REPORT

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Standards Committee

November, 2016

Rome, Italy
14-18 November 2016

Food and Agriculture Organization of the United Nations

CONTENTS

LIST OF APPENDIXES

1. Opening of the meeting

1.1 Welcome by the IPPC Secretariat

[1] The IPPC Standards Officer welcomed the participants to Rome and in particular the Standards Committee (SC) members for whom this was their first meeting: Mr Youssef AL MASRI (Lebanon), Mr Samuel BISHOP (United Kingdom), Mr Jesulindo Nery DE SOUZA JUNIOR (Brazil), Mr HERMAWAN (Indonesia), Mr David KAMANGIRA (Malawi), Ms Alphonsine LOUHOUARI TOKOZABA (Republic of Congo).

[2] He acknowledged the absence of Mr Nazir AL-BDOUR (Jordan), Mr Ali Amin KAFU (Libya) and Mr Pere KOKOA (Papua New Guinea) and noted that four observers attended the meeting.

[3] He thanked the following for their in-kind staff contributions: France for a full-time staff for five years and the USA, New Zealand and Joint FAO/IAEA division for part-time staff. For 2016, he thanked Japan and Australia for hosting and supporting meetings and thanked Jamaica for hosting a meeting.

1.2 Election of the Rapporteur

[4] The SC elected Ms Laurence BOUHOT-DELDUC (France) as Rapporteur.

1.3 Adoption of the Agenda

[5] The SC adopted the Agenda (Appendix 1).

1. Administrative matters

[6] The IPPC Secretariat (hereafter "Secretariat") introduced the Documents list (Appendix 2) and the Participants list (Appendix 3). The participants were reminded to update any changes to their contact information on the International Phytosanitary Portal (IPP – www.ippc.int).

[7] The Secretariat provided a document on local information[1] and invited participants to notify the Secretariat of any information that required updating or was missing.

3. Updates

3.1 Items arising from governance bodies

[8] The Secretariat summarized outcomes from the **CPM Bureau** June and October 2016 and the **SPG 2016** meetings[2].

[9] **Financial situation**. Specifically, the IPPC Secretariat's continued weak financial situation remains a concern, and the Bureau had made cuts to the budget allocation to the Standard setting unit that resulted in stopping some Standard setting activities for 2017 (see also section 3.2 of this report) which consisted, among others, in reducing the number of participants to the SC May 2017 meeting to only the SC-7 representatives as this would save funds for assistance for travel and not providing interpretation for this meeting. The Bureau has been discussing the financial situation with a view to improving the situation in the future and a proposal for sustainable funding mechanisms will be prepared for contracting parties to consider at CPM-12 (2017). The lack of funds is primarily due to continued demands and increased activities, without an equal increase in funding in particular for staff resources. For standard setting, the situation is critical as there are many standards in the work programme (the most in the history of the IPPC).

[10] The SC discussed the possible cuts and, while acknowledging the difficulties that the Secretariat is facing, expressed concerns with the proposals as it was not clear how reducing the SC to SC-7 would have a major effect on savings, also considering the potential savings stemming from the Republic of

[1] Link to local information

[2] Link to Bureau reports; link to SPG meeting report

Korea hosting CPM-12 (2017). It was pointed out that it seemed that the cuts were focused on standard setting instead of the full Secretariat. For instance, based on the CPM-11 (2016) presented budget, the standard setting part of the Secretariat would seem to receive only roughly 13% of its budget from the IPPC trust fund. It was not clear why funds could not be shifted to standard setting, also considering that regular programme funds had been shifted from standard setting to the other programme areas to provide for equal sustainable funding.

[11] The Secretariat explained that cuts across the Secretariat had been made. In addition, it was recalled that most of the funds for other units in the Secretariat come from extra-budgetary sources, which cannot be cut as they have been earmarked. As to earmarking funds, he further explained that normally a new project (including appropriate staff resources) will need to be created, as the Multi-donor trust fund does not allow for contributions to be formally earmarked, yet donors provide funds with some expectations.

[12] As to reducing the SC-25 to SC-7 for one meeting, the Secretariat clarified that according to the procedure, the SC needs to meet a minimum of once per year. The Secretariat also noted that while SC members might be able to fund their own way and so participate in SC May 2017 meeting, it would be unfair to countries who cannot afford it.

[13] The SC discussed possible ways to mobilize resources and some SC members suggested that new partnerships should be sought for instance with industry (such as the grains and seeds industries as they have a direct interest in the development of standards of relevance to them). It should be recognized that many NPPOs have financial constraints and cannot support the Secretariat more than what they do already. Some SC members also suggested that transparency on financial discussions and reporting be increased, both by presenting in-kind staff contributions in USD and by posting publicly on the IPP the underlying budget discussions resulting in proposed cuts. The SC requested the IPPC Secretary to use the IPP to make CPs aware of the detailed funding cuts to standard setting and the impacts it will have as a means to mobilize resources to fund standard setting activities.

[14] The Secretariat noted that the Bureau, as requested by the SC, agreed to have a CPM plenary discussion on the "certificate of compliance" and that the Bureau and the SPG, in particular, had discussed the development of the **2020-2030 IPPC Strategic Framework**. The SPG had requested the original drafters of the proposed Strategic Framework to revise the draft based on SPG comments, which included emphasis on phytosanitary treatments and diagnostics, and that the Secretariat teams should collaborate to input into the Framework. The draft would be reviewed in the Bureau December 2016 virtual meeting, with the objective of having a concept note prepared for CPM-12 (2017). The final Strategic Framework should be adopted in 2019. The Secretariat stressed that one of the crucial challenges for the new Strategic Framework will be to ensure that it appeals not only to the IPPC community, but also to outside stakeholders, possible new donors, the general public, etc. to solicit support for the work we do.

[15] Furthermore, he noted that the SPG had discussed the IRSS study on the *Diversion from intended use*.

[16] The Secretariat introduced the main conclusions from the **Focus Group on Implementation**[3] that met in Paris, July 2016 and drafted the terms of reference for the new implementation and capacity development committee (IC) which will include oversight of all implementation activities, including national reporting obligations, dispute settlement, etc. These terms of reference will be discussed at CPM-12 (2017).

[17] Lastly, he clarified the arrangements for CPM-12 (2017) that will be held over the weekend in Republic of Korea starting on Wednesday, 5 April 2017 and ending on Tuesday, 11 April 2017.

[18] Ms Shaza OMAR (Egypt), SC member on the Steering committee for the **International Year of Plant Health (IYPH) 2020**, provided an update on the progress for organizing the IYPH. The Steering committee had met in Rome from 7-11 November 2016 to discuss the objectives, financing and possible

[3] Link to FG meeting report: https://www.ippc.int/en/publications/82731/

partners of the IYPH and agreed on the timeline of activities. She proposed that members of the SC develop a promotional paper to outline the positive impact of phytosanitary standards on international trade, poverty reduction and the phytosanitary situation globally.

[19] She invited the SC to nominate an alternate for the Steering committee for the IYPH.

[20] The SC:

(1) *noted* the update on items arising from governance bodies.

(2) *noted* the IRSS study on *Diversion from intended use*.

(3) *invited* SC members to engage with the Bureau members from their region, in particular to discuss financial issues.

(4) *nominated* Mr Jan Bart ROSSEL to work with Ms Shaza OMAR to develop a promotional paper, which outlines the positive impact of phytosanitary standards on international trade, poverty reduction and the phytosanitary situation globally.

(5) *nominated* Mr Jesulindo Nery DE SOUZA JUNIOR as SC alternate for the Steering committee for the IYPH.

3.2 Briefings from IPPC Secretariat

[21] The Standards Officer introduced the Standard setting unit's (SSU) staff[4], informing the SC that after a lengthy process a new scientific copy editor, Ms Karen ROUEN, had been recruited to take over from Ms Alice FRANEK. He thanked Ms FRANEK for her excellent services to the Secretariat over the past four years.

[22] **SSU 2017 work plan**. He summarized the 2017 work plan[5], noting that the Bureau had provided guidance for cuts in 2017 based on a suggestion prepared by the Secretariat and the SC Chairperson (see detailed discussions under section 3.1 of this report). He recalled that the 2017 activities will be carried out provided the Secretariat will have the necessary staff resources, including the recruitment of staff for the SSU (P5, P2) and replacement for in-kind staff resources.

[23] He noted that 2017 will be marked by a further increase in the number of standards being processed, particularly diagnostic protocols, in combination with a call for phytosanitary treatments, aligning all standard setting publications with the new FAO guidelines, processing adopted standards through the language review group process which is now active for all languages, communication and outreach activities, governance activities, and much more. He noted that CPM-12 (2017) will be requested to postpone the call for topics to allow for the new IC and the SC to work together to issue a combined call.

[24] **Participants database**. The Secretariat informed the SC that the SSU has worked on analyzing participation in IPPC meetings, which will provide insights into countries' engagement into the standard setting process. This analysis will be published shortly. He also noted that the Secretariat was developing a tool to better manage participation information which would include an online registration system to IPPC meetings.

[25] **Search tool for phytosanitary treatments.** The Secretariat provided an update on the development of a search tool for phytosanitary treatments[6]. The purpose of this online search tool would be to search, find and display information on existing IPPC phytosanitary treatments, annexes to ISPM 28 (*Phytosanitary treatments for regulated pests*) as well as any other treatment that is posted on the Phytosanitary Resources page. The search would be based on a number of criteria such as regulated article, pest and treatment type.

[4] Overview of the Standard setting team staff resources: https://www.ippc.int/en/publications/2463/

[5] 18_SC_2016_Nov

[6] 26_SC_2016_Nov

[26] The SC discussed the overall scope of the tool and how the treatments would be reviewed for inclusion. The SC was overall supportive of the idea of the search tool, although one SC member was concerned about the expert review of treatments that are shared by countries via the Phytosanitary resource page. Other SC members highlighted that it should be made very clear which treatments were based on bilateral agreements and which were internationally adopted.

[27] It was suggested to create a mechanism to review the treatment information, without assessing its effectiveness (in fact, many of these treatments would not have stated levels of efficacy). The Secretariat proposed that the TPPT was charged with this responsibility. Some SC members agreed with this suggestion, while others felt that the CDC might be in the best position to review the treatments because it already has well-defined criteria and a review process and because it may make use of other expert groups when necessary. They felt it should be clear that the mandate of the TPPT is to develop internationally harmonized phytosanitary treatments with stated levels of efficacy, and that it might be challenging for the TPPT to develop these while also reviewing treatments which do not follow ISPM 28. That said, they also noted that CDC does not necessarily have the technical capacity to review the treatments and that even if the CDC would still be responsible for the approval of material to be included in the Phytosanitary resources pages it would benefit from the technical input of the TPPT. The SC agreed that the TPPT be tasked with this review and requested the Secretariat to amend the TPPT specification (TP3) to reflect this new task and present it back to the SC for approval.

[28] **Communication**. The Secretariat reported on the SSU 2016 communications activities[7] highlighting in particular the increments in social media activity and noticeability (e.g. the IPPC Facebook page's likes increased from 1 517 to 2 589 (70.6%), the number of Twitter followers increased from 517 to 949 (83.5%)), as well as the successful events that were driven and executed by the SSU, namely the CPM Special topics session on Sea containers (March 2016), the IPPC Seminar on "Standards for plant health and food security" (May 2016), and the side event "Stop those pests" during the Committee on World Food Security (October 2016).

[29] One SC member suggested that the IPPC Secretariat facilitates the organization of international symposiums to review the state of plant health in the world every two years. This had also been discussed and welcomed in the SPG 2016 meeting and it had been agreed that it would be considered further at the 2017 SPG meeting.

[30] **Adjusted procedures for standard setting**. The Secretariat explained that the Standard setting team had started implementing the adjusted Standard setting procedure as adopted by CPM-11 (2016) including revising the IPPC Procedure manual for standard setting to align it with the current procedure and terminology. She recommended all to become familiar with the 2016-2017 version of the IPPC Procedure manual for standard setting available on the IPP for downloading and distributed to SC members[8].

[31] **Implementation Facilitation Unit (IFU)**. The Secretariat provided an oral update on their activities since the last SC meeting. Regarding the progress under the **Implementation Review and Support System (IRSS)**, the Secretariat mentioned, in particular, the launch of the new IRSS website and Helpdesk, the 2016 IPPC General Survey, the development of a Monitoring and Evaluation framework, the analysis of global emerging issues, the IRSS study on Analyzing the benefits of implementing the IPPC[9], the development of contracting party donor guidance, and the preparation of a proposal for the Third project cycle of the IRSS that would soon be submitted to the European Union for approval, which included cross-cutting activities on surveillance, diagnostics and the IPPC themes.

[7] 07_SC_2016_Nov

[8] IPPC Procedure manual for standard setting: https://www.ippc.int/en/core-activities/ippc-standard-setting-procedure-manual/

[9] The Biosecurity Approach: A review and evaluation of its application by FAO, internationally and in various countries: https://www.ippc.int/static/media/files/irss/2016/09/09/Review_of_biosecurity_approaches_FINAL_report.pdf

[32] Regarding the **capacity development** activities, the Secretariat noted that the CDC had proposed that the 2017 theme "Plant health and trade facilitation" should be the theme of the side sessions during CPM-12 (2017). The IFU would be developing a special topics session on e-commerce and lead the organization of three side sessions on the benefits of ISPMs. She also highlighted the success of the six IPPC Regional Workshops held in 2016, which are venues for collecting relevant comments on draft standards and for building contracting parties' capacities on how to engage in IPPC activities. A total of 212 persons from 114 countries benefited from these workshops across the six regions in 2016.

[33] She explained what type of technical resources are available on the Phytosanitary Resources page[10] noting that these resources should help contracting parties implement the Convention and ISPMs. She noted that the Secretariat would shortly be issuing a call for resources for pest diagnostic training and biological reference collections, to be used by CPs to be able to carry out better diagnostics as highlighted in the CPM recommendation on diagnostics.

[34] She also informed the SC of the successful trainings of Phytosanitary Capacity Evaluation (PCE) Facilitators (under the STDF 401 project). The second phase of the PCE training will soon begin, which foresees that candidates apply PCE in their countries. The candidates (at least four) chosen for this phase were selected among those with the best results during the trainings. The SC Vice-chairperson, who had participated in one of the training sessions, thanked the Secretariat and the donor for the opportunity underlining the high quality and utility of the course.

[35] **Integration and Support Unit** (ISU). The Secretariat explained the main tasks of the ISU, which include the development of communication and advocacy materials, administration of the ISPM 15 mark registration and oversight of the Secretariat's information technology tools. Regarding national reporting obligations (NRO), the Advisory Group for NRO had developed new NRO guidelines and procedures, as well as informative leaflets for all the NROs[11].

[36] The Secretariat also briefed the SC on the developments of the Online Comment System (OCS) and the migration of the IPP to the FAO website. The new OCS was launched in 2016 and used for the first time in July 2016. He invited all Official contact points to provide feedback on the new system, through the survey that has been opened online[12]. As to the website migration, this will be a lengthy process and there is currently no timeline for when it will be finalized nor details on the costs.

[37] Mr David NOWELL, current NRO Officer in the Secretariat, would be leaving the Secretariat mid December 2016 to take up a position in Regional Office in Santiago, Chile. He thanked the SC for the good cooperation over the past 18 years. The SC thanked him and wished him well.

[38] The SC:

(6) *noted* the updates from the Secretariat on standard setting, implementation facilitation, and integration and support.

(7) *noted* the Standard setting 2017 work plan and budget, and that possible activities may not be carried out if additional funds will not be identified.

(8) *requested* the Secretary to produce a news item on the IPP highlighting the proposed cuts to the Standard setting activities and their impacts.

(9) *noted* and *provided* feedback on the plan for the phytosanitary treatment search tool.

(10) *supported* the work on the development of the phytosanitary treatment search tool by the Secretariat, which included collaboration between the SC and the CDC.

(11) *requested* the Secretariat to amend the TPPT specification TP3 to allow them to review treatments for inclusion in the phytosanitary treatment search tool and present it back to the SC.

[10] http://www.phytosanitary.info/ippc-technical-resources

[11] The NRO leaflets are available at https://www.ippc.int/en/core-activities/information-exchange/nro/

[12] The OCS survey is available at https://www.surveymonkey.com/r/OCS_2016_Feedback

(12) *noted* the changes to procedural documents following the adjustment of the IPPC Standard setting procedure adopted by CPM-11 (2016).

4. Draft ISPMs for Recommendation to CPM

4.1 International movement of wood (2006-029), Priority 1

[39] The Steward introduced the draft ISPM, his notes and responses to the compiled comments from third consultation[13]. He explained the major changes that he made based on the comments, one of which consisted in merging tables 1 and 2 for simplicity.

[40] He recalled that the draft standard had received an objection at CPM-10 (2015), and following this had been considered by the SC May 2015, the SC November 2015 and the SC May 2016 meetings.

[41] He noted that most of the comments received were technical and substantive and that they had been incorporated (either directly or with modifications), as they improved the flow and content of the draft.

[42] The SC discussed the following issues.

[43] **Level of requirements**. The SC discussed the overall challenge with adding requirements for the movement of wood, acknowledging that this is an ongoing discussion, which could affect many other commodity draft standards under development. Nevertheless, considering the direction from CPM and the quality of this draft, the SC agreed to continue to develop the topic as an ISPM.

[44] The SC reviewed the draft standard and discussed the following additional issues.

[45] **Scope**. The SC agreed with the clarification that the standard should only cover raw wood commodities and material resulting from the mechanical processing of wood. The SC also agreed to clarify the scope with regards to the exclusion of "processed wood material", although it was noted that "processed wood material" is not included in the definition of "wood" in ISPM 5 (*Glossary of phytosanitary terms*).

[46] **Background**. The SC had an in-depth discussion whether to include specific examples of pest groups in the background section. Some SC members suggested to delete all examples and refer to table 1 in the requirements' section, or include only a general statement on the types of pests that are associated with wood. The SC agreed to retain the examples because it was felt that this was useful guidance and helped understand what the standard covered. In addition, the SC added an example of bark beetles.

[47] **Tables with pest group examples and commodities**. Some SC members queried if the pest examples in table 1 were "known" to be associated with wood, or whether they "may" be associated with wood, because the terminology varied in the standard and there was a clear difference in the meaning. The SC agreed that the pest groups were known to be associated with wood, and may be associated with wood moved internationally. The SC agreed not to modify the title of table 1.

[48] One SC member suggested adding a footnote indicating that the list of pest groups in table 1 was not exhaustive, but the SC indicated that the pest groups were those known to be able to move with wood commodities, and did not agree to add the footnote. The SC reviewed the pest groups included in the table to ensure that all the information was scientifically correct. The SC agreed that as Ophiostomataceae contains both stain fungi and wilt fungi it should be included under both fungi groups. In this context, it was noted that a consultation comment had suggested adding "laurel wilt" as a separate pest group, but the SC did not incorporate this since Ophiostomataceae was already included.

[49] The SC agreed that the table should list the pest groups and pests by alphabetical order.

[50] One SC member did not agree with the new wording in the proposed titles of tables 2–4 (which included "high or low probability"), which had been proposed by a consultation comment, noting that the

[13] 2006-029; 21_SC_2016_Nov; 15_SC_2016_Nov

probability would need to be assessed based on a number of factors. The SC agreed and used "likelihood" in the title instead.

[51] One SC member felt that the scientific papers that supported the information in the tables should be referenced in the draft, but other SC members felt that this was not necessary. They pointed out that, since the draft had been submitted for consultation three times, should the underlying science not be correct this would likely have been picked up by the Official contact points commenting on the draft. The Steward further stressed that the TPFQ and IFQRG had supported the information contained in the standard. Moreover, the Secretariat pointed out that the conclusions around the maximum bark dimensions were based on results from a bark survey conducted by the Secretariat, TPFQ and IFQRG[14], which also provided the evidence for the tolerance thresholds for the size of bark pieces in ISPM 15 (*Regulation of wood packaging material in international trade*).

[52] The SC did not support including scientific papers in the standard because: (i) it would be impossible to include an exhaustive list; (ii) any references would likely become outdated and need updating, which would be challenging to manage; and (iii) it could indicate that NPPOs would need to consult the references to be able to implement the standard, which should not be the case. The SC reiterated that ISPMs are not scientific journal publications and therefore do not require to have references included. The SC stressed that whereas ISPM 15 is used *instead* of a PRA, this standard would be used to assess the pest risk; providing additional scientific references directly in the standard was therefore not necessary. The SC also recalled that the underlying scientific data supporting the development of standards is shared and discussed by the technical panels or expert working groups charged with the initial drafting. While not all expert drafting group meeting reports contain full lists of the scientific papers considered, the SC selects the experts who develop the standards and should therefore have confidence in their work.

[53] **Phytosanitary measures**. Consultation comments suggested to delete mention of processing or waste disposal methods that may reduce the pest risk after import because this should be considered during a PRA. The SC, however, did not agree to this proposal as it was felt that the intended use and the handling after import may be important elements in a pest management programme. To clarify this concept, the SC added a sentence to state that a specific element to consider through PRA is how pest risk may be mitigated by the intended use of the commodity.

[54] **Debarked wood**. One SC member queried the specific requirements related to debarking referring to the requirements included in ISPM 15. She expressed concern about the inclusion of requirements for specific dimensions of remaining bark, because it was not clear if the dimensions or type of wood influence the survival of the pests. The Secretariat explained that the information in the draft standard was based on the scientific data from a study on all types of wood, where the likelihood of pests completing their lifecycle in smaller pieces of bark was found to be reduced (study conducted by the TPFQ for the revision of ISPM 15[15]). The study clearly concluded that certain pests need a specific bark dimension to develop and, therefore, when the bark is smaller than those dimensions the pests are not introduced. It was also recalled that in ISPM 15 the requirements concern wood packaging material only and are applicable in combination with a phytosanitary treatment. The SC did not agree to remove the requirement for a specific bark dimension because it was scientifically proven, but clarified that the bark tolerance specified in the standard was applicable to mitigate the pest risk of bark beetles. In addition, it was recalled that should a country wish to apply more stringent requirements this would need to be technically justified.

[14] See Attachment 1 of the IFQRG October 2006 meeting report: https://www.ippc.int/en/partners/internationalforestryquarantineresearchgroup/publications/2014/11/report-ifqrg-2006-10-rome/ and TPFQ July 2007 meeting report: https://www.ippc.int/en/publications/1192/

[15] See Attachment 1 of the report of the IFQRG October 2006: https://www.ippc.int/static/media/files/partner_publication/2014/11/17/1311283163_2006_ifqrg-4_meeting_report_2013042321-19en_2013100412-05--91.73_KB.pdf; and TPFQ July 2007 meeting report.

[55] One SC member felt that because the draft standard is based on technical justification and is applicable to the commodity class for "wood", any debarking should be technically justified and no specific size of remaining bark should be identified because more pests of concern could be associated with bark than those described in the draft. She also felt that should there be data supporting the requirement, this should be included by a footnote in the text. The SC did not agree to add a footnote with a reference to data supporting this requirement, as the SC did not feel standards required all science to be referenced.

[56] **Intended use**. The SC discussed modifying "probability of introduction and spread" to "likelihood" as some felt this was the correct terminology (probability was considered a statistical term), but the SC agreed to retain "probability" as this is the term used in ISPM 11 (*Pest risk analysis for quarantine pests*). One SC member felt there might be value in asking the TPG consider the definition of "probability" vs "likelihood", but the SC did not find there was a need to add this to the TPG work programme at this time.

[57] **Potential implementation issues**. The SC discussed potential implementation issues related to this draft standard[16]. The SC agreed that one of the more challenging issues would pertain to defining wood commodities because some aspects may be difficult to measure in practice, for example:

- the extent of bark presence (or absence)
- the size of wood pieces (where the wood is chipped or pelleted).

[58] They also highlighted limited diagnostic capability within some NPPOs that may result in unnecessary restrictions on trade if they are not able to determine if an organism present on wood is a quarantine pests.

[59] The SC:

(13) *thanked* the previous and current Stewards for their efforts in developing this draft standard.

(14) *approved* the draft ISPM on the *International movement of wood* (2006-029) as modified in this meeting for submission to CPM-12 (2017) for adoption (Appendix 4).

(15) *requested* the Secretariat to forward the implementation issues identified for this draft standard to the Implementation and Facilitation Unit of the Secretariat for their consideration.

4.2 International movement of growing media in association with plants for planting (2005-004), Priority 1

[60] The Steward introduced the draft standard, the Steward notes and the responses to the compiled comments from third consultation[17]. She recalled that the draft had received objections at CPM-10 (2015), and had been revised by the SC May 2015 and the SC November 2015 with input from a small SC e-mail groups.

[61] The SC reviewed the standard and discussed the following issues.

[62] **Scope and purpose of the draft standard**. Several consultation comments expressed concern about the scope and purpose of the standard; it was still unclear what pest risk the draft standard would address as there were instances where the draft outlined the pest risk of plants for planting rather than those of growing media in association with plants for planting. Some SC members echoed this concern, pointing out that the confusion could lead to difficulties in implementing the standard.

[63] The SC discussed whether it was possible to use one term throughout the standard instead of "growing media in association with plants for planting" to facilitate reading and understanding of the text. Some SC members felt that one clearly defined term would leave less room for confusion as to the scope of the standard. The SC agreed instead to clarify that the focus was on the growing media.

[16] 25_SC_2016_Nov; TPFQ September 2016 meeting report: https://www.ippc.int/en/publications/83572/

[17] 2005-004; 23_SC_2016_Nov; 22_SC_2016_Nov

[64] Accordingly, the SC added a paragraph in the Pest risk analysis section to explain that the standard concerned growing media when attached to plants for planting and only addressed the risk of quarantine pests in the growing media. Consequently, the SC adjusted the draft throughout including removing subsequent mentions of "in association with plants for planting" unless necessary for the comprehension, as it was clear that when mentioning "growing media" in this standard it was always in association with plants for planting.

[65] **Quarantine pests or regulated pests**. The SC discussed whether to use "quarantine pests" or "regulated pests" throughout the standard. Some SC members preferred using "regulated pests", pointing out that it may otherwise be difficult to implement the standard as "regulated pests" includes "quarantine pests" and regulated non-quarantine pests (RNQP). They argued that countries should be able to ensure that the growing media was free from pests, including those that could infest the plants for planting and, when in the plant, would become an RNQP. Other SC members opposed this because the pest risk addressed by the standard was that in growing media and RNQP is only a pest *in* the plants for planting. In addition, they pointed out that action would in any case be taken against RNQPs detected in plants for planting, in conformity with ISPM 36 *(Integrated measures for plants for planting)*. The SC agreed to use "quarantine pests" throughout the text to avoid confusion that RNQP might be covered, and added a sentence stating that RNQPs may be considered in some cases in PRA.

[66] In this context, the SC agreed to modify footnote 1 by deleting mention of the possible pest risk affecting plants for planting.

[67] **Inspection, sampling and testing**. The SC discussed whether the NPPO "should" or "may" inspect places of production, processing or treatment of growing media (a consultation comment had proposed the change from "may" to "should"). Several SC members felt that "should" was too strong as not all NPPOs would inspect, monitor and approve all places of production. In addition, treatment procedures are not inspected but monitored, so the paragraph was also confusing.

[68] As a solution, the SC discussed adding text to emphasize that the NPPO of the exporting country should have oversight of all these elements. Some SC members were concerned with using "oversight" as not all NPPOs would be having such an oversight role, but rather inspect at the point of export. Other SC members pointed out that the standard provided a pathway controlled approach, which would require the NPPO to have an oversight role although this did not necessarily mean direct involvement. The SC felt that "may" provided flexibility for NPPOs for the implementation of the standard, and agreed not to change it to "should".

[69] The SC agreed to include modified text to indicate that testing may be done when inspection is not sufficient for the detection of some pests.

[70] **Quarantine or post-entry quarantine**. The SC discussed the consultation proposal to change "post-entry quarantine" to "quarantine". Some SC members considered that "entry" would indicate that the commodity would be released following quarantine, whereas that would not necessarily be the case for a commodity in quarantine, and therefore supported the change. Other SC members did not agree with the proposed change because many countries have post-entry quarantine infrastructures and there was guidance given in ISPM 34. In addition, they did not see how quarantine would be applied to growing media before entry. Lastly, it was also recalled that ISPM 34 relates to post-entry quarantine for plants, and many countries therefore connected post-entry quarantine with plants. The SC agreed referring only to quarantine.

[71] **Annex 1**. The SC discussed retaining "soil" in Annex 1. Some SC members advocated that it be excluded from the annex as many countries ban import of soil. They pointed out that the growing media in which the plants for planting are grown are not necessarily the same in which they are moved, and that the inclusion of soil could be confusing for that reason. Other SC members argued to retain it as some countries do accept soil attached to plants because they manage to treat it to remove or reduce the pest risk. They also felt that it was important to include it in the table as it is a growing medium,

indicating its high risk, and because the original specification foresaw that the standard should address (and define) soil. The SC agreed to retain soil in the table of Annex 1.

[72] The SC discussed whether "tissue culture medium" could facilitate pest survival or not. Some SC members pointed out that it is always autoclaved or sterilized when it is made and therefore does not facilitate pest survival. However, considering the information provided in the table, in general, the SC agreed that the table should state that tissue culture facilitates pest survival, and therefore did not accept the change from "yes" to "no". However, the SC agreed that tissue culture is normally autoclaved, and thus sterile, meaning that it should not provide for an initial pest risk. Consequently to clarify this, the SC modified the text in the comment column.

[73] **Annex 2**. The SC discussed the consultation proposal of adding a brief paragraph on the purpose of the annex. The SC did not find that a paragraph added any value and therefore agreed not to include it, however, the title was slightly modified to more exactly explain the purpose of the table. The SC also agreed that the table did not require references as it had been developed based on expert advice.

[74] **Appendix 1**. The SC agreed not to add an explanatory paragraph to the appendix, as the title provided sufficient information. One consultation comment suggested the title be slightly modified and the SC agreed. .

[75] The SC discussed whether to delete examples of "soil" from the table (it had been deleted for some of the examples, but not all). Some SC members felt that "soil" should be deleted from all examples as it is not common to use soil as a growing medium in international trade. Others felt that "soil" should be retained in the table for all the instances where it was relevant for the same reason it was retained in Annex 1. They also pointed out that there were instances of trees that were moved with soil attached. Lastly, it was recalled that countries may ban soil based on a PRA. The SC agreed to retain mention of soil in the table where relevant, also stressing that this appendix only provides examples.

[76] **Implementation issues**. The Steward presented potential implementation issues[18] and the SC retained the following ones**:**

- Possible challenges in terms of the extent countries will accept soil as a growing medium in association with plants for planting. This challenge will be particularly important for those countries that do not specifically prohibit soil. For those that prohibit soil, they will have the possibility to apply provisional measures until the pest risk has been assessed.
- Challenges in treating soil because there are very few treatments known to be effective for soil.

[77] The SC:

(1) *thanked* the previous and current Stewards for their efforts in developing this draft standard.

(2) *approved* the draft ISPM on the *International movement of growing media in association with plants for planting* (2005-004) as modified in this meeting for submission to CPM-12 (2017) for adoption (Appendix 5).

(3) *requested* the Secretariat to forward the implementation issues identified for this draft standard to the Implementation and Facilitation Unit of the Secretariat.

4.3 International movement of seeds (2009-003), Priority 1

[78] The Steward introduced the draft, the Steward notes and the responses to the compiled comments from second consultation[19]. He noted that almost 1200 comments had been submitted of which many were incorporated. He requested the Secretariat to ensure that, in the future, comments are numbered in the compiled comments to facilitate cross-referencing.

[79] The SC discussed the following issues.

[18] 27_SC_2016_Nov
[19] 2009-003; 10_SC_2016_Nov; 16_SC_2016_Nov

[80] **Reference to ISPM 32** (*Categorization of commodities according to their pest risk*). Some comments suggested deleting reference to ISPM 32 indicating that it was not relevant for performing PRA. The SC agreed to retain all references to ISPM 32 and kept the references in the sections on Pest risk analysis and Purpose of import, pointing out that ISPM 32 provides guidance on assessing the risk of plants for planting, including seeds as high risk commodities.

[81] **Pest management in seed production**. Several consultation comments indicated that the exporting country can only decide together with the importing country when a measure in seed production could also be used as a phytosanitary measure. Some SC members were concerned that the text could provide grounds for changing the import requirements unilaterally. However, several SC members noted that this concept was different from considerations of equivalence of measures. Thus, the SC agreed that the text should emphasize that the phytosanitary import requirements should be met, and therefore modified the text and did not specify who approved the phytosanitary measure.

[82] **Healthy seeds**. One SC member suggested retaining "free of regulated pests" after healthy seeds, because it was unclear what "healthy" meant. The SC agreed to include "free from pests" because this is good practices in the seed production.

[83] **Resistance**. Several consultation comments suggested that "resistance would only be used as part of a systems approach, and therefore not a measure that may be applied individually. Some SC members, referring to expert advice, also stressed that evidence suggests that resistance cannot be considered a measure on its own. Other SC members felt that this would not necessarily be the case if a PRA supported it as a sufficient measure The SC agreed that the text should be left sufficiently flexible as to allow importing countries to decide whether they accept resistance as a measure to be applied alone, or as an integrated measure in a systems approach.

[84] **Crop treatments**. The SC agreed to add a new section on crop treatments to clarify that some pesticide application to parent plants maybe effective to prevent seed infestation.

[85] **System approaches**. The SC agreed to add a section on systems approaches because it was felt useful to have this additional information.

[86] **Quarantine**. The Steward explained that consultation comments suggested changing "post-entry quarantine" to "quarantine" as there might be cases where the seeds are not released after quarantine. The SC did not agree with the proposal but retained "post-entry quarantine" as the SC felt this more adequately reflected the reality and was in line with the guidance provided in ISPM 34

[87] **Equivalence of measures**. The SC discussed including a sentence to recommend that specific products, protocols or active ingredients should not be specified as part of a treatment required in the phytosanitary import requirements. One SC member was concerned that it would be difficult to determine if the right chemical had been used, if it was not specified, to ensure the requested effect was achieved. But the SC agreed to the include the sentence as it was only a recommendation and did not prevent a country to specify this requirement.

[88] **Inspection of seed consignments**. The SC discussed whether to specify that presence of plants as pests could be detected through inspection of seed consignments. The SC felt that it was better to clarify this and agreed to add "seeds of plants".

[89] **Field inspection**. The SC discussed whether to use "mother plant", "parent plant" or "crop" throughout the standard, and agreed to use "parent plant" as "mother plant" commonly referred to the plant that cuttings are taken from.

[90] **Sampling of lots**. The SC discussed a proposed additional paragraph on sampling of lots and agreed that it was useful to clarify that sampling may be done for inspection or for testing. However, the SC did not find that random sampling may only be used to verify the effectiveness of integrated measures or a systems approach, as sampling may also be used to verify if the consignment meets the phytosanitary import requirements. Thus, the SC modified the proposal accordingly.

[91] **Emerging or resultant plants**. The SC agreed that "emerging plants" or "resultant plants" were confusing terms and agreed to modify the draft standard throughout using "plants growing from these seeds" instead.

[92] **Phytosanitary certification**. The SC agreed with the consultation comment proposal to modify this section to align it with ISPM 12 (*Phytosanitary certificates*). Some SC members did not agree to include "treated, disinfected or conditioned" in the paragraph related to "place of origin" because they felt that those activities do not change the phytosanitary status. However, it was pointed out that ISPM 12 prescribes to add the origin not only in case of exposure to pest risk during repacking or storing but also in case of the removal of pest risk due to treatment or disinfection. Thus, the phytosanitary certificate should indicate where these activities took place, in addition to the country of origin. The SC agreed to retain the proposed changes to the section.

[93] The SC also agreed to add wording to clarify that when lots of seeds are mixed, blended or bulked, all origins of the seeds should be included on the phytosanitary certificate.

[94] **Appendix 1**. The SC reviewed the categories of seed-transmitted, seed-borne and contaminating pests and corrected minor details to ensure all entries were scientifically correct. The SC also was decided to add headings to the examples to clarify the categories.

[95] **Forest tree seeds**. The Secretariat explained that after the SC-7 revised the draft standard, the TPFQ was consulted on the possible annex on forest tree seeds. The TPFQ discussed the issue and recognized that the requirements related to tree seeds were already mostly incorporated in the draft standard[20]. The TPFQ also recommended that "tree seeds" instead of "forest tree seeds" should be considered in the standard because the pest risk is related to tree seeds regardless of their intended use. The SC noted that no consultation comments were received on this change and also agreed to the solution proposed by the TPFQ.

[96] **Potential implementation issues**. The Steward presented potential implementation issues. The SC retained the following ones:

- Possible difficulties that some countries might have in understanding the different pest categories (seed- transmitted, seed-borne and contaminating pest categories) (Appendix 1) and taking them into account when doing pest risk analysis, as currently all pests associated with seeds are assessed equally.
- Challenges in acknowledging seed production practices to contribute to meeting the phytosanitary import requirements.
- Ensure that importing countries will consider equivalent measures.
- Possible difficulties arising from collaboration between seed inspectors and plant health inspectors.

[97] The SC:

(4) *thanked* the previous and current Stewards and the Assistant steward for their efforts in developing this draft standard.

(5) *approved* the draft ISPM on the *International movement of seeds* (2009-003) as modified in this meeting for submission to CPM-12 (2017) for adoption (Appendix 6).

(6) *requested* the Secretariat to forward the implementation issues identified for this draft standard to the Implementation and Facilitation Unit of the Secretariat for their consideration.

[20] TPFQ June 2016 meeting report: https://www.ippc.int/en/publications/82824/

4.4 International movement of vehicles, machinery and equipment (2006-004), Priority 3

[98] The Steward introduced the draft, the Steward notes and the responses to the compiled comments from second consultation[21]. He noted that he had incorporated most comments, and that one main issue was of a substantial nature.

[99] The SC reviewed the standard and discussed the following issues.

[100] **Scope**. The Steward recalled that the SC November 2015 had given him direction to consider expanding the scope to include new VME and the SC-7 May 2016 had revised the draft based on this and consultation comments. However, several comments from the second consultation disagreed with the inclusion of new VMEs. Some SC members pointed out that some countries may face similar risks from both used and new VME and that they have extensive experience from new VME being a pathway for the introduction of quarantine pests. They suggested that the draft did not mention whether the VME was used or new. However, the majority of SC members pointed out that this inclusion would extend the scope significantly, could result in significant implementation challenges and associated costs, and that Specification 48 clearly associated the pest risk with the fact that the VME were used. They stressed that the inherent risk in used VME is not equal for new VME. Although some new VME may be a pathway for pests, they did not believe there was currently enough data to support harmonized phytosanitary measures for new VME.

[101] The SC agreed that the scope should refer only to used VME.

[102] The SC discussed how best to convey that the scope did not cover personal passenger vehicles or commercial transportation conveyances moved under their own motive power, highlighting that it would be practically impossible to apply the standard to them. The SC also recognized that these VME would normally not pose a significant pest risk.

[103] There was confusion if the standard covered used cars and it was explained that it was intended for the standard to cover traded used cars and trucks but not cars and trucks for commercial or personal use, which are driven across borders.

[104] In conclusion, the SC agreed to clarify the wording stating that passenger and commercial transport vehicles moving under their own motive power were excluded, as this would allow for other VME also moving by own motive power to be covered by the standard. The SC also agreed not to refer in the scope to "short distance" and "over international borders" as the SC recognized that there could be situations of movement over short distances where the standard would still apply, and also because this concept would be covered in the text of the draft.

[105] The SC further discussed simplifying the scope by deleting the examples of where the VME covered by the standard had been utilized. This was also in line with the fact that the appendix outlining examples of VME was not exhaustive. Some SC members were concerned about deleting mention of "agriculture, forestry […]" because they felt that the examples provided clarity as to the scope of the standard. The SC agreed to delete the text and simplify the scope because risk factors were dealt with in section 1.

[106] **Background**. The SC agreed to remove "regulated articles" from the first sentence of this section, as VME would not always be regulated.

[107] The SC agreed to retain a paragraph referring to potential risks associated with new VME, noting that no requirements were included in the standard for new VME and agreeing that the information was useful guidance for PRA in addition to that provided on used VME.

[108] **Pest risk**. The SC agreed to include "potentially harbouring pests" (proposed by consultation comments), although some SC members felt that this concept was covered by the first sentence of that

[21] 2006-004; 14_SC_2016_Nov; 09_SC_2016_Nov

paragraph, because the SC agreed that it might provide additional clarification that seeds and other plant parts capable of propagation may be vectors for pests or be pests themselves.

[109] The SC agreed to include an additional paragraph (proposed by consultation comments), with some modifications, to clarify that it would be very difficult to conduct a PRA for VME and hence highlighted the value of this standard.

[110] **Elements of pest risk categorization**. The SC added information to help clarify the issue on "short distance", as this concept had not been included in the scope but was still felt to be important. The indent expressed the fact that movement over short distances crossing international borders and for immediate use may pose a low pest risk.

[111] The SC discussed the last indent related to the intended location or use and whether wording should be similar to that of the previous indents that referred to likelihood of contamination. It was clarified that the intended location or use was a different concept than that of the others, and thus instead of posing a pest risk. The SC agreed to indicate that VME used in agriculture and forestry areas were likely to provide a pathway for the introduction of pests.

[112] **Phytosanitary measures**. The SC deleted "soil and debris" to be consistent with previous changes to the draft, as contaminating pests are not limited to these two.

[113] The SC also agreed to delete the indents listing the groups of phytosanitary measures as it simply repeated the sections that followed.

[114] The SC modified a number of "should" to "may" throughout this section because the SC pointed out that the various measures were options for NPPOs.

[115] **Verification procedures**. The SC agreed adding "inspection declaration" before "phytosanitary treatment" for logic sequence.

[116] **Guidance for the international movement of military vehicles, machinery and equipment**. The SC agreed that the guidance directed at the military should be an annex, and not an appendix, because of the prescriptiveness of an annex and because it was a summary of the core text.

[117] **Potential implementation issues**. The Steward recalled the potential implementation issues identified by the EWG[22]. The SC felt that most of these issues had been addressed in the standard, for instance by developing an annex directed at the military.

[118] The SC did not identify major implementation issues as the standard now only concerned used VME, but did recognize that in the event that contaminated VME would be intercepted, dealing with those interceptions in terms of cleaning and handling the waste product could pose implementation challenges. In this respect one SC member pointed out that, for instance, there could be value in manuals describing how to properly clean the VME.

[119] The SC:

(7) *thanked* the Stewards for their efforts in developing this draft standard.

(8) *approved* the draft ISPM on the *International movement of used vehicles, machinery and equipment* (2006-004) as modified in this meeting for submission to CPM-12 (2017) for adoption (Appendix 7).

(9) *requested* the Secretariat to forward the implementation issues identified for this draft standard to the Implementation and Facilitation Unit of the Secretariat for their consideration.

[22] EWG on VME May 2013 report: https://www.ippc.int/en/publications/2454/; 13_SC_2016_Nov

4.5 Draft Annex 1 to ISPM 20: Arrangements for verification of compliance of consignments by the importing country in the exporting country (2005-003), Priority 3

[120] The Steward introduced the draft annex, the Steward's notes and the responses to the compiled comments from second consultation[23].

[121] The SC discussed the following issues.

[122] **Annex vs appendix**. Some consultation comments recommended that this draft should be an appendix due to its informative nature on how to develop bilateral agreements and because they felt the draft did not focus on harmonizing phytosanitary measures but on trade logistics.

[123] The SC agreed to retain the draft as an annex. In this context, it was recalled that Specification 42 was developed for a standalone standard but the EWG had been tasked to consider whether the text could be presented as an annex or supplement. The first time it was presented to the SC in May 2011, it was presented as an annex to ISPM 20 (*Guidelines for a phytosanitary import regulatory system*). The SC also pointed out that the annex provides prescriptive guidance for the situation where countries enter into such an agreement. In addition, it contains requirements and the content is therefore not in line with the content of an appendix. Lastly, the SC noted that there are other annexes to ISPMs (e.g. to ISPM 27 and ISPM 28) that provide prescriptive measures but that this does not prevent a country from not implementing all of them; a country has no obligation to approve, register or adopt an annex for use in its territory.

[124] **Arrangement in relation to trade**. The SC agreed that it was important to clarify that "an arrangement should not be established as a condition to allow trade" to help avoid trade barriers resulting from this kind of arrangement. Similarly, the SC wished to clarify that the arrangements described in the annex should not be established as a phytosanitary measure. The SC included text to highlight these two points in the second paragraph of the annex. The SC did not wish to mention that an arrangement could be established even if it did not allow trade in the situation where the importing country did not have the infrastructure to conduct inspection or address non-compliance regarding regulated articles, as this concept was already included in this draft.

[125] The SC did not add the proposal "or for other purposes" in the context of verification procedures, such as document checks, because it was unclear what "other purposes" referred to as the sentence dealt with procedures and did not specify the purpose.

[126] **Relationship between text of ISPM 20 and the annex**. The SC noted that this concern raised in a consultation comment would be addressed in the event that ISPM 20 would be revised, but could not be addressed in the annex.

[127] **Proposal for the initiation of the arrangement**. The SC discussed a consultation comment suggesting to restrict the draft by allowing only the NPPO of the exporting country to initiate the request. The Steward suggested that perhaps this proposal derived from a fear that the importing country may use the annex as a means to block trade. Several SC members, however, pointed out that the proposal was not reflective of current trade practices and that it was unclear what the advantage of such a restriction would be. In addition, it was recalled that both parties would need to agree to the arrangement. The SC agreed not to include this proposal.

[128] The SC considered a consultation comment proposing to delete that the arrangement may be initiated in response to a need identified by an NPPO or relevant stakeholders. Some SC members pointed out that standards are addressed to NPPOs and that other stakeholders should contact their NPPOs if they identify the need to initiate such an arrangement. Other SC members felt that the guidance was helpful to clarify that the need may arise from the NPPO directly or from other stakeholders. The SC agreed to

[23] 2005-003; 20_SC_2016_Nov; 08_SC_2016_Nov

retain mention of "other stakeholders", highlighting that the annex was intended to provide guidance and this type of information would be helpful.

[129] **Elements of an arrangement**. The SC agreed not to delete text on the element of notification of the point of entry of the arrival of consignments because this may be an important element of the arrangement. The SC agreed to include an element on the possibility of having a certificate that may accompany the phytosanitary certificate to assist the communication between those carrying out the verification and those at the point of importation, which reflected current trade practices.

[130] **Implementation of an arrangement**. The SC discussed a proposed inclusion of the concept that the arrangement may only be for a percentage of consignments. The SC found the addition confusing, but considered that this was partly due to how the paragraph was formulated; some elements pertained to the verification, and others to the arrangement itself. The SC agreed to the inclusion but modified the paragraph for clarity.

[131] The SC also considered moving an element related to verification done in a defined time period to a different paragraph that related to elements that may be included in an arrangement. But since no consultation comments had been received suggesting this, the SC agreed to keep the text as it was.

[132] **Potential implementation issues**. The SC discussed the three comments on possible implementation issues that had been received during the consultation:

[133] Possible difficulty in implementing the annex was expected because some NPPOs of importing countries may have policies or legislation that preclude or limit them from conducting verification of compliance of consignments in the exporting country. However, the SC considered that since the implementation would be a matter of bilateral agreement this should not be considered an actual implementation issue.

[134] Possible difficulties in establishing and implementing agreements could be helped if countries would share examples from existing experiences with the implementation of such arrangements. The SC recognized that it would be very valuable to help other countries' implement the annex if such information was shared, but that the availability of information would depend on the willingness of CPs to share this.

[135] Difficulty in implementing the annex could result from financial constraints for some countries. The SC considered that financial aspects should be agreed upon by the parties before entering into the arrangement and thus did not consider it a particular challenge to the implementation of this annex.

[136] The SC:

(10) *approved* the draft Annex 1 to ISPM 20: Arrangements for verification of compliance of consignments by the importing country in the exporting country (2005-003) as modified in this meeting for submission to CPM-12 (2017) for adoption (Appendix 8).

(11) *requested* the Secretariat to forward the implementation issues identified for this draft annex to the Implementation and Facilitation Unit (IFU) of the Secretariat for their consideration, and *suggested* that the IFU issue a call for information to share experiences on arrangements for verification of compliance of consignments by the importing country in the exporting country.

(12) *invited* the CPM to encourage contracting parties to share experiences on arrangements for verification of compliance of consignments by the importing country in the exporting country.

8. List of Topics for IPPC Standards

8.1 SC recommendations for new topics to be added to the *List of topics for IPPC standards*

[137] The Secretariat explained that CPM-11 (2016) requested that the SC reconsider the topic on PRA for commodities (2015-015) as well as proposals for commodity standards which were made in response to

the 2015 call for topics, with further input from the CP who submitted the topic[24]. The topic submitters were contacted to see if they were still interested in resubmitting their topics with more detail. Three topics were resubmitted in this process:

- *Phytosanitary measures for commodities* (2015-015) submitted by Australia
- *Use of systems approaches in managing risks associated with the movement of wood commodities* (2015-004) submitted by Canada
- *International movement of apples* (2015-006) submitted by EPPO.

[138] As agreed by the SC in November 2015, individual SC members were assigned to review the submissions.

[139] The SC had a conceptual discussion on whether to include the proposed topics on the *List of topics for IPPC standards*. Many SC members felt that it would be important to have an example of a commodity specific standard but also acknowledged that there were still difficulties in grasping exactly what should be included in a commodity or commodity class standard, what exactly would be achieved with it, and how harmonized requirements would be agreed to on a global level.

[140] Some SC members supported including all three topics because they considered that there would be value in developing a commodity specific standard. This would also be a response to a trend evidenced by discussions in other IPPC fora.

[141] Other SC members opposed the inclusion of all three topics. They suggested that additional studies were needed to understand what the IPPC community wished to achieve with commodity standards (e.g. through an IRSS study). The SC recognized the value in this suggestion, but the SC Chairperson noted that such a proposal had been made following the SC May 2016 discussions and that the SC had not been able to agree via e-decision on proposing it for consideration to be included in the Third IRSS cycle.

[142] Regarding the topic *International movement of apples* (2015-006), one SC member expressed concern because it seemed to be in conflict with some principles of IPPC and current standards such as when it stated that the standard would provide standardized options for management of major, globally relevant pests. Some members also expressed that the problem to be addressed by the topic was not clearly tackled in particular regarding the need for global harmonization.

[143] The Secretariat recalled that the SC was mandated to review the submissions against the criteria for justification and prioritization of proposed topics (hereafter "criteria"). Small SC groups met during two side sessions and reviewed the submissions against the criteria.

[144] ***Phytosanitary measures for commodities* (2015-015)**. The SC recalled that the topic had already been recommended for inclusion with priority 1 by the SC November 2015.

[145] The SC agreed that the submission met all the criteria and also noted that this standard could serve as an umbrella for future commodity standards. It would help the IPPC community understand what commodity specific standards should contain, and how to develop them. Some SC members expressed some concern as to the use of the standard because, ultimately, the specific requirements for the individual commodity standards would still need to be agreed, and it was feared this would be a challenging process. However, the SC agreed the topic would help harmonize the understanding of commodity vs commodity class standards and help identify selection criteria for these two types of standards. The SC agreed to recommend this topic for inclusion.

[146] ***Use of systems approaches in managing risks associated with the movement of wood commodities* (2015-004)**. Some SC members supported the importance of the topic because of its global relevance and volume of wood commodities traded worldwide. Specifically, it was felt that providing global support to systems approaches for the international movement of wood commodities would help address issues of global concern such as extended damage due to pest outbreaks and climate change. Not only

[24] 12_SC_2016_Nov

are forests an important climate change mitigation measure but systems approaches to mitigate pest risks would help reduce fumigation using chemicals that are harmful to the environment.

[147] Some SC members expressed concern about reaching agreement on the requirements for a systems approach for wood commodities considering the large variety of pests affecting wood, and the many types of wood commodities it would need to address. In addition, the origin and destination of the wood commodities would affect the system approach requirements. The SC agreed to recommend this topic for inclusion.

[148] ***International movement of apples* (2015-006)**. Some SC members supported the inclusion of this topic as they believed that the submission met the criteria. They pointed out that apples are traded worldwide and that apples have been subject of WTO disputes, which indicates that there are trade challenges that could be addressed by a standard. In addition, this topic would be a first actual try to develop a commodity specific (not a commodity class or group) standard.

[149] Other SC members did not find that the submission met the criteria. They believed that there were other more globally relevant commodities, that there were pests of greater global concern moving with other commodities, and that it would not help facilitate trade particularly. They felt there would continue to be a need for bilateral agreements as many countries do not accept all treatments currently used against pests in apples. In addition, they felt that the standard would not contribute positively to food security. Therefore, the SC did not agree to recommend this topic for inclusion.

[150] One SC member expressed concern with this decision, pointing out some procedural issues that he felt influenced the review process. He stressed that the review had not been equally detailed for all the submissions, and the topic that had not been included had received the most scrutinizing review. As an example, he noted that the two submissions that were included had not been judged on their contribution to food security. He wished that there would have been more time to review the submissions and hoped that the agreed procedure be better followed by all of the SC members in the future.

[151] In this context, some SC members also suggested that it would be helpful to understand which criteria the CPM uses to approve or not approve topics for inclusion. They stressed that much time went into the preparation of the submissions and that it would be helpful to receive guidance on how to improve them when the CPM did not include topics that had been recommended by the SC. One member expressed the concern that it would also be helpful if CPM provided more clarity in the future when requesting the SC to reconsider their decisions.

[152] The Secretariat explained that normally CPM agrees with the SC's recommendations and that there are no established criteria underlying CPM's decisions on this. The Secretariat also noted that following the recommendations to establish a new IC, a proposal had been made to issue combined calls for topics for standards and implementation material. Should this proposal go forward, the criteria may need to be adjusted and the SC would have an opportunity to identify criteria that would facilitate the review process of new topics for standards.

[153] The SC:

(13) *reviewed* the resubmitted topics from the 2015 call for topics and recommended the inclusion of the following two topics to the *List of topics for IPPC standards*:

- 2015-015: *Phytosanitary measures for commodities* (priority 1, strategic objectives A, B and C)
- 2015-004: *Use of systems approaches in managing risks associated with the movement of wood commodities* (priority 3, strategic objectives B and C).

5. Draft ISPMs for Approval for the First Consultation

5.1 International movement of cut flowers and foliage (2008-005), Priority 4

[154] The Steward introduced the draft standard and supporting documentation[25], recalling that the draft standard has been on worked on by the SC since 2004, and reviewed and redrafted at four previous SC meetings and subsequently reviewed by four small SC working groups. She noted that there were not many changes made to the draft now presented since the SC May 2016 meeting.

[155] A small SC group met and developed some proposed changes to the draft ISPM. The SC agreed to some of the proposed changes, such as clarifying that the standard covers "cut flowers and non-woody foliage" and deleting a section on the NPPO responsibilities in conducting PRA, as this was felt to be superfluous; this is always the NPPO's responsibility.

[156] However, the SC felt that this draft needed further work as the proposed changes were significant and they did not have sufficient time to consider them in this meeting. The SC agreed to allow SC members time to comment on the proposed changes, and set up a small SC group to revise the draft following receipt of any comments. The draft would then be presented to the SC May 2017 as the first draft ISPM on the agenda.

[157] The Steward stressed how frustrating it was that a standard could be presented to so many SC meetings, and redrafted numerous times by small SC working groups who made major changes, some of which went against previous SC guidance.

[158] The SC:

(14) *requested* all SC members to provide any comments on the draft ISPM on the *International movement of cut flowers and foliage* (2008-005) to the Steward, Ms Ana Lilia MONTEALEGRE LARA and the Secretariat (IPPC@fao.org) by 15 December 2016.

(15) *requested* a small SC group (Ms Ana Lilia MONTEALEGRE LARA (lead), Mr Samuel BISHOP, Mr Stephen BUTCHER, Mr Ezequiel FERRO, Mr Nicolaas Maria HORN, Ms Esther KIMANI and Mr Rajesh RAMARATHNAM) to consider the SC member comments and the outcomes of this meeting and produce a revised draft standard for submission to the Secretariat no later than 1 February 2017.

(16) *agreed* that the draft ISPM on the *International movement of cut flowers and foliage* (2008-005) would be reviewed with highest priority in the SC May 2017 meeting to ensure there would be sufficient time to agree that it was suitable to be submitted for consultation.

6. Standards Committee

6.1 Follow-up on actions from the SC May 2016

[159] There were no comments on the report[26].

[160] Mentors were identified for the new SC members as follows:

Country	New member	Mentor
Republic of Congo	Ms Alphonsine LOUHOUARI TOKOZABA	Ms Laurence BOUHOT-DELDUC
Malawi	Mr David KAMANGIRA	Mr Nico Maria HORN
Lebanon	Mr Youssef Al MASRI	Ms Shaza OMAR

[25] 2008-005; 04_SC_2016_Nov; Link to EWG Cut flowers June 2014 Meeting Report; Link to Specification 56

[26] Link to May 2016 SC report

6.2 Report of the SC-7 May 2016

[161] The SC-7 May 2016 Chairpersons both noted that most relevant issues raised in the comments had been addressed[27].

[162] They recalled that all draft standards progressed except for the draft revisions to ISPM 15 (*Regulation of wood packaging material in international trade*) - Annex 1 and 2 for inclusion of the phytosanitary treatment Sulphuryl fluoride fumigation of wood packaging material (2006-010A) and the revision of the dielectric heating section in Annex 1 of ISPM 15 (2006-010B) because the SC-7 agreed there was a need for additional clarifications.

[163] The SC:

(17) *noted* the update and thanked the SC-7 members for their contribution and hard work.

6.3 Confirmation of SC-7 membership for May 2017 SC-7

[164] The SC agreed that Ms Shaza OMAR (Egypt) and Mr Stephen BUTCHER (New Zealand) would be the SC representatives for the SC-7 for their respective regions (Near East and the Pacific).

[165] The SC:

(18) *agreed* to the membership of the SC-7 as presented in the Participants list (Appendix 3).

6.4 Summary on polls and forums discussed on e-decision site

[166] The Secretariat presented the summary of SC e-decision polls and forums noting that since the SC May 2016 meeting 16 e-decisions had been opened[28]. He was pleased to inform the SC that for all 14 draft standards (annexes to ISPM 27 and to ISPM 28) that were submitted for e-decisions, agreement was reached and it had not been necessary to open polls. Consequently, three draft diagnostic protocols had been approved for notification period with the hope to have them adopted by mid-January 2017, and 11 draft phytosanitary treatments had been recommended for adoption by CPM-12 (2017).

[167] The Secretariat presented an overview of SC member participation in e-decisions highlighting the need for increased engagement from some members, and in some cases, from some regions. On average, approximately 50% of SC members participate in e-decisions. Reiterating the importance of all SC members participating actively in the e-decisions, he invited the SC members to provide feedback on whether there were any particular reasons for the lack of participation.

[168] One SC member pointed out that some SC e-decisions are very technical and that the SC members have little time to consider these, especially when there are many e-decisions open at the same time. She stressed that the SC members need to consult experts to adequately respond to the e-decisions, and that this should be considered. Otherwise, contracting parties could later identify issues with the draft standards and submit objections. One SC member also noted challenges, for instance in respect to connectivity as some countries have unstable Internet connections. Also, the SC members who have been selected at the CPM but do not attend a meeting until November may have difficulties in understanding what is being requested in the e-decisions. Other SC members encouraged the new members to engage with the SC members whose terms had expired.

[169] Consequently, the SC members proposed the following changes to the e-decision planning:

- closing the forums and polls the morning after (Rome time) the established deadline
- opening less e-decisions at any one time.

[170] The Secretariat explained that it was an unusual situation that such a large number of PTs had been submitted for e-decisions at the same time but that this was due to the research breakthrough that affected more of less all of them. He also noted that most drafts had been through the full standard setting process

[27] Link to SC-7 May 2016 meeting report

[28] 17_SC_2016_Nov

already, but with the revised standard setting procedure being phased in, contracting parties would now be able to comment twice on draft PTs.

[171] The SC:

(19) *noted* the summary on SC e-decisions in the period from May to November 2016 (Appendix 9).

(20) *encouraged* SC members to actively engage in inter-session activities.

(21) *invited* the Secretariat to consider improving how SC e-decisions are planned taking into account the points raised in this meeting.

6.5 Major issues (if any) identified by Stewards on draft ISPMs which were submitted to the first consultation July 2016

[172] The Secretariat introduced the agenda item, noting that it had been included with the objective to address specific substantial issues identified from the first consultation to possibly facilitate progressing the draft standards more rapidly.

Draft Revision of ISPM 6: National surveillance systems (2009-004)

[173] The Steward introduced the major issues that he has identified from the comments submitted during the first consultation[29], namely:

[174] Title of the standard and whether the standard's scope should be extended to implementation on higher or lower levels than the national level. Some SC members pointed out that the title of the standard did not necessarily have to reflect everything the standard covered, and that it would be better to have a title that was easy to remember and use. The SC agreed to change the title to "Surveillance" as this standard could be used beyond the national level and a shorter title was more appropriate.

[175] Whether all points of Specification 61 had been considered appropriately in the draft. The Secretariat explained that the EWG had concluded that it was too difficult to develop harmonized survey protocols for specific pests during the week-long EWG meeting. Noting this, the SC agreed that it may be useful for the IFU to consider the need for guidance to be developed on this issue to help countries conduct surveillance.

[176] Whether the standard should concern surveillance of all pests or only regulated pests. The SC recommended that the draft focus on all pests, as this would allow for countries to survey for pests to determine if they would need to be regulated.

[177] Whether additional guidance material should be developed to facilitate the implementation of the draft, for instance on methodologies used for different purposes and for specific groups of pests. The Secretariat explained that this was not under the remit of the SC to decide, but such a recommendation should be forwarded to the IFU.

[178] Whether there should be enhanced alignment between the IPPC "Plant pest surveillance manual" and the draft standard, as there were some important differences. The SC noted that normally manuals should be developed only after a standard had been adopted, as an ISPM represents international harmonized guidance whereas a manual does not. Therefore, the alignment should perhaps rather be the other way around. However, the Steward pointed out that for this particular case ISPM 6 already existed and the manual was developed partly in response to the IPPC community's request for additional guidance on surveillance. The SC agreed that the revised ISPM should be developed considering consultation comments and after the revised standard would be adopted, the Secretariat could consider alignment of the manual.

[29] 24_SC_2016_Nov

Requirements for the use of temperature treatments as a phytosanitary measure (2014-005)

[179] The Steward introduced the major issues that were identified from the comments submitted during the first consultation[30], namely:

[180] Whether the draft ISPM should be changed to a guidance document, or if it should be sent back to the TPPT to have more detailed requirements added. In this context, the Steward noted that the TPPT had discussed extensively adding additional specific requirements, but concluded that they vary a lot between treatments and specifications of different countries, and that detailing all possibilities would make it very confusing. He also pointed out that a comparison of all temperature treatments would be a tremendous task of compilation and processing. Instead, basic information on use and advantages of each treatment had been included. He noted that the TPPT considered those operational temperature treatment issues that cause most difficulty internationally and included requirements on temperature mapping, probe numbers, probe placement, accuracy of the temperature measurements and recording, as well as specific requirements for each temperature treatment described.

[181] The SC reiterated that it had already been agreed that this draft should be developed as a standard and noted that while this standard may not necessarily contain many requirements, the specific temperature treatments, that the standard would cover, would have such requirements.

[182] Whether to retain the appendix on efficacy research. Some comments suggested that since efficacy research is not a requirement for the application of temperature treatments as phytosanitary measures, the appendix should be deleted and possibly be included as an appendix of ISPM 28. The Steward recalled that Specification 62, task 4 stated that the TPPT should consider including appendixes containing specific research protocols. The TPPT also considered this guidance was very helpful to help ensure that countries doing research would achieve the desired results. The SC agreed to retain the appendix.

[183] Whether to add "combined treatments" or consider if these would be better covered in the fumigation treatment standard as this is where temperature is used mostly in combination with fumigation. Some comments suggested that heat treatments may be used in combination with other treatments (e.g. chemical) and may be applied during transport with completion of the treatment on arrival.

[184] The SC agreed that the combination of treatments was an issue that should be addressed where the application of the treatment was also dependent on the temperature.

[185] Whether to retain information on compliance agreements. The SC supported the suggestion that the text on compliance agreements could stay in the ISPM but that it should not be a requirement. It was agreed that, unlike the more complex irradiation treatments, temperature treatments should not require compliance agreements and the text should be more flexible.

[186] Live but non-viable target pests. Several consultation comments did not support the draft text stating that pest mortality may not be achieved immediately after application of a temperature treatment, and live but non-viable target pests may be detected after treatment. The TPPT had agreed to include this statement to clarify that finding live non-target pests could indicate treatment failure under certain conditions, in an attempt to ensure that countries do not declare treatment failure without appropriate justification.

[187] Some SC members acknowledged the scientific conclusion reached by the TPPT, but did not feel that this should be part of an international standard as it would be operationally challenging to implement it; countries would not have the ability to understand if the pests were viable or not.

[188] Other SC members supported the inclusion; if there is sufficient evidence supporting that the treatment would result in live but non-viable target pests countries should have the necessary confidence in the

[30] 11_SC_2016_Nov

treatment. This is the case for irradiation treatments, and they did not see why it should be different for these treatments, when it was supported by solid scientific evidence.

[189] The SC agreed that specific examples of temperature treatments that could result in live but non-viable pests should be included in the draft ISPM.

[190] The SC:

(22) *invited* the Stewards for the drafts discussed under this agenda item to take the SC guidance into consideration.

7. Technical Panels: Urgent Issues

7.1 Technical Panel on Diagnostic Protocols

[191] The Secretariat explained that the TPDP, in its 2016 face-to-face meeting, had suggested that Annex 2 to ISPM 27 (*Diagnostic protocols for regulated pests*), DP 2 (*Plum pox virus* (PPV)) be revised[31]. The DP 2 described seven strains of the virus. Two new strains of PPV have been described which had not been addressed in the DP. The Secretariat provided the scientific details for the proposed inclusion of one additional strain (due to the limited information and single isolate, it was not recommended to identify *strain An* at this time).

[192] Some SC members queried what the consequences would be to the detection of the PPV in general if this new strain was not included in the DP. They also queried the operational complications this revision would have, and questioned the priority of the revision versus the resources needed. It was also noted that several DPs might become outdated fairly quickly after their adoption, and that a principle decision should be taken on the criteria for deciding on their revision. The Secretariat explained that it was likely that not including the new strain could produce false negatives or positives, which could have an impact on the determination of pest-free areas.

[193] The SC confirmed the importance of having scientifically correct and up-to-date DPs to ensure they are credible and useful.

[194] The SC asked that, in the future, proposals for revisions of DPs should be accompanied by additional information on the consequences to updating or not updating a DP.

[195] The Secretariat noted that it would be useful to understand the use and utility of DPs and that, for this reason, an IRSS proposal had been put forward.

[196] As for previous TPDP face-to-face meetings, the TPDP wished to invite Ms Françoise PETTER (EPPO), as invited expert, to the 2017 TPDP meeting. The SC had no objections.

[197] The SC:

(23) *reviewed* the scientific justification provided by the TPDP for the need to revise the adopted DP 2 (*Plum pox virus*) and *added* the revision of DP 2 to the *List of topics for IPPC standards* with priority 1.

(24) *requested* the TPDP to clearly outline the possible consequences when proposing revisions to adopted DPs.

(25) *agreed* that Ms Françoise PETTER (EPPO) be invited to the 2017 TPDP face-to-face meeting as invited expert.

[31] 06_SC_2016_Nov

8. List of Topics for IPPC Standards

8.2 Review and adjustments to the *List of topics for IPPC standards*

[198] The Secretariat introduced the *List of topics for IPPC standards*[32] and the decisions made by the SC during this meeting.

[199] The SC:

(26) *reviewed* and *adjusted* the assigned stewards and assistant stewards.

(27) *noted* changes to the title of the following subjects:

- From "Vapour heat treatment for *Bactrocera dorsalis* on *Carica papaya* var. Solo" (2009-109) to "Vapour heat treatment for *Bactrocera dorsalis* on *Carica papaya*" (2009-109) because, based on discussions the Technical Panel on Phytosanitary Treatments (hereafter, TPPT) did not find any evidence to support any possible varietal or cultivar differences in *Carica papaya* (see section 5.2 of the TPPT 2016 meeting report)[33]
- From "Cold treatment for *Ceratitis capitata* on *Citrus clementina var Clemenules* " (2010-102) to "Cold treatment for *Ceratitis capitata* on *Citrus clementina*" (2010-102) because the TPPT in their 2016 face-to-face meeting, concluded that there was no evidence to support that this treatment should be for "Clemenules" only (see section 5.4 of the TPPT 2016 meeting report)
- From "Appendix 1: *Arrangements for verification of compliance of consignments by the importing country in the exporting country*" (2005-003) to ISPM 20" to "Annex 1: *Arrangements for verification of compliance of consignments by the importing country in the exporting country*" (2005-003) to ISPM 20" (see section 4.5 of this report).

(28) *removed* the topic "Cold treatment for *Ceratitis capitata* on *Citrus sinensis* var Navel and Valencia" (2010-103) from the *List of topics for IPPC standards* as the TPPT combined the schedule for the draft cold treatments for *Ceratitis capitata* on *Citrus sinensis* var. Navel and Valencia (2010-103) with the draft cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A) (see section 5.1 of the TPPT 2016 meeting report).

(29) *requested* the Secretariat to update the *List of topics for IPPC standards* based on decisions taken at this meeting.

(30) *recommended* the revised *List of topics for IPPC standards* to CPM-12 (2017) for adoption.

8.3 Adjustments to Stewards

[200] The SC thanked the outgoing Stewards and Assistant stewards for their contributions. The SC reviewed and made modifications to Stewards and Assistant stewards for some topics:

[201] 2004-005. *Technical Panel on Phytosanitary Treatments*: Mr Ezequiel FERRO (Argentina) was assigned as Steward and Ms Shaza OMAR (Egypt) was assigned as Assistant steward.

[202] The SC discussed the steward assignments for the five draft standards on treatment requirements and decided to assign an SC member as the steward and assign the TPPT lead, who was the current steward, as additional Assistant steward.

[203] 2014-004. *Requirements for the use of fumigation as a phytosanitary measure*: Mr David OPATOWSKI (Israel) was assigned as Steward and Mr Mr Yuejin WANG (China) was assigned as an additional Assistant steward.

[32] 19_SC_2016_Nov

[33] TPPT September 2016 meeting report: https://www.ippc.int/static/media/files/publication/en/2016/11/Report_TPPT_2016_Sep_2016-11-03.pdf

[204] 2014-005. *Requirements for the use of temperature treatments as a phytosanitary measure*: Mr Ezequiel FERRO (Argentina) was assigned as Steward and Mr Eduardo WILLINK (Argentina) was assigned as an additional Assistant steward.

[205] 2014-006. *Requirements for the use of modified atmosphere treatments as a phytosanitary measure*: Ms Marina ZLOTINA (USA) was assigned as Steward and Mr Scott MYERS (USA) was assigned as Assistant steward.

[206] 2014-003. *Requirements for the use of chemical treatments as a phytosanitary measure*: Ms Walaikorn RATTANADECHAKUL (Thailand) was assigned as Steward and Mr Michael ORMSBY (New Zealand) was assigned as an additional Assistant steward.

[207] 2014-007. *Requirements for the use of irradiation as a phytosanitary measure (Revision to ISPM 18)*: Mr David OPATOWSKI (Israel) was assigned as Steward and Mr Andrew PARKER (FAO-IAEA) was assigned as an additional Assistant steward.

[208] The SC:

(31) *thanked* the previous TPPT Steward, Mr Jan Bart ROSSEL (Australia), for his leadership over the past years.

9. SC recommendations for CPM-12 (2017) decisions and discussions

[209] The SC referred to the issue identified under section 4.5 of this report.

9.1 CPM discussion on concepts and implementation issues related to draft standards: issue of the certificate of compliance

[210] The SC Chairperson presented a draft paper outlining the suggestion for the CPM to discuss the "certificate of compliance" as proposed in the draft ISPM on the *International movement of wood products and handicrafts made from wood* (2008-008)[34].

[211] One SC member suggested that the discussion also consider the implementation challenges related to the certificate due to wood handicraft commodities provided by small artisans. Another SC member suggested that an IRSS study be carried out to understand its implementation feasibility.

[212] The SC agreed to send comments via email to the lead. The Secretariat would then finalize the paper for presentation to the CPM.

[213] The SC:

(32) *requested* SC members to provide comments via email to Mr Lifeng WU (lead) and Ms Marina ZLOTINA on the paper outlining the issues related to the "certificate of compliance" by 25 November 2016. The lead and assistant lead would incorporate the comments and send the finalized document to the Secretariat by 2 December 2016.

(33) *agreed* to submit the paper, as modified by the lead after this meeting, outlining the issues related to the "certificate of compliance" to CPM-12 (2017) for plenary discussions.

10. Agenda Items Deferred to Future SC Meetings

[214] No items were deferred.

11. Review of the Standard Setting Calendar

[215] The Secretariat explained that the standard setting calendar is presented on the IPP[35].

[34] 28_SC_2016_Nov

[35] Link to the IPP calendar

Future SC e-decisions

[216] The Secretariat stressed the need for all SC members to actively participate in the SC e-decisions.

[217] The following SC e-decisions are tentatively planned between SC November 2016 – SC May 2017.

[218] **Regarding draft specifications**

[219] E-decisions scheduled for 20 December 2016 – 20 February 2017:

- Draft specification on *Audit in the Phytosanitary context* (2015-014)
- Draft specification on Revision of ISPM 12 *Phytosanitary certificates* (2015-011)
- Draft specification on *Supplement on Guidance on the concept of the likelihood of establishment component of a pest risk analysis for quarantine pests* (2015-010) to ISPM 11.

[220] **Regarding draft DPs**

[221] E-decisions scheduled for 24 November – 09 December 2016:

- *Dendroctonus ponderosae* (2006-019) for DP notification period
- *Fusarium circinatum* (2006-021) for DP notification period
- *Candidatus* Liberibacter solanacearum (2013-001) for DP notification period
- Tomato spotted wilt virus, Impatiens necrotic spot virus and Watermelon silver mottle virus (2004-019) for DP notification period (second time DP notification period).

[222] E-decisions without dates scheduled:

- *Xylella fastidiosa* (2004-024): for consultation period (01 July – 30 Sept 2017)
- *Candidatus* Liberibacter spp. on *Citrus* spp. (2004-010): for consultation period (01 July – 30 Sept 2017)
- *Puccinia psidii* (2006-018): for consultation period (01 July – 30 Sept 2017)
- *Begomoviruses transmitted by Bemisia tabaci* (2006-023): for consultation period (01 July – 30 Sept 2017)
- *Bactrocera dorsalis complex* (2006-026): for consultation period (01 July – 30 Sept 2017)
- *Conotrachelus nenuphar* (2013-002): for consultation period (01 July – 30 Sept 2017)
- *Ips* spp. (2006-020): for consultation period (01 July – 30 Sept 2017)
- *Striga* spp. (2008-009): for consultation period (01 July – 30 Sept 2017)
- Revision of DP2: *Plum pox virus*: for consultation period (01 July – 30 Sept 2017)
- *Phytophthora ramorum* (2004-013): for DP notification period (01 July – 15 August 2017).

12. Other business

[223] There was no other business.

13. Date and venue of the next SC Meeting

[224] The next SC meeting is scheduled from 8 to 12 May 2017, Rome, Italy, although it would tentatively be only the SC-7 instead of the SC-25 participants.

[225] The following week, 15-19 May, the SC-7 will meet. The Secretariat also informed the SC of other standard setting meetings planned for 2017.

[226] The IPPC Secretariat would welcome proposals from countries for hosting SC meetings, especially the November meetings.

14. Evaluation of the meeting process

[227] The Secretariat invited all SC members and observers to complete the evaluation of the meeting via this link: https://www.surveymonkey.com/r/2016_Nov_SC by Friday, 2 December 2016.

[228] The Secretariat noted that considering the few staff resources available in the standard setting unit, it was problematic that much time went into following up on SC agreed activities. He reminded SC members had signed a statement of commitment outlining that time would need to be allocated to the SC work.

15. Adoption of the report

[229] The SC adopted the report.

[230] For ease of reference, a list of action points arising from the meeting is attached as Appendix 10. SC member were reminded to check it for any deadlines before the next meeting.

16. Close of the meeting

[231] The SC Chairperson thanked the SC members, the Stewards and the SC-7 for their hard work. He expressed his appreciation for the work of those who had further contributed to the success of the meeting, especially the Secretariat staff, and in particular the report writer and the standard setting officer. He thanked the Rapporteur for her diligence in ensuring that the SC decisions would be clear for the future and the Vice-chairperson for her calm and good advice. He gave special thanks to the Stewards for the draft ISPMs highlighting the extra work they take on and the contracting parties who enable the SC members to attend the meeting and work on developing draft standards for the global phytosanitary community to consider.

[232] He appreciated having been granted the honor and privilege of chairing the SC meetings but stressed that his work was facilitated greatly by the significant efforts of every single SC member. He strongly encouraged the SC members to advocate for additional funding to the work carried out to develop standards.

[233] He thanked the interpreters for helping the SC better understand each other and their patience. He thanked the messenger.

[234] The SC thanked the SC Chairperson for his dedication and leadership.

[235] The meeting was closed.

APPENDIX 1: Agenda

AGENDA ITEM	DOCUMENT NO.	PRESENTER
1. Opening of the meeting		
1.1. Welcome by the IPPC Secretariat ❖ Welcome to new SC members	---	LARSON
1.2. Election of the Rapporteur	---	Chairperson
1.3. Adoption of the Agenda	01_SC_2016_Nov	Chairperson
2. Administrative matters		
❖ Documents List	02_SC_2016_Nov	LARSON
❖ Participants List	03_SC_2016_Nov	LARSON
❖ Local Information	Link to local information	LARSON
❖ Standard Setting Unit staff	Link to standard setting staff	LARSON
3. Updates		
3.1 Items arising from governance bodies		
❖ CPM Bureau: June and October 2016 meetings	Link to Bureau reports	FEDCHOCK
❖ SPG: October 2016 meeting	Link to SPG meeting report	FEDCHOCK
❖ Focus Group on Implementation	Link to FG meeting report	FEDCHOCK
❖ International Year of Plant Health 2020: update	-	OMAR
❖ 2020-2030 IPPC Strategic Framework		FEDCHOCK / XIA
❖ CPM-12 (2017) update		FEDCHOCK
3.2 Briefings from IPPC Secretariat		
❖ Standard setting unit (SSU)		LARSON
○ Presentation of the 2017 SSU work plan	18_SC_2016_Nov	LARSON
○ Consequential changes made to standard setting related procedures according the revised IPPC Standard Setting Procedure adopted at CPM-11 (2016). Phased in approach	-	MOLLER
○ Update on the participants database	-	LARSON
○ Update on the development of a search tool for phytosanitary treatments	26_SC_2016_Nov	KISS
○ Report on the SSU 2016 communications plan	07_SC_2016_Nov_Rev1	MONTUORI
❖ Implementation facilitation	-	STEWART/ LOMSADZE
❖ Integration and support	-	BUZON

AGENDA ITEM	DOCUMENT NO.	PRESENTER
4. Draft ISPMs for recommendation to CPM		
From third consultation		
4.1 International movement of wood (2006-029), Priority 1 - Steward: Mr Rajesh RAMARATHNAM - Secretariat leads: Mr Piotr WLODARCZYK / Mr Brent LARSON	2006-029	RAMARATHNAM
❖ Compiled comments (including Steward's response)	15_SC_2016_Nov	
❖ Steward's summary notes	21_SC_2016_Nov	
❖ Potential implementation issues	25_SC_2016_Nov; Link to TPFQ September 2016 report[36]	ZLOTINA
4.2 International movement of growing media in association with plants for planting (2005-004), Priority 1 - Steward: Ms Ana Lilia MONTEALEGRE - Assistant Stewards: Ms Hilde PAULSEN, Mr Jesulindo DE SOUZA - Secretariat lead: Ms Adriana MOREIRA	2005-004	MONTEALEGRE
❖ Compiled comments (including Steward's response)	22_SC_2016_Nov	
❖ Steward's summary notes	23_SC_2016_Nov_Rev1	
❖ Potential implementation issues	27_SC_2016_Nov	
From second consultation		
4.3 International movement of seeds (2009-003), Priority 1 - Steward: Mr Nicolaas HORN - Assistant Steward: Mr Ezequiel FERRO - Secretariat lead: Mr Piotr WLODARCZYK	2009-003	HORN
❖ Issue of forest tree seeds: report of the meeting of the TPFQ, June 2016,	Link to TPFQ June 2016 report[36]	ZLOTINA
❖ Compiled comments (including Steward's response)	16_SC_2016_Nov	HORN
❖ Steward's summary notes and potential implementation issues: refer also to section 4.3 of the Expert Working Group (EWG) report	10_SC_2016_Nov Link to EWG July 2013 report	HORN

[36] June 2016 TPFQ meeting report: https://www.ippc.int/en/publications/82824/

AGENDA ITEM	DOCUMENT NO.	PRESENTER
4.4 International movement of vehicles, machinery and equipment (2006-004), Priority 3 - Steward: Mr Álvaro SEPÚLVEDA LUQUE - Assistant Steward: Mr Pere KOKOA - Secretariat lead: Mr Piotr WLODARCZYK ❖ Compiled comments (including Steward's response) ❖ Steward's summary notes ❖ Potential implementation issues: refer also to section 4.3 of the EWG report	2006-004 14_SC_2016_Nov 09_SC_2016_Nov 13_SC_2016_Nov Link to EWG May 2013 report	SEPÚLVEDA LUQUE
4.5 Draft Annex 1 to ISPM 20: Arrangements for verification of compliance of consignments by the importing country in the exporting country (2005-003), Priority 3 - Steward: Mr Ezequiel FERRO - Assistant Stewards: Mr Stephen BUTCHER, Ms Ana Lilia MONTEALEGRE - Secretariat lead: Ms Adriana MOREIRA ❖ Compiled comments (including Steward's response) ❖ Steward's summary and potential implementation issues	2005-003 08_SC_2016_Nov 20_SC_2016_Nov	FERRO
5. Draft ISPMs for approval for the first consultation		
5.1 International movement of cut flowers and foliage (2008-005), Priority 4 - Steward: Ms Ana Lilia MONTEALEGRE - Assistant Steward: Esther KIMANI - Secretariat lead: Ms Adriana MOREIRA ❖ Specification 56 (for information) ❖ Expert working group (EWG) report ❖ Steward's summary notes ❖ Potential implementation issues	2008-005 Link to Specification 56 Link to EWG June 2014 Meeting Report 04_SC_2016_Nov 05_SC_2016_Nov	MONTEALEGRE
6. Standards Committee		
6.1. Follow-up actions from the SC May 2016[37]	Link to May 2016 SC report	Chairperson
6.2. Report of the SC-7 May 2016	Link to SC-7 May 2016 meeting report	HORN / FERRO

[37] Follow-up actions on the combined call for topics for standards and tools for implementation are pending SPG/CPM-12 decisions

AGENDA ITEM	DOCUMENT NO.	PRESENTER
6.3. Confirmation of SC-7 membership for May 2017 SC-7 *SC members are invited to discuss with other SC members from the same region and nominate the SC-7 member for the region*	Link to SC membership list	Chairperson
6.4 Summary on polls and forums discussed on e-decision site (From May 2016 To October 2016)	17_SC_2016_Nov	FARREN
6.5 Major issues (if any) identified by stewards on draft ISPMs which were submitted to the first consultation July 2016 – Draft Revision of ISPM 6: National surveillance systems (2009-004) – Requirements for the use of temperature treatments as a phytosanitary measure (2014-005)	24_SC_2016_Nov 11_SC_2016_Nov	FERRO ROSSEL
7. Technical Panels: urgent issues		
7.1 Technical Panel on Diagnostic Protocols ❖ Revision of adopted DP 2: Plum pox virus ❖ Invited expert to the 2017 TPDP face to face meeting	06_SC_2016_Nov -	MOREIRA
8. List of Topics for IPPC standards		
8.1. SC recommendations for new topics to be added to the List of topics for IPPC Standards (refer to CPM 11 (2016) request to review submissions for topics related to commodity standards)	12_SC_2016_Nov_Rev1 CRP_01_SC_2016_Nov	WLODARCZYK KIMANI / SEPULVEDA / RATTANDECHAKUL ZLOTINA
8.2. Review and adjustments to the *List of topics for IPPC standards*	19_SC_2016_Nov	HOWARD
8.3. Adjustments to stewards		LARSON
9. SC recommendations for CPM-12 (2017) decisions and discussions (including proposals for discussions on concepts and implementation issues related to draft or adopted standards, special topics session and side-event)		Chairperson
9.1 CPM discussion on concepts and implementation issues related to draft standards: issue of the certificate of compliance as proposed in the draft ISPM: *International movement of wood products and handicrafts made from wood* (2008-008)	28_SC_2016_Nov	WU / WLODARCZYK
10. Agenda items deferred to future SC Meetings		Chairperson
11. Review of the standard setting calendar	Link to the IPP calendar	LARSON
12. Other business		Chairperson
13. Date and venue of the next SC Meeting		LARSON

AGENDA ITEM	DOCUMENT NO.	PRESENTER
14. Evaluation of the meeting process	Link to survey monkey[38]	Chairperson
15. Adoption of the report		Chairperson
16. Close of the meeting		Chairperson

[38] Link to Survey Evaluation: https://www.surveymonkey.com/r/2016_Nov_SC

APPENDIX 2: Documents List

DOCUMENT NO.	AGENDA ITEM	DOCUMENT TITLE	LEVEL OF ACCESS	DATE POSTED / DISTRIBUTED
Draft ISPMs				
2006-029	4.1	Draft ISPM on *International movement of wood*	SC, NPPOs and RPPOs	2016-10-28
2005-004	4.2	Draft ISPM on *International movement of growing media in association with plants for planting*	SC, NPPOs and RPPOs	2016-10-28
2009-003	4.3	Draft ISPM on *International movement of seeds*	SC, NPPOs and RPPOs	2016-10-28
2006-004	4.4	Draft ISPM on *International movement of vehicles, machinery and equipment*	SC, NPPOs and RPPOs	2016-10-28
2005-003	4.5	Draft Annex 1 *Arrangements for verification of compliance of consignments by the importing country in the exporting country* to ISPM 20	SC, NPPOs and RPPOs	2016-10-28
2008-005	5.1	Draft ISPM on *International movement of cut flowers and foliage*	SC, NPPOs and RPPOs	2016-10-28
Documents				
01_SC_2016_Nov	1.3	Draft Agenda	SC, NPPOs and RPPOs	2016-11-08
02_SC_2016_Nov	2	Documents list	SC, NPPOs and RPPOs	2016-11-08
03_SC_2016_Nov	2	Participants list	SC, NPPOs and RPPOs	2016-10-28
04_SC_2016_Nov	5.1	Stewards notes on draft ISPM on *International movement of cut flowers and foliage* (2008-005)	SC	2016-10-28
05_SC_2016_Nov	5.1	*International movement of cut flower and foliage* (2008-005) – Potential implementation issues	SC	2016-10-28
06_SC_2016_Nov	7.1	TPDP: Urgent issues: Revision of DP 2 for *Plum pox virus*	SC	2016-10-28
07_SC_2016_Nov_Rev1	3.2	Report on IPPC Standard Setting Unit Communications for 2016	SC	2016-11-08
08_SC_2016_Nov	4.5	Compiled comments with steward's responses on draft Annex *Arrangements for verification of compliance of consignments by the importing country in the exporting country (2005-003)* to ISPM 20	SC	2016-10-28
09_SC_2016_Nov	4.4	Steward notes on the draft ISPM on *International movement of vehicles, machinery and equipment*	SC	2016-10-28
10_SC_2016_Nov	4.3	Steward notes on draft ISPM on *International movement of seeds*	SC	2016-10-28

DOCUMENT NO.	AGENDA ITEM	DOCUMENT TITLE	LEVEL OF ACCESS	DATE POSTED / DISTRIBUTED
11_SC_2016_Nov	6.5	Elements related to the draft ISPM *Requirements for the use of temperature treatments as phytosanitary measures* (2014-005) for discussion	SC	2016-10-28
12_SC_2016_Nov_Rev1	8.1	Recommendations for new topics to be added to the LOT	SC	2016-10-16
13_SC_2016_Nov	4.4	*International movement of vehicles, machinery and equipment* (2006-004) – Potential implementation issues	SC	2016-10-28
14_SC_2016_Nov	4.4	Compiled comments with steward's responses on draft ISPM on *International movement of vehicles, machinery and equipment* (2006-004)	SC	2016-10-28
15_SC_2016_Nov	4.1	Compiled comments with steward's responses on draft ISPM *on International movement of wood* (2006-029)	SC	2016-10-28
16_SC_2016_Nov	4.3	Compiled comments with steward's responses on draft ISPM on *International movement of seeds (2009-003)*	SC	2016-10-28
17_SC_2016_Nov	6.4	Summary on polls and forums discussed on e-decision site	SC	2016-10-28
18_SC_2016_Nov	3.2	Standard setting unit work plan 2017	SC	2016-10-28
19_SC_2016_Nov	8.2	Review of the List of topics for IPPC standards	SC	2016-10-28
20_SC_2016_Nov	4.5	Steward notes on Draft Annex 1 *Arrangements for verification of compliance of consignments by the importing country in the exporting country(2005-003)* to ISPM 20	SC	2016-10-28
21_SC_2016_Nov	4.1	Steward notes on Draft ISPM on *International movement of wood*	SC	2016-10-28
22_SC_2016_Nov	4.2	Compiled comments with steward's responses on draft ISPM on *International movement of growing media in association with plants for planting*	SC	2016-10-28
23_SC_2016_Nov_Rev1	4.2	Steward notes on Draft ISPM on *International movement of growing media in association with plants for planting*	SC	2016-11-01
24_SC_2016_Nov	6.5	*Elements related to the Draft revision of ISPM 6: National surveillance systems (2009-004) for discussion*	SC	2016-10-28
25_SC_2016_Nov	4.1	*International movement of wood* (2006-029) – Potential implementation issues	SC	2016-10-28
26_SC_2016_Nov	3.2	Update on the development of a search tool for phytosanitary treatments	SC	2016-10-28
27_SC_2016_Nov	4.2	*International movement of growing media in association with plants for planting (2005-004) – Potential implementation issues*	SC	2016-11-01

DOCUMENT NO.	AGENDA ITEM	DOCUMENT TITLE	LEVEL OF ACCESS	DATE POSTED / DISTRIBUTED
28_SC_2016_Nov	9.1	Draft discussion paper for CPM-12 (2017) on the use of a certificate of compliance	SC	2016-11-07
CRP_01_SC_2016_Nov	8.1	Review of the Further justification from EPPO on the submission of topic International Movement of Apples	SC	2016-11-17

IPP LINKS:	Agenda item
Link to Local Information Link to Standards Setting Staff	2
Link to Bureau reports	03.1
Link to SPG June 2016 meeting report	03.1
Link to Focus Group on Implementation 2016 meeting report	03.1
Link to Technical Panel on Forest Quarantine (TPFQ) September 2016 meeting	04.1
Link to TPFQ June 2016 meeting report	04.3
Link to EWG on *International movement of seeds* (2009-003), July 2013 meeting report	04.3
Link to EWG on *International movement of vehicles, machinery and equipment* (2006-004), May 2013 report	04.4
Link to Specification 56	05.1
Link to EWG on *International movement of cut flowers and foliage* (2008-005), June 2014 Meeting Report	05.1
Link to May 2016 SC report	06.1
Link to SC-7 May 2016 meeting report	06.1
Link to SC membership list	06.3
Link to the IPP calendar	11
Link to survey monkey	14

APPENDIX 3: Participants List

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[39] Bracketed number indicates the Criteria used for prioritizing participants to receive travel assistance to attend meetings organized by the IPPC Secretariat when Statement of Commitment was signed (0) no funding, (1) airfare only, (2) full funding (https://www.ippc.int/publications/criteria-used-prioritizing-participants-receive-travel-assistance-attend-meetings)

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APPENDIX 4: Draft ISPM: *International movement of wood* (2006-029)

Status box	
This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.	
Date of this document	2016-12-01
Document category	Draft ISPM
Current document stage	*From* SC 2016-11 *to* CPM-12 (2017)
Major stages	2007-03 CPM-2 added topic *International movement of wood* (2006-029) to work programme 2007-11 SC approved draft specification for member consultation 2007-12 Draft specification submitted to member consultation 2008-05 SC approved Specification 46 2008-12 TPFQ drafted ISPM 2009-07 TPFQ revised draft ISPM 2010-04 SC revised draft ISPM 2010-09 TPFQ revised draft ISPM 2012-11 SC reviewed draft ISPM and requested SC members' comments, sent to steward 2013-05 SC reviewed, revised and approved draft ISPM for member consultation 2013-07 Member consultation 2014-02 Steward revised draft ISPM 2014-05 SC-7 revised and approved draft ISPM for substantial concerns commenting period (SCCP) 2014-06 SCCP 2014-10 Steward revised draft ISPM after SCCP 2014-11 SC revised and approved draft ISPM for CPM adoption 2015-02 Formal objections received 14 days prior to CPM-10 2015-05 SC reviewed formal objection 2015-10 Steward revised draft ISPM with TPFQ 2015-11 To SC for consideration of the formal objections received 14 days prior to CPM-10 2015-12 Steward revised draft ISPM after SC comments 2016-02 Steward revised draft ISPM with TPFQ and revised Appendix 1: Illustrations of bark and wood 2016-05 SC approved draft ISPM for third consultation 2016-07 Third consultation 2016-11 SC November meeting approved to send to CPM-12
Steward history	2006-05 SC Mr Greg WOLFF (CA, Lead Steward) 2007-11 SC Mr Christer MAGNUSSON (NO, Assistant Steward) 2009-11 SC Ms Marie-Claude FOREST (CA, Lead Steward) 2009-11 SC Mr Greg WOLFF (CA, Assistant Steward) 2013-05 SC Ms Marie-Claude FOREST (CA, Lead Steward) 2013-05 SC Mr D.D.K. SHARMA (IN, Assistant Steward) 2016-05 SC Mr Rajesh RAMARATHAM (CA, Lead Steward)

Notes	2014-11 Edited (AF/BL/RR) Revised definition of the Glossary term “wood (as a commodity class)” was adopted by CPM-11 (2016) 2016-11 Edited (KR/AF)

CONTENTS

[1] (To be inserted)

INTRODUCTION

Scope

[2] This standard provides guidance for the assessment of the pest risk of wood and describes phytosanitary measures that may be used to reduce the risk of introduction and spread of quarantine pests associated with the international movement of wood, in particular those that infest trees.

[3] This standard covers only raw wood commodities and material resulting from the mechanical processing of wood: (1) round wood and sawn wood (with or without bark); and (2) materials resulting from the mechanical processing of wood such as wood chips, sawdust, wood wool and wood residue (all with or without bark). This standard covers wood of gymnosperms and angiosperms (i.e. dicotyledons and some monocotyledons, such as palms), but not bamboo and rattan.

[4] Wood packaging material is covered within the scope of ISPM 15 (*Regulation of wood packaging material in international trade*) and therefore is not covered in this standard.

[5] Products manufactured from wood (such as furniture), processed wood material (e.g. pressure treated, glued or heated wood) and wooden handicrafts are not covered in this standard.

[6] Wood may also carry contaminating pests; however, they are not covered in this standard.

References

[7] The present standard refers to International Standards for Phytosanitary Measures (ISPMs). ISPMs are available on the International Phytosanitary Portal (IPP) at https://www.ippc.int/core-activities/standards-setting/ispms.

[8] **FAO**. 2009. *Global review of forest pests and diseases.* FAO Forestry Paper 156. Rome, FAO. 222 pp.

[9] **FAO**. 2011. *Guide to the implementation of phytosanitary standards in forestry*. FAO Forestry Paper 164. Rome, FAO. 101 pp.

Definitions

[10] Definitions of phytosanitary terms can be found in ISPM 5 (*Glossary of phytosanitary terms*).

Outline of Requirements

[11] Pest risk varies among wood commodities such as round wood, sawn wood and wood material resulting from mechanical processing, depending on the level of processing that the wood has undergone.

[12] National plant protection organizations (NPPOs) should use the pest risk analysis (PRA) to provide the technical justification for phytosanitary import requirements for quarantine pests associated with the international movement of wood.

[13] Proportionate to the pest risk identified, phytosanitary measures for managing the pest risk related to wood, including bark removal, treatment, chipping and inspection, should be applied.

[14] The NPPO of the importing country may require as a phytosanitary import requirement an individual phytosanitary measure or a combination of phytosanitary measures under a systems approach.

BACKGROUND

[15] Wood produced from infested trees or woody plants may carry pests. These pests may then infest trees in the PRA area. This is the pest risk primarily dealt with in this standard.

[16] Wood may also become infested by some pests after harvesting. The risk of such infestation is closely tied to the condition of the wood (e.g. the size, presence or absence of bark, moisture content) and exposure to pests after harvest.

[17] Pests that have been shown historically to move with wood in international trade and establish in new areas include: insects that oviposit on bark, bark beetles, wood wasps, wood borers, wood-inhabiting nematodes, and certain fungi with dispersal stages that can be transported with wood. Therefore, wood (with or without bark) moved in international trade is a potential pathway for the introduction and spread of quarantine pests.

[18] Wood is commonly moved as round wood, sawn wood and mechanically processed wood. The pest risk presented by a wood commodity depends on a range of characteristics, such as the commodity's type, the level of processing and the presence or absence of bark, and on factors such as the wood's origin, age, species and intended use and any treatment applied to the wood.

[19] Wood is usually moved internationally to a specific destination and for a specific intended use. Given the frequency of association between key pest groups and key wood commodities, it is important to provide guidance on phytosanitary measures. This standard provides guidance for effectively assessing the risk of quarantine pests and for harmonizing the use of appropriate phytosanitary measures.

[20] The FAO publication *Global review of forest pests and diseases* (2009) provides information on some of the major forest pests of the world. The FAO *Guide to the implementation of phytosanitary standards in forestry* (2011) provides information on best management practices that reduce pest risk during growing, harvesting and shipping of wood.

[21] To differentiate wood from bark as used in this standard, a drawing and photographs of a cross-section of round wood and sawn wood are provided in Appendix 1.

IMPACT ON BIODIVERSITY AND THE ENVIRONMENT

[22] Implementation of this standard is considered to reduce significantly the likelihood of introduction and spread of quarantine pests, thereby contributing to tree health and the protection of forest biodiversity. Certain treatments may have a negative impact on the environment and countries are encouraged to promote the use of phytosanitary measures that have a minimal negative impact on the environment.

REQUIREMENTS

1. Pest Risk Related to Wood Commodities

[23] The pest risk of the commodities addressed in this standard varies depending on: the wood's origin and species; characteristics such as the level of processing and the treatment the wood has undergone and the presence or absence of bark; and the intended use.

[24] This standard describes the general pest risk related to each wood commodity by indicating major pest groups associated with it. In addition to the risk factors listed above, the pest risk associated with a wood commodity may also depend on factors such as age, size, moisture content, pest status at origin and destination, and duration and mode of transport.

[25] Phytosanitary measures should not be required without appropriate technical justification based on PRA (as described in ISPM 2 (*Framework for pest risk analysis*) and ISPM 11 (*Pest risk analysis for quarantine pests*)), taking into account:

- the pest status where the wood originated
- the degree of processing before export
- the ability of a pest to survive on or in the wood
- the intended use of the wood
- the likelihood of establishment of a pest in the PRA area, including the presence of a vector if needed for the dispersal of the pest.

[26] Wood may be infested by pests present in the area of origin at the time of growing or harvesting. Several factors can influence a pest's ability to infest trees or wood. These factors can also affect pest survival on or in the harvested wood, and in turn impact the risk of pest association with the wood. Such factors are: outbreaks of pests in the area of origin, forestry management practices, conditions during transportation, storage time, place and conditions, and treatments applied to the harvested wood. These factors should be considered when evaluating the probability of introduction and spread of quarantine pests.

[27] In general, the greater the level of processing or treatment of the wood after harvest, the greater the reduction in the pest risk. However, it should be noted that processing may change the nature of the pest risk. For example, the physical process of wood chipping is in itself lethal to some insect pests, particularly when a small chip size is produced, but the increase in surface area of the wood may facilitate its colonization by fungi. Chip size varies according to industry specifications and is usually related to the intended use of the chips. Pests that are associated with specific wood tissues (e.g. bark, outer sapwood) pose virtually no pest risk when the tissues that they inhabit are removed during processing. The pest risk associated with the removed material should be assessed separately if it is to be moved in trade as another commodity (e.g. cork, biofuel, bark mulch).

[28] The pest groups identified in Table 1 are known to move with wood commodities and have shown the potential to establish in new areas.

Table 1. Pest groups that may be associated with the international movement of wood

Pest group	Examples within the pest group
Aphids and adelgids	Adelgidae, Aphididae
Bark beetles	Molytinae, Scolytinae
Non-wood-boring moths and wasps	Diprionidae, Lasiocampidae, Lymantriinae, Saturniidae, Tenthredinidae
Scales	Diaspididae
Termites and carpenter ants	Formicidae, Kalotermitidae, Rhinotermitidae, Termitidae
Wood-boring beetles	Anobiidae, Bostrichidae, Buprestidae, Cerambycidae, Curculionidae, Lyctidae, Oedemeridae, Platypodinae
Wood-boring moths	Cossidae, Hepialidae, Sesiidae
Wood flies	Pantophthalmidae
Wood wasps	Siricidae
Canker fungi	Cryphonectriaceae, Nectriaceae
Pathogenic decay fungi	*Heterobasidion* spp.
Pathogenic stain fungi	Ophiostomataceae
Rust fungi	Cronartiaceae, Pucciniaceae
Vascular wilt fungi	Ceratocystidaceae, Ophiostomataceae

Pest group	Examples within the pest group
Nematodes	*Bursaphelenchus cocophilus*, *B. xylophilus*

There are some pest groups among water moulds, bacteria, viruses and phytoplasmas that, even if known to be associated with wood, are unlikely to establish in new areas by transfer from imported wood to hosts.

1.1 Round Wood

[29] Most round wood, with or without bark, is moved internationally for subsequent processing at destination. The wood may be sawn for use as construction material (e.g. as timber framing) or it may be used to produce wood materials (e.g. wood chips, wood wool, bark chips, pulp, firewood, biofuels, manufactured wood products).

[30] Removing bark from round wood reduces the probability of introduction and spread of some quarantine pests. The level of reduction depends on the degree to which the bark and underlying wood have been removed and on the pest group. For example, complete bark removal will greatly reduce the risk of infestation of most bark beetles in the wood. However, bark removal is unlikely to influence the incidence of deep wood borers, some species of fungi and wood-inhabiting nematodes.

[31] The pest risk of round wood is greatly influenced by the total amount of remaining bark on the debarked wood, which in turn is greatly influenced by the shape of the round wood, the machinery used to remove the bark and, to a lesser extent, by the species of tree. In particular, the widened areas at the base of a tree, especially where large root buttresses are present, and around branch nodes are the preferred locations for beetle infestation and oviposition.

[32] The pest groups likely to be associated with round wood are listed in Table 2.

Table 2. Likelihood of pest groups to be associated with round wood

Commodity	Likely	Less likely
Round wood with bark	Aphids and adelgids, bark beetles, non-wood-boring moths, scales, termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi, pathogenic decay fungi, pathogenic stain fungi, rust fungi, vascular wilt fungi; Nematodes	
Round wood without bark	Termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi, pathogenic decay fungi, pathogenic stain fungi, vascular wilt fungi; Nematodes	Aphids and adelgids, bark beetles†, non-wood-boring moths, scales; Rust fungi

† Some bark beetles have life stages that are found in the wood below the surface of the bark and cambium and, therefore, may be present after debarking or complete bark removal.

1.2 Sawn wood

[33] Most sawn wood, with or without bark, is moved internationally for use in building construction and furniture manufacturing and for the production of wood packaging material, wood lathing, wood stickers, wood spacers, railway sleepers (ties) and other constructed wood products. Sawn wood may include fully squared pieces of wood without bark or partially squared wood with one or more curved edges that may or may not include bark. The thickness of the piece of sawn wood may affect the pest risk.

[34] Sawn wood from which some or all bark has been removed presents a much lower pest risk than sawn wood with bark. Reducing the size of pieces of bark remaining on wood reduces the pest risk.

[35] The pest risk of bark-related organisms is also dependent on the moisture content of the wood. Wood from freshly harvested living trees has a high moisture content that decreases over time to ambient

moisture conditions, which are less likely to allow bark-related organisms to survive. Further information on addressing pest risk through a combination of treatment and moisture reduction is provided in Appendix 2.

[36] The pest groups likely to be associated with sawn wood are listed in Table 3.

Table 3. Likelihood of pest groups to be associated with sawn wood

Commodity	Likely	Less likely
Sawn wood with bark	Bark beetles, termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi, pathogenic decay fungi†, pathogenic stain fungi, rust fungi, vascular wilt fungi; Nematodes	Aphids and adelgids, non-wood-boring moths, scales‡
Sawn wood without bark	Termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi, pathogenic decay fungi†, pathogenic stain fungi, vascular wilt fungi; Nematodes	Aphids and adelgids, bark beetles, non-wood-boring moths, scales‡; Rust fungi

† Although pathogenic decay fungi may be present in sawn wood, most present a low risk of establishment because of the intended use of the wood and the limited potential for the fungi to produce spores on the wood.

‡ Many scale species are removed during the squaring of wood, but remaining bark may present sufficient surface area for some species to survive after sawing.

1.3 Wood materials produced from mechanical processing of wood (excluding sawing)

[37] Mechanical processes that reduce the size of wood pieces reduce the pest risk of some pests. However, for other pests, alternative pest risk management measures are necessary.

1.3.1 Wood chips

[38] In addition to the pest risk factors mentioned in section 1 pertaining to wood in general, the pest risk of wood chips varies with their size and uniformity, and also with their storage conditions. The pest risk is reduced when bark is removed and the chip size is less than 3 cm in at least two dimensions (as described in Table 4 and section 2.3). The physical process of wood chipping is in itself lethal to some insect pests, particularly when a small chip size is produced. Chip size varies according to industry specifications and is usually related to the intended use of the chips (e.g. biofuel, paper production, horticulture, animal bedding). Some wood chips are produced in accordance with strict quality standards to minimize bark and fines (very small particles).

[39] Depending on their size, insect pests normally found under the bark may be present in wood chips with bark. Many species of pathogenic decay fungi, canker fungi and nematodes may also be present in wood chips with or without bark. Spore dispersal of wood-inhabiting rust fungi would be very unlikely after the production of chips.

1.3.2 Wood residue

[40] Wood residue is normally considered to present a high pest risk because it varies greatly in size and may or may not include bark. Wood residue is generally a waste by-product of wood being mechanically processed during production of a desired article; nevertheless, wood residue may be moved as a commodity.

[41] The pest groups likely to be associated with wood chips and wood residue are listed in Table 4.

Table 4. Pest groups likely to be associated with wood chips and wood residue

Commodity	Likely	Less likely
Wood chips with bark and greater than 3 cm in at least two dimensions	Bark beetles, termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi pathogenic decay fungi†, , pathogenic stain fungi, rust fungi†, vascular wilt fungi; Nematodes	Aphids and adelgids, non-wood-boring moths, scales
Wood chips without bark and greater than 3 cm in at least two dimensions	Termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi, pathogenic decay fungi†, pathogenic stain fungi, vascular wilt fungi; Nematodes	Aphids and adelgids, bark beetles, non-wood-boring moths, scales; Rust fungi†
Wood chips with bark and less than 3 cm in at least two dimensions	Bark beetles, termites and carpenter ants; Canker fungi, pathogenic decay fungi†, pathogenic stain fungi, rust fungi†, vascular wilt fungi; Nematodes	Aphids and adelgids, non-wood-boring moths, scales, wood-boring beetles, wood-boring moths, wood flies, wood wasps
Wood chips without bark and less than 3 cm in at least two dimensions	Termites and carpenter ants; Canker fungi, pathogenic decay fungi†, pathogenic stain fungi, vascular wilt fungi; Nematodes	Aphids and adelgids, bark beetles, non-wood-boring moths, scales, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Rust fungi†
Wood residue with or without bark	Aphids and adelgids, bark beetles, non-wood-boring moths, scales, termites and carpenter ants, wood-boring beetles, wood-boring moths, wood flies, wood wasps; Canker fungi, pathogenic decay fungi†, pathogenic stain fungi, rust fungi†, vascular wilt fungi; Nematodes	

† Rust and pathogenic decay fungi may be present in consignments of wood chips or wood residue but are unlikely to establish or spread.

1.3.3 Sawdust and wood wool

[42] Sawdust and wood wool present a lower pest risk than the commodities above. In certain cases, fungi and nematodes may be associated with sawdust. Wood wool is considered to present a similar pest risk as sawdust.

2. Phytosanitary Measures

[43] The phytosanitary measures described in this standard should be required only if technically justified, based on PRA. A specific element to consider through PRA is how pest risk may be mitigated by the intended use of the commodity. Certain phytosanitary measures may be implemented to protect wood that has been produced in pest free areas but that may be at risk of infestation (e.g. during storage and transportation). Various methods to safeguard against infestation after the application of a phytosanitary measure should be considered; for example, covering wood with tarpaulin for storage or using an enclosed conveyance.

[44] The NPPO of the importing country may require limitations on the time frame for import. The pest risk associated with wood moved in trade may be managed by the NPPO of the importing country specifying a certain time in which dispatch or import of a consignment may occur (e.g. during a time when a pest is inactive).

[45] The NPPO of the importing country may require the application of specific methods of processing, handling and appropriate disposal of waste after import.

[46] If necessary to comply with the phytosanitary import requirements, the NPPO of the exporting country should verify the application and the effectiveness of phytosanitary measures before export in accordance with ISPM 23 (*Guidelines for inspection*) and ISPM 31 (*Methodologies for sampling of consignments*).

[47] Many pests associated with wood are specific to particular tree genera or species, and hence phytosanitary import requirements for wood are often genus or species specific. Therefore, the NPPO of the exporting country should verify that the genus or species of the wood in the consignment complies with phytosanitary import requirements, where such genus or species requirements exist.

[48] The following sections describe commonly used options for phytosanitary measures.

2.1 Removal of bark

[49] Some quarantine pests are commonly found in or just beneath the bark. To reduce the pest risk, the NPPO of the importing country may require the removal of bark (to produce bark-free or debarked wood) as a phytosanitary import requirement and, in the case of debarked wood, the NPPO may set tolerance levels for remaining bark. Where bark remains with wood, treatments may be used to reduce the pest risk associated with bark.

2.1.1 Bark-free wood

[50] The complete removal of bark from round wood and other wood commodities physically removes a layer of material in which a large number of pests may develop, and eliminates large areas of uneven surface that provide concealment for other pests.

[51] Bark removal eliminates pests found mostly on the surface of bark such as aphids, adelgids, scale insects, and non-wood-boring moths in some life stages. Moreover, bark removal eliminates most bark beetles and also prevents post-harvest infestation by other wood pests such as wood wasps and large wood borers (e.g. *Monochamus* spp.).

[52] Where the NPPO of the importing country requires that the wood be bark-free, the commodity should meet the definition of bark-free wood stated in ISPM 5 (see Appendix 1 for illustration of ingrown bark and bark pockets). Bark completely surrounded by cambium presents a much lower pest risk as compared with that of surface bark. In many cases, the wood may have evidence of cambium, which may appear as a brown discoloured tissue on the surface of the wood, but this should not be considered as the presence of bark and does not pose a pest risk for pests associated with bark. Verification of bark-free wood should simply confirm that there is no evidence of the layer of tissue above the cambium.

2.1.2 Debarked wood

[53] The mechanical process used in the commercial removal of bark from wood may not completely remove all bark and some pieces of bark may remain. The number and size of any remaining pieces of bark determines to what extent the risk of pests associated with bark (e.g. bark beetles, aphids, adelgids, scales) is reduced.

[54] Some countries specify the tolerance levels for bark in imported wood in their regulations. Debarking to the tolerances indicated below reduces the risk of pests completing their life cycle in untreated wood.

[55] When technically justified and prescribed as a phytosanitary import requirement by the NPPO of the importing country, the NPPO of the exporting country should ensure that the following requirements for debarked wood have been met.

[56] For example, to mitigate the risk of presence of bark beetles, any number of visually separate and clearly distinct small pieces of bark may remain if they are:

- less than 3 cm in width (regardless of the length) or
- greater than 3 cm in width, with the total surface area of an individual piece of bark less than 50 cm^2.

2.2 Treatments

[57] Treatments accepted internationally, found as annexes to ISPM 28 (*Phytosanitary treatments for regulated pests*), may be used as phytosanitary import requirements for some wood commodities.

[58] The efficacy of all chemical treatments is affected by the penetration depth, which varies by treatment schedule (e.g. dosage, temperature), the wood species and moisture content, and the presence of bark. The removal of bark often improves chemical treatment penetration and may reduce the incidence of infestation of treated wood.

[59] Treatments should be applied under the supervision or with the authorization of the NPPO of the exporting country to meet the phytosanitary import requirements. The NPPO of the exporting country should make arrangements to ensure that treatments are applied as prescribed and, where appropriate, should verify that wood is free of target pests by inspection or testing prior to phytosanitary certification. Specific tools (e.g. electronic thermometers, gas chromatographs, moisture meters connected to recording equipment) may be used to verify treatment application.

[60] The presence of live quarantine pests should be considered as non-compliance of the consignment, with the exception of wood treated by irradiation, which may result in live but sterile pests. In addition, findings of suitable indicator organisms (or fresh frass) indicates treatment failure or non-compliance, depending on the treatment type.

[61] Some treatment types may not be effective against all pests. Further guidance on treatments that may be used to mitigate the pest risk of wood is provided in Appendix 2.

2.3 Chipping

[62] The mechanical action of chipping or grinding wood can be effective in destroying most wood-dwelling pests. Reduction of the chip size to a maximum of 3 cm in at least two dimensions may mitigate the pest risk posed by most insects. However, fungi, nematodes and small insects such as some Scolytinae, or small Buprestidae, Bostrichidae or Anobiidae may continue to present a pest risk.

2.4 Inspection and testing

[63] Inspection or testing may be used for the detection of specific pests associated with wood. Depending on the wood commodity, inspection may be used to identify specific signs or symptoms of pests. For example, inspection may be used to detect the presence of bark beetles, wood borers and decay fungi on round wood and sawn wood. Inspection may also be carried out at various points along the production process to determine if phytosanitary measures applied have been effective.

[64] Where undertaken, inspection methods should enable the detection of any signs or symptoms of quarantine pests. The detection of certain other organisms may indicate treatment failure. Signs may include the fresh frass of insects, galleries or tunnels of wood borers, staining on the surface of the wood caused by fungi, and voids or signs of wood decay. Signs of wood decay include bleeding cankers, long discontinuous brown streaks on outer sapwood and outer sapwood discoloration, soft areas in the wood, unexplained swelling, resin flow on logs, and cracks, girdling and wounds in sawn wood. Where bark is present it may be peeled back to look for signs of insect feeding and galleries, and for staining or streaking of the wood underneath, which may indicate the presence of pests. Acoustic, sensory and other

methods may also be used for detection. Further examination should be made to verify whether live quarantine pests or indicator organisms are present; for example, examination for living life stages of insects such as egg masses and pupae.

[65] Testing may be used to verify the application or effect of other phytosanitary measures such as treatments. Testing is generally limited to the detection of fungi and nematodes. For example, determination of the presence of nematodes that are quarantine pests may be made using a combination of microscopy and molecular techniques on samples of wood taken from consignments.

[66] Guidance on inspection and sampling is provided in ISPM 23 and ISPM 31.

2.5 Pest free areas, pest free places of production and areas of low pest prevalence

[67] Pest free areas, pest free places of production and areas of low pest prevalence may be established to manage the pest risk associated with wood, where feasible. Relevant guidance is presented in ISPM 4 (*Requirements for the establishment of pest free areas*), ISPM 8 (*Determination of pest status in an area*), ISPM 10 (*Requirements for the establishment of pest free places of production and pest free production sites*), ISPM 22 (*Requirements for the establishment of areas of low pest prevalence*) and ISPM 29 (*Recognition of pest free areas and areas of low pest prevalence*). However, the use of pest free places of production or pest free production sites may be limited to specific situations such as forest plantations located within agricultural or suburban areas. Biological control may be used as an option for achieving the requirements for an area of low pest prevalence.

2.6 Systems approaches

[68] The pest risk of the international movement of wood may be managed effectively by developing systems approaches that integrate measures for pest risk management as described in ISPM 14 (*The use of integrated measures in a systems approach for pest risk management*). Existing forest management systems, both pre- and post-harvest, including processing, storage and transportation, may include activities such as site selection in pest free areas, inspection to ensure the wood is free from pests, treatments, physical barriers (e.g. wrapping wood), and other measures which when integrated in a systems approach are effective in pest risk management.

[69] Some of the pest risk associated with round wood (in particular that of deep wood borers and certain nematodes) is difficult to manage through the application of a single phytosanitary measure. In these situations, a combination of phytosanitary measures in a systems approach may be applied.

[70] In accordance with ISPM 14, the NPPO of the importing country may implement additional measures within its territory for transporting, storing or processing wood after import. For example, round wood with bark that may harbour bark beetles that are quarantine pests may be permitted to enter the importing country only during a period when the bark beetles are not active. In this case, processing in the importing country to remove the pest risk may be required to occur before organisms develop to the active stage. Requirements that the wood be debarked and the bark or wood residue be used as a biofuel or otherwise destroyed before the active period of the beetles commences may be used to sufficiently prevent the risk of introduction and spread of the bark beetles that are quarantine pests.

[71] The pest risk associated with fungi may be managed effectively through selection of wood from pest free areas or pest free places of production, application of appropriate harvesting (e.g. visual selection of wood free from signs of infestation) and processing measures and treatments (e.g. surface fungicide).

3. Intended Use

[72] The intended use of wood may affect its pest risk, because some intended uses (e.g. round wood as firewood, wood chips as biofuel or for horticultural purposes) may affect the probability of introduction and spread of quarantine pests (ISPM 32 (*Categorization of commodities according to their pest risk*)). Therefore, intended use should be taken into account when assessing or managing the pest risk associated with the international movement of wood.

4. Non-compliance

[73] Relevant information on non-compliance notification and emergency action is provided in ISPM 13 (*Guidelines for the notification of non-compliance and emergency action*) and ISPM 20 (*Guidelines for phytosanitary import regulatory system*).

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

APPENDIX 1: Illustrations of bark and wood

[74] Illustrations are provided below to assist in better differentiating wood and cambium from bark.

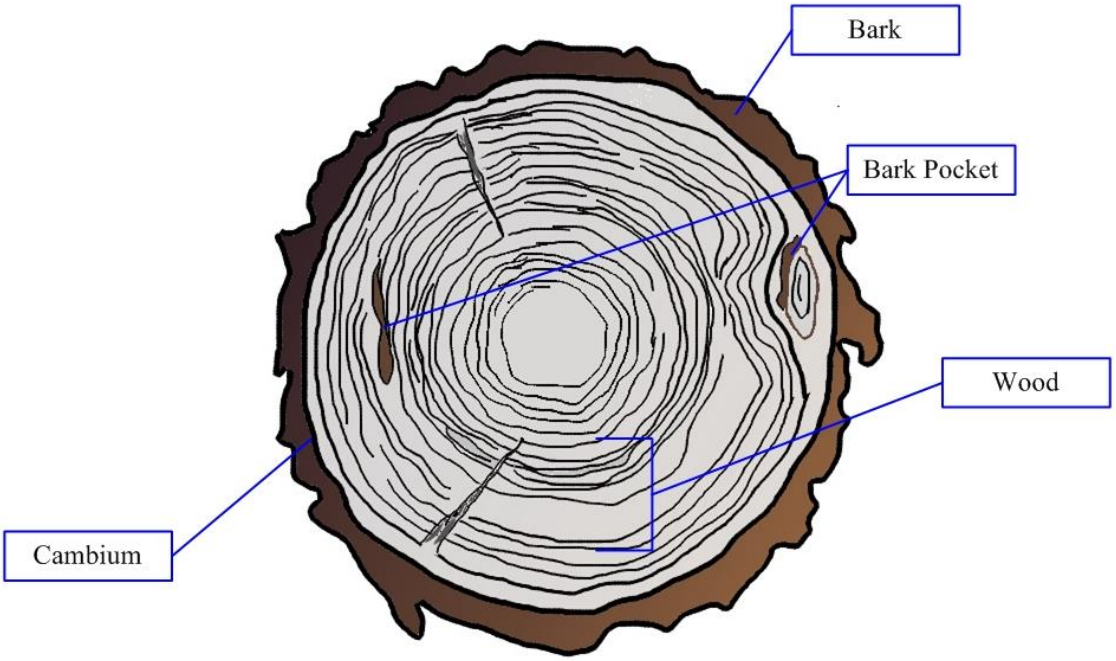

Figure 1. Cross-section of round wood.

[75] Drawing courtesy S. Sela, Canadian Food Inspection Agency.

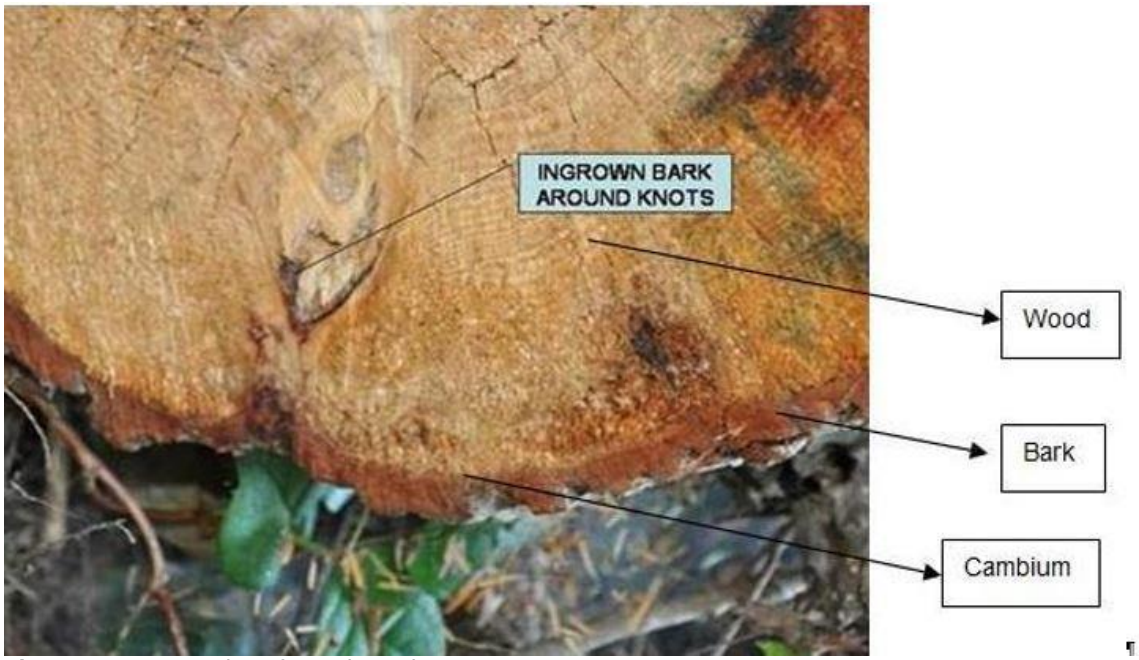

Figure 2. Cross-section of round wood.

Photo courtesy S. Sela, Canadian Food Inspection Agency.

Figure 3. Sawn wood.

Photo courtesy C. Dentelbeck, Canadian Lumber Standards Accreditation Board, Ottawa.

APPENDIX 2: Treatments that may be used to mitigate the pest risk of wood

1. Fumigation

[76] Fumigation may be used to control pests associated with wood.

[77] Despite the proven effectiveness of some fumigants against certain pests, there are limitations to their use to reduce pest risk. Fumigants vary in their ability to penetrate the wood and some are therefore effective only against pests in, on or just beneath the bark. The penetration depth for some fumigants may be limited to about 10 cm from the wood surface. Penetration is greater in dry than in fresh-cut wood.

[78] For some fumigants, the removal of bark before fumigation may improve the efficacy of the treatment.

[79] Before selecting fumigation as a phytosanitary measure, NPPOs should take into account the CPM Recommendation, *Replacement or reduction of the use of methyl bromide as a phytosanitary measure* (CPM, 2008).

2. Spraying or Dipping

[80] Spraying with or dipping in chemicals may be used to control pests associated with wood, excluding wood chips, sawdust, wood wool, bark and wood residue.

[81] In the process of spraying or dipping, liquid or dissolved chemicals are applied to wood at ambient pressure. This treatment results in limited penetration into the sapwood. Penetration depends on the species of the wood, the kind of wood (sapwood or heartwood), and the properties of the chemical product. Both removal of bark and application of heat increase the depth of penetration into the sapwood. The active ingredient of the chemical product may not prevent the emergence of pests already infesting the wood. Protection of the treated wood from subsequent pest infestation depends on the protective layer of chemical product remaining intact. Post-treatment infestation by some pests (e.g. dry wood borers) may take place if the wood is sawn after treatment and a portion of the cross-section has not been penetrated by the chemical product.

3. Chemical Pressure Impregnation

[82] Chemical pressure impregnation may be used to control pests associated with wood, excluding wood chips, sawdust, wood wool, bark and wood residue.

[83] The application of a preservative using vacuum, pressure or thermal processes results in a chemical product applied to the surface of the wood being forced deep into that wood.

[84] Chemical pressure impregnation is commonly used to protect wood from infestation by pests after other treatments. It may also have some effect in preventing the emergence to the wood surface of pests that have survived treatment. The penetration of the chemical product into the wood is much greater than with spraying or dipping, but depends on the wood species and the properties of the chemical product. Penetration is generally throughout the sapwood and through a limited portion of the heartwood. Debarking or mechanical perforation of the wood may improve penetration of the chemical product. Penetration also depends on the moisture content of the wood, so drying wood before chemical pressure impregnation may improve penetration. Chemical pressure impregnation is effective against some wood-boring insects. In some impregnation processes, the chemical is applied at a temperature sufficiently high to be equivalent to a heat treatment. The protection of the treated wood from subsequent infestation depends on the protective layer of the chemical product remaining intact. Post-treatment infestation by some pests (e.g. dry wood borers) may take place if the wood is sawn after treatment and a portion of the cross-section has not been penetrated by the chemical product.

4. Heat Treatment

[85] Heat treatment may be used to control pests associated with all wood commodities. The presence or absence of bark has no effect on the efficacy of heat treatment but should be taken into account if a heat treatment schedule specifies the maximum dimensions of the wood being treated.

[86] The process of heat treatment involves heating wood to a temperature for a period of time (with or without moisture control) that is specific to the target pest. The minimum treatment time in the heat chamber necessary to reach the required temperature throughout the profile of the wood depends on the wood's dimensions, species, density and moisture content as well as on the capacity of the chamber and other factors. The heat may be produced in a conventional heat treatment chamber or by dielectric, solar or other means of heating.

[87] The temperature required to kill pests associated with wood varies because heat tolerance varies across species. Heat-treated wood may still be susceptible to saprophytic moulds, particularly if moisture content remains high; however, mould should not be considered a phytosanitary concern.

5. Kiln-drying

[88] Kiln-drying may be used for sawn wood and many other wood commodities.

[89] Kiln-drying is an industrial process in which the moisture content in wood is reduced, by the application of heat, to achieve the prescribed moisture content for the intended use of the wood. Kiln-drying may be considered a heat treatment if carried out at sufficient temperatures and for sufficient durations. If lethal temperatures are not achieved throughout the relevant wood layers, kiln-drying on its own should not be considered a phytosanitary treatment.

[90] Some species in the pest groups associated with wood commodities are dependent on moisture and therefore may be inactivated during kiln-drying. Kiln-drying also permanently alters the physical structure of the wood, which prevents subsequent resorption of sufficient moisture to sustain existing pests and reduces the incidence of post-harvest infestation. However, individuals of some species may be capable of completing their life cycle in the new environment of reduced moisture content. If favourable moisture conditions are re-established, many fungi and nematodes and some insect species may be capable of continuing their life cycle or infesting the wood after treatment.

6. Air-drying

[91] Compared with kiln-drying, air-drying reduces wood moisture content only to ambient moisture levels and is therefore less effective against a broad range of pests. The pest risk remaining after treatment depends on the duration of drying and the moisture content and on the intended use of the wood. Moisture reduction through air-drying alone should not be considered a phytosanitary measure.

[92] Although moisture reduction through air-drying or kiln-drying alone may not be a phytosanitary measure, wood dried to below the fibre saturation point may be unsuitable for infestation by many pests. Therefore, the likelihood of infestation of dried wood is very low for many pests.

7. Irradiation

[93] The exposure of wood to ionizing radiation (e.g. accelerated electrons, x-rays, gamma rays) may be sufficient to kill, sterilize or inactivate pests (ISPM 18 (*Guidelines for the use of irradiation as a phytosanitary measure*)).

8. Modified Atmosphere Treatment

[94] Modified atmosphere treatments may be applied to round wood, sawn wood, wood chips and bark.

[95] In such treatments, wood is exposed to modified atmospheres (e.g. low oxygen, high carbon dioxide) for extended periods of time to kill or inactivate pests. Modified atmospheres can be artificially

generated in gas chambers or allowed to occur naturally, for instance during water storage or when the wood is wrapped in airtight plastic.

9. References

[96] **CPM**. 2008. Replacement or reduction of the use of methyl bromide as a phytosanitary measure. CPM Recommendation. *In Report of the Third Session of the Commission on Phytosanitary Measures*. Rome, 7–11 April 2008, Appendix 6. Rome, IPPC, FAO. Available at https://www.ippc.int/publications/500/ (last accessed 21 November 2016)

APPENDIX 5: Draft ISPM: *International movement of growing media in association with plants for planting* (2005-004)

Status box	
This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.	
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Steward history	2005-04 SC Mr Mohammad KATBEH-BADER (JO, Lead Steward) 2008-11 SC Ms Marie-Claude FOREST (CA, Lead Steward) 2012-11 SC Ms Hilde PAULSEN (NO, Lead Steward) 2012-11 SC Mr Antario DIKIN (ID, Assistant Steward) 2013-11 SC Ms Hilde PAULSEN (NO, Lead Steward) 2013-11 SC Ms Ana Lilia MONTEALEGRE (MX, Assistant Steward) 2016-05 SC Ms Ana Lilia MONTEALEGRE (MX, Lead Steward) 2016-05 SC Ms Hilde PAULSEN (NO, Assistant Steward) 2016-05 SC Mr Jesulindo DE SOUZA (BR, Assistant Steward)
Secretariat notes	2013-05 Edited 2014-11 Edited 2015-11 Edited 2016-11 Edited

CONTENTS [to be inserted]

Adoption

[1] This standard was adopted by the Commission on Phytosanitary Measures in [Month 201-].

INTRODUCTION

Scope

[2] This standard provides guidance for the assessment of the pest risk of growing media in association with plants for planting and describes phytosanitary measures to manage the pest risk of growing media associated with plants for planting in international movement.

[3] Growing media moved as a separate commodity, contaminating a commodity or used as packaging material are not considered in this standard.

References

[4] The present standard refers to International Standards for Phytosanitary Measures (ISPMs). ISPMs are available on the International Phytosanitary Portal (IPP) at https://www.ippc.int/core-activities/standards-setting/ispms.

Definitions

[5] Definitions of phytosanitary terms used in this standard can be found in ISPM 5 (*Glossary of phytosanitary terms*).

Outline of Requirements

[6] Pest risk analysis (PRA) should provide the technical justification for phytosanitary import requirements for growing media in association with plants for planting.

[7] The origin and the production method of components of growing media can affect the pest risk of the growing media associated with plants for planting. Growing media should be produced, stored and maintained under conditions that prevent contamination or infestation. These conditions will depend on the type of growing medium used. Growing media may need to be appropriately treated before use.

[8] The production methods for plants for planting may affect the pest risk of growing media associated with these plants for planting.

[9] Pest risk management options related to growing media in association with plants for planting – including phytosanitary measures such as treatment, inspection, sampling, testing, quarantine and prohibition – are described in this standard.

BACKGROUND

[10] Soil as a growing medium is considered to be a high-risk pathway because it can harbour numerous quarantine pests and a number of other growing media are also recognized pathways for the introduction and spread of quarantine pests. The pest risk of growing media in association with plants for planting depends on factors related to both the production of the growing media and the production of the plants, as well as the interaction between the two.

[11] Many countries have legislation in place to regulate the movement of growing media, particularly soil or soil as a component of growing media, but not necessarily for growing media associated with plants for planting. Growing media, particularly soil, are often prohibited. While it is possible to remove growing medium from some plants for planting, it may be difficult to completely avoid the movement of growing media in association with plants for planting. Some plants can survive transport only when moved in growing medium.

IMPACT ON BIODIVERSITY AND THE ENVIRONMENT

[12] Pests associated with the international movement of growing media in association with plants for planting may have negative impacts on biodiversity. Implementation of this standard could significantly reduce

the introduction and spread of quarantine pests associated with growing media and consequently reduce their negative impacts. In addition, the application of phytosanitary measures in accordance with this standard could also reduce the probability of introduction and spread of other organisms that may become invasive alien species in the importing country and thus affect biodiversity.

[13] Certain phytosanitary measures (e.g. some treatments with fumigants) may have a negative impact on the environment. Countries are encouraged to promote the use of phytosanitary measures that have a minimal negative impact on the environment.

REQUIREMENTS

1. Pest Risk Analysis

[14] This standard addresses the pest risk of quarantine pests in growing media, and only growing media that are associated with plants for planting. In some cases, however, regulated non-quarantine pests associated with those growing media may also need to be considered in the PRA.

[15] Phytosanitary import requirements for growing media should be technically justified and based on a PRA in accordance with ISPM 2 (*Framework for pest risk analysis*), ISPM 11 (*Pest risk analysis for quarantine pests*) and ISPM 21 (*Pest risk analysis for regulated non-quarantine pests*). The PRA should include consideration of the factors that affect the pest risk of growing media, described in this standard, and factors related to the production of plants for planting, described in Annex 1 of ISPM 36 (*Integrated measures for plants for planting*). The pest risk posed by plants for planting, as well as that of the associated growing media in which the plants were grown, should be assessed together.

[16] It should be noted that quarantine pests carried with growing medium in association with a plant may be pests of other plants, or may act as a vector for other pests.

2. Factors That Affect the Pest Risk of Growing Media

[17] The production methods for plants for planting may affect the pest risk of the growing media used. While some growing media may pose a low pest risk by nature of their production, they may become contaminated or infested, depending on the type and composition of the growing medium during the production process of the commodity (i.e. growing media in association with plants for planting).

[18] The national plant protection organization (NPPO) of the importing country may take into consideration the pest risk of growing media (as outlined in Annex 1, Annex 2 and Appendix 1) when conducting a PRA to identify appropriate phytosanitary measures. Based on the pests regulated by the importing country, the PRA should include consideration of the pest status in the importing and exporting countries. Furthermore, the pest risk may also depend on:

- whether the growing media are new or reused
- the origin of the growing media
- the components of the growing media
- the measures used in the production of the growing media, including the degree of processing and any treatments applied
- the measures to prevent contamination or infestation of the growing media before planting, such as during transportation and storage, as well as during plant propagation and production (e.g. use of clean starter plant stock, treatment of the irrigation water and avoiding exposure to high-risk growing media)
- the length of the plant's production cycle
- the quantity of growing media present in association with all plants for planting in a consignment.

[19] In the assessment of pest risk, data on historical or existing importation of growing media and their geographical origin may be relevant.

[20] The origin and production method of components of growing media affect the pest risk of growing media. Annex 1 lists common components of growing media and indicates their relative pest risk, assuming that they were not previously used as growing media and that they have been handled and stored in a way that prevents their contamination and recontamination.

[21] Growing media containing organic components (including plant debris) may be more likely to harbour pests and so generally pose greater pest risk than purely mineral or synthetic growing media. If the growing medium consists of organic components, the pest risk may be particularly difficult to assess fully because of the likely presence of unknown organisms and it should be processed in a way that adequately addresses the pest risk.

3. Pest Risk Management Options

[22] The following measures may be used singly or in combination to ensure the pest risk of growing media is adequately managed.

3.1 Growing media free from quarantine pests

[23] Growing media free from quarantine pests may be achieved by:

- using growing media produced in a process that renders the growing media free from pests
- using growing media or their components collected from a pest free area or a pest free production site
- applying appropriate treatments to growing media that are not free from pests, before their use.

[24] Growing media should be produced under a system that allows appropriate trace back and forward of both the media and their components, where appropriate.

[25] Pest free growing media should be stored and maintained under conditions that keep them free from quarantine pests. The growing media should not be exposed to plants, pests, untreated soil, other untreated growing media or contaminated water. If this has not been achieved, the growing media should be treated appropriately before use.

[26] Plants intended to be planted in the pest free growing media should be free from relevant quarantine pests.

[27] The following measures may be used to prevent contamination or infestation of the growing media after planting the plants:

- using clean tools, clean equipment, clean containers, etc.
- keeping the growing media associated with the plants in a pest free area or a pest free place of production
- using water free from quarantine pests
- using physical isolation (e.g. protected conditions, prevention of pest transmission by wind, production on benches separated from contact with soil).

[28] Examples of pest management measures to reduce pest risk that could be appropriate for growing media are available in ISPM 36.

3.2 Treatments

[29] Treatments may be applied at various stages in the production cycle to mitigate the pest risk of growing media. Treatments that may be applied singly or in combination include:

- treatment of growing media before planting or after planting (e.g. steam treatment, heat treatment, chemical treatment, a combination of treatments)
- treatment of fields or planting beds intended for the production of plants for planting
- treatment (e.g. filtration, sterilization) of water or water-based nutrient solution used for irrigation or as a growing medium
- treatment of plants or propagative plant parts (e.g. seeds, bulbs, cuttings) before planting

- removal of growing media[40] (e.g. by root washing or plant shaking).

[30] Factors such as temperature may affect the results of treatments. Also, some pesticides may only suppress, rather than eradicate, pest populations. Verification of the effectiveness of a treatment after application may be necessary.

[31] After treatment, appropriate measures should be taken to avoid recontamination or reinfestation.

3.3 Inspection, sampling and testing

[32] The places of production and the processing or treatment procedures for growing media may be inspected, monitored or approved by the NPPO of the exporting country, which should ensure that phytosanitary import requirements are met.

[33] Plants for planting and associated growing media may need to be inspected to determine if pests are present or to determine compliance with phytosanitary import requirements (ISPM 23 (*Guidelines for inspection*)). However, most pests in growing media cannot be detected by inspection alone and testing may be required.

[34] The NPPO of the importing country may require or undertake sampling and testing of the growing media associated with plants for planting (ISPM 20 (*Guidelines for a phytosanitary import regulatory system*); ISPM 31 (*Methodologies for sampling of consignments*)). However, sampling and testing may not detect some types of pests, in particular at low-level contamination or infestation of the growing media. To verify that required measures have been carried out, testing may include testing for indicator organisms (easily detectable organisms whose presence indicates that required measures failed to be effective or were not implemented).

3.4 Quarantine

[35] The NPPO of the importing country may require quarantine for growing media attached to plants for planting, to reduce the pest risk. Quarantine allows for options such as testing, observation for signs or symptoms, and treatment for plants for planting and growing medium attached to the plants, during a quarantine period.

[36] Quarantine may also be used for monitoring in cases where knowledge about the pest risk is incomplete or there is an indication of a failure of measures taken in the exporting country (e.g. a significant number of interceptions).

3.5 Prohibition

[37] In cases where the measures outlined above are not deemed applicable, feasible or sufficient for growing media in association with certain plants for planting, the entry of growing medium in association with plants for planting may be prohibited.

[40] [102] In some cases, removal of growing media may be followed by replanting in not previously used pest free growing media shortly before export, if accepted by the NPPO of the importing country.

This annex is a prescriptive part of the standard.

ANNEX 1: Common components of growing media ranked in order of increasing relative pest risk

[38] The approximate ranking provided in this table is for components of growing media that have not previously been used for planting and have been handled and stored in a way that prevents contamination or infestation (e.g. they are free from soil).

[39] The table outlines the relative pest risk posed by different components of growing media, but not in association with plants for planting.

Components of growing media	Facilitate pest survival	Comments
Baked clay pellets	No	Inert material
Synthetic media (e.g. glass wool, rock wool, polystyrene, floral foam, plastic particles, polyethylene, polymer stabilized starch, polyurethane, water-absorbing polymers)	No	Inert material
Vermiculite, perlite, volcanic rock, zeolite, scoria	No	Heat of production renders vermiculite and perlite virtually sterile
Clay	No	
Gravel, sand	No	
Paper, including corrugated cardboard	Yes	High level of processing
Tissue culture medium (agar-like)	Yes	Autoclaved or sterilized before use
Coconut fibres (coir/coco peat)	Yes	Pest risk depends on level of processing
Sawdust, wood shavings (excelsior)	Yes	Size of particles and heat treatment may affect the probability of pest survival
Water	Yes	Pest risk depends on source and treatment
Wood chips	Yes	Size of particles may affect the probability of pest survival
Cork	Yes	Pest risk depends on level of processing
Peat (excluding peat soil)	Yes	Pest risk is lower where the origin has had no agricultural exposure (e.g. certified bogs). Peat may contain seeds of plants as pests.
Non-viable moss (sphagnum)	Yes	Pest risk depends on level of processing. Living moss (sphagnum) may contain seeds of plants as pests.
Other plant material (e.g. rice hulls/chaff, grain hulls, coffee hulls, fallen leaves, sugar-cane refuse, grape marc, cocoa pods, oil palm shell charcoal)	Yes	Pest risk is reduced if treated or from a clean non-infested source

Bark	Yes	Pest risk depends on source (potential to harbour forest pests) and degree of processing or fermentation
Biowaste	Yes	Pest risk depends on source and degree of processing
Compost (e.g. municipal or agricultural composted waste, humus, leaf mould)	Yes	Pest risk depends on source and degree of processing or fermentation. Seeds of plants as pests are common.
Soil	Yes	Pest risk can be reduced if treated
Tree fern slabs	Yes	Pest risk depends on source and treatment
Vermicompost	Yes	May include remains of undigested organic material. Vermicompost should be prepared early as required, and treated to eliminate any organism before using as a growing medium.

This annex is a prescriptive part of the standard.

ANNEX 2: Examples of growing media and the measures that may effectively manage their pest risk when associated with plants for planting

Growing medium	Water and nutrients	Measures	Examples
Growing medium that has been sterilized (e.g. by heat to a specified temperature for a specified duration)	Sterilized, treated or filtered water supply (free from pests)	Maintained in conditions to prevent pest infestation	Plants grown from seed under protected conditions
Inert material such as perlite or vermiculite	Sterilized water-based nutrient solution	Maintained in conditions to prevent pest infestation	Plants for hydroponic cultivation where the absence of pests can be verified
Tissue culture medium	Incorporated in sterile medium	Maintained in aseptic conditions	Tissue cultured plants transported in closed containers
Water	Water or water-based nutrient solution	Sterilized, treated or filtered water may be required	Plants rooted in water

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

APPENDIX 1: Examples of common combinations of plants for planting and growing media moved internationally

Plant type	Growing media	Comments
Artificially dwarfed nursery stock	Soil	The plant roots are typically very difficult to wash free from soil. The plants may be transplanted to soil-free growing media and grown in greenhouses using integrated risk mitigation measures in an effort to minimize the pest risk associated with them.
Bare root nursery stock	Soil or none	Bare root is a technique of arboriculture whereby a field-grown tree or shrub is dug to be placed in a dormant state. The nursery stock may be shaken to remove some of the soil, or it may be washed free from all soil and growing media. The size and root structure of the plant and the type of soil has a large impact on whether soil can be removed from the root system.
Dormant bulbs and tubers, tuberous roots and herbaceous perennial roots	Soil, peat or none	Bulbs, tubers (including corms and rhizomes), tuberous roots and herbaceous perennial roots are generally propagated and grown in fields but shipped dormant and free from growing media. However, dormant bulbs may sometimes be packed as "growing kits", with growing media. These growing media may be considered as a separate commodity (packing material) provided the plants are not rooted in the media.
Epiphytic plants	Tree fern slabs, bark, non-viable moss (sphagnum), volcanic cinder, rock	Epiphytic plants, such as bromeliads and orchids, are often shipped in association with tree fern slabs, bark, wood, coconut husk, coconut fibre, non-viable moss (sphagnum), volcanic cinder, rock and so forth. These materials are generally intended for support and ornamentation rather than being true growing media.
Liners, whips	Various (including peat, vermiculite, soil as a contaminant)	These young plants are generally rooted in soil or in soil-free growing media in containers or trays.
Ornamental and flowering houseplants	Various (including synthetic media, vermiculite, perlite, coco peat)	The plants may be field-grown in soil, grown as containerized nursery stock, or grown as potted greenhouse plants in soil-free growing media
Plants grown from seed	Various (including peat, vermiculite, perlite)	Annuals and biennials are generally grown from seed in growing media and moved as rooted in growing media
Plants rooted in water or water-based nutrient solution	Water or water-based nutrient solution	Some plants may be grown from cuttings in water or in water-based nutrient solution, with or without synthetic growing media
Rooted herbaceous cuttings	Various (including peat, coco peat, synthetic media, non-viable moss (sphagnum))	Rooted herbaceous cuttings are generally rooted in soil-free growing media that may be contained in peat-pots or coco-pots. The roots are tender and the growing media cannot be removed without injuring the plants.
Tissue cultured plants	Sterile, agar-like	Tissue cultured plants are produced in association with sterile agar-like growing media. They may be shipped in sealed aseptic containers or ex-agar.
Trees and shrubs	Soil	Older trees and shrubs, including specimen trees, are often moved in the nursery trade as dug trees or “ball and burlap”
Turf or grass sod	Soil	Turf or grass sod contains a large amount of soil

APPENDIX 6: Draft ISPM: *International movement of seeds* (2009-003)

Status box	
This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.	
Date of this document	2016-12-01
Document category	Draft ISPM
Current document stage	*From* SC 2016-11 *to* CPM-12
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Steward history	2008-11 SC Mr Arundel SAKALA (ZM, Lead Steward) 2010-04 SC Mr David PORRITT (AU, Lead Steward) 2011-05 SC Mr Marcel BAKAK (CM, Assistant Steward) 2012-04 SC Ms Soledad CASTRO-DOROCHESSI (CL, Lead Steward) 2012-04 SC Mr David PORRITT (AU, Assistant Steward) 2012-11 SC Ms Julie ALIAGA (US, Assistant Steward) 2012-11 SC Mr Motoi SAKAMURA (JP, Assistant Steward) 2013-11 SC Ms Julie ALIAGA (US, Lead Steward) 2013-11 SC Ms Soledad CASTRO-DOROCHESSI (CL, Assistant Steward) 2014-11 SC Mr Ezequiel FERRO (AR, Assistant Steward) 2015-05 SC Mr Nico HORN (NL, Steward)
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Adoption

[1] [Insert text]

INTRODUCTION

Scope

[2] This standard provides guidance to assist national plant protection organizations (NPPOs) in identifying, assessing and managing the pest risk associated with the international movement of seeds (as a commodity class).

[3] The standard also provides guidance on procedures to establish phytosanitary import requirements to facilitate the international movement of seeds; on inspection, sampling and testing of seeds; and on the phytosanitary certification of seeds for export and re-export.

[4] Under ISPM 5 (*Glossary of phytosanitary terms*) seeds (as a commodity class) are intended for planting and not for consumption. Viable seeds, which are a sample of a seed lot, imported for laboratory testing or destructive analysis are also addressed by this standard.

[5] This standard does not apply to grain or vegetative plant parts (e.g. tubers of potatoes).

References

[6] The present standard refers to International Standards for Phytosanitary Measures (ISPMs). ISPMs are available on the International Phytosanitary Portal (IPP) at https://www.ippc.int/core-activities/standards-setting/ispms.

Definitions

[7] Definitions of phytosanitary terms used in this standard can be found in ISPM 5.

[8] In addition to the definitions in ISPM 5, in this standard the following definitions apply.

Seed-borne pest	A pest carried by seeds externally or internally that may or may not be transmitted to plants growing from these seeds and cause their infestation
Seed-transmitted pest	A seed-borne pest that is transmitted via seeds directly to plants growing from these seeds and causes their infestation

Outline of Requirements

[9] Seeds, as with other plants for planting, may present a pest risk because they may be introduced to an environment where pests associated with the seeds have a high probability of establishing and spreading.

[10] Seeds are regularly moved internationally for commercial and research purposes. Therefore, when assessing the pest risk and determining appropriate phytosanitary measures, NPPOs should consider the intended use of the seeds (research, planting under restricted conditions or planting under natural conditions).

[11] A pest risk analysis (PRA) should determine if the seeds are a pathway for the entry, establishment and spread of quarantine pests and their potential economic consequences in the PRA area, or if the seeds are a pest themselves or a pathway and the main source of infestation of regulated non-quarantine pests. The PRA should consider the purpose for which the seeds are imported (e.g. field planting, research, testing) and the potential for quarantine pests to be introduced and spread or for regulated non-quarantine pests to cause an economically unacceptable impact when present above a threshold.

[12] Specific phytosanitary measures may be used to reduce the pest risk associated with the international movement of seeds, including phytosanitary measures that may be applied before planting, during

growth, at seed harvest, post-harvest, during seed processing, storage and transportation, and on arrival in the importing country. Phytosanitary measures may be used either alone or in combination to manage the pest risk. Phytosanitary import requirements may be met by applying equivalent phytosanitary measures.

BACKGROUND

[13] Seeds are moved internationally for many uses. They are planted for the production of food, forage, ornamental plants, biofuels and fibre as well as for forestry and for pharmacological uses. They also have pre-commercial uses (research, breeding and seed multiplication).

[14] As with other plants for planting, seeds may present a pest risk when introduced to an environment where any pests associated with the seeds have a high probability of establishing and spreading (ISPM 32 (*Categorization of commodities according to their pest risk*)).

[15] Seed companies may have breeding and multiplication programmes in several countries, and may distribute seeds from these countries to many other countries. Moreover, research and breeding are conducted internationally to develop new varieties that are adapted to a range of environments and conditions. The international movement of seeds may involve small or large quantities of seeds.

[16] Contracting parties face challenges associated with the international movement of seeds that are distinct from the international movement of other types of plants for planting. For example, seeds produced in one country and exported to a second country for processing (e.g. pelleting and coating), testing and packing may then be re-exported to numerous other destinations (including the country of origin). At the time of production of the seeds, the destination countries and their phytosanitary import requirements may not be known, especially if a number of years pass between production and export to the final destinations.

IMPACTS ON BIODIVERSITY AND THE ENVIRONMENT

[17] This standard may help manage the pest risk posed by seeds moved internationally, including the pest risk posed by invasive alien species (as defined in the Convention on Biological Diversity).

[18] Harmonized international phytosanitary measures for seeds may help preserve biodiversity by increasing the potential for exchanging healthy seeds (free from pests).

REQUIREMENTS

1. Pest Risk Analysis

[19] PRA for seeds performed in accordance with ISPM 2 (*Framework for pest risk analysis*), ISPM 11 (*Pest risk analysis for quarantine pests*) and ISPM 21 (*Pest risk analysis for regulated non-quarantine pests*) should identify the regulated pests potentially associated with seeds and seeds as pests. The PRA should consider the purpose for which seeds are imported (e.g. field planting, research, testing) and the probability of regulated pests establishing and spreading and in consequence causing economic impacts (ISPM 32).

1.1 Seeds as pests

[20] PRA for seeds as pests should follow the guidance provided in Annex 4 of ISPM 11.

1.2 Seeds as pathways

[21] In PRA for seeds as pathways, the ability of a pest to transfer to a suitable host and cause infestation needs specific consideration to identify pests that warrant regulation.

[22] Some seed-borne pests associated with a suitable host upon entry may result in infestation of the host when the seed is planted while others may not.

[23] Seed-borne pests include:

- seed-transmitted pests that are carried by the seed internally or externally and directly infest the host plant growing from the seed (category 1(a))
- non-seed-transmitted pests that are carried by the seed internally or externally and are transferred to the environment (e.g. water, soil) and then infest a host plant under natural conditions (category 1(b))
- pests carried by the seed, internally or externally, that do not transfer to a host plant under natural conditions (category 1(c)).

[24] A further category of pests may be relevant even though the pests are not seed-borne. This is the category of contaminating pests present in a seed lot (including seeds of plants as pests) (category 2).

[25] Pests in categories 1(a), 1(b) and 2 should be further assessed for establishment, spread and economic impacts. Pests in category 1(c) cannot establish because they are not transferred to a suitable host.

[26] Examples of pests in each category are provided in Appendix 1.

[27] The PRA should consider whether the transmission of pests has been observed or confirmed to occur under natural conditions or under experimental conditions (e.g. in a laboratory or a growth chamber). When the transmission of pests has been observed or confirmed under experimental conditions it is necessary to confirm that it can also occur under natural conditions.

[28] Consideration of the biological and epidemiological characteristics of specific pest groups may help in determining the probability of a pest being introduced with seeds in an area. Guidance on the likelihood of pest groups being carried and introduced with seeds is provided in Appendix 2. The pests and host seeds should be assessed at the species level unless there is technical justification for using a higher or lower taxonomic level, in accordance with the requirements in ISPM 11.

1.3 Purpose of import

[29] The production of seeds may involve several steps (e.g. breeding, multiplication, destructive analysis, restricted field planting), which may be performed in different countries. The purpose of import of seeds may impact the probability of establishment of quarantine pests and should be considered when conducting the PRA and determining phytosanitary measures (ISPM 32).

[30] The purpose of import may be broadly ranked from lowest to highest pest risk as follows.

1.3.1 Seeds for laboratory testing or destructive analysis

[31] Such seeds are not intended for planting or for release into the PRA area. PRA may not be necessary because these seeds will not be released into the environment.

[32] Seeds imported for testing may be germinated to facilitate testing, but their purpose is not for planting. Requirements for laboratory testing or similar confinement and the destruction of the seeds and plants growing from these seeds should be sufficient as a phytosanitary measure.

[33] The NPPO of the importing country may not require other phytosanitary measures for these seeds if the pest risk is considered low or negligible.

1.3.2 Seeds for planting under restricted conditions

[34] Such seeds are imported for research and are grown in protected environments (e.g. glasshouses, growth chambers) or in isolated fields. These seeds should be planted under conditions that prevent the introduction of quarantine pests into the PRA area. Examples include seeds for evaluation, germplasm and seeds as breeding material.

[35] For these seeds, NPPOs may require relevant phytosanitary measures, which should not be more stringent than needed to address the pest risk identified.

1.3.3 Seeds for field planting

[36] Seeds intended for unrestricted release into the PRA area may present the highest pest risk for quarantine pests.

[37] The NPPO of the importing country may require phytosanitary measures; any such measures should be proportionate to the assessed pest risk. Specific tolerance levels for regulated non-quarantine pests may be determined and published.

1.4 Mixing, blending and bulking of seeds

[38] Mixing of seeds combines different species, varieties or cultivars into a single lot (e.g. lawn grass mixture, wildflower mixture). Blending of seeds combines different seed lots of the same variety into a single lot. Bulking combines seeds of the same variety from different fields immediately after harvest into a single lot.

[39] Seeds from various origins and different harvest years may be mixed or blended. All seeds in a mixture, a blend or a bulk lot should meet the relevant phytosanitary import requirements.

[40] In assessing the pest risk of mixed, blended or bulked seeds, all combinations of pests, hosts and origins should be considered. The impacts of the mixing, blending or bulking processes (e.g. dilution, increased handling) should also be considered in determining the overall pest risk of mixtures, blends and bulk lots of seeds.

[41] Testing and inspection may be done either on the components or on the mixture or the blend to be certified.

[42] All components of the mixture, blend or bulk lot should be traceable.

1.5 Pest management in seed production

[43] Certain practices used in seed production may alone or in combination be sufficient to meet phytosanitary import requirements. Full documentation of phytosanitary measures applied to the seeds should be maintained to facilitate trace-back, as appropriate.

[44] Phytosanitary measures may be included in integrated pest management and quality control protocols applied in seed production.

[45] In the case of tree seeds, phytosanitary measures are often applied only at the time of harvest.

[46] Production practices may vary between seed production sectors (e.g. field crops, forestry). Options that may be considered when determining pest risk management include:

Pre-planting:

- use of resistant plant varieties (section 1.5.2)use of healthy seeds (free from pests)
- seed treatment (section 1.5.3)
- crop management (e.g. rotation or mixed planting)
- field selection
- soil or growing medium treatment
- geographical or temporal isolation
- sanitation or disinfection of water

[47] Pre-harvesting:

- hygiene measures (e.g. disinfection of workers' hands and shoes, farm equipment, machinery and tools)
- field inspection and, where appropriate, testing if symptoms are observed
- field sanitation (e.g. removal of symptomatic plants, removal of weeds)
- parent plant testing

- crop treatment
- protected environments (e.g. glasshouses, growth chambers)
- sanitation or disinfection of water

[48] Harvesting and post-harvest handling:

- hygiene measures (e.g. disinfection of workers' hands and shoes, farm equipment, machinery and tools)
- timely harvest (e.g. just as seed matures, for tree seeds in mast years, from fruit at the pre-ripe stage)
- use of disinfectants during seed extraction
- seed cleaning, drying, conditioning and sorting
- seed testing
- seed storage
- seed treatment (section 1.5.3)
- sanitation (e.g. removing plant debris, soil or visibly infested plants and seeds)
- seed packaging and sealing
- mechanical treatment (e.g. separation of healthy seeds (free from pests)
- harvesting method (e.g. use of collection mats or tarpaulins for tree seeds).

1.5.1 Seed certification schemes

[49] Certain elements of a seed certification scheme (a scheme to improve the quality of seeds) may have an effect on the pest risk of the seeds being certified. Some of these elements (e.g. inspection for the presence of pests, purity analysis to detect weed seeds) may be considered in pest risk management by NPPOs and assessed on a case-by-case basis.

[50] Seed certification schemes should ensure seed traceability. Information on international seed certification schemes is provided in some of the sources in Appendix 3.

1.5.2 Resistant plant varieties

[51] Modern breeding programmes may produce plant varieties that have a level of resistance to pests, which may include resistance to regulated pests. When confirmed resistance to a regulated pest is such that a resistant variety is not infested by the pest, the NPPO of the importing country may consider this resistance as an appropriate pest risk management option.

[52] A plant variety's level of resistance to different regulated pests may vary depending on the resistance characteristics present in the plant. Resistance genes may be effective against all or some races, strains, biotypes or pathotypes of the targeted pest, but the emergence of new races, strains, biotypes or pathotypes may affect the level of resistance. The pest resistance should therefore be assessed on a case-by-case basis. The NPPO of the importing country may consider the use of resistant varieties as an appropriate phytosanitary measure in the framework of a systems approach.

[53] A suggested bibliography on the use of resistant plant varieties is provided in Appendix 3.

1.5.3 Seed treatment

[54] Seeds may be treated to eliminate an infestation by a pest; however, they may be treated even if not infested, either as a precaution by a general disinfection or to protect the seedlings growing from the seeds when exposed to pests in the environment. Seed treatments may also be unrelated to pests; for example, seeds may be treated with seedling growth enhancer.

[55] Seed treatments include, but are not limited to:

- pesticides (fungicides, insecticides, nematicides and bactericides)

- disinfectants, which are generally used against bacteria and viruses; disinfection may take place during various steps in seed processing (e.g. seed extraction, seed priming[41]) or during a dedicated disinfection process
- physical treatments (e.g. dry heat, steam, hot water, irradiation by ultraviolet light, high pressure, deep-freezing)
- biological treatments based on different modes of action (e.g. antagonism, competition, induced resistance).

2. Phytosanitary Measures

[56] In accordance with ISPM 11, phytosanitary measures proportionate to the assessed pest risk should be applied alone or in combination to prevent the introduction and spread of quarantine pests and to ensure that the tolerance levels of regulated non-quarantine pests are met, as identified through a PRA.

2.1 Consignment inspection and testing for pest freedom

[57] Seed sampling, including sample size (the total number of seeds tested), should be appropriate for detecting regulated pests. Guidance on sample size is provided in ISPM 31 (*Methodologies for sampling of consignments*). Harvested seeds showing visible symptoms that suggest the presence of regulated pests may need to be tested to confirm the presence of the pests.

2.2 Field inspection for the presence of pests

[58] Field inspection may be a phytosanitary measure to detect some regulated pests that produce visible symptoms.

2.3 Pest free areas, pest free places of production, pest free production sites and areas of low pest prevalence

[59] Pest free areas, pest free places of production, pest free production sites and areas of low pest prevalence should be established, recognized and maintained in accordance with ISPM 4 (*Requirements for the establishment of pest free areas*), ISPM 10 (*Requirements for the establishment of pest free places of production and pest free production sites*) and ISPM 29 (*Recognition of pest free areas and areas of low pest prevalence*).

[60] Areas of low pest prevalence in accordance with ISPM 22 (*Requirements for the establishment of areas of low pest prevalence*) may be used alone or in combination with other phytosanitary measures in a systems approach (ISPM 14 (*The use of integrated measures in a systems approach for pest risk management*)).

2.4 Treatments

2.4.1 Crop treatment

[61] Pesticide application to parent plants may be used to prevent seed infestation.

2.4.2 Seed treatment

[62] Seed treatments may be used as phytosanitary measures (section 1.5.3).

[63] Many tropical and some temperate tree species produce seeds that are sensitive to desiccation and particularly prone to latent pest development or pest infestation. Physical or chemical treatments may be applied to prevent latent pest development or pest infestation in seeds that need to be maintained at high moisture levels.

[41] Seed priming is the pre-treatment of seeds by various methods in order to improve the percentage and uniformity of germination.

2.5 Systems approaches

[64] Systems approaches provide the opportunity to consider both pre-harvest and post-harvest procedures that may contribute to effective pest risk management. Many pest management practices to reduce pest risk throughout the seed production process, from planting to harvesting, may be integrated in a systems approach. ISPM 14 provides guidelines for the development and evaluation of integrated measures in a systems approach as an option for pest risk management.

2.6 Post-entry quarantine

[65] The NPPO of the importing country may require post-entry quarantine for seeds, including confinement in a quarantine station, in cases where a quarantine pest is difficult to detect, where symptom expression takes time, or where testing or treatment is required and no alternative phytosanitary measures are available. Guidance on post-entry quarantine stations is provided in ISPM 34 (*Design and operation of post-entry quarantine stations for plants*).

[66] As part of post-entry quarantine, a representative sample of the seed lot may be sown and the plants growing from these seeds tested (this may an option for small seed lots used for research).

[67] The NPPO of the importing country may consider, based on the findings of a PRA, that the pest risk can be adequately managed by requiring the imported seeds to be planted in a designated planting area. The planting area should be isolated from other host plants, and weed control, sanitation, and hygiene measures for people, machinery and equipment may be required.

2.7 Prohibition

[68] NPPOs may prohibit the importation of seeds of certain species or origins when a PRA determines that the seeds pose a high pest risk as a pathway for quarantine pests and no alternative phytosanitary measures are available. This includes situations where the seeds may pose a high risk of being a pathway for plants as pests (e.g. weeds, invasive alien species). Guidance on prohibition of importation can be found in ISPM 20 (*Guidelines for a phytosanitary import regulatory system*).

[69] The NPPO of the importing country may allow – for research purposes and under an import authorization that indicates specific conditions to prevent the introduction and spread of quarantine pests – the entry of seeds that are normally prohibited.

3. Equivalence of Phytosanitary Measures

[70] The equivalence of phytosanitary measures (ISPM 1 (*Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade*)) is particularly important for the international movement of seeds as seed companies may have breeding and multiplication programmes in several countries and may export these seeds to other countries, and there may be frequent re-export from a single seed lot.

[71] Determination of the equivalence of phytosanitary measures may be initiated by the exporting country making a request for equivalence to the importing country, as described in ISPM 24 (*Guidelines for the determination and recognition of equivalence of phytosanitary measures*). It may also be initiated by the importing country. NPPOs are encouraged to provide multiple options when setting phytosanitary import requirements.

[72] Equivalent phytosanitary measures may provide NPPOs with options to achieve the required protection. An example of an equivalent phytosanitary measure is the substitution of a requirement for field inspection of the seed crop in the country of origin with appropriate seed testing or seed treatment for the regulated pest. ISPM 24 provides further guidance on the equivalence of phytosanitary measures.

[73] For seeds (including organic seeds) requiring for import a specific chemical treatment, if the chemical is not permitted for use in the country of origin, export or re-export, the NPPO of the importing country should consider an equivalent phytosanitary measure, where possible, provided that the measure is technically feasible and reduces the assessed pest risk to an acceptable level. It is recommended that

phytosanitary import requirements do not specify chemical products, active ingredients or exact protocols.

4. Specific Requirements

[74] Specific requirements for inspection, sampling and testing of seeds for phytosanitary certification or verification are provided as follows.

4.1 Inspection

[75] Inspection may be conducted on the seed consignment or as field inspection of the growing crop, or both, as required. ISPM 23 (*Guidelines for inspection*) and ISPM 31 provide further guidance on inspection and sampling.

4.1.1 Inspection of seed consignments

[76] Seed consignments may be inspected for the presence of seeds of plants regulated as pests (i.e. weeds, invasive alien species), for signs or symptoms of regulated pests, for the presence of regulated articles (e.g. soil) or for the presence of contaminating pests. Inspection for pest symptoms may be effective where infested seeds are known to display characteristic symptoms such as discoloration or shrivelling. However, the presence of the pest should be confirmed by laboratory testing. Visual examination should be combined with testing if pest freedom or a specific tolerance level is required for asymptomatic or unreliably symptomatic regulated pests.

[77] Inspection of seeds can be done with or without the help of devices that automatically sort seeds based on visible physical characteristics. Although inspection may be effective for the detection of insects and mites, the majority of seed-borne pests (i.e. bacteria, fungi, nematodes, viroids, viruses) are not detectable by inspection with the naked eye and require a more specialized examination (e.g. with a binocular microscope) or laboratory testing. Washing, sieving or breaking seeds may be necessary before inspection.

[78] Inspection of seeds that are coated, pelleted or embedded in tape, mats or any other substrate may require removal of the covering material by washing it off the seeds or breaking it because such material may reduce the ability to see the seeds or symptoms of the pest on the seeds. In such cases, the NPPO of the importing country may require the NPPO of the exporting country to systematically sample the seeds before coating, pelleting or embedding them, and to test them. For monitoring at import, the NPPO of the importing country may request the NPPO of the exporting country to provide a sample of the seeds (of a size proportional to the seed lot) before coating, pelleting or treating them, for inspection and testing, or, alternatively, if agreed bilaterally, to collect an official sample and test the seeds without coating, pelleting or treating them and to provide the test results.

4.1.2 Field inspection

[79] Inspection of the seed crop in the field by trained staff at an appropriate time may be useful to detect regulated pests known to cause visible symptoms. A pest observed in the field on the parent plant may not necessarily be present on or in the seeds produced by these plants (section 1.2). A laboratory test may be conducted on the harvested seeds to determine if they are infested.

4.2 Sampling of lots

[80] Sampling of a seed lot may be done to inspect or test for the absence of a pest in the lot.

[81] Inspection for pests is usually based on sampling. Sampling methodologies used by NPPOs will depend on the sampling objectives (e.g. sampling for testing or inspection) and may be solely statistically based or developed noting particular operational constraints.

[82] Guidance on the sampling of consignments for inspection is given in ISPM 31.

4.2.1 Sampling of small lots

[83] Testing of samples that are taken in accordance with ISPM 31 from a small lot may result in the destruction of a large proportion of the lot. In such cases, alternative sampling methodologies (e.g. clustering small samples of different lots for testing) or equivalent phytosanitary procedures should be considered by the NPPO of the importing country, as per the guidance in ISPM 24.

[84] In cases where sampling from small lots is not possible, specific post-entry quarantine requirements may be determined by the NPPO of the importing country.

4.3 Testing

[85] Inspection may not be sufficient to determine if a regulated pest is present and other forms of examination may be needed (e.g. laboratory testing). Some bacteria, fungi, insects, nematodes, viroids and viruses may not be detectable by inspection of seed consignments or plants during growth, but they may be detectable by specific laboratory tests that follow validated diagnostic protocols for regulated pests.

[86] Molecular and serological diagnostic methods are considered indirect protocols to detect pests in seeds. These methods may give a positive result even when no viable pests are present. Consequently, when testing seeds with these methods, results should be interpreted carefully. Confirmatory tests or additional tests based on a different biological principle may be required to confirm the presence of a viable pest in a sample. NPPOs should ensure that internationally recognized or validated diagnostic protocols are used to avoid false positives or false negatives.

[87] The purpose and use of diagnostic protocols are described in ISPM 27 (*Diagnostic protocols for regulated pests*) and adopted protocols are provided as annexes to ISPM 27. Information on a range of other protocols, some of which have been validated, can be found in the sources listed in Appendix 3.

4.3.1 Testing of treated seeds

[88] Seed treatment may influence the sensitivity of testing. Ideally, a detection method that detects only viable pests should be used to determine treatment efficacy, so when the treatment has been successful the test result is negative. Examples of such detection methods are techniques for the detection of bacteria and fungi where the organism will grow on the substrate (i.e. media or blotters), and techniques for the detection of viruses where the seeds are sown and plants growing from the seeds are observed for symptoms. Most established seed testing methods have been developed and validated for use on untreated seeds. If treated seeds are to be tested, the testing method should be validated for treated seeds.

[89] The test results of treated seeds should be interpreted carefully, as the following situations may be encountered:

- The treatment inactivates the pest but the detection method detects both viable and non-viable pests. This may be the case with some serological or molecular tests or when detection is based on morphological identification of pests or pest structures that may remain even after treatment (e.g. nematodes, spores). In such cases, determination of the efficacy of the treatment is conclusive only if a test validated for treated seeds is used.
- The treatment physically or chemically inhibits the detection method; for example, some detection methods for bacteria are affected by fungicide treatments.
- The treatment adversely affects the detection method; for example, a method detects only pests present externally and any pests remaining internally after the treatment cannot be detected. In these situations, other detection methods that are able to detect internal infection should be used.

5. Phytosanitary Certification

[90] The global and temporal nature of the seed trade (i.e. re-export to many destinations, repeated re-export from the same seed lot, long-term storage) presents phytosanitary certification challenges distinct from those of the international movement of other commodities.

[91] NPPOs are encouraged to exchange additional official phytosanitary information at the time of export certification with other NPPOs to enable certification for re-export of seeds, as described in ISPM 12 (*Phytosanitary certificates*). Additional official phytosanitary information, which is not required by the first country of import, may be included on the phytosanitary certificate issued by the country of origin when so requested by the exporter in order to facilitate future re-export to other countries (ISPM 12).

[92] A country's phytosanitary import requirement for a field inspection may not be known at the time of production. Where appropriate, the NPPO of the importing country may consider equivalent phytosanitary measures (such as tests or treatments) to fulfil its phytosanitary import requirements for seeds already harvested, in accordance with ISPM 24. However, it is the responsibility of the exporting country to meet the phytosanitary import requirements.

[93] On phytosanitary certificates, "place of origin" refers primarily to places where the seeds were grown. If seeds are repacked, stored or moved, the pest risk may change as a result of their new location through possible infestation or contamination by regulated pests. The pest risk may also change if a seed treatment or disinfection removes possible infestation or contamination. In such cases, each country or place, as necessary, should be declared with the initial place of origin in brackets, in accordance with ISPM 12. If the consignment has not been exposed to infestation in the country or place of re-export, this can be indicated on the phytosanitary certificate for re-export. If different lots within a consignment originate in different countries or places, or if lots are mixed, blended or bulked, all countries or places should be indicated.

6. Record Keeping

[94] Because seeds may be stored for many years before being exported or re-exported, official phytosanitary information on the seed lot, including in the case of re-export the original phytosanitary certificate for export, when available, should be retained as long as the seeds are in storage.

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

APPENDIX 1: Examples of seed-transmitted, seed-borne and contaminating pests

[95] This appendix provides examples of pests in the categories presented in section 1.2 (Seeds as pathways) of the standard.

Category 1(a): Seed-transmitted pests that are carried by the seed internally or externally and directly infest the host plant growing from the seed

- *Acidovorax citrulli* in seeds of *Citrullus lanatus*
- *Clavibacter michiganensis* subsp. *michiganensis* in seeds of *Solanum lycopersicum*
- *Ditylenchus dipsaci* on or in seeds of *Vicia faba* and *Medicago sativa*
- *Fusarium circinatum* on or in seeds of *Pinus* spp. and *Pseudotsuga menziessii*
- *Pea seed-borne mosaic virus* in seeds of *Pisum sativum*
- *Squash mosaic virus* in seeds of *Cucumis melo*
- *Tomato mosaic virus* in seeds of *S. lycopersicum*

Category 1(b): Non-seed transmitted pests that are carried by the seed internally or externally and are transferred to the environment (e.g. water, soil) and then infest a host plant under natural conditions

- *D. dipsaci* on or in seeds of *V. faba* and *M. sativa*
- *Fusarium oxysporum* f.sp. *lycopersici* on seeds of *S. lycopersicum*
- *Gibberella avenaceae* on seeds of *Linum usitatissimum*
- *Megastigmus* spp. in seeds of *Abies* spp.

Category 1(c): Pests carried by the seed, internally or externally, that do not transfer to a host plant under natural conditions

- *Callosobruchus chinensis* and *C. maculatus* on seeds of *Fabaceae*
- *Rice yellow mottle virus* on seeds of *Oryza sativa*

Category 2: Contaminating pests

- *Cyperus iria* in seed lots of *Oryza sativa*
- *Mycosphaerella pini* in seed lots of *Pinus* spp. contaminated with needle debris
- *Sclerotium cepivorum*, sclerotia in seed lots of *Allium cepa*

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

APPENDIX 2: Guidance on the likelihood of pest groups being carried and introduced with seeds

[96] This appendix provides general guidance on assessing the probability of different pest groups being carried and introduced with seeds. In accordance with ISPM 11, pests and their hosts are recommended to be assessed at the species level unless there is technical justification for using a higher or lower taxonomic level. Guidance for assessing the probability of pests being associated with seeds or being present in consignments of seeds and their potential to establish and spread via this pathway is provided in section 1.2 of the standard and in ISPM 11.

[97] There is limited, and at times conflicting, information available regarding the seed transmission of pests. In addition, a pest that has been proven to be seed-transmitted in one host is not necessarily seed-transmitted in all known hosts. Seed transmission in other hosts and the level of host infestation before seed formation should be considered.

[98] NPPOs should consider in their determination of pest–host interaction that plants that may host certain pests under experimental conditions may not be hosts under natural conditions.

1. Arthropods

1.1 Pre-harvest pests

[99] Arthropods in the field include pests that feed on and in seeds during the seed development period, before harvest.

[100] Arthropods in the field that have a low probability of being present in seed consignments:

- External feeders: arthropods that feed on external parts of seeds are often dislodged during harvesting and cleaning.
- Internal feeders that cause seed abortion: arthropods that feed on internal parts of seeds usually cause seeds to fall before maturity and harvest.

[101] Arthropods that are internal feeders on the mature seed in the field have a high probability of being present in seed consignments because they are usually collected with seeds during harvest. Consideration during the pest risk management stage of the PRA is needed to determine whether these arthropods (e.g. *Bruchidae*) would be visible during quality grading or inspection and whether they would survive storage conditions.

1.2 Post-harvest pests

[102] Stored product arthropods can infest seeds after harvest, particularly if the seeds are stored in poor conditions (e.g. in high moisture or with previously stored seeds). Good storage conditions, as generally applied for high value seeds, greatly decrease or remove the likelihood of arthropods feeding on stored seeds.

[103] Stored product arthropods that are external feeders have a low probability of being present in seed consignments. Arthropods that feed on but are not attached to external parts of seeds may destroy the seeds and pose a risk as contaminating pests. Secondary pests (e.g. *Mycetophagus* spp., *Acarus* spp., *Liposcelis* spp.) may also be present when sanitation is poor or extraneous matter excessive.

[104] Stored product arthropods that are internal feeders have a high probability of being present in seed consignments. Thus consideration should be given to the likelihood of infestation in poor storage conditions. Arthropods that feed on internal parts of seeds can infest seeds that are left exposed before packaging.

2. Fungi

[105] Fungal and fungal-like organisms may be associated with seeds both externally and internally without causing disease in the plants growing from these seeds; however, many species cause seed rot, necrosis, reduced germination and infestation of seedlings. Seed fungal pathogens can be grouped as field pathogens and storage pathogens. Fungi may be present on the surface of seeds or mixed with seeds as contaminating pests, and may be introduced and spread to the host crop or to other crops (e.g. by contamination of the growing medium). Fungi may also be present in the integuments or in the internal part of the seed and can be introduced and spread to the host crop in this way.

3. Bacteria

[106] Although not all bacteria are seed-transmitted, bacteria can be found on or within seeds as external or internal infections, respectively.

4. Viruses

[107] Not all viruses are seed-transmitted. Viruses as a general rule are seed-transmitted only if the seed embryo is infected, although there are exceptions in the *Tobamovirus* genus. For seed-transmitted viruses, the percentage of infected seedlings is often lower than the percentage of infested seeds.

5. Viroids

[108] Seed transmission has been demonstrated for many but not all viroids.

6. Phytoplasmas and Spiroplasmas

[109] There is no substantial evidence of seed transmission for phytoplasmas and spiroplasmas under natural conditions.

7. Nematodes

[110] The majority of plant-parasitic nematode species are recorded as internal or external root parasites; however, some species of nematodes are known to attack above-ground plant parts, including seeds (e.g. *Ditylenchus dipsaci*, *Anguina tritici* and *Anguina agrostis*). Nematodes identified as seed-transmitted pests generally are species that are known to be endoparasites (internal feeders). Some species that are ectoparasites (external feeders) have dormant stages in seeds, plant debris and soil (e.g. *Aphelenchoides besseyi*) or become endoparasitic, invading inflorescenses and developing seeds (e.g. *A. tritici*).

8. Plants as Pests

[111] Seeds of plants as pests (e.g. weeds, parasitic plants) may be introduced into a country as contaminating pests in seed lots.

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

APPENDIX 3: Bibliography

[112] The references included in this appendix are generally recognized as authoritative. The list is neither comprehensive nor static.

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APPENDIX 7: Draft ISPM: *International movement of used vehicles, machinery and equipment* (2006-004)

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Major stages	2006-04 CPM-1 added topic *Guidelines for the movement of used machinery and equipment* (2006-004) 2007-11 SC approved draft specification for member consultation 2007-12 Draft specification submitted to member consultation 2009-05 SC approved specification 48 2013-05 EWG met and drafted ISPM 2014-05 SC approved draft ISPM for member consultation 2014-07 Member consultation 2016-01 Steward reviewed member comments and revised draft ISPM 2016-05 SC-7 reviewed member comments, revised draft ISPM and approved for the second consultation ("used" was removed from the title as SC-7 agreed the draft should cover new vehicles, equipment and machinery) 2016-07 Second consultation 2016-11 SC revised draft and recommended to CPM-12 (2017) for adoption
Steward history	2007-05 SC Mr Gabriel ADEJARE (NG, Lead Steward) 2007-11 SC Mr Robert KARYEIJA (UG, Lead Steward) 2009-05 SC Mr Guillermo ROSSI (AR, Lead Steward) 2012-11 SC Mr Alexandre PALMA (BR, Assistant Steward) 2012-11 SC Mr Ngatoko NGATOKO (CK, Lead Steward) 2015-05 SC Mr Alexandre PALMA (BR, Lead Steward) 2015-05 SC Mr Álvaro SEPÚLVEDA LUQUE (CL, Assistant Steward) 2015-11 SC Mr Álvaro SEPÚLVEDA LUQUE (CL, Lead Steward) 2015-11 SC Mr Pere KOKOA (PNG, Assistant Steward)
Notes	2011-11 Specification reformatted 2011-12 Applied consistency changes to specification in line with the decision made by SC May 2009 2012-11 SC replaced task regarding implementation issues 2013-10 Edited 2014-04 Lead Steward and Assistant Steward revised draft ISPM based on TPG comments on consistency (modifications in track changes) 2014-05 Lead Steward revised draft ISPM 2014-05 Edited 2016-05 Edited 2016-11 Edited

Adoption

[1] [Insert text]

INTRODUCTION

Scope

[2] This standard identifies and categorizes the pest risk associated with used vehicles, machinery and equipment (VME) being moved internationally and identifies appropriate phytosanitary measures.

[3] This standard does not cover passenger and commercial transport vehicles moving under their own motive power.

References

[4] The present standard refers to International Standards for Phytosanitary Measures (ISPMs). ISPMs are available on the International Phytosanitary Portal (IPP) at https://www.ippc.int/core-activities/standards-setting/ispms.

Definitions

[5] Definitions of phytosanitary terms used in this standard can be found in ISPM 5 (*Glossary of phytosanitary terms*).

Outline of requirements

[6] This standard describes phytosanitary measures that may apply to used VME: cleaning and treatment, prevention from contamination, requirements for facilities and waste disposal, and verification procedures.

[7] The standard also provides guidance to national plant protection organizations (NPPOs) working with the military on phytosanitary measures applicable to the international deployment of used military VME.

BACKGROUND

[8] Used VME are frequently traded or otherwise moved between countries. They may have been used in agriculture and forestry, as well as for construction, industrial purposes, mining and waste management. They can also be used military VME that have been subject to international deployment. Depending on their use, storage or transportation before export, used VME may have become contaminated with quarantine pests or regulated articles. When moved internationally as either a traded commodity or an operational relocation (e.g. in the case of harvesters) used VME may carry soil, pests, plant debris or seeds, and they may therefore present a pest risk to the country of destination. Depending on their use in the country of destination, they may introduce quarantine pests to agricultural, forested, wilderness or other areas.

[9] New VME may also be contaminated by pests during storage before export. The likelihood of contamination may depend on the storage conditions, distance from pest habitats and storage time.

[10] Examples of pests that may contaminate used VME are provided in Appendix 1.

[11] Specific guidance is needed for NPPOs regarding the pest risk associated with the movement and storage of used VME and the phytosanitary measures that may be required in order to facilitate their safe movement. The phytosanitary measures may be applied with the aim of minimizing their negative effect on trade.

IMPACT ON BIODIVERSITY AND THE ENVIRONMENT

[12] The decontamination of used VME may provide a means to prevent the entry of organisms into new areas that could be relevant to biodiversity of those areas (invasive alien species).

REQUIREMENTS

1. Pest Risk

[13] The main pest risk associated with used VME is contamination with soil, pests, plant debris, and seeds and other plant parts capable of propagation. Seeds and other plant parts capable of propagation may be of concern because the plant itself can be a pest or potentially harbour pests. Pests that have a resistant or dormant life stage allowing them to survive transport to endangered areas are a particular concern.

[14] The pest risk from contamination of used VME is difficult to assess. Therefore, the normal process of undertaking pest risk analysis to determine if phytosanitary measures are necessary, and the strength of such measures, may not be possible. For this reason, in order to reduce the risk of introduction and spread of quarantine pests used VME moved internationally should be free from contamination in accordance with this standard.

1.1 Elements of pest risk categorization

[15] The following elements of used VME may affect the level of pest risk:

- distance of movement: used VME moving on their own motive power over short distances across borders to be used immediately may pose a low pest risk
- type: used VME with more complex structure have more areas that may be contaminated
- origin and prior use: VME used on farms, in crop fields, in forests, in close proximity to vegetation or for transporting organic material are more likely to be contaminated
- storage: used VME stored outdoors and in close proximity to vegetation or lights that attract insects are more likely to be contaminated
- intended location or use: used VME that will be used in agricultural areas, in forests or in close proximity to vegetation are more likely to provide a pathway for the introduction of pests.

[16] In the case of used military VME, exposure to kinetic forces and rigours of combat operations may result in external damage and internal penetration of contamination.

[17] Examples of used VME, ranked in order of decreasing pest risk, together with examples of possible phytosanitary measures and verification procedures, are provided in Appendix 2.

2. Phytosanitary Measures

[18] Used VME moved internationally should be free from contamination.

[19] The main groups of phytosanitary measures that may be applied to used VME are described in the sections below.

[20] NPPOs are encouraged to work with military authorities to develop procedures consistent with the guidance on the international movement of used military VME provided in Annex 1.

[21] Based on evidence of interceptions of quarantine pests on new VME, the NPPO of the country of destination may require phytosanitary measures for the prevention of contamination in the exporting country (section 2.2).

2.1 Cleaning and treatment

[22] cleaning methods are:

- emptying water reservoirs
- removing debris or filters
- abrasive blasting
- pressure washing
- steam cleaning

- sweeping and vacuuming
- compressed air cleaning.

[23] Treatments that may be used in addition to cleaning are:

- chemical treatment (e.g. fumigation, disinfestation)
- temperature treatment.

[24] Partial or full dismantling of the used VME may be necessary for effective cleaning or treatment. It may be necessary to clean or treat the used VME while they are in operation to ensure that all moving parts can be accessed (e.g. agricultural equipment with moving parts such as conveyors or rollers).

2.2 Prevention of contamination

[25] Where clean VME are moved to a storage area, packing area or port of loading or when they are transiting through another country, phytosanitary measures may be taken to prevent contamination. These include, as appropriate:

- storage in appropriate areas with reduced risk from contamination
- storage and handling on surfaces that prevent contact with soil
- keeping vegetation around storage areas, packing areas or ports of loading short by mowing or using weed control in order to reduce the risk of contamination by airborne seeds and other pests; consideration may be given to the erection of barriers to limit seed movement around storage and loading areas.

[26] During seasonal pest emergence periods or occasional pest outbreaks, special consideration may be given to phytosanitary measures that prevent pests being attracted to storage and loading areas (e.g. restricting the use of artificial lights during night-time operations).

2.3 Facilities and waste disposal requirements

[27] The type of equipment and nature of facilities necessary for cleaning and treatment of used VME depend on where these procedures take place. Inspection, cleaning and treatment will normally take place in the exporting country to fulfil the phytosanitary import requirements of the country of destination. Facilities in the exporting country may not need elaborate solid waste and wastewater management systems as the contamination may be of local origin.

[28] Facilities required for the inspection, cleaning and treatment of used VME may include:

- surfaces that prevent contact with soil, including soil traps and wastewater management systems
- temperature treatment facilities
- fumigation or chemical treatment facilities.

[29] Disposal of soil and contaminated washing water should be in accordance with national or local regulations.

[30] Containment and disposal methods should be sufficient to prevent the spread of pests and may include: soil traps, bagging, deep burial, incineration, fumigation, chemical treatment, composting and wastewater management systems.

3. Verification Procedures

[31] Requirements for documentation to attest that consignments have been cleaned, treated or inspected (e.g. cleaning declaration, treatment certificate, inspection declaration, phytosanitary certificate) should be determined by the NPPO of the country of destination, and should be proportionate to the identified pest risk and appropriate for the phytosanitary measures required.

[32] An NPPO of a country of destination may conduct import inspections to verify that used VME are clean. Import inspections may include partial or full dismantling of used VME, and in some cases, collection

of specimens for identification. Verification of cleanliness may also involve probing and flushing hidden areas (e.g. by using water under high pressure or compressed air).

[33] The NPPO of the exporting country may authorize entities for the treatment of used VME. The cleaning of used VME may also be conducted by entities other than the NPPO.

[34] The cleaning of used military VME may be performed and verified by military personnel when requested by the NPPO or in conformance with an agreement between the NPPO and military authorities.

4. Non-compliance and Phytosanitary Actions

[35] Where non-compliance occurs, the NPPO of the country of destination may take phytosanitary action as outlined in ISPM 20 (*Guidelines for a phytosanitary import regulatory system*) and should notify the exporting country (ISPM 13 (*Guidelines for the notification of non-compliance and emergency action*)).

[36] Examples of phytosanitary actions that may be taken are detention, cleaning, treatment or reshipment of the used VME found to be contaminated. Where contaminated used VME need to be transported to another location for cleaning and treatment, the NPPO should ensure that contamination is suitably contained (e.g. by containerization), in accordance with national or local regulations.

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

APPENDIX 1: Examples of pests that may contaminate used vehicles, machinery and equipment

- *Achatina fulica*, as aestivating adults *Beet necrotic yellow vein virus*, transmitted through soil via spores of its vector *Polymyxa betae*
- *Chromolaena odorata*, as seeds or in soil
- *Clavibacter michiganensis* subsp. *sepedonicus*, in plant residues
- *Coptotermes formosanus*, in wood and soil
- *Fusarium guttiforme*, in soil and host plant residues
- *Fusarium oxysporum*, in soil and host plant residues
- *Globodera* spp., in soil and host plant residues
- *Halyomorpha halys*, as overwintering adults
- *Lymantria dispar*, as diapausing egg masses
- *Miconia calvescens*, as seeds in soil
- *Orgyia thyellina*, as diapausing pupae
- *Phytophthora ramorum*, in soil
- *Solenopsis invicta*, as eggs, larvae and adults, and nests
- *Sorghum halepense*, as rhizomes and seeds
- *Tilletia indica*, as spores in soil and on wheat seed residues

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

APPENDIX 2: Examples of used vehicles, machinery and equipment, ranked in order of decreasing pest risk, together with examples of possible phytosanitary measures and verification procedures

Category	Contamination notes	Phytosanitary measures	Verification procedures
Agricultural, forestry and horticultural used VME, such as: - harvesters - sawmill machinery - logging trucks - animal transport vehicles - compost and manure trailers - tractors - tools. Reconditioned or field-tested used VME are included. This category is usually considered to be high pest risk.	Contaminants: - soil - pests - plant debris - seeds	Abrasive blasting Emptying open water reservoirs, removing debris Pressure washing Steam cleaning Sweeping and vacuuming Compressed air cleaning Chemical treatment (e.g. fumigation, disinfestation) Temperature treatment	Cleaning declaration Treatment certificate Inspection (may include dismantling and testing) Phytosanitary certificate Authorization and audit
Earth moving used VME, such as: - bulldozers - graders - surface mining equipment Reconditioned or field-tested used VME are included. Pest risk is variable, but high levels of contamination may occur in this category.	Soil is the main contaminant; pests, plant debris and seeds can also be contaminants	Abrasive blasting Emptying open water reservoirs, removing debris Pressure washing Steam cleaning Sweeping and vacuuming Compressed air cleaning Chemical treatment (e.g. fumigation, disinfestation)	Cleaning declaration Treatment certificate Inspection (may include dismantling and testing) Phytosanitary certificate Authorization and audit
Used military VME, such as: - trucks - tanks - personnel carriers - rolling stock Pest risk is variable, but used military VME are often used off-road and stored outdoors, leading to a higher risk.	Contaminants: - soil - pests - plant debris - seeds	Emptying open water reservoirs, removing debris Pressure washing Steam cleaning Compressed air cleaning Chemical treatment (e.g. fumigation, disinfestation	(See Annex 1 of this standard)
Waste management used VME, such as: - rubbish/garbage/waste trucks - waste sorting equipment.	Organic waste debris is the main contaminant, including: - soil - pests	Abrasive blasting Emptying open water reservoirs, removing debris Pressure washing Steam cleaning	Cleaning declaration Treatment certificate Inspection (may include dismantling and testing)

Reconditioned used VME are included. Bulldozers used in landfills are considered under earth moving VME	- plant debris	Sweeping and vacuuming Chemical treatment (e.g. fumigation, disinfestation)	Phytosanitary certificate Authorization and audit
Deep mining used VME The most likely contaminants are soil and to a lesser extent pests. Pest risk is generally low unless used VME are contaminated with surface soil. It can be difficult to determine the prior use and whether or not used VME were used for surface mining.		Abrasive blasting Emptying open water reservoirs, removing debris Pressure washing Steam cleaning	Cleaning declaration Inspection (may include dismantling and testing)
Used industrial VME used outdoors, such as: - cranes - forklifts. Pest risk is variable, but generally low unless used VME are used in close proximity to vegetation or are contaminated with soil.		Abrasive blasting Emptying open water reservoirs, removing debris Pressure washing Steam cleaning	Cleaning declaration Inspection
Used vehicles, such as: - cars, vans, trucks, buses - off-road vehicles (e.g. motorbikes, quad bikes, four-wheel drives) - locomotives and engines - used parts - trailers - attached tyres. Extremely variable pest risk, with some used vehicles at higher risk but many at low risk. This category has a large volume of used, traded vehicles.	Contaminants: - soil - pests - plant debris - seeds	Abrasive blasting Emptying open water reservoirs, removing debris Pressure washing Steam cleaning Sweeping and vacuuming Chemical treatment (e.g. fumigation, disinfestation) Temperature treatment	Cleaning declaration Treatment certificate Inspection (may include dismantling and testing)
New VME Pest risk is variable, but generally low, depending on storage conditions.	Contaminants: - soil - pests - plant debris - seeds	Emptying open water reservoirs, removing debris Pressure washing Steam cleaning Sweeping and vacuuming	Inspection

VME, vehicles, machinery and equipment.

This annex is a prescriptive part of the standard.

ANNEX 1: Guidance on the international movement of used military vehicles, machinery and equipment

1. Background

[37] The international movement of used military VME may present a risk for the introduction of pests with soil, pests, plant debris and seeds to the countries of both deployment and redeployment. Examples of pests that may contaminate used military VME are provided in Appendix 1 of this standard. Movements of used military VME occur continually around the world and encompass many different conveyances and cargo storage conditions.

[38] The international movement of used military VME may present a practical problem to NPPOs. In many countries, NPPOs have no or limited access to the military because of security issues. For this reason, the approach taken in managing the pest risk related to the commercial and private shipping of used VME may not be applicable to the military. Consequently, military authorities are encouraged to commit to using this guidance.

2. Objective

[39] The objective of this guidance is that used military VME are clean of soil, pests, plant debris and seeds before they are moved internationally (e.g. for training, missions and deployment).

3. Guidance

[40] Military authorities should ensure that used VME are cleaned according to the phytosanitary import requirements developed by the NPPO of the country of destination. Cleaning methods may consist of, for example:

- emptying water reservoirs
- removing debris or filters
- abrasive blasting
- pressure washing
- steam cleaning
- sweeping and vacuuming
- compressed air cleaning.

[41] These cleaning methods may need to be carried out in combination with partial or full dismantling of the used VME to ensure they are cleaned to a high standard. For specialized military VME, military authorities are encouraged to develop specific procedures and manuals.

[42] Additional treatments may be required, such as:

- chemical treatment (e.g. fumigation, disinfestation)
- temperature treatment.

[43] Wood packaging material associated with used military VME should be compliant with ISPM 15 (*Regulation of wood packaging material in international trade*).

[44] Military authorities are encouraged to liaise with the NPPOs in their home country. Military authorities are also encouraged to liaise with the NPPO in the country of deployment, where practical. Contact information for NPPOs is available on the IPP (https://www.ippc.int).

[45] Military authorities are encouraged to implement verification procedures to ensure the appropriate cleaning and treatment for used military VME has been carried out before deployment

APPENDIX 8: Draft Annex *Arrangements for the verification of compliance of consignments by the importing country in the exporting country* (2005-003) to ISPM 20

Status box	
This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.	
Date of this document	2016-12-01
Document category	Draft new annex to ISPM 20 (*Guidelines for a phytosanitary import regulatory system*)
Current document stage	*From* SC 2016-11 *to* CPM-12 (2017)
Major stages	2005-04 CPM-7 added topic *Pre-clearance for regulated pests* (2005-003) 2006-01 Draft specification submitted to member consultation 2006-11 SC approved specification 2008-09 EWG drafted annex 2011-05 SC reviewed draft and returned to Steward 2012-02 To SC April 2012 for approval for member consultation 2012-12 Steward revised draft 2013-05 SC postponed consideration of draft until concepts related to pre-clearance had been clarified 2014-05 SC discussed concepts related to pre-clearance 2014-11 SC discussed concepts and definitions related to pre-clearance 2015-05 SC approved draft to member consultation 2015-07 Member consultation 2016-02 Steward reviewed member comments and revised draft 2016-05 SC-7 approved draft as an annex to ISPM 20 to second consultation 2016-07 Second consultation 2016-11 SC revised draft and recommended to CPM-12 (2017) for adoption
Steward history	2005-04 SC Mr Mike HOLTZHAUSEN (ZA, Lead Steward) 2008-11 SC Mr Arundel SAKALA (ZM, Assistant Steward) 2012-04 SC Mr Mike HOLTZHAUSEN (ZA, Assistant Steward) 2012-04 SC Mr Bart ROSSEL (AU, Assistant Steward) 2012-04 SC Ms Soledad CASTRO-DOROCHESSI (CL, Assistant Steward) 2012-04 SC Ms Marie-Claude FOREST (CA, Lead Steward) 2012-11 SC Mr Stephen BUTCHER (NZ, Assistant Steward) 2012-11 SC Ms Ana Lilia MONTEALEGRE (MX, Assistant Steward) 2016-05 SC Mr Ezequiel FERRO (AR, Lead Steward)
Notes	2011-02 Edited (SC May 2011 drafts) 2011-03 Formatted for SC May 2011 2011-05 SC reviewed draft, asking SC members to submit comments to Steward by 2011-05-31 2012-04 SC discussed and reviewed draft, asking SC members to submit comments to Steward by 2012-12-15 2012-12 Steward revised draft 2013-01 Posted for TPG 2013-02 2013-02 Edited 2013-01 An SC forum was opened on concepts linked to pre-clearance. SC comments were collected and sent to the Steward and assistant stewards for review. The issue was discussed at SC May 2014. 2014-10 SC small group revised draft. The draft was briefly discussed at SC November 2014.

	2015-02 SC small group revised draft following SC members' comments collected after SC November 2014. The draft was discussed at SC May 2015. 2016-05 Edited 2016-11 Edited 2016-11 when the Annex in paragraph 1 refers to "section 5.1.5.1", the reference is to ISPM 20, as the Annex will be incorporated herein following adoption.

This annex was adopted by the [XX]th Session of the Commission on Phytosanitary Measures in [month] [year].

This annex is a prescriptive part of the standard.

ANNEX 1: Arrangements for the verification of compliance of consignments by the importing country in the exporting country

[46] The NPPO of the importing country usually verifies compliance of consignments with phytosanitary import requirements on entry into the importing country. However, to facilitate trade logistics, contracting parties may in some cases bilaterally or multilaterally negotiate an arrangement that allows verification procedures to be performed by the NPPO of the importing country in the exporting country. Such arrangements are distinct from audits of procedures in exporting countries referred to in this standard (section 5.1.5.1).

[47] NPPOs of the importing country and the exporting country should only establish and use a bilateral or multilateral arrangement (hereinafter referred to as an "arrangement") for verification procedures to be performed on consignments of specified commodities in the exporting country on a voluntary and case-by-case basis and for a time period agreed by both parties.

[48] Arrangements described in this annex should not be established as a phytosanitary measure or as a condition to allow trade.

[49] The establishment of an arrangement may be an option to facilitate trade logistics in the following situations:

- to expedite consignment release at the destination
- when measures associated with the refusal of a consignment at the point of entry are too costly or difficult to apply
- when inspection at the point of entry adversely affects commercial packaging (e.g. the commodity is individually wrapped and destructive sampling is required) or commodity quality (e.g. the commodity is highly perishable)
- when additional infrastructure is necessary to address instances of non-compliance.

[50] The terms of the arrangement for a particular regulated article should be developed once the phytosanitary import requirements have been set based on a pest risk analysis.

[51] The arrangement should only include procedures to verify compliance of consignments with established and published phytosanitary import requirements for the relevant commodities in accordance with this standard and where appropriate with ISPM 23 (*Guidelines for inspection*). Consignments verified under the arrangement should not be subject to the same verification procedures again at the point of entry. The NPPO of the importing country may, however, perform other verification procedures, such as document and identity checks, at the point of entry.

[52] Irrespective of any arrangement between the NPPOs of the importing country and the exporting country, issuance of phytosanitary certificates remains the exclusive responsibility of the NPPO of the exporting country as stated in Articles I.2, IV.2(a), IV.2(b), IV.2(c), IV.2(d), IV.2(e), IV.2(g) and V.1 of the IPPC.

Any actions undertaken by the NPPO of the importing country in the exporting country under an arrangement are subject to and must comply with the legislation of the exporting country.

[53] The following sections provide options to be considered by NPPOs in relation to arrangements for the verification of compliance of consignments by the NPPO of the importing country in the exporting country.

1. General Requirements for an Arrangement

[54] An arrangement should be developed jointly by the NPPOs of the importing country and the exporting country, in consultation with relevant stakeholders, when appropriate.

[55] The financial aspects of the arrangement should be agreed on by the NPPOs of the importing country and the exporting country, in consultation with relevant stakeholders.

[56] The arrangement should be subject to regular review and a mechanism may be put in place to deal with any changes that may arise. The conditions for reducing compliance verification activities and suspending or terminating the arrangement should be specified on a case-by-case basis.

2. Process for Establishing an Arrangement

[57] The steps to establish an arrangement are outlined below.

2.1 Proposal

[58] The NPPO of the importing or of the exporting country may initiate the request for an arrangement. The proposal may be a response to a need identified by the initiating NPPO or by relevant stakeholders. The proposal should specify the scope and objectives of as well as the reasons for the arrangement, and be agreed on by both NPPOs.

[59] Factors that may be considered in the proposal include:

- timing and duration of the arrangement
- proposed verification levels and, when appropriate, sampling schemes for specified commodities and regulated pests
- criteria that could initiate review and evaluation of the arrangement
- criteria that could initiate suspension or termination of the arrangement
- availability of resources
- feasibility of programme implementation.

2.2 Evaluation

[60] The NPPO receiving the proposal for an arrangement should undertake a timely review of the proposal and prepare a response. Evaluation of the proposal should encompass any effects of the arrangement on pest risk concerns, operational and economic feasibility, and regulatory aspects.

2.3 Elements

[61] The NPPO proposing an arrangement has the primary responsibility for its development. However, on request of the proposing NPPO, the other NPPO is encouraged to assist in its development.

[62] Elements of the arrangement that may need to be agreed between the NPPO of the importing country and the NPPO of the exporting country include:

- sampling and inspection of consignments
- adequacy of inspection facilities
- testing procedures
- verification of treatments
- verification of consignment integrity

- the time of and location for the different steps of the verification of compliance of consignments, when appropriate
- notification to the point of entry of the arrival of consignments
- whether a certificate is to accompany the phytosanitary certificate
- availability of qualified staff to implement provisions under the arrangement
- timing of the activities for the verification of compliance
- approval procedures and expense or estimated expense for growers and exporters participating in the arrangement
- accommodation, transport, work health and safety, security and other logistical aspects for the deployed officers.

[63] The steps of the verification of compliance will be identified by the NPPOs entering into the arrangement.

2.4 Technical requirements

[64] The technical requirements for an arrangement should be determined and developed on a case-by-case basis and should be described in the arrangement.

[65] The arrangement may include specific information on:

- legal and regulatory authorities
- phytosanitary and other relevant legislation or regulations
- roles and responsibilities (including those of NPPOs, exporters, growers and other relevant stakeholders)
- timing and duration of the activities
- regulated articles
- all regulated pests and the relevant phytosanitary measures for these pests required by the NPPO of the importing country
- phytosanitary actions such as sampling, inspection, testing, verification of treatment and verification of consignment integrity
- infrastructure and equipment used for the verification of compliance of consignments
- documentation to be maintained and provided by the NPPO of the exporting country to the NPPO of the importing country
- financial aspects
- notification of non-compliance
- corrective actions on a consignment following non-compliance
- frequency and timing of reviews of the arrangement
- criteria that could result in review, evaluation, suspension or termination of the arrangement.

3. Implementation of an Arrangement

[66] The verification of compliance described in an arrangement may be subject to implementation conditions; for example, verification may be for all exported consignments of a particular commodity or only a percentage thereof, for categories of regulated commodities or for a defined time period during the shipping season.

[67] The activities for the verification of compliance to be implemented should be limited to those under the arrangement.

[68] When an arrangement is in place, with verification of compliance being undertaken in the exporting country, the same verification upon import should not be required. However, other procedures undertaken in the importing country may be:

- checks of consignment documentation and identity
- inspection of consignments where packaging has been compromised and the consignments' phytosanitary integrity may have been compromised
- inspection of consignments for contaminating pests in containers
- inspection of consignments in response to an emerging pest risk that was not known at the time of inspection in the exporting country
- inspection of consignments where the arrangement allows for a phytosanitary measure after inspection in the exporting country (e.g. cold treatment for fruit flies during transport).

4. Review of an Arrangement

[69] The effectiveness of an arrangement should be reviewed regularly to identify problems and allow their discussion and resolution in order to improve the arrangement or to determine if it could be downscaled or terminated. The frequency and timing of reviews should be described in the arrangement. Some elements of the arrangement may need to be reviewed more frequently than others.

[70] Changes to the existing arrangement may be proposed by the NPPO of the importing country or the NPPO of the exporting country and require the agreement of both NPPOs before implementation.

5. Termination of an Arrangement

[71] If the reasons for establishing an arrangement are no longer valid (e.g. because of changes in trade logistics between the two countries) or if the arrangement is no longer needed, the arrangement should be terminated.

[72] Once an arrangement has been terminated, verification procedures will be conducted in the importing country

APPENDIX 9: Summary of standards committee e-decisions (update May 2016 – October 2016)

1. Summary of the outcome of forums and polls

[1] This paper provides a summary of the outcome of the forums and polls that the Standards Committee (SC) has discussed on the e-decision website since its last meeting in May 2016.

Table 1: SC e-decisions presented between May 2016 and October 2016

E-decision number	SC decision	SC members commenting in the forum	Polls Yes/No
2016_eSC_Nov_01	SC approval of the diagnostic protocol on *Xanthomonas fragariae* (2004-012) to be submitted to the DP notification period for adoption	12	No poll
2016_eSC_Nov_02	SC discussion on proposals for the Implementation Review and Support System (IRSS) New Project Cycle	6	No poll
2016_eSC_Nov_03	SC approval of the diagnostic protocol on *Sorghum halepense* (2006-027) to be submitted to the DP notification period for adoption	14	No poll
2016_eSC_Nov_04	SC approval of the diagnostic protocol on *Anguina* spp. (2013-003) to be submitted to the DP notification period for adoption	13	No poll
2016_eSC_Nov_05	SC approval of the phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A) to be adopted by CPM-12	13	No poll
2016_eSC_Nov_06	SC approval of the phytosanitary treatment: Cold treatment for *Ceratitis capitata on Citrus reticulata* × *C. sinensis* (2007-206B) to be adopted by CPM-12	14	No poll
2016_eSC_Nov_07	SC approval of the phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C) to be adopted by CPM-12	12	No poll
2016_eSC_Nov_08	SC approval of the phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (2007-210) to be adopted by CPM-12	11	No poll
2016_eSC_Nov_09	SC approval of the phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus reticulata* (2007-212) to be adopted by CPM-12	13	No poll
2016_eSC_Nov_10	SC approval of the TPPT responses to 2014 consultation comments on Cold treatment for *Ceratitis capitata* on *Citrus sinensis* var. Navel and Valencia (2010-103) and SC agreement to remove from the work program	13	No poll
2016_eSC_Nov_11	SC approval of the phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus clementina* (2010-102) to be adopted by CPM-12	13	No poll
2016_eSC_Nov_12	SC approval of the phytosanitary treatment: Vapour heat treatment for *Ceratitis capitata* on *Mangifera indica* (2010-106) to be adopted by CPM-12	12	No poll
2016_eSC_Nov_13	SC approval of the phytosanitary treatment: Vapour heat treatment for *Bactrocera tryoni* on *Mangifera indica* (2010-107) to be adopted by CPM-12	13	No poll

2016_eSC_Nov_14	SC approval of the phytosanitary treatment**: Heat treatment of wood using dielectric heating (2007-114)** to be adopted by CPM-12	10	No poll
2016_eSC_Nov_15	SC approval of the phytosanitary treatment: Sulphuryl fluoride fumigation treatment for insects in debarked wood (2007-101A) to be adopted by CPM-12	11	No poll
2016_eSC_Nov_16	SC approval of the phytosanitary treatment: **Sulphuryl fluoride fumigation of nematodes and insects in debarked wood (2007-101B)** to be adopted by CPM-12	10	No poll

For more background information on SC e-decisions, please consult the e-decision site on the International Phytosanitary Portal (IPP) (https://www.ippc.int/en/work-area-pages/standards-committee/electronic-decisions-by-sc/) and the support documents (https://www.ippc.int/en/work-area-pages/background-e-decisions/)

2016_eSC_Nov_01: SC approval of the diagnostic protocol for *Xanthomonas fragariae* (2004-012) to be submitted to the DP notification period for adoption

[2] The forum was open from 01 to 15 June 2016.

[3] The Secretariat reviewed SC members' responses. Twelve members commented and approved the draft DP and the responses to comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[4] The SC approved the responses to consultation comments and to submit the draft diagnostic protocol for *Xanthomonas fragariae* (2004-012) to the 45-day DP notification period, which started on the 01 July 2016.

[5] Secretariat notes: As no objections were received during the DP notification period, the SC adopted the diagnostic protocol, DP 14, on behalf of the CPM.

2016_eSC_Nov_02: SC discussion on proposals for the Implementation Review and Support System (IRSS) New Project Cycle

[6] The forum was open from 11 to 25 August 2016.

[7] The Secretariat reviewed SC members' responses. Six members commented and approved the draft DP and the responses to member comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[8] Generally, SC members supported the idea to conduct an IRSS study to find out more about the expectations of countries towards standards. The SC did not reach a conclusion on how the IRSS could assist the SC. The IRSS proposals were discussed during the bureau meeting and as there was no consensus in regards to this e-decision, the SC Chair and the Standards Officer raised some issues for consideration for future discussion.

2016_eSC_Nov_03: SC approval of the diagnostic protocol for *Sorghum halepense* (2006-027) to be submitted to the DP notification period for adoption

[9] The forum was open from 12 to 26 October 2016.

[10] The Secretariat reviewed SC members' responses. Fourteen members commented and approved the draft DP and the responses to comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[11] The SC approved the responses to consultation comments and to submit the draft diagnostic protocol for *Sorghum halepense* (2006-027) to the 45-day DP notification period, starting 15 December 2016.

2016_eSC_Nov_04: SC approval of the diagnostic protocol for *Anguina* spp. (2013-003) to be submitted to the DP notification period for adoption

[12] The forum was open from 12 to 26 October 2016.

[13] The Secretariat reviewed SC members' responses. Thirteen members commented and recommended the draft DP and the responses to comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[14] The SC approved the responses to the consultation comments and to submit the draft diagnostic protocol for *Anguina* (2013-003) to the 45-day DP notification period, starting 15 December 2016.

2016_eSC_Nov_05: Cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A)

[15] The forum was open from 12 to 26 October 2016.

[16] The Secretariat reviewed SC members' responses. Thirteen members commented and approved the responses to the objections and recommended the draft PT for adoption. One SC member suggested making small editorial changes for consistency. As no other modifications were proposed a poll was not necessary.

SC e-decision

[17] The SC approved the TPPT responses to the objections and recommended the draft phytosanitary treatment: Cold treatment on C*eratitis capitata* on C*itrus sinensis* (2007-206A) for adoption by CPM-12 (2017).

2016_eSC_Nov_06: Cold treatment for *Ceratitis capitata on Citrus reticulata* × *C. sinensis* (2007-206B)

[18] The forum was open from 12 to 26 October 2016.

[19] The Secretariat reviewed SC members' responses. Fourteen members commented and approved the draft PT for adoption and the responses to the objections. As no modifications were proposed a poll was not necessary.

SC e-decision

[20] The SC approved the TPPT responses to the objections and recommended the draft phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus reticulata* × *Citrus sinensis* (2007-206B) for adoption by CPM-12 (2017).

2016_eSC_Nov_07: Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C)

[21] The forum was open from 12 to 26 October 2016.

[22] The Secretariat reviewed SC members' responses. Twelve members commented and approved the draft PT for adoption and the responses to the objections. As no modifications were proposed a poll was not necessary.

SC e-decision

[23] The SC approved the TPPT responses to the objections and recommended the draft phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C) for adoption by CPM-12 (2017).

2016_eSC_Nov_08: Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (2007-210)

[24] The forum was open from 12 to 26 October 2016.

[25] The Secretariat reviewed SC members' responses. Eleven members commented and approved the draft PT for adoption and the responses to the objections. As no modifications were proposed a poll was not necessary.

SC e-decision

[26] The SC approved the TPPT responses to the objections and recommended the draft phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (2007-210) for adoption by CPM-12 (2017).

2016_eSC_Nov_09: Cold treatment for *Ceratitis capitata* on *Citrus reticulata* (2007-212)

[27] The forum was open from 12 to 26 October 2016.

[28] The Secretariat reviewed SC members' responses. Thirteen members commented in the forum. As no modifications were proposed a poll was not necessary.

SC e-decision

[29] The SC approved the TPPT responses to the objections and recommended the draft phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus reticulata* (2007-212) for adoption by CPM-12 (2017).

2016_eSC_Nov_10: Cold treatment for *Ceratitis capitata* on *Citrus sinensis* var. Navel and Valencia (2010-103)

[30] The forum was open from 12 to 26 October 2016.

[31] The Secretariat reviewed SC members' responses. Thirteen members commented and approved the removal of the draft PT from the work programme and the responses to member comments, noting that the treatment schedule was incorporated into the draft PT for Cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A). As no modifications were proposed a poll was not necessary.

SC e-decision

[32] The SC approved the TPPT responses to the consultation comments and recommended the removal of the draft PT from the work programme.

2016_eSC_Nov_11: Cold treatment for *Ceratitis capitata* on *Citrus clementina* (2010-102)

[33] The Secretariat reviewed SC members' responses. Thirteen members commented and approved the draft for adoption and the responses to comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[34] The SC approved the TPPT responses to the consultation comments and recommended the draft phytosanitary treatment: Cold treatment for *Ceratitis capitata* on *Citrus clementina* (2010-102) for adoption by CPM-12 (2017).

2016_eSC_Nov_12: Vapour heat treatment for *Ceratitis capitata* on *Mangifera indica* (2010-106)

[35] The forum was open from 12 to 26 October 2016.

[36] The Secretariat reviewed SC members' responses. Twelve members commented and approved the draft PT for adoption and the responses to member comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[37] The SC approved the TPPT responses to the consultation comments and recommended the draft phytosanitary treatment Vapour heat treatment for *Ceratitis capitata* on *Mangifera indica* (2010-106) for adoption by CPM-12 (2017).

2016_eSC_Nov_13: Vapour heat treatment for *Bactrocera tryoni* on *Mangifera indica* (2010-107)

[38] The forum was open from 12 to 26 October 2016.

[39] The Secretariat reviewed SC members' responses. Thirteen members commented and approved the draft PT for adoption and the responses to member comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[40] The SC approved the TPPT responses to the consultation comments and recommended the draft phytosanitary treatment Vapour heat treatment for *Bactrocera tryoni* on *Mangifera indica* (2010-107) for adoption by CPM-12 (2017).

2016_eSC_Nov_14: Heat treatment of wood using dielectric heating (2007-114)

[41] The forum was open from 12 to 26 October 2016.

[42] The Secretariat reviewed SC members' responses. Ten members commented and approved the draft PT for adoption and the responses to member comments. As no modifications were proposed a poll was not necessary.

SC e-decision

[43] The SC approved the TPPT responses to the consultation comments and recommended the draft phytosanitary treatment Heat treatment of wood using dielectric heating (2007-114) for adoption by CPM-12 (2017).

2016_eSC_Nov_15: Sulphuryl fluoride fumigation treatment for insects in debarked wood (2007-101A)

[44] The forum was open from 12 to 26 October 2016.

[45] The Secretariat reviewed SC members' responses. Eleven members commented and approved the responses to consultation comments and recommended the draft PT for adoption.

[46] One SC member was concerned about the level of efficacy of this treatment and possible lack of its implementation by some countries, but did not oppose in recommending the phytosanitary treatment for adoption.

[47] Despite the concern above, the SC approved the responses to consultation comments and recommended the draft PT for adoption by CPM-12 (2017). As no modifications were proposed a poll was not necessary.

SC e-decision

[48] The SC approved the TPPT responses to the consultation comments and recommended the draft phytosanitary treatment Sulphuryl fluoride fumigation treatment for insects in debarked wood (2007-101A) for adoption by CPM-12 (2017).

2016_eSC_Nov_16: Sulphuryl fluoride fumigation of nematodes and insects in debarked wood (2007-101B)

[49] The forum was open from 12 to 26 October 2016.

[50] The Secretariat reviewed SC members' responses. Ten members commented and approved the consultation comments and recommended the draft PT for adoption CPM-12 (2017). As no modifications were proposed a poll was not necessary.

[51] One SC member was concerned about the level of efficacy of this treatment and possible lack of its implementation by some countries, but did not oppose in recommending the phytosanitary treatment for adoption.

[52] Despite the concern above, the SC approved the responses to consultation comments and recommended the draft PT for adoption by CPM-12 (2017). As no modifications were proposed a poll was not necessary.

[53] ***SC e-decision***

[54] The SC approved the TPPT responses to the consultation comments and recommended the draft phytosanitary treatment Sulphuryl fluoride fumigation treatment for nematodes and insects in debarked wood (2007-101B) for adoption by CPM-12 (2017).

APPENDIX 10: Action points arising from the SC Nov 2016 meeting

	Action	Sect # / Para #	Responsible	Deadline
1.	Engage with the Bureau members from their region, in particular to discuss financial issues.	3.1 [20]	SC members	N/A
2.	Develop a **promotional paper**, which outlines the positive impact of phytosanitary standards on international trade, poverty reduction and the phytosanitary situation globally.	3.1 [20]	Mr Jan Bart ROSSEL and Ms Shaza OMAR	SC May 2017
3.	Provide feedback on the new OCS, through the survey that has been opened online (https://www.surveymonkey.com/r/OCS_2016_Feedback).	3.2 [36]	SC members to remind Official contact points	2016-11-28
4.	Produce a news item on the IPP highlighting the proposed cuts to the Standard setting activities and their impacts.	3.2 [38]	IPPC Secretary	Before CPM-12 (2017)
5.	Amend the TPPT specification TP3 to allow them to review treatments for inclusion in the phytosanitary treatment search tool and present it back to the SC.	3.2 [38]	Secretariat	2017-03-24
6.	Encourage contracting parties to share experiences on arrangements for verification of compliance of consignments by the importing country in the exporting country.	4.5 [136]	Secretariat to add to CPM paper for draft ISPMs presented to CPM	CPM-12 (2017)
7.	Provide comments on the draft ISPM on the International movement of cut flowers and foliage (2008-005) to the Steward, Ms Ana Lilia MONTEALEGRE LARA and the Secretariat (IPPC@fao.org)	5.1 [158]	All SC members	2016-12-15
8.	Consider SC member comments and the outcomes of this meeting and produce a revised draft ISPM on the International movement of cut flowers and foliage (2008-005) for submission to the Secretariat	5.1 [158]	Ms Ana Lilia MONTEALEGRE LARA (lead), Mr Samuel BISHOP, Mr Stephen BUTCHER, Mr Ezequiel FERRO, Mr Nicolaas Maria HORN, Ms Esther KIMANI and Mr Rajesh RAMARATHNAM	2017-02-01
9.	Consider SC guidance when developing the drafts ISPM Requirements for the use of temperature treatments as a phytosanitary measure (2014-005) (the deadline is for submission of the draft ISPM to the Secretariat for presentation to the SC-7, 2017).	6.5 [189]	Mr Ezequiel FERRO (Steward) and Mr Eduardo WILLINK (Assistant Steward)	2017-02-01
10.	Consider SC guidance when developing the draft Revision of ISPM 6: National surveillance systems (2009-004) (the deadline is for submission of the draft ISPM to the Secretariat for presentation to the SC-7, 2017).	6.5 [189]	Mr Ezequiel FERRO (Steward) and Ms Esther KIMANI (Assistant Steward)	2017-02-01
11.	Provide comments via email to Mr Lifeng WU (lead) and Ms Marina ZLOTINA on the CPM-12 (2017) paper outlining the issues related to the “certificate of compliance”.	9.1 [212]	SC members	2016-11-25

	Action	Sect # / Para #	Responsible	Deadline
12.	Incorporate the comments on the paper outlining the issues related to the “certificate of compliance” and send the finalized document to the Secretariat.	9.1 [212]	Mr Lifeng WU and Ms Marina ZLOTINA	2016-12-02