REPORT

Rome, Italy
9-13 November
2009

Standards Committee
November 2009

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I. Opening of the meeting

1. The meeting was opened by the Secretary of the IPPC. He applauded the initiative of the Chair to request different Standards Committee (SC) members to study different topics that would be addressed by the SC prior to the meeting in order to give some guidance on how to proceed. He noted that the comments from the 2009 member consultation period would largely be considered in the 2010 Standards Committee meeting rather than this meeting. He also noted that time would be allotted at the end of the meeting to evaluate how the meeting went, in order to improve future meetings.

II. Adoption of the agenda

2. The SC discussed the agenda[1], and decided that member comments on draft cold treatments should be discussed under the agenda point for summary of SC discussions by email, and that issues related to the revision of ISPM Nos. 7 and 12 should be discussed during the report of the Secretariat. The SC modified and adopted the agenda (Appendix 1). The list of documents was also provided (Appendix 2).

III. Election of the rapporteur

3. Mr. Steve Ashby, an observer representing the CPM Bureau, was elected as rapporteur.

IV. Updates from other relevant bodies

4. The Secretariat introduced the summary of the Bureau and SPTA reports[2]. It was noted that the Latin American and Caribbean region had not yet consulted within the region with regard to whether diagnostic protocols could be developed in English only until after they were adopted when they would be available in languages. Mr Ashby, representative of the Bureau noted that he would follow up with the Bureau member from the Latin American and Caribbean region in this matter. The SC was informed that the SPTA recommended that two topics for standards should be changed in level of priority. The SC was also informed that the Bureau considered the issue of honoraria for authors and did not agree that honoraria should be paid.

5. The Secretariat presented a report of its activities related to the Standards Committee[3]. In particular, it noted that, this year, it had conducted an evaluation of some of the regional workshops on draft ISPMs, the results of which are posted on the IPP (http://www.ippc.int.xxxx). The SC was also informed that the Secretariat continues work on developing an online system for collecting and compiling member comments. It was noted that this year, comments had been compiled by volunteers from member countries and one RPPO. The SC expressed its appreciation to volunteers from COSAVE, Australia, Germany, Malaysia, Philippines, Zambia and the UK for compiling comments.

6. The Secretariat informed the SC that an additional expert working group could be conducted in February 2010 and that the Secretariat would be consulting the SC regarding experts for this meeting. The Secretariat also noted that too few qualified nominations had been received for the expert working group on Soil and Growing Media, and the SC agreed to do another call for experts. It was also noted that the SPTA asked the Secretariat to explore options for the development of technical reference manuals and report back to the CPM.

7. The Secretariat informed the SC that Canada was considering hosting a meeting on the international movement of grain to be held in February 2011. The Secretariat noted, however, that extra-budgetary funding would be required in order to fund participation by developing country

[1] 2009-SC-Nov-01 Rev. 2
[2] 2009-SC-Nov-23
[3] 2009-SC-Nov-24

participants to travel to the meeting. The Chair noted that his country, Brazil, may be able to provide facilities.

8. The Secretariat noted that there was only one specification agreed for the development of a new draft ISPM and urged SC members to agree on further specifications. Draft specifications would be sent out for member consultation on November 30, 2009.

9. The steward for the revision of ISPM Nos. 7 (*Export certification system*) and 12 (*Phytosanitary Certificates*) informed the SC that over 1500 comments had been received. It was agreed that the steward, with assistance from SC members from Canada and Uruguay to provide translations from French and Spanish comments, would revise the draft ISPMs based on comments. It was decided that after the steward had completed his revision that the SC would have an e-mail discussion on how to proceed. Given the volume of comments, the SC noted the importance of preparing for the technical discussions at SC-7 and the possibility of inviting technical experts to participate.

10. In discussing member comments, the Secretariat noted that it does not have the necessary resources to translate comments nor sufficient time in the process; not all stewards can easily address comments in other languages. It was suggested that the IPPC through the CPM encourages countries to submit comments in English to facilitate review of comments. Alternative ways to solve this situation should be analyzed by the SC in the future.

11. The steward for the draft diagnostic protocol for *Thrips palmi* informed the SC that approximately 200 comments had been received. Having considered Secretariat advice, the steward noted he would review comments together with the Technical Panel on Diagnostic Protocols (TPDP) and would try to revise the draft for submission to the SC in time for adoption by the CPM-5.

12. One member expressed concern about the FAO Forestry Guide and whether this would be sent for member consultation. It was explained that because this was not an IPPC document it does not go through the member consultation process. The Secretariat explained that this was an initiative of the FAO Forestry Division and the IPPC Secretariat was only peripherally involved.

V. Standards Committee and SC-7

13. The Secretariat provided a summary of SC discussions and decisions that had been conducted by email (Appendix 3). The SC also discussed the draft cold treatment comments via email but did not conclude their discussions via email. The SC discussed issues related to cold treatments. The steward for the Technical Panel on Phytosanitary Treatments (TPPT) noted that many of the member comments cited a need for technical guidance on cold treatments. The SC agreed that the TPPT should review the comments that had been received on the eight draft cold treatments and as the issues are complex it would not be possible for the treatments to be submitted to CPM-5.

14. The SC decided to request the Secretariat to make another call for cold treatments for the same commodities as covered by the existing draft eight cold treatments. The SC also agreed for the Secretariat to request FAO to develop guidance for administering cold treatments and that the TPPT could provide technical input in the process of developing this guidance.

15. The SC had reviewed the membership for the Technical Panel for Forest Quarantine (TPFQ) via email but did not reach consensus due to concerns raised by some members about the lack of phytosanitary and regulatory experience of the selected candidate. The SC discussed this further and agreed to select the candidate from Ghana as the new member of the TPFQ due to his expertise in tropical forestry issues.

16. The Chair of the SC-7 reviewed the outcomes of its meeting in May 2009[4]. He noted that two draft ISPMs had been revised, based on the steward's review of member comments: *Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade* and *Fruit fly trapping*. The draft ISPMs were presented to the SC for further consideration. The Secretariat

[4] 2009-SC-Nov-11

noted that this was the first time that a report of the SC-7 had been prepared and presented this way. The SC agreed this was a useful development.

VI. Draft ISPMs for SC review for adoption by CPM

A. Pest free potato (*Solanum* spp.) micropropagative material and minitubers for international trade

17. The steward for the draft ISPM on *Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade* introduced the document that had been revised by the SC-7[5]. She noted that the structure of the document had been modified and that some of the terminology had been changed to make the draft clearer. She noted in particular that the term "microtuber" had been deleted.

18. The steward noted that according to member comments, the term *pest free* could be misleading, and therefore a paragraph was added to the background section to clarify that, in this draft ISPM, potato material that has been tested and found free from the pests regulated by the importing country, or that is derived from such tested material, and that is maintained under conditions to prevent infestation, is referred to as *pest free potato micropropagative material* or *pest free minitubers*. This was subsequently moved to the requirements section.

19. It was also noted that, in response to member comments, a paragraph had been added to the background section to indicate that some seed potato certification schemes may meet requirements in the draft ISPM, but that the pests covered by a specific scheme may not meet all of the phytosanitary requirements of importing countries. The SC decided to delete the reference to the UNECE scheme as it was felt it was not appropriate to use a regional reference as it was only one example of many possible schemes.

20. Some member comments proposed that records be kept for only one year rather than for five years, and some member comments proposed that records be kept as long as the material was kept and then for an additional 5 years. The SC agreed that keeping records for 5 years was viewed to be a reasonable compromise.

21. The SC discussed whether the term "disinfestation" should be used for the cleaning of surfaces in addition to disinfection. It was felt that the term "disinfection" is a common language term and that using the additional term "disinfestation" would not be necessary. It was agreed to ask the TPG to consider and possibly define these words to avoid further discussions on this matter. Likewise, the term "sterile" was changed to "aseptic" in some sections as this was viewed to be a more appropriate term.

22. The SC discussed and agreed to include a reference to ISPM No. 12 (*Phytosanitary certificates*) in the document, and the reference to ISPM No. 1 (*Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade*) was removed by the SC. The SC also agreed to add a section title for "maintenance and propagation facilities for pest free micropropagative material" to make that section consistent with the section on minitubers.

23. In regard to pests that may be of concern with respect to micropropagative material and potato minituber production, member comments proposed that scientific names for pests should include taxonomic information and the describing authority. The TPDP had reviewed this information in order to verify taxonomic information and ensure that pest names are current and unambiguous and the information was revised accordingly.

24. The SC discussed whether or not to use the term "official" in reference to testing laboratories in Annex 1 of the draft. The SC agreed to retain the use of the term official when referring to official testing laboratories.

25. The SC approved the draft to be submitted to the CPM-5 (Appendix 4).

[5] 2009-SC-Nov-07; 2009-SC-Nov-08

B. Fruit fly trapping

26. The SC reviewed the draft ISPM on fruit fly trapping[6]. The SC discussed whether the document should be submitted in two parts, as suggested by the SC-7 (an annex and an appendix) or whether the document should be combined back into a single document and submitted as either an annex or an appendix.

27. Some members felt that the document should be submitted as an appendix, based on member comments. Other members stated that the document should be submitted as an annex because the information in the draft was viewed to be a critical part of other fruit fly standards (e.g. *Pest free areas for Fruit Flies*, etc.) and should serve as more than just reference material. After much discussion and taking account of comments made in the member consultation, the SC reached consensus, with strong reservations from one member, that the draft ISPM should be submitted as a single appendix.

28. During member consultation, comments were received on the types of surveys (detection, delimiting, monitoring) that are conducted. The section was re-drafted by the steward to align it with other standards, including ISPM No. 6 (*Guidelines for surveillance*) and ISPM No. 8 (*Determination of pest status in an area*). In addition, there was extensive redrafting of pest situations and survey types. The TPFF proposed a technical change to the redrafted section on survey types which was accepted by the SC.

29. It was also noted that comments were received on the use of insecticides for trapping. The steward had therefore revised the draft, noting that as ample information exists on what insecticides can be used in traps, mention of specific chemicals in this standard was not necessary.

30. It was noted that the specification for a new ISPM on "determination of host status of fruits to fruit flies" had been approved by the SC for member consultation and that this ISPM, once developed, was likely to propose new terms for hosts of fruit flies (host, non-host and conditional host). However, the use of the terms "primary," "secondary" and "occasional" hosts was retained in this draft as this is the most widely used terminology by fruit fly specialists.

31. The issue of whether or not to retain the section on references was discussed. It was noted that because this draft will replace Appendix 1 of ISPM No. 26, information contained in the reference section would not be published elsewhere and so needed to be included here. Furthermore, it was noted that the technical information contained in this draft is largely based on publications provided in this reference section. The SC decided to retain the reference section.

32. The SC agreed that the Technical Panel on Fruit Flies (TPFF) should be consulted to provide a technical review of the draft, in particular the technical information contained in the tables, including Table 3 abbreviations also to ensure consistency with ISPM No. 30 in relation to the formula for FTD (flies per trap per day) in the document.

33. The SC approved the draft to be submitted to the CPM-5 (Appendix 5) pending review by the TPFF as indicated above.

C. Review of recommendations from the TPG for consistency

34. The steward for the TPG introduced the topic of the review of ISPMs for inconsistency undertaken by the TPG. He informed the SC that as a start, the TPG had reviewed ISPM Nos. 3, 10, 13, 14, 22 and Supplement 1 to ISPM No. 5. He explained that the TPG divided these comments into four tables[7]. Table A notes inconsistencies, Table B took note of obvious errors or mistakes in standards, Table C deals with Spanish translation issues and Table D deals with Spanish language preferences. It was agreed that the errors noted in Table B should be corrected whenever the relevant ISPMs are revised in the future and also taken in consideration when the SC prioritizes the work programme.

[6] 2009-SC-Nov-05; 2009-SC-Nov-06
[7] 2009-SC-November-27

35. The SC reviewed the recommendations made by the TPG to correct inconsistencies in the above-mentioned ISPMs. After modifying some of the recommendations in Table A, the SC approved the recommendations made by the TPG to be submitted to the CPM in English for noting and for incorporation into the ISPMs (Appendix 6).

36. The SC decided to request TPG to consider the definition of the term "quarantine station" because "quarantine station" does not include beneficial organisms. The SC also agreed to retain the original wording "facilities" in ISPM No. 3 only, instead of "stations", as proposed by TPG for the time being until the TPG has had an opportunity to consider the definition of quarantine station.

37. SC noted that, in addition, the document with the TPG recommendations will be modified to include Tables C to be presented to CPM-5 only in Spanish, and changes incorporated into the standards concerned. Table D, contains Spanish language preferences and will be reviewed by the Spanish language review group.

38. The SC approved the Recommendations on the formatting of ISPMs in Appendix 7 to be implemented by the Secretariat and incorporated into the style guide for ISPMs. The SC noted that these recommendations will be taken into account when the standards concerned are revised. In particular, the SC agreed to consider that the simultaneous revision of ISPM Nos. 2, 11 and 21, and the separate revisions of ISPM Nos. 4, 6, 8 and 18 be proposed for the work programme and to set their priority when SC discusses the IPPC standard setting work programme. The SC noted that other recommendations in Appendix 7 will be implemented by the Secretariat and incorporated into the style guide for ISPMs as appropriate.

39. The SC expressed its appreciation to the TPG for undertaking the work of reviewing ISPMs for consistency, noting in particular, that the TPG had accomplished an enormous amount of work in completing the review of the consistency of terms in several ISPMs.

D. Amendments to ISPM No. 5 (*Glossary of phytosanitary terms*)

40. The steward of the TPG introduced the proposal to delete the term and definition for "beneficial organism" from ISPM No. 5[8]. Thirteen member's comments were received, some agreeing with the deletion, others wishing to retain the term. After consideration, the SC recommended the deletion of the term as no new elements were presented by the comments and the justification for the deletion remains unchanged.

41. The SC agreed that the term should be deleted and approved this recommendation to be sent to the CPM-5 (Appendix 8).

E. Design and operation of post-entry quarantine stations for plants

42. The steward for the draft ISPM on *Design and operation of post-entry quarantine stations for plants* introduced the revised draft[9]. The steward reviewed the comments that had been received during the 2009 member consultation period[10]. It was suggested that the draft should be made part of ISPM No. 20 (*Import regulatory system*). The SC considered the issue and decided that the draft should remain a stand-alone document.

43. The SC discussed whether the scope should apply to "plants" or to "plants for planting" or if it should also include other regulated articles. After extensive discussion, it was decided that the most appropriate term to use was "plants", recognizing that post-entry quarantine usually applies to "plants for planting". Likewise, the SC considered the suggestion that the term "regulated pest" be used instead of "quarantine pest" to account for regulated non-quarantine pests. The SC noted that post-entry quarantine applies principally to quarantine pests and therefore decided to use the term quarantine pest in the draft.

[8] 2009-SC-Nov-28
[9] 2009-SC-Nov-32
[10] 2009-SC-Nov-33

44. The SC discussed the use of the terms “containment” or “confinement” in the context of post entry quarantine. The SC noted the definition of the word “quarantine” as the “official confinement of regulated articles for ….”, so the term confinement was used. It was also suggested that the TPG consider revising the definition of the term “containment”. The SC discussed the suggestion and decided not to proceed with revising the definition of “containment”. The SC discussed the suggestion to replace the term “station” by “facility”, and decided to retain the use of the term “quarantine station”. The suggestion to use the term “infection” was also discussed. The SC decided to use the term “infestation” since the definition includes infection. The SC also decided to use the term decontamination in reference to cleaning potentially infested material.

45. The SC approved the draft to be submitted to the CPM-5 (Appendix 9).

VII. Draft specifications for review of member comments & approval by SC

46. The SC discussed the draft specification for “Minimizing quarantine pests in stored products in international trade”. The SC discussed the draft specification for “Minimizing quarantine pests in stored products in international trade”. A small group of SC members modified the specification for clarity, taking into account comments from the member consultation and to address concerns of SC members. It was considered that the standard should apply to quarantine pests that develop and multiply in stored products thereby increasing the phytosanitary risk associated with those products as a result of storage. The SC discussed whether safeguarding and contaminating pests should be included in the scope or tasks of the specification.

47. The group discussed whether a standard is needed on this topic, or if a technical manual, possibly produced by FAO, would be useful. It was noted that there are many technical manuals that address the issue of stored product pests. It was suggested that the expert working group could consider existing technical manuals, and also consider whether any guidance produced would be best presented as a standard, or as a manual.

48. Because the specification has been substantially modified and some members questioned the need for such a standard as it is proposed, some members suggested that the draft specification be re-circulated for member consultation. The SC agreed to send the draft specification for member consultation (Appendix 10). The SC also agreed that during this further member consultation countries should be asked to consider whether there is sufficient information already available to address quarantine pests associated with stored products, consider the work that will be done on the international movement of grains and indicate, taking into consideration this information, whether a standard on this topic is needed.

VIII. Draft specifications for approval for member consultation

A. Minimizing pest movement by containers in international trade

49. The stewards for the draft specification on “Minimizing pest movement by containers in international trade” introduced the draft specification[11] and a discussion paper[12] on the topic to the SC. The stewards noted that the type of containers that would be within the scope of the specification would have to be clarified and suggested that “shipping containers” be used. The SC agreed to change the proposed title of the draft specification back to the original title of this topic as shown in the IPPC standard setting working programme adopted by the CPM.

50. Some members expressed their view that the word “non-prescriptive” as proposed in the draft be removedwhile another member suggested that this would be a good example for a technical manual. It was pointed out that this issue should be considered very carefully with the importance and potential logistic impact of this standard in mind because the volume of containers moving in international trade is very large and they are dealt with in different ways in countries by

[11] 2009-SC-Nov-12
[12] 2009-SC-Nov-41

many users and operators involved. SC members agreed to have a two step approach to retain containers and conveyances in the work programme. It was pointed out that lessons learned during the development of ISPM No. 15 regarding involving industry at an early stage should be considered.

51. One member suggested that a drafting group should review not only international conventions and standards but also industry practices. SC agreed with this suggestion and the draft was revised accordingly. The SC discussed whether or not conveyances should be included in the scope in addition to containers. The SC decided to request the expert working group to consider whether and how these guidelines could be utilized in the development of guidelines for conveyances. The SC also discussed whether the standard applies only to maritime movement of containers, or if land movement of containers should also be included. The SC agreed that land movement of containers should be included and considered by the expert working group.

52. The SC discussed the necessary expertise needed for the expert working group. The SC agreed that most of the experts should be phytosanitary experts. The SC also discussed whether an expert from the Convention on Biological Diversity (CBD) should be invited, in addition to experts involved in shipping (e.g. International Maritime Organization, The Container Owner's Association). The SC agreed that experts from relevant organizations may be invited to participate, and that through member consultation other relevant organizations may be suggested.

53. The SC approved the draft specification to be distributed for member consultation (Appendix 11).

IX. Update on the standard setting work programme

54. The Secretariat introduced the paper on the standard setting work programme[13]. Since the May SC meeting, six drafts had been sent for member consultation. In addition, an expert working group on PRA for plants was held, and the Technical Panels for the Glossary, Fruit Flies and Forest Quarantine had all met. The SPTA meeting was held in October 2009 during which the SPTA discussed prioritization of standards, and proposed two changes in priority for topics.

55. The Secretariat pointed out that member comments on the six irradiation treatments for which formal objections had been received had been forwarded to the TPPT by the SC for review. In addition, member comments on cold treatments had been forwarded to the TPPT. The TPFQ has drafted a standard for international movement of wood and is working to finalize the draft for submission to the SC in May 2010. The TPFQ also continued developing a draft ISPM on criteria for treatments for wood packaging material, and has begun work on a draft ISPM on international movement of forest seeds. The TPFF had produced a draft ISPM on suppression and eradication programmes for fruit flies.

X. Adjustments to the standard setting work programme

56. The SC discussed the balance between concept and specific ISPMs, as requested by the CPM[14]. The Secretariat noted that existing standards are primarily concept standards, but that the majority of standards under development now are considered to be specific standards. The SC expressed its appreciation to the Secretariat for this information.

57. The Secretariat provided recommendations for the names of experts for an expert working group for the topic on import of plant breeding material for scientific research, education or other specific use. The SC agreed to these experts. It was also noted that the Secretariat will put out a call for experts for two working groups: another call for experts on soil and growing media as too few qualified nominations were received, as well as a call for experts on the topic of the movement of used machinery and equipment. It was also noted that one member of the TPG had

[13] 2009-SC-Nov-21
[14] 2009-SC-Nov-25

stepped down, and therefore the Secretariat would also call for nominations for another expert to serve on the TPG.

58. In discussing what new topics should be added to the work programme[15], it was noted that the TPG recommended that the SC consider that certain standards should be revised (ISPM Nos. 2, 11 and 21 together and ISPM Nos. 4, 6, 8 and 18 separately). It was also noted that the SPTA had reviewed new topics for the standard setting work programme and provided recommendations to the SC in regard to strategic directions for standard setting[16]. In particular, the SPTA recommended that, in determining priorities for the development of new standards, the SC should:

    - attempt to cover all high risk pathways
    - develop treatments for commodity groups that are broadly applicable and useable
    - endeavor to ensure that topics (especially for treatments) are added considering the long term needs
    - give high consideration to the revision of at least one previously adopted standard each year to ensure continuous and timely updating.
    - not add topics that are already generally covered by other topics on the work programme (or adopted ISPMs).

59. The SC discussed the proposal by the SPTA that two topics be changed in priority. A few members suggested that the topic of systems for authorizing phytosanitary activities remain a high priority instead of being moved to normal priority, as had been suggested by the SPTA. Other members felt that the topic should be made a normal priority as suggested by the SPTA. The SC agreed to the recommendations from the SPTA that the topics systems for authorizing phytosanitary activities and pre-clearance for regulated articles be changed to normal priority and the proposed changes will be submitted to the CPM for its approval.

60. The SC noted that twenty-one submissions for sixteen new topics had been submitted. The Secretariat had prepared a summary of these proposals, but the SC requested that in the future, the original proposals should be posted on the IPP for SC for consideration. It was also noted that proposed revisions of existing ISPMs are considered additions to the work programme if the SC agrees to add these revisions to the work programme. The TPG indicated it would be available to participate in the revision of standards on the work programme, if requested by the SC and the Secretariat. It was noted that the international advisory group on PRA had indicated the need for revisions of ISPMs No. 2, 11 and 21 but also indicated there was no urgency. The SC suggested that the revision of these ISPMs could be addressed at a later date as the changes were not urgent.

61. The SC discussed the issue of the international movement of seed being added to the work programme. Some members felt this topic should be addressed in the work programme as soon as possible. In particular, measures to mitigate risk associated with the movement of seed should be addressed by an expert working group. It was noted that if the topic is added to the work programme, a steward would need to be appointed. One member expressed concern about moving forward with the topic for the international movement of seed before the revision of ISPM 12 is completed, especially in regard to re-exports.

62. The SC agreed to recommend to the CPM that the topic of international movement of seed be added to the work programme. It was noted that when the specification for this topic is developed, it should take into account how re-export issues are handled in the revision of ISPM No. 12. The SC also recommended that the revisions of ISPM Nos. 4, 6 and 8 be considered for addition to the work programme.

63. It was noted that the TPFF has proposed to work on a new topic on establishment and maintenance of regulated areas upon outbreak detection in fruit fly free areas. In addition, the TPFQ has

[15] 2009-SC-Nov-22
[16] 2009-SC-Nov-23

proposed one new topic for biological control for forest pests to the work programme. The steward for the TPPT noted that the SC had agreed to another call for cold treatments that had already been submitted but suggested that additional topics could be added to the work programme. The steward further suggested that phytosanitary treatments for soil and growing media could be added. The SC agreed to add all of these topics.

64. The SC discussed appointing stewards to existing topics[17]. The SC appointed new stewards to the technical panel on pest free areas and systems approaches for fruit flies and management of phytosanitary risks in the international movement of wood. Stewards were also identified for the revisions of ISPM Nos. 4, 6 and 8, the international movement of seed and for establishment and maintenance of regulated areas upon outbreak detection in fruit fly free areas (Appendix 12).

XI. Agenda items not addressed at May 2009 SC Meeting

65. The SC discussed issues related to electronic communication for SC business[18]. The issues include selection of experts, approval of explanatory documents, finalizing specifications, adjustment of stewards and deciding on other tasks as appropriate. The SC discussed what type of work could be handled electronically outside of the meeting. The SC considered that development of specifications via electronic means could be done partially through electronic means, but that discussion in the SC is also valuable. The length of time for responses was changed from two weeks as previously agreed to three weeks. The SC agreed to these new procedures (Appendix 13).

66. The SC discussed the proposal regarding classification of comments according to technical, substantive, editorial and translation categories. The SC decided to have a discussion on this issue via email and to make a decision regarding this issue at the next SC meeting (May 2010).

67. The SC discussed the issue of liaison with FAO country representatives to help ensure full participation by experts in IPPC standard setting groups[19]. Members of the SC agreed with the document and appreciated the information contained therein. The SC modified slightly and then accepted the document (Appendix 14).

XII. Discussion paper on draft ISPM preclearance for regulated articles

68. The Secretariat noted that a final decision was needed with regard to the draft ISPM on preclearance for regulated articles[20]. It was recommended by a small group in the May 2009 SC meeting that the original working group meet electronically to discuss this issue. It was agreed that any SC members that had comments on the preclearance document to forward those comments to the steward and agreed that the expert working group could meet electronically.

XIII. Review of standard setting calendar

69. The SC noted the IPPC standard setting calendar[21].

XIV. Date and venue of the next SC and SC-7 meetings

70. The next SC meeting will be 26-30 April 2010, and the next SC-7 meeting will be 3-7 May, 2010, both to take place in Rome, Italy.

XV. Demonstration new IPP website

[17] 2009-SC-Nov-16
[18] 2009-SC-May-34
[19] 2009-SC-May-35
[20] 2009-SC-Nov-19
[21] 2009-SC-Nov-26 Rev.1

71. During the meeting, the Secretariat introduced the new IPP website to the SC members and conducted some user testing. The SC thanked the Secretariat for providing the demonstration.

XVI. Agenda items deferred to future SC Meeting

72. The Secretariat informed the SC that several items had been deferred previously and would be deferred further. This included agenda items 8.2, 8.3, 8.4, 11.1, 11.4, 11.5, and document 51 from the May SC meeting on techniques for electronic communication. A paper submitted by an SC member on types of comments was also deferred to a later date.

XVII. Evaluation of meeting process

73. The SC evaluated the meeting process. Members proposed ways to improve the meeting process in the future. Some members noted that the SC should spend more time developing better quality standards. A member suggested and several agreed that less time should be spent editing and correcting text (e.g. addressing minor editorial issues). Some members also suggested that editing could be done by small groups rather in the plenary. In the interest of holding more efficient meetings, it was suggested that the Chair, at his discretion, could limit some protracted discussions. Additional suggestions from members included:

- having more interpretation sessions and working more hours.
- making time to discuss strategic topics.
- making specification submissions and member comments available in the restricted work area on the IPP.
- obtaining better support from FAO as well as AGP/AGPP.

XVIII. Adoption of the report

74. The report was adopted.

XIX. Close

75. The meeting was closed. The Chair expressed his appreciation to the members of the SC for their hard work, and the Secretariat. The SC expressed its appreciation to the Chair of the SC and to the Secretariat.

AGENDA REV. 4

Commission on Phytosanitary Measures

Standards Committee

09 November – 13 November 2009
FAO Headquarters, Rome, Italy, German room, C-269
09 November start time 10:00
Daily schedule: 09:00-12:00 and 13:30-16:30
Coffee served outside the room at: 10:15 and 15:15

AGENDA ITEM	DOCUMENT
I. Opening of the meeting	--
I. Adoption of the agenda (SC Chair)	2009-SC-Nov-01 Rev. 2
1. Documents list (Secretariat)	2009-SC-Nov-02
2. List of participants (Secretariat)	2009-SC-Nov-03 Rev. 1
3. Local Information (Secretariat)	2009-SC-Nov-04
4. FAO flu guidelines	2009-SC-Nov-09
I. Election of the rapporteur (SC Chair)	--
/. Updates from other relevant bodies	--
1. Updates from the Bureau and SPTA meetings (June, October 2009)	2009-SC-Nov-23
2. Updates from the Secretariat (June – October 2009)	2009-SC-Nov-24
/. Standards Committee and SC-7	--
1. Report of the SC May 2009 (SC Chair)	2009-SC-Nov-10
2. Summary of SC discussions/decisions by email (June-October 2009)	--
3. Report of the SC-7 May 2009 (SC-7 Chair)	2009-SC-Nov-11
I. Draft ISPMs for SC review for adoption by CPM	--
1. Fruit fly trapping [Steward: Walther Enkerlin]	
--Annex 1 to ISPM 26	2009-SC-Nov-05
--Appendix 1 to ISPM 26	2009-SC-Nov-06
--Specification No. 35: Fruit fly trapping	2009-SC-Nov-17
--Change to Annex 1 of ISPM 26 proposed by TPFF	2009-SC-Nov-20
2. Pest free potato (*Solanum spp.)* micropropagative material and minitubers for international trade [Steward: Jane Chard]	
--Appendix 3	2009-SC-Nov-07
--Specification No. 21: Pest free potato micropropagative material and minitubers for international trade	2009-SC-Nov-08 2009-SC-Nov-18
3. Review of recommendations from the TPG for consistency [Steward: John Hedley]	
--TPG Meeting report	2009-SC-Nov-30
Standards reviewed for consistency include: --ISPM No. 03 (2005): Guidelines for the export, shipment, import and	2009-SC-Nov-27

	release of biological control agents and other beneficial organisms'	
	--ISPM No. 05 (2007): Glossary of phytosanitary terms	
	- Supplement No. 1 (2001): Guidelines on the interpretation and application of the concept of official control for regulated pests	
	-- ISPM No. 08: Determination of pest status in an area	
	--ISPM No. 09: Guidelines for pest eradication programmes	
	--ISPM No. 10: Requirements for the establishment of pest free places of production and pest free production sites	
	--ISPM No. 13: Guidelines for the notification of non-compliance and emergency action	
	-- ISPM No. 14: The use of integrated measures in a systems approach for pest risk management	
	--ISPM No. 22: Requirements for the establishment of areas of low pest prevalence	
	4. Beneficial Organism	
	--Amendment to ISPM No. 5: Proposed deletion of old term and definition of Beneficial organism	2009-SC-Nov-28
	--TPG responses to member comments	2009-SC-Nov-29
	5. Post-entry quarantine stations	
	-- Draft revised by the steward	2009-SC-Nov-32
	-- Summary of member comments	2009-SC-Nov-33
	-- Compiled member comments with steward responses	2009-SC-Nov-31
I.	**Draft specifications for review of member comments & approval by SC**	--
	1. Stored Products [Steward: Safwat A. El Haddad]	2009-SC-Nov-35
I.	**Draft specifications for approval for member consultation**	--
	1. Minimizing pest movement by containers in international trade [High priority -- Steward: Ebbe Nordbo]	2009-SC-Nov-12
	--Discussion paper	2009-SC-May-41
	2. Systems for authorizing phytosanitary activities [Normal Priority -- Steward: Marie-Claude Forest]	2009-SC-Nov-13
	3. Handling and disposal of waste moved internationally in conveyances [Normal priority -- Steward: David Porritt]	2009-SC-Nov-14
	4. Status update other specifications [Relevant stewards]	2009-SC-Nov-15
ζ.	**Update on the standard setting work programme**	2009-SC-Nov-21
ζ.	**Adjustments to the standard setting work programme**	--
	1. Prioritization of the standard setting work programme	2009-SC-Nov-21
	2. Review balance between concept and specific standards as requested by CPM-4	2009-SC-Nov-25
	3. Review of submissions of new topics for the standard setting work programme from the 2009 biennial call for topics	2009-SC-Nov-22
	4. Adjustments to stewards	2009-SC-Nov-16
I.	**Agenda items not addressed at May 2009 SC Meeting**	--
	1. Categorization of commodities	2009-SC-May-43 2009-SC-May-52 2009-SC-May-54
	2. SC electronic communications	2009-SC-May-34
	3. SC liaison with FAO regional groups	2009-SC-May-35
	4. Consultant's report on reorganization of ISPMs with attachments	2009-SC-May-31 2009-SC-May 31a 2009-SC-May 31b
	5. Proposal for technical manual	2009-SC-May-15
I.	**Discussion paper on draft ISPM preclearance for regulated articles** [Steward:Mike Holtzhausen]	2009-SC-Nov-19

I.	**Review of standard setting calendar**	2009-SC-Nov-26-Rev01
/.	**Date and venue of the next SC and SC-7 meetings**	--
/.	**Demonstration new IPP website**	--
I.	**Agenda items deferred to future SC Meeting**	--
I.	**Evaluation of meeting process**	--
I.	**Adoption of the report**	--
ζ.	**Close**	--

Commission on Phytosanitary Measures
Standards Committee
09 November – 13 November 2009
FAO Headquarters, Rome, Italy, German room, C-269 (Start time: 10:00)

DOCUMENTS LIST

DOCUMENT NUMBER	AGENDA ITEM	DOCUMENT TITLE	LEVEL OF ACCESS	DATE POSTED / DISTRIBUTED
2009-SC-Nov-01	2.1	Provisional agenda	CPs, RPPOs and SC	04-11-2009
2009-SC-Nov-02	2.2	Documents list	CPs, RPPOs and SC	04-11-2009
2009-SC-Nov-03-Rev.1	2.3	Participants list	CPs, RPPOs and SC	21-10-2009
2009-SC-Nov-04	2.4	Local information	CPs, RPPOs and SC	30-07-2009
2009-SC-Nov-05	6.1	Draft ISPM Fruit Fly Trapping, Annex 1	CPs, RPPOs and SC	03-07-2009
2009-SC-Nov-06	6.1	Draft ISPM Fruit Fly Trapping, Appendix 1	CPs, RPPOs and SC	03-07-2009
2009-SC-Nov-07	6.2	Draft ISPM potato micropropagative material.	CPs, RPPOs and SC	11-09-2009
2009-SC-Nov-08	6.2	Draft ISPM potato micropropagative material –Appendix 3	CPs, RPPOs and SC	11-09-2009
2009-SC-Nov-09	2.5	FAO flu guidelines	CPs, RPPOs and SC	02-10-2009
2009-SC-Nov-10	5.1	Report of the May SC 2009	Not restricted (public)	02-10-2009
2009-SC-Nov-11	5.3	Report of the May SC-7 2009	Not restricted (public)	05-10-2009
2009-SC-Nov-12	8.1	Draft specification: Minimizing pest movement by containers in international trade	CPs, RPPOs and SC	05-10-2009
2009-SC-May-41	8.1	Discussion paper on draft specification: Minimizing pest movement by containers in international trade	SC Only	05-10-2009
2009-SC-Nov-13	8.2	Draft specification: Systems for authorizing phytosanitary activities	CPs, RPPOs and SC	05-10-2009
2009-SC-Nov-14	8.3	Draft specification: Handling and disposal of waste moved internationally in conveyances	CPs, RPPOs and SC	05-10-2009
2009-SC-Nov-15	8.4	Status update on specifications by relevant stewards	CPs, RPPOs and SC	05-10-2009
2009-SC-Nov-16	10.4	Stewards of Technical Panels and ISPMs	SC only	13-10-2009

DOCUMENT NUMBER	AGENDA ITEM	DOCUMENT TITLE	LEVEL OF ACCESS	DATE POSTED / DISTRIBUTED
2009-SC-Nov-17	6.1	Specification No. 35: Fruit fly trapping	CPs, RPPOs and SC	05-10-2009
2009-SC-Nov-18	6.2	Specification No. 21: Pest free potato micropropagative material and minitubers for international trade	CPs, RPPOs and SC	05-10-2009
2009-SC-Nov-19	12.0	Discussion Paper on draft ISPM *Preclearance for regulated articles*	SC only	06-10-2009
2009-SC-Nov-20	6.1	Change to draft ISPM *Fruit fly trapping* proposed by the TPFF	SC only	06-10-2009
2009-SC-May-43 2009-SC-May-52 2009-SC-May-54	11.1	Categorization of commodities	SC only	07-10-2009
2009-SC-May-51 2009-SC-May-34	11.2	SC electronic communications	SC only	07-10-2009
2009-SC-May-35	11.3	SC liaison with FAO regional groups	SC only	07-10-2009
2009-SC-May-31 2009-SC-May 31a 2009-SC-May 31b	11.4	Consultant's report on reorganization of ISPMs with attachments	SC only	07-10-2009
2009-SC-May-15	11.5	Proposal for technical manual	SC only	07-10-2009
2009-SC-Nov-16	10.4	List Stewards	SC only	13-10-2009
2009-SC-Nov-21	9	Update IPPC work programme	CPs, RPPOs and SC	13-10-2009
2009-SC-Nov-22	9.2	Review of submissions of new topics for the standard setting work programme	SC only	22-10-2009
2009-SC-Nov-23	4.1	Updates from the Bureau and SPTA meetings	CPs, RPPOs and SC	21-10-2009
2009-SC-Nov-24	4.2	Updates from the Secretariat	SC only	22-10-2009
2009-SC-Nov-25	10.2	Review balance between concept and specific standards	SC only	22-10-2009
2009-SC-Nov-21	10.1	Prioritization of the standard setting work programme	CPs, RPPOs and SC	21-10-2009
2009-SC-Nov-26-Rev01	13	Review of the standard setting calendar	CPs, RPPOs and SC	12-11-2009
2009-SC-Nov-27	6.3	Review of recommendations from the TPG for consistency	CPs, RPPOs and SC	22-10-2009
2009-SC-Nov-28	6.4	Amendment to ISPM No. 5: Proposed deletion of old term and definition of Beneficial organism	CPs, RPPOs and SC	23-10-2009
2009-SC-Nov-29	6.4	TPG responses to member comments	SC only	23-10-2009
2009-SC-Nov-30	6.3	TPG June Meeting Report	CPs, RPPOs and SC	26-10-2009

DOCUMENT NUMBER	AGENDA ITEM	DOCUMENT TITLE	LEVEL OF ACCESS	DATE POSTED / DISTRIBUTED
2009-SC-Nov-31	6.5	Compiled comments on the Draft ISPM on Post entry Quarantine Stations with steward responses	SC only	29-10-2009
2009-SC-Nov-32	6.5	Draft ISPM on Post entry Quarantine Stations with tracked changes with steward responses	SC only	29-10-2009
2009-SC-Nov-33	6.5	Summary of steward responses to Member Comments on the Draft ISPM on Post entry Quarantine Stations	SC only	29-10-2009
2009-SC-Nov-34	N/A	Classification of member comments	SC only	12-11-2009
2009-SC-Nov-35 Rev01	7.1	Draft specification: Stored Products	SC only	13-11-2009

Summary of SC decisions by email May – November 2009

The SC decided:

- that Mr Nordbo had been selected as a new member of the Technical Panel on the Glossary (TPG).
- that comments compiled for the draft diagnostic protocol for *Thrips palmi* under the special process should be sent through the steward to the TPDP.

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

DRAFT STANDARD

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

(200-)

Date of this document	12 December 2009
Document category	Draft ISPM
Current document stage	SC November 2009 recommended for adoption by CPM-5; edited and formatted in new template
Origin	Work programme topic: Export certification for potato minitubers and micropropagative material
Major stages	Specification No. 21, May 2004. Member consultation (regular process) June 2008

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INTRODUCTION

Scope

This standard provides guidance on the production, maintenance and phytosanitary certification of pest free potato (S*olanum 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. 2009. *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 used in the present standard can be found in ISPM 5:2009.

For the purpose of member consultation, this section also contains terms or definitions that are new in the present draft standard. Once this standard has been adopted, these new terms and definitions will be transferred into ISPM No. 5, and will not appear in the standard itself.

potato micropropagative material	**Plants *in vitro*** of tuber-forming *Solanum* spp.
minituber	A tuber produced from potato micropropagative material in pest-free media 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 specific phytosanitary measures 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 pest free candidate plants 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 material 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 audited by the NPPO. In addition, inspections by the NPPO should ensure that the potato micropropagative material and minitubers are free from the regulated pests. 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 (usually within a seed potato certification scheme) may 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. Pest freedom 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. The pests covered by a specific scheme may not always meet all of the phytosanitary requirements of importing countries.

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 measures in the facility meets its 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 auditing the phytosanitary aspects of these facilities and of the related seed potato propagation system.

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

The importing country should, on the basis of the above-mentioned PRAs, establish and update regulated pest lists. Guidance on regulated pest lists is provided in ISPM 19:2003. 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 notify NPPOs of exporting countries.

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 (as described in ISPM 14:2002).

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 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.

In this standard potato 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 is referred to as pest free potato micropropagative material.

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 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 candidate material is determined to be infested it will normally be disposed of. However, for certain types of regulated pests, it may be feasible, at the discretion of the NPPO, for officially recognized techniques (e.g. meristem tip culture, thermotherapy) to be used in combination with conventional micropropagation to eliminate the pest from the candidate material, 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 material 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 material should be authorized 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:

- prohibit 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.

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
- scheduled audit tests on the material maintained.

3.4 Additional specifications for potato micropropagation facilities and potato micropropagative material

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 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 plants 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 measures should be required. However, additional measures may 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. 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.

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 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 by the NPPO of the exporting country to ensure compliance with the procedures and maintenance of the pest free status of the plants.

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 inspected by the NPPO to ensure compliance with the procedures and that the micropropagative material meets the importing country requirements for freedom from the regulated pests.

The potato minituber production facility, relevant records, the growing crop, and the minitubers should be inspected by the NPPO to ensure that the minitubers are free from the regulated pests.

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 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 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 microbiological, serological, molecular, bioassay and pathogenicity tests, and interpreting the results
- adequate and appropriate equipment to conduct microbiological, serological, molecular and bioassay tests
- 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 for test results.

This annex is a prescriptive part of the standard.

ANNEX 2: Additional specifications for potato micropropagation facilities

In addition to the requirements in section 3, the following specifications 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 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.

The presence and effectiveness of the above and any other requirements should be verified during the audits described in section 7 of the main text of this standard.

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.

The presence and effectiveness of the above should be verified during the audits described in section 7 of the main text of this standard.

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

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

Please note that the following list of pests should not be used without technical justification by PRA.

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 and *Pectobacterium* species (formerly *Erwinia* species) *Dickeya* spp. *P. atrosepticum* *P. carotovorum* subsp. *carotovorum*		
Ralstonia solanacearum		
PHYTOPLASMAS		
e.g. purple top, stolbur		

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

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

Please note that the following list of pests should not be used without technical justification by PRA.

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.

Fungi

- *Angiosorus (Thecaphora) solani* Thirumalachar & M.J. O'Brien) Mordue
- *Fusarium* spp.
- *Phytophthora erythroseptica* Pethybr. var. *erythroseptica*
- *P. infestans* (Mont.) de Bary
- *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*

Nematodes

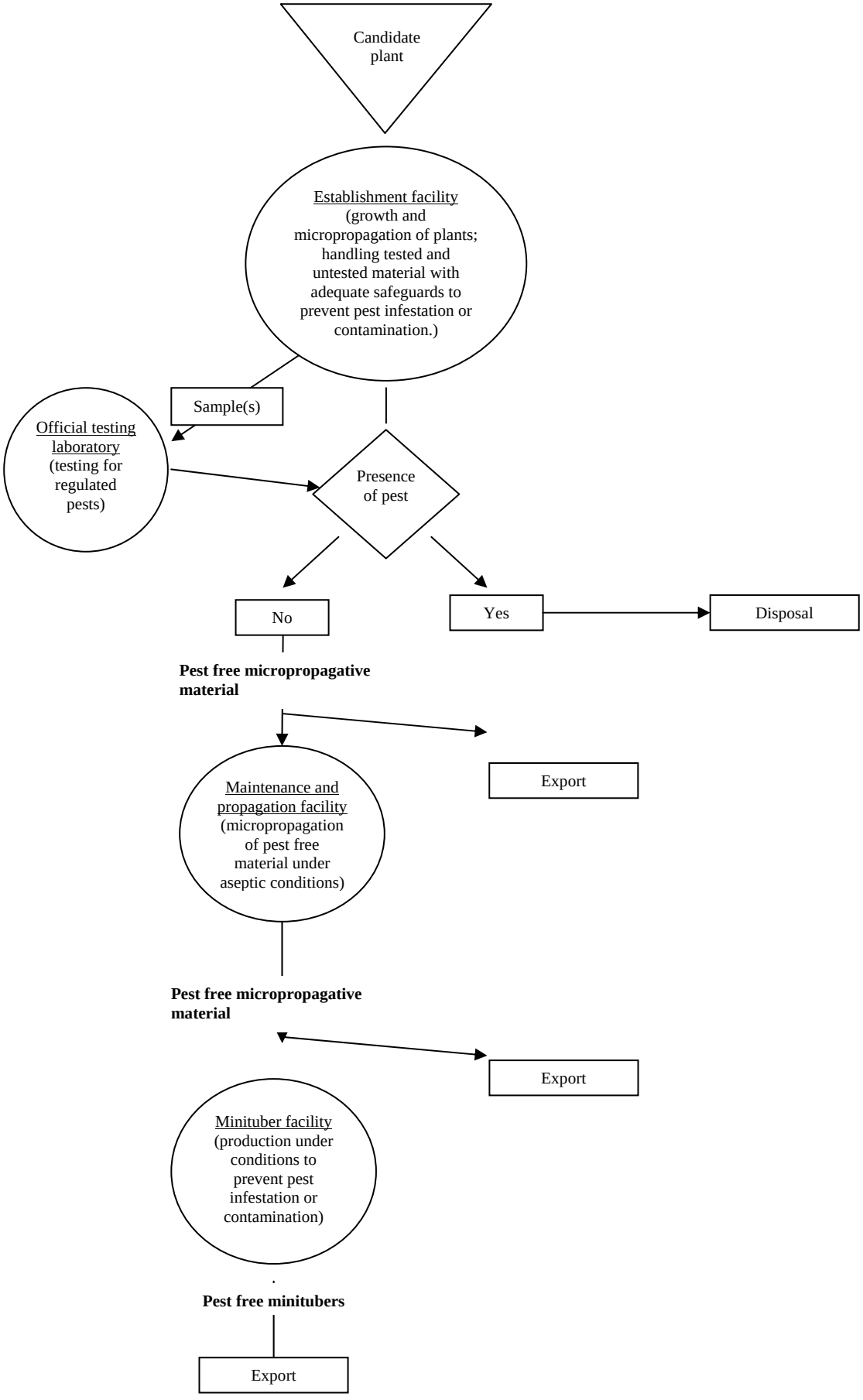
- *Ditylenchus destructor* (Thorne)
- *D. dipsaci* (Kühn) Filipjev
- *Globodera pallida* (Stone) Behrens
- *G. rostochiensis* (Wollenweber) Skarbilovich
- *Meloidogyne* spp. Göldi
- *Nacobbus aberrans* (Thorne) Thorne & Allen

Protozoa

- *Spongospora subterranea* (Wallr.) Lagerh.

This appendix 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



NTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

DRAFT APPENDIX to ISPM 26:2006

FRUIT FLY TRAPPING

(201-)

Date of this document	15 December 2009
Document category	Draft Appendix 1 to ISPM 26:2006
Current document stage	SC November 2009 recommended for adoption by CPM-5; edited and formatted in new template; revised
Origin	Work programme topic: Trapping procedures for fruit flies (Tephritidae)
Major stages	Specification No. 35, May 2006. Member consultation, 2008
Notes	It is intended that, after adoption of this standard, Appendix 1 of ISPM 26 will be deleted, the annexes and appendices will be renumbered, and the references in the text of ISPM 26 will be adjusted. SC-7 May 2009 recommended that the draft annex on fruit fly trapping be separated into two documents – one to become an annex to ISPM 26, the other to become an appendix to ISPM 26. SC November 2009 recommended the documents be recombined as a single appendix.

CONTENTS

APPENDIX 1: Fruit fly trapping

APPENDIX 1: Fruit fly trapping

This appendix provides detailed information for trapping fruit fly species (Tephritidae) of economic importance under different pest situations. Specific trapping systems should be used depending on the technical feasibility, the species of fruit fly and the phytosanitary status of the delimited areas, which can be either an infested area, an area of low pest prevalence (FF-ALPP), or a pest free area (FF-PFA). The information in this appendix can be used by National Plant Protection Organizations (NPPOs) to develop FF-PFA and FF-ALPP in line with guidance provided in other ISPMs related to fruit flies. It describes the most widely used trapping systems, including materials such as traps and attractants, trapping densities and delimiting surveys, as well as procedures including evaluation, data recording and analysis.

In cases where a fruit fly trapping programme is intended to be part of an export programme, the exporting country should check with the importing country to determine if the trapping programme meets the specific phytosanitary requirements of that country.

1. Pest Situations and Survey Types

There are five pest situations where surveys may be applied:

A. Pest present without control. The pest population is present but not subject to any control measures.

B. Pest present under suppression. The pest population is present and subject to control measures. Includes FF-ALPP.

C. Pest present under eradication. The pest population is present and subject to control measures.

D. Pest absent and FF-PFA being maintained. The pest is absent (e.g. eradicated, no pest records, no longer present) and measures to maintain pest absence are applied.

E. Pest transient. Pest actionable, under surveillance and actionable, under eradication.

The three types of trapping surveys and corresponding objectives are:

- **monitoring surveys**, to verify the characteristics of the pest population
- **delimiting surveys**, to establish the boundaries of an area considered to be infested by or free from the pest
- **detection surveys**, to determine if the pest is present in an area.

Monitoring surveys are necessary in the first three situations (A, B and C) to verify the characteristics of the pest population before the initiation or during the application of suppression and eradication measures to verify the population levels and to evaluate the efficacy of the control measures. Delimiting surveys are applied to determine the boundaries of an established FF-ALPP and as part of a corrective action plan when the pest exceeds the established low prevalence levels (situation B) (ISPM 30:2008) or in an FF-PFA as part of a corrective action plan when a detection occurs (situation E) (ISPM 26:2006). Detection surveys are necessary to demonstrate pest absence (situation D) and to detect a possible entry of the pest into the FF-PFA (pest transient actionable) (ISPM 8:1998).

Additional information on how or when specific types of surveys should be applied can be found in other relevant standards dealing with specific topics such as pest status, eradication, pest free areas or areas of low pest prevalence.

2. Trapping Scenarios

Based on the status of the pest, there are two scenarios that may gradually progress towards the subsequent scenario:

- Pest present. Starting from an established population with no control (situation A), phytosanitary measures may be applied, and potentially lead toward an FF-ALPP (situation B), and or an FF-PFA (situation C).

- Pest absent. Starting from an FF-PFA (situation D), the pest status is either maintained or a detection occurs (situation E), where measures would be applied aimed at restoring the FF-PFA.

In each of these scenarios, the types of trapping surveys necessary would change over time based on the pest situation.

3. Trapping Systems – Materials

The effective use of traps in undertaking fruit fly surveys relies on the combined ability of the trap, attractant and killing agent to attract and capture target fruit fly species and then to kill and preserve them for effective identification, counting data collection and analysis. Trapping systems for fruit fly surveys use the following materials:

- attractants (pheromones, parapheromones and food attractants)
- killing agents in wet and dry traps (with physical or chemical action)
- devices for trapping.

A number of fruit fly species of economic importance and the attractants commonly used to attract them are presented in Table 1. Presence or absence of a species from this table does not indicate that pest risk analysis has been performed and in no way is it indicative of the regulatory status of a fruit fly species.

Table 1. A number of fruit fly species of economic importance and commonly used attractants

Scientific name	**Attractant**
Anastrepha fraterculus (Wiedemann)	Protein attractant (PA)
Anastrepha grandis (Macquart)	PA
Anastrepha ludens (Loew)	PA, 2C-1[1]
Anastrepha obliqua (Macquart)	PA, 2C-1[1]
Anastrepha serpentina (Wiedemann)	PA
Anastrepha striata (Schiner)	PA
Anastrepha suspensa (Loew)	PA, 2C-1[1]
Bactrocera carambolae (Drew & Hancock)	Methyl eugenol (ME)
Bactrocera caryeae (Kapoor)	ME
Bactrocera correcta (Bezzi)	ME
Bactrocera dorsalis (Hendel)[4]	ME
Bactrocera invadens (Drew, Tsuruta, & White)	ME, 3C[2]
Bactrocera kandiensis (Drew & Hancock)	ME
Bactrocera occipitalis (Bezzi)	ME
Bactrocera papayae (Drew & Hancock)	ME
Bactrocera philippinensis (Drew & Hancock)	ME
Bactrocera umbrosa (Fabricius)	ME
Bactrocera zonata (Saunders)	ME, 3C[2], ammonium acetate (AA)
Bactrocera cucurbitae (Coquillett)	Cuelure (CUE), 3C[2], AA
Bactrocera tryoni (Froggatt)	CUE
Bactrocera neohumeralis (Hardy)	CUE
Bactrocera tau (Walker)	CUE
Bactrocera citri (Chen) (*B. minax*, Enderlein)	PA
Bactrocera cucumis (French)	PA
Bactrocera jarvisi (Tryon)	PA
Bactrocera latifrons (Hendel)	PA

Scientific name	Attractant
Bactrocera oleae (Gmelin)	PA, ammonium bicarbonate (AC), Spiroketal
Bactrocera tsuneonis (Miyake)	PA
Ceratitis capitata (Wiedemann)	Trimedlure (TML), Capilure, PA, 3C[2], 2C-2[3]
Ceratitis cosyra (Walker)	PA, 3C[2], 2C-2[3]
Ceratitis rosa (Karsch)	TML, PA, 3C[2], 2C-2[3]
Dacus ciliatus (Loew)	PA, 3C[2], AA
Myiopardalis pardalina (Bigot)	PA
Rhagoletis cerasi (Linnaeus)	Ammonium salts (AS), AA, AC
Rhagoletis cingulata (Loew)	AS, AA, AC
Rhagoletis pomonella (Walsh)	butyl hexanoate (BuH), AS
Toxotrypana curvicauda (Gerstaecker)□	2-methyl-vinylpyrazine (MVP)

1 Two-component (2C-1) synthetic food attractant of ammonium acetate and putrescine, mainly for female captures.

2 Three-component (3C) synthetic food attractant, mainly for female captures (ammonium acetate, putrescine, trimethylamine).

3 Two-component (2C-2) synthetic food attractant of ammonium acetate and trimethylamine, mainly for female captures.

4 Taxonomic status of some listed members of the *Bactrocera dorsalis* complex is uncertain.

3.1 Attractants

3.1.1 Male specific

The most widely used attractants are pheromone or parapheromones that are male specific. The parapheromone trimedlure (TML) captures species of the genus *Ceratitis* (including *C. capitata* and *C. rosa*). The parapheromone methyl eugenol (ME) captures a large number of species of the genus *Bactrocera* (including *B. dorsalis, B. zonata, B. carambolae, B. invadens, B. philippinensis* and *B. musae*). The pheromone Spiroketal captures *B. oleae*. The parapheromone cuelure (CUE) captures a large number of other *Bactrocera* species, including *B. cucurbitae* and *B. tryoni*. Parapheromones are generally highly volatile, and can be used with a variety of traps. Examples are listed in Table 2a. Controlled-release formulations exist for TML, CUE and ME, providing a longer-lasting attractant for field use. It is important to be aware that some inherent environmental conditions may affect the longevity of pheromone and parapheromone attractants.

3.1.2 Female-biased

Female-specific pheromones/parapheromones are not usually commercially available (except, for example, 2-methyl-vinylpyrazine). Therefore, the female-biased attractants (natural, synthetic, liquid or dry) that are commonly used are based on food or host odours (Table 2b). Historically, liquid protein attractants have been used to capture a wide range of different fruit fly species. Liquid protein attractants capture both females and males. These liquid attractants are generally less sensitive than the parapheromones. In addition, liquid attractants capture high numbers of non-target insects.

Several food-based synthetic attractants have been developed using ammonia and its derivatives. This may reduce the number of non-target insects captured. For example, for capturing *C. capitata* a synthetic food attractant consisting of three components (ammonium acetate, putrescine and trimethylamine) is used. For capture of *Anastrepha* species the trimethylamine component may be removed. A synthetic attractant lasts approximately 4–10 weeks depending on climatic conditions, captures few non-target insects and captures significantly fewer male fruit flies, making this attractant suited for use in sterile fruit fly release programmes. New synthetic food attractant technologies are available for use, including the long-lasting three-component and two-component mixtures contained in the same patch, as well as the three components incorporated in a single cone-shaped plug (Tables 1 and 3).

In addition, because food-foraging female and male fruit flies respond to synthetic food attractants at the sexually immature adult stage, these attractant types are capable of detecting female fruit flies earlier and at lower population levels than liquid protein attractants.

Table 2a. Attractants and traps for male fruit fly surveys

Fruit fly species	Attractant and trap (see below for abbreviations)																									
	TML/CE											ME								CUE							
	CC	CH	ET	JT	LT	MM	ST	SE	TP	YP	VARs	CH	ET	JT	LT	MM	ST	TP	YP	CH	ET	JT	LT	MM	ST	TP	YP
Anastrepha fraterculus																											
Anastrepha ludens																											
Anastrepha obliqua																											
Anastrepha striata																											
Anastrepha suspensa																											
Bactrocera carambolae												x	x	x	x	x	x	x	x								
Bactrocera caryeae												x	x	x	x	x	x	x	x								
Bactrocera citri (B. minax)																											
Bactrocera correcta												x	x	x	x	x	x	x	x								
Bactrocera cucumis																											
Bactrocera cucurbitae																				x	x	x	x	x	x	x	x
Bactrocera dorsalis												x	x	x	x	x	x	x	x								
Bactrocera invadens												x	x	x	x	x	x	x	x								
Bactrocera kandiensis												x	x	x	x	x	x	x	x								
Bactrocera latifrons																											
Bactrocera occipitalis												x	x	x	x	x	x	x	x								
Bactrocera oleae																											
Bactrocera papayae												x	x	x	x	x	x	x	x								
Bactrocera philippinensis												x	x	x	x	x	x	x	x								
Bactrocera tau																				x	x	x	x	x	x	x	x
Bactrocera tryoni																				x	x	x	x	x	x	x	x
Bactrocera tsuneonis																											
Bactrocera umbrosa												x	x	x	x	x	x	x	x								
Bactrocera zonata												x	x	x	x	x	x	x	x								
Ceratitis capitata		x	x	x	x	x	x	x	x	x	x																
Ceratitis cosyra																											
Ceratitis rosa		x	x	x	x	x	x	x	x	x	x																
Dacus ciliatus																											
Myiopardalis pardalina																											
Rhagoletis cerasi																											

Table 2a *continued*

Fruit fly species	Attractant and trap (see below for abbreviations)																								
	TML/CE											ME								CUE							
	CC	CH	ET	JT	LT	MM	ST	SE	TP	YP	VARs	CH	ET	JT	LT	MM	ST	TP	YP	CH	ET	JT	LT	MM	ST	TP	YP
Rhagoletis cingulata																											
Rhagoletis pomonella																											
Toxotrypana curvicauda																											

Attractant abbreviations

TML	Trimedlure
CE	Capilure
ME	Methyl eugenol
CUE	Cuelure

Trap abbreviations

CC	Cook and Cunningham (C&C) trap
CH	ChamP trap
ET	Easy trap
JT	Jackson trap
LT	Lynfield trap
MM	Maghreb-Med or Morocco trap
ST	Steiner trap
SE	Sensus trap
TP	Tephri trap
VARs	Modified funnel trap
YP	Yellow panel trap

Table 2b. Attractants and traps for female-biased fruit fly surveys

Fruit fly species	Attractant and trap (see below for abbreviations)																								
	3C							2C-1					2C-2	PA			SK+AC		AS (AA, AC)				BuH			MVP
	ET	SE	MLT	OBDT	LT	MM	TP	ET	MLT	LT	MM	TP	MLT	ET	McP	MLT	CH	YP	RB	RS	YP	PALz	RS	YP	PALz	GS
Anastrepha fraterculus															x	x										
Anastrepha grandis															x	x										
Anastrepha ludens													x		x	x										
Anastrepha obliqua													x		x	x										
Anastrepha striata															x	x										
Anastrepha suspensa													x		x	x										
Bactrocera carambolae															x	x										
Bactrocera caryeae															x	x										
Bactrocera citri (B. minax)															x	x										
Bactrocera correcta															x	x										
Bactrocera cucumis															x	x										
Bactrocera cucurbitae			x												x	x										
Bactrocera dorsalis															x	x										
Bactrocera invadens			x												x	x										
Bactrocera kandiensis															x	x										
Bactrocera latifrons															x	x										
Bactrocera occipitalis															x	x										
Bactrocera oleae														x	x	x	x	x			x	x				
Bactrocera papayae															x	x										
Bactrocera philippinensis															x	x										
Bactrocera tau															x	x										
Bactrocera tryoni															x	x										
Bactrocera tsuneonis															x	x										
Bactrocera umbrosa															x	x										
Bactrocera zonata			x												x	x										
Ceratitis capitata	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x										
Ceratitis cosyra			x						x						x	x										
Ceratitis rosa		x	x						x						x	x										

Table 2b *continued*

Fruit fly species	Attractant and trap (see below for abbreviations)																								
	3C							2C-1					2C-2	PA			SK+AC		AS (AA, AC)				BuH			MVP
	ET	SE	MLT	OBDT	LT	MM	TP	ET	MLT	LT	MM	TP	MLT	ET	McP	MLT	CH	YP	RB	RS	YP	PALz	RS	YP	PALz	GS
Dacus ciliatus			x												x	x										
Myiopardalis pardalina															x	x										
Rhagoletis cerasi																			x	x	x	x	x	x	x	
Rhagoletis cingulata																					x	x		x	x	
Rhagoletis pomonella																			x		x	x	x			
Toxotrypana curvicauda																										x

Attractant abbreviations

3C	(AA+Pt+TMA)	AS	ammonium salts
2C-1	(AA+TMA)	AA	ammonium acetate
2C-2	(AA+Pt)	BuH	butyl hexanoate
PA	protein attractant	MVP	papaya fruit fly pheromone (2-methyl vinylpyrazine)
SK	Spiroketal	Pt	putrescine
AC	ammonium (bi)carbonate	TMA	trimethylamine

Trap abbreviations

CH	ChamP trap	McP	McPhail trap	RS	Red sphere trap
ET	Easy trap	MLT	Multilure trap	SE	Sensus trap
GS	Green sphere	OBDT	Open bottom dry trap	TP	Tephri trap
LT	Lynfield trap	PALz	Fluorescent yellow sticky "cloak" trap	YP	Yellow panel trap
MM	Maghreb-Med or Morocco trap	RB	Rebell trap		

Table 3. List of attractants and field longevity

Common name	Attractant abbreviations	Formulation	Field longevity[1] (weeks)
Parapheromones			
Trimedlure	TML	Polymeric plug	4–10
		Laminate	3–6
		Liquid	1–4
		PE bag	4-5
Methyl eugenol	ME	Polymeric plug	4–10
		Liquid	4–8
Cuelure	CUE	Polymeric plug	4–10
		Liquid	4–8
Capilure (TML plus extenders)	CE	Liquid	12–36
Pheromones			
Papaya fruit fly (*T. curvicauda*) (2-methyl-6-vinylpyrazine)	MVP	Patches	4–6
Olive Fly (spiroketal)	SK	Polymer	4–6
Food-based attractants			
Torula yeast/borax	PA	Pellet	1–2
Protein derivatives	PA	Liquid	1–2
Ammonium acetate	AA	Patches	4–6
		Liquid	1
		Polymer	2–4
Ammonium (bi)carbonate	AC	Patches	4–6
		Liquid	1
		Polymer	1–4
Ammonium salts	AS	Salt	1
Putrescine	Pt	Patches	6–10
Trimethylamine	TMA	Patches	6–10
Butyl hexanoate	BuH	Vial	2
Ammonium acetate Putrescine Trimethylamine	3C	Cone/patches	6–10
Ammonium acetate Putrescine Trimethylamine	3C	Long-lasting patches	18–26
Ammonium acetate Trimethylamine	2C-1	Patches	6–10
Ammonium acetate Putrescine	2C-2	Patches	6–10
Ammonium acetate Ammonium carbonate	AA/AC	PE bag w. alufoil cover	3–4

1 Based on half-life. Attractant longevity is indicative only. Actual timing should be supported by field testing and validation.

3.2 Killing and preserving agents

Traps retain attracted fruit flies through the use of killing and preserving agents. In some dry traps, killing agents are a sticky material or a toxicant. Some organophosphates may act as a repellent at higher doses. The use of insecticides in traps is subject to the registration and approval of the product in the respective national legislation.

In other traps, liquid is the killing agent. When liquid protein attractants are used, mix borax 3% concentration to preserve the captured fruit flies. There are protein attractants that are formulated with borax, and thus no additional borax is required. When water is used in hot climates, 10% propylene glycol is added to prevent evaporation of the attractant and to preserve captured flies.

3.3 Commonly used fruit fly traps

This section describes widely used fruit fly traps. The list of traps is not comprehensive; other types of traps may achieve equivalent results and may be used for fruit fly trapping.

Based on the killing agent, there are three types of traps commonly used:

- **Dry traps**. The fly is caught on a sticky material board or killed by a chemical agent. Some of the most widely used dry traps are Cook and Cunningham (C&C), ChamP, Jackson/Delta, Lynfield, open bottom dry trap (OBDT) or Phase IV, red sphere, Steiner and yellow panel/Rebell traps.
- **Wet traps**. The fly is captured and drowns in the attractant solution or in water with surfactant. One of the most widely used wet traps is the McPhail trap. The Harris trap is also a wet trap with a more limited use.
- **Dry or wet traps**. These traps can be used either dry or wet. Some of the most widely used are Easy trap, Multilure trap and Tephri trap.

Cook and Cunningham (C&C) trap

General description

The C&C trap consists of three removable creamy white panels, spaced approximately 2.5 cm apart. The two outer panels are made of rectangular paperboard measuring 22.8 cm × 14.0 cm. One or both panels are coated with sticky material (Figure 1). The adhesive panel has one or more holes which allow air to circulate through. The trap is used with a polymeric panel containing an olfactory attractant (usually trimedlure), which is placed between the two outer panels. The polymeric panels come in two sizes – standard and half panel. The standard panel (15.2 cm × 15.2 cm) contains 20 g of TML, while the half size (7.6 cm × 15.2 cm) contains 10 g. The entire unit is held together with clips, and suspended in the tree canopy with a wire hanger.

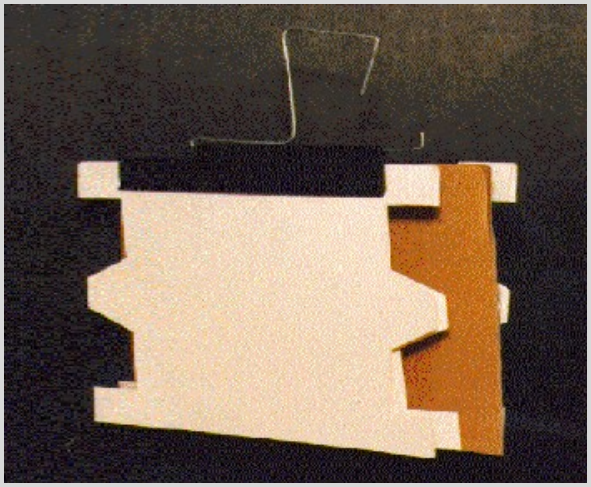


Figure 1. Cook and Cunningham (C&C) trap.

Use

As a result of the need for economic highly sensitive delimiting trapping of *C. capitata*, polymeric panels were developed for the controlled release of greater amounts of TML. This keeps the release rate constant for a longer period of time reducing hand labour and increasing sensitivity. The C&C trap with its multipanel construction has significant adhesive surface area for fly capture.

- For the species for which the trap is used, see Table 2a.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Table 4d.

ChamP trap (CH)

General description

The ChamP trap is a hollow, yellow panel-type trap with two perforated sticky side panels. When the two panels are folded, the trap is rectangular in shape (18 cm × 15 cm), and a central chamber is created to place the attractant (Figure 2). A wire hanger placed at the top of the trap is used to place it on branches.

Figure 2. ChamP trap.

Use

The ChamP trap can accommodate patches, polymeric panels, and plugs. It is equivalent to a Yellow panel/Rebell trap in sensitivity.

- For the species for which the trap is used, see Tables 2a and 2b).
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Table 4b and 4c.

Easy trap (ET)

General description

The Easy trap is a two-part rectangular plastic container with an inbuilt hanger. It is 14.5 cm high, 9.5 cm wide, 5 cm deep and can hold 400 ml of liquid (Figure 3). The front part is transparent and the rear part is yellow. The transparent front of the trap contrasts with the yellow rear enhancing the trap's ability to catch fruit flies. It combines visual effects with parapheromone and food-based attractants.

Figure 3. Easy trap.

Use

The trap is multipurpose. It can be used dry baited with parapheromones (e.g. TML, CUE, ME) or synthetic food attractants (e.g. 3C and both combinations of 2C attractants) and a retention system such as dichlorvos. It can also be used wet baited with liquid protein attractants holding up to 400 ml of mixture. When synthetic food attractants are used, one of the dispensers (the one containing putrescine) is attached inside to the yellow part of the trap and the other dispensers are left free.

The Easy trap is one of the most economic traps commercially available. It is easy to carry, handle and service, providing the opportunity to service a greater number of traps per man-hour than some other traps.

- For the species for which the trap is used, see Tables 2a and 2b.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Table 4d.

Fluorescent yellow sticky "cloak" trap (PALz)

General description

The PALz trap is prepared from fluorescent yellow plastic sheets (36 cm × 23 cm). One side is covered with sticky material. When setting up, the sticky sheet is placed around a vertical branch or a pole in a "cloaklike" manner (Figure 4), with the sticky side facing outward, and the back corners are fastened together with clips.

Figure 4. Fluorescent yellow sticky cloak trap.

Use

The trap uses the optimal combination of visual (fluorescent yellow) and chemical (cherry fruit fly synthetic bait) attractant cues. The trap is kept in place by a piece of wire, attached to the branch or pole. The bait dispenser is fastened to the front top edge of the trap, with the bait hanging in front of the sticky surface. The sticky surface of the trap has a capture capacity of about 500 to 600 fruit flies. Insects attracted by the combined action of these two stimuli are caught on the sticky surface.

- For the species for which the trap is used, see Table 2b.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Table 4e.

Jackson trap (JT) or Delta trap

General description

The Jackson trap is hollow, delta shaped and made of a white waxed cardboard. It is 8 cm high, 12.5 cm long and 9 cm wide (Figure 5). Additional parts include a white or yellow rectangular insert of waxed cardboard which is covered with a thin layer of adhesive known as "sticky material" used to trap fruit flies once they land inside the trap body; a polymeric plug or cotton wick in a plastic basket or wire holder; and a wire hanger placed at the top of the trap body.

Use

This trap is mainly used with parapheromone attractants to capture male fruit flies. The attractants used with JT/Delta traps are TML, ME and CUE. When ME and CUE are used a toxicant must be added.

Figure 5. Jackson trap or Delta trap.

For many years this trap has been used in exclusion, suppression and/or eradication programmes for multiple purposes, including population ecology studies (seasonal abundance, distribution, host sequence, etc.); detection and delimiting trapping; and surveying sterile fruit fly populations in areas subjected to sterile fly mass releases. JT/Delta traps may not be suitable for some environmental conditions (e.g. rain or dust).

The JT/Delta traps are some of the most economic traps commercially available. They are easy to carry, handle and service, providing the opportunity of servicing a greater number of traps per man-hour than some other traps.

- For the species for which the trap is used, see Table 2a.
- For attractants used and rebaiting (field longevity), see Tables 2a and 3.
- For use under different scenarios and recommended densities, see Table 4b and 4d.

Lynfield trap (LT)

General description

The conventional Lynfield trap consists of a disposable, clear plastic, cylindrical container measuring 11.5 cm high with a 10 cm diameter base and 9 cm diameter screw-top lid. There are four entry holes evenly spaced around the wall of the trap (Figure 6). Another version of the Lynfield trap is the Maghreb-Med trap also known as Morocco trap (Figure 7).

Figure 6. Lynfield trap.

Figure 7. Maghreb-Med trap or Morocco trap.

Use

The trap uses an attractant and insecticide system to attract and kill target fruit flies. The screw-top lid is usually colour-coded to the type of attractant being used (red, CAP/TML; white, ME; yellow, CUE). To hold the attractant a 2.5 cm screw-tip cup hook (opening squeezed closed) screwed through the lid from above is used. The trap uses the male-specific parapheromone attractants CUE, Capilure (CE), TML and ME.

CUE and ME attractants, which are ingested by the male fruit fly, are mixed with malathion. However, because CE and TML are not ingested by either *C. capitata* or *C. rosa*, a dichlorvos-impregnated matrix is placed inside the trap to kill fruit flies that enter.

- For the species for which the trap is used, see Table 2a.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Tables 4b and 4d.

McPhail (McP) trap type

General description

The conventional McPhail (McP) trap is a transparent glass or plastic, pear-shaped invaginated container. The trap is 17.2 cm high and 16.5 cm wide at the base and holds up to 500 ml of solution (Figure 8). The trap parts include a rubber cork or plastic lid that seals the upper part of the trap and a wire hook to hang traps on tree branches. A plastic version of the McPhail trap is 18 cm high and 16 cm wide at the base and holds up to 500 ml of solution (Figure 9). The top part is transparent and the base is yellow.

Figure 8. McPhail trap.

Use

For this trap to function properly it is essential that the body stays clean. Some designs have two parts in which the upper part and base of the trap can be separated allowing for easy service (rebaiting) and inspection of fruit fly captures.

This trap uses a liquid food attractant, based on hydrolysed protein or torula yeast/borax tablets. Torula tablets are more effective than hydrolysed proteins over time because the pH is stable at 9.2. The level of pH in the mixture plays an important role in attracting fruit flies. Fewer fruit flies are attracted to the mixture as the pH becomes more acidic.

To bait with yeast tablets, mix three to five torula tablets in 500 ml of water. Stir to dissolve tablets. To bait with protein hydrolysate, mix protein hydrolysate and borax (if not already added to the protein) in water to reach 5–9% hydrolysed protein concentration and 3% of borax.

The nature of its attractant means this trap is more effective at catching females. Food attractants are generic by nature, and so McP traps tend to also catch a wide range of other non-target tephritid and non-tephritid fruit flies in addition to the target species.

Figure 9. Plastic McPhail trap.

McP-type traps are used in fruit fly management programmes in combination with other traps. In areas subjected to suppression and eradication actions, these traps are used mainly to monitor female populations. Female catches are crucial in assessing the amount of sterility induced to a wild population in a sterile insect technique (SIT) programme. In programmes releasing only sterile males or in a male annihilation technique (MAT) programme, McP traps are used as a population detection tool by targeting feral females, whereas other traps (e.g. Jackson traps), used with male-specific attractants, catch the released sterile males, and their use should be limited to programmes with an SIT component. Furthermore, in fruit fly-free areas, McP traps are an important part of the non-indigenous fruit fly trapping network because of their capacity to capture fruit fly species of quarantine importance for which no specific attractants exist.

McP traps with liquid protein attractant are labour intensive. Servicing and rebaiting take time, and the number of traps that can be serviced in a normal working day is half that of some other traps described in this annex.

- For the species for which the trap is used, see Table 2b.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Tables 4a, 4b, 4d and 4e.

Modified funnel trap (VARs+)

General description

The modified funnel trap consists of a plastic funnel and a lower catch container (Figure 10). The top roof has a large (5 cm diameter) hole, over which an upper catch container (transparent plastic) is placed.

Use

Since it is a non-sticky trap design, it has a virtually unlimited catch capacity and very long field life. The bait is attached to the roof, so that the bait dispenser is positioned into the middle of the large hole on the roof. A small piece of matrix impregnated with a killing agent is placed inside both the upper and lower catch containers to kill fruit flies that enter.

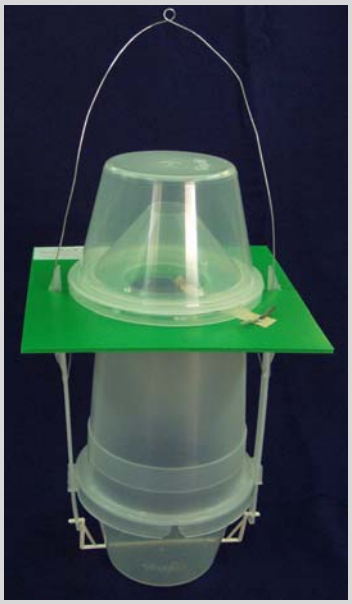


Figure 10. Modified funnel trap.

- For the species for which the trap is used, see Table 2a.

- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Table 4d.

Figure 11. Multilure trap.

Multilure trap (MLT)

General description

The Multilure trap (MLT) is a version of the McPhail trap described previously. The trap is 18 cm high and 15 cm wide at the base and can hold up to 750 ml of liquid (Figure 11). It consists of a two-piece plastic invaginated cylinder-shaped container. The top part is transparent and the base is yellow. The upper part and base of the trap separate, allowing the trap to be serviced and rebaited. The transparent upper part of the trap contrasts with the yellow base enhancing the trap's ability to catch fruit flies. A wire hanger, placed on top of the trap body, is used to hang the trap from tree branches.

Use

This trap follows the same principles as those of the McP trap. However, an MLT used with dry synthetic attractant is more efficient and selective than an MLT or McP trap used with liquid protein attractant. Another important difference is that an MLT with a dry synthetic attractant allows for a cleaner servicing and is much less labour intensive than a McP trap. When synthetic food attractants are used, dispensers are attached to the inside walls of the upper cylindrical part of the trap or hung from a clip at the top. For this trap to function properly it is essential that the upper part stays transparent.

When the MLT is used as a wet trap a surfactant should be added to the water. In hot climates 10% propylene glycol can be used to decrease water evaporation and decomposition of captured fruit flies.

When the MLT is used as a dry trap, a suitable (non-repellent at the concentration used) insecticide such as dichlorvos or a deltamethrin (DM) strip is placed inside the trap to kill the fruit flies. DM is applied to a polyethylene strip placed on the upper plastic platform inside the trap. Alternatively, DM may be used in a circle of impregnated mosquito net and will retain its killing effect for at least six months under field conditions. The net must be fixed on the ceiling inside the trap using adhesive material.

- For the species for which the trap is used, see Table 2b.
- For attractants used and rebaiting (field longevity), see Tables 2b and 3.
- For use under different scenarios and recommended densities, see Tables 4a, 4b, 4c and 4d.

Figure 12. Open bottom dry trap (Phase IV).

Open bottom dry trap (OBDT) or (Phase IV) trap

General description

This trap is an open-bottom cylindrical dry trap that can be made from opaque green plastic or wax-coated green cardboard. The cylinder is 15.2 cm high and 9 cm in diameter at the top and 10 cm in diameter at the bottom (Figure 12). It has a transparent top, three holes (each of 2.5 cm diameter) equally spaced around the wall of the cylinder midway between the ends, and an open bottom, and is used with a sticky insert. A wire hanger, placed on top of the trap body, is used to hang the trap from tree branches.

Use

A food-based synthetic chemical female biased attractant can be used to capture *C. capitata*. However, it also serves to capture males. Synthetic attractants for are attached to the inside walls of the cylinder. Servicing is easy because the sticky insert permits easy removal and replacement, similar to the inserts used in the JT. This trap is less expensive than the plastic or glass McP-type traps.

- For the species for which the trap is used, see Table 2b.
- For attractants used and rebaiting (field longevity), see Tables 2b and 3.
- For use under different scenarios and recommended densities, see Table 4d.

Red sphere trap (RS)

General description

The trap is a red sphere 8 cm in diameter (Figure 13). The trap mimics the size and shape of a ripe apple. A green version of this trap is also used. The trap is covered with a sticky material and baited with the synthetic fruit odour butyl hexanoate, which has a fragrance like a ripe fruit. Attached to the top of the sphere is a wire hanger used to hang it from tree branches.

Figure 13. Red sphere trap.

Use

The red or green traps can be used unbaited, but they are much more efficient in capturing fruit flies when baited. Fruit flies that are sexually mature and ready to lay eggs are attracted to this trap.

Many types of insects will be caught by these traps. It will be necessary to positively identify the target fruit fly from the non-target insects likely to be present on the traps.

- For the species for which the trap is used, see Table 2b.
- For attractants used and rebaiting (field longevity), see Tables 2b and 3.
- For use under different scenarios and recommended densities, see Table 4e.

Sensus trap (SE)

General description

The Sensus trap consists of a vertical plastic bucket 12.5 cm in high and 11.5 cm in diameter (Figure 14). It has a transparent body and a blue overhanging lid, which has a hole just underneath it. A wire hanger placed on top of the trap body is used to hang the trap from tree branches.

Figure 14. Sensus trap.

Use

The trap is dry and uses male-specific parapheromones or, for female-biased captures, dry synthetic food attractants. A dichlorvos block is placed in the comb on the lid to kill the flies.

- For the species for which the trap is used, see Tables 2a and 2b.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Table 4d.

Steiner trap (ST)

General description

The Steiner trap is a horizontal, clear plastic cylinder with openings at each end. The conventional Steiner trap is 14.5 cm long and 11 cm in diameter (Figure 15). Other versions of the Steiner traps are 12 cm long and 10 cm in diameter (Figure 16) and 14 cm long and 8.5 cm in diameter (Figure 17). A wire hanger, placed on top of the trap body, is used to hang the trap from tree branches.

Figure 15. Conventional Steiner trap.

Figure 16. Steiner trap version.

Figure 17. Steiner trap version.

Use

This trap uses the male-specific parapheromone attractants TML, ME and CUE. The attractant is suspended from the centre of the inside of the trap. The attractant may be a cotton wick soaked in 2–3 ml of a mixture of parapheromone or a dispenser with the attractant and an insecticide (usually malathion, dibrom or deltamethrin) as a killing agent.

- For the species for which the trap is used, see Table 2a.
- For attractants used and rebaiting (field longevity), see Tables 2a and 3.
- For use under different scenarios and recommended densities, see Tables 4b and 4d.

Tephri trap (TP)

General description

The Tephri trap is similar to a McP trap. It is a vertical cylinder 15 cm high and 12 cm in diameter at the base and can hold up to 450 ml of liquid (Figure 18). It has a yellow base and a clear top, which can be separated to facilitate servicing. There are entrance holes around the top of the periphery of the yellow base, and an invaginated opening in the bottom. Inside the top is a platform to hold attractants. A wire hanger, placed on top of the trap body, is used to hang the trap from tree branches.

Figure 18. Tephri trap.

Use

The trap is baited with hydrolysed protein at 9% concentration; however, it can also be used with other liquid protein attractants as described for the conventional glass McP trap or with the female dry synthetic food attractant and with TML in a plug or liquid as described for the JT/Delta and Yellow panel traps. If the trap is used with liquid protein attractants or with dry synthetic attractants combined with a liquid retention system and without the side holes, the insecticide will not be necessary. However, when used as a dry trap and with side holes, an insecticide solution (e.g. malathion) soaked into a cotton wick or other killing agent is needed to avoid escape of captured insects. Other suitable insecticides are dichlorvos or deltamethrin (DM) strips placed inside the trap to kill the fruit flies. DM is applied in a polyethylene strip, placed on the plastic platform inside the top of the trap. Alternatively, DM may be used in a circle of impregnated

mosquito net and will retain its killing effect for at least six months under field conditions. The net must be fixed on the ceiling of the inside of the trap using adhesive material.

- For the species for which the trap is used, see Tables 2a and 2b.
- For attractants used and rebaiting (field longevity), see Tables 2a and 3.
- For use under different scenarios and recommended densities, see Tables 4b and 4d.

Yellow panel trap (YP)/Rebell trap (RB)

General description

The Yellow panel (YP) trap consists of a yellow rectangular cardboard plate (23 cm × 14 cm) coated with plastic (Figure 19). The rectangle is covered on both sides with a thin layer of sticky material. The Rebell trap is a three-dimensional YP-type trap with two crossed yellow rectangular plates (15 cm × 20 cm) made of plastic (polypropylene) making them extremely durable (Figure 20). The trap is also coated with a thin layer of sticky material on both sides of both plates. A wire hanger, placed on top of the trap body, is used to hang it from tree branches.

Figure 19. Yellow panel trap.

Figure 20. Rebell trap.

Use

These traps can be used as visual traps alone and baited with TML, spiroketal or ammonium salts(ammonium acetate). The attractants may be contained in controlled-release dispensers such as a polymeric plug. The attractants are attached to the face of the trap. The attractants can also be mixed into the cardboard's coating. The two-dimensional design and greater contact surface make these traps more efficient, in terms of fly captures, than the JT and McPhail-type traps. It is important to consider that these traps require special procedures for transportation, submission and fruit fly screening methods because they are so sticky that specimens can be destroyed in handling. Although these traps can be used in most types of control programme applications, their use is recommended for the post-eradication phase and for fly-free areas, where highly sensitive traps are required. These traps should not be used in areas subjected to mass release of sterile fruit flies because of the large number of released fruit flies that would be caught. It is important to note that their yellow colour and open design allow them to catch other non-target insects including natural enemies of fruit flies and pollinators.

- For the species for which the trap is used, see Tables 2a and 2b.
- For attractants used and rebaiting (field longevity), see Tables 2 and 3.
- For use under different scenarios and recommended densities, see Tables 4b, 4c, 4d and 4e.

4. Trapping Procedures

4.1 Spatial distribution of traps

Trap layout will be guided by the purpose of the survey, the intrinsic characteristics of the area, the biological characteristics of the fruit fly and its interactions with its hosts, as well as the efficacy of the attractant and trap. In areas where continuous compact blocks of commercial orchards are present and in urban and suburban areas where hosts exist, traps are usually deployed in a grid system, which may have a uniform distribution.

In areas with scattered commercial orchards, rural areas with hosts and in marginal areas where hosts exist, trap networks are normally distributed along roads that provide access to host material.

In suppression and eradication programmes, an extensive trapping network should be deployed over the entire area that is subject to surveillance and control actions.

Trapping networks are also placed as part of early detection programmes for target fruit fly species. In this case traps are placed in high-risk areas such as points of entry, fruit markets, urban areas garbage dumps, as appropriate. This can be further supplemented by traps placed along roadsides to form transects and at production areas close to or adjacent to land borders, port of entries and national roads.

4.2 Trap deployment (placement)

Trap deployment involves the actual placement of the traps in the field. One of the most important factors of trap deployment is selecting an appropriate trap site. It is important to have a list of the primary, secondary and occasional fruit fly hosts, their phenology, distribution and abundance. With this basic information, it is possible to properly place and distribute the traps in the field, and it also allows for effective planning of a programme of trap relocation. Traps should be relocated according to the phenology of hosts.

When possible, pheromone traps should be placed in mating areas. Fruit flies normally mate in the crown of host plants or close by, selecting semi-shaded spots and usually on the upwind side of the crown. Other suitable trap sites are the eastern side of the tree which gets the sunlight in the early hours of the day, resting and feeding areas in plants that provide shelter and protect fruit flies from strong winds and predators. In specific situations trap hangers may need to be coated with an appropriate insecticide to prevent ants from eating captured fruit flies.

Protein traps should be deployed in shaded areas in host plants. In this case traps should be deployed in primary host plants during their fruit maturation period. In the absence of primary host plants, secondary host plants should be used. In areas with no host plants identified, traps should be deployed in plants that can provide shelter, protection and food to adult fruit flies.

Traps should be deployed in the middle to the top part of the host plant canopy, depending on the height of the host plant, and oriented towards the upwind side. Traps should not be exposed to direct sunlight, strong winds or dust. It is of vital importance to have the trap entrance clear from twigs, leaves and other obstructions such as spider webs to allow proper airflow and easy access for the fruit flies.

Placement of traps in the same tree baited with different attractants should be avoided because it may cause interference among attractants and a reduction of trap efficiency. For example, placing a *C. capitata* male-specific TML trap and a protein attractant trap in the same tree will cause a reduction of female capture in the protein traps because TML acts as a female repellent.

Traps should be relocated following the maturation phenology of the fruit hosts present in the area and biology of the fruit fly species. By relocating the traps it is possible to follow the fruit fly population throughout the year and increase the number of sites being checked for fruit flies.

4.3 Trap mapping

Once traps are placed in carefully selected sites at the correct density and distributed in an adequate array, the location of the traps must be recorded. It is recommended that the location of traps should be geo-referenced with the use of global positioning system (GPS) equipment. A map or sketch of the trap location and the area around the traps should be prepared.

The application of GPS and geographic information systems (GIS) in the management of trapping network has proved to be a very powerful tool. GPS allows each trap to be geo-referenced through geographical coordinates, which are then used as input information in a GIS.

In addition to GPS location data or in the event that GPS data is not available for trap locations, reference for the trap location should include visible landmarks. In the case of traps placed in host plants located in suburban and urban areas, references should include the full address of the property where the trap was placed. Trap reference should be clear enough to allow those servicing the traps, control teams and supervisors to find the trap easily.

A database or trapping book of all traps with their corresponding coordinates is kept, together with the records of trap services, rebaiting, trap captures etc. GIS provides high-resolution maps showing the exact location of each trap and other valuable information such as exact location of fruit fly detections, historical profiles of the geographical distribution patterns of the fruit flies, relative size of the populations in given areas and spread of the fruit fly population in case of an outbreak. This information is extremely useful in planning control activities, ensuring that bait sprays and sterile fruit fly releases are accurately placed and cost-effective in their application.

4.4 Trap servicing and inspection

Trap servicing intervals are specific to each trapping system and are based on the half-life of the attractant (see Table 3). Capturing fruit flies will depend, in part, on how well the trap is serviced. Trap servicing includes rebaiting and maintaining the trap in a clean and appropriate operating condition. Traps should be in a condition to consistently kill and retain in good condition any target flies that have been captured.

Attractants have to be used in the appropriate volumes and concentrations and replaced at the recommended intervals, as indicated by the manufacturer. The release rate of attractants varies considerably with environmental conditions. The release rate is generally high in hot and dry areas, and low in cool and humid areas. Thus, in cool climates traps may have to be rebaited less often than in hot conditions.

Inspection intervals (i.e. checking for fruit fly captures) should be adjusted according to the prevailing environmental conditions, pest situations and biology of fruit flies. The interval can range from one day up to 30 days. However, the most common inspection interval is seven days in areas where fruit fly populations are present and 14 days in fruit fly free areas. In the case of delimiting surveys inspection intervals may be more frequent, being in this case two to three days the most common interval.

Avoid handling more than one lure type at a time if more than one lure type is being used at a single locality. Cross-contamination between traps of different attractant types (e.g. Cue and ME) reduces trap efficacy and makes laboratory identification unduly difficult. When changing attractants it is important to avoid spillage or contamination of the external surface of the trap body or the ground. Attractant spillage or trap contamination would reduce the chances of fruit flies entering the trap. For traps that use a sticky insert to capture fruit flies, it is important to avoid contaminating areas in the trap that are not meant for capturing fruit flies with the sticky material. This also applies to leaves and twigs that are in the trap surroundings. Attractants, by their nature, are highly volatile and care should be taken when storing, packaging, handling and disposing of lures to avoid compromising the lure and operator safety.

The number of traps serviced per day per person will vary depending on type of trap, survey, environmental and topographic conditions and experience of the operators.

4.5 Trapping records

The following information should be included in order to keep proper trapping records as they provide confidence in the survey results: trap location, plant where the trap is placed, trap and attractant type, servicing and inspection dates, and target fruit fly capture. Any other information considered necessary can be added to the trapping records. Retaining results over a number of seasons can provide useful information on spatial changes in fruit fly population.

4.6 Flies per trap per day

Flies per trap per day (FTD) is a population index that indicates the average number of flies of the target species captured per trap per day during a specified period in which the trap was exposed in the field.

The function of this population index is to have a comparative measure of the size of the adult pest population in a given space and time.

It is used as baseline information to compare the size of the population before, during and after the application of a fruit fly control programme. The FTD should be used in all reports of trapping surveys.

The FTD is comparable within a programme; however, for meaningful comparisons between programmes, it should be based on the same fruit fly species, trapping system and trap density.

In areas where sterile fruit fly release programmes are in operation FTD is used to measure the relative abundance of the sterile and wild fruit flies.

FTD is obtained by dividing the total number of captured fruit flies by the product obtained from multiplying the total number of inspected traps by the average number of days the traps were exposed. The formula is as follows:

$$FTD = \frac{F}{T \times D}$$

where

F = total number of fruit flies

T = number of inspected traps

D = average number of days traps were exposed in the field.

5. Trap Densities

Establishing a trapping density appropriate to the purpose of the survey is critical and underpins confidence in the survey results. The trap densities need to be adjusted based on many factors including type of survey, trap efficiency, location (type and presence of host, climate and topography), pest situation and lure type. In terms of type and presence of hosts, as well as the risk involved, the following types of location may be of concern:

- production areas
- marginal areas
- urban areas
- points of entry (and other high-risk areas such as fruit markets).

Trap densities may also vary as a gradient from production areas to marginal areas, urban areas and points of entry. For example, in a pest free area, a higher density of traps is required at high-risk points of entry and a lower density in commercial orchards. Or, in an area where suppression is applied, such as in an area of low pest prevalence or an area under a systems approach where the target species is present, the reverse occurs, and trapping densities for that pest should be higher in the production field and decrease toward points of entry. Other situations such as high-risk urban areas should be taken into consideration when assessing trapping densities.

Tables 4a–4f show trap densities for various fruit fly species based on common practice. These densities have been determined taking into consideration research results, feasibility and cost effectiveness. Trap densities are also dependent on associated survey activities, such as the type and intensity of fruit sampling to detect immature stages of fruit flies. In those cases where trapping survey

programmes are complemented with equivalent fruit sampling activities, trap densities can be lower than the suggested densities shown in Tables 4a–4f.

The suggested densities presented in Tables 4a–4f have been made also taking into account the following technical factors:

- various survey objectives and pest situations
- target fruit fly species (Table 1)
- pest risk associated with working areas (production and other areas).

Within the delimited area, the suggested trap density should be applied in areas with a significant likelihood of capturing fruit flies such as areas with primary hosts and possible pathways (e.g. production areas versus industrial areas).

Table 4a. Trap densities for *Anastrepha* spp.

Trapping	**Trap type**[1]	**Attractant**	**Trap density/km^2** (2)			
			Production area	**Marginal**	**Urban**	**Points of entry**[3]
Monitoring survey, no control	MLT/McP	2C/PA	0.25–1	0.25–0.5	0.25–0.5	0.25–0.5
Monitoring survey for suppression	MLT/McP	2C/PA	2–4	1–2	0.25–0.5	0.25–0.5
Delimiting survey in an FF-ALPP after an unexpected increase in population	MLT/McP	2C/PA	3–5	3–5	3–5	3–5
Monitoring survey for eradication	MLT/McP	2C/PA	3–5	3–5	3–5	3–5
Detection survey in an FF-PFA to verify pest absence and for exclusion	MLT/McP	2C/PA	1–2	2–3	3–5	5–12
Delimitation survey in an FF-PFA after a detection in addition to detection survey	MLT/McP	2C/PA	20–50[4]	20–50	20–50	20–50

1 Different traps can be combined to reach the total number.
(2) Refers to the total number of traps.
3 Also other high-risk sites.
4 This range includes high-density trapping in the immediate area of the detection (core area) and decreasing towards the surrounding trapping zones.

Trap type		**Attractant**	
McP	McPhail trap	2C	(AA+Pt)
MLT	Multilure trap	PA	protein attractant

Table 4b. Trap densities for *Bactrocera* spp. responding to methyl eugenol (ME), cuelure (CUE) and food attractants[1] (PA = protein attractants)

Trapping	Trap type[2]	Attractant	Trap density/km^2 (3)			
			Production area	Marginal	Urban	Points of entry[4]
Monitoring survey, no control	JT/ST/TP/LT/MM/ MLT/McP/TP	ME/CUE/PA	0.5–1.0	0.2–0.5	0.2–0.5	0.2–0.5
Monitoring survey for suppression	JT/ST/TP/LT/MM/ MLT/McP/TP	ME/CUE/PA	2–4	1–2	0.25–0.5	0.25–0.5
Delimiting survey in an FF-ALPP after an unexpected increase in population	JT/ST/TP/MLT/LT/ MM/McP/YP	ME/CUE/PA	3–5	3–5	3–5	3–5
Monitoring survey for eradication	JT/ST/TP/MLT/LT/ MM/McP/TP	ME/CUE/PA	3–5	3–5	3–5	3–5
Detection survey in an FF-PFA to verify pest absence and for exclusion	CH/ST/LT/MM/ML T/McP/TP/ YP	ME/CUE/PA	1	1	1–5	3–12
Delimitation survey in a PFA after a detection in addition to detection survey	JT/ST/TP/MLT/LT/ MM/McP/YP	ME/CUE/PA	20–50[5]	20–50	20–50	20–50

1 Different traps can be combined to reach the total number.
(2) Refers to the total number of traps.
3 Also other high-risk sites.
4 This range includes high-density trapping in the immediate area of the detection (core area) and decreasing towards the surrounding trapping zones.

Trap type

CH	ChamP trap	McP	McPhail trap	ST	Steiner trap
JT	Jackson trap	MLT	Multilure trap	TP	Tephri trap
LT	Lynfield trap	MM	Maghreb-Med or Morocco	YP	Yellow panel trap

Table 4c. Trap densities for *Bactrocera oleae*

Trapping	Trap type[1]	Attractant	Trap density/km^2 (2)			
			Production area	Marginal	Urban	Points of entry[3]
Monitoring survey, no control	MLT/CH/YP	AC+SK/PA	0.5–1.0	0.25–0.5	0.25–0.5	0.25–0.5
Monitoring survey for suppression	MLT/CH/YP	AC+SK/PA	2–4	1–2	0.25–0.5	0.25–0.5
Delimiting survey in an FF-ALPP after an unexpected increase in population	MLT/CH/YP	AC+SK/PA	3–5	3–5	3–5	3–5
Monitoring survey for eradication	MLT/CH/YP	AC+SK/PA	3–5	3–5	3–5	3–5
Detection survey in an FF-PFA to verify pest absence and for exclusion	MLT/CH/YP	AC+SK/PA	1	1	2–5	3–12
Delimitation survey in a PFA after a detection in addition to detection survey	MLT/CH/YP	AC+SK/PA	20–50[4]	20–50	20–50	20–50

1 Different traps can be combined to reach the total number.
(2) Refers to the total number of traps.
3 Also other high-risk sites.
4 This range includes high-density trapping in the immediate area of the detection (core area) and decreasing towards the surrounding trapping zones.

Trap type		Attractant	
CH	ChamP trap	AC	ammonium bicarbonate
MLT	Multilure trap	PA	protein attractant
YP	Yellow panel trap	SK	Spiroketal

Table 4d. Trap densities for *Ceratitis* spp.

Trapping	Trap type[1]	Attractant	Trap density/km² (2)			
			Production area	Marginal	Urban	Points of entry[3]
Monitoring survey, no control[4]	JT/MLT/McP/ OBDT/ST/SE/ET/ LT/TP/VARs+	TML/CE/3C/ 2C/PA	0.5–1.0	0.25–0.5	0.25–0.5	0.25–0.5
Monitoring survey for suppression	JT/MLT/McP/ OBDT/ST/SE/ET/ LT/MMTP/VARs+	TML/CE/3C/ 2C/PA	2–4	1–2	0.25–0.5	0.25–0.5
Delimiting survey in an FF-ALPP after an unexpected increase in population	JT/YP/MLT/McP/ OBDT/ST/ET/LT/ MM/TP/VARs+	TML/CE/3C/ PA	3–5	3–5	3–5	3–5
Monitoring survey for eradication[5]	JT/MLT/McP/ OBDT/ST/ET/LT/ MM/TP/VARs+	TML/CE/3C/ 2C/PA	3–5	3–5	3–5	3–5
Detection survey in an FF-PFA to verify pest absence and for exclusion[5]	JT/MLT/McP/ST/ ET/LT/MM/CC/ VARs+	TML/CE/3C/ PA	1	1–2	1–5	3–12
Delimitation survey in a PFA after a detection in addition to detection survey[6]	JT/YP/MLT/McP/ OBDT/ST//ET/LT/ MM/TP/VARs+	TML/CE/3C/ PA	20–50[6]	20–50	20–50	20–50

1 Different traps can be combined to reach the total number.
(2) Refers to the total number of traps.
3 Also other high-risk sites.
4 1:1 ratio (1 female trap per male trap).
5 3:1 ratio (3 female traps per male trap).
6 This range includes high-density trapping in the immediate area of the detection (core area) and decreasing towards the surrounding trapping zones (ratio 5:1, 5 female traps per male trap).

Trap type		Attractant	
CC	Cook and Cunningham (C&C) Trap (with TML for male capture)	2C	(AA+TMA)
ET	Easy trap (with 2C and 3C attractants for female-biased captures)	3C	(AA+Pt+TMA)
JT	Jackson trap (with TML for male capture)	CE	Capilure
LT	Lynfield trap (with TML for male capture)	AA	Ammonium acetate
McP	McPhail trap	PA	Protein attractant
MLT	Multilure trap (with 2C and 3C attractants for female-biased captures)	Pt	Putrescine
MM	Maghreb-Med or Morocco	TMA	Trimethylamine
OBDT	Open Bottom Dry Trap (with 2C and 3C attractants for female-biased captures)	TML	Trimedlure
SE	Sensus trap (with CE for male captures and with 3C for female-biased captures)		
ST	Steiner trap (with TML for male capture)		
TP	Tephri trap (with 2C and 3C attractants for female-biased captures)		
VARs+	Modified funnel trap		
YP	Yellow panel trap		

Table 4e. Trap densities for *Rhagoletis* spp.

Trapping	Trap type[1]	Attractant	Trap density/km² (2)			
			Production area	Marginal	Urban	Points of entry[3]
Monitoring survey, no control	RB/RS/PALz/YP /McP	BuH/AS	0.5–1.0	0.25–0.5	0.25–0.5	0.25–0.5
Monitoring survey for suppression	RB/RS/PALz/YP /McP	BuH/AS	2–4	1–2	0.25–0.5	0.25–0.5
Delimiting survey in an FF-ALPP after an unexpected increase in population	RB/RS/PALz/YP /McP	BuH/AS	3–5	3–5	3–5	3–5
Monitoring survey for eradication	RB/RS/PALz/YP /McP	BuH/AS	3–5	3–5	3–5	3–5
Detection survey in an FF-PFA to verify pest absence and for exclusion	RB/RS/PALz/YP /McP	BuH/AS	1	0.4–3	3–5	4–12
Delimitation survey in a PFA after a detection in addition to detection survey	RB/RS/PALz/YP /McP	BuH/AS	20–50[4]	20–50	20–50	20–50

1 Different traps can be combined to reach the total number.
(2) Refers to the total number of traps.
3 Also other high-risk sites.
4 This range includes high-density trapping in the immediate area of the detection (core area) and decreasing towards the surrounding trapping zones.

Trap type		Attractant	
McP	McPhail trap	AS	Ammonium salt
RB	Rebell trap	BuH	Butyl hexanoate
RS	Red sphere trap	CE	Capilure
PALz	Fluorescent yellow sticky trap	AA	Ammonium acetate
YP	Yellow panel trap		

Table 4f. Trap densities for *Toxotrypana curvicauda*

Trapping	Trap type[1]	Attractant	Trap density/km² (2)			
			Production area	Marginal	Urban	Points of entry[3]
Monitoring survey, no control	GS	MVP	0.25–0.5	0.25–0.5	0.25–0.5	0.25–0.5
Monitoring survey for suppression	GS	MVP	2–4	1	0.25–0.5	0.25–0.5
Delimiting survey in an FF-ALPP after an unexpected increase in population	GS	MVP	3–5	3–5	3–5	3–5
Monitoring survey for eradication	GS	MVP	3–5	3–5	3–5	3–5
Detection survey in an FF-PFA to verify pest absence and for exclusion	GS	MVP	2	2–3	3–6	5–12
Delimitation survey in a PFA after a detection in addition to detection survey	GS	MVP	20–50[4]	20–50	20–50	20–50

1 Different traps can be combined to reach the total number.
(2) Refers to the total number of traps.
3 Also other high-risk sites.
4 This range includes high-density trapping in the immediate area of the detection (core area) and decreasing towards the surrounding trapping zones.

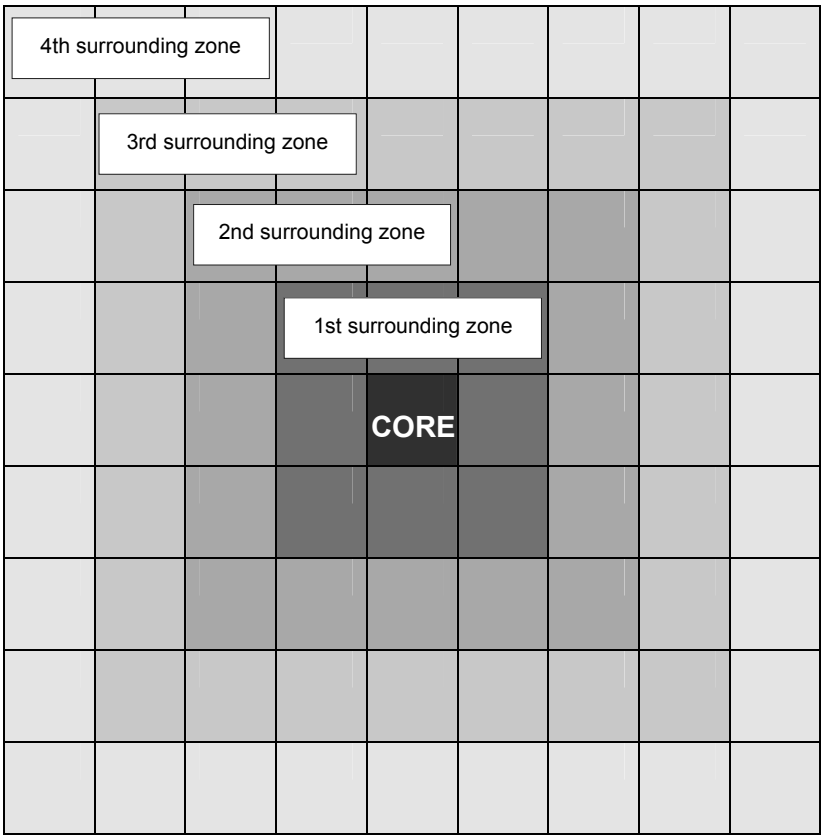
Trap type		Attractant	
GS	Green sphere	MVP	Papaya fruit fly pheromone (2-methyl-vinylpyrazine)

6. Trapping for Delimiting Surveys in Fruit Fly Free Areas

When a delimiting survey is designed to determine the boundaries of a fruit fly pest detection into an FF free area, trap density may vary by situation (climatic conditions, biology of species, etc), but there are some commonalities. The area immediately surrounding each detection is termed a core area. The

core area is defined by a set radius surrounding each detection. The size of the core area may vary depending on the species of fruit fly, types of traps and other considerations. The area defined by the radius is often squared off to produce a grid. The trapping density in the core area is higher than that used for detection surveys. Around the core area may be one or more surrounding zones where the trap density is higher than for detection surveys but usually lower than that of the core area, as appropriate. Trap densities in the surrounding zones may be proportionally tiered in a decreasing density the further away they are from the core area. An example of a delimiting survey for a single core area is presented in Figure 21. In cases where target fruit flies are detected in several traps distant from each other, the respective zones are identified individually and the area for delimiting survey is finally determined taking into account the overlap of the core zones.

A delimiting survey should be implemented as soon as possible after the initial detection of a target fruit fly species. The duration of a delimiting survey is dependent on the biology of the species. In general, delimiting survey trapping continues for three life cycles beyond the last trap capture for multivoltine species. However, one or two life cycles may be used for particular situations or fruit fly species based on scientific information, as well as that provided by the surveillance system in place.



Surrounding zones	**km^2**	***Anastrepha* spp.** **McP**	***Bactrocera* spp.** **CUE + McP**	***B. dorsalis, B. carambolae*** **ME + McP**	***Ceratitis capitata*** **TML + MLT** (MLT core only)
Core	1	32	20 + 10	10 + 10	40 + 10
1st	8	16	10	2	20
2nd	16	8	6	2	10
3rd	24	4	4	2	8
4th	32	2	2	2	4

Figure 21. Example of delimiting survey using single km^2 core and surrounding zones for various fruit flies and attractants/trap types (number of traps per km^2)

7. Supervision Activities

Supervision of trapping activities includes assessing the quality of the materials used and reviewing the effectiveness of the use of these materials and trapping procedures.

The materials used should perform effectively and reliably at an acceptable level for a prescribed period of time. The traps themselves should maintain their integrity for the entire duration that they are anticipated to remain in the field. The attractants should be certified or bioassayed for an acceptable level of performance based on their anticipated use.

The effectiveness of trapping should be technically reviewed periodically by individuals not directly involved in implementing the programme. The timing of review will vary by programme, but it is recommended to occur at least twice a year in programmes that run for six months or longer. The review should address all aspects related to the ability of trapping to detect targeted fruit flies within the timeframe required to meet programme outcomes e.g. Early detection of a fruit fly entry. Aspects of a review include quality of trapping materials, record-keeping, layout of the trapping network, trap mapping, trap placement, trap condition, trap servicing, trap inspection frequency and capability for fruit fly identification.

The trap deployment should be evaluated to ensure that the prescribed types and densities of traps are in place. Field confirmation is achieved through inspection of individual routes.

Trap placement should be evaluated for appropriate host selection, trap relocation schedule, height, light/shade balance, fruit fly access to trap, and proximity to other traps. Host selection, trap relocation and proximity to other traps can be evaluated from the records for each trap route. Host selection, placement and proximity can be further evaluated by field examination.

Proper record-keeping is crucial to the appropriate functioning of trapping. The records for each trap route should be inspected to ensure that they are complete and up to date. Field confirmation can then be used to validate the accuracy of the records.

Traps should be evaluated for their overall condition, correct attractant, appropriate trap servicing and inspection intervals, correct identifying markings (such as trap identification and date placed), evidence of contamination and proper warning labels. This is performed in the field at each site where a trap is placed.

Evaluation of identification capability can occur via target fruit flies that have been marked in some manner in order to distinguish them from wild trapped fruit flies. These marked fruit flies are placed in traps in order to evaluate the operator’s diligence in servicing the traps, competence in recognizing the targeted fruit fly species, and knowledge of the proper reporting procedures once a fruit fly is found. Commonly used marking systems are fluorescent dyes and/or wing clipping.

In some programmes that survey for eradication or to maintain FF-PFAs, the fruit flies may also be marked by using sterile irradiated fruit flies in order to further reduce the chances of the marked fruit fly being falsely identified as a wild fruit fly and resulting in unnecessary actions by the programme. A slightly different method is necessary under a sterile fruit fly release programme in order to evaluate personnel on their ability to accurately distinguish target wild fruit flies from the released sterile fruit flies. The marked fruit flies used are sterile and lack the fluorescent dye, but are marked physically by wing clipping or some other method. These fruit flies are placed into the trap samples after they have been collected in the field but before they are inspected by the operators.

The review should be summarized in a report detailing how many inspected traps on each route were found to be in compliance with the accepted standards in categories such as trap mapping, placement, condition, and servicing and inspection interval. Aspects that were found to be deficient should be identified, and specific recommendations should be made to correct these deficiencies.

8. Selected References

The technical justification contained in this standard is based on the following references that are accessible scientific publications. These references may provide further guidance on the methods and procedures contained in this document.

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TABLE A: INCONSISTENCIES IN THE USE OF TERMS

ISPM 3: GUIDELINES FOR THE EXPORT, SHIPMENT, IMPORT AND RELEASE OF BIOLOGICAL CONTROL AGENTS AND OTHER BENEFICIAL ORGANISMS

In addition to the changes below, the recommendations regarding the format of references to ISPMs/IPPC and endorsement section should be applied to this standard.

ISPM 3 / Table A Inconsistencies in the use of terms				
	Section	**Existing text**	**Proposed ink amendments**	**Rationale**
1.	**ENDORSEMENT**	Add a sentence	Ink amendments to the English version of this standard were approved by the Standards Committee in November 2009.	The added last sentence is to clarify that minor modifications were made subsequent to the adoption of the ISPM
2.	**SCOPE** Paragraph 1, 2nd sentence	It lists the related responsibilities of contracting parties to the IPPC ('contracting parties'), National …	It lists the related responsibilities of contracting parties to the IPPC ~~('contracting parties')~~, National…..	Inconsistent with other ISPMs where contracting parties are referred to.
3.	**SCOPE** Paragraph 1, 7th sentence	Provisions are also included for import for research in quarantine facilities of non-indigenous biological control agents and other beneficial organisms.	Provisions are also included for import for research in quarantine stations ~~facilities~~ of non-indigenous biological control agents and other beneficial organisms.	To use the correct term that has been defined. To change "quarantine facilities" to "quarantine stations", leads to consequential changes in the Glossary The definition of quarantine stations in the glossary has to be changed to include other plants, plant products, organisms or other regulated articles in quarantine stations.
4.	**REFERENCES** Modify some of the references	....*Glossary of phytosanitary terms*, 2004. ISPM No. 5, FAO, Rome... *Guidelines for pest risk analysis*, 1996. ISPM No. 2, FAO, Rome. ...	...**ISPM 2**. 2007. *Framework for pest risk analysis*. Rome, IPPC, FAO. **ISPM 5**. 2009. *Glossary of phytosanitary terms*. Rome, IPPC, FAO. ...	To update to most recent ISPM 5 and ISPM 2 (using the proposed format for references to ISPMs)
5.	**OUTLINE OF REQUIREMENTS** 1st sentence, 4th indent	- ensure that biological control agents and other beneficial organisms are taken either directly to designated quarantine facilities or mass-rearing facilities or, if appropriate, passed directly for release into the environment;	- ensure that biological control agents and other beneficial organisms are taken either directly to designated quarantine ~~facilities~~ stations or mass-rearing facilities or, if appropriate, passed directly for release into the environment;	To use the correct term that has been defined. To change "quarantine facilities" to "quarantine stations", leads to consequential changes in the Glossary The definition of quarantine stations in the glossary has to be changed to include other plants, plant products, organisms or other regulated articles in quarantine stations.

				ISPM 3 / Table A Inconsistencies in the use of terms
6.	**BACKGROUND** Paragraph 4, last sentence	However, it is not intended that any aspects of this standard alter in any way the scope or obligations of the IPPC itself as contained in the New Revised Text of the IPPC (1997) or elaborated on in any of the other ISPMs.	However, it is not intended that any aspects of this standard alter in any way the scope or obligations of the IPPC ~~itself as contained in the New Revised Text of the IPPC (1997) or elaborated on in any of the other~~ or its ISPMs.	Use "obligations of the IPPC or its ISPMs" for consistency with other standards.
7.	**BACKGROUND** Paragraph 5, 2nd sentence	It is recognized that the existing standards on pest risk analysis (ISPM No. 2: *Guidelines for pest risk analysis* ….	It is recognized that the existing standards on pest risk analysis (ISPM 2:2007…	To update to most recent ISPM 2 (using the proposed format for references to ISPMs)
8.	**1.2 General responsibilities** Paragraph 2, 4th indent	The NPPO or other responsible authority should:… - ensure that biological control agents and other beneficial organisms are taken either directly to designated quarantine facilities or, …	- ensure that biological control agents and other beneficial organisms are taken either directly to designated quarantine stations ~~facilities~~ or, ….	To use the correct term that has been defined. To change "quarantine facilities" to "quarantine stations", leads to consequential changes in the Glossary The definition of quarantine stations in the glossary has to be changed to include other plants, plant products, organisms or other regulated articles in quarantine stations.
9.	**2. Pest Risk Analysis** Paragraph 2	Pest risk assessment should be conducted in accordance with ISPM No. 2 (*Guidelines for pest risk analysis*) …	Pest risk assessment should be conducted in accordance with ISPM ~~No.~~ 2:2007 ~~*Guidelines for pest risk analysis*~~ ….	Updating to the most recent version of ISPM 2
10.	**3.1.2** 1st sentence	3.1.2 Evaluate the documentation on the target pest and on the biological control agent and beneficial organisms supplied by the importer (see section 4) in relation to the level of acceptable risk.	3.1.2 Evaluate the documentation on the target pest and on the biological control agent and beneficial organisms supplied by the importer (see section 4) in relation to the ~~level of~~ acceptable level of risk.	Use acceptable level of risk in all standards having appropriate level of protection, for consistency with ISPM 11 and 21.
11.	**3.1.2** 2nd sentence	The contracting party should establish appropriate phytosanitary measures for import, shipment, quarantine facilities (including approval of research facilities, and phytosanitary measures for containment and disposal) or release of biological control agents appropriate to the assessed risk.	The contracting party should establish appropriate phytosanitary measures for import, shipment, quarantine facilities(including approval of research facilities, and phytosanitary measures for confinement ~~containment~~ and disposal) or release of biological control agents appropriate to the assessed risk.	To use the correct term that has been defined. To change "quarantine facilities" to "quarantine stations", leads to consequential changes in the Glossary. See above. Change "containment" to "confinement" to be in line with the new standard on PEQ and because containment is not used according to the Glossary definition here.

				ISPM 3 / Table A Inconsistencies in the use of terms
12.	**3.1.5** 1st and 2nd sentences	…where required, through quarantine facilities. Where a country does not have secure quarantine facilities, import through a quarantine station in a third country, recognized by …	…where required, through quarantine stations ~~facilities~~. Where a country does not have secure quarantine stations ~~facilities~~ , import through a quarantine station in a third country, recognized by …	To use the correct term that has been defined. To change "quarantine facilities" to "quarantine stations", leads to consequential changes in the Glossary See above.
13.	**4.3 Documentary requirements related …** Title	**4.3 Documentary requirements related to potential hazards and emergency actions**	**4.3 Documentary requirements related to potential hazards and contingency plans ~~emergency actions~~**	To be consistent with ISPMs 9, 18 and 25 and to adjust to the right meaning
14.	**4.3 Documentary requirements related …** 2nd indent	- details emergency action plans or procedures already in existence, should the biological control agent or beneficial organism display unexpected adverse properties.	- details ~~emergency action~~ contingency plans or procedures already in existence, should the biological control agent or beneficial organism display unexpected adverse properties.	These hazards and risks are not phytosanitary risks, then, it is better to avoid the use of "emergency action" as it has been defined in the glossary.
15.	**4.4 Documentary requirements related …** Paragraph 1, last sentence	This information will be determined after candidate biological control agents are studied under quarantine security.	This information will be determined after candidate biological control agents are studied ~~under~~ in quarantine ~~conditions security~~.	Not advisable to use quarantine security, it is not a defined term and could be confused with "phytosanitary security". Use only quarantine because control agents are studied under quarantine.
16.	**4.4 Documentary …** Paragraph 2, 1st sentence	The researcher, in conjunction with the quarantine facility to be used, should also provide the following information:	The researcher, in conjunction with the quarantine facility to be used, should also provide the following information:	To use the correct term that has been defined. To change "quarantine facilities" to "quarantine stations", leads to consequential changes in the Glossary See above.
17.	**4.4 Documentary …** Paragraph 2, 1st sentence, 3rd indent	- detailed description of containment facilities (including security and the competency and qualifications of the staff)	- detailed description of the quarantine facility ~~containment facilities~~ (including security and the competency and qualifications of the staff)	Use quarantine stations, not containment facilities. See above
18.	**4.4 Documentary…** 2nd para, first sentence, last indent	- an emergency plan that will be implemented in the case of an escape from the facility.	- an emergency plan that will be implemented in the case of an escape from the quarantine facility.	Use quarantine stations, not containment facilities. See above

				ISPM 3 / Table A Inconsistencies in the use of terms
19.	**5. Responsibilities of Exporter** Last indent	The exporter of biological control agents or other beneficial organisms is encouraged to ensure that:… - organisms for SIT have been treated to achieve the required sterility for SIT purposes (e.g. using irradiation with the required minimum absorbed dose). …	The exporter of biological control agents or other beneficial organisms is encouraged to ensure that:… - organisms for ~~SIT~~ Sterile Insect Technique (SIT) have been treated to achieve the required sterility for SIT purposes (e.g. using irradiation with the required minimum absorbed dose). …	Spell out SIT , it is the first mention to the technique in the text
20.	**6.1 Inspection**	Where required (see section 3.1.5) after checking the documentation, inspection should take place at an officially nominated quarantine facility.	Where required (see section 3.1.5) after checking the documentation, inspection take place at a ~~an officially~~ nominated quarantine ~~facility~~ station.	To use the correct term that has been defined. To change “quarantine facilities” to “quarantine stations”, leads to consequential changes in the Glossary A quarantine station is official according to its definition in the Glossary
21.	**7.4 Emergency measures** Title	**7.4 Emergency measures**	**7.4 ~~Emergency measures~~ Contingency plans**	Title should be Contingency plans and not emergency ~~actions~~ measures because the content of the item not compatible with the definition of an “emergency measure”
22.	**7.4 Emergency measures** Paragraph 1	The NPPO or other responsible authority of the importing contracting party is responsible for developing or adopting emergency plans or procedures, as appropriate, for use within the importing country.	The NPPO or other responsible authority of the importing contracting party is responsible for developing or adopting contingency ~~emergency~~ plans or procedures, as appropriate, for use within the importing country.	To be compatible with the change in the title and the definition of emergency action in the Glossary.
23.	**7.4 Emergency measures** Paragraph 2	Where problems are identified (i.e. unexpected harmful incidents), the NPPO or other responsible authority should consider possible measures or corrective actions and, where appropriate, ensure that they are implemented and that all relevant parties are informed	Where problems are identified (i.e. unexpected harmful incidents), the NPPO or other responsible authority should consider possible emergency ~~measures or corrective~~ actions and, where appropriate, ensure that they are implemented and that all relevant parties are informed.	To be compatible with the definition of emergency action in the Glossary.

ISPM 10 REQUIREMENTS FOR THE ESTABLISHMENT OF PEST-FREE PLACES OF PRODUCTION AND PEST-FREE PRODUCTION SITES

TABLE A: INCONSISTENCIES IN THE USE OF TERMS

In addition to the changes below, the recommendations regarding the format of references to ISPMs/IPPC and endorsement section should be applied to this standard.

				ISPM 10 / Table A Inconsistencies in the use of terms
	Section	Existing text	Proposed ink amendments	Rationale
24.	**ENDORSEMENT**	add a sentence	Ink amendments to the English version of this standard were approved by the Standards Committee in November 2009.	The added last sentence is to clarify that minor modifications were made subsequent to the adoption of the ISPM
25.	**SCOPE**	...as risk management options for meeting phytosanitary requirements for the import of plants...	...as pest risk management options for meeting phytosanitary import requirements for ~~the import of~~ plants..	The Glossary term "pest risk management" should be substituted because "risk management" is not a defined term. The Glossary term "phytosanitary import requirements" should be used wherever appropriate.
26.	**REFERENCES** Modify some references	…*Glossary of phytosanitary terms*, 1999. **ISPM** No. 5, FAO, Rome. *Guidelines for* ***PEST RISK ANALYSIS***, 1996. **ISPM** No. 2, FAO, Rome. ***INTERNATIONAL PLANT PROTECTION CONVENTION***, 1992. FAO, Rome. *New Revised Text of the* ***INTERNATIONAL PLANT PROTECTION CONVENTION***, 1997. FAO, Rome. *Principles of* ***PLANT QUARANTINE*** *as related to international trade*, 1995. **ISPM** 1, FAO, Rome….	*…International Plant Protection Convention*. 1997. Rome, IPPC, FAO. **ISPM 1**. 2006. *Phytosanitary principles for the protection of plants and the application o f phytosanitary measures in international trade*. Rome, IPPC, FAO. **ISPM 2**. 2007. *Framework for pest risk analysis*. Rome, IPPC, FAO. **ISPM 5**. 2009. *Glossary of phytosanitary terms*. Rome, IPPC, FAO….	To correct and update names of ISPMs (using the proposed format for references to ISPMs)
27.	**Outline of requirements**, end of 1st sentence (line 3)	…phytosanitary requirements of the importing country when imported from a pest free place of production.	...phytosanitary import requirements ~~of the importing country~~ when imported from a pest free place of production.	The Glossary term "phytosanitary import requirements" should be used wherever appropriate.

				ISPM 10 / Table A Inconsistencies in the use of terms
28.	**Outline of requirements** 2nd sentence (lines 4-5)	...maintained pest free, it may be regarded...	..maintained ~~pest free~~ free from a specific pest or pests, it may be regarded....	This wording is consistent with the wording in line 2.
29.	**Outline of requirements** Paragraph 2, 4th indent	product identity, consignment integrity and phytosanitary security.	product identity~~, consignment integrity~~ and phytosanitary security of the consignment	The new Glossary term "phytosanitary security" already includes consignment integrity. Note that, strictly speaking (see TPG Report), this standard should not concern consignments at all. However, this is a substantive issue and not one of consistency, and, accordingly, no "ink amendment" is proposed on this point.
30.	**1.1 Application of a Pest Free Place of Production and Pest Free Production Site** Paragraph 2, 1st sentence	…an adequate level of security may be achieved by different intensities of measures, ranging from...	~~…an adequate level of security~~ the required assurance of pest freedom may be achieved by different ~~intensities of~~ measures, ranging from...	In the Glossary, "security" forms part of the term "Phytosanitary security". This is not the appropriate concept here. This Standard uses the concept of "pest freedom" (see Outline of requirements, above), which is appropriate. The term "intensities" is neither defined in the Glossary, nor easily understood, and should be omitted.
31.	**1.2 Distinction between a Pest Free Place of Production or a Pest Free Production Site and a Pest Free Area** Paragraph 3, 2nd sentence	Both systems can offer adequate phytosanitary security: the main security of the pest free area lies in the common application of measures to an area covering many places of production; the main security of the pest free place of production arises from the fact that management procedures, surveys and inspections are applied specifically and intensively to it.....	Both systems can offer ~~adequate phytosanitary security: the main security of the pest free area lies in~~ the required assurance for pest freedom: the pest free area mainly assures this by the common application of measures to an area covering many places of production; ~~the main security of the pest free place of production arises from~~ the pest free place of production mainly assures this by the fact that management procedures, surveys and inspections are applied specifically and intensively to it...	See Section 1.1, concerning the use of the word "security".

				ISPM 10 / Table A Inconsistencies in the use of terms
32.	**2.1.1 Characteristics of the pest** Paragraph 1, 1st sentence	...can be declared free from a given pest to an adequate degree of security if the characteristics of the pest are suitable for this.	...can be declared free from a given pest ~~to an adequate degree of security~~ with the required assurance of pest freedom if the characteristics of the pest are suitable for this.	See Section 1.1, concerning the use of the word "security".
33.	**2.1.4 Requirements and responsibilities of the NPPO** 1st sentence	gives the required level of phytosanitary security	gives the required ~~level of phytosanitary security~~ assurance of pest freedom	See Section 1.1, concerning the use of the word "security".
34.	**2.1.4 Requirements and responsibilities …** Last sentence	The NPPO should check the regulations of the importing country and/or…	The NPPO should check the ~~regulations of the importing country~~ phytosanitary import requirements and/or…	The Glossary term "phytosanitary import requirements" should be used wherever appropriate.
35.	**2.2 Establishment and Maintenance of …** last indent	product identity, consignment integrity and phytosanitary security	product identity, ~~consignment integrity and~~ phytosanitary security of the consignment	See Outline of requirements, paragraph 2
36.	**2.2.1 Systems to establish pest freedom** Paragraph 2, 5th sentence	Specific provisions should be made for the withdrawal of pest free status	Specific provisions (corrective action plans) should be made for the withdrawal of pest free status	"Corrective action plan" is a Glossary term recently approved (2009) in connection with a later ISPM. The "specific provisions" referred to here are in fact "corrective action plans".
37.	**2.2.2 Systems to maintain pest freedom** Paragraph 1, 2nd sentence	Their aim is to prevent the introduction of the pest into the place of production or production site, or to destroy previously undetected infestations	Their aim is to prevent the ~~introduction~~ entry of the pest into the place of production or production site, or to destroy previously undetected ~~infestations~~ occurrences	"Entry" is used elsewhere in this standard, and the context is wrong for the Glossary term "introduction". The Glossary term "infestation" is usually used in connection with consignments. The term "occurrence" is more appropriate here.
38.	**2.2.3 Verification that pest freedom ..** Title	Verification that pest freedom has been attained or maintained	Verification ~~that pest freedom has been attained or maintained~~ of establishment and maintenance of pest freedom	The words "establishment" and "maintenance" are used in the titles of sections 2.2.1 and 2.2.2. For consistency, they should therefore be used here.

				ISPM 10 / Table A Inconsistencies in the use of terms
39.	**2.2.3 Verification that pest freedom ..** Paragraph 1, 2nd sentence	These most often take the form of field inspections (also known as growing-season inspections), but may also include other detection methods	These most often take the form of ~~field inspections (also known as~~ growing-season inspections~~)~~, but may also include other detection methods	The Glossary used to contain the terms "field inspection" and "growing-season inspection", but these were removed many years ago. "Growing-season inspection" remains appropriate, because it can be defined by the combination of the Glossary terms "Growing season" and "inspection". But the term "field" is not defined in the Glossary in a way which is appropriate to the concept of field inspection. Nor is it useful to maintain two synonymous concepts.
40.	**2.2.3 Verification that pest freedom ..** Paragraph 3, 2nd sentence	The prevalence of the pest in the area...	The ~~prevalence~~ incidence of the pest in the area...	The term "prevalence" has never been defined in the Glossary, whereas there is now a definition of the term "incidence", which is appropriate here.
41.	**2.2.4 Product identity, consignment integrity…** Title	Product identity, consignment security and phytosanitary security	Product identity~~, consignment security~~ and phytosanitary security of the consignment	See Outline of requirements, paragraph 2
42.	**2.2.4 Product identity, consignment integrity…** Last sentence	The phytosanitary security of the product should be maintained after harvest	The ~~phytosanitary security~~ pest freedom of the product should be maintained after harvest	See Outline of requirements, paragraph 2. The "product after harvest" is not yet a "consignment", but its pest freedom should be maintained.
43.	**3.1 General records** Paragraph 1, 2nd sentence	…procedures for reaction to pest presence	…procedures for reaction to pest presence (corrective action plans)	See Section 2.2.1
44.	**3.1 General records** Paragraph 1, 2nd sentence	…to ensure product identity, consignment integrity and phytosanitary security	…to ensure product identity~~, consignment integrity~~ and phytosanitary security of the consignment	See Outline of requirements, paragraph 2
45.	**3.1 General records** Paragraph 2, line 3	(e.g types and dates of phytosanitary treatments, use of resistant cultivars)	(e.g types and dates of ~~phytosanitary~~ treatments, use of resistant cultivars)	"Phytosanitary treatment" is not a defined term in the Glossary. "Treatment", as defined, is sufficient.
46.	**3.1 General records** paragraph 4, 1st sentence	because the pest concerned requires a high degree of phytosanitary security....	because ~~the pest concerned requires a high degree of phytosanitary security~~ a high assurance of pest freedom is required.....	See Outline of requirements, paragraph 2. It is the growing conditions which are of concern here, not the consignment.

ISPM 13 GUIDELINES FOR THE NOTIFICATION OF NON-COMPLIANCE AND EMERGENCY ACTION

TABLE A: INCONSISTENCIES IN THE USE OF TERMS

In addition to the changes below, the recommendations regarding the format of references to ISPMs/IPPC and endorsement section should be applied to this standard.

ISPM 13 / Table A Inconsistencies in the use of terms

	Section	Existing text	Proposed ink amendments	Rationale
47.	**ENDORSEMENT**		Ink amendments to the English version of this standard were approved by the Standards Committee in November 2009.	The added last sentence is to clarify that minor modifications were made subsequent to the adoption of the ISPM
48.	**SCOPE** 1st indent	- a significant instance of failure of an imported consignment to comply with specified phytosanitary requirements, including the detection of specified regulated pests	- a significant instance of failure of a ~~an~~ ~~imported~~ consignment to comply with specified phytosanitary import requirements, including the detection of specified regulated pests	To use the correct term which has been defined. Note that the sentence still refers to "specified" phytosanitary import requirement, to highlight that the notification is not in relation to all phytosanitary import requirements
49.	**REFERENCES** Modify some references	…*Export certification systems*, 1997. ISPM No. 7, FAO, Rome. *Glossary of phytosanitary terms*, 1999. ISPM No. 5, FAO, Rome. *New Revised text of the International Plant Protection Convention*, 1997, FAO, Rome….	*…International Plant Protection Convention*. 1997. Rome, IPPC, FAO **ISPM 5**. 2009. *Glossary of phytosanitary terms*. Rome, IPPC, FAO. **ISPM 7**. 1997. *Export certification system*. Rome, IPPC, FAO. …	To use the same format as more recent references to the IPPC. To update to most recent ISPM 5 To correct the name of ISPM 7 (and using the proposed format for references to ISPMs)
50.	**Outline of requirements** 1st para, 1st sentence	…makes provisions … of imported consignments with phytosanitary requirements, including …	….makes provisions … … of ~~imported~~ consignments with phytosanitary import requirements, including …	To use the correct term which has been defined.
	Last para, 3rd sentence	… are directed to the re-export country.	… are directed to the re-exporting country.	To use language which is consistent with other text in the standard.
51.	**1. Purpose of Notification** 1st para, 1st sentence	Notifications … significant failures of imported consignments to comply with specified phytosanitary requirements or to report …	Notifications … significant failures of ~~imported~~ consignments to comply with specified phytosanitary import requirements or to report …	To use the correct term which has been defined

ISPM 13 / Table A Inconsistencies in the use of terms

	Section	Existing text	Proposed ink amendments	Rationale
52.	**3. Provisions of the IPPC Related to Notification** 3rd and 4th indent	- Art VIII.1 states that contracting parties shall cooperate in achieving the aims of the Convention. - Art VIII.2 states that contracting parties shall designate a contact point for the exchange of information.	- Art VIII.1 states that *"The contracting parties shall cooperate with one another to the fullest practicable extent in achieving the aims of this Convention"* - Art VIII.2 states that *"Each contracting party shall designate a contact point for the exchange of information connected with the implementation of this Convention."*	For consistency with the IPPC and the previous 2 indents, and to not abridge the Convention, but to quote it.
53.	**4.1 Significant instances of non-compliance** Paragraph 1, 1st indent	- failure to comply with phytosanitary requirements	- failure to comply with phytosanitary import requirements	To use the correct term which has been defined
	Paragraph 2	Significant instances of non-compliance of an imported consignment with phytosanitary requirements should …	Significant instances of non-compliance of ~~an imported~~ consignment with phytosanitary import requirements should…	
54.	**6.1 Required information** 8th indent, 4th sub-indent	phytosanitary requirements to which the non-compliance applies	phytosanitary import requirements to which the non-compliance applies	To use the correct term which has been defined
55.	**6.1 Required information** last indent,	- *Authentication marks* - the notifying authority should have a means for authenticating valid notifications (e.g. stamp, seal, letterhead, authorized signature).	- *Authentication marks* - the importing country ~~notifying authority~~ should have a means for authenticating valid notifications (e.g. stamp, seal, letterhead, authorized signature).	"notifying authority" is SPS language, not IPPC language. Change to make consistent with other text in the standard.
56.	**7. Documentation and Means of Communication** 1st para	The notifying country should keep notification documents,	The ~~notifying~~ importing country should keep notification documents,	Change to make consistent with other text in the standard.

TABLE B: OBVIOUS ERRORS AND AMBIGUITIES (IDENTIFIED IN ENGLISH AND SPANISH TEXTS)

ISPM 13 / Table B Obvious errors and ambiguities

	Section	Existing text	Proposed new text	Rationale
57.	**REFERENCES** Add a reference		**ISPM 25**. 2006. *Consignments in transit.* Rome, IPPC, FAO.	To add a reference to a standard which is relevant

				ISPM 13 / Table B Obvious errors and ambiguities
58.	**Outline of requirements** last para, 1st, and 2nd sentence	An importing country should investigate…are needed. Exporting countries should investigate …	The NPPO of an importing country should investigate…are needed. The NPPOs of exporting countries should investigate …	To be more specific and to be in line with the guidance given in section 6 of the standard which says that the notifications should include certain minimum information and that **NPPOs** are encouraged to provide additional information in certain circumstances.
59.	**6. Information Included in a Notification** 2nd sentence	NPPOs are encouraged to provide additional information where such information is considered relevant and important or has been specifically requested by the exporting country	The NPPO~~s~~ of the importing country is ~~are~~ encouraged to provide additional information where such information is considered relevant and important or has been specifically requested by the NPPO of the exporting country	To be more specific and remove ambiguity
60.	**9.1 Non-compliance** 1st and 2nd sentences	The exporting country should investigate … the investigation should be reported to the importing country	The NPPO of the exporting country should investigate … the investigation should be reported to the NPPO of the importing country	To be more specific
61.	**9.2 Emergency action** 1st and last sentences	The importing country should investigate the new or unexpected phytosanitary situation … …..If continuance is justified, phytosanitary measures of the importing country should be adjusted, published and transmitted to the exporting country.	The NPPO of the importing country should investigate the new or unexpected phytosanitary situation …….. If continuance is justified, phytosanitary ~~measures~~ import requirements ~~of the importing country~~ should be adjusted, published and transmitted to the exporting country.	To be more specific To be more specific on what needs to be adjusted
62.	**10. Transit** 1st sentence	…requirements of the transit country or any emergency action taken should be notified to the exporting country.	…requirements of the transit country or any emergency action taken should be notified to the exporting country. ISPM 25:2006 provides detailed guidance regarding consignments in transit.	To update the standard and make it consistent with the reference provided in ISPM 25.

ISPM 14 USE OF INTEGRATED MEASURES IN A SYSTEMS APPROACH FOR PEST RISK MANAGEMENT

TABLE A: INCONSISTENCIES IN THE USE OF TERMS

In addition to the changes below, the recommendations regarding the format of references to ISPMs/IPPC and endorsement section should be applied to this standard.

ISPM 14 / Table A Inconsistencies in the use of terms				
	Section	**Existing text**	**Proposed ink amendments**	**Rationale**
63.	**ENDORSEMENT**		Ink amendments to the English version of this standard were approved by the Standards Committee in November 2009.	The added last sentence is to clarify that minor modifications were made subsequent to the adoption of the ISPM
64.	**SCOPE** line 3	... phytosanitary requirements for the import of plants, ...	... phytosanitary import requirements for ~~the import of~~ plants, ...	The Glossary term "phytosanitary import requirements" should be used wherever appropriate.
65.	**REFERENCES** Modify some references	*Glossary of phytosanitary terms*, 2001. ISPM No. 5, FAO, Rome. *Guidelines for pest risk analysis*, 1996. ISPM No. 2, FAO, Rome. *Pest risk analysis for quarantine pests*, 2001. ISPM No. 11, FAO, Rome. *Principles of plant quarantine as related to international trade*, 1995. ISPM No. 1, FAO, Rome.	…**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**. 2009. 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.	to update references of the standards which have been revised since ISPM 14 was adopted (using the proposed format for references to ISPMs)
66.	**Outline of requirements** Paragraph 1, 1st sentence	The appropriate international PRA standards provide	~~The appropriate international PRA standards~~ ISPMs 2:2007, 11:2004 and 21:2004 provide	These are the appropriate international PRA standards (using the proposed format for references to ISPMs)
67.	**Outline of requirements** Paragraph 1, 3rd sentence	They can also be developed to provide phytosanitary protection in situations where ...	They can also be developed ~~to provide phytosanitary protection~~ in situations where ...	"Phytosanitary protection" is an undefined concept not used elsewhere. The words are not necessary here.
68.	**1. Purpose of Systems Approaches** 1st sentence	... are described in appropriate international PRA standards	... are described in ~~appropriate international PRA standards~~ ISPMs 2:2007, 11:2004 and 21:2004	See Outline

				ISPM 14 / Table A Inconsistencies in the use of terms
69.	**1. Purpose of Systems Approaches** 2nd sentence	All pest risk management measures ...	All phytosanitary ~~pest risk management~~ measures ...	"Pest risk management measure" is a term neither used elsewhere nor defined. It is better to use an appropriate defined term.
70.	**1. Purpose of Systems Approaches** 3rd sentence	A systems approach integrates pest risk management measures to meet the appropriate level of phytosanitary protection of the importing country.	A systems approach integrates ~~pest risk management~~ measures to meet ~~the appropriate level of phytosanitary protection of the importing country.~~ phytosanitary import requirements.	As above (line 2), but the measures which are integrated are not necessarily phytosanitary measures. The Glossary term "phytosanitary import requirements" should be used wherever appropriate.
71.	**1. Purpose of Systems Approaches** 4th sentence (line 5)	... disinfestation treatments ...	... ~~disinfestation~~ treatments ...	The Glossary term "treatment" is sufficient. "Disinfestation" is not Glossary language.
72.	**1. Purpose of Systems Approaches** 6th sentence (line 7)	... the effective management of pest risk.		"Pest risk management" is part of PRA, done to determine phytosanitary import requirements. Systems approaches are not necessarily devised as part of PRA. For example, they can be devised by an exporting country.
73.	**1. Purpose of Systems Approaches** Last sentence	... among risk management options ...	... among pest risk management options ...	The Glossary only uses and defines the term "pest risk management".
74.	**2 Characteristics of…** paragraph 1, last sentence	... to meet the appropriate level of phytosanitary protection and confidence.	... to meet ~~the appropriate level of phytosanitary protection and confidence~~ phytosanitary import requirements.	The Glossary term "phytosanitary import requirements" should be used wherever appropriate.
75.	**2 Characteristics of…** paragraph 2, 1st sentence	... compliance with official phytosanitary procedures.	... compliance with ~~official~~ phytosanitary procedures.	As defined in the Glossary, all "phytosanitary procedures" are official.
76.	**2 Characteristics of…** paragraph 3, 1st sentence	Cultural practices, field treatment, ...	Cultural practices, ~~field~~crop treatment, ...	"Field" has a specific Glossary meaning
77.	**2 Characteristics of…** paragraph 3, last sentence	Likewise, procedures such as pest surveillance, trapping and sampling		"Pest surveillance" includes "trapping" and sampling".
78.	**2 Characteristics of…** Paragraph 4	Measures that do not kill pests or reduce their prevalence but reduce their potential for entry or establishment (safeguards) can be ...	Measures that do not kill pests or reduce their ~~prevalence~~incidence but reduce their potential for entry or establishment ~~(safeguards)~~ can be	"Prevalence" is not a defined Glossary term, while "incidence" is. "Safeguard" is not a defined Glossary term, and is here used in a meaning different from that in IPPC Articles VI.1b and VII. It is not necessary to insert it here at all.

				ISPM 14 / Table A Inconsistencies in the use of terms
79.	**3 Relationship with PRA and…** title	available risk management options	available pest risk management options	See Section 1; line 8
80.	**3 Relationship with PRA and…** paragraph 1, 1st sentence	The conclusions from pest risk assessment are used to decide whether risk management is required and the strength of measures to be used (Stage 2 of PRA).	The conclusions from pest risk assessment (Stage 2 of PRA) are used to decide whether pest risk management is required and the strength of measures to be used ~~(Stage 2 of PRA)~~.	"Pest risk management", not "risk management". The strength of measures is not part of pest risk assessment, so "(Stage 2 of PRA)" should be placed earlier, as proposed.
81.	**3 Relationship with PRA and…** paragraph 2, 1st sentence	A combination of pest risk management measures in a systems approach is one of the options which may be selected as the basis for import requirements to meet the appropriate level of phytosanitary protection of the importing country.	A combination of ~~pest risk management~~ phytosanitary measures in a systems approach is one of the options which may be selected as the basis for phytosanitary import requirements ~~to meet the appropriate level of phytosanitary protection of the importing country~~.	"Pest risk management measures" and "phytosanitary import requirements", as before.
82.	**Pre-planting** third indent	pest-free areas, places or sites of production	pest-free areas, pest-free places of production, or pest-free production sites ~~of production~~	The full Glossary terms should be used.
83.	**Pre-harvest**	...biocontrol...	...~~biocontrol~~biological control...	consistent use of term
84.	**Post harvest** 1st indent	treatment to kill, sterilize or remove pests (e.g. fumigation, …	treatment ~~to kill, sterilize or remove pests~~ (e.g. fumigation, …	The Glossary term already specifies "to kill....".
85.	**Transportation and distribution** 3rd indent	ports of entry	~~ports~~points of entry	This the correct Glossary term
86.	**4 Independent and Dependent Measures** 1st sentence	... independent and dependent measures (including safeguards).	... independent and dependent measures ~~(including safeguards)~~.	See Section 2, paragraph 4.
87.	**5 Circumstances for use** 1st indent	a particular measure is:	individual measures are: ~~a particular measure is:~~	The phrase "individual measures " is used elsewhere in this Section.
88.	**5 Circumstances for use** 1st indent, 1st sub-indent	not adequate to meet the appropriate level of phytosanitary protection of the importing country	not adequate to meet ~~the appropriate level of phytosanitary protection of the importing country~~ phytosanitary import requirements	As before

				ISPM 14 / Table A Inconsistencies in the use of terms
89.	**6 Types of Systems Approaches** paragraph 2, last sentence	as risk management measures	for pest ~~as~~ risk management ~~measures~~	As before
90.	**7 Efficacy of Measures** Paragraph 2, 1st sentence	... that may be used to reduce pest risk ...	... that may be used to reduce pest ~~risk~~ incidence ... (also change parantheses to say incidence instead of prevalence)	"Pest risk" is not a quantified concept.
91.	**9 Evaluating Systems Approaches** 1st sentence	... to meet the appropriate level of phytosanitary protection for the importing country, the evaluation of whether the requirement is met or not ...	... to meet ~~the appropriate level of phytosanitary protection for the importing country~~ phytosanitary import requirements, the evaluation of whether ~~the requirement is~~ these are met or not ...	As before
92.	**9 Evaluating Systems Approaches** 3rd indent, 2nd subindent	(prevalence of pest)	(~~prevalence~~incidence of pest)	As before
93.	**10 Responsibilities** 1st and 2nd sentence	… of equivalence by considering risk management alternatives that will facilitate safe trade… …to develop new and alternative risk management strategies,…	…of equivalence by considering pest risk management alternatives that will facilitate safe trade… …..to develop new and alternative pest risk management strategies,….	"pest risk management"
94.	**10.1 Importing country ..** 2nd indent	specify the appropriate level of phytosanitary protection	specify the phytosanitary import requirements ~~appropriate level of phytosanitary protection~~	As before
95.	**10.2 Exporting country…** 4th indent	risk management measures	pest ~~risk~~ management measures	The exporting country does not perform pest risk management.
96.	**Appendix**	Appendix	Appendix 1	All appendices should be numbered, even if there is only one.

ISPM 22: REQUIREMENTS FOR THE ESTABLISHMENT OF AREAS OF LOW PEST PREVALENCE

TABLE A: INCONSISTENCIES IN THE USE OF TERMS

In addition to the changes below, the recommendations regarding the format of references to ISPMs/IPPC and endorsement section should be applied to this standard.

ISPM 22 / Table A Inconsistencies in the use of terms

	Section	Existing text	Proposed ink amendments	Rationale
97.	**ENDORSEMENT**		Ink amendments to the English version of this standard were approved by the Standards Committee in November 2009.	The added last sentence is to clarify that minor modifications were made subsequent to the adoption of the ISPM
98.	**REFERENCES** modify some references	*International Plant Protection Convention* *Requirements for the establishment of pest free areas*, 1996. ISPM No. 4, FAO, Rome *Glossary of phytosanitary terms*, 2004. ISPM No. 5, FAO, Rome.	…*International Plant Protection Convention.* 1997. Rome, IPPC, FAO. **ISPM 4**. 1995. *Requirements for the establishment of pest free areas*. Rome, IPPC, FAO. **ISPM 5**. 2009. *Glossary of phytosanitary terms*. Rome, IPPC, FAO.	References amended, with dates of revision as appropriate. And correct date of ISPM 4 (using the proposed format for references to ISPMs)
99.	**Outline of requirements** 1st paragraph 2nd line	..below a specified level in an area…	A ~~specified low pest~~ tolerance level should … (retain term specified level throughout?)	Use of defined term " tolerance level"
	2nd paragraph 1st line	…A specified low pest level should …	Surveillance of the relevant pest should be conducted according to the appropriate protocols (ISPM 6:1997).	Use of defined term " tolerance level"
	4th paragraph 1st line	Surveillance of the relevant pest should be conducted according to the appropriate protocols.		Addition of appropriate cross-reference.
100.	**1.2 Advantages of using areas of low pest prevalence** 1st indent	… the specified pest level is not …	…. the ~~specified pest~~ tolerance level is not ….	Use of defined term
101.	**1.3 Distinction between** .. 1st sentence	…presence of a pest below a specified population level is accepted…	…presence of a pest below a ~~specified population~~ tolerance level is accepted…	Use of defined term
102.	**2.1 Determination of …** 2nd paragraph 4th indent	..emergency action plan	.. ~~emergency~~ corrective action plan.	Correct term, consistent with the definition and use of the term in other ISPMs
103.	**2.1 Determination of …** 2nd paragraph 5th indent	…phytosanitary measures used to maintain…	…is a phytosanitary regulation ~~measures~~ used to maintain…	Correct term (i.e. not regulated pests of the country)

ISPM 22 / Table A Inconsistencies in the use of terms

	2.1 Determination of … 3rd paragraph last sentence	…in mitigating the pest risk down to a level acceptable for the importing country and thus, ……	… ~~in mitigating the pest risk down to a level acceptable for the importing country~~ in ensuring that phytosanitary import requirements are met and thus, …	Use of correct defined term – phytosanitary import requirements …
104.	**2.2 Operational plans** last line	…that importing country requirements are met.	…that ~~importing country requirements~~ the phytosanitary import requirements are met…	use of defined term
105.	**3.1 Establishment of …** Title	Establishment of an ALPP	Establishment of an ~~ALPP~~ area of low pest prevalence	Consistent with use of the full term used in all previous and subsequent headings
	1st line	Low pest prevalence can occur…	Low pest ~~prevalence~~levels can occur …	Removal of non-defined term "prevalence". (Only used within the term "low pest prevalence")
106.	**3.1.1 Determination of specified pest levels** Title	Determination of specified pest levels	Determination of ~~specified pest~~ tolerance levels	Use of defined term " tolerance level"
	1st sentence	Specified levels for the relevant pests…	~~Specified~~ Tolerance levels for the relevant pests…	Use of defined term " tolerance level"
	1st sentence 3rd line	..pest prevalence is below these levels.	…pest incidence ~~prevalence~~ is below these levels.	Use of defined term "incidence" & use of tolerance level
	2nd sentence	Specified pest levels may be…	~~Specified~~ Tolerance levels may be…	Use of tolerance level
	Last sentence	…the specified levels should …	…the ~~specified~~ tolerance levels should….	Use of tolerance levels
107.	**3.1.3 Documentation and verification** 4th indent	.developed and implemented corrective actions.	developed and implemented corrective ~~actions~~action plans.	Use of full defined term.
108.	**3.1.4.1 Surveillance …** Paragraph 1, 1st sentence 3rd line	..at the specified level with an..	..at the ~~specified~~ tolerance level with an …	Use of tolerance level
	Paragraph 1, 3rd sentence	These protocols should include how to measure if the specified pest level has been maintained (e.g. type of trap,…	These protocols should include how to measure ~~if~~ the ~~specified~~ pest level ~~has been maintained~~ (e.g. type of trap,...	Amended to fit with tolerance level which is not "maintained" but should not be exceeded.

ISPM 22 / Table A Inconsistencies in the use of terms

	Paragraph 2, 1st sentence	..not exceed the specified pest level..	…not exceed the ~~specified pest~~ tolerance level …	Use of tolerance level
109.	**3.1.4.2 Reducing pest …** Title	Reducing pest levels and maintaining low prevalence	Reducing pest levels and maintaining low incidence ~~prevalence~~	Use of incidence
	Paragraph 1, 1st sentence	…and applied to meet pest(s) levels in the cultivated hosts,….	and applied to meet the ~~pest(s) levels~~ tolerance level in the cultivated hosts…	Use of tolerance level
110.	**3.1.4.2 Reducing pest …** 3rd sentence	…used to meet a specified pest level…	…used to meet ~~a specified pest~~ the tolerance level…	Use of tolerance
111.	**3.1.4.4 Corrective action plan** 1st sentence	…implemented if a specified pest level is exceeded…	…implemented if a ~~specified pest~~ tolerance level is exceeded …	Use of tolerance level
	2nd sentence	…area in which the specified pest level has been exceeded.	…area in which the ~~specified pest~~ tolerance level has been exceeded.	Use of tolerance level
	Last sentence	Corrective actions should also address…	Corrective ~~actions~~action plans should also address…	Use of full term – corrective action plan.
112.	**3.3 Change in the status…** Paragraph 1	…at a level exceeding the specified pest level(s) within …	… at ~~a level~~ an incidence exceeding the ~~specified pest level(s)~~tolerance level within	consistent terminology & use of tolerance level
	Paragraph 2, 1st indent	- repeated failure of regulated procedures		This refers to the application of the procedures. The new wording is consistent with similar wording in ISPM 30 (2008)(section 2.5.1)
	Paragraph 3, 2nd sentence	The corrective actions should be initiated as soon as possible after	The corrective ~~actions~~ action plan should be initiated as soon as possible after confirmation that the ~~specified pest~~ tolerance level has been ….	Use of full term – corrective action plan

			ISPM 22 / Table A Inconsistencies in the use of terms	
		confirmation that the specified pest level has been…	.. (as part of the corrective action plan in the case of detection of a specified pest (s) above ~~a~~ ~~specified~~ the tolerance level)…	Use of tolerance level
	Paragraph 4, 1st indent	…(as part of the corrective action plan in the case of detection of a specified pest (s) above a specified level) …		Use of tolerance level
113.	**3.3 Change in the status..** Paragraph4, 3rd indent	- redefined to exclude a certain area, if the specified pest level of a pest is exceeded in a limited area…	- redefined to exclude a certain area, if the tolerance ~~specified pest~~ level ~~of a pest~~ is exceeded in a limited area....	Use of tolerance level
	Paragraph 4, 4th indent	- suspended (status lost)	- suspended ~~(status lost)~~	"status lost" is not consistent with the meaning of suspended.
114.	**3.4 Suspension and …**			.
	2nd sentence	Corrective actions, and if necessary, additional …	Corrective ~~actions~~ action plans, and if necessary, additional ..	Use of full term – corrective action plan
	3rd sentence	..specified pest level for an appropriate period …	.. ~~specified pest~~ tolerance level for an appropriate period …	Use of tolerance level
	4th sentence	…time below the specified pest level(s) for reinstatement of…	…time below the ~~specified pest~~ tolerance level(s) for reinstatement of…	Use of tolerance level
	5th sentence	…and the integrity of the system is verified, the ….	…and ~~the integrity of the system is~~ compliance with the operational plan has been verified, the…	Use of "integrity" could be confusing, compliance preferred.

SUPPLEMENT 1 TO ISPM 5: GLOSSARY OF PHYTOSANITARY TERMS

TABLE A: INCONSISTENCIES IN THE USE OF TERMS

In addition to the changes below, the recommendations regarding the format of references to ISPMs/IPPC and endorsement section should be applied to this standard.

Supplement 1 to ISPM 5 / Table A Inconsistencies in the use of terms				
	Section	**Existing text**	Proposed ink amendments	**Rationale**
115.	**4. General Requirements** Paragraph 1	Official control is subject to the "principles of plant quarantine as related to international trade," in particular the principles of non-discrimination, transparency, equivalence and risk analysis.	Official control is subject to ISPM 1:2006,~~the "principles of plant quarantine as related to international trade,"~~ in particular the principles of non-discrimination, transparency, equivalence of phytosanitary measures and pest risk analysis.	To update to the revised ISPM 1:2006 Add phytosanitary measures and pest risk analysis to be in line with ISPM 1.
116.	**4. General Requirements** Paragraph 3, 3rd indent	- measures related to controls on movement into and within the protected area(s) including measures applied at import.	- ~~measures related to controls on~~restrictions related to the movement into and within the protected area(s) including phytosanitary measures applied at import.	"Controls" is not the correct term here, it is misused.. "restrictions" can be used instead. "Phytosanitary" has to be added to the word " measures" to match the defined term.
117.	**4. General Requirements** Paragraph 4, 2nd and last sentence	...and effect of control to justify measures applied at import for the same purpose. Measures applied at import...	..and effect of control to justify phytosanitary measures applied at import for the same purpose. Phytosanitary ~~M~~measures applied at import ...	"Phytosanitary" has to be added to the word " measures" to match the defined term.
118.	**5.1 Non-discrimination** Paragraph 1	The principle of non-discrimination between domestic and import requirements is fundamental. In particular, requirements for imports should not be more stringent than the effect of official control in an importing country. There should therefore be consistency between import and domestic requirements for a defined	The principle of non-discrimination between domestic requirements and phytosanitary import requirements is fundamental. In particular, requirements for imports should not be more stringent than the effect of official control in an importing country. There should therefore be consistency between ~~import and~~ domestic requirements and phytosanitary import	"Phytosanitary" has to be added to the words " import requirements" to match the defined term. Phrases containing "import and domestic" have been switched to "domestic and import" to be consistent throughout the text of the Supplement.

Supplement 1 to ISPM 5 / Table A Inconsistencies in the use of terms				
		pest:	requirements for a defined pest:	
119.	**5.1 Non-discrimination** Paragraph 1, 5th indent	in the case of non-compliance, the same or equivalent actions should be taken on imported ...	in the case of non-compliance, the same or equivalent phytosanitary action~~s~~ should be taken on imported...	Use "phytosanitary action" instead of "actions" because it is a term defined in the glossary.
120.	**5.1 Non-discrimination** Paragraph 1, 6th indent	- if a tolerance is applied within a national programme, the same tolerance should be applied to equivalent imported material. In particular, if no action is taken in the national official control programme because the infestation level does not exceed a particular level, then no action should be taken for an imported consignment if its infestation level does not exceed that same level. Compliance with import tolerance is generally ….	- if a tolerance level is applied within a national programme, the same tolerance level should be applied to equivalent imported material. In particular, if no action is taken in the national official control programme because the ~~infestation level~~ pest incidence does not exceed ~~a particular~~ the tolerance level concerned, then no action should be taken for an imported consignment if ~~its infestation level~~ the incidence does not exceed that same level. Compliance with import tolerance levels is generally ….	Use "tolerance level", as it has been adopted in CPM 4, 2009 instead of tolerance. Change infestation level to incidence as it has been adopted in CPM 4, 2009.
121.	**5.2 Transparency**	The import and domestic requirements for official control should be documented and made available, on request.	~~The import and domestic requirements for official control~~ Domestic requirements for official control and the phytosanitary import requirements should be documented and made available, on request.	Phrases containing "import and domestic" have been switched to "domestic and import" to be consistent throughout the text of the Supplement. Phytosanitary import requirements is a defined term.
122.	**5.3 Technical justification (risk analysis)** Title	**5.3 Technical justification (risk analysis)**	**Technical justification ~~(risk analysis)~~**	Technical justification is a basic principle according to ISPM 1:2006 and Pest risk analysis is an operational principle , but they are not the same thing
123.	**5.3 Technical justification (risk analysis)**	Domestic and import requirements should be technically justified and result in non-discriminatory risk management.	Domestic requirements and ~~the~~ phytosanitary import requirements should be technically justified and result in non-discriminatory phytosanitary measures ~~risk management~~.	Phrases containing "import and domestic" have been switched to "domestic and import" to be consistent throughout the text of the Supplement. "Phytosanitary measures" is the correct

Supplement 1 to ISPM 5 / Table A Inconsistencies in the use of terms				
				term for technical justification according to ISPM 1
124.	**5.4 Enforcement** 1st sentence 3rd indent	The domestic enforcement of official control programmes should be equivalent to the enforcement of import requirements. Enforcement should include: - official action in case of non-compliance.	The domestic enforcement of official control programmes should be equivalent to the enforcement of phytosanitary import requirements. - ~~official~~ phytosanitary action in case of non-compliance.	Phytosanitary import requirements is a defined term. Use "phytosanitary action" instead of "official action" because it is a term defined in the glossary and to be consistent with change in 5.1.
125.	**5.6 Area of application** 3rd sentence	Any import restrictions should have the same effect as the measures applied internally for official control.	Any phytosanitary import ~~restrictions~~ requirements should have the same effect as the domestic requirements ~~measures applied internally~~ for official control.	Phytosanitary import requirements is a defined term. The use of the word "restrictions" is inconsistent with previous text. To be consistent with language in this text. " domestic requirements has been used instead of " measures applied internally".
126.	**5.7 NPPO authority and involvement in …** 1st indent 3rd indent 4th indent	- be established or recognized by the national government or the NPPO under appropriate legislative authority - have enforcement assured by the national government or the NPPO - be modified, terminated or lose official recognition by the national government or the NPPO. Responsibility and accountability for official control programmes rests with	-be established or recognized by the contracting party~~national government~~ or the NPPO under appropriate legislative authority -have enforcement assured by the ~~national government~~contracting party or the NPPO -be modified, terminated or lose official recognition by the contracting party ~~national government~~ or the NPPO. Responsibility and accountability for official control programmes rests with the	Consistent with the language of the IPPC

Supplement 1 to ISPM 5 / Table A Inconsistencies in the use of terms				
		the national government. ...	contracting party~~national government~~. ...	
127.	**REFERENCES** Add a reference		**ISPM 1**. 2006. *Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade*. Rome, IPPC, FAO.	Add reference to ISPM 1 because it is mentioned in the text

Additional recommendations from the TPG on formatting and for the Secretariat

RECOMMENDATIONS ON THE FORMAT OF REFERENCES TO ISPMS/IPPC AND ENDORSEMENT SECTION

- References to the New Revised Text of the IPPC (1997) in the text of ISPMs should be changed to IPPC (with no date following), because there is only one Convention.

- References to ISPMs in the References section should be as follows:
  ISPM 5. 2009. *Glossary of phytosanitary terms*. Rome, IPPC, FAO.

- References to ISPMs in the References section should be listed by numerical order.

- In the body of the text, cross references to other ISPMs should be made using the number of the ISPM and date of adoption, without repeating the full title, i.e. ISPM X:date (e.g. ISPM 5:2009).

- The Endorsement section at the beginning of each standard should be re-named Adoption because ISPMs are always adopted. Within this section, write for example “adopted by CPM-3 in 2008” (and not endorsed).

OTHER RECOMMENDATIONS TO BE IMPLEMENTED BY THE SECRETARIAT

– ensure that each ISPM includes a section “Adoption” (previously “endorsement”).

– incorporate the guidance on “and/or” in Annex 4 into the *style guide for ISPMs (under development).*

– ensure consistent use of capital letters in ISPM 13.

– consult with FAO Legal Service and prepare recommendation for the SC regarding the following issue: because the original versions of officially revised standards are no longer available and are no longer valid guidelines, there was discussion on the possibility of formally revoking old standards.

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

DRAFT AMENDMENT TO ISPM 5:2009

DELETION OF OLD TERM AND DEFINITION: "BENEFICIAL ORGANISM"

(200-)

Date of this document	10 December 2009
Document category	Draft amendment to ISPM 5, *Glossary of phytosanitary terms*
Current document stage	SC November 2009 recommended for adoption by CPM-5; edited and formatted in new template
Origin	ICPM-7 (2005) asked for GWG consideration of terms in revised ISPM 3:2005
Major stages	CPM-3 (2008) asked SC (TPG) to consider definition of "beneficial organism"

AMENDMENTS TO ISPM 5 (*GLOSSARY OF PHYTOSANITARY TERMS*)

1. Deletion of Old Term and Definition: "Beneficial Organism"

Background

The consideration of this term began in 2005 when the Glossary Working Group (GWG) was asked by ICPM-7 to look at the terms and definitions in the revised version of ISPM 3:2005 (see ICPM-7, 2005, par. 79.2), taking into account comments made at ICPM-7. At the 2005 meeting the GWG suggested that "sterile insects" be added to the definition of "biological control" and that the existing definitions of "beneficial organism" and "biological control agent" be retained (see report of GWG, 2005, par. 5.6).

During the period between 2005 and 2007, exchanges between the Standards Committee (SC) and the Technical Panel for the Glossary (TPG) included suggestions of deleting reference to "biological control agents" or "sterile insects" or both from the definition. If both references were deleted, the definition would not be needed because the definition would be in the general meaning of "beneficial organism". However, if reference to "sterile insects" were deleted, there would be no change to the existing definition, and this would fail to take account of the intent for ISPM 3:2005 to cover sterile insects within the term for beneficial organism.

At the 2006 TPG meeting, discussions of the revision of the definition of "biological control" following CPM-1 (2006) led to the deletion of the term from the *Glossary of phytosanitary terms* at CPM-2 (2007) and the revision of the definition of "beneficial organisms'' to cover sterile insects. This was reiterated at the SC meeting in May 2007.

In its meeting in 2008, CPM-3 requested the TPG to consider further the definition for "beneficial organism" and whether the term should be maintained in the Glossary. However, discussions at CPM-3 (2008) indicated that there was still concern over the definition of "beneficial organism" and even the need for the term to be included in the Glossary.

At the TPG meeting in Copenhagen, Denmark, in October 2008, there was further discussion of the term "beneficial organism". The TPG investigated the use of the term in the Convention and found that the text of the IPPC (Article VII 1.d), where it mentions the organisms "of phytosanitary concern claimed to be beneficial", was confusing. The French version of the Convention refers to the organisms of phytosanitary importance and the Spanish version refers to organisms of interest.

In the SC meeting of November 2008, the TPG proposed that the term "beneficial organism" be withdrawn from the Glossary. The SC agreed to have a document prepared by the TPG, for review by the SC in May 2009, proposing the deletion of the term and definition of "beneficial organism" from the Glossary.

The TPG meeting in October 2009 discussed the member comments. Of the 13 different comments received, four proposed to keep the term and definition in the Glossary, two asked for further clarification and six agreed with the deletion (one of which asked for a general analysis of what are beneficial organisms). After consideration of the comments, the TPG reiterated its recommendation that the term "beneficial organism" be deleted from the Glossary. No new element was brought to the discussion, and the explanation above is unchanged.

Amendments to ISPM 5: Proposed for Deletion

beneficial organism	Any **organism** directly or indirectly advantageous to **plants** or **plant products**, including **biological control agents** (ISPM 3:2005)

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

DRAFT STANDARD

DESIGN AND OPERATION OF POST-ENTRY QUARANTINE STATIONS FOR PLANTS

(200-)

Date of this document	10 December 2009
Document category	Draft ISPM
Current document stage	SC November 2009 recommended for adoption by CPM-5; edited and formatted in new template
Origin	Work programme topic: Post-entry quarantine facilities
Major stages	Specification No. 24, November 2004. Member consultation (regular process) June 2009

CONTENTS

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. 2009. *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 5:2009.

Outline of Requirements

Pest risk analysis (PRA) should be carried out to determine the phytosanitary measures for specified plants for planting 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 for planting 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 for planting are suitably confined and do not move or escape from the station. The PEQ station should also ensure that consignments of plants for planting 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 for planting 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 for planting. 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 quarantine 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 indentify 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 a PEQ station is to confine both the plants and any quarantine pest potentially associated with them so that they cannot escape or be removed from the station. 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 according to ISPM 2:2007 and ISPM 11:2004. The PRA determines the pest risk associated with the plants for planting and identifies phytosanitary measures, which may include post-entry quarantine, 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 for planting should consider the biology of both the plants for planting and the quarantine pests that may potentially be associated with them, particularly their mode of dispersal and spread. Successful detention of consignments of plants for planting 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 for planting 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 for planting, 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 for planting 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 to the station (to avoid traffic in areas where plants for planting 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
- 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 for planting 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 for planting, 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 for planting 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
- provision for disinfestations of the station before introduction of plants for planting or in the event of pest occurrence
- ensuring adequate spatial separation of different consignments or lots within the station
- 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)
- use of specific confinement equipment (e.g. biological safety cabinets, cages) if needed
- 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
- 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
- description of how plants are to be handled, sampled and transported to diagnostic laboratories for the testing of quarantine pests
- restricting staff contact with plants that may be at risk outside the PEQ station
- 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
- provision for assessment and control (e.g. maintenance and calibration) of equipment (e.g. autoclaves and biological safety cabinets)
- 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 schedule for internal and external audits to check that the station meets the requirements (e.g. structural integrity and hygiene requirements)
- 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
- provision for disposal and inactivation of infested consignments
- procedures for decontamination and disposal of waste, including packaging and substrate
- use of dedicated or disposable personal protective equipment
- procedures that describe how documents are reviewed, amended and controlled

- 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 where appropriate.

2.3.3 Record keeping

The following records may be required:

- a list of PEQ station staff and other persons authorized to enter the station (or specific parts thereof)
- 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 visitors
- a record of all PEQ activities conducted in the station (e.g. staff activities, inspections, testing, treatments, disposal and release of consignments of plants for planting in quarantine)
- a record of all consignments of plants in the PEQ station and their source of origin
- a record of equipment
- records of training and skills of staff.

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 audited on a regular basis to ensure that the station meets the physical and operational requirements.

3. Completion of PEQ Process

Consignments of plants for planting 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 for planting 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 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 for planting. 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)	• 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 • Backup electricity supply system for air flow systems and to maintain other equipment • High-efficiency particulate air (HEPA) filtration or its equivalent (HEPA filters to trap 99.97% of particles of 0.3 microns in diameter and 99.99% of particles of greater or smaller size) • 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 • Backup electricity supply system for air flow systems and to maintain 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 and 99.99% of particles of greater or smaller size) • 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□□

Draft specification: Minimizing quarantine pests in stored products in international trade

Title: Minimizing the risk of quarantine pests associated with stored products in international trade.

Reason for the standard: In international trade, stored products may be a pathway for introducing and spreading quarantine pests to new areas in different ways. Storage may allow the development or multiplication of some quarantine pests in stored products leading to a risk of introduction and spread of such products are subsequently traded internationally. A standard is needed to provide guidance on appropriate handling and storage conditions for relevant stored products to minimize the risks of these quarantine pests.

Scope and purpose: This standard should address the role of storage as a risk factor for the subsequent introduction and spread of quarantine pests when stored products are traded internationally. The standard should describe important quarantine pests that may develop or multiply during the storage of stored products, including storage during transport. It will provide recommended phytosanitary measures that will minimize the risks of quarantine pests for the main categories of relevant stored products.

Tasks: The expert working group (EWG) should:

1. Identify quarantine pests that develop and multiplying stored products during storage, and identify the relevant types of stored products.
2. Describe the typical storage conditions for the relevant stored products (e.g. O_2/CO_2 ratio, humidity, temperature, location, hygiene, stacking, bagging, etc.) that contributes to the development and multiplication of these quarantine pests.
3. Identify the suitable storage conditions that will minimize the risk of pest development and multiplication for the relevant stored products and quarantine pests.
4. Consider and describe, if appropriate, how storage during transport may affect risks of these quarantine pests. 7.
5. Describe the types of storage treatments and handling procedures that will minimize the risk of pest development and multiplication for the relevant stored products and quarantine pests
6. In addition, consider whether the new ISPM could affect in a specific way (positively or negatively) on biodiversity and the environment. If this is the case, the impact should be identified, addressed and clarified in the ISPM.

Provision of resources: Funding for the meeting is provided by the IPPC Secretariat (FAO) except where expert participation is voluntarily funded by the expert's government. As recommended by ICPM-2 (1999), whenever possible, those participating in standard setting activities voluntarily fund their travel and subsistence to attend meetings. Participants may request financial assistance, with the understanding that resources are limited and the priority for financial assistance is given to developing country participants.

Steward: Safwat El-Haddad (Egypt)

Expertise: 5-7 phytosanitary and/or storage experts that have experience in one or more of the following: phytosanitary regulation, quarantine pests of stored products, the control of quarantine pests of stored products, and/or relevant aspects of other standards and draft standards.

Approval: Introduced into the work program by ICPM-7 (2005). Specification approved by the Standards Committee (via e-mail) in January 2006 for country consultation.

References: The IPPC, relevant ISPMs and other national, regional and international standards and agreements as may be applicable to the tasks, and discussion papers submitted in relation to this work.

Discussion papers: Participants and interested parties are encouraged to submit discussion papers to the IPPC Secretariat (ippc@fao.org) for consideration by the expert drafting group.

Draft specification: Minimizing pest movement by containers in international trade

Title: Minimizing pest movement by sea containers and conveyances in international trade

Reason for the standard:
Shipping containers (i.e. 20- and 40-foot containers) are a significant pathway for the potential entry of pests, as they are now the most common means of transfer of traded goods. During storage or loading, pest insects, snails, other invertebrates, and vertebrates may contaminate containers, attracted by odour, light, temperature or humidity conditions, whilst micro-organisms, weed seeds and other plant parts may be present in contaminating soil, birds' excrement etc. on or inside containers. A country may already regulate some of the pests as quarantine pests, whilst others may not yet have been evaluated in a PRA, but may be potential quarantine pests. Containers move between many countries, and therefore a standard is needed to provide guidelines to countries for managing such phytosanitary risks. As several countries have already developed and implemented phytosanitary standards related to this issue, there is a need to harmonize phytosanitary measures related to containers.

Scope and purpose:
The standard will provide guidance to NPPOs as to

- Identifying particular pest risks associated with sea containers as pathways in sea and overland transport between countries
- Appropriate phytosanitary measuresto mitigate such risks prior to export prior to and/or at import, including procedures for loading and cleaning of the interior and exterior of containers, inspection, as well as measures related to the area surrounding locations where loading takes place
- Verification procedures

The purpose of this standard is to minimize the risk of quarantine pests moved as contaminants with containers, irrespective of the cargo carried. The standard should not aim at providing prescriptive instructions and should aim at guidance with minimum impediment to efficient trade logistics.

Tasks:
The expert working group should:

1. Consider the extent and importance of international pest dispersal caused by containers and identify examples
2. Identify the ways that contamination leading to pest risk can occur and note the critical points, including issues regarding origin and seasonality
3. Review existing international conventions, standards, and industry practices that may be relevant to help reduce pest risks from container movement in international trade and delimit the scope of this standard accordingly
4. Identify and describe phytosanitary measures and best management practices to reduce pest risks, including
    - procedures for loading of containers to minimise contamination
    - procedures and practical methods for cleaning of containers (outside and inside) prior to export prior to and/or at import
    - measures carried out in the area surrounding locations where loading and storage takes place
    - inspection prior to export, prior to and/or at import
    - appropriate safeguarding actions and phytosanitary measures to be taken in case of non-compliance

5. Review existing and/or, if needed, describe possible new verification systems to certify the origin and/or cleaning and/or treatments of containers, respectively the compliance with this standard or parts thereof, including consideration of e.g.

- the use of a specific compliance documentation or label for containers
- a checking system leading to the use of a verifying label
- a system for the authorization/accreditation of container companies, export, shipping or treatment companies

6. Describe the appropriate distribution of responsibilities among NPPOs and stake holders
7. Consider whether the standard could affect in a specific way (positively or negatively) the protection of biodiversity and the environment. If this is the case, the impact should be identified, addressed and clarified in the draft standard.
8. Consider whether and how the resulting guidelines could support the development of guidelines for minimizing pest movements by conveyances.

Provision of resources:
Funding for the meeting is provided by the IPPC Secretariat (FAO). As recommended by ICPM-2 (1999), whenever possible, those participating in standard setting activities voluntarily fund their travel and subsistence to attend meetings. Participants may request financial assistance, with the understanding that resources are limited and the priority for financial assistance is given to developing country participants.

Stewards: Ebbe Nordbo (Denmark) and John Hedley (New Zealand)

Collaborator: To be determined.

Expertise: 5-7 phytosanitary experts with one or more of the following expertise: export and import systems dealing with container cargo, in developing certification/auditing/accrediting/authorizing systems, treatment of containers, and relevant container inspectors/surveyors with experience in finding and identifying relevant pests in containers. In addition to those experts, the Container Owners' Association and CBD are invited to nominate an expert to attend the relevant parts of the expert drafting group meeting(s).

Participants: to be determined.

Approval: Introduced into the work programme by CPM 3. Specification approved by the Standards Committee in MMYY.

References:

- International Plant Protection Convention, 1997

A site acting as a source of relevant papers to be set up on the IPP is being discussed with the Secretariat.

Discussion papers: Participants and interested parties are encouraged to submit discussion papers to the IPPC Secretariat (ippc@fao.org) for consideration by the expert drafting group.

STEWARDS OF TECHNICAL PANELS AND ISPMs
(As of November 2009)

Stewards of technical panels

Steward (Country, date assigned)	Spec No. (priority)	Title of specification
Chard, Jane (United Kingdom, SC Nov 2008)	TP3 Rev1	Technical panel on phytosanitary treatments
Hedley, John (New Zealand, SC Nov 2005)	TP5	Technical panel on the Glossary of phytosanitary terms
Aliaga, Julie (US, SC Nov 2009)	TP2 Rev2	Technical panel on pest free areas and systems approaches for fruit flies
Unger, Jens (Germany, SC Apr 2004)	TP1 Rev2	Technical panel to develop diagnostic protocols for specific pests
Wang, Fuxiang (China, SC Nov 2008)	TP4 Rev1	Technical panel on forest quarantine

Stewards of ISPMs

Steward (Country, date assigned)	Spec No. (priority)	Title of specification
Aliaga, Julie (United States, SC Nov 2007)	33 (High)	Supplement to ISPM No. 5 (*Glossary of phytosanitary terms*): Guidelines for the interpretation and application of the phrase not widely distributed in relation to quarantine pests
Aliaga, Julie (United States, SC Nov 2008)	49 (Normal)	Forest pest surveys for determination of pest status
Aliaga, Julie (United States, SC Nov 2007)	Draft approved (High)	General Guidelines for Inspection Manuals
Chard, Jane (United Kingdom, SC Nov 2008)	21 (High)	Guidelines for regulating potato micropropagation material and minitubers in international trade
Enkerlin, Walther (NAPPO, SC May 2007)	35 (High)	Trapping procedures for fruit flies (Tephritidae)
Enkerlin, Walther (NAPPO, SC Nov 2008)	Draft approved (High)	Experimental protocol to determine host status of fruits to fruit fly (Tephritidae) infestation
Forest, Marie-Claude (Canada, SC Nov 2008)	43 (Normal)	Movement of soil and growing media in association with plants in international trade
Forest, Marie-Claude (Canada, SC Nov 2008)	- (High)	Systems for authorizing phytosanitary activities
Gonzalez, Magda (Costa Rica, SC Nov 2008) (Backup: Holtzhausen, Mike (South Africa, SC Nov 2008))	29 (Normal)	The use of integrated measures in a systems approach for pest risk management of fruit flies
Gonzalez, Magda (Costa Rica, SC Nov 2008)	- (Normal)	International movement of cut flowers and foliage
Haddad, Safwat A. El (Egypt, SC May 2009)	Draft to be sent to SC (Normal)	Regulating stored products in international trade
Hedley, John (New Zealand, SC May 2006)	32 (High)	Review of ISPMs

Steward (Country, date assigned)	Spec No. (priority)	Title of specification
Holtzhausen, Mike (South Africa, SC Nov 2006) (Backup: Sakala, Arundel (Zambia, SC Nov 2008))	42 (High)	Pre-clearance for regulated articles
Holtzhausen, Mike (South Africa, SC Nov 2007)	45 (Normal)	Import of plant breeding material for scientific research, education or other specific use
Melcho, Beatriz (Uruguay, SC May 2007)	24 (Normal)	Post-entry quarantine facilities
Nordbo, Ebbe (Denmark, SC Nov 2008)	44 (High)	Pest risk analysis for plants as quarantine pests
Nordbo, Ebbe (Denmark, SC Nov 2008) (Backup: Hedley, John (New Zealand, SC Nov 2008))	- (High)	Minimizing pest movement by sea containers and conveyances
Opatowski, David (Israel, SC Apr 2005)	34 (High)	Pest risk management for plants for planting in international trade
Opatowski, David (Israel, SC Nov 2008) (Backup: Musa, Khidir (Sudan, SC Nov 2008))	39 (High)	Suppression and eradication procedures for fruit flies (Tephritidae)
Peralta, Ana (COSAVE, SC Nov 2008)	- (Normal)	Terminology of the Montreal Protocol in relation to the Glossary of phytosanitary terms (appendix to ISPM No. 5)
Porritt, David (Australia, SC Nov 2008)	- (Normal)	Handling and disposal of garbage moved internationally
Rossi, Guillermo (Argentina, SC May 2009)	48 (Normal)	International movement of used vehicles, machinery and equipment
Sakala, Arundel (Zambia, SC Nov 2008)	- (Normal)	Use of permits as import authorization (Annex to ISPM No. 20: *Guidelines for a phytosanitary import regulatory system*)
Sakamura, Motoi (Japan, SC Nov 2006)	38 (High)	Revision of ISPMs No. 7 and 12
Setiawan, Dwi (Indonesia, SC Nov 2008)	- (Normal)	Wood products and handicrafts made from raw wood
Unger, Jens (Germany, SC Nov 2008)	- (High)	Minimizing pest movement by air containers and aircrafts
Unger, Jens (Germany, SC Nov 2008)	- (Normal)	International movement of grain
Wang, Fuxiang (China, SC Nov 2008)	47 (High)	Reducing pest risks in the international movement of seeds of forest tree species
Wolff, Greg (Canada, SC May 2006)	31 (High)	(As part of Revision of ISPM No. 15 (*Guidelines for regulating wood packaging material in international trade*))
Forest, Marie-Claude (Canada, SC November 2009) Awosusi, Olufunke Olusola (Nigeria, SC November 2009)	46 (High) -	Management of phytosanitary risks in the international movement of wood Revision of ISPM No. 4

Steward (Country, date assigned)	Spec No. (priority)	Title of specification
Hedley, John (New Zealand, SC November 2009)	-	Revision of ISPM No. 6
Melcho ,Beatriz (Uruguay, SC November 2009)	-	Revision of ISPM No. 8
Gonzalez, Jaime (IAEA, SC November 2009)	-	Establishment and maintenance of regulated areas upon outbreak detection in Fruit Fly Free areas
TPFQ member (SC November 2009)	-	Biological control for forest pests
Sakala, Arundel (Zambia, SC November 2009)	-	International movement of seed

Establishment of Working Procedures for Decisions by Electronic Communication

Background
There is a need to harmonize guidelines for SC communication via electronic means. At present there is an SC (2005) decision on the use of email, and a CPM-3 (2008) decision on the use of electronic communication in the special standard setting process. Generally speaking, the 2008 CPM-3 decision permits a broader use of electronic communications in terms of the types of decisions that can be made electronically. This is reflected in Table 1 below which shows that the CPM-3 decision has expanded the opportunity for the SC to make decisions by electronic means, and that the SC (2005) decision limits electronic decision making to two specific cases (approvals of explanatory documents and selected nominations), and requires that other uses of electronic decision making be approved in advance at face-to-face SC meetings.

At the November 2008 SC meeting, a paper (2008-SC-Nov-26, Agenda item 6) was presented which suggested that the SC might wish to revisit its 2005 decision on the use of electronic communication in order to be more consistent with the CPM-3 decision. This paper also proposed a draft procedure for conducting discussions and making SC decisions via electronic communication and identified other types of SC decisions that could be made via email.

Following discussion of the paper presented at the November 2008 SC meeting, the SC agreed that the issue of working procedures for decisions to be made by electronic means should be added to the agenda of their next meeting for further discussion.

November 2008 SC meeting proposal regarding electronic communications
At the November 2008 SC meeting it was suggested that the SC revisit their previous discussion on use of electronic communications in order to be more consistent with the procedure adopted at CPM-3. It was proposed that:

1) The SC may wish to consider other types of discussions and decisions that may be made using electronic communications:

For example, other decisions that could be made via electronic means include:

- approval of draft specifications for member consultation
- finalization and approval of draft specifications
- develop and comment on draft specifications (e.g. on Google Documents) before the SC meeting
- selection of expert drafting groups members
- adjustments to stewards (of specifications, draft ISPMs and technical panels)
- any other tasks decided by the CPM or, if appropriate, the SC,
- exceptional cases could be determined in consultation with the SC chairperson.

2) The SC may wish to consider whether an issue must first be identified at a face-to-face meeting of the SC before an electronic decision making process can be used.

November 2008 SC meeting proposed procedures for discussions and decisions via electronic means

--Procedure for conducting discussions via electronic means (draft)
At the November 2008 SC meeting, it was proposed that:
To initiate a discussion via electronic means, an SC member may submit the proposed topic and a proposed timeline for discussion to the Secretariat. In consultation with the SC Chair, the Secretariat communicates the topic for discussion and the timeline to the SC. If a decision is needed as a result of

the discussion, the SC Chair will provide a summary of the discussion and a proposed decision to the SC to be taken.

--Procedure for making decisions via electronic means (draft)
At the November 2008 SC meeting, it was proposed that:
In relation to electronic consultations to make a decision, if at least one SC member raises an objection by the deadline, there is no consensus. If there are no objections by the deadline, the Secretariat may consider that the SC is in agreement and a course of action in line with the decision should be taken.

If there is no consensus, the SC chair should summarize the issues and try to reformulate the proposed decision and submit for another round of consultation among SC members in order to try to reach consensus.

If there again remains no consensus, the SC chair should communicate what he/she feels are the main points to the SC. This issue should be added to the agenda of the next SC meeting for further discussion and decision.

November 2008 SC meeting discussion on proposals regarding electronic communications
During the November 2008 meeting, one member indicated that no response should not be considered as agreement, as had been the convention in previous e-mail consultations. The Secretariat indicated that very few responses are usually received and to get all members to respond would be difficult. In addition, the Secretariat noted that the use of electronic communication for some activities was a part of the special standard setting process adopted by CPM-3 and may be used without a previous decision to do so at an SC meeting.

Several members indicated that it was often very difficult to respond in the short turn around time given due to work schedules, duty travel and problems with e-mail and internet servers. Members supported specifying a time period that would allow SC members sufficient time to provide input on the decisions to be made and consider points raised by other members. It was decided that SC members should be given three weeks to respond. It was also suggested that many documents needing SC review, such as terms of reference and rules of procedure and other such documents, could be done by e-mail to allow more time in SC meetings to review and discuss standards.

Another member requested that final decisions taken in e-mail discussions be communicated to all SC members so that they are aware of the final outcome.

The Secretariat suggested finding new ways to hold discussions using electronic means, such as through discussion boards or through the IPP (see May SC paper, Agenda item 7.2). Several members described their experiences with this type of approach in their work and indicated that it took some effort to start up discussions and keep them going, but that they often worked well.

The SC:

--***decided*** that other types of discussions and decisions listed below may be made through the use of electronic communications:

- development of draft specifications for member consultation
- selection of expert drafting groups members
- adjustments to stewards (of specifications, draft ISPMs and technical panels)
- any other tasks decided by the CPM or, if appropriate, the SC,
- exceptional cases could be determined in consultation with the SC chairperson;
- To change two weeks to three weeks

--***decided*** that issues for electronic communication no longer need to be first identified at a face-to-face meeting of the SC;

--***approved*** the draft procedures for conducting discussions and making decisions by electronic means presented above.

Working procedures for electronic decisions and discussions
Comparison of relevant decisions and proposals

Table 1

	CPM-3 2008 Decision	**SC 2005 Decision**	**SC November 2008 Proposals**
Applies to:	Special standard setting process		
Decisions that can be made electronically:	1) clearance of draft ISPMs for member consultation (Step 4) 2) consideration of member comments (Step 5) 3) determining how to proceed with draft ISPMs that are modified as a result of comments (Step 6) 4)determining how to proceed with draft ISPMs that have received formal objections 14 days prior to the CPM (Step 7)	1) approval of selected nominations 2) approval of explanatory documents	1) approval of draft specifications for member consultation 2) finalization and approval of draft specifications 3) selection of expert drafting groups members 4) [22]adjustments to stewards (of specifications, draft ISPMs and technical panels) 5) any other tasks decided by the CPM or, if appropriate, the SC
Other Uses of electronic communication to take a specific decision:		1) Must be previously agreed on at a face to face meeting 2) Exceptional cases determined in consultation with the Secretariat and the SC chairperson	1) Exceptional cases determined in consultation with the Secretariat and the SC chairperson
Rules for Agreement:		1) If SC member does not respond, s/he can still provide comments at next meeting	1) If no objection by deadline, SC is considered to be in agreement 2) If one or more SC members raise objection before the deadline, there is no consensus.
Deadline for Response:	None specified	None specified	Up to three weeks

[22] It does not mean assignment of stewards

Liaison with FAO country representatives to help ensure full participation by selected experts in IPPC standard setting groups

Introduction
Appropriate senior government officials, including in some cases NPPO officials, need to be informed of the importance of the participation of selected experts in standard setting groups and of the level of commitment involved.

Timely and appropriate communication regarding the selection of an expert by either an FAO regional group or the SC and the level of commitment involved should be sent to NPPO officials via the IPPC contact point in the expert's country. In some cases, notification of the selection of an expert may also need to be sent to an appropriate senior official in a body or organization other than the NPPO in order to gain the official release of the expert and obtain an official commitment to the expert's full participation in IPPC activities. In these cases, it may be appropriate for the communication with the senior official(s) to be sent through the FAO Country representative (with copies to the appropriate FAO Regional chair and country permanent representative to FAO).

Comments
Sometimes full participation of an expert in an CPM subsidiary body or an IPPC expert drafting group is not possible due to the fact that the expert has not been able to obtain official permission from the appropriate official or official body in their country.

When nominees are unable to fully participate in these groups, difficulties result, such as:

1. unbalanced participation from some regions in CPM subsidiary bodies or IPPC expert drafting groups,
2. inability to replace experts who are unable to participate may result in the loss of valuable expertise or perspectives
3. schedules may have to be changed because of absences, resulting in inconvenience to other participants and/or increased costs or administrative burdens.

In general, official participation in CPM subsidiary bodies and IPPC expert drafting group begins with an official nomination of an expert by an FAO regional group, NPPO or RPPO. Following a confirmation or selection process, an invitation from the IPPC Secretariat is sent to the expert. A note or notification should be sent to the organization or expert. In order to ensure full participation by these experts, the SC, at their last meeting in November 2008 (see report item 10, paragraphs 77 to 81) requested the Secretariat, upon request by the expert, to work with the appropriate FAO Country representative to help ensure that appropriate senior officials within the expert's country are informed.

This was proposed in order to ensure that appropriate senior government officials have a better understanding of the importance of these groups and the commitment required. This should also help ensure selected experts are released to participate in CPM subsidiary bodies and IPPC expert drafting groups.

Proposal
Once FAO regional groups or the SC have selected an expert to participate in a CPM subsidiary body or an IPPC expert drafting group, the expert may request that an e-mail from the IPPC Secretariat be sent to the corresponding FAO Country representative (with copies to the appropriate FAO Regional chair and country permanent representative to FAO). This correspondence will request the FAO country representative to inform the appropriate senior government official, who is responsible for releasing the selected expert, of the importance of their participation in the group and the commitment involved.

The SC:
-*noted* that a selected expert may, if the need arises, contact the Secretariat about notifying an appropriate senior official, in an organization other than the NPPO that the expert has been selected to participate in a CPM subsidiary body or IPPC expert drafting group and the commitment involved.
--*noted* that upon receiving such a communication from a selected expert the Secretariat will work with the FAO country representatives (involving appropriate FAO regional chairs and FAO permanent representatives) to ensure that the responsible senior official in the expert's country is of the expert's selection and the commitment involved, and is aware of the request to release the expert to participate in the CPM subsidiary body or the IPPC expert drafting group.

Commission on Phytosanitary Measures
Standards Committee
09 November – 13 November 2009
FAO Headquarters, Rome, Italy, German room, C-269 (Start time: 10:00)

PARTICIPANT LIST - DRAFT

A check (✓) in column 1 indicates attendance at the meeting

1	Participant role	Name, mailing, address, telephone	Email address	Member-ship Confirmed	Term expires
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