizations.

138. One member noted the importance of cooperation with the Rotterdam, Basel and Stockholm Conventions. Some members welcomed the information. In relation to CBD, the IPPC should join in celebrating the International Year of Biodiversity, which would be an excellent opportunity to show to the world IPPC's role in this important objective. The Secretariat noted that public relations material was prepared for the launch of International Year of Biodiversity in May, and that the scientific session (agenda item 15.4) was on Threats to Biosecurity and Biodiversity as a result of international trade.

139. The representative of Australia presented a paper on the database Methyl Bromide Alternatives Information System (MBAIS). The representative invited members to register and use the database, and encouraged a broader use and contribution to the database.

140. One member stressed the importance of cooperative activities, in relation to minimizing pest movement by air and sea transport. Further work and cooperation should take place with organizations dealing with non-agricultural imports.

[50] CPM 2010/3
[51] CPM 2010/22, CPM 2010/CRP/3, CPM 2010/CRP/8

15. GOAL 7: REVIEW OF THE STATUS OF PLANT PROTECTION IN THE WORLD

15.1 Electronic certification

141. The Secretariat presented an update on international developments with regard to electronic certification[52]. The outcome proposed was a global standard for phytosanitary electronic certification. The Secretariat reported on the "Electronic Phytosanitary Certification International Workshop" that was held in Ottawa, Canada, on 19-21 May 2009. The meeting had been organized by NAPPO and Canada. It was encouraging that there was a substantial increase in the number of countries interested in electronic certification and that a significant number of developing countries had attended the workshop. Much of the Secretariat's paper had been based on outcomes from that meeting. The Secretariat advised that reference throughout the paper to 'Annex' needed to be changed to 'Appendix' as inclusion of electronic certification as an Appendix in ISPM 12 was not intended to create obligations for members.

142. The concept of phytosanitary electronic certification only relates to the transmission of phytosanitary certification data from one country to another by electronic means. The different phases of the process were outlined, as well as proposed future steps and tasks. The Secretariat noted that there were already working groups functioning; it would be good to continue with these working groups on Phyto eCert within the CPM work programme. The Secretariat noted that the aim would be to have an international standardized approach that could be implemented on a bilateral basis.

143. Some members proposed changes to various parts of the text, including to add that procedures for re-export should be developed for a transitional period when electronic and paper certificates are used in parallel, and to ensure that the development and adoption of ISPMs 7 and 12 was not delayed. Another member mentioned that challenges would include transmitting data in a more secure manner, as well as issues of ownership and responsibility. One member requested confirmation that the process undertaken by IPPC would be the standard setting process and suggested that the completion date of 2012 be maintained. Some members thanked the Secretariat for its work, mentioned electronic certification activities they had undertaken and noted that technical assistance might be needed for developing countries to adopt electronic certification.

144. The CPM:

1. *Considered* the report on Phyto eCert and *recommended* improvements in the proposed Phyto eCert work programme as presented in Appendix 18.
2. *Agreed* that this be given high priority;
3. *Adopted* the proposed work programme with Phyto eCert to be included as an appendix to the revised ISPM 12, with the proviso that the revision of ISPMs 12 (and 7) and their adoption should not await or be delayed by the parallel work on electronic certification, and to be made available on the IPP as an Phyto eCert toolkit;
4. Agreed to submit this appendix to ISPM 12 through the standard setting process.
5. *Agreed* to an annual open-ended working group on Phyto eCert for the next two years, to be funded from extra-budgetary resources, to facilitate the exchange of experiences and improve collaboration and cooperation between interested countries;
6. *Welcomed* further initiatives by the Technical Consultation among RPPOs to encourage countries to participate fully in the development of the Phyto eCert programme and make resources available as appropriate.

15.2 Update on reporting on pest free areas and areas of low pest prevalence

[52] CPM 2010/24

145. The Secretariat notified the CPM that a form for national reporting of Pest Free Areas (PFAs) and Areas of Low Pest Prevalence (ALPPs) is available on the new IPPC website (IPP) (www.ippc.int)[53]. It was noted that reporting on PFAs is not obligatory, i.e. it is at the discretion of the National Plant Protection Organization (NPPO). So far only one member (Mexico) had made use of the system for reporting.

146. Some members noted that they had some technical suggestions to improve the design and would make them available to the Secretariat.

147. The CPM:
1. *Noted* the availability of the system for reporting information regarding PFAs and ALPPs.
2. *Encouraged* contracting parties to use this system to improve communication and transparency on this subject.

15.3 IPPC open-ended workshop on the international movement of grain

15.3.1 Terms of Reference for the open-ended workshop on the international movement of grain

148. The Secretariat introduced a paper[54] with the Terms of Reference for an open-ended workshop on the international movement of grain, developed following the decision at CPM-4 to convene such a workshop depending on the availability of extra budgetary resources.

149. The CPM:
1. *Noted* the Terms of Reference for the Open-ended Workshop on the International Movement of Grain as approved by the CPM Bureau and presented in Appendix 19.

15.3.2 Update on the open-ended workshop on the international movement of grain

150. The representative of Canada presented an update on the open-ended workshop on the international movement of grain[55]. The workshop is being planned for early- or mid-May 2011. Canada is pleased to organize the workshop and seeks other members' support for the open-ended workshop, either financial or in-kind, and participation.

151. Support for the workshop was expressed. The representative of Germany reported that they were exploring financial possibilities to support the attendance of developing countries.

15.4 Scientific session: threats to biosecurity and biodiversity as a result of international trade

152. The CPM was provided with two presentations on threats to biosecurity and biodiversity as a result of international trade. The two presentations can be found on the IPP.

153. The first speaker, Mr Brasier (International Union of Forest Research Organizations, UK) talked on scientific and operational flaws in the current system to prevent entry and spread of damaging plant pathogens. He presented many examples of forest pathogens. He stressed the growing threat due to the globalized trade in plants, and to insufficient consideration of the risk caused by uncharacterized species, e.g. *Phytophthora* spp. In addition, the risk increased when countries do not report incursions or have weak inspection regimes. Moving plants around the world presents a high risk, and new approaches are necessary, such as preventing escape from native areas, importing only small numbers of rooted plants under licence into post-entry quarantine, improving import certification, raising politicians' and the public's awareness, and ending the trade-related international culture of secrecy of new plant disease outbreaks.

[53] CPM 2010/16
[54] CPM 2010/14
[55] CPM 2010/INF/6

154. A few members, while not disagreeing, expressed that they are very concerned about the issues presented. One member noted that there seems to be no immediate solution at hand to solve the issue, but that some ISPMs on the work programme might be useful in solving some problems, for example on plants for planting and movement of soil and growing media. One member noted that international trade is a necessity, but there is a need to obtain scientific data in order to be able to minimize the risks, and target measures where they are most needed. Another member added that the national authorities were subject to pressure from the private sector, and stressed the need for better information in real-time between NPPOs in order to solve the problem. One RPPO noted that the IPPC has two ISPMs of importance for these issues. Developing public and political awareness of these issues would be important and might assist in developing better systems to prevent the entry and spread of plant pathogens.

155. The second speaker, Mr Howard (Global Invasive Species Coordinator of IUCN, Kenya) talked on the threats to and by aquatic plants and the role of IPPC. He emphasized the importance of aquatic plants for human societies, fisheries and the environment. However, aquatic plants introduced in new ecosystems may become invasive and have negative impacts on the environment, biodiversity, water, competition, production of toxic substances, etc. He encouraged the IPPC and its contracting parties to address, in the phytosanitary framework, phytosanitary risks to aquatic plants and risks resulting from invasive aquatic plants. A few members mentioned serious cases of aquatic plant invasions and their damaging effects, and requested appropriate solutions to these problems.

16. MEMBERSHIP AND POTENTIAL REPLACEMENTS FOR CPM SUBSIDIARY BODIES

156. Nominations were required for positions on the Standards Committee and Subsidiary Body on Dispute Settlement, as well as positions for potential replacements for both the subsidiary bodies[56]. Nominations were presented[57], and one correction announced for the SC member and potential replacements for the Africa region.

157. The CPM:

1. *Noted* the current membership of the Standards Committee as shown in Appendix 20A and the potential replacements for the Standards Committee as shown in Appendix 20B.
2. *Confirmed* new members and potential replacements of the Standards Committee.
3. *Confirmed* the order in which potential replacements for the Standards Committee will be called upon for each region.
4. *Noted* the current membership of the Subsidiary Body on Dispute Settlement as shown in Appendix 21A and the potential replacements for the Subsidiary Body on Dispute Settlement as shown in Appendix 21B.
5. *Confirmed* new members and potential replacements of the Subsidiary Body on Dispute Settlement.

17. ELECTION OF THE CPM BUREAU

158. The CPM-5 Chairperson (Mr Kedera) introduced the election of the Bureau[58]. He noted that the Bureau consisted of seven members, including a Chairperson, two Vice-Chairpersons and one member from each of the four FAO regions not represented by the Chairpersons.

159. The CPM thanked the outgoing Chairperson, Ms Bast-Tjeerde (Canada), and Vice-Chairpersons, Mr Kedera (Kenya) and Katbeh-Bader (Jordan), for their commitment and diligent efforts in guiding the CPM. Members gave a very special thanks to the outgoing CPM Chairperson for her contribution to the development of IPPC activities during many years, and wished her a quick recovery.

[56] CPM 2010/15
[57] CPM 2010/CRP/10
[58] CPM 2010/4

160. The new CPM Chairperson (Mr Katbeh-Bader, Jordan) was honoured at being elected and accepting the responsibility of becoming CPM Chairperson. He expressed his commitment to continue the efforts of his predecessors in favour of a stronger IPPC.

161. The CPM:

1. *Elected* the Bureau as presented in Appendix 22.

18. OTHER BUSINESS

162. Some members expressed concerns regarding posters and side-events during CPM meetings, including the financing of the associated costs. They requested that the Bureau reconsider this issue and establish a clear policy and some guidelines to implement prior to CPM-6.

163. The members of COSAVE acknowledged the work and achievement of Ms Peralta in the Secretariat of COSAVE, and transmitted her best wishes for her future career in the IPPC Secretariat.

164. The Secretariat acknowledged the work of the outgoing Chairperson of the SBDS, Mr Hedley (New Zealand), and his contribution to building the dispute settlement process of the IPPC.

165. The CPM:

1. *Noted* that the issue of posters and side-events at CPM would be considered by the Bureau, with a view to establish a clear policy and guidelines for implementation for CPM-6.

19. DATE AND VENUE OF THE NEXT SESSION

166. The Secretary explained that the FAO Programme and Finance Committee would be meeting in the week at which the CPM normally meets. Holding the meeting earlier or later might cause problem, but he advised that the earlier option might be better.

167. The CPM:

1. *Agreed* that the next session of the CPM would be tentatively scheduled to be held at FAO, Rome, Italy, on 14-18 March 2011.

20. ADOPTION OF THE REPORT

168. The CPM *adopted* the report.

COMMISSION ON PHYTOSANITARY MEASURES

22-26 March 2010

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
   - 2.1 Provisional Agenda
3. Election of the Rapporteur
4. Credentials
   - 4.1 Election of a Credentials Committee
   - 4.2 Future of credentials and amendments to the Rules of Procedure of the CPM
5. Report by the Chairperson of the Commission on Phytosanitary Measures (CPM)
6. Report by the Secretariat
7. Report of the Technical Consultation among Regional Plant Protection Organizations
8. Report of observer organizations
   - 8.1 Report of the World Trade Organization – Committee on Sanitary and Phytosanitary Measures
   - 8.2 Report of the Convention on Biological Diversity
   - 8.3 Report of the International Atomic Energy Agency
   - 8.4 Report of the Ozone Secretariat
   - 8.5 Report of the Standards and Trade Development Facility
   - 8.6 Report of other observer organizations (written only)
9. Goal 1: A robust international standard setting and implementation programme
   - 9.1 Report by the Standards Committee Chairperson
   - 9.2 Adoption of international standards: regular process
     - 9.2.1 Pest free potato (*Solanum spp.)* micropropagative material and minitubers for international trade
     - 9.2.2 Appendix to ISPM 26 on fruit fly trapping
     - 9.2.3 Design and operation of post-entry quarantine stations for plants
     - 9.2.4 Amendment to ISPM 5: proposed deletion of term and definition: “beneficial organism”
     - 9.2.5 Annexes to ISPM 28 on irradiation treatments
   - 9.3 Adoption of international standards: special process (diagnostic protocol for *Thrips palmi*)
   - 9.4 IPPC Standard setting work programme
   - 9.5 Recommendations regarding consistency in ISPMs
   - 9.6 Corrections of inconsistencies and errors in translations
   - 9.7 Adjusting translations, formatting and editing of adopted ISPMs
   - 9.8 Update on registration of ISPM 15 symbol
   - 9.9 Description of member consultation periods
   - 9.10 Presentation of diagnostic protocols in English
10. Goal 2: Information exchange systems appropriate to meet International Plant Protection Convention (IPPC) obligations
    - 10.1 Information management work programme for 2010

11. Goal 3: Effective dispute settlement systems
    - 11.1 Report by the Chairperson of the Subsidiary Body on Dispute Settlement
12. Goal 4: Improved phytosanitary capacity of members
    - 12.1 Revised capacity building strategy
    - 12.2 Outcome of the open-ended working group on the development of the operational plans and framework for the IPPC national capacity building strategy
    - 12.3 IPPC phytosanitary capacity building work programme for 2010
    - 12.4 Implementation Review and Support System
    - 12.5 PCE update
    - 12.6 Guide to phytosanitary forestry practices and international standards
13. Goal 5: Sustainable implementation of the IPPC
    - 13.1 Report of the eleventh meeting of the CPM informal working group on strategic planning and technical assistance (SPTA)
    - 13.2 State of membership to the IPPC
    - 13.3 Acceptance of correspondence in electronic format
    - 13.4 Financial report and budget with and operational plans
        - 13.4.1 2009 financial report and operational plan
        - 13.4.2 2010 budget and operational plan
    - 13.5 Resource mobilization strategy
    - 13.6 CPM Recommendations
14. Goal 6: International promotion of the IPPC and cooperation with relevant regional and international organizations
    - 14.1 Report on promotion of the IPPC and cooperation with relevant international organizations
15. Goal 7: Review of the status of plant protection in the world
    - 15.1 Electronic certification
    - 15.2 Update on reporting on pest free areas and areas of low pest prevalence
    - 15.3 IPPC open-ended workshop on the international movement of grain
        - 15.3.1 Terms of Reference for the open-ended workshop on the international movement of grain
        - 15.3.2 Update on the open-ended workshop on the international movement of grain
    - 15.4 Scientific Session
16. Membership and potential replacements for CPM subsidiary bodies
    - 16.1 Standards Committee
    - 16.2 Subsidiary Body on Dispute Settlement
17. Election of the Bureau 2010-2012
18. Other business
19. Date and venue of the next Session
20. Adoption of the report

ISPM 33

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

ISPM 33

PEST FREE POTATO (*SOLANUM* SPP.) MICROPROPAGATIVE MATERIAL AND MINITUBERS FOR INTERNATIONAL TRADE

(2010)

CONTENTS

Adoption

This Standard was adopted by the Commission on Phytosanitary Measures in March 2010.

INTRODUCTION

Scope

This standard provides guidance on the production, maintenance and phytosanitary certification of pest free potato (*Solanum tuberosum* and related tuber-forming species) micropropagative material and minitubers intended for international trade.

This standard does not apply to field-grown propagative material of potato or to potatoes intended for consumption or processing.

References

ISPM 2. 2007. *Framework for pest risk analysis*. Rome, IPPC, FAO.

ISPM 5. 2010. *Glossary of phytosanitary terms*. Rome, IPPC, FAO.

ISPM 10. 1999. *Requirements for the establishment of pest free places of production and pest free production sites*. Rome, IPPC, FAO.

ISPM 11. 2004. *Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*. Rome, IPPC, FAO.

ISPM 12. 2001. *Guidelines for phytosanitary certificate*s. Rome, IPPC, FAO.

ISPM 14. 2002. *The use of integrated measures in a systems approach for pest risk management*. Rome, IPPC, FAO.

ISPM 16. 2002. *Regulated non-quarantine pests: concept and application*. Rome, IPPC, FAO.

ISPM 19. 2003. *Guidelines on lists of regulated pests*. Rome, IPPC, FAO.

ISPM 21. 2004. *Pest risk analysis for regulated non-quarantine pests*. Rome, IPPC, FAO.

Definitions

Definitions of phytosanitary terms can be found in ISPM 5.

In addition to definitions in ISPM 5, in this standard the following definitions apply:

potato micropropagative material	**Plants *in vitro*** of tuber-forming *Solanum* spp.
minituber	A tuber produced from potato micropropagative material in pest-free growing medium in a facility under specified protected conditions
seed potatoes	Tubers (including minitubers) and potato micropropagative material of cultivated tuber-forming *Solanum* spp. for planting

Outline of Requirements

Facilities used for the production of potato micropropagative material and minitubers for export should be authorized or operated directly by the National Plant Protection Organization (NPPO) of the exporting country. Pest risk analysis (PRA), carried out by the NPPO of the importing country, should provide the justification for establishing phytosanitary import requirements for regulated pests in trade of potato micropropagative material and minitubers.

The phytosanitary measures for managing risks related to potato micropropagative material include testing for the pests regulated by the importing country, and management systems for the maintenance and propagation of potato micropropagative material derived from candidate plants that have been determined to be pest free in closed, aseptic conditions. For the production of minitubers, measures include derivation from pest free potato micropropagative material and production in a pest free production site.

To establish pest free potato micropropagative material, candidate plants should be tested in a testing laboratory authorized or operated directly by the NPPO. This laboratory should meet general requirements for ensuring that all material moved into a maintenance and propagation facility is free from pests regulated by the importing country.

Facilities for the establishment of pest free potato micropropagative material and testing for pest freedom are subject to strict requirements to prevent contamination or infestation of material. Facilities for maintenance and propagation of pest free potato micropropagative material and minituber production are also subject to stringent requirements to maintain pest freedom. Staff should be trained and competent in techniques for the establishment and maintenance of pest free potato micropropagative material, the production of pest free minitubers, diagnostic testing as required, and in following administrative, management and record-keeping procedures. The management system and procedures of each facility and the testing laboratory should be defined in a manual(s). Throughout all production and testing processes, the identity of all propagative material should be preserved, and traceability should be maintained through adequate documentation.

All facilities should be officially audited to ensure that they continue to meet requirements. In addition, inspections should ensure that the potato micropropagative material and minitubers meet the importing country's phytosanitary import requirements. Pest free potato micropropagative material and minitubers moving in international trade should be accompanied by a phytosanitary certificate.

BACKGROUND

Many pests are associated with the production of potato (*Solanum tuberosum* and related tuber-forming species) worldwide. As potatoes are propagated mainly by vegetative means, there is considerable risk of introducing and spreading pests through international trade of seed potatoes. Potato micropropagative material derived from appropriately tested material and using suitable phytosanitary measures should be considered free from regulated pests. Use of such material as starting material for further potato production reduces the risks of introduction and spread of regulated pests. Potato micropropagative material can be multiplied under specified protected conditions to produce minitubers. Provided that minituber production is carried out under pest free conditions using pest free micropropagative material, minitubers can also be traded with minimum risk.

Conventional micropropagation does not necessarily result in material that is free from pests. The presence or absence of pests is verified by appropriate testing of the material.

As per ISPM 16:2002, programmes for the certification of plants for planting for seed potatoes (sometimes known as "seed potato certification schemes") frequently include specific requirements for pests as well as non-phytosanitary requirements such as varietal purity, size of the product etc. Many seed potato certification schemes require potato micropropagative material to be derived from plants that have been tested and found free from the pests covered by the scheme. Such schemes are usually designed to control pests present in the production country that are of national economic importance. Therefore, the pests covered by a specific scheme or the strength of measures may not always meet all of the phytosanitary import requirements of importing countries. In such cases, additional phytosanitary measures may be required.

In this standard, pest free potato micropropagative material is potato micropropagative material that has been tested and found free from the pests regulated by the importing country, or derived from such tested material, and maintained under conditions to prevent contamination and infestation.

REQUIREMENTS

1. Responsibilities

The National Plant Protection Organization (NPPO) of the importing country is responsible for pest risk analysis (PRA) and should, on request, have access to documentation and facilities to enable it to verify that the phytosanitary procedures in the facility meet its phytosanitary import requirements.

Only facilities authorized or operated directly by a NPPO should be used for the production and maintenance of potato micropropagative material and minitubers for export as described in this standard. The NPPO of the exporting country is responsible for ensuring that the phytosanitary aspects of these facilities and of the related seed potato propagation system meet the importing country's phytosanitary import requirements. The NPPO of the exporting country is also responsible for phytosanitary certification.

2. Pest Risk Analysis

PRA provides technical justification for identifying regulated pests and for establishing phytosanitary import requirements for potato micropropagative material and minitubers. PRA should be carried out by the NPPO of the importing country in accordance with ISPM 2:2007 and ISPM 11:2004 for the pathways of "potato micropropagative material" and "minitubers" from given origins. The PRA may identify quarantine pests associated with these pathways. The PRA should also be carried out in accordance with ISPM 21:2004 as appropriate in order to identify regulated non-quarantine pests.

Importing countries should notify NPPOs of exporting countries of the outcome of the PRAs.

2.1 Pathway-specific lists of regulated potato pests

For the purposes of this standard, the NPPO of the importing country is encouraged to establish pathway-specific regulated pest lists for potato micropropagative material and minitubers respectively and, on request, should provide these lists to NPPOs of exporting countries. Guidance on regulated pest lists is provided in ISPM 19:2003.

2.2 Pest risk management options

The pest risk management measures are determined based on the PRA. It may be appropriate for the measures to be integrated into a systems approach for production of potato material (as described in ISPM 14:2002). A flow chart showing the normal sequence of establishment, maintenance and production of pest free potato micropropagative material and minitubers is provided in Appendix 3.

2.2.1 Potato micropropagative material

Phytosanitary measures for managing pest risks related to potato micropropagative material include:

- testing individual plants (candidate plants) for the pests regulated by the importing country and establishing potato micropropagative material in establishment facilities. Pest freedom is verified once all relevant testing is successfully completed (the status of the micropropagative material derived from the tested candidate plant changes to pest free potato micropropagative material)
- maintaining pest freedom using management systems for the maintenance and propagation of the pest free potato micropropagative material in a closed, aseptic environment in maintenance and propagation facilities.

2.2.2 Minitubers

Phytosanitary measures for managing pest risks related specifically to minituber production should be based on pest risk assessment information related to the area of production and include:

- derivation of the minitubers from pest free potato micropropagative material
- production in pest free growing media under specified protected conditions in a pest free production site free from the pests (and their vectors) regulated for minitubers by the importing country.

3. Production of Pest Free Potato Micropropagative Material

3.1 Establishment of pest free potato micropropagative material

A candidate plant, from which the pest free potato micropropagative material is derived, should be inspected, tested and found free from regulated pests. It may also be required to be grown through a complete vegetative cycle, inspected, tested and found free from regulated pests. In addition to the laboratory testing procedure for regulated pests described below, potato micropropagative material should be inspected and found free from other pests or their symptoms and general microbial contamination.

Where a candidate plant is determined to be infested it will normally be disposed of. However, for certain types of regulated pests, the NPPO may allow that recognized techniques (e.g. meristem tip culture, thermotherapy) be used in combination with conventional micropropagation to eliminate the pest from the candidate plant, and prior to the initiation of the *in vitro* multiplication programme. In such cases, laboratory testing must be used to confirm the success of this approach before multiplication commences.

3.1.1 Testing programme to verify pest freedom

A testing programme on the candidate plant should be applied in an official testing laboratory. This laboratory should meet general requirements (described in Annex 1) to ensure that all potato micropropagative material moved to maintenance and propagation facilities is free from the pests regulated by the importing country. Conventional micropropagation does not consistently exclude some pests, for example, viruses, viroids, phytoplasmas and bacteria. A list of pests that may be of concern to potato micropropagative material is provided in Appendix 1.

3.1.2 Establishment facilities

A facility used to establish pest free potato micropropagative material from new candidate plants should be authorized or directly operated by the NPPO specifically for this purpose. The facility should provide a secure means for establishing individual pest free potato micropropagative material from candidate plants and for holding these plants separately from tested material while awaiting required test results. Because both infested and pest free potato propagative material (tubers, plants *in vitro* etc.) may be handled in the same facility, strict procedures should be implemented to prevent contamination or infestation of pest free material. Such procedures should include:

- prohibition of entry of unauthorised personnel and control of the entry of authorized staff
- provision for the use of dedicated protective clothing (including dedicated footwear or disinfection of footwear) and hand washing on entry (with particular care being taken if staff members work in areas of higher phytosanitary risk, e.g. the testing facility)
- chronological records of actions in handling material so that production can, if necessary, be checked easily for contamination and infestation if pests are detected
- stringent aseptic techniques, including disinfection of work areas and sterilization of instruments (e.g. by autoclaving) between handling materials of a different phytosanitary status.

3.2 Maintenance and propagation facilities for pest free potato micropropagative material

A facility that maintains and propagates pest free potato micropropagative material should be operated separately from the facilities that establish potato plants *in vitro* and conduct the testing for regulated pests (although exceptional circumstances are described in section 3.3). The facility should be operated as a pest free production site (as described in ISPM 10:1999) with respect to the pests of potato regulated by the importing country for potato micropropagative material. The facility should:

- maintain and propagate only officially certified pest free potato micropropagative material and permit only pest free material to enter the facility
- grow other plant species only if this is officially permitted and if:
  - the pest risks to potato propagative material have been assessed and, if identified, the plants have been tested and found to be free from regulated pests before entering the facility
  - adequate precautions are taken to separate them in space or time from the potato plants
- implement officially approved operational procedures to prevent entry of regulated pests
- control the entry of staff and provide for the use of protective clothing, disinfection of footwear and hand washing on entry (with particular care being taken if staff members work in areas of higher phytosanitary risk, e.g. the testing facility)
- use aseptic procedures
- implement regular management system checks by the manager or a designated responsible staff member and keep records
- prohibit the entry of unauthorised personnel

3.3 Combined establishment and maintenance facilities

Exceptionally, establishment facilities may also maintain pest free potato micropropagative material provided that strict procedures are adopted and applied to prevent infestation of maintained material from other material of a lower phytosanitary status.

These strict procedures include:

- the procedures in sections 3.1 and 3.2 to prevent infestation of the pest free potato micropropagative material and to keep material of different phytosanitary status separate
- the use of separate laminar flow cabinets and instruments for the maintained material and for material of a lower phytosanitary status or implementation of stringent procedures to keep the processes of establishment and maintenance separate
- scheduled audit tests on the material maintained.

3.4 Additional specifications for potato micropropagation facilities

Additional specifications for potato micropropagation facilities are provided in Annex 2 and may be required depending on the pests present in the area and the results of PRA.

Pest free potato micropropagative material established and maintained in these facilities may be propagated further to produce minitubers or may be traded internationally as such.

4. Production of Pest Free Minitubers

The following guidance for minituber production also applies to parts of minitubers that are traded internationally, such as sprouts.

4.1 Eligible material

The only potato material allowed to enter the minituber production facility should be pest free potato micropropagative material. Plants of other plant species may be permitted to be grown in the facility provided that:

- the phytosanitary risks to minitubers have been assessed and, if identified, the other plant species have been tested and found to be pest free before entering the facility
- adequate precautions are taken to separate them in space and/or time from the potato plants to prevent contamination.

4.2 Minituber facilities

A minituber production facility should be operated as a pest free production site (as described in ISPM 10:1999) with respect to pests regulated by the importing country for minitubers. Pests that may be of concern include those for potato micropropagative material i.e. viruses, viroids, phytoplasmas and bacteria (listed in Appendix 1) and also fungi, nematodes, arthropods etc. (listed in Appendix 2).

Production should be under protected conditions, for example a growth room, glasshouse, polythene tunnel or (if appropriate, based on local pest status) a screen house with suitable mesh size, constructed and maintained to prevent the entry of pests. If the facility includes adequate physical and operational safeguards against the introduction of the regulated pests, no additional requirements should be necessary. However, in cases where these safeguards can not be met, additional requirements should be considered. Depending on conditions in the area of production, these may include:

- location of the facility in a pest free area, or an area or site that is well isolated from sources of the regulated pests
- a buffer zone around the facility for regulated pests
- location of the facility in an area with low pest and pest vector incidence

- production at a time of year when there is low pest and pest vector incidence.

The entry of authorized personnel to the facility should be controlled and provision should be made for use of protective clothing, disinfection of footwear and hand washing on entry to prevent contamination from dirty to clean areas. It should also be possible to decontaminate the facility if required. The growing medium, water supply and fertilizer or plant additives used in the facility should be pest free.

The facility should be monitored for the regulated pests and pest vectors during the production cycle and, if necessary, pest control measures or other corrective actions should be undertaken and documented. The facility should be well maintained and cleaned after each production cycle.

The minitubers should be handled, stored, packed and transported under conditions preventing infestation and contamination by the regulated pests.

Additional requirements for minituber production facilities are provided in Annex 3 and may be required depending on the pests present in the area and the results of PRA.

5. Staff Competence

Staff should be trained and competent in:

- techniques for the establishment of pest free potato micropropagative material, the maintenance of pest free potato micropropagative material, the production of pest free minitubers, and diagnostic testing as relevant
- following administrative, management and record-keeping procedures.

Procedures for maintaining staff competence should be in place and training should be updated, in particular, when phytosanitary import requirements change.

6. Documentation and Record-Keeping

The management system, and operating procedures and instructions of each facility and the testing laboratory, should be documented in a manual(s). In developing such manual(s), the following should be addressed:

- the establishment, maintenance and propagation of pest free potato micropropagative material with particular attention paid to those control measures used to prevent infestation and contamination between the pest free potato micropropagative material and any material of another phytosanitary status
- the production of pest free minitubers, covering management, technical and operational procedures, with particular attention paid to those control measures used to prevent pest infection, infestation and contamination of the minitubers during their production, harvest and storage, and during transport to their destination
- all laboratory test procedures or processes to verify pest freedom.

Throughout all production and testing, the identity of all propagative material should be preserved and traceability should be maintained by adequate record-keeping. Records of all tests done on the material, as well as the results, lineage and records of the distribution of the material, should be kept in a manner that ensures traceability for the importing or exporting countries for at least five years. For pest free potato micropropagative material, the records that determine its pest free status should be maintained for as long as the micropropagative material is maintained.

Records of staff training and competencies should be maintained as determined by the NPPO and, if appropriate, in consultation with the NPPO of the importing country.

7. Auditing

All facilities, systems and records should be officially audited to ensure compliance with the procedures and to meet the importing country's phytosanitary import requirements.

The NPPO of the importing country may ask to participate in such an audit, based on bilateral agreement.

8. Phytosanitary Certification

The potato micropropagation facility, relevant records and the plants should be subjected to appropriate phytosanitary procedures to ensure that the micropropagative material meets the importing country's phytosanitary import requirements.

The potato minituber production facility, relevant records, the growing crop, and the minitubers should be subjected to appropriate phytosanitary procedures to ensure that the minitubers meet the importing country's phytosanitary import requirements.

Pest free potato micropropagative material and minitubers moving in international trade should be accompanied by a phytosanitary certificate issued by the NPPO of the exporting country according to ISPM 12:2001 and complying with the phytosanitary import requirements of the importing country. The use of seed potato certification labels may assist with lot identification, in particular when these labels specify the reference number of the lot, including where appropriate the producer's identification number.

This annex was adopted by the Commission on Phytosanitary Measures in March 2010.

This annex is a prescriptive part of the standard.

ANNEX 1: General requirements for official testing laboratories for potato micropropagative material and minitubers

The requirements for laboratories testing potato micropropagative material and minitubers operated or authorized by NPPOs include the following:

- competent staff with adequate knowledge and experience of conducting appropriate test methods and interpreting the results
- adequate and appropriate equipment to conduct microbiological, serological, molecular and bioassay tests, as appropriate
- relevant validation data for the tests conducted or at least sufficient evidence for the suitability of the test applied
- procedures to prevent contamination of samples
- adequate isolation from production facilities
- a manual(s) that describes policy, organizational structure, work instructions, and testing standards and any quality management procedures
- appropriate record-keeping and traceability for test results.

This annex was adopted by the Commission on Phytosanitary Measures in March 2010.

This annex is a prescriptive part of the standard.

ANNEX 2: Additional requirements for potato micropropagation facilities

In addition to the requirements in section 3, the following requirements for physical structure, equipment and operating procedures should be considered for micropropagation facilities, depending on the presence of pests in the area and the results of PRA.

Physical structure

- a double door entry with an air-curtain and with a changing area between the double doors
- appropriate rooms for washing, media preparation, subculturing and growth of plants

Equipment

- high-efficiency particulate air (HEPA)-filtered positive air pressure systems or their equivalent for media, subculture and growth rooms
- growth rooms with appropriate light, temperature and humidity control
- adequate equipment or procedures in the subculture room to control pest contamination (e.g. ultraviolet (UV) germicidal lamps)
- laminar flow cabinets for subculturing, which are serviced regularly
- laminar flow cabinets fitted with UV germicidal lamps

Operating procedures

- a programme for periodic disinfection/fumigation of the facility
- use by staff of disposable/dedicated footwear or disinfection of footwear
- appropriate hygienic practices for handling plant material (e.g. cutting *in vitro* plantlets with a sterile scalpel over a sterile disposable surface)
- a monitoring programme to check the level of air-borne contaminants in the subculture room, cabinets and growth room
- an inspection and disposal procedure for infested potato micropropagative material.

This annex was adopted by the Commission on Phytosanitary Measures in March 2010.

This annex is a prescriptive part of the standard.

ANNEX 3: Additional requirements for minituber production facilities

The following additional requirements for minituber production facilities should be considered, and when necessary included, depending on the presence of pests and vectors in the area and the results of PRA:

Physical structure

- double door entry with a change area for changing garments and donning protective overcoats and gloves, the change area to contain foot disinfecting pads and a washing facility for washing and disinfecting hands
- entry doors and all vents and openings covered with insect-proof screens with mesh that will prevent entry of the local pests and pest vectors
- gaps between the external to internal environment to be sealed
- production isolated from soil (e.g. concrete floors or floors covered with a protective membrane)
- designated areas for washing and disinfecting containers, and cleaning, grading, packing and storing minitubers
- air filtration and/or sterilization system
- in places where there is unreliable supply of electricity and water, standby facilities for emergencies

Management of environment

- suitable temperature, light, air circulation and humidity controls
- misting for acclimatization of transplants

Crop management

- regular pest and pest vector monitoring (e.g. using sticky insect traps) at specified intervals
- hygienic practices for handling plant material
- correct disposal procedures
- identification of production lots
- a suitable separation between lots
- use of raised benches

Growing media, fertilizer, water

- use of pest free soil-less growing medium
- fumigation/disinfestations/steam sterilization of the growing medium before planting or other methods that guarantee freedom from potato pests
- transport and storage of growing medium under conditions preventing contamination
- a water supply free of plant pests (either treated water or deep-well spring water), together with regular testing for potato pests if required
- use of inorganic fertilizer or organic fertilizer that has been treated to eliminate pests

Post-harvest handling

- sampling of minitubers for post-harvest tuber testing for indicator pests (i.e. pests whose presence indicates that the pest free status of the minituber production facility has not been maintained)
- suitable storage conditions
- grading and packing (if appropriate, according to a seed potato certification scheme)
- new or adequately sterilized containers used for packing minitubers

- containers for shipment adequate for preventing contamination by pests and pest vectors
- adequate cleaning and disinfection of handling equipment and storage facilities.

This appendix was adopted by the Commission on Phytosanitary Measures in March 2010.

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

APPENDIX 1: Examples of pests that may be of concern with respect to potato micropropagative material

Please note that the following list does not constitute a technical justification for regulating these pests.

VIRUSES	ABBREVIATION	GENUS
Alfalfa mosaic virus	AMV	*Alfamovirus*
Andean potato latent virus	APLV	*Tymovirus*
Andean potato mottle virus	APMoV	*Comovirus*
Arracacha virus B-oca strain	AVB-O	*Cheravirus* (tentative)
Beet curly top virus	BCTV	*Curtovirus*
Belladonna mottle virus	BeMV	*Tymovirus*
Cucumber mosaic virus	CMV	*Cucumovirus*
Eggplant mottled dwarf virus	EMDV	*Nucleorhabdovirus*
Impatiens necrotic spot virus	INSV	*Tospovirus*
Potato aucuba mosaic virus	PAMV	*Potexvirus*
Potato black ringspot virus	PBRSV	*Nepovirus*
Potato latent virus	PotLV	*Carlavirus*
Potato leafroll virus	PLRV	*Polerovirus*
Potato mop-top virus	PMTV	*Pomovirus*
Potato rough dwarf virus	PRDV	*Carlavirus* (tentative)
Potato virus A	PVA	*Potyvirus*
Potato virus M	PVM	*Carlavirus*
Potato virus P	PVP	*Carlavirus* (tentative)
Potato virus S	PVS	*Carlavirus*
Potato virus T	PVT	*Trichovirus*
Potato virus U	PVU	*Nepovirus*
Potato virus V	PVV	*Potyvirus*
Potato virus X	PVX	*Potexvirus*
Potato virus Y (all strains)	PVY	*Potyvirus*
Potato yellow dwarf virus	PYDV	*Nucleorhabdovirus*
Potato yellow mosaic virus	PYMV	*Begomovirus*
Potato yellow vein virus	PYVV	*Crinivirus* (tentative)
Potato yellowing virus	PYV	*Alfamovirus*
Solanum apical leaf curling virus	SALCV	*Begomovirus* (tentative)
Sowbane mosaic virus	SoMV	*Sobemovirus*
Tobacco mosaic virus	TMV	*Tobamovirus*
Tobacco necrosis virus A or *Tobacco necrosis virus D*	TNV-A or TNV-D	*Necrovirus*
Tobacco rattle virus	TRV	*Tobravirus*
Tobacco streak virus	TSV	*Ilarvirus*

Tomato black ring virus	TBRV	*Nepovirus*
Tomato chlorotic spot virus	TCSV	*Tospovirus*
Tomato leaf curl New Delhi virus	ToLCNDV	*Begomovirus*
Tomato mosaic virus	ToMV	*Tobamovirus*
Tomato mottle Taino virus	ToMoTV	*Begomovirus*
Tomato spotted wilt virus	TSWV	*Tospovirus*
Tomato yellow leaf curl virus	TYLCV	*Begomovirus*
Tomato yellow mosaic virus	ToYMV	*Begomovirus* (tentative)
Tomato yellow vein streak virus	ToYVSV	*Geminivirus* (tentative)
Wild potato mosaic virus	WPMV	*Potyvirus*
VIROIDS		
Mexican papita viroid	MPVd	*Pospiviroid*
Potato spindle tuber viroid	PSTVd	*Pospiviroid*
BACTERIA		
Clavibacter michiganensis subsp. *sepedonicus*		
Dickeya spp.		
Pectobacterium atrosepticum		
P. carotovorum subsp. *carotovorum*		
Ralstonia solanacearum		
PHYTOPLASMAS		
e.g. purple top, stolbur		

This appendix was adopted by the Commission on Phytosanitary Measures in March 2010.

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

APPENDIX 2: Examples of pests that may be of concern with respect to potato minituber production

Please note that the following list of pests does not constitute a technical justification for regulating these pests.

In addition to pests listed in Appendix 1, many contracting parties require pests to be excluded from certified minituber potato production either as quarantine pests or as regulated non-quarantine pests according to the pest status in the country concerned. Some examples are:

Bacteria

- *Streptomyces* spp.

Chromista

- *Phytophthora erythroseptica* Pethybr. var. *erythroseptica*
- *P. infestans* (Mont.) de Bary

Fungi

- *Angiosorus (Thecaphora) solani* Thirumalachar & M.J. O'Brien) Mordue
- *Fusarium* spp.
- *Polyscytalum pustulans* (M.N. Owen & Wakef.) M.B. Ellis
- *Rhizoctonia solani* J.G. Kühn
- *Synchytrium endobioticum* (Schilb.) Percival
- *Verticillium dahliae* Kleb.
- *V. albo-atrum* Reinke & Berthold

Insects

- *Epitrix tuberis* Gentner
- *Leptinotarsa decemlineata* (Say)
- *Phthorimaea operculella* (Zeller)
- *Premnotrypes* spp.
- *Tecia solanivora* (Povolny)

Nematodes

- *Ditylenchus destructor* (Thorne)
- *D. dipsaci* (Kühn) Filipjev
- *Globodera pallida* (Stone) Behrens
- *G. rostochiensis* (Wollenweber) Skarbilovich
- *Meloidogyne* spp. Göldi
- *Nacobbus aberrans* (Thorne) Thorne & Allen

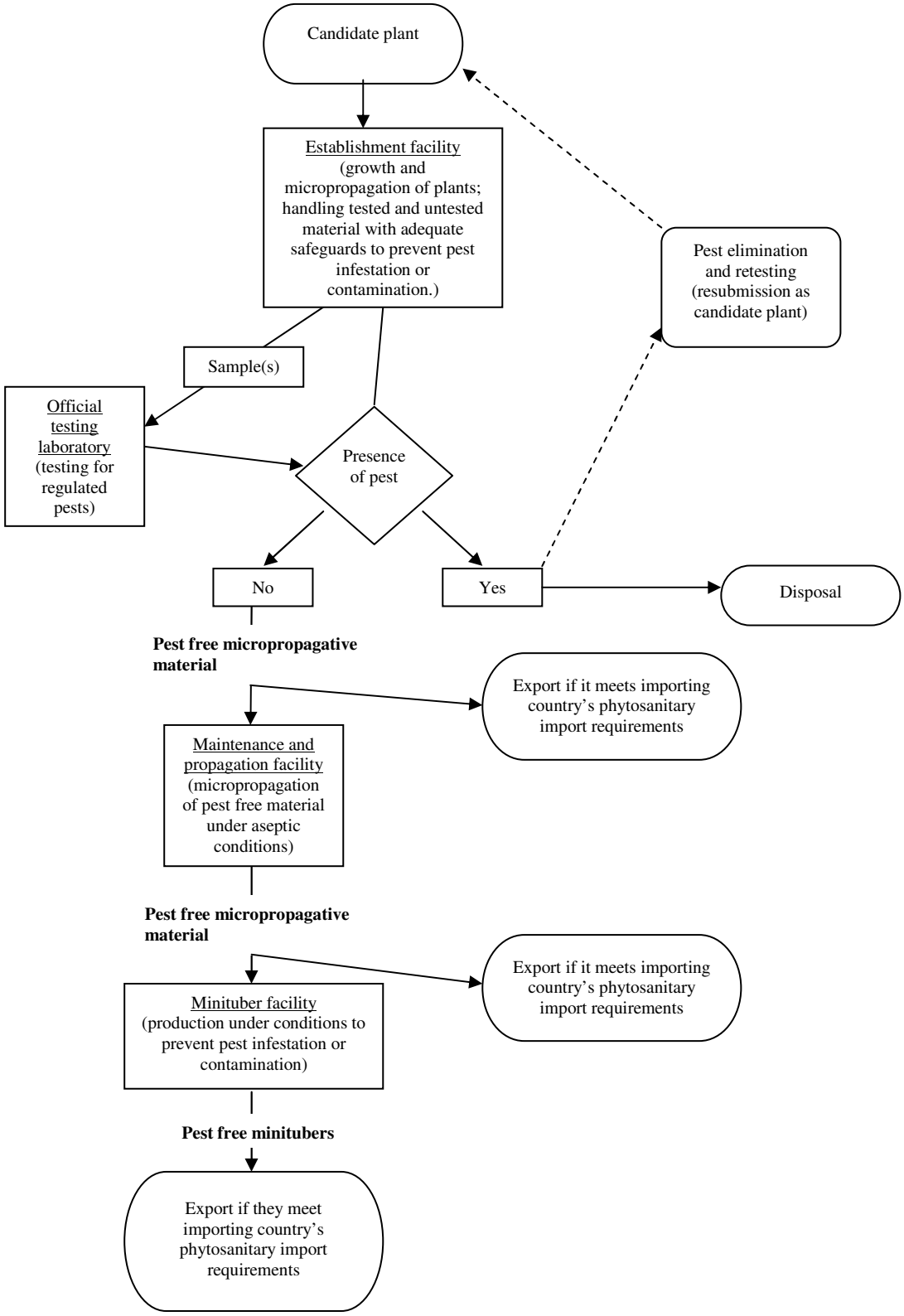
Protozoa

- *Spongospora subterranea* (Wallr.) Lagerh.

This appendix was adopted by the Commission on Phytosanitary Measures in March 2010.

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

APPENDIX 3: Flow chart showing the normal sequence of establishment, maintenance and production of pest free potato micropropagative material and minitubers



INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

ISPM 34

DESIGN AND OPERATION OF POST-ENTRY QUARANTINE STATIONS FOR PLANTS

(2010)

CONTENTS

Adoption

This standard was adopted by the Commission on Phytosanitary Measures in March 2010.

INTRODUCTION

Scope

This standard describes general guidelines for the design and operation of post-entry quarantine (PEQ) stations for holding imported consignments of plants, mainly plants for planting, in confinement in order to verify whether or not they are infested with quarantine pests.

References

ISPM 1. 2006. *Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade*. Rome, IPPC, FAO.

ISPM 2. 2007. *Framework for pest risk analysis*. Rome, IPPC, FAO.

ISPM 5. 2010. *Glossary of phytosanitary terms*. Rome, IPPC, FAO.

ISPM 11. 2004. *Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*. Rome, IPPC, FAO.

Definitions

Definitions of phytosanitary terms used in the present standard can be found in ISPM 5.

Outline of Requirements

Pest risk analysis (PRA) should be carried out to determine the phytosanitary measures for specified plants commodities. For certain such commodities, the National Plant Protection Organization (NPPO) of the importing country may decide that post-entry quarantine is required to manage pest risks identified by PRA. Confinement of a consignment of plants in a PEQ station may be an appropriate phytosanitary measure in cases where a quarantine pest is difficult to detect, where it takes time for sign or symptom expression, or where testing or treatment is required.

For a PEQ station to function successfully, its design and management should ensure that any quarantine pests that may be associated with consignments of plants are suitably confined, and do not move or escape from the station. The PEQ station should also ensure that consignments of plants are held in a manner that best facilitates observation, research, further inspection, testing or treatment of the plants.

PEQ stations may consist of a field site, screen house, glasshouse and/or laboratory, amongst others. The type of facility to be used should be determined by the type of imported plants and the quarantine pests that may be associated with them.

PEQ stations should be appropriately located and comply with physical and operational requirements based on the biology of both plants and quarantine pests that may potentially be associated with the plants. The impact of such pests should also be considered.

Operational requirements for PEQ stations include policies and procedures relating to staff requirements, technical and operational procedures, and record keeping. PEQ stations should have systems in place to detect and identify quarantine pests and to treat, remove or destroy infested plant material and other materials that may harbour these pests. The NPPO should ensure that the PEQ station is audited on a regular basis.

The plants may be released from the PEQ station at the completion of the PEQ period if they are found to be free from quarantine pests.

BACKGROUND

Imported plants have the potential to introduce quarantine pests. When considering phytosanitary measures for such commodities, NPPOs should apply measures based on the principle of managed risk (ISPM 1:2006). In order to assess the pest risks and identify appropriate phytosanitary measures for particular pathways, PRA should be carried out. For many commodities that are traded internationally, NPPOs of importing countries identify risk management measures that mitigate pest risk without the need to apply quarantine after entry. However, for some commodities, especially plants for planting, NPPOs may identify that a quarantine period is required.

In some cases, NPPOs may decide that a period of quarantine is necessary for a specific consignment because of the impossibility of verifying the presence of quarantine pests in that consignment at entry. This allows for testing for the presence of pests, time for the expression of signs or symptoms, and appropriate treatment if necessary.

The purpose of confinement in a PEQ station is to prevent the escape of pests associated with plants. When the required inspection, testing, treatment and verification activities have been completed, the consignment can be released, destroyed or kept as reference material, as appropriate.

The guidelines described in this standard may also be relevant for holding other organisms in quarantine (e.g. quarantine pests, beneficial organisms, biological control agents) for which other specific requirements may also be needed.

Determining the need for post-entry quarantine as a phytosanitary measure

PRA should be carried out to determine the phytosanitary measures for specified commodities of plants for planting or other plants according to ISPM 2:2007 and ISPM 11:2004. The PRA determines the pest risk associated with the plants and identifies phytosanitary measures, which may include post-entry quarantine for a specified period, to manage the risk. The physical and operational characteristics of a PEQ station determine the level of confinement provided by the station and its ability to confine adequately various quarantine pests.

Once the post-entry quarantine measure has been determined by the NPPO of the importing country, the NPPO should determine whether this measure can be met by any of the following:

- an existing PEQ station (this may include isolated field sites) without modification
- a modification of structural or operating conditions of an existing PEQ station
- a new PEQ station designed and constructed
- quarantine in a different area or country.

REQUIREMENTS

1. General Requirements for PEQ Stations

The requirements of PEQ stations for consignments of plants should consider the biology of the plants, the biology of the quarantine pests and the biology of any vectors that may potentially be associated with them, particularly their mode of dispersal and spread. Successful detention of consignments of plants in quarantine requires prevention of any associated quarantine pests from escaping and prevention of organisms in the area outside the PEQ station from entering the station and transferring or vectoring quarantine pests out of the station.

2. Specific Requirements for PEQ Stations

PEQ stations may consist of one or more of the following: a field site, screen house, glasshouse, laboratory, amongst others. The facilities of a PEQ station to be used should be determined by the type of imported plants and the quarantine pests that may be associated with them.

NPPOs should consider all appropriate issues when determining the requirements for the PEQ station (e.g. the location, physical and operational requirements, waste processing facilities, and the availability of adequate systems for detection, diagnosis and treatment of quarantine pests). NPPOs should ensure that the appropriate level of confinement is maintained by inspections and audits. Appendix 1 provides guidance on requirements for PEQ stations based on the biology of different types of quarantine pests.

2.1 Location

In determining the location of a PEQ station the following should be addressed:

- risks of accidental escape of quarantine pests
- the possibility of early detection of the escape
- the possibility of effective management measures in case of escape.

PEQ stations should provide adequate isolation and stability (e.g. with minimal exposure to severe climatic or geological events). Suitable separation from susceptible plants and related plant species should also be considered (e.g. location away from agricultural or horticultural production, forests or areas of high biodiversity).

2.2 Physical requirements

The physical design of a PEQ station should take into consideration the growth requirements of the plants, the biology of any quarantine pests potentially associated with the consignment, the work flow in the station and specific emergency requirements (e.g. in the event of loss of electricity, water supply). Office facilities and supporting service infrastructure should be available as required and have suitable separation from plants in the PEQ station.

Physical requirements to be considered include:

- delimitation of the station
- isolation of field sites
- differentiation of internal access zones with different levels of confinement
- structural materials (for walls, floors, roof, doors, meshes and windows)
- size of the station (to ensure effective operation of the PEQ station and associated procedures)
- compartments for internal separation of consignments
- access into and within the station (to avoid traffic in areas where plants in quarantine are being grown)
- design of openings (for doors, windows, air vents, drains and other conduits)
- treatment systems (for air, water, solid and liquid waste)
- equipment (e.g. specialized biological safety cabinets, autoclaves)
- access to water and electricity supplies, including backup generators
- footbath at the entrance
- decontamination room for workers and clothing
- use of signs
- security measures
- access to waste disposal facilities.

2.3 Operational requirements

PEQ stations should either be operated or be authorized and audited by the NPPO of the importing country.

Specific procedures will be required in the operation of the station to manage the identified risks associated with the consignments of plants in the PEQ station. A procedural manual, approved by the NPPO where appropriate, should detail the procedures by which the station meets its objectives.

Operational requirements involve appropriate policies and procedures relating to management review, regular auditing, training of personnel, general operation of the PEQ station, record keeping and traceability of plants, contingency planning, health and safety, and documentation.

2.3.1 Staff requirements

Requirements may include:

- a suitable qualified supervisor who has overall responsibility for maintaining the PEQ station and for all PEQ activities
- qualified staff with responsibilities assigned for the maintenance of the PEQ station and associated activities
- appropriately qualified scientific support staff or ready access to them.

2.3.2 Technical and operational procedures

Technical and operational requirements should be documented in a procedural manual and may include:

- a limit on the number of plants held at any one time in the PEQ station so as not to exceed the capacity of the station in a way that could impede inspection or compromise quarantine
- ensuring adequate spatial separation of different consignments or lots within the station
- provision for disinfestations of the station before transfer of plants or in the event of pest occurrence
- handling and sanitation procedures that prevent the spread of pests on hands, cutting tools, footwear and clothing, as well as procedures for disinfestation of surfaces in the PEQ station
- description of how plants are to be handled, sampled and transported to diagnostic laboratories for the testing of quarantine pests
- use of specific confinement equipment (e.g. biological safety cabinets, cages) if needed
- provision for assessment and control (e.g. maintenance and calibration) of equipment (e.g. autoclaves and biological safety cabinets)
- use of dedicated or disposable personal protective equipment
- provision for monitoring pest occurrence in the PEQ station and its vicinity (e.g. using traps)
- appropriate inspection and/or testing to detect quarantine pests
- effective contingency plans for disruptions to or failures of quarantine (e.g. fires, accidental release of plants or pests from the station, electrical outages or other emergencies)
- a procedure for dealing with non-compliances including the appropriate treatment or destruction of plant material infested with quarantine pests, and the preservation of specimens if required
- a system to enable full traceability of the consignments through the PEQ station (the traceability system should use a unique identifier from plant consignment arrival through handling, treatment and testing, until release or destruction of the infested consignment)
- criteria for determining what constitutes a breach of quarantine and a reporting system to ensure that any breaches and adopted measures are reported without delay to the NPPO
- procedures that describe how documents are reviewed, amended and controlled

- a schedule for internal and external audits to check that the station meets the requirements (e.g. structural integrity and hygiene requirements)
- provision for disposal and inactivation of infested consignments
- procedures for decontamination and disposal of waste, including packaging and growing media
- restricting staff contact with plants that may be at risk outside the PEQ station
- a means to control the entry of authorized staff and visitors (e.g. escorting visitors, visitor access restrictions, recording system for visitors)
- a procedure to ensure that all staff are adequately qualified, including training and competency testing where appropriate.

2.3.3 Record keeping

The following records may be required:

- a site plan of the PEQ station showing the location of the PEQ station on the site and all station entrances and access points
- a record of all PEQ activities conducted in the station (e.g. staff activities, inspections, pest detections, pest identifications, testing, treatments, disposal and release of consignments of plants in quarantine)
- a record of all consignments of plants in the PEQ station and their place of origin
- a record of equipment
- a list of PEQ station staff and other persons authorized to enter the station (or specific parts thereof)
- records of training and skills of staff.
- a record of visitors

2.4 Diagnosis and removal of quarantine pests or vectors

PEQ stations should have systems in place for monitoring for pest occurrence in the PEQ station and its vicinity as well as for detecting and identifying quarantine pests or potential vectors of quarantine pests. It is essential that the PEQ station has access to diagnostic expertise either from the staff within the station or other means. In any case the final diagnostic decision rests with the NPPO.

PEQ stations should have access to expertise and facilities or equipment to treat, remove or destroy as quickly as possible any infested plant material detected in the PEQ station.

2.5 Audit of PEQ stations

The NPPO should ensure that the PEQ station is officially audited on a regular basis to ensure that the station meets the physical and operational requirements.

3. Completion of PEQ Process

Consignments of plants should be released from the PEQ station only if they are found to be free from quarantine pests.

Plants found to be infested with quarantine pests should either be treated to remove infestation or be destroyed. Destruction should be in a manner that removes any possibility of escape of the pest from the PEQ station (e.g. chemical destruction, incineration, autoclaving).

In special circumstances infested or potentially infested plants may be

- shipped to another PEQ station for further inspection, testing or treatment

- returned to the country of origin or shipped to another country under restricted/safe conditions if complying with the recipient country's phytosanitary import requirements or with the agreement of the corresponding NPPO
- kept as reference material for technical or scientific work under quarantine.

In such circumstances any pest risks associated with the movement of plants should be fully addressed.

The completion of the post-entry quarantine process should be documented by the NPPO.

This appendix was adopted by the Commission on Phytosanitary Measures in March 2010.

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

APPENDIX 1: Requirements for PEQ stations

The following may be considered by NPPOs for PEQ stations for consignments of plants. The requirements are based on the biology of quarantine pests potentially associated with the plants. Other requirements may be necessary to address the risks from specific pests.

General requirements for PEQ stations	
• Physical separation of plants from other areas, including offices used by personnel • Adequate safeguards to ensure plants cannot be accessed or removed from the PEQ station without appropriate authorization • Growth of plants in pest-free growing medium (e.g. sterilized potting mix or soil-less growing medium) • Growth of plants on raised benches • Provision of suitable growing conditions for the imported plants (e.g. temperature, light and humidity) • Provision of conditions conducive for the development of signs and symptoms of pests to be expressed • Control of local pests (e.g. rodents, whiteflies, ants) and exclusion from the PEQ station by sealing all the points of penetration, including electrical and plumbing conduits (except for open ground facilities) • A system and means for sterilization, decontamination or destruction of waste (including infested plants) and equipment (e.g. cutting implements) before removal from the station • Appropriate irrigation system to prevent transmission of pests • For glasshouses and screen houses: accessible surfaces constructed of smooth and impervious material for cleaning and effective decontamination • For glasshouses and screen houses: ceilings and walls to be constructed of material resistant to deterioration and to attack by insects and other arthropods • Protective clothing (e.g. a dedicated laboratory coat and footwear or shoe covers, disposable gloves) to be worn by all staff and visitors and removed on exit from the PEQ station • Decontamination of personnel upon exit of PEQ station areas containing risk material	
Biological characteristic (of quarantine pests)	**PEQ station requirements**
Pests that are exclusively graft-transmitted (e.g. some viruses or phytoplasmas, where vectors are known to be absent)	• Facilities of the station may include field site, screen house, glasshouse or laboratory • PEQ station clearly delimited • Appropriate separation from potential hosts • Host material restricted to PEQ station only
Pests spread by soil or water only, or in vectors that themselves are spread by soil or water only (e.g. cyst nematodes, nepoviruses)	• Facilities of the station may include screen house, tunnel or glasshouse • Windows and doors locked shut when not in use, and when open, windows should be fitted with screens • Footbath • Impermeable flooring • Appropriate treatment of waste and water (entering and leaving PEQ station) to eliminate quarantine pests • Appropriate treatment of soil to eliminate soil-borne vectors • Appropriate separation of plants from soil • Prevention of drainage water reaching water sources used to irrigate host plants • Soil traps installed in drains

Pests or pest vectors that are airborne or mobile and are greater than 0.2 mm in size (e.g. aphids)	• Facilities of the station may include screen house, glasshouse or laboratory • Self-closing and tight-fitting doors, with appropriate seals and sweeps • Entry through two doors separated by a vestibule or anteroom • A sink with hands-free operation in the anteroom • Anteroom with insecticidal spray • Mesh less than 0.2 mm (70 mesh) (e.g. for screen houses and over vents) to prevent pest or vector entry or escape • Alternative host material for the quarantine pest should not be within the expected pest or vector dispersal distance from the PEQ station (in any direction) • Pest monitoring programme that includes the use of sticky traps, light traps or other insect monitoring devices • Inward directional air flow to be provided within the heating, ventilation and air-conditioning system • Backup electricity supply system for air flow systems and to maintain other equipment • Sterilization or decontamination of waste and equipment (e.g. cutting implements) before removal from the PEQ station
Pests or pest vectors that are airborne or mobile and less than 0.2 mm in size (e.g. some mite or thrips species)	• Facilities of the station may include glasshouse constructed of regular glass, impact-resistant polycarbonate or twin-skin plastic, or a laboratory • Self-closing and tight-fitting doors, with appropriate seals and sweeps • Entry through two doors separated by a vestibule or anteroom • A sink with hands-free operation in the anteroom • Anteroom with insecticidal spray • Alternative host material for the quarantine pest should not be within the expected pest or vector dispersal distance from the PEQ station (in any direction) • Pest monitoring programme that includes the use of sticky traps, light traps or other insect monitoring devices • Inward directional air flow to be provided within the heating, ventilation and air-conditioning system • • High-efficiency particulate air (HEPA) filtration or its equivalent (HEPA filters to trap 99.97% of particles of 0.3 microns in diameter) • Sterilization or decontamination of waste and equipment (e.g. cutting implements) before removal from the PEQ station •A backup electricity supply system for air systems to maintain negative air pressure gradients and for other equipment • Interlocking of the supply air and exhaust air systems to ensure inward flow at all times

Pests that are highly mobile or easily dispersed (e.g. rust fungi, airborne bacteria)	• Facilities of the station may include glasshouse constructed of breakage-resistant glass or twin-walled polycarbonate, or a laboratory • Footbath • Self-closing and tight-fitting doors, with appropriate seals and sweeps • Entry through two doors separated by a vestibule or anteroom • A sink with hands-free operation in the anteroom • Alternative host material for the quarantine pest should not be within the expected pest or vector dispersal distance from the PEQ station (in any direction) • Inward directional air flow to be provided within the heating, ventilation and air-conditioning system • A backup electricity supply system for air systems to maintain negative air pressure gradients and for other equipment • No direct access to the station from the outside of the building • Interlocked vestibule doors so that only one door at a time can be opened • HEPA filtration or its equivalent (HEPA filters to trap 99.97% of particles of 0.3 microns in diameter) • All waste air filtered through HEPA filters • Sterilization or decontamination of solid and liquid waste and equipment (e.g. cutting implements) before removal from the PEQ station • Interlocking of the supply air and exhaust air systems to ensure inward flow at all times • Installation of a security alarm • A shower (may be required for staff members on leaving the station) • Monitoring systems for operational processes such as pressure differentials and wastewater treatment to prevent failure of essential systems□□

This annex was adopted by the Commission on Phytosanitary Measures in March 2010.

The annex is a prescriptive part of the standard.

ANNEX 9: Irradiation Treatment for *Conotrachelus nenuphar*

Scope of the treatment

This treatment applies to the irradiation of fruits and vegetables at 92 Gy minimum absorbed dose to prevent the reproduction in adults of *Conotrachelus nenuphar* at the stated efficacy. This treatment should be applied in accordance with the requirements outlined in ISPM 18:2003[1].

Treatment description

Name of treatment	Irradiation treatment for *Conotrachelus nenuphar*
Active ingredient	N/A
Treatment type	Irradiation
Target pest	*Conotrachelus nenuphar* (Herbst) (Coleoptera: Curculionidae)
Target regulated articles	All fruits and vegetables that are hosts of *Conotrachelus nenuphar.*
Treatment schedule	Minimum absorbed dose of 92 Gy to prevent the reproduction in adults of *Conotrachelus nenuphar*. Efficacy and confidence level of the treatment is $ED_{99.9880}$ at the 95% confidence level. Treatment should be applied in accordance with the requirements of ISPM 18:2003. This irradiation treatment should not be applied to fruit and vegetables stored in modified atmospheres.
Other relevant information	Since irradiation may not result in outright mortality, inspectors may encounter live, but non-viable *Conotrachelus nenuphar* (larvae, pupae and/or adults) during the inspection process. This does not imply a failure of the treatment. Although the treatment may result in the presence of irradiated adults, the following factors may affect the likelihood of adults being found in traps in importing countries: – Adults are rarely (if ever) present in shipped fruit because the insect pupates off the fruit; – Irradiated adults are very unlikely to survive for more than one week, post irradiation, and they are therefore less likely to spread than non-irradiated adults The Technical Panel on Phytosanitary Treatments based its evaluation of this treatment on the research work undertaken by Hallman (2003) that determined the efficacy of irradiation as a treatment for this pest in *Malus domestica*. Extrapolation of treatment efficacy to all fruits and vegetables was based on knowledge and experience that radiation dosimetry systems measure the actual radiation dose absorbed by the target pest independent of host commodity, and evidence from research studies on a variety of pests and commodities. These include studies on the following pests and hosts: *Anastrepha ludens* (*Citrus paradisi* and *Mangifera indica*), *A. suspensa* (*Averrhoa carambola*, *Citrus paradisi* and *Mangifera indica*), *Bactrocera tryoni* (*Citrus sinensis*, *Lycopersicon lycopersicum*, *Malus domestica*, *Mangifera indica*, *Persea americana* and *Prunus avium*), *Cydia pomonella* (*Malus domestica* and artificial diet) and *Grapholita molesta* (*Malus domestica* and artificial diet) (Bustos *et al.*, 2004; Gould & von Windeguth, 1991; Hallman, 2004, Hallman & Martinez, 2001; Jessup *et al.*, 1992; Mansour, 2003; von Windeguth, 1986; von Windeguth & Ismail, 1987). It is recognised, however, that treatment efficacy has not been tested for all potential fruit and vegetable hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, then the treatment will be reviewed.

[1] The scope of phytosanitary treatments does not include issues related to pesticide registration or other domestic requirements for approval of treatments. Treatments also do not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures prior to approval of a treatment. In addition, potential effects of treatments on product quality are considered for some host commodities before their international adoption. However, evaluation of any effects of a treatment on the quality of commodities may require additional consideration. There is no obligation for a contracting party to approve, register or adopt the treatments for use in its territory.

References	Bustos, M.E., Enkerlin, W., Reyes, J. & Toledo, J. 2004. Irradiation of mangoes as a postharvest quarantine treatment for fruit flies (Diptera: Tephritidae). *Journal of Economic Entomology*, 97: 286–292. Gould, W.P. & von Windeguth, D.L. 1991. Gamma irradiation as a quarantine treatment for carambolas infested with Caribbean fruit flies. *Florida Entomologist*, 74: 297–300. Hallman, G.J. 2003. Ionizing irradiation quarantine treatment against plum curculio (Coleoptera: Curculionidae). *Journal of Economic Entomology*, 96: 1399–1404. Hallman, G.J. 2004. Ionizing irradiation quarantine treatment against Oriental fruit moth (Lepidoptera: Tortricidae) in ambient and hypoxic atmospheres. *Journal of Economic Entomology*, 97: 824–827. Hallman, G.J. & Martinez, L.R. 2001. Ionizing irradiation quarantine treatments against Mexican fruit fly (Diptera: Tephritidae) in citrus fruits. *Postharvest Biology and Technology*, 23: 71–77. Jessup, A.J., Rigney, C.J., Millar, A., Sloggett, R.F. & Quinn, N.M. 1992. Gamma irradiation as a commodity treatment against the Queensland fruit fly in fresh fruit. *Proceedings of the Research Coordination Meeting on Use of Irradiation as a Quarantine Treatment of Food and Agricultural Commodities*, 1990: 13–42. Mansour, M. 2003. Gamma irradiation as a quarantine treatment for apples infested by codling moth (Lepidoptera: Tortricidae). *Journal of Applied Entomology*, 127: 137–141. von Windeguth, D.L. 1986. Gamma irradiation as a quarantine treatment for Caribbean fruit fly infested mangoes. *Proceedings of the Florida State Horticultural Society*, 99: 131–134. von Windeguth, D.L. & Ismail, M.A. 1987. Gamma irradiation as a quarantine treatment for Florida grapefruit infested with Caribbean fruit fly, *Anastrepha suspensa* (Loew). *Proceedings of the Florida State Horticultural Society*, 100: 5–7.

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The annex is a prescriptive part of the standard.

ANNEX 10: Irradiation Treatment for *Grapholita molesta*

Scope of the treatment

This treatment applies to the irradiation of fruits and vegetables at 232 Gy minimum absorbed dose to prevent the emergence of adults of *Grapholita molesta* at the stated efficacy. This treatment should be applied in accordance with the requirements outlined in ISPM 18:2003[1].

Treatment description

Name of treatment	Irradiation treatment for *Grapholita molesta*
Active ingredient	N/A
Treatment type	Irradiation
Target pest	*Grapholita molesta* (Busck) (Lepidoptera: Tortricidae)
Target regulated articles	All fruits and vegetables that are hosts of *Grapholita molesta.*
Treatment schedule	Minimum absorbed dose of 232 Gy to prevent the emergence of adults of *Grapholita molesta*. Efficacy and confidence level of the treatment is $ED_{99.9949}$ at the 95% confidence level. Treatment should be applied in accordance with the requirements of ISPM 18:2003. This irradiation treatment should not be applied to fruit and vegetables stored in modified atmospheres.
Other relevant information	Since irradiation may not result in outright mortality, inspectors may encounter live, but non-viable *Grapholita molesta* (larvae and/or pupae) during the inspection process. This does not imply a failure of the treatment. The Technical Panel on Phytosanitary Treatments based its evaluation of this treatment on the research work undertaken by Hallman (2004) that determined the efficacy of irradiation as a treatment for this pest in *Malus domestica*. Extrapolation of treatment efficacy to all fruits and vegetables was based on knowledge and experience that radiation dosimetry systems measure the actual radiation dose absorbed by the target pest independent of host commodity, and evidence from research studies on a variety of pests and commodities. These include studies on the following pests and hosts: *Anastrepha ludens* (*Citrus paradisi* and *Mangifera indica*), *A. suspensa* (*Averrhoa carambola*, *Citrus paradisi* and *Mangifera indica*), *Bactrocera tryoni* (*Citrus sinensis*, *Lycopersicon lycopersicum*, *Malus domestica*, *Mangifera indica*, *Persea americana* and *Prunus avium*), *Cydia pomonella* (*Malus domestica* and artificial diet) and *Grapholita molesta* (*Malus domestica* and artificial diet) (Bustos *et al.*, 2004; Gould & von Windeguth, 1991; Hallman, 2004, Hallman & Martinez, 2001; Jessup *et al.*, 1992; Mansour, 2003; von Windeguth, 1986; von Windeguth & Ismail, 1987). It is recognised, however, that treatment efficacy has not been tested for all potential fruit and vegetable hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, then the treatment will be reviewed.

[1] The scope of phytosanitary treatments does not include issues related to pesticide registration or other domestic requirements for approval of treatments. Treatments also do not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures prior to approval of a treatment. In addition, potential effects of treatments on product quality are considered for some host commodities before their international adoption. However, evaluation of any effects of a treatment on the quality of commodities may require additional consideration. There is no obligation for a contracting party to approve, register or adopt the treatments for use in its territory.

References	Bustos, M.E., Enkerlin, W., Reyes, J. & Toledo, J. 2004. Irradiation of mangoes as a postharvest quarantine treatment for fruit flies (Diptera: Tephritidae). *Journal of Economic Entomology*, 97: 286–292. Gould, W.P. & von Windeguth, D.L. 1991. Gamma irradiation as a quarantine treatment for carambolas infested with Caribbean fruit flies. *Florida Entomologist*, 74: 297–300. Hallman, G.J. 2004. Ionizing irradiation quarantine treatment against Oriental fruit moth (Lepidoptera: Tortricidae) in ambient and hypoxic atmospheres. *Journal of Economic Entomology*, 97: 824–827. Hallman, G.J. & Martinez, L.R. 2001. Ionizing irradiation quarantine treatments against Mexican fruit fly (Diptera: Tephritidae) in citrus fruits. *Postharvest Biology and Technology*, 23: 71–77. Jessup, A.J., Rigney, C.J., Millar, A., Sloggett, R.F. & Quinn, N.M. 1992. Gamma irradiation as a commodity treatment against the Queensland fruit fly in fresh fruit. *Proceedings of the Research Coordination Meeting on Use of Irradiation as a Quarantine Treatment of Food and Agricultural Commodities*, 1990: 13–42. Mansour, M. 2003. Gamma irradiation as a quarantine treatment for apples infested by codling moth (Lepidoptera: Tortricidae). *Journal of Applied Entomology*, 127: 137–141. von Windeguth, D.L. 1986. Gamma irradiation as a quarantine treatment for Caribbean fruit fly infested mangoes. *Proceedings of the Florida State Horticultural Society*, 99: 131–134. von Windeguth, D.L. & Ismail, M.A. 1987. Gamma irradiation as a quarantine treatment for Florida grapefruit infested with Caribbean fruit fly, *Anastrepha suspensa* (Loew). *Proceedings of the Florida State Horticultural Society*, 100: 5–7.

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ANNEX 11: Irradiation Treatment for *Grapholita molesta* under hypoxia

Scope of the treatment

This treatment applies to the irradiation of fruits and vegetables at 232 Gy minimum absorbed dose under hypoxic conditions to prevent oviposition of *Grapholita molesta* at the stated efficacy. This treatment should be applied in accordance with the requirements outlined in ISPM 18:2003[1].

Treatment description

Name of treatment	Irradiation treatment for *Grapholita molesta* under hypoxia
Active ingredient	N/A
Treatment type	Irradiation
Target pest	*Grapholita molesta* (Busck) (Lepidoptera: Tortricidae)
Target regulated articles	All fruits and vegetables that are hosts of *Grapholita molesta.*
Treatment schedule	Minimum absorbed dose of 232 Gy to prevent oviposition of *Grapholita molesta*. Efficacy and confidence level of the treatment is $ED_{99.9932}$ at the 95% confidence level. Treatment should be applied in accordance with the requirements of ISPM 18:2003.
Other relevant information	Since irradiation may not result in outright mortality, inspectors may encounter live, but non-viable *Grapholita molesta* (larvae, pupae and/or adults) during the inspection process. This does not imply a failure of the treatment. Although the treatment may result in the presence of irradiated adults, the following factors may affect the likelihood of adults being found in traps in importing countries: – Only a very small percentage of adults are likely to emerge after irradiation; – Irradiated adults are very unlikely to survive for more than one week, post irradiation, and they are therefore less likely to spread than non-irradiated adults. The Technical Panel on Phytosanitary Treatments based its evaluation of this treatment on the research work undertaken by Hallman (2004) that determined the efficacy of irradiation as a treatment for this pest in *Malus domestica*. Extrapolation of treatment efficacy to all fruits and vegetables was based on knowledge and experience that radiation dosimetry systems measure the actual radiation dose absorbed by the target pest independent of host commodity, and evidence from research studies on a variety of pests and commodities. These include studies on the following pests and hosts: *Anastrepha ludens* (*Citrus paradisi* and *Mangifera indica*), *A. suspensa* (*Averrhoa carambola*, *Citrus paradisi* and *Mangifera indica*), *Bactrocera tryoni* (*Citrus sinensis*, *Lycopersicon lycopersicum*, *Malus domestica*, *Mangifera indica*, *Persea americana* and *Prunus avium*), *Cydia pomonella* (*Malus domestica* and artificial diet) and *Grapholita molesta* (*Malus domestica* and artificial diet) (Bustos *et al.*, 2004; Gould & von Windeguth, 1991; Hallman, 2004, Hallman & Martinez, 2001; Jessup *et al.*, 1992; Mansour, 2003; von Windeguth, 1986; von Windeguth & Ismail, 1987). It is recognised, however, that treatment efficacy has not been tested for all potential fruit and vegetable hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, then the treatment will be reviewed.

[1] The scope of phytosanitary treatments does not include issues related to pesticide registration or other domestic requirements for approval of treatments. Treatments also do not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures prior to approval of a treatment. In addition, potential effects of treatments on product quality are considered for some host commodities before their international adoption. However, evaluation of any effects of a treatment on the quality of commodities may require additional consideration. There is no obligation for a contracting party to approve, register or adopt the treatments for use in its territory.

References	Bustos, M.E., Enkerlin, W., Reyes, J. & Toledo, J. 2004. Irradiation of mangoes as a postharvest quarantine treatment for fruit flies (Diptera: Tephritidae). *Journal of Economic Entomology*, 97: 286–292. Gould, W.P. & von Windeguth, D.L. 1991. Gamma irradiation as a quarantine treatment for carambolas infested with Caribbean fruit flies. *Florida Entomologist*, 74: 297–300. Hallman, G.J. 2004. Ionizing irradiation quarantine treatment against Oriental fruit moth (Lepidoptera: Tortricidae) in ambient and hypoxic atmospheres. *Journal of Economic Entomology*, 97: 824–827. Hallman, G.J. & Martinez, L.R. 2001. Ionizing irradiation quarantine treatments against Mexican fruit fly (Diptera: Tephritidae) in citrus fruits. *Postharvest Biology and Technology*, 23: 71–77. Jessup, A.J., Rigney, C.J., Millar, A., Sloggett, R.F. & Quinn, N.M. 1992. Gamma irradiation as a commodity treatment against the Queensland fruit fly in fresh fruit. *Proceedings of the Research Coordination Meeting on Use of Irradiation as a Quarantine Treatment of Food and Agricultural Commodities*, 1990: 13–42. Mansour, M. 2003. Gamma irradiation as a quarantine treatment for apples infested by codling moth (Lepidoptera: Tortricidae). *Journal of Applied Entomology*, 127: 137–141. von Windeguth, D.L. 1986. Gamma irradiation as a quarantine treatment for Caribbean fruit fly infested mangoes. *Proceedings of the Florida State Horticultural Society*, 99: 131–134. von Windeguth, D.L. & Ismail, M.A. 1987. Gamma irradiation as a quarantine treatment for Florida grapefruit infested with Caribbean fruit fly, *Anastrepha suspensa* (Loew). *Proceedings of the Florida State Horticultural Society*, 100: 5–7.

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ANNEX 1 to ISPM 27: *Thrips palmi* Karny

CONTENTS OF THIS ANNEX

1. Pest Information

Thrips palmi Karny (Thysanoptera: Thripidae) is a polyphagous plant pest, especially of species in the Cucurbitaceae and Solanaceae. It appears to have originated in Southern Asia and to have spread from there during the latter part of the twentieth century. It has been recorded throughout Asia and is widespread throughout the Pacific and the Caribbean. It has been recorded locally in North, Central and South America and Africa. For more general information about *T. palmi*, see EPPO/CABI (1997) or Murai (2002); online pest data sheets are also available from the Pests and Diseases Image Library (PaDIL, 2007) and EPPO (EPPO, 2008).

The species causes economic damage to plant crops both as a direct result of its feeding activity and from its ability to vector tospoviruses such as *Groundnut bud necrosis virus*, *Melon yellow spot virus* and *Watermelon silver mottle virus*. It is extremely polyphagous, and has been recorded from more than 36 plant families. It is an outdoor pest of, amongst others, *Benincasa hispida*, *Capsicum annuum*, *Citrullus lanatus*, *Cucumis melo*, *Cucumis sativus*, *Cucurbita* spp., *Glycine max*, *Gossypium* spp., *Helianthus annuus*, *Nicotiana tabacum, Phaseolus vulgaris*, *Pisum sativum*, *Sesamum indicum*, *Solanum melongena, Solanum tuberosum* and *Vigna unguiculata*. In glasshouses, economically important hosts are *Capsicum annuum*, *Chrysanthemum* spp., *Cucumis sativus*, *Cyclamen* spp., *Ficus* spp., Orchidaceae and *Solanum melongena*. The thrips may be carried on plants for planting, cut flowers and fruits of host species, as well as on or associated with packing material, and in soil.

Thrips palmi is almost entirely yellow in coloration (Figures 1–3), and its identification is hampered by both its small size (1.0–1.3 mm) and its great similarity to certain other yellow or predominantly yellow species of *Thrips*.

Figure 1: *Thrips palmi*, female (left) and male (photo: A. J. M. Loomans, PPS, Wageningen, the Netherlands; scale bar = 500 µm = 0.5 mm)

Figure 2: *Thrips palmi*, female
Figure 3: *Thrips palmi*, male
(Photos: W. Zijlstra, PPS, Wageningen, the Netherlands; scale bars: 300 µm)

2. Taxonomic Information

- Name: *Thrips palmi* Karny, 1925

- Synonyms: *Thrips clarus* Moulton, 1928
  Thrips leucadophilus Priesner, 1936
  Thrips gossypicola Ramakrishna & Margabandhu, 1939
  Chloethrips aureus Ananthakrishnan & Jagadish, 1967
  Thrips gracilis Ananthakrishnan & Jagadish, 1968
- Taxonomic position: Insecta, Thysanoptera, Terebrantia, Thripidae
- Common name: melon thrips

3. Detection

Thrips palmi may be found in different locations depending on the life stages present.

- eggs in the leaf, flower and fruit tissue
- larva I on the leaves, flowers and fruits
- larva II on the leaves, flowers and fruits
- pupa I in the soil, packing cases and growing medium
- pupa II in the soil, packing cases and growing medium
- adult on the leaves, flowers and fruits

On plant material, *T. palmi* may potentially be found on most above-ground parts of the plant; the parts of the plant infested can differ according to variables such as the host and the characteristics of each separate *T. palmi* population.

During visual examination of plant material for the presence of *T. palmi*, attention must be paid to silvery feeding scars on the leaf surfaces of host plants, especially alongside the midrib and the veins. Heavily infested plants are often characterized by a silvered or bronzed appearance of the leaves, stunted leaves and terminals, or scarred and deformed fruits. Detection may be hampered in circumstances such as:

- low-level infestation, which may produce little or no detectable symptoms
- the presence of the eggs within the plant tissue only (for example after external treatment which may have removed visible life stages).

Specimens for morphological examination are best collected in a fluid called AGA, which is a mixture of 10 parts of 60% ethanol with 1 part of glycerine and 1 part of acetic acid. If the specimens are to be stored, they should be transferred to 60% ethanol and kept in the dark, preferably in a freezer to prevent loss of colour. However, several laboratories have reported that AGA may act to denature the DNA of the thrips thereby hindering any subsequent molecular work. An alternative is to use 80–95% ethanol as the collecting fluid as any unmounted specimens may then be used for molecular studies. However, in this case specimens must be stored in the freezer until used, or they may prove difficult to slide mount.

Several methods can be used to collect thrips specimens (Mantel and Vierbergen, 1996; modified):

- Thrips may be individually removed from the plant (leaves, flowers or fruit), and transferred into microtubes containing AGA, using a moist, fine brush.
- Thrips may be beaten from plant parts onto a small plastic tray (e.g. a white tray for dark-coloured specimens or a black tray for light-coloured specimens). In cooler conditions, the thrips usually start walking across the tray rather than flying off, allowing time for the thrips to be picked off with a moist fine brush, whereas in warmer conditions collection has to be done more rapidly as the thrips are likely to fly off much more quickly. The thrips are easily seen on the tray using just a hand lens, but an experienced observer can also see them easily with the naked eye.
- Plant parts may be sealed in a plastic bag for 24 hours, with a piece of filter paper enclosed to absorb condensation. Most thrips will leave the plant parts and can then be collected from the inside of the bag.

- A Berlese funnel can be used to process plant material such as bulbs, flowers, turf, leaf litter, moss and even dead branches of trees. The funnel contains a sieve on which the plant material is deposited. Beneath the sieve, the bottom of the funnel leads into a receptacle containing 70–96% ethanol. An alternative is to use 10% ethanol plus wetting agent as some workers find that this makes the preparation of good quality microscope slide mounts easier. The funnel is placed under an electric lamp (60 W), and the heat and light will drive most of the thrips present in the plants down towards the receptacle. After an appropriate period (e.g. 8 hours for cut flowers), the content of the receptacle can then be checked under a stereomicroscope.
- Thrips may be monitored (winged adults only) using coloured sticky traps or other appropriate methods. The ability of a colour to attract thrips varies for different thrips species, but blue or white traps are good for *T. palmi*, though yellow traps will also work. For microscope slide preparation and identification, the thrips will have to be removed from the traps using glue-removing fluids such as those based on citrus oils, dichloromethane or a turpentine substitute.

There are no recognized methods for extracting thrips pupae from the soil in a quarantine context.

4. Identification

Identification of thrips species by morphological examination is restricted to adult specimens because there are no adequate keys for the identification of eggs, larvae or pupae. However, the presence of larvae in samples can give important additional information such as confirming their development on the host plants. The primary method of identification of adult material is from morphological characters. In order to achieve species identification, these must be examined using a high-power microscope (e.g. x400). Using this protocol with good-quality slide preparations should allow adult *T. palmi* to be identified with certainty by morphological examination alone.

Molecular assays can be applied to all life stages including the immature stages for which morphological identification to species is not possible. Additionally, in cases where adult specimens are atypical or damaged, molecular assays may provide further relevant information about their identity. However specificity of molecular assays is limited as they have been developed for specific purposes and evaluated against a restricted number of species, using samples from different geographic regions; therefore, such information needs to be carefully interpreted.

4.1 Morphological identification of the adult thrips

4.1.1 Preparation of thrips for microscopic examination

For high-power microscopic examination, adult thrips must be mounted on microscope slides. Specimens to be kept in a reference collection are best macerated, dehydrated and mounted in Canada balsam; Mound and Kibby (1998) provide a full description of this process. However, the full slide preparation protocol for archival mounts takes 3 days to complete.

For routine identifications, a water-soluble mountant such as Hoyer's medium (50 ml water, 30 g gum arabic, 200 g chloral hydrate, 20 ml glycerine) is more rapid and relatively inexpensive. One popular method of routine slide preparation is given by Mound and Kibby (1998) and described below (different laboratories may find that other variants work equally well):

Transfer the specimens from the collecting fluid into clean 70% ethanol; if the specimens are reasonably flexible, attempt to spread the legs, wings and antennae using micropins; transfer a single thrips, ventral side uppermost, to a drop of Hoyer's medium on a 13 mm diameter cover slip and use micropins to rearrange the thrips if necessary; gently lower a microscope slide onto the mountant so that the cover slip and mountant adhere to the middle of the slide; invert the slide as soon as the mountant has spread to the edges of the cover slip; label the slide with details including locality, date of collection and host plant; place the slide, cover slip up, into a drying oven at 35–40°C and leave for 6 hours before attempting study; leave in the oven for approximately 3 weeks to dry the mountant, before sealing the cover slip with resin or nail varnish.

4.1.2 Identification of the family Thripidae

Thrips palmi belongs to the family Thripidae, which includes more than 2000 species in 276 genera. Species share the characteristics outlined in Table 1.

Table 1: Family Thripidae – shared characteristics

Body part	Characteristic
Antennae	seven or eight segments (occasionally six or nine)
	segments III–IV have emergent sense cones (sensoria)
Forewings (if fully developed)	usually slender, with two longitudinal veins each bearing a series of setae
Abdomen – female	with a serrated ovipositor, which is turned downwards at the apex
Median sternites – male	with or without glandular areas

4.1.3 Identification of the genus *Thrips*

The genus *Thrips* contains more than 280 species from all parts of the world, though the genus is primarily from the Holarctic region and the Old World tropics. Members of the genus share the characteristics outlined in Table 2.

Table 2: Genus *Thrips* – shared characteristics, adult specimens

Body part	Characteristic
Body form (female)	macropterous or micropterous
Antennae	seven or eight segments
	segments III–IV with forked emergent sense cones
Ocellar setae	only two pairs present (pair I absent)
	pair II shorter (at least no longer) than pair III
Pronotum	two pairs (rarely one or none) of major posteroangular setae
	usually three, sometimes four, pairs of posteromarginal setae
Prosternal basantra	no setae present
Forewings	the first vein with variably spaced setal row, second vein with complete setal row
	clavus with five veinal setae (rarely six)
Metascutum	median pair of setae at or behind the anterior margin
	striate or reticulate sculpturing
	campaniform sensilla (metanotal pores) present or absent
Metasternal furca	without a spinula
Fore tibia	apical claw absent
Tarsi	two-segmented
Abdominal tergites and sternites	without posteromarginal craspeda (flanges)
Abdominal tergites	tergites V–VIII with paired ctenidia laterally (combs – each comprising a submarginal row of microtrichia) (occasionally also on IV)
	tergite VIII: ctenidia posteromesad to the spiracles
Abdominal sternites and pleurotergites	with or without discal (accessory) setae
Abdominal sternites (male)	abdominal sterna III-VII, or less, each with a glandular area

A simplified summary of the main characteristics is given in Table 4 and is accompanied by illustrative line drawings and photomicrographs (Figures 4 to 5.12).

Identification of the adults can be carried out with keys. Mound and Kibby (1998) provided a key to 14 *Thrips* species of economic importance including *T. palmi*. In addition, a CD-ROM identification aid for thrips is available which includes an identification system to 100 pest species from around the world based on photomicrographs (Moritz *et al*., 2004).

More comprehensive keys to the genus are available, produced on a regional basis (no such key has been produced for the Afrotropical region):

Asia: Bhatti (1980) and Palmer (1992) provide keys for the identification of species of *Thrips* occurring in the Asian tropics. Mound & Azidah (2009) provide a key to the species of Peninsular Malaysia.

Europe: zur Strassen (2003) has produced the most recent comprehensive key to the species of Europe including *Thrips* (in German).

North, Central and South America: Nakahara (1994) provides a key for *Thrips* species from the New World. A key to the species of *Thrips* found in Central and South America is given by Mound and Marullo (1996) though only one of these species is native to the region.

Oceania: Mound and Masumoto (2005) provide a key to the *Thrips* species of Oceania. (The authors of the paper are aware of the error inadvertently introduced on p. 42 in the section "Relationships" whereby a characteristic of *T. flavus* Schrank – ocellar setae III close together behind the first ocellus – is attributed to *T. palmi*. The correct information is provided in the *T. palmi* species description immediately above and is illustrated in Figure 72.)

4.1.4 Identification of *Thrips palmi*

4.1.4.1 Morphological characteristics of *Thrips palmi*

Bhatti (1980), Bournier (1983), Sakimura *et al*. (1986), zur Strassen (1989), Nakahara (1994) and Mound and Masumoto (2005) all provide detailed descriptions of *T. palmi*. Sakimura *et al*. (1986) gave a list of major diagnostic characters to distinguish *T. palmi* from the other known species of the genus *Thrips*; a modified version is presented in Table 3.

Thrips palmi can be reliably separated from all other species of the genus *Thrips* by the possession of all the characters listed in Table 3. Nevertheless, thrips morphology is subject to variation even within a single species and some characters listed here may be subject to occasional slight variation. For instance antennal coloration or the number of distal setae on the forewing can vary from the most commonly observed states. If the specimen differs with respect to one or more of these character states, then the identification should be checked by reference to an appropriate regional key such as those listed in section 4.1.3.

Table 3: A list of morphological characteristics that collectively distinguish *Thrips palmi* from other species in the genus *Thrips*

	Morphological character
1.	A clear yellow body with no dark areas on the head, thorax or abdomen (slightly thickened blackish body setae); antennal segments I and II pale, III yellow with apex shaded, IV to VII brown but usually with base of IV–V yellow; forewings uniformly slightly shaded, prominent setae dark
2.	Antennae always seven-segmented
3.	Postocular setae II and IV much smaller than remaining setae
4.	Ocellar setae III standing either just outside of the ocellar triangle, or touching the tangent lines connecting the anterior ocellus and each of the posterior ocelli
5.	Metascutum with sculpture converging posteriorly; median pair of setae behind anterior margin; paired campaniform sensilla present
6.	Forewing first vein with three (occasionally two) distal setae
7.	Abdominal tergite II with four lateral marginal setae
8.	Abdominal tergites III to IV with setae S2 dark and subequal to S3
9.	Abdominal tergite VIII with posteromarginal comb in female complete, in male broadly developed posteriorly
10.	Abdominal tergite IX usually with two pairs of campaniform sensilla (pores)
11.	Abdominal sternites without discal setae or ciliate microtrichia
12.	Abdominal pleurotergites without discal setae
13.	Male: sternites III–VII each with a narrow transverse glandular area

A simplified summary of the main characteristics is given in Table 4 and is accompanied by illustrative line drawings and photomicrographs (Figures 4 to 5.12).

4.1.4.2 Comparison with similar species (species that are yellow without darker body markings, or predominantly yellow, or sometimes yellow)

For each species listed here, the main character differences by which they may be separated from *Thrips palmi* are given. If in any doubt, refer to an appropriate regional key such as those listed in section 4.1.3. These also give details of other *Thrips* species that are not listed below.

Two Indian species (*T. alatus* Bhatti and *T. pallidulus* Bagnall) are very similar to *T. palmi*, although little is known about their biology.

Thrips alatus
- antennal segment V uniformly brown
- abdominal tergites III and IV with setae S2 paler and much weaker than S3 in both sexes
- the striate sculpture on the metascutum usually not converging posteriorly
- distribution: India, Malaysia, Nepal.

Thrips pallidulus
- antennal segment IV pale
- sculpture on the metascutum medially reticulate, not striate
- distribution: India.

Three common Palearctic species (but also with wider distributions) that may be confused with *T. palmi* are *T. flavus* , *T. nigropilosus* Uzel and *T. tabaci* Lindeman.

Thrips flavus
- ocellar setae pair III inside the ocellar triangle, just behind the anterior ocellus
- length of antennal segment VI, 54–60 µm (42–48 µm in *T. palmi*)
- lines of sculpture on the metascutum not converging posteriorly
- distribution: common flower thrips throughout Asia, Europe.

Thrips nigropilosus
- usually with dark markings on the thorax and abdomen
- metascutum with irregular reticulations medially (longitudinal striae in *T. palmi*) and no campaniform sensilla
- abdominal tergite II with three lateral marginal setae
- abdominal tergites IV–V with median pair of setae (S1) more than 0.5 times as long as the median length of their tergites (less than 0.3 times in *T. palmi*)
- distribution: common leaf-feeding species, sometimes a pest of plants in the family Compositae; Asia, East Africa, Europe, North America, Oceania.

Thrips tabaci
- highly variable in coloration, but usually with more or less brown or greyish markings
- all postocular setae subequal in length
- metascutum with irregular longitudinal reticulations, usually with small internal wrinkles medially, and no campaniform sensilla
- forewing first vein usually with four (occasionally between two or six) distal setae
- abdominal tergite II with three lateral marginal setae
- abdominal tergite IX with posterior pair of campaniform sensilla only
- abdominal pleurotergites with numerous ciliate microtrichia arising from lines of sculpture
- male: narrow transverse glandular area on abdominal sternites III–V only
- distribution: polyphagous pest with a worldwide distribution.

Two further species, one Palearctic (*T. alni* Uzel) and one European (*T. urticae* Fabricius), are less commonly encountered but may be confused with *T. palmi*. Females of *T. alni* are particularly similar in morphology to those of *T. palmi*.

Thrips alni
- antennal segment V uniformly brown
- abdominal tergites II–V with setae S2 pale
- abdominal tergite V with seta S2 much weaker than seta S3 (these setae are subequal in *T. palmi*)
- abdominal tergite VIII with seta S1 subequal to seta S2 (S1 is much weaker than S2 in *T. palmi*)
- male: abdominal sternites III–VI each with a small oval glandular area
- distribution: restricted to the leaves of *Alnus*, *Betula*, *Salix*; Europe, Siberia, Mongolia.

Thrips urticae
- pronotum with a pair of setae on the anterior margin almost twice as long as any of the discal setae (usually more than 30 µm; not so in *T. palmi*, all less than 25 µm)
- metascutum with longitudinal reticulations medially
- abdominal tergites usually with a grey area medially
- abdominal tergite IX with posterior pair of campaniform sensilla only
- distribution: restricted to *Urtica dioica*; Europe.

Table 4: Simplified checklists of the diagnostic features for quick recognition: (a) the genus *Thrips*; (b) *Thrips palmi*
(See Figure 4 for the location of the various features.)

(a) Specimens can be recognized as *Thrips* by the following combination of characters		
Antenna	with seven or eight distinct segments; segments III and IV with forked sense cones	Figs 5.1, 5.2
Head	with two pairs of ocellar setae (II and III); pair I missing, pair II shorter than pair III	Fig. 5.3
Forewing	1st vein – setal row on the first vein continuous or interrupted	Fig. 5.5
Abdominal tergites V to VIII	with paired ctenidia	Fig. 5.6
Abdominal tergite VIII	with ctenidia posteromesad to the spiracles	Fig. 5.6
(b) Specimens can be identified as *Thrips palmi* by the presence of the following characters		
Body colour	clear yellow body with no dark areas on the head, thorax or abdomen; antennal segments I and II are pale	Figs 1–3
Antennal segment V	usually yellowish in basal ⅓ to ½	Fig. 5.1
Antennal segment VI	length = 42–48 µm	Fig. 5.1
Head: ocellar setae pair III	with their bases sited outside of the ocellar triangle or touching the tangent lines connecting the anterior ocellus to each of the posterior ocelli	Fig. 5.3
Pronotum	with two pairs of major posteroangular setae	Fig. 5.4
Forewing: 1st vein	with three (occasionally two) distal setae	Fig. 5.5
Metascutum	with median pair of setae behind the anterior margin and a pair of campaniform sensilla; with striate sculpture converging posteriorly	Fig. 5.7
Abdominal pleurotergites	discal setae absent; lines of sculpture without ciliate microtrichia	Fig. 5.8
Abdominal tergite II	with four lateral marginal setae	Fig. 5.9
Abdominal tergites III and IV	S2 almost equal to S3	Fig. 5.10
Abdominal tergite VIII	female with complete posteromarginal comb; male with posteromarginal comb broadly developed medially	Fig. 5.6
Abdominal tergite IX	with anterior and posterior pairs of campaniform sensilla (pores)	Fig. 5.11
Male: sternites	transverse glandular areas on sternites III to VII	Fig. 5.12

Figure 4. Location of general characters of *Thrips* (♀ – dorsal view)

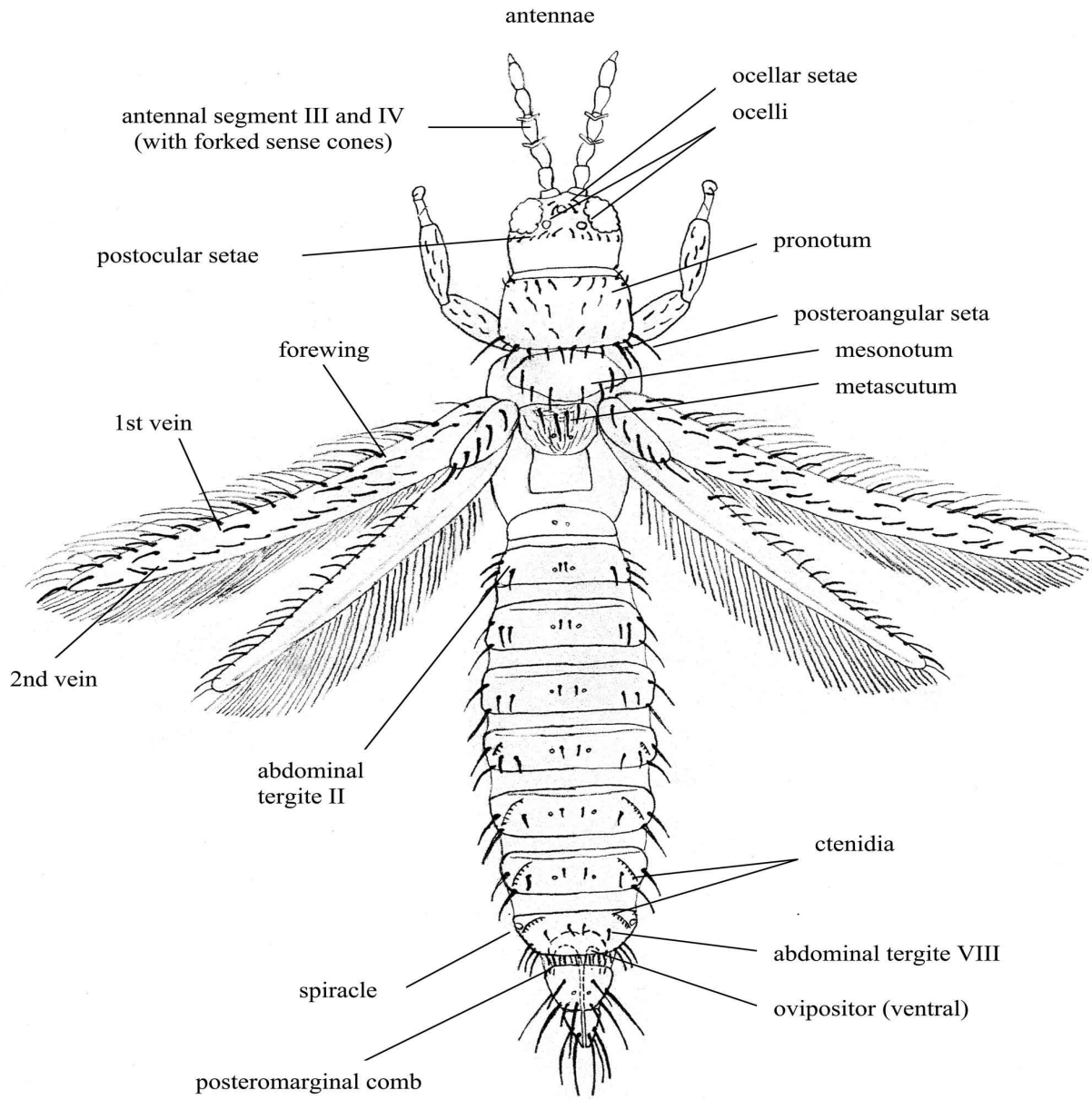
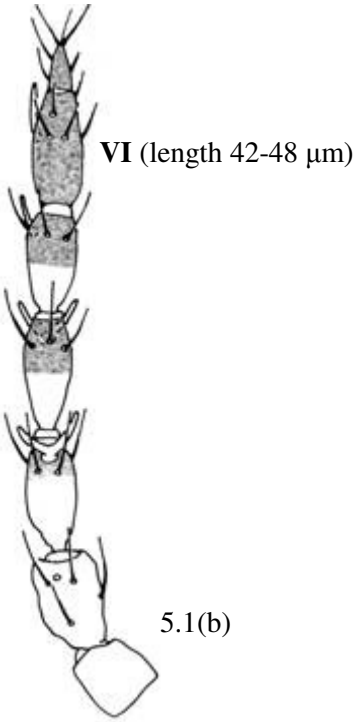
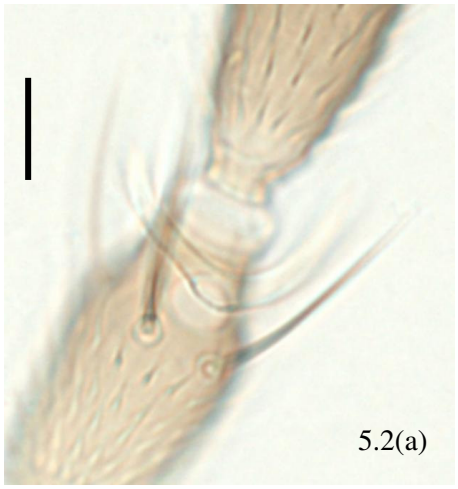
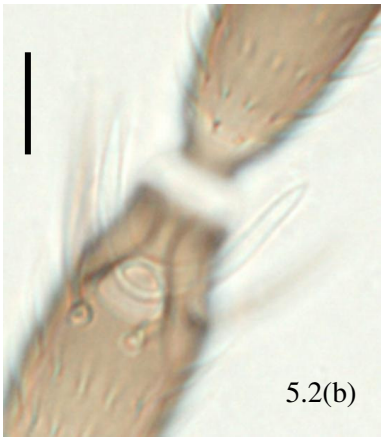


Figure 5 (Figs 5.1 to 5.12): Characters of *Thrips palmi* (photos: G. Vierbergen, PPS, Netherlands; figures drawn by S. Kobro, Norwegian Crop Protection Institute, Norway)

Fig. 5.1(a), (b): Antenna: seven segments (scale bar: 100 µm)







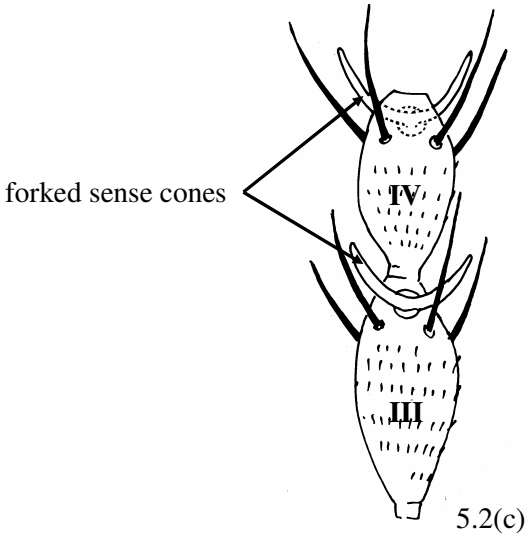


Fig. 5.2(a)-(c): Antenna, forked sense cones; **(a)** segment III, dorsal; **(b)** segment IV, ventral; **(c)** segment III and IV, dorsal (scale bars: 10 µm)

Fig. 5 *continued.*

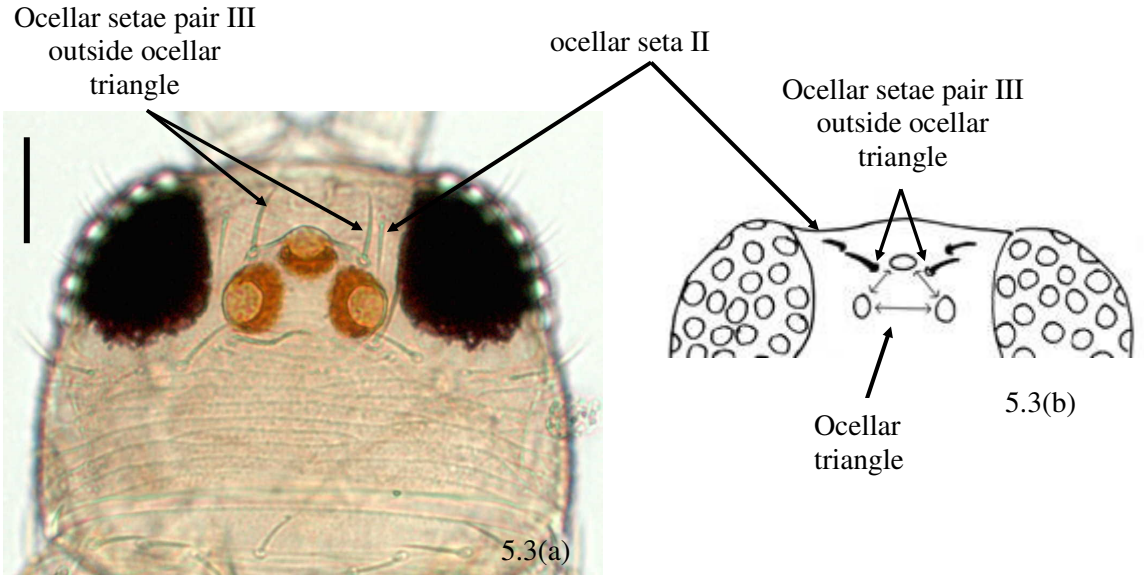


Fig. 5.3(a), (b): Head: with two pairs of ocellar setae (pair I missing). Ocellar setae pair III situated outside of ocellar triangle (scale bar: 30 µm)

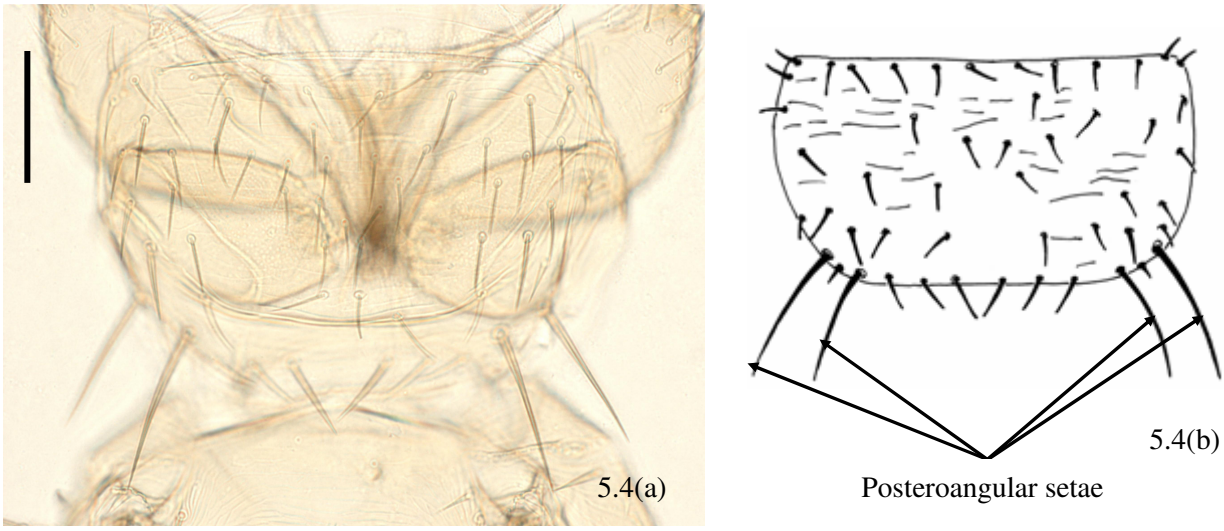


Fig. 5.4(a), (b): Pronotum, two pairs of major posteroangular setae (scale bar = 50 µm)

Fig. 5 *continued*

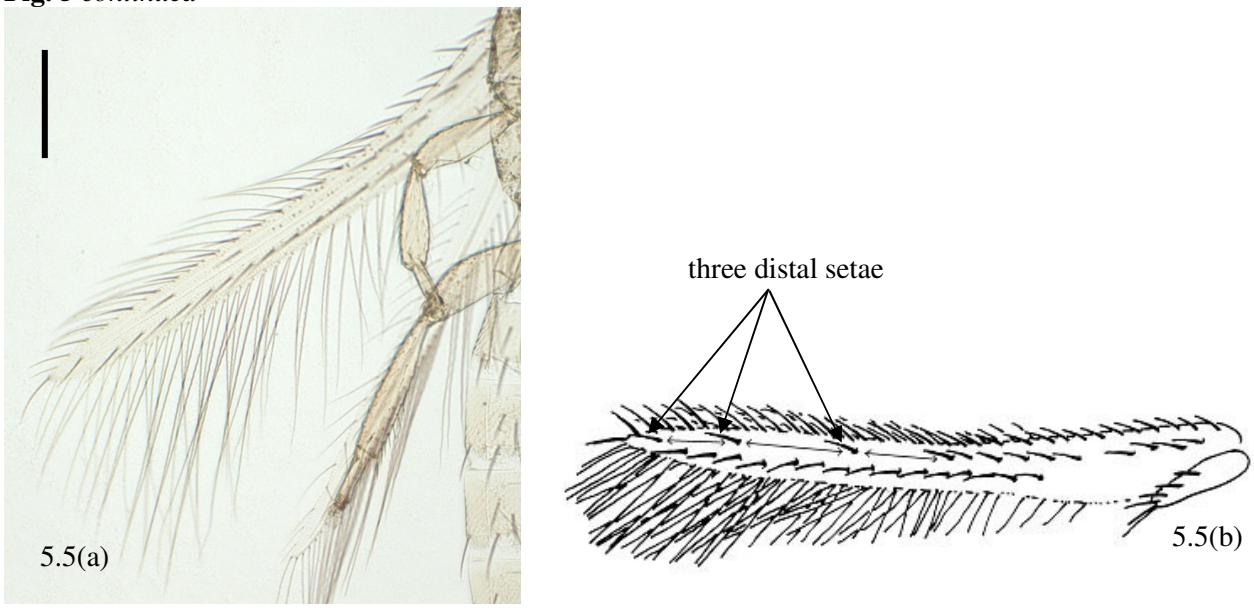
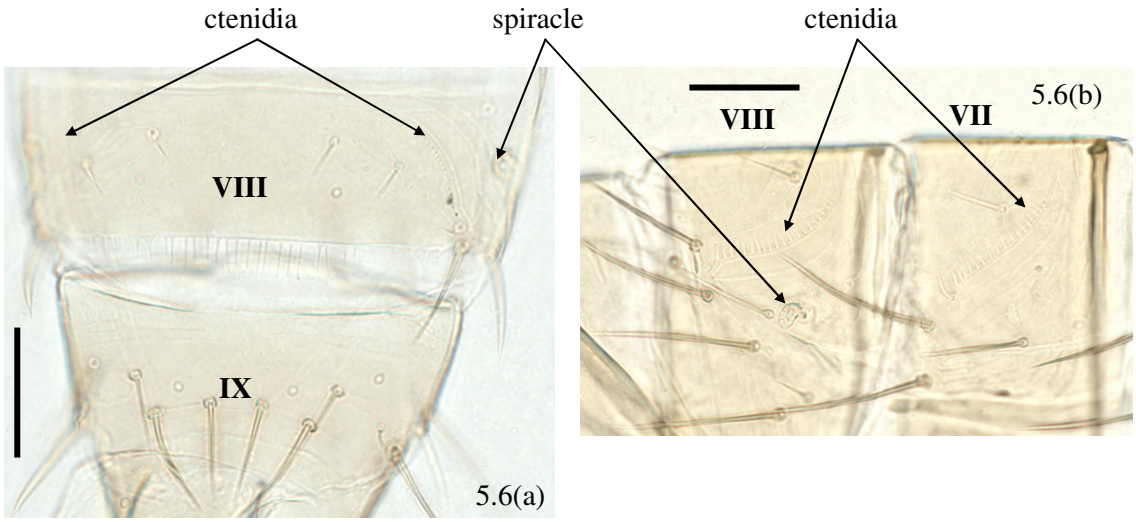


Fig. 5.5(a), (b): Forewing, first vein – three setae with gaps in distal half (scale bar: 100 µm)



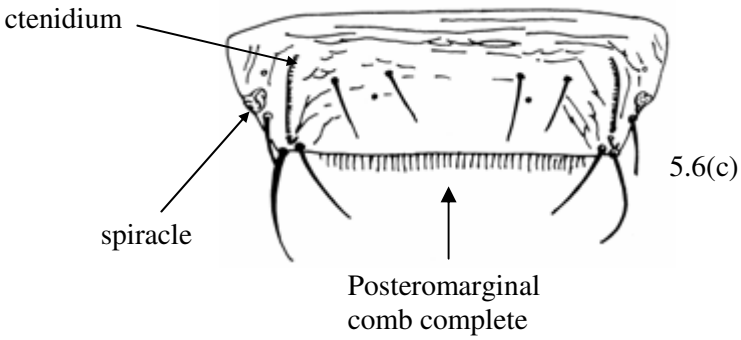
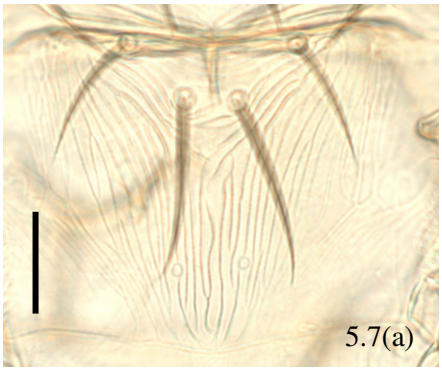


Fig. 5.6(a)–(c): Abdominal tergite VIII: ctenidia posteromesad to the spiracle; posteromarginal comb complete; **(a)** male, tergite VIII and IX, dorsal, comb complete medially; **(b)** female, tergite VII and VIII, lateral; **(c)** female, tergite VIII, dorsal, comb complete (scale bars: 30 µm)

Fig. 5 *continued.*



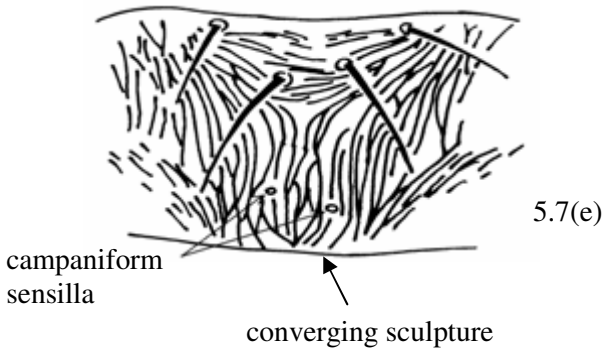
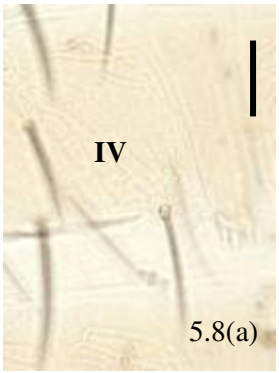
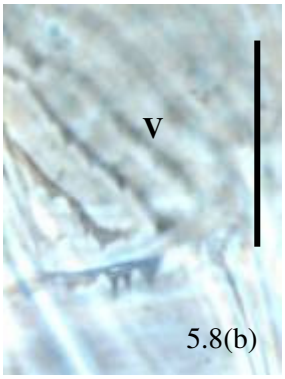


Fig. 5.7(a)–(e): Metascutum, variation in sculpture; campaniform sensilla (scale bars: 20 µm)

Fig. 5.8(a)–(c): Abdominal pleurotergites IV and V, ciliate microtrichia and discal setae absent; **(a)** bright field; **(b)** phase contrast; **(c)** complete tergite (scale bars: 20 µm)





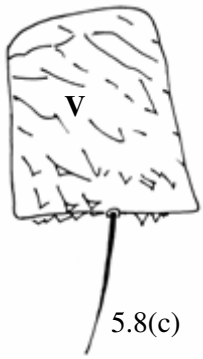
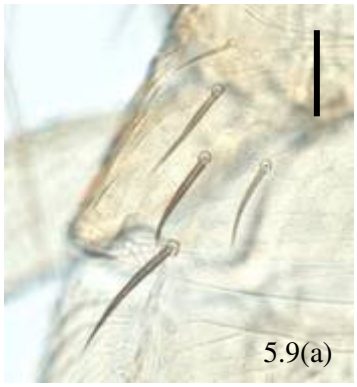
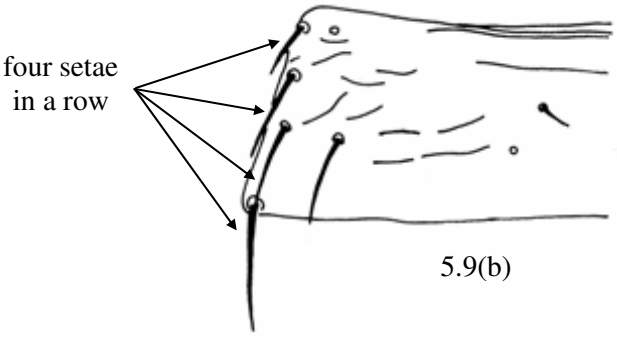
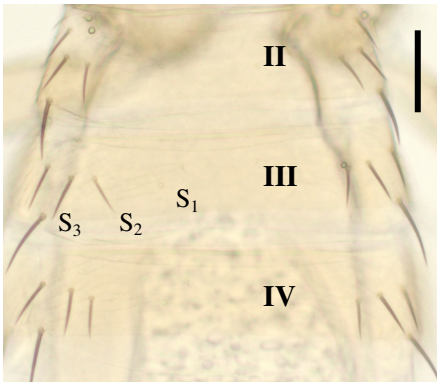


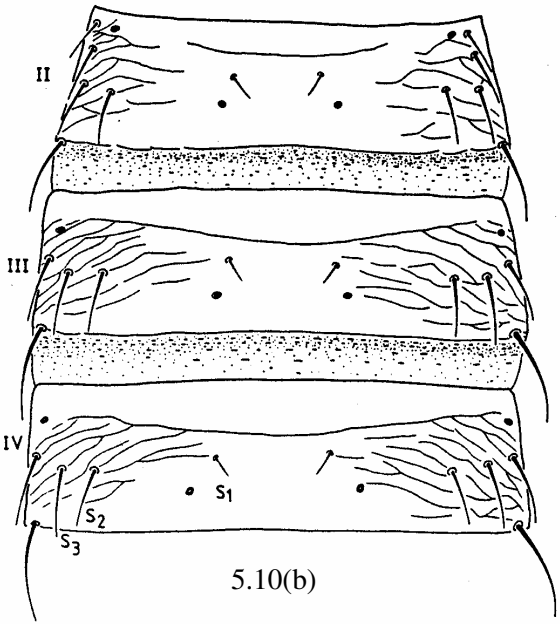
Fig. 5.9(a), (b): Abdominal tergite II, four lateral marginal setae (scale bar: 20 µm)





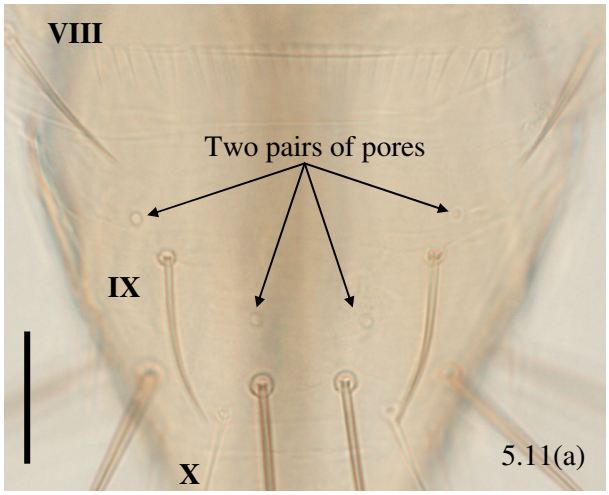


5.10(a)

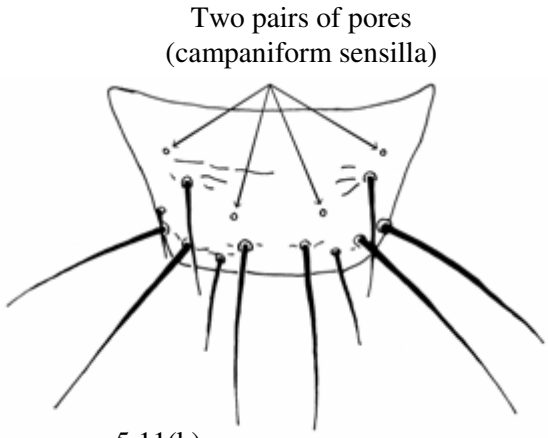


5.10(b)

Fig. 5.10(a), (b): Tergites II–IV, female, setae S2 about same size as setae S3 (5.10b from zur Strassen, 1989) (scale bar: 50 µm)

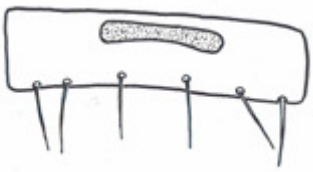


5.11(a)

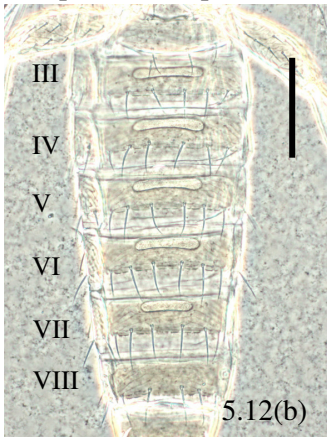


5.11(b)

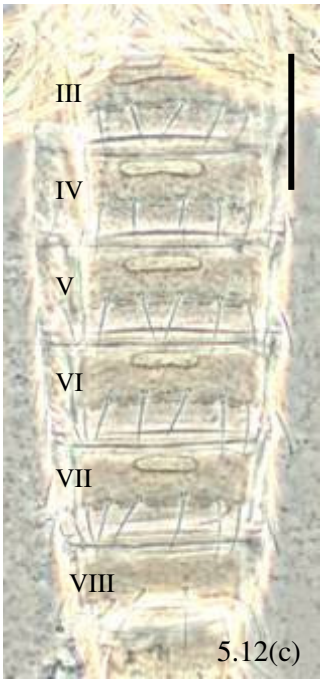
Fig. 5.11(a), (b): Abdominal tergite IX (dorsal), two pairs of campaniform sensilla (scale bar: 30 µm)



5.12(a)



5.12(b)



5.12(c)

Fig. 5.12(a)–(c): Male glandular areas (showing variation); **(a)** sternite V; **(b)-(c)** sternites III–VIII, phase contrast (scale bars: 100 µm)

4.2 Molecular assays for identifying *Thrips palmi*

Four molecular assays have been published that can be used to support a morphological identification of *T. palmi* and these are described below. The specificity of each assay is also described. This indicates the thrips species against which each assay was evaluated and the original use for which the assay was designed. A CD-ROM identification system is also available that includes molecular data for thrips species (Moritz *et al*., 2004). Considering the specific limitations of molecular methods a negative molecular test result does not exclude the possibility of positive identification by morphological methods.

In this diagnostic protocol, methods (including reference to brand names) are described as published, as these define the original level of sensitivity, specificity and/or reproducibility achieved.

Requirements for controls

With all molecular methods the use of appropriate controls is essential; a validated *T. palmi*-positive extract must be included as an additional sample to ensure that amplification has been successful. PCR amplification, either for real-time PCR or PCR-RFLP, must also be performed on a sample with no DNA. This negative control indicates possible reagent contamination and false positives.

DNA extraction

DNA may be extracted from single eggs, adults, pupae or larvae. For each of the assays described below refer to the source paper for the original specific DNA extraction technique used. Laboratories may find that alternative extraction techniques work equally well; DNA may be extracted using any DNA extraction methods suitable for insects. For example:

- The thrips may be ground in a lysis buffer in a microtube using a micropestle, and the homogenate taken through a proteinase-K-based DNA extraction kit according to the appropriate manufacturer's instructions.
- Alternatively, a thrips may be ground in 50 µl nuclease-free water before the addition of 50 µl of a 1:1 (volume to volume) slurry of Chelex 100 resin, and nuclease-free water, heated to 95ºC for 5 min and centrifuged at 11,000 *g* for 5 min. The supernatant is transferred to a new microtube and stored at −20ºC.

Several recent papers have described non-destructive techniques for extracting DNA from thrips, which have the advantage that after DNA extraction has been completed a cleared specimen remains available for slide mounting (e.g., Rugman-Jones *et al*., 2006; Mound and Morris, 2007).

4.2.1 SCAR marker-generated sequence-based real-time PCR assay for *Thrips palmi*

This assay of Walsh *et al*. (2005) was designed as a species-specific assay against *T. palmi* for use by the phytosanitary authorities in England and Wales. It was evaluated by screening it against 21 other species of Thysanoptera, including ten belonging to the genus *Thrips* (*T. flavus*, *T. major* Uzel, *T. minutissimus* L., *T. nigropilosus*, *T. sambuci* Heeger, *T. tabaci*, *T. trehernei* Priesner or *T. physapus* L., *T. urticae*, *T. validus* Uzel, *T. vulgatissimus* Haliday). These were predominantly, but not exclusively, European species.

Methodology

The *T. palmi*-specific PCR primers and TaqMan probe used in this assay were as follows:

PCR primer: P4E8-362F (5′-CCGACAAAATCGGTCTCATGA-3′)
PCR primer: P4E8-439R (5′-GAAAAGTCTCAGGTACAACCCAGTTC-3′)
TaqMan probe: P4E8-385T (FAM 5′-AGACGGATTGACTTAGACGGGAACGGTT-3′ TAMRA).

Real-time PCR reactions were set up using the TaqMan PCR core reagent kit (Applied Biosystems)[1], with 1 µl (10–20 ng) of DNA extract, 7.5 pmol of each primer and 2.5 pmol probe in a total volume of 25 µl. Plates were cycled at generic system conditions (10 min at 95°C and 40 cycles of 1 min at 60°C, 15 s at 95°C) on either of the ABI Prism 7700 or ABI 7900HT Sequence Detection Systems (Applied Biosystems)[2], using real-time data collection. Ct values lower than 40 indicated the presence of *T. palmi* DNA.

4.2.2 COI sequence-based real-time PCR assay for *Thrips palmi*

This assay of Kox *et al.* (2005) was designed as a species-specific assay against *T. palmi* for use by the phytosanitary authorities in the Netherlands. It was evaluated by screening the assay against 23 other species of thrips, including 11 belonging to the genus *Thrips* (*T. alliorum* (Priesner), *T. alni*, *T. angusticeps* Uzel, *T. fuscipennis* Haliday, *T. latiareus* Vierbergen, *T. major*, *T. minutissimus*, *T. parvispinus* (Karny), *T. tabaci*, *T. urticae*, *T. vulgatissimus*). These were predominantly, but not exclusively, European species.

Methodology

The *Thrips palmi*-specific PCR primers and TaqMan probe used in this assay are as follows:

PCR primer: Tpalmi 139F* (5′-TCA TGC TGG AAT TTC AGT AGA TTT AAC-3′)
PCR primer: Tpalmi 286R* (5′-TCA CAC RAA TAA TCT TAG TTT TTC TCT TG-3′)
TaqMan probe: TpP (6-FAM 5′-TAG CTG GGG TAT CCT CAA-3′ MGB).
* Primers have been adjusted for greater sensitivity since original publication.
(COI sequences that mismatch with the TaqMan probe in this assay have been deposited on GenBank from a number of specimens from India identified as *T. palmi* on the basis of their morphology (Asokan *et al*., 2007). These sequences would not produce a positive result using this assay. The taxonomic or phylogenetic significance of this sequence differentiation currently remains unclear.)

The 25 µl reaction mixture contained 12.5 µl of 2x TaqMan Universal Master Mix (Applied Biosystems) [3], 0.9 µM each primer, 0.1 µM TaqMan probe, 1.0 µl DNA. The real-time PCR was performed on either of the ABI Prism 7700 or ABI 7900HT Sequence Detection Systems (Applied Biosystems)[4] using the following conditions: 10 min at 95°C; then 40 cycles of 1 min at 60°C and 15 s at 94°C. Ct values lower than 40 indicated the presence of *T. palmi* DNA.

4.2.3 ITS2 sequence-based PCR-RFLP assay for nine species of thrips including *Thrips palmi*

This assay (Toda and Komazaki, 2002) was designed to separate nine species of thrips, including *T. palmi*, that are found in fruit trees in Japan: *Frankliniella occidentalis* (Pergande), *F. intonsa* (Trybom), *T. hawaiiensis* Morgan, *T. coloratus* Schmutz, *T. flavus*, *T. tabaci*, *T. palmi*, *T. setosus* Moulton, *Scirtothrips dorsalis* Hood.

Methodology

The PCR primers (located in the 5.8 S and 28 S regions flanking the ITS2 region of ribosomal DNA) used in this assay were as follows:

5′-TGTGAACTGCAGGACACATGA-3′
5′-GGTAATCTCACCTGAACTGAGGTC-3′.

[1, 2] The use of the brand Applied Biosystems for the TaqMan PCR core reagent kit and the ABI Prism 7700 or ABI 7900HT Sequence Detection Systems in this diagnostic protocol implies no approval of them to the exclusion of others that may also be suitable. This information is given for the convenience of users of this protocol and does not constitute an endorsement by the CPM of the chemical, reagent and/or equipment named. Equivalent products may be used if they can be shown to lead to the same results.

[3,4] The use the brand Applied Biosystems for the TaqMan Universal Master Mix and ABI Prism 7700 or ABI 7900HT Sequence Detection Systems in this diagnostic protocol implies no approval of them to the exclusion of others that may also be suitable. This information is given for the convenience of users of this protocol and does not constitute and endorsement by the CPM of the chemical, reagent and/or equipment named. Equivalent products may be used if they can be shown to lead to the same results.

T. palmi generated a 588-base-pair (bp) PCR product (longer or shorter fragments were produced from the other species). The 20 µl reaction mixture was composed as follows: 1 µM each primer, 250 µM dNTPs, 1 Unit of AmpliTaq Gold DNA polymerase (Applied Biosystems) [5], 2 µl 10x reaction buffer [with 25 mM $MgCl_2$], 0.5 µl DNA. The PCR was performed in a 9600 DNA thermocycler (Applied Biosytems)[6], with the following conditions: 9 min at 95°C, 35 cycles of 1 min at 94°C, 30 s at 50°C, and 1 min at 72°C, followed by a final extension for 7 min at 72°C and quickly cooled to room temperature. The PCR products were analysed by agarose gel electrophoresis.

5 µl of PCR product (without purification) was digested with the enzyme *Rsa*I according to the manufacturer's instructions. Digested PCR products were separated by 2.0% agarose gel electrophoresis.

Restriction fragment sizes produced by *T. palmi* when the ITS2 fragment is digested with *RsaI* were as follows: 371, 98, 61 and 58 bp.

4.2.4 COI sequence-based PCR-RFLP assay for ten species of thrips including *Thrips palmi*

This assay of Brunner *et al.* (2002) was designed to separate ten species of thrips, including *T. palmi*, which are mostly, but not exclusively, pest species found in Europe: *Anaphothrips obscurus* (Müller), *Echinothrips americanus* Morgan, *Frankliniella occidentalis*, *Heliothrips haemorrhoidalis* (Bouché), *Hercinothrips femoralis* (Reuter), *Parthenothrips dracaenae* (Heeger), *Taeniothrips picipes* (Zetterstedt), *Thrips angusticeps* Uzel, *T. palmi*, *T. tabaci*.

Methodology

The PCR primers (located in the mitochondrial COI gene sequence) used in this assay are as follows:
mtD-7.2F (5′-ATTAGGAGCHCCHGAYATAGCATT-3′)
mtD9.2R (5′-CAGGCAAGATTAAAATATAAACTTCTG-3′).

These primers amplified a 433-bp fragment in all the species separated by this assay. The 50 µl reaction mixture was composed as follows: 0.76 µM each primer, 200 µM dNTPs, 1 Unit Taq DNA polymerase, 5 µl 10X reaction buffer [with 15 mM $MgCl_2$], 1 µl DNA. The PCR was performed in a standard thermocycler with the following conditions: 1 min 94°C, 40 cycles of 15 s at 94°C, 30 s at 55°C, and 45 s at 72°C, followed by a final extension for 10 min at 72°C and quickly cooled to room temperature. To gauge the fragment size produced after amplification, 5 µl of the PCR products were analysed by 1.0-2.0% agarose gel electrophoresis.

5 µl of PCR product (without purification) was digested with the enzymes *Alu*I and *Sau*3AI in separate reactions according to the manufacturer's instructions. Digested PCR products were separated by agarose gel electrophoresis.

Restriction fragment sizes produced by *T. palmi* when the COI fragment is digested with *AluI* and *Sau3AI* are as follows:

*Alu*I: 291 and 194 bp
*Sau*3AI: 293, 104, 70 and 18 bp.

5. Records

Records and evidence should be retained as described in section 2.5 of ISPM 27:2006.

[5,6] The use of the brand Applied Biosystems AmpliTaq Gold DNA polymerase and 9600 DNA thermocycler in this diagnostic protocol implies no approval of them to the exclusion of others that may be suitable. This information is given for the convenience of users of this protocol and does not constitute and endorsement by the CPM of the chemical, reagent and/or equipment named. Equivalent products may be used if they can be shown to lead to the same results.

In cases where other contracting parties may be adversely affected by the diagnosis, the records and evidence (in particular, preserved or slide-mounted specimens, photographs of distinctive taxonomic structures, DNA extracts and photographs of gels, as appropriate), should be kept for at least one year.

6. Contact points for further information

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7. Acknowledgements

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IPPC STANDARD SETTING WORK PROGRAMME
(as of CPM-5, 25 March 2010)

Rows are numbered only for reference purposes during discussions and row numbers do not reflect any kind of order. Titles given are working titles only and may further evolve during the development of the specification and ISPM. The table indicates if the draft was/will be developed by an expert working group (EWG), technical panel (TP) or consultant, and the number of meetings held. This table is ordered according to the projected adoption year, priority and drafting body.

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
1.	2011	High	Revision of ISPMs 7 and 12 (1 EWG) - Appendix to ISPM 12: Phyto e-Cert	EWG	CPM-1 (2006)	Draft to SC-7 May 2010
2.	2011	High	Trapping procedures for fruit flies (1 TPFF)	TPFF	SC November 2005; CPM-1 (2006)	Draft to SC as requested by CPM-5 (2010)
3.	2011	High	Glossary of phytosanitary terms (amendments to ISPM 5)	TPG	ICPM-3 (2001)	Amended annually but only appears once on the work programme
4.	2011	High	Review of adopted ISPMs (and minor modifications to ISPMs resulting from the review) (1 consultant, 2 TPG)	TPG	CPM-1 (2006)	No draft: TPG to review adopted ISPMs (completed 3, 5:Sup 1, 10, 13, and 14)
5.	2012	High	Pest risk analysis for plants as quarantine pests (1 EWG)	EWG	ICPM-7 (2005)	Draft to SC April 2010
6.	2012	High	Plants for planting (including movement, post-entry quarantine and certification programmes) (3 EWGs)	EWG	ICPM-7 (2005)	Draft to SC April 2010
7.	2012	High	Revision of ISPM 15 (*Regulation of wood packaging material in international trade*) specifically: - Criteria for treatments for wood packaging material in international trade (3 TPFQ)	TPFQ	CPM-1 (2006)	Draft to SC April 2010
8.	2012	High	International movement of wood (2 TPFQ)	TPFQ	SC November 2006; CPM-2 (2007)	Draft to SC April 2010
9.	2012	High	Not widely distributed (supplement to ISPM 5: Glossary of phytosanitary terms) (1 EWG, 1 TPG)	TPG	ICPM-7 (2005)	Draft to SC April 2010

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
10.	2012	High	Irradiation treatment: - Irradiation treatment for *Ceratitis capitata*	TPPT	SC November 2008; CPM-3 (2008) (special process)	Approved for member consultation
11.	2012	Normal	Diagnostic protocol for *Trogoderma granarium* Topic: Insects and mites	TPDP	SC November 2004; CPM-1 (2006) (special process)	Approved for member consultation
12.	2012	Normal	Diagnostic protocol for *Plum pox virus* Topic: Viruses and phytoplasmas	TPDP	SC November 2004; CPM-1 (2006); (special process)	Approved for member consultation
13.	2012	Normal	Systems approaches for pest risk management of fruit flies (1 consultant, 2 TPFF)	TPFF	SC November 2004; CPM-1 (2006)	Approved for member consultation
14.	2013	High	Determination of host susceptibility for fruit flies (Tephritidae)	TPFF	SC November 2006; CPM-2 (2007)	Draft Specification to SC for approval for member consultation
15.	2013	High	Phytosanitary procedures for fruit fly management (Tephritidae) (1 TPFF)	TPFF	SC November 2005; CPM-1 (2006)	Draft to SC in May 2011, Appendix being completed
16.	2013	High	Revision of ISPM 15 (*Regulation of wood packaging material in international trade*) specifically: -Guidelines for heat treatment (2 TPFQ)	TPFQ	CPM-1 (2006)	Draft in review
17.	2013	High	International movement of forest tree seeds (1 TPFQ)	TPFQ	SC November 2006; CPM-2 (2007)	Draft in review
18.	2013	High	Irradiation treatments: - Irradiation treatment for *Cylas formicarius elegantulus* - Irradiation treatment for *Euscepes postfasciatus*	TPPT	SC May 2007; CPM-2 (2007) (special process)	Draft to SC as requested by CPM-5 (2010)
19.	2013	Normal	Diagnostic protocol for *Guignardia citricarpa* Topic: Fungi and fungus-like organisms	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
20.	2013	Normal	Pre-clearance for regulated articles (1 EWG)	EWG	ICPM-7 (2005)	Draft in review by Steward and EWG via E-mail

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
21.	2013	Normal	Import of plant breeding material	EWG	ICPM-6 (2004)	Draft to SC in May 2011
22.	2013	Normal	Soil and growing media	EWG	ICPM-7 (2005)	Specification approved
23.	2013	Normal	Terminology of the Montreal Protocol in relation to the Glossary of phytosanitary terms (appendix to ISPM 5) (1 TPG)	TPG	CPM-4 (2009)	Draft in review
24.	2014	High	Minimizing pest movement by sea containers and conveyances	EWG	CPM-3 (2008)	Draft Specification to SC for approval
25.	2014	High	Minimizing pest movement by air containers and aircrafts	EWG	CPM-3 (2008)	Draft Specification to SC for approval for member consultation
26.	2014	High	Fruit fly treatments: - Cold treatments for *Ceratitis capitata*: * Cold treatment of *Citrus paradisi* for *Ceratitis capitata* * Cold treatment of *Citrus reticulata* x *C. sinensis* for *Ceratitis capitata* * Cold treatment of *Citrus limon* for *Ceratitis capitata* * Cold treatment of *Citrus reticulata* cultivars and hybrids for *Ceratitis capitata* * Cold treatment of *Citrus sinensis* for *Ceratitis capitata* - Cold treatments for *Bactrocera tryoni*: * Cold treatment of *Citrus limon* for *Bactrocera tryoni* * Cold treatment of *Citrus reticulata* x *C. sinensis* for *Bactrocera tryoni* * Cold treatment of *Citrus sinensis* for *Bactrocera tryoni*	TPPT	SC November 2008; CPM-3 (2008) (special process)	On hold by SC November 2009 pending results of an additional call due 15 April 2010.
27.	2016	Normal	Guidelines for the movement of used machinery and equipment	EWG	CPM-1 (2006)	Specification approved
28.	2016	Normal	Forestry surveillance	TPFQ	SC November 2006; CPM-2 (2007)	Specification approved
29.	Unknown	High	Inspection manual	EWG	ICPM-7 (2005)	Draft Specification to SC for approval

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
30.	Unknown	Normal	Systems for authorizing phytosanitary activities	EWG	CPM-3 (2008)	Draft Specification to SC for approval for member consultation
31.	Unknown	High	Revision of ISPM 4 (*Requirements for the establishment of pest free areas*)	EWG	SC November 2009; CPM (2010)	No specification
32.	Unknown	High	International movement of seed	EWG	SC November 2009; CPM (2010)	No specification
33.	Unknown	Normal	Regulating stored products in international trade	EWG	ICPM-7 (2005)	Draft Specification to SC for approval
34.	Unknown	Normal	Handling and disposal of garbage moved internationally	EWG	CPM-3 (2008)	Draft Specification to SC for approval for member consultation
35.	Unknown	Normal	International movement of cut flowers and foliage	EWG	CPM-3 (2008)	Draft Specification to SC for approval for member consultation
36.	Unknown	Normal	Use of permits as import authorization (Annex to ISPM 20: *Guidelines for a phytosanitary import regulatory system*)	EWG	CPM-3 (2008)	Draft Specification to SC for approval for member consultation
37.	Unknown	Normal	Revision of ISPM 6 (*Guidelines for surveillance*)	EWG	SC November 2009; CPM (2010)	No specification
38.	Unknown	Normal	Revision of ISPM 8 (*Determination of pest status in an area*)	EWG	SC November 2009; CPM (2010)	No specification
39.		High	Technical panel to develop diagnostic protocols for specific pests	TPDP	ICPM-6 (2004)	-
40.	Unknown	Normal	Diagnostic protocol for *Erwinia amylovora* Topic: Bacteria	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
41.	Unknown	Normal	Diagnostic protocol for *Liberibacter* spp. / *Liberobacter* spp. Topic: Bacteria	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
42.	Unknown	Normal	Diagnostic protocol for *Xanthomonas axonopodis* pv. *citri* Topic: Bacteria	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
43.	Unknown	Normal	Diagnostic protocol for *Xanthomonas fragariae* Topic: Bacteria	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
44.	Unknown	Normal	Diagnostic protocol for *Phytophthora ramorum* Topic: Fungi and fungus-like organisms	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
45.	Unknown	Normal	Diagnostic protocol for *Tilletia indica* / *T. controversa* Topic: Fungi and fungus-like organisms	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
46.	Unknown	Normal	Diagnostic protocol for *Anastrepha* spp. Topic: Insects and mites	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
47.	Unknown	Normal	Diagnostic protocol for *Bursaphelenchus xylophilus* Topic: Nematodes	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
48.	Unknown	Normal	Diagnostic protocol for *Ditylenchus destructor* / *D. dipsaci* Topic: Nematodes	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
49.	Unknown	Normal	Diagnostic protocol for *Xiphinema americanum* Topic: Nematodes	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
50.	Unknown	Normal	Diagnostic protocol for Tospoviruses (TSWV, INSV, WSMV) Topic: Virus and phytoplasmas	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in review
51.	Unknown	Normal	Diagnostic protocol for *Gymnosporangium* spp. Topic: Fungi and fungus-like organisms	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in preparation
52.	Unknown	Normal	Diagnostic protocol for *Bactrocera dorsalis* complex Topic: Insects and mites	TPDP	SC May 2006; CPM-2 (2007) (special process)	Draft in preparation
53.	Unknown	Normal	Diagnostic protocol for *Liriomyza* spp. Topic: Insects and mites	TPDP	SC May 2006; CPM-2 (2007) (special process)	Draft in preparation

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
54.	Unknown	Normal	Diagnostic protocol for Tephritidae: Identification of immature stages of fruit flies of economic importance by molecular techniques Topic: Insects and mites	TPDP	SC November 2006; CPM-2 (2007) (special process)	Draft in preparation
55.	Unknown	Normal	Diagnostic protocol for *Anoplophora* spp. Topic: Insects and mites	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in preparation
56.	Unknown	Normal	Diagnostic protocol for *Sorghum halepense* Topic: Plants	TPDP	SC November 2006; CPM-2 (2007) (special process)	Draft in preparation
57.	Unknown	Normal	Diagnostic protocol for *Potato spindle tuber viroid* Topic: Viruses and phytoplasmas	TPDP	SC May 2006; CPM-2 (2007) (special process)	Draft in preparation
58.	Unknown	Normal	Diagnostic protocol for viruses transmitted by *Bemisia tabaci* Topic: Viruses and phytoplasmas	TPDP	SC May 2006; CPM-2 (2007) (special process)	Draft in preparation
59.	Unknown	Normal	Diagnostic protocol for phytoplasmas (general) Topic: Virus and phytoplasmas	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in preparation
60.	Unknown	Normal	Diagnostic protocol for *Citrus tristeza virus* Topic: Viruses and phytoplasmas	TPDP	SC November 2004; CPM-1 (2006) (special process)	Draft in preparation
61.	Unknown	Normal	Diagnostic protocol for *Xyllela fastidiosa* Topic: Bacteria	TPDP	SC November 2004; CPM-1 (2006) (special process)	Authors identified
62.	Unknown	Normal	Diagnostic protocol for *Puccinia psidi* Topic: Fungi and fungus-like organisms	TPDP	SC May 2006; CPM-2 (2007) (special process)	Authors identified
63.	Unknown	Normal	Diagnostic protocol for *Fusarium moniliformis* / *moniforme* syn. *F. circinatum* Topic: Fungi and fungus-like organisms	TPDP	SC May 2006; CPM-2 (2007) (special process)	Authors identified

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
64.	Unknown	Normal	Diagnostic protocol for *Dendroctonus ponderosae* syn. *Scolytus scolytus* Topic: Insects and mites	TPDP	SC May 2006; CPM-2 (2007) (special process)	Authors identified
65.	Unknown	Normal	Diagnostic protocol for *Ips* spp. Topic: Insects and mites	TPDP	SC May 2006; CPM-2 (2007) (special process)	Authors identified
66.	Unknown	Normal	Diagnostic protocol for *Aphelenchoides besseyi*, *A. ritzemabosi* and *A. fragariae* Topic: Nematodes	TPDP	SC May 2006; CPM-2 (2007) (special process)	Authors identified
67.	Unknown	Normal	Diagnostic protocol for *Striga* spp. Topic: Plants	TPDP	CPM-3(2008) (special process)	Authors identified
68.		Normal	Bacteria	TPDP	CPM-1 (2006)	Work ongoing
69.		Normal	Fungi and fungus-like organisms	TPDP	CPM-1 (2006)	Work ongoing
70.		Normal	Insects and mites	TPDP	CPM-1 (2006)	Work ongoing
71.		Normal	Nematodes	TPDP	CPM-1 (2006)	Work ongoing
72.		Normal	Plants	TPDP	CPM-2 (2007)	Work ongoing
73.		Normal	Viruses and phytoplasmas	TPDP	CPM-1 (2006)	Work ongoing
74.		High	Technical panel on pest free areas and systems approaches for fruit flies	TPFF	ICPM-6 (2004)	-
75.	Unknown	Normal	Establishment and maintenance of regulated areas upon outbreak detection in fruit fly free areas	TPFF	SC November 2009; CPM-5 (2010)	No specification
76.		High	Technical panel on forest quarantine	TPFQ	ICPM-6 (2004)	-
77.	Unknown	Normal	Biological control for forest pests	TPFQ	SC November 2009; CPM-5 (2010)	No specification
78.	Unknown	Normal	Wood products and handicrafts made from raw wood	TPFQ	CPM-3 (2008)	No specification
79.		High	Technical panel for the *Glossary of phytosanitary terms*	TPG	CPM-1 (2006)	-
80.		High	Technical panel on phytosanitary treatments	TPPT	ICPM-6 (2004)	-
81.		High	Irradiation treatments	TPPT	CPM-1 (2006)	Work ongoing

	Projected adoption	Priority	Technical Area / Topic / Subject (number of meeting held)	Drafting body	Added to work programme	Status
82.		High	Fruit fly treatments	TPPT	SC May 2006; CPM-2 (2007)	Work ongoing
83.		Normal	Soil and growing media in association with plants: treatments	TPPT	SC November 2009; CPM (2010)	No specification
84.		High	Wood packaging material treatments	TPPT (TPFQ)	CPM-1 (2006)	Work ongoing

Pending						
	Projected adoption	**Priority**	**Technical area / Topic / Subject (number of meeting held)**	**Drafting body**	**Added to work programme**	**Status**
1.	Pending	High	Surveillance for citrus canker (*Xanthomonas axonopodis* pv. *citri*) (1 EWG)	EWG	ICPM-4 (2002)	Text in draft form. SC decided that work be delayed until completion of standard on systems approach for citrus canker.
2.	Pending	Normal	Systems approach for management of citrus canker (*Xanthomonas axonopodis* pv. *citri*) (2 EWGs)	EWG	ICPM-5 (2003)	Text in draft form. Pending: SC decided that work be delayed until consensus reached on a technical issue.
3.	Pending	High	Appropriate level of protection (1 EWG)	EWG	ICPM-7 (2005)	Text in draft form. SC November 2008 decided that, due to the complexity of the topic it was not the appropriate time to deal with this issue.
4.	Pending	High	Efficacy of measures (2 EWGs)	EWG	ICPM-3 (2001)	Text in draft form. SC reviewed draft text and decided that work be delayed until draft ISPM on sampling and supplement to Glossary on appropriate level of protection are complete.
5.	Pending	High	Country of origin (minor modifications to ISPMs 7, 11 and 20 regarding use of the term) (1 TPG)	TPG	CPM-1 (2006) (special process)	SC decided that this would be taken up under the review of ISPMs No. 7 and 12 and the review of adopted ISPMs.
6.	Pending	Normal	International movement of grain	EWG	CPM-3 (2008)	Pending results of open-ended IPPC workshop on the international movement of grain

PROCEDURE TO CORRECT ERRORS IN ISPMS IN LANGUAGE VERSIONS OTHER THAN ENGLISH AFTER ADOPTION

1. The CPM adopts ISPMs in all FAO languages
2. Members from each FAO language group are invited, if they have concerns with the translations of ISPMs adopted this year, to organize a Language Review Group to consider the preferred use of terminology and help identify editing and formatting errors. Each Language Review Group is requested to identify a coordinator for communications to the Secretariat, describe how they will organize themselves (e.g. teleconference, exchange of documents etc.) and explain their structure. Each Language Review Group is requested to involve a representative from the appropriate FAO language translation group and the respective TPG member(s) for that language.
3. Each Language Review Group would be invited to review ISPMs adopted this year and submit comments on terminology preferences, editorial and formatting mistakes to the Secretariat through their identified coordinator no later than one month after the adopted ISPMs are posted on the IPP (www.ippc.int).
4. If no comments are submitted, the version adopted at CPM would remain the final version.
5. If comments are submitted through the above process, translation and editing issues in languages other than English will be forwarded to the FAO translation services to implement. Comments regarding the translation of glossary terms will be transmitted to the Technical Panel for the Glossary (TPG) through the SC as they might result in changes to numerous ISPMs. All other issues would be addressed by the Secretariat.
6. Modified versions of ISPMs will be identified as such and posted on the IPP.
7. Modified ISPMs will be verified by CPM. A standing item for verification of modifications will be included on all CPM agendas and a corresponding paper will indicate which ISPMs have been modified. This agenda item is not to re-open discussion on already adopted ISPMs, it is strictly to verify terminology, editorial and formatting corrections.
8. Members will be invited to note the modifications or raise objections. If no objections are raised, the modified version of the ISPM posted on the IPP will be considered the final version.
9. If objections are raised, the CPM will decide how to proceed and if no consensus is reached, the language version adopted at the (previous) CPM meeting will be considered the final version.
10. Members that have not participated in the process described above are requested not to raise objections at the CPM.

CONCEPT PAPER ON NATIONAL PHYTOSANITARY CAPACITY

1. Introduction

The purpose of this paper is to establish a common understanding of what is meant by national phytosanitary capacity. This provides the basis for assessing capacity assets and needs, and for formulating, implementing and evaluating capacity development responses.

2. Phytosanitary Capacity

National Phytosanitary Capacity is defined as:

> ***"The ability of individuals, organizations and systems of a country to perform functions effectively and sustainably in order to protect plants and plant products from pests and to facilitate trade, in accordance with the IPPC".***

The following concepts expand this definition, which applies to the national phytosanitary capacity of contracting and non-contracting parties.

- By referring to the individuals, organizations and systems of a country, it is recognized that national phytosanitary capacity combines the knowledge and functions of many entities in a country, not just NPPOs.
- By referring to systems of a country, it clarifies that national capacity includes the ability for individuals and organizations to cooperate and communicate, both formally and informally. Such cooperation may be national, regional and international.
- The functions which need to be performed are technical, legal, administrative, and managerial. Capacity includes the ability to develop and apply knowledge, skills and tools appropriate to these functions.
- Each country will have its own level of capacity and it is recognized that phytosanitary capacity is not static and changes over time.
- The phytosanitary capacity, current or aspired to, will be influenced by overarching national policies and international obligations that may or may not be directly related to plant health considerations.
- Many things contribute to the sustainability of the performance of functions. These include but are not limited to:
  - an enabling environment in countries such as policies which allow plant health activities to evolve and adapt to changing circumstance; plant health regulations which empower NPPOs to function; visibility and understanding of the IPPC and understanding of the importance of implementation
  - private-public partnerships
  - programs for staff retention
  - mobilization of resources, including cost recovery policies
  - viable business plan(s) for protecting plant health and trade
  - national commitment to sustain phytosanitary capacity
- The definition for phytosanitary capacity refers to the ability to protect plants and plant products from pests. This ability to support biosecurity[1] also contributes to achieving other national or international goals under other initiatives which deal with protecting biodiversity, food security, and poverty reduction.
- Referring to the IPPC in the definition aligns national phytosanitary capacity with the Convention.

[1] According to FAO *Biosecurity* covers food safety, zoonoses, the introduction of animal and plant diseases and pests, the introduction and release of living modified organisms (LMOs) and their products (e.g. genetically modified organisms or GMOs), and the introduction and management of invasive alien species.

NATIONAL PHYTOSANITARY CAPACITY BUILDING STRATEGY

1. Introduction

A strategy is a plan of action designed to work towards a vision, or a future desired situation ideally starting from a known current situation or starting point. A strategy facilitates decision making and provides a framework for effective action.

Vision statement

NPPOs able to effectively and sustainably service the needs of their country in the protection of plants and plant products and the facilitation of trade.

Achievement of this vision would result in:

a) All contracting parties implementing the ISPMs they need.
b) All contracting parties meet their obligations under the IPPC.
c) The IPPC reflects the goals of all its members.
d) Phytosanitary capacity of contracting parties evolving in response to changing circumstances
e) Phytosanitary issues embedded in policy
f) Effective regional cooperation

2. Situation analysis

An analysis of the current capacity of IPPC member countries to implement the IPPC and to fulfil their obligations as IPPC members, provides the justification and a starting point for the phytosanitary capacity building strategy. Various phytosanitary capacity situation analyses have been carried out over the past two or three years for a variety of purposes. The results of these analyses provide at least a partial situation description of the current capacity of IPPC member countries and the capacity of the IPPC community overall (encompassing the CPM, the IPPC Secretariat, the NPPOs, and the contracting parties) to build further capacity among its members.

- The independent evaluation of the workings of the IPPC and its institutional arrangements analyzed the technical assistance activities of the IPPC Secretariat, the decisions and follow-up of (I)CPM decisions, and made recommendations regarding technical assistance and strengthening phytosanitary capacity. The evaluation included the observations that: there have been no priorities set for capacity building activities by the IPPC Secretariat; staff resources in the Secretariat were not sufficient to carry out TCP projects and provide follow up; scarce Secretariat resources were used for non-core IPPC capacity building activities; there was little donor involvement in phytosanitary capacity building projects. The evaluation recommended that IPPC should not be involved with phytosanitary capacity building projects, except for core activities such as training workshops for the implementation of standards, IPPC meeting attendance and support to the International Phytosanitary Portal. The CPM rejected the recommendation and decided to develop a phytosanitary capacity building strategy.
- The discussion paper prepared by the World Trade Organization for the OEWG-BNPC (Open ended working group on building national phytosanitary capacity which met in 2008) on building national phytosanitary capacity showed that plant protection projects are typically last on the list when it comes to disbursements related to training. It also noted that the confidentiality of the results of the PCE tool limits its usefulness from the perspective of coordinating technical cooperation activities.
- The evaluation carried out by CABI of the PCE showed that the PCE is a valuable tool in assessing a country's phytosanitary capacity, but falls short in several areas and is not always used as the basis for national development plans.
- The OEWG-BNPC (2008) noted that:
  - There is often poor communication on the importance of plant protection within countries; national governments may set policies and priorities that are not in line with the objective of preventing the spread of plant pests; public/private partnerships are useful and essential to the sustainability of plant protection programs; regional approaches work; there is a need for information of new and emerging plant pest issues.

  - "Plant protection" and "plant quarantine" do not capture attention in the way that "biosecurity" does.
  - Other agreements such as the SPS agreement have a signficant impact on the work of the IPPC.
  - The low profile of IPPC internationally and of plant protection programs nationally, resulting in a perceived non-importance of plant protection, has resulted in few available resources and difficulty in acquiring resources, both for the Secretariat and to carry out the work programme of the IPPC.

- The OEWG-BNPC (2008) recognized that:
  - Implementation of standards can be complex, involving many different areas. Currently there is a gap between the development of standards and their implementation.
  - The proposed implementation review and support system, in particular the establishment of a help desk for the IPPC has not progressed.
  - Not all RPPOs are equal and activities suggested to be carried out by RPPOs will not all be carried out to the desired level.
  - There are a range of other geopolitical groupings that are relevant to the IPPC.
  - The capacity levels of countries are very different. Thus a one-size-fits-all approach will not work.
  - Phytosanitary capacity building is going on, but often the different initiatives are not well coordinated. There is a need to find out where the gaps are and prevent duplication.
  - The lack of resources are a significant limiting factor to capacity building.
  - The availability of expertise to develop and deliver capacity building is sometimes a limiting factor.

3. Draft Strategy

The table below summarizes the proposed National Phytosanitary Capacity Building Strategy as amended by the open ended working group which met in December 2009 (OEWG-BNPC, Dec 2009). The six strategic areas are the components of a global strategy with stakeholders at national, regional and international level, each with a role to play. In some areas the Secretariat has a lead role to play, while in others, such as national phytosanitary planning, the Secretariat can support or assist an activity led by another stakeholder. The strategy is further elaborated in corresponding logical frameworks and workplans prepared for each strategic area identified.

Revised summary of strategic areas showing goals (January 2009)

Strategic Areas	**Strategic Areas refined (OEWG-BNPC, Dec. 2009)**	**Outcome/Purpose (OEWG-BNPC, Dec. 2009)**	**Goals**	**Activities**
1. National phytosanitary planning	1. National phytosanitary planning (and management)	• Enhanced national phytosanitary systems planning, management and leadership.	• develop methods and tools to help countries assess and prioritize their phytosanitary needs, including gap analysis	• implement PCE improvements from the CABI review • review the OIE-PVS (and IICA phytosanitary PVS tool) and use as basis to develop a new more comprehensive gap analysis process for phytosanitary needs (including stakeholders; peer review step etc.)
			• support preparation of national phytosanitary action plans (NPAPs)	• develop tools and guidelines for preparing NPAPs • encourage inclusive approaches for preparing NPAPs
			• assist in project preparation to address priorities (legislation, surveillance, etc)	• follow up on assessment with national phytosanitary capacity strategy
2. Standard setting and implementation	2a. Participation in standard setting	• Capacity of contracting parties to participate in IPPC standard setting improved.	• enhance countries' effective participation in CPM (and in the standard setting process)	• assess participation of countries at CPM • develop orientation programme for new CPM delegates to participate in CPM (immediately prior to CPM) • facilitate regional discussion on CPM positions (in region or immediately prior to CPM), and coordination during meetings • continue regional draft standards workshops • encourage and support participation in expert working groups, technical panels
	2b. Standards implementation	• Contracting parties (and non-contracting parties) are able to implement ISPMs in line with their needs.	• establish and adopt standards implementation review and support system (IRSS)	• develop guidelines/tips for implementation • provide help desk • develop training materials, deliver training, feedback mechanisms from workshops • develop list of experienced facilitators for implementing ISPMs • develop tools for sharing experiences • regional draft standards workshops • develop and use questionnaire as per proposal (OEWG on a Possible Compliance Mechanism at Kuching, 2007)

Strategic Areas	Strategic Areas refined (OEWG-BNPC, Dec. 2009)	Outcome/Purpose (OEWG-BNPC, Dec. 2009)	Goals	Activities
3. Coordination and communication	3a. Communication and coordination	• Coordinated phytosanitary capacity development are addressing priority needs.	• collect, collate and disseminate information on plant protection programmes and existing capacity building providers and projects	• define exactly what information to collect from whom (countries, donors, through linkages, all other partners) • take advantage of existing databases, projects, CPM meeting reports
			• advise countries and donors on possible synergies and opportunities • collaboration with partners (implementation and supervision agreements, initiatives, etc) – Standards and Trade Development Facility (STDF) projects, World Bank missions, Centers of Phytosanitary Excellence (COPE), etc.	• use linkages to make better programmes (benefit to NPPOs) • continue existing agreements • actively seek further opportunities to collaborate/provide technical input to programmes of others • engage stakeholders by convening international consultative group on phytosanitary capacity building
			• create mechanism for matchmaking for mentoring, coaching and assistance	• create similar format to the one used by for mentoring SPS Inquiry Points
	3b. Pest information	• Capability to provide plant pest information enhanced.	• document world plant pest status (emerging issues), including regional perspectives (annual report as an advocacy tool)	• analysis of pest occurrence at national and regional levels, report of pest concerns at CPM. • Other official reports of the Secretariat or FAO Committee/Council such as State of Food and Agriculture (SOFA) • develop early warning system
4. Resource mobilization and management	4. Resource mobilization (fundraising)	• Enhanced capacity to mobilize funds.	• determine resource needs for IPPC secretariat related to capacity building • assess current resources available to IPPC to deliver capacity building strategy (targeted, trust fund, slush fund, assistance in-kind) • support NPPOs in raising funds for priority projects • obtain further resources and ensure effective use of resources • maintain and develop IPPC capacity building programmes	• prepare paper on staffing requirements for CB for CPM-4 • raise funds (see resource mobilization paper presented under CPM-4 agenda item 13.6.6 • hire a dedicated fund raiser • Secretary takes raised profile for fundraising

Strategic Areas	Strategic Areas refined (OEWG-BNPC, Dec. 2009)	Outcome/Purpose (OEWG-BNPC, Dec. 2009)	Goals	Activities
5. Advocacy	5. Advocacy	• Improved capacity to promote national phytosanitary systems	• adopt "Paris principles" for phytosanitary capacity building activities (national commitment, etc)	• OEWG/sub group to draft principles for effective phytosanitary capacity building for approval by CPM • SPTA reviews principles • CPM 5 adopts principles
			• help countries 'embed' phytosanitary considerations in policy and national development strategies • assist phytosanitary authorities to communicate effectively with other institutions within their country, with other countries and with regional organizations	• conduct sensitisation activities for policy makers • develop training modules for phytosanitary authorities in effective communication and advocacy
			• enhance visibility of IPPC (and phytosanitary concerns) among development partners • encourage adoption of risk-based approaches	• IPPC communication activities (publication, communication products, films, etc) • access to governing bodies (especially FAO, but also RECs); FAO and other goodwill ambassadors to reach senior decision makers
6. Sustainability, monitoring and evaluation of capacity building	6. Monitoring and evaluation	• Capacity development actively monitored, evaluated and lessons learned acted upon.	• develop approaches for impact assessment for phytosanitary capacity building (in accordance with "Paris principles" and regarding IPPC strategy) • monitoring to assess impact of capacity building activities (review and evaluation) • monitor and continuously improve IPPC capacity building programmes	• ensure involvement of all stakeholders (including creating networks for sustainability, involving universities, public-private partnerships, etc) • link to other national initiatives
			• develop IPPC 'seal of approval' for capacity building programmes	• develop, test and adopt criteria for 'seal of approval' • promote with donors and countries

TERMS OF REFERENCE OF THE EXPERT WORKING GROUP ON PHYTOSANITARY CAPACITY BUILDING

Membership

One person from each region with experience in phytosanitary capacity building.

Terms of Reference

Review the draft Operational Plan under each of the logical frameworks identifying activities that are new and those that are part of existing activities. The group should also identify overlaps and linkages between different activities.

1. Review and provide advice on priorities for activities taking into account the financial situation of the IPPC.
2. Provide advice on the timing of proposed activities and the potential benefits of cooperation with other organizations (e.g. Standards and Trade Development Facility - STDF).
3. Provide advice to the Secretariat on the preparation of advocacy materials needed to support fund raising for capacity building.
4. Provide advice on strategies that could be used to approach donors for contributions to support capacity building.
5. Provide recommendations on the future structure and mode of operation of the expert working group including the possibility of forming a subsidiary body on capacity building.
6. Report to CPM-6 through the Bureau and Informal Working Group on Strategic Planning and Technical Assistance (SPTA).

FINANCIAL GUIDELINES FOR THE TRUST FUND FOR THE IPPC (AS ADOPTED AT CPM-4, 2009)

1. 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 training programmes and internet access for information exchange;
- through regional workshops on draft standards and implementing standards;
- through development of 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 Interim Commission on Phytosanitary Measures (hereinafter referred to as the Commission).

2. Applicability

2.1 The Trust Fund shall be established under the provisions of Financial Regulation 6.7 of FAO.

2.2 These Guidelines shall govern the financial administration of the Trust Fund for the International Plant Protection Convention in conformity with FAO's Financial Regulations and Rules.

2.3 These Guidelines shall apply to the activities of the Trust Fund for matters not covered by the FAO Financial Rules and Procedures concerning trust funds. In the case of a conflict or inconsistency between FAO's Financial Regulations, Rules and procedures and these guidelines, the former shall prevail.

3. The Financial Period

The financial period shall be one calendar year.

4. The Budget

4.1 The budget estimates shall be prepared by the Secretary of the Commission for submission to the last session of the Commission held in the year before the financial period covered by the budget.

4.2 Before the submission to the Commission, the budget estimates shall be reviewed by the Informal Working Group on Strategic Planning and Technical Assistance (SPTA) for consideration by the Bureau of the Commission, which will make its recommendation on the budget to the Commission.

4.3 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.

4.4 The Commission shall adopt the budget of the 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.

4.5 The budget estimates shall cover income and expenditures for the financial period to which they relate, and shall be presented in United States dollars. The budget shall comprise of estimates of income and expenditures and shall take into account the forecast uncommitted balance of the Trust Fund for the financial year immediately preceding the year covered by the budget:

a) Income shall consist of voluntary contributions from Members, non-Members and other contributors as well as interest earnings on funds on hand as credited in accordance with FAO's Financial Regulations and Rules; and

b) Expenditures shall consist of such expenses as are incurred in the implementation of the Programme of Work, including necessary project staff costs and the administrative and operational support costs, incurred by FAO and charged strictly in accordance with the policy on support cost reimbursement approved and as amended from time to time by the FAO Finance Committee and Council.

4.6 The budget estimates shall reflect the Programme of Work provided for by the Trust Fund for the financial year elaborated on the basis of 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. The form of the budget shall include:

a) estimates of income and expenditure, the latter being supported by a Programme of Work which proposes projects that directly address the objective of the Trust Fund as described under the Scope in Article 1 above;

b) such additional information as may be sought by the Commission which may, at its discretion, amend the format of the Programme of Work and the Budget for future calendar years.

4.7 During implementation of the Programme of Work, the Secretary shall authorize such expenditures as are necessary to execute the approved Programme of Work to the extent that resources are available recognizing that:

a) transfers between approved Directions may be effected by the Secretary for amounts not exceeding 20% of the approved budget of the projects from which the resources are being transferred;

b) the annual reports of the Secretary shall include complete information on all transfers that have taken place during the financial year being reported.

4.8 The budget of the Trust Fund shall be adopted by the Commission.

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

5. Provision of Funds

5.1 Funds may be provided on a voluntary basis by a variety of sources, including Members, non-members, and other sources.

5.2 Special assignment of individual contributions for specific outputs may only be accepted for outputs that are approved by the Commission.

5.3 The Secretary, in consultation with the Bureau, is authorized to finance budgeted expenditure for the purposes outlined in the scope from the uncommitted balance/available cash of the Trust Fund, whichever is the lower.

5.4 The Secretary shall acknowledge promptly the receipt of all pledges and contributions and shall inform members annually of the status of pledges and contributions.

6. Trust Fund

6.1 All contributions received shall be promptly credited to the Trust Fund.

6.2 The uncommitted balance of the Trust Fund shall be carried forward at the end of each financial period and shall be available for use under the approved budget for the following financial period.

6.3 With respect to the Trust Fund, the Organization shall maintain an 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 Trust Fund budget.

7. Annual reports

The Secretary will provide financial reports on the Trust Fund to the Commission on an annual basis. These reports should include links to objectives, activities and outputs as they relate to the Strategic Directions determined by the Commission.

8. Amendment

These Guidelines may be amended by the Commission.

TRUST FUND FOR THE IPPC: DETAILS OF 2009 CONTRIBUTIONS AND EXPENDITURES

in USD	2009 actual	Balance
Carry forward from previous years	283,411	283,411
Contributions:		
Interest earned	1,514	
USA Contribution (February)	60,000	
USA Contribution (February)	150,000	
Japan Contribution (March)	15,000	
USA Contribution (October)	125,000	
Total Contributions:	**351,514**	634,925
Expenditures:		
Staff costs - Partial P2 Short Term post - Partial P3 Short Term post	52,279	
Goal 4: Capacity Building: - Regional workshop on draft ISPMs - Caribbean	29,421	
Goal 5: Sustainable implementation - Administration and support costs	8,773	
Total Expenditure	**90,473**	544,452
Carry forward to 2010		544,452

BUDGET FOR THE TRUST FUND FOR THE IPPC: DETAILS OF 2010 CONSOLIDATED CONTRIBUTIONS AND EXPENDITURES

in USD	2010 budgeted	Balance
Carry forward from previous years		544,452
Contributions:		
NO PLEDGES		
Total Contributions:	**0**	544,452
Expenditures:		
Staff costs to partially fund a P2 Short Term post	130,000	
Staff costs to fully fund a P3 Short Term post	160,000	
Goal 5: Sustainable implementation - Partially fund the development of an On line comment system for collecting and compiling member comments.	50,000	
Goal 5: Sustainable implementation - Administration and support costs	30,500	
Total Expenditure	**370,500**	173,952
Anticipated carry forward to 2011		173,952

THE COMMISSION ON PHYTOSANITARY MEASURES
OPERATIONAL PLAN FOR 2010

The operational plan below is as discussed at CPM-5 under agenda item 13.4.2 and does not incorporate activities resulting from CPM decisions under various agenda items (e.g. additional meetings).

Goal 1: A robust international standard setting and implementation programme		
Background: Standard development, adoption and revision: Under the IPPC (Article X), contracting parties agree to cooperate in developing international standards to be adopted by the CPM. Such standards are the means by which contracting parties can harmonize their phytosanitary measures.		
Strategic Area 1.1 Standard development, adoption and revision		
(i) Expert drafting groups and Standards Committee meet to develop standards		
	Two meetings of the Standards Committee (SC) (April and November) will be organized	
	One meeting of the SC-7 (May) will be organized	
	SC documents will be developed and posted on the IPP, including new draft ISPMs for the April SC meeting, draft ISPMs revised considering member comments for the SC-7 meeting and draft ISPMs considering SC-7 revisions for the November SC meeting. Reports from these meetings will be posted on the IPP.	
	Two SC meetings (twenty sessions) will be interpreted into requested languages (Arabic, Chinese, English, Spanish with the current SC composition)	
	*Work of five Technical Panels (TP) will be coordinated to ensure their work plans are delivered, including one meeting for each TP. Reports from these meetings will be posted on the IPP.	
	Phytosanitary treatments will be refined and submissions from the December 2009 call will be reviewed by the TPPT.	
	Diagnostic protocols are under development by editorial teams under the oversight of the TPDP	
	Four draft ISPMs, eight phytosanitary treatments and two diagnostic protocols will be developed by TPs.	
	*Two expert working group meetings will be organized and documents will be developed and posted on the IPP. Reports from these meetings will be posted on the IPP. Two draft ISPMs will be developed	
	One requests for nominations of experts (for TPs, EWGs, and authors of diagnostic protocols) will be made	
	Two draft specifications will be developed and made available for member comments	
	Five draft ISPMs (or equivalent) will be edited (included status box on cover), translated and circulated for member comments in June-September.	
	Member comments from June-September member consultation will be compiled and posted on the IPP.	
	A request for data on phytosanitary treatments will be circulated to NPPOs and RPPOs.	
	Member comments 14 days prior to CPM-5 will be compiled	
(ii) Increase efficiency of standard development and adoption.		
	New collaborative internet tools will be used for developing and revising draft ISPMs (e.g. google docs).	
	Adopted ISPMs will be published on the IPP in 5 languages.	
	Language versions of the book of standards will be published on the IPP in English, French, Spanish and, for the first time, in Chinese.	
(iii) Establish staff to maintain the standard setting programme.		
	Consultants will be contracted to assist with document preparation, meeting organization and	

	publishing of ISPMs.	
(iv) Environmental and biodiversity aspects considered		
	A task for expert drafting groups to consider the environmental impact of each standard will be added to all Specifications developed.	
Strategic Area 1.2 Standards implementation		
(i) Identify and address constraints in implementation		
	Support the IRSS (see goal 7)	
	Data on the implementation of ISPMs will be collected via the IPP.	
	Develop a systematic and extensive training programme for the implementation of four ISPMs to be used by NPPOs and RPPOs.	
	A questionnaire will be developed and distributed to NPPOs to identify constraints in the implementation of ISPMs.	
	Results from the questionnaire will be compiled and analysed to help direct the IPPC capacity building programme.	
	Consultant study on ISPM 15 symbol: - Secretariat will ask CPM members to help find a qualified legal expert to undertake study - study will be conducted if extra-budgetary funds become available	
	Legal support for ISPM 15 symbol registration -no activity planned	
	Further population, compilation and presentation of the IPP Wiki for FAQs on the implementation of ISPM 15.	
(ii) RPPOs assist members with implementation, including the development/revision of their regulations		
	RPPOs identify constraints and suggest ways of addressing these issues and report regularly at the Technical Consultation among RPPOs (TC-RPPO) and to CPM	
* Partially funded by other organizations or through 2009 funds via Letters of Agreements		
Goal 2: Information exchange systems appropriate to meet IPPC obligations		
Background: The IPPC specifies the type of phytosanitary information to be exchanged in support of implementation. This includes the information exchange/communication among contracting parties, between contracting parties and the Secretariat, and at times, between contracting parties and their RPPOs. In addition, there is also general operational/administrative communication related to the meetings and operation of the CPM and its subsidiary bodies.		
Strategic area 2.1: Implementation of information exchange as required under the IPPC		
(i) Assist NPPOs with the use of the International Phytosanitary Portal (IPP), through capacity building activities undertaken by the Secretariat and/or RPPOs		
	10 national/sub-regional capacity building workshops on Information Exchange.	
	The Secretariat will monitor information posted on the IPP by NPPOs (to meet their IPPC reporting obligations), analyse the data and adjust the delivery of assistance accordingly.	
(ii) Secretariat to fulfil reporting obligations and communicate administrative matters efficiently in all FAO languages		
	Relevant information is made available to contracting parties in a timely manner (including posting of reports and meeting documents, outcome of meetings, updates to the calendar, etc.).	
(iii) Further develop joint work programmes as necessary		
	Joint work programmes with two RPPOs will be agreed to for national pest reporting.	
Strategic area 2.2: IPP supported by an effective development and maintenance programme		
(i) Develop and document procedures for the ongoing use of the IPP		
	Secretariat maintains, improves and manages the IPP to enable the exchange of phytosanitary information in accordance with the Convention.	

	Hardware and software for the IPP will be maintained and updated	
	IPP Information Exchange Manual will be developed and made available.	
(ii) Establish staff to maintain and develop the IPP		
	Consultants will be contracted to programme the IPP and for web design.	
Goal 3: Effective dispute settlement systems		
Background If required, contracting parties have access to dispute settlement described in Article XIII of the IPPC for which rules and procedures have been developed by the CPM. Although any recommendations from a committee considering the question in dispute are non-binding, parties agree that the recommendations will become the basis for renewed consideration of the dispute.		
Strategic area 3.1: Encouragement of the use of dispute settlement systems		
(i) Publicise the availability of the IPPC dispute settlement system		
	A brochure on the IPPC dispute settlement process will be developed and published on the IPP.	
(ii) RPPOs to ensure members are aware of, and able to use, the dispute settlement system		
	The Secretariat will update the presentation on the IPPC dispute settlement process and ensure it is presented at five regional meetings.	
Strategic area 3.2: Support for the IPPC dispute settlement system		
(i) Provision of Secretariat support for disputes that may arise		
	Should a dispute(s) arise most costs for this activity should be recovered from those involved. Otherwise, no activity planned, except for responding to informal enquiries	
(ii) Report to the CPM on dispute settlement activities		
	A report on the 2010 dispute settlement activities will be prepared for CPM-6.	
(iii) Other activities		
	A meeting of the Subsidiary Body on Dispute Settlement will be organized as required.	
Goal 4: Improved phytosanitary capacity of members		
Background: Under Article XX of the IPPC, contracting parties agree to promote the provision of technical assistance to other contracting parties, especially to those that are developing country contracting parties, either bilaterally or through appropriate international organizations, with the purpose of building capacity for the implementation of the Convention.		
Strategic area 4.1: Methods and tools in place that enable contracting parties to evaluate and improve their own phytosanitary capacity and evaluate requirements for technical assistance		
(i) Updating, maintaining and distributing the PCE tool		
	Develop a stand-alone PCE tool and field test in at least 3 developing countries and make necessary adjustments , including seeking extra-budgetary resources for the field-testing phase	
	Distribute on flash drives and make available online	
	Secretariat to provide input to the East Africa Phytosanitary Information Committee for the development of the Pest Information Management System. 4 national visits supported by the One-UN funded projects in East Africa	
	Populate the rosters of consultants and experts and make available on the IPP	
	Resource database (training material, treatments, diagnostic protocols) will be populated and made available on the IPP	
(ii) Use of the PCE and other inter-active learning tools for strategic planning and project development		
	One workshop to train/update selected personnel will be organized and conducted	
Strategic area 4.2: **The work programme of the IPPC is supported by technical cooperation**		
(i) Regional workshops, seminars (in cooperation with/assisted by RPPOs)		
	**1 regional workshop for Russian speaking countries will be organized in Georgia for the	

	implementation of ISPMs	
	**7 Regional Workshop to review draft ISPMs	
(ii) Formulation and implementation of capacity building projects		
	Five project formulation missions to assist developing countries in formulating phytosanitary projects.	
	Begin implementing three Capacity Building projects or programmes provided extra-budgetary funding is made available from donors or agencies other than FAO.	
	IPPC Secretariat supports approximately four FAO Capacity building projects (e.g. TCP).	
Strategic area 4.3: Contracting parties are able to obtain technical assistance from donors		
(i) Donor awareness of phytosanitary capacity needs		
	Activity is dealt with under 5.2(ii)	
(ii) Make contracting parties aware of possible donors and their criteria for assistance		
	A presentation for promoting awareness of the IPPC will be developed and used on 10 occasions.	
	Preparation and distribution of donor criteria information	
Strategic area 4.4: Development of a phytosanitary capacity building strategy which addresses implementation, funding and linkages to FAO resources.		
(i) Develop and facilitate the implementation of the phytosanitary capacity building strategy		
	**IPPC Secretariat staff will be trained on the use of a monitoring and evaluation tool for the implementation of the Building National Phytosanitary Capacity (BNPC) framework.	
	Establish staff to maintain the capacity building programme. Consultants will be contracted to assist with the implementation of the Capacity Building Strategy.	
** Funded by other organizations or through 2009 funds via Letters of Agreements		
Goal 5: Sustainable implementation of the IPPC		
Background: The Commission, as the governing body of the IPPC, is the primary mechanism whereby the internationally agreed programme of standards development, information exchange and capacity building can be effectively and successfully implemented.		
Strategic area 5.1: The IPPC is supported by an effective and sustainable infrastructure		
CPM - Meeting		
	One CPM meeting (March) will be organized	
	65 participants from developing countries will have their travel and subsistence costs fully or partially funded to attend CPM-5 (EU Trust Fund)	
	Translation of CPM-5 documents and report, and printing.	
	Twelve sessions of the CPM-5 will be interpreted into languages (Ar, En, Es, Fr, Zh)	
	General operating costs and temporary help will be hired to assistance in the organization of the CPM-5 (temporary assistance and messengers).	
	Travel for FAO Regional Officers to attend CPM	
Other Goal 5		
General Operating Costs FAO back charges (e.g. utilities, phone, fax etc.)		
Information Systems		
	The system behind the Phytosanitary Capacity Evaluation (PCE) tool will be revised and updated (three months programmer, translation into four languages: Ar, Es, Fr, Ru)	
	A new online comment system will be developed and implemented for compiling 2010 member comments on draft ISPMs (development of the system and programming)	
	***Translation of non CPM documents (e.g. draft ISPMs, correspondence, website (IPP)) and printing.	
	Administration of the IPPC Trust Fund	

(i) Necessary management and operational bodies identified and formalised within the CPM (or its subsidiary bodies)		
	One SPTA Meeting will be organized	
	Three CPM Bureau Meetings will be organized	
(ii) Transparency and accountability resulting in more effective use of scarce resources		
	Activity for this item is dealt with under 5.2.	
(iii) Preparation of an annual report to CPM on the operational plan by the Secretariat		
	Prepare and present budget, financial reports and work plans for each goal, including identifying any areas that were not completed and reasons for such, as well as additional activities	
	The IPPC procedural manual will be produced, and updated annually, to be transparent on processes followed in IPPC activities, including amalgamation of standard setting procedures (as decided by CPM-3)	
(iv) Secretariat negotiates assistance from RPPOs with the implementation of the annual CPM programme		
	A work programme on Cooperation in the delivery of IPPC activities will be developed between the IPPC and RPPOS at the annual TC-RPPO meeting, and presented to CPM-6.	
(v) Adequate Secretariat staff		
	The Secretary will fully staff current vacant positions within the Secretariat.	
	Consultants will be contracted to assist with the sustainable implementation of the IPPC.	
	The Secretary will develop a staffing plan to identify sufficient staff resources to meet the requirements of the CPM Business Plan and build a strong Secretariat team.	
	Staff training and development.	
	The Secretary will visit donors to solicit contributions to trust funds to cover long term (<3 years) staff costs identified in the staffing plan.	
Strategic area 5.2: A sustainable financial base established for the IPPC		
(i) Transparent budgets indicating the real cost of implementing the CPM programme		
	A consolidated Budget and Operational plan for 2010 will be prepared for CPM-5. This document will combine revenue from all sources and outline planned activities for 2010 which can be used by CPM-6 to measure deliverables. Variations from planned activities will be explained and sources of funding for new activities shown.	
	The Secretariat will prepare a detailed budget (2011) and present it to the Bureau and SPTA to support the activities undertaken in the annual operational plan for 2011. The budget will include both Regular Programme and trust funds.	
(ii) Develop means to cover the (ongoing) biennial FAO shortfall		
	Secretary will develop a draft resource mobilization strategy which addresses means to cover the biennial FAO shortfall.	
	Raise donor awareness by providing assistance in formulating projects, presenting projects to donors for their consideration and coordinate donor awareness meetings	
(iii) Encourage in-kind contributions		
	Secretariat to liaise with Contracting Parties to secure in kind contributions to deliver work programme. (costs to cover meetings, travel, logistics, translation, editing, stewards, compiling member comments and staff time)	
(iv) Develop, implement and promote a multi year funding strategy		
	Activity under this item is provided under 5.2(ii) above.	
Strategic area 5.3: IPPC programmes have a strong scientific base		
(i) Form strong links with appropriate research and education institutions		
	The Secretariat will provide support for the continued development of a Centre of	

	Phytosanitary Excellence (COPE) for East Africa	
	Develop and populate an IPP database for contacts and consultants from research and educational institutions (IPP programmer).	
Strategic area 5.4: Developing contracting parties fully participate in all appropriate IPPC activities		
(i) Secure funding for developing country participation in IPPC activities		
	The Secretariat, in cooperation with the Bureau, will approach traditional and potential donors to secure funding for assistance for those developing countries to attend CPM and other IPPC meetings.	
*** partly funded by other organizations or through 2009 funds		
Goal 6: International promotion of the IPPC and cooperation with relevant regional and international organizations		
Background: The IPPC is an international treaty, which applies (directly or indirectly) to all nations involved with international trade in any commodity that could act as a means of introducing a new pest of plants into an endangered area.		
Strategic area 6.1: The CPM has global recognition as the worldwide authority in the field of plant health		
(i) Develop a communication strategy with an integrated public relations plan to achieve global recognition, build and manage the positive image of the CPM and to promote the IPPC		
	The Secretariat will update the Guide to the IPPC, translate it in FAO languages and publish it	
	The Secretary and Bureau will finalize a communication strategy in support of the resource mobilization strategy for presentation to SPTA.	
	A public relations consultant will be hired to develop a communication strategy, promotional plan and associated materials, including consideration of a new logo	
Strategic area 6.2: The IPPC is an active partner in specific programmes of mutual interest		
(i) Ongoing liaison with specific international and regional organizations to identify and implement areas of common interest (mutual benefit)		
	Ten relevant meetings will be attended by the IPPC Secretariat or Bureau in order to maintain strong links with international organizations with which the IPPC shares common interests. Travel funding for Secretariat staff and/or Bureau members to attend relevant meetings is required to liaison with organizations such as: - Biological and Toxins Weapons Convention, - Convention on Biological Diversity, - Global Invasive Species Programme, - International Atomic Energy Agency - International Civil Aviation Organization - International Maritime Organization - International Seed Federation - International Seed Testing Association - Ozone Secretariat / Montreal Protocol - International Forest Quarantine Research Group - Standards and Trade Development Facility - World Trade Organization Sanitary and Phytosanitary Committee (WTO-SPS) - Codex alimentarius - World Organisation for Animal Health (OIE)	
	The IPPC Secretariat will provide support to three Regional Workshops on the WTO Agreement on Sanitary and Phytosanitary Measures	
	Two relevant meetings will be attended by the IPPC Secretariat or Bureau in order to maintain strong links with regional organizations (other than RPPOs) with which it shares common interests (such as the African Sanitary and Phytosanitary Standards Setting	

	Organizations Programme (PAN-SPSO))..	
Strategic area 6.3: Efficient and effective communication between the RPPOs and the IPPC Secretariat		
(i) Liaison and collaboration between the Secretariat and RPPO executive staff		
	The Secretariat will coordinate and fund the first meeting of Near East Plant Protection Organisation (NEPPO).	
	The TC-RPPOs meeting will be convened and attended by Secretariat staff.	
	Two meetings of RPPOs will be attended by Secretariat staff.	
Goal 7: Review of the status of plant protection in the world		
Background: One of the requirements of the CPM is to maintain an overview of the state of plant protection in the world. An important aspect of this is the need to be aware of, and ready to react to, any new or emerging issues and/or incorporate new technologies.		
Strategic area 7.1: Regular examination of the overall strategic direction and goals of the CPM with the adaptation of programmes to reflect/respond to new and emerging issues		
(i) Include an agenda item for the CPM meeting identifying new and emerging issues that may need IPPC action		
	A scientific session will be organized for CPM-5 on "Threats to biosecurity and biodiversity as a result of international trade", including travel costs for speakers as needed	
	Topics and speakers for CPM-6 will be discussed by the Bureau and SPTA	
(ii) RPPOs develop discussion documents on new and emerging issues which assist the CPM in determining further action		
	Secretariat ensures that a discussion paper on new and emerging plant protection issues is developed by the RPPOs for discussion at the TC-RPPOs meeting.	
(iii) Contracting parties that are implementing E-certification assist others, via the Secretariat, to do so		
	An IPPC strategy for electronic certification will be developed and presented for adoption at CPM-5.	
	The Secretariat will participate in e-Cert meetings and activities identified in the work programme (CPM-5).	
(iv) Use of the UN/CEFACT phytosanitary project for standardization		
	The Secretariat will ensure any IPPC Phyto eCert programme is UN/CEFACT compliant	
(v) Adoption of relevant existing standards covering secure communication and validation of origin		
	The Secretariat will provide input into the review of existing standards covering secure *eCert* communication and validation of origin.	
(vi) ISPMs developed/modified to take alien invasive plant species (e.g. aquatic invasive plants) into account		
	A paper on Invasive Alien Species will be developed by the Secretariat, in cooperation with GISP and CBD. This paper will be presented to the Bureau and SPTA for discussion	
Strategic area 7.2: The IPPC is supported by an implementation programme		
(i) Prepare recommendations for an implementation programme		
	The Secretariat will develop an approach for the development of appropriate indicators for the national implementation of ISPMs and submit it to SPTA for discussion.	
(ii) Implement an IPPC Implementation Review and Support System		
	Implement the first year of the three year work plan (CPM-3)	
	The "IPPC Help Desk" will be established and become operational	
	Develop tools to collate information on the implementation of the IPPC and ISPMs	

APPROACH TO DEVELOPING A RESOURCE MOBILIZATION STRATEGY

In recognition of the importance of this issue and the lead role envisioned for the Secretariat, the Secretary will convene a group of 8-10 senior experts during the summer of 2010 to develop a resource mobilization strategy and implementation plan for a multiyear funding strategy for the IPPC. This group will have broad representation from the Bureau, Secretariat, FAO, Article 14 conventions housed in FAO, partner and donor agencies, and developing countries. Its purpose will be:

- to review strategies and recommendations made in the *Framework for the sustainable resourcing of the IPPC* that were presented at CPM-4;
- to discuss management practices and funding mechanisms used successfully by other Article XIV conventions housed in FAO;
- to consider any additional recommendations regarding resource mobilization made by CPM members prior to the expert meeting;
- to draft a 5 year resource mobilization strategy and implementation plan for a multiyear funding strategy for review by the Informal Working Group on Strategic Planning and Technical Assistance (SPTA) and presentation at CPM-6.

PHYTO eCERT WORK PROGRAMME

1. Generally agreed concepts and processes

- The content of the certification data exchanged using electronic certification should contain the same elements as a paper certificate, in accordance with ISPM 12.
- The certificate data exchanged should be formatted using XML.
- The certificate data XML structure should follow the agreed Phyto XML data Schema that aligns with the UN/CEFACT SPS data Schema.
- Both the content of the XML message and the method of transfer should ensure the authenticity of the information being exchanged electronically. The means of transmission must be such as to provide certainty that the electronic certification data has been supplied by the NPPO of the exporting country.
- The transfer protocol implemented should ensure that the electronic certification data is protected so that the data cannot be changed or read by any party during transfer.

2. Definitions

Phyto eCert (IPPC)	the authenticated and secure electronic transmission of phytosanitary certification data, including the certifying statement, from the National Plant Protection Organization (NPPO) of the exporting country to the NPPO of the importing country.
eCert (UN/CEFACT)	electronic certification system for government-to-government sanitary and phytosanitary certificates issued for traded food and agricultural commodities (ECE/TRADE/C/CEFACT/2009/8).
Schema	a data model that represents the relationships of a set of concepts within a domain
UN/CEFACT	the United Nations Centre for Trade Facilitation and Electronic Business has a mission to improve the ability of business, trade and administrative organizations, from developed, developing and transitional economies, to exchange products and relevant services effectively.
XML	Extensible Markup Language
XML Schema	a way to define the structure, content and, to some extent, the semantics of XML documents

3. The work programme

1. The UN/CEFACT eCert standard will be that on which the IPPC *Phyto eCert* will be based, while learning from the food safety and animal products' electronic certification systems that has been officially in use over the past 10 years.

2. Establish the core IPPC *Phyto eCert* working groups as virtual expert working groups that will allow the initial work through NAPPO and interested countries to continue with broader participation and global recognition within the IPPC framework. These expert working groups will work through e-mail and via internet-based systems such as Skype. Part of this process will include collecting, compiling and sharing experiences, challenges and best practices. Work areas will be established on the IPP to facilitate this work. Any budget or resources necessary to undertake this work will be extra-budgetary. The primary tasks of these virtual expert working groups will be to:

a. Develop a phytosanitary XML Schema to facilitate the operation of an effective global *Phyto eCert* system. Some countries have already developed draft XML Schemas and agreed to work together to develop a common draft and to begin field testing. A number of the eCert active developing countries agreed to assist in this process.

b. Establish the business rules through which the *Phyto eCert* system will function. This activity will confirm the appropriate data elements from ISPM 12 (and those associated in ISPM 7) to ensure they are clearly understood and well defined for the operation of electronic certification globally.

c. Identify and develop the appropriate specifications for a two way data transmission process ensure the security of both the certification data dispatch and retrieval processes.

d. Develop and publish on the IPP a *Phyto eCert* toolkit to facilitate capacity development by interested countries.

e. Develop documentation for export certification that explains procedures necessary during the transitional period when paper and electronic phytosanitary certification systems will need to run in parallel. This is particularly relevant to re-exports.

f. Discuss and propose enhancements, monitor changes to the UN/CEFACT SPS Certificate Schema as progress continues on *Phyto eCert*.

3. Establishment of an annual meeting on Phyto eCert to facilitate this process by sharing developments, best practices and encouraging the involvement of all interested countries. However, extra-budgetary resources will be necessary for this initiative.

4. Encourage RPPOs to become familiar with these developments, to become active in this area and particularly provide coordination and assistance when possible during the field testing phase of the programme. The annual TC-RPPOs has already added electronic certification as a fixed item on their agenda and has established a *Phyto eCert* Advisory Group.

5. *Phyto eCert* systems are already being developed for field testing between some trading partners through bilateral agreements.

6. *Phyto eCert* will be included as an appendix to ISPM 12, developed through the standard setting process.

TERMS OF REFERENCE FOR THE OPEN-ENDED IPPC WORKSHOP ON THE INTERNATIONAL MOVEMENT OF GRAIN

Scope: The open ended workshop should collect information and provide clarity on the relevance and type of phytosanitary problems related to the international movement of grain. Furthermore the workshop should collect views and discuss options for the management of the risks identified that may require further action in the IPPC framework in order to minimize these risks and to protect countries from the introduction of quarantine pests associated with the international movement of grain.

Tasks: The workshop should provide an opportunity to collect, consider and discuss relevant information. A report on the main results from the workshop including the different views expressed or if possible common conclusions will be made available to the CPM and SC following the workshop. In particular the workshop should:

- Gather, analyze and discuss information in particular from NPPOs on pest risks related to the international movement of grain (including information on cases where the present systems failed to exclude the introduction of quarantine pests into new countries/areas or even continents) and discuss the factors that may have led to introductions.
- Consider the different phytosanitary risk factors specific to the international movement of grain and if possible evaluate their relevance on a global scale.
- Consider and highlight the relevance of existing ISPMs and clarify whether further specific harmonized guidance for the international movement of grain is considered necessary (e.g., grain production, processing, handling and movement practices, traceability of grain, sampling and inspection (import and export), and grain storage) in order to minimize the risk of introduction of quarantine pests.
- Consider and discuss the relevance of other specific issues (e.g. deviation from intended use).
- Develop an overview of existing standards (commercial, international organizations, RPPOs, NPPOs) that are relevant for the mitigation of the risks, and collect and discuss commercial stakeholder views on the options for further international guidance for the mitigation of phytosanitary risks.
- Explore the need and feasibility of harmonized recommendations for phytosanitary requirements for some types of grain moved internationally.
- Where possible develop common conclusions resulting from the discussions on the topics highlighted above.

Participation: Participants should include experts from NPPOs from all FAO regions and in particular from developing countries and from those who have been affected by or have experience with the introduction of pests of phytosanitary concern via imported grain. Furthermore representatives from trade, producers and international organizations involved in the international commercial movement of grain and food aid should participate. Individual experts with specific knowledge of pests that have been or may be introduced via grain may be invited.

Funding: External resources
The recent FAO congress on food security and the outcome of the discussions at the special session at the 4th Session of CPM will provide valuable background.

STANDARDS COMMITTEE: MEMBERSHIP AND POTENTIAL REPLACEMENTS

A-Standards Committee Membership

FAO region	Country	Name	Nominated / Renominated	Current term / Duration	End of current term
Africa	Nigeria	Ms. Olofunke AWOSUSI	CPM-3 (2008)	1st term / 3 years	2011
	Morocco	Mr. Lahcen ABAHA	CPM-4 (2009)	1st term / 3 years	2012
	South Africa	Mr. Michael HOLTZHAUSEN	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	Cameroon	Mr. Marcel BAKAK	CPM-5 (2010)	1st term / 3 years	2013
Asia	China	Mr. Fuxiang WANG	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	India	Mr. Prabhakar CHANDURKAR	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	Indonesia	Mr. Antarjo DIKIN	CPM-5 (2010)	1st term / 3 years	2013
	Japan	Mr. Motoi SAKAMURA	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
Europe	Denmark	Mr. Ebbe NORDBO	CPM-3 (2008)	1st term / 3 years	2011
	Germany	Mr. Jens-Georg UNGER	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	Israel	Mr. David OPATOWSKI	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	United Kingdom	Ms. Jane CHARD	CPM-3 (2008)	1st term / 3 years	2011
Latin America and Caribbean	Argentina	Mr. Guillermo Luis ROSSI	CPM-4 (2009)	1st term / 3 years	2012
	Chile	Ms. María Soledad CASTRO DOROCHESSI	CPM-5 (2010)	1st term / 3 years	2013
	Costa Rica	Ms. Magda GONZALEZ	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	Uruguay	Ms. Beatriz MELCHO	CPM-2 (2007) CPM-5 (2010)	2nd term / 3 years	2013
Near East	Egypt	Mr. Safwat Abd-Elhamid EL-HADAD	CPM-3 (2008)	1st term / 3 years	2011
	Sudan	Mr. Khidir GIBRIL MUSA	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	Syria	Mr. Abdel-Hakim MOHAMMAD	CPM-4 (2009)	1st term / 3 years	2012
	Yemen	Mr. Abdullah AL-SAYANI	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
North America	Canada	Ms. Marie-Claude FOREST	CPM-3 (2008)	1st term / 3 years	2011
	USA	Ms. Julie ALIAGA	CPM-4 (2009)	1st term / 3 years	2012
Southwest Pacific	Australia	Mr. David PORRITT	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	New Zealand	Mr. John HEDLEY	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	Vanuatu	Mr. Timothy Tekon TUMUKON	CPM-4 (2009)	replacement	2012

B-Standards Committee Potential Replacements

FAO region	Order	Country	Name	Nominated / Renominated	Current term / Duration	End of current term
Africa	1	Mali	Ms. Fanta DIALLO	CPM-4 (2009)	1st term / 3 years	2012
	2	Kenya	Mr.Washington OTIENO	CPM-5(2010)	1st term / 3 years	2013
Asia	1	Thailand	Mr. Udorn UNAHAWUTTI	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	2	Pakistan	Mr. Ahmad TASNEEM	CPM-5 (2010)	1st term / 3 years	2013
Europe	1	Poland	Mr. Piotr WŁODARCZYK	CPM-3 (2008)	1st term / 3 years	2011
	2	Turkey	Mr. Birol AKBAS	CPM-3 (2008)	1st term / 3 years	2011
Latin America and Caribbean	1	Guatemala	Mr. Jaime SOSA LEMUS	CPM-1 (2006) CPM-4 (2009)	2nd term / 3 years	2012
	2	Trinidad and Tobago	Mr. Mario FORTUNE	CPM-5 (2010)	1st term / 3 years	2013
Near East	1	Iraq	Mr. Basin MUSTAFA KHALIL	CPM-4 (2009)	1st term / 3 years	2012
	2	Iran	Mr. Mohammad Reza ASGHARI	CPM-3 (2008)	1st term / 3 years	2011
North America	To replace Canada	Canada	Ms. Lesley Ann CREE	CPM-5 (2010)	1st term / 3 years	2013
	To replace USA	USA	Mr. Narcy KLAG	CPM-2 (2007) CPM-5 (2010)	2nd term / 3 years	2013
Southwest Pacific	To replace Australia or New Zealand	New Zealand	Mr. Stephen BUTCHER	CPM-4 (2009)	1st term / 3 years	2012
	To replace Pacific Island's representative	Cook Islands	Mr. Ngatoko Ta NGATOKO	CPM-5 (2010)	1st term / 3 years	2013

SUBSIDIARY BODY ON DISPUTE SETTLEMENT: MEMBERSHIP AND POTENTIAL REPLACEMENTS

A-Subsidiary Body on Dispute Settlement Membership

FAO region	Country	Name	Nominated / Renominated	Current term / Duration	End of current term
Africa	Côte d'Ivoire	Mr. Konan Lucien KOUAME	CPM-4 (2009)	1st term / 2 years	2011
Asia	China	Mr. Enlin ZHU	CPM-5 (2010)	1st term / 2 years	2012
Europe	Turkey	Mr. Birol AKBAS	CPM-3 (2008) CPM-5 (2010)	2nd term / 2 years	2012
Latin America and Caribbean	Colombia	Mr. Jaime CÁRDENAS LÒPEZ	CPM-4 (2009)	1st term / 2 years	2011
Near East	Lebanon	Mr. Charles ZARZOUR	CPM-5 (2010)	1st term / 2 years	2012
North America	Canada	Ms. Janet MACDONALD	CPM-4 (2009)	1st term / 2 years	2011
Southwest Pacific	Australia	Ms. Lois RANSOM	CPM-5 (2010)	1st term / 2 years	2012

B-Subsidiary Body on Dispute Settlement Potential Replacements

FAO region	Country	Name	Nominated / Renominated	Current term / Duration	End of current term
Africa	Swaziland	Mr. Similo George MAVIMBELA	CPM-5 (2010)	1st term / 2 years	2012
Asia	Malaysia	Ms. Wan Normah WAN ISMAIL	CPM-5 (2010)	1st term / 2 years	2012
Europe	Netherlands	Ms. Mennie GERRITSEN-WIELARD	CPM-4 (2009)	1st term / 2 years	2011
Latin America and Caribbean	Ecuador	Mr. Francisco Arístides ROBALINO	CPM-4 (2009)	1st term / 2 years	2011
Near East	Oman	Mr. Sulaiman AL TOUBI	CPM-5 (2010)	1st term / 2 years	2012
North America	USA	Mr. John GREIFER	CPM-4 (2009)	1st term / 2 years	2011
Southwest Pacific	New Zealand	Mr. Peter THOMSON	CPM-5 (2010)	1st term / 2 years	2012

COMPOSITION OF THE CPM BUREAU (TERM 2010-2012)

FAO region	Country	Name	Elected On CPM Bureau	Comments from region
Africa	Zambia	Mr. Arundel SAKALA	CPM-5 (2010)	
Asia	Republic of Korea	Ms. Kyu-Ock YIM	CPM-5 (2010)	Vice-Chairperson
Europe	United Kingdom	Mr. Steve ASHBY	CPM-3 (2008) CPM-5 (2010)	Vice-Chairperson
Latin America and Caribbean	Belize	Mr. Francisco Adrian GUTIERREZ	CPM-3 (2008) CPM-5 (2010)	
Near East	Jordan	Mr. Mohammad KATBEH BADER	CPM 3 (2008) CPM-5 (2010)	Chairperson
North America	USA	Mr. John GREIFER	CPM-5 (2010)	
Southwest Pacific	New Zealand	Mr. John HEDLEY	CPM-5 (2010)	

LIST OF POSTERS AND SIDE-EVENTS, AND BRIEF SUMMARY OF SIDE-EVENTS AT CPM-5

Side events

Over the course of four days, nine different side events were held. Attendance at the side events ranged from 10 to 60 individuals.

Tuesday 23 March 2010

Standards and Trade Development Facility: Kenza Le Mentec (STDF) presented a brief overview of the Standards Trade Development Facility and its activities. She described how NPPOs may apply for funds through the STDF.

Centre of Phytosanitary Excellence – Africa (COPE): Roger Day (CABI) explained the mission and rational of the COPE and provided details regarding the services offered by the centre. It was explained that COPE is a network of organisations that utilizes already existing phytosanitary capacity in different parts of Africa and thus it is a 'centre without walls'.

Wednesday 24 March 2010

Capturing methyl bromide: an inconvenient truth?: Eddy Williame (Desclean Belgium) presented systems and methods for recapturing methyl bromide (e.g. activated carbon) and described one technology - RAZEM (Recovering and zero modular system) - in detail.

Moving seed across international borders: The presentation made by Rick Dunkle (ISF) highlighted the value of and special features associated with the seed trade. The ISF stressed the need for an ISPM on the international movement of seed for planting and indicated its support for the development of an ISPM on the movement of seed.

Thursday 25 March 2010

International Year of Biodiversity: Junko Shimura (CBD) and Sarah Simons (GISP) presented an overview of the activities of their organizations in relations to the International Year of Biodiversity and the threat posed by invasive alien species. The noted the importance of developing synergies with the IPPC and other relevant organizations.

Situational analysis of crop protection in Africa: Hannah Clarendon (FAO-RAF Protection Officer) and Roger Day (CABI) introduced a study to make an assessment of the needs of crop protection programmes in Africa and to develop a draft strategic framework for crop protection in Africa. The meeting participants were requested to make contributions, observations and comments on the proposed study.

Friday 26 March 2010

Demonstration of the revised Phytosanitary Capacity Evaluation tool: Orlando Sosa (IPPC) provided a demonstration of the prototype of the new online PCE tool. Several countries expressed an interest in participating in the pilot of the revised PCE.

Demonstration of the new IPPC website: Melanie Bateman (IPPC) provided an overview demonstration of the new IPPC website and solicited feedback on how it could be improved.

DNA barcoding: A potential standard for species identification: David Schindel (National Museum of Natural History, Smithsonian Institution) introduced the concept of DNA barcoding and its applications. He gave three presentations – one on basic barcoding and Consortium for the Barcode of Life (CBOL), another on the Tephritid Barcode Initiative (TBI) and the last one on the Quarantine Barcoding of Life (QBOL).

Poster session in the atrium

Over 20 different individuals representing the FAO and other UN agencies, other international organizations, RPPOs, NPPOs, academic institutions and private industry presented posters or made materials available in the atrium during CPM. Topics covered included biodiversity and invasive alien species; the relationship of climate and pest distributions; forest pests; and tools for the effective implementation of the IPPC. The following table lists posters and materials that were presented in the atrium of FAO-Headquarters during CPM-5.

Title	Presenter
The application of Systems Approach (ISPM 14)	Megan Quinlan, CABI
Association of Southeast Asian Nations' Knowledge Network to support compliance with sanitary and phytosanitary measures in the region	CABI Southeast & East Asia
Bisoafety capacity building books	Kakoli Ghosh, FAO Plant Production and Protection Division (AGP)
The carambola fruit fly in state of Amapá, Brazil	Maria Júlia Godoy, Carambola Fruit Fly Eradication Programme of Brazil, Brazil
Commission on Genetic Resources for Food and Agriculture	Eva Hain & Àlvaro Toledo, Commission on Genetic Resources for Food and Agriculture Secretariat
Desclean - Belgium	Eddy & Yolanda Williame, Desclean
DNA Barcoding: A Potential Standard for Species Identification	Dr. David E. Schindel, National Museum of Natural History, Smithsonian Institution, USA
FAO Regional Integrated Pest Management Programme	Harry Van der Wulp, FAO-AGP
Global Invasive Species Programme's toolkit	Sarah Simons, GISP
A Guide to Phytosanitary Forestry Practices and International Standards	Gillian Allard, FAO Forestry Department
International Forestry Quarantine Research Group	Eric Allen, IFQRG
International Society for Plant Pathology's new journal *Food Security*	Greg Johnson, ISPP
Invasive Alien Species – a threat to biodiversity	Junko Shimura, CBD
KEPHIS: Role in trade facilitation and biosecurity	Washington Otieno, KEPHIS, Kenya
New partnerships for effective vigilance and response to climate induced risks in Plant Health	Roger Day, CABI
PRATIQUE: a research project to enhance pest risk analysis techniques in the European Union	Nico van Opstal, EPPO
Protección Vegetal y Cambio Climático	Jaime Cardenas Lopez, Instituto Colombiano Agropecuario, Colombia
Publications from the Global Partnership Initiative for Plant Breeding Capacity Building	Elcio Guimaraes, FAO-AGP
QBOL: Developing DNA barcode Identification for Q-organisms	Dr. Peter Bonants, Plant Research International, Netherlands
Standards and Trade Development Facility	Kenza Le Mentec, STDF
Technological Innovation for Plant and Animal Health and Inspection – a country wide project to improve capacity building and innovation in Brazil	Dr. José Magid Waquil, Brazil

LIST OF DELEGATES AND OBSERVERS

Chairperson (unable to attend):	Reinouw BAST-TJEERDE
Vice-Chairperson and Chairperson for CPM-5:	Chagema KEDERA
Vice-Chairperson:	Mohammad Rabah KATBEH BADER

MEMBER COUNTRIES (CONTRACTING PARTIES)
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