Report of the meeting of the Technical Panel on Diagnostic Protocols
26-30 July 2010
Smithsonian Institution, Washington DC, USA

EXECUTIVE SUMMARY

Items requiring SC decisions are indicated at the end of the summary; they will be updated as necessary before presenting to the SC. Other action points, not requiring SC decision, are also listed for information.

Agenda item 8. Review of the Specification for the TPDP
The TPDP reviewed and modified its specification.

Agenda item 11.1 Working procedures, 11. 2 Instructions for authors and 1.3 Checklist for discipline leads and referees
Taking account its experience in the development of DPs and issues raised when discussing individual DPs, the TPDP reviewed and modified its working procedures, the instructions to authors and the checklist for discipline leads and referees. Two major points of discussion related to a proposal to ensure a wider expert consultation at early stages of protocol development and to the need for revision of protocols so that they do not become out-dated after adoption.

Agenda item 11.5 New proposal for adoption of diagnostic protocols
The TPDP gave input to a paper for the Bureau. Suggestions for a wider expert consultation and for a system to have a light process for review and correction of approved protocols were made.

Agenda item 13. Scrutiny of draft diagnostic protocols
All protocols on the agenda were reviewed. Two protocols should be soon ready to be sent to the SC for approval for member consultation. In addition, the scope of two protocols was discussed:
- *Tephritidae (immature stages, molecular techniques)*. The TPDP recommended to reduce the scope to one genus, and the important species within it. Barcoding would be included among the methods for the selected genus, recognizing its potential for insects in general and for fruit flies with regard to immature stages. The choice of the genus was left to the lead author in collaboration with the entomology discipline leads.
- *Viruses transmitted by Bemisia tabaci*. The TPDP agreed to reduce the scope, but needed more information to consider this, and this will be rediscussed at the next meeting.

Agenda item 14.6 ISO Committee Draft (CD) ISO/CD 13484 Foodstuffs — General requirements for molecular biology analysis for detection and identification of destructive organisms in plants and derived products
The draft is under development in an ISO Committee. Unlike indicated in the title, it is also dealing with plant pathogens. Several TPDP members would assist the Secretariat develop a letter to ISO Secretariat, expressing concerns about the draft and asking for details on the process for NPPOs to provide comments.

Agenda item 15. General discussion on barcoding, its relevance for DPs and the possible ways to address this technique in DPs
After extensive discussion, the TPDP agreed that barcoding currently has a clear potential for insects. It would be premature to produce a stand-alone standard on barcoding, but work should start for fruit flies where there is already a lot of barcoding and which poses specific identification problems. This led to the decision under agenda item 13 for Tephritidae (identification of immature stages).

Items requiring SC decisions (will be updated before presentation to the SC for decision)

The SC is invited to:

1. *Approve* the revised specification for the TPDP (Annex 4)
2. *Note* the draft revised TPDP working procedure (Annex 5)
3. *Note* the draft revised instructions for authors (Annex 6)
4. *Note* the Checklist for discipline leads and referees (Annex 7)
5. *Note* the revised Criteria for the prioritization of diagnostic protocols (Annex 8)
6. *Add* Mr Delano James to the TPDP
7. *Note* that a change of scope is necessary for the protocol on Tephritidae - Identification of immature stages of fruit flies of economic importance by molecular techniques, and will be proposed in due course.
8. *Note* the discussion on barcoding and that work will start for one genus of Tephritidae.
9. *Note* other actions points identified by the TPDP.

Action items for information not requiring individual SC decision. See report and work plan for details on action and on deadlines

IPPC Secretariat:

a. attempt to develop a format for protocols
b. provide information on the work of the Global Taxonomy Initiative (GTI) at the next meeting
c. propose a venue for the next meeting, if feasible on 30 May-3 June 2011 or 27 June-3 July 2011.
d. post all TPDP procedures and the document on the status of protocols in the TPDP work area on the IPP in a separate folder.
e. use TPDP comments on improvement of adoption process and present a modified paper to the Bureau in October 2010.
f. inform NPPOs and RPPOs that the draft protocol for *Trogoderma granarium* has been posted, and request access to that area for the TPDP.
g. contact the NPPOs of the authors or members of editorial teams who cannot be contacted in order to clarify their status.
h. contact the discipline leads not present at the meeting regarding their future participation
i. together with the steward, decide on the need for a full-day session on QA at the next meeting, based on result of discussions with the ISO Secretariat.
j. take contacts regarding the ISO draft.

TPDP members (details in report and work plan):

k. A draft checklist for authors will be developed
l. Discipline leads to review each subject in their discipline to check if they meet the criteria, and report back to the TPDP
m. Discipline leads to check whether members of editorial teams have participated (or not) in the development of their protocols, and make sure editorial teams are engaged
n. Virology discipline lead to ask the lead author to stop the development of the protocol on viruses transmitted by *Bemisia tabaci*, and to develop a paper for the next meeting.
o. Entomology discipline lead to work with the lead author of the protocol for Tephritidae (molecular methods) to determine the protocol to be developed, and to report to the TPDP by email regarding the approach that will be followed
p. paper on QA terms to be further modified, circulated to the TPDP, and posted on the TPDP work area as a reference document.

Nematology, entomology and mycology discipline leads to prepare a proposal for the next meeting, based on the criteria for prioritization, as to whether *Anguina* spp., *Conotrachelus nenuphar, Phoma exigua* var. *foveata* should be added to the work programme

REPORT

1. Welcome and opening of the meeting

The Technical Panel for Diagnostic Protocols (TPDP) was welcomed by Mr Scott Miller, Deputy Undersecretary for Science at the Smithsonian Institution. He explained that the Smithsonian Institution conducts important science programmes. Among others, 100 research scientists work on the taxonomy of organisms, and surveys are conducted on non-germplasm collections related to the CGIARs. The Smithsonian Institution cooperates with United States Department of Agriculture - Animal and Plant Health Inspection Service (USDA-APHIS) and maintains the national collection of insects and mites, which contains more than 30 million specimens. The Consortium for the Barcode of Life (CBOL), which organized the TPDP meeting, is hosted by the Smithsonian Institution and is a global initiative. Mr David Schindel, Executive Secretary of CBOL, took part in the TPDP meeting as an invited expert. During the week, the TPDP had the opportunity to hear presentations on DNA barcoding, CBOL and two barcoding projects (QBOL - Quarantine Barcode of Life project in Europe; Tephritid Barcoding Initiative), and to visit the laboratories for analytical biology of the Museum Support Center (Suitland, Maryland).

2. and 3. Local information and logistical arrangements

The organisers from USDA-APHIS and CBOL provided local information, meeting logistics and arrangements.

4. Introductions

Participants introduced themselves briefly at the beginning of the meeting.

5. Review and adoption of agenda

The TPDP agreed the agenda (Annex 1) with some modifications to the order. The TPDP noted that three diagnostic protocols, on *Guignardia citricarpa*, *Sorghum halepense* and *Erwinia amylovora*, had been made available just before or at the meeting. It decided to review them if time was available.

6. Operation of the panel

The Secretariat presented background information on the IPPC and on the work and operation of Technical Panels. The roles of the various categories of participants in the meeting were outlined (experts, steward, Secretariat, invited experts, host and organizer, chairperson, rapporteur).

7. Selection of Chairperson and rapporteur

Mr Mallik Malipatil was selected as chairperson, with Ms Julie Aliaga as a backup chairperson for agenda points that the chairperson was lead for and Ms Géraldine Anthoine as rapporteur.

8. Review of the Specification for the TPDP

The steward noted that the specification had been adopted in 2007 and proposed that it should be updated. The TPDP reviewed and modified the text (Annex 4). The main changes were:

- *Change of title*: ”Technical panel to develop diagnostic protocol for specific pests” should read ”Technical panel on diagnostic protocols”. This reflects the name used informally for the TPDP. The mention of specific pests was also confusing as some diagnostic protocols relate to groups of pests.
- *Addition of references to ISPM 27:2007 and to TPDP procedures where relevant*. These documents were approved after the specification was last approved, and they need to be referred to.
- *Addition of a task in relation to quality assurance (QA)*. The TPDP agreed that its work should cover aspects of QA related to the development of diagnostic protocols (see also discussion under section 14).
- *Addition of a task on the review of adopted DPs, identifying the need for revising DPs and submitting revisions to the SC*. A process for continuous improvement of adopted protocols is needed, as they should be up-to-date if they are to fulfil the aim of facilitating international trade. A review of adopted protocols should be conducted regularly and proposals made to the SC.
- *Addition of a task on the TPDP advisory role for other standard setting bodies regarding the correct nomenclature of pests*. The TPDP has been consulted in the past regarding the correct names for pests, and it is well placed to have the role of clarifying which names should be used in standards, as needed.
- *Deletion of the number of experts*. The expertise section mentioned ”at least 5-7”. This was fewer than the current composition and would always be too low for this TP.

The Secretariat noted that the revised specification will be further modified to be aligned with the new format for specifications.

The revised specification (Annex 4) will be presented to the SC for approval (May 2011).

9. Reports

9.1 Report of the previous meeting (Braunschweig, Germany, 2008)

Participants were invited to comment on the report. The following points were made:

- The fact that protocols should contain minimum requirements for the diagnostic clearly remains a challenge for all protocols currently under development.
- Experience with the adoption process for the first protocol on *Thrips palmi* showed the importance of a wide consultation with experts. This issue was extensively re-discussed under sections 9.2 and 11.
- The TPDP had requested the Secretariat to provide information on the work of the Global Taxonomy Initiative (GTI), set up under the CBD. This would be done for the next meeting.
- The TPDP in 2008 had proposed to have a full day on QA at its next meeting to discuss the concepts thoroughly, with participation of a NAPPO expert. The Secretariat explained why this had not been organized: it would have been difficult to have discussions on both QA and barcoding, and review all protocols; and since the TPDP had not met in 2009, it first needed to resume its activities. The issue of whether to have a full day on QA in 2011 is discussed under agenda item 14.

The Secretariat will provide information on the work of the Global Taxonomy Initiative (GTI) at the next TPDP meeting.

9.2 Update on meetings of the CPM and SC

Extracts from CPM and SC reports since the last TPDP in 2008 were presented. The steward highlighted several issues:

- *Thrips palmi* was adopted at CPM-5 in 2010 after an unexpectedly long process. The difficulties that had arisen in developing this protocol had triggered general discussions on the understanding of ISPM 27 and on the need to make the development process easier and faster for such technical standards.
- CPM-5 in 2010 had agreed that diagnostic protocols could be sent for member consultation in English (nevertheless with a special mechanism allowing countries to request translation if needed) and be translated only prior to adoption by the CPM.
- The number of draft ISPMs sent for member consultation has been limited due to the lack of resources in the IPPC Secretariat. When selecting which ISPMs should be sent for member consultation in 2010, the April 2010 SC had decided that, of the 2 protocols already approved for member consultation in 2008, only *Plum pox virus* would be sent. *Trogoderma granarium* was queued for a future consultation and is now posted on the IPP (https://www.ippc.int/index.php?id=1110769). It can be accessed by NPPOs and RPPOs when they log in onto the site. He had expressed his disappointment to the SC at the slowness that the DPs were being processed. The SC recognized that the development and adoption process should be reconsidered and the Bureau had made proposals at its June meeting. In addition, the Bureau had also agreed that protocols approved for member consultation would be posted on the IPP. See also discussion under section 11.5.
- The TPDP had previously proposed that an honorarium be paid to authors as a compensation for their work on protocols. The Bureau had discussed and rejected this idea because of lack of resources. Motivating authors to draft and revise protocols will remain an ongoing challenge for discipline leads.

TPDP members had the following comments:

- There was a risk that protocols approved for member consultation would be out-of-date by the time they were actually sent for consultation such as the gap of a few years between approval and member consultation for the *Plum pox virus* and *Trogoderma granarium* diagnostic protocols.
- An important expert had not been consulted during the development of the *T. palmi* protocol, and many comments had been raised at member consultation from his country. Expert consultation at early stages was important and editorial teams should also be representative of the global knowledge of the pest. A proposal is detailed in the discussion of the working procedures (see section 11.1).

- Protocols that do not move forward are a disincentive to authors and the number of protocols worked on should be matched with the development process. At the current pace, i.e. 1 protocol for member consultation per year, is it realistic to keep all editorial teams working?
- Some form of recognition would be useful. The Secretariat noted that diagnostic protocols, unlike other ISPMs, already included a section on acknowledgements to recognize the work of authors. It would be difficult to find a scientific publication for diagnostic protocols, which are not new science but a compilation of existing knowledge.

9.3 Update on meetings of other TPs on topics of relevance for the TPDP

No new issues were discussed at other TP meetings that required TPDP input. The Secretariat noted that the TPDP could solicit other TPs (especially TPFQ in the case of forest pests and TPFF in the case of fruit flies) if it needed to identify experts for editorial teams.

10. Procedures related to TPs (for information)

The Secretariat presented the common procedures for TPs.

11. Procedures related to TPDP

11.1 Working procedure (for review, modifications proposed)

The TPDP reviewed and modified its working procedure (Annex 5). Further changes were identified during discussion of the items below or during other agenda items and were integrated by the Secretariat after the meeting. Major points of discussion are indicated below.

a. Proposal to ensure a wider expert consultation at early stages of protocol development

A wider consultation of experts on draft protocols at earlier stages of development is crucial to ensure the quality of the protocol and to smooth the adoption process. At the moment, the development process is not organised to involve experts early, except if the lead author, editorial team, discipline lead or TPDP members contact known experts directly. A wide consultation at an early stage would:

- help the discipline lead and lead author ensure the quality of the draft protocols.
- avoid substantial issues being raised at late stages of development because an expert had not been consulted, as had been the case for the *Thrips palmi* protocol.
- solve the issues that main experts might not have been identified during the call for experts and that NPPOs or RPPOs might not reach all relevant experts during member consultation.
- hopefully avoid comments and reduce workload at the later stages, although it would create extra work for discipline leads and lead authors.

The TPDP proposed that, once a first draft has been reviewed by the discipline lead and before it is presented to the TPDP, it should be reviewed by a wider group of experts. Comments could be sought by contacting experts directly or making use of scientific conferences etc. Alternatively, the discipline lead and lead author could identify the need for a public expert consultation using the IPP. The public expert consultation using the IPP is outlined below. It was integrated into the revised working procedure and also suggested as an improvement to the adoption process for diagnostic protocols (see also section 11.5).

- The draft would be posted on a public area of the IPP. Accompanying text would request experts to send comments by email to the discipline lead and lead author, and would require them to indicate their name, institution and country. The TPDP discussed whether comments should come to the lead author or discipline lead. Although ideally lead authors should be involved, this might cause management problems and the TPDP accepted that the discipline lead should be involved.
- The discipline lead or lead author would not be requested to provide answer to all comments received, but they could keep track of substantial comments not integrated in the protocol. These could be included on the cover note for the draft protocol (see under section 11.2), in order to avoid the same comments being submitted again at later stages of adoption.
- Experts/institutions who had commented would be listed in the cover note.

A few specific details discussed during the development of this process are as follows:

- Email is considered sufficient for experts to send comments to the discipline lead and lead author, although consideration could be given in the future to special online commenting tools (ideally a web-based system would help discipline leads and lead authors to keep track of comments).

- The public expert consultation should be advertised to make sure that experts are aware of it worldwide, i.e. through NPPOs, RPPOs, scientific societies and networks (e.g. ThripsNet etc.), relevant organisations, conferences etc.
- The system would require little Secretariat input.
- This consultation would take place long before the adoption stage and therefore there would be no need to keep track of, and answer, all comments; hence the proposal above to keep track of substantial comments not integrated in the draft.

b. Calls for experts

The TPDP discussed whether experts for specific protocols are necessarily nominated by NPPOs or RPPOs. It was noted that calls are sent to NPPOs and RPPOs but they might not know all experts. Although it is preferable that nominations go through the NPPO so that it is aware of the nomination, other nominations should also be considered. Regarding experience with previous calls for experts, discipline leads noted that nominated experts usually have the relevant expertise and that they did not have to reject many applications during selection.

c. Need for revision of protocols

Adopted protocols should be maintained up-to-date and the TPDP should be able to propose revisions to the SC. Basic updating or corrections of errors should not necessitate an extensive adoption process.

d. Ensuring a smooth transition between leaving members and new members

The new nematology discipline lead contributed her experience since recently joining the TPDP. She had received information both from the previous discipline lead on nematology protocols and from the Secretariat, but she suggested that the new member should also receive information about:

- The overall IPPC procedures for development, consultation and adoption of diagnostic protocols
- Upcoming deadlines for the next TPDP meeting.

e. Timing and deadlines

Deadlines had not been met for the preparation of protocols for the meeting and the Secretariat was seeking feedback on how to improve the process. Members noted that the 3 months between the invitation and the deadline for submitting documents had not been sufficient to ensure preparation and checking of protocols. Due to the absence of a meeting in 2009, the yearly work plan had not been updated, which would have helped with managing the work throughout 2008-2010. It was decided that a yearly work plan would be developed and the Secretariat would send individual reminders if deadlines are missed.

In addition, several members noted that it would have been difficult to push lead authors and editorial teams to prepare protocols for the present meeting, as there were uncertainties on whether the drafts could be processed. It would be de-motivating that protocols are prepared and not processed for several years.

Regarding the timing of the meeting, June was identified as a better option than the end of July. Possible dates identified for 2011 were 30 May-3 June or 27 June -3 July.

f. Improving protocols coming to the TPDP

Some protocols on the agenda were presented for the third time and still required major modifications before being finalized for member consultation. Some drafts also did not fulfil the instructions for authors and the checklist. Although it is recognised that some drafts need to be presented at an early stage in order to answer specific questions or clarify their scope, when a protocol was presented several times it should at least fulfil the instructions for authors. It is important that both the discipline lead and referee ensure this. The TPDP suggested that:

- When a draft protocol is submitted to the TPDP, it should be accompanied by the checklist produced by the discipline lead, showing that the draft fulfils the requirements. If relevant, the discipline lead should highlight in the protocols sections modified based on comments received at a meeting or by email.
- Protocols not meeting the requirements may be presented only to solve specific issues of content or scope. In this case, it is preferable to present only questions, except if the text of the diagnostic protocol is necessary to the discussion.

- The document giving the status of protocols would be modified to include: a timeline for each protocol, outlining the expectations for its development; referees in a separate column; emails of persons mentioned so that they can also be reviewed and kept up-to-date.
- Discipline leads should update the document on the status of protocols 4 times a year. The most current status document will be posted in the work area of the TPDP on the IPP.
- The Secretariat will attempt to develop a standardized format for protocols, based on the *Thrips palmi* protocol and all guidance available to authors and discipline leads, and taking account of the needs of different disciplines. This would facilitate protocol development.
- Discipline leads should ensure proper communication with lead authors and editorial teams. They should contact both the lead author and editorial team once selected. They should also make sure that lead authors are engaging their editorial teams in the drafting process.

For ease of reference by TPDP members, all TPDP procedures will be posted on the TPDP work area of the IPP in a separate folder.

- The draft revised working procedures as modified after the meeting are attached as Annex 5, and will be presented to the SC to be noted (SC May 2011).
- The Secretariat will propose a venue for the next meeting, if feasible on 30 May-3 June 2011 or 27 June-3 July 2011.
- The Secretariat will develop a format for protocols for the next meeting.
- The Secretariat will post all TPDP procedures and the document on the status of protocols in the TPDP work area on the IPP in a separate folder.

11.2 Instructions for authors (as noted by the SC May 2009)

The current instructions for authors were presented. The main elements of discussion were as follows:

- Whether the text related to brand names was the latest version approved. The Secretariat confirmed that this is the latest. The text was originally drafted by the TPDP but later modified by the SC in Nov. 2008.
- The development process requires more work than planned from discipline leads to align draft protocols with the instructions to authors, as authors do not always comply with these. A small checklist for authors would be useful.
- The TPDP reviewed the cover note that will accompany protocols throughout their development. It would list experts having taken part in the development of the draft and main issues discussed, in order to avoid issues being raised again in consultation or at adoption.
- The Secretariat introduced a paper on illustrations. A solution was needed to the problem of file size, which made protocols unmanageable, as shown during the development of the *Thrips palmi* protocol. The TPDP favoured the option by which, throughout protocol development and until adoption, all figures (i.e. any photos, flow diagrammes, line drawings) would be maintained in a file separate from the text of the protocol and that could be transformed to PDF (i.e. decreasing its size). Instructions to authors would also give details on how to handle pictures. The Secretariat noted that it was moving towards web publishing of its documents and that it would continue to envisage the best option for the publication of protocols and their illustrations.
- The TPDP discussed whether each illustration in protocols should indicate where the specimen used was held/was available. This had not been done for the *Thrips palmi* protocol. The TPDP was reluctant to require that such information be added for each illustration. This issue is linked to quality assurance of laboratories, which is outside the scope of the protocols. Practices vary for different types of organisms, and laboratories have their own quality assurance systems. Such information would be available through authors mentioned as contacts in the protocol.
- The instructions for authors provided for separate sections on detection (4.3) and identification (4.4). In some cases (e.g. virology) these might be need to be in one section.
- The appendix is currently not up-to-date with the style of ISPMs, and will be updated by the Secretariat.

Other changes to instructions for authors were identified when discussing specific protocols. Because they need to be applied to the draft protocols under consideration at the meeting, they have been listed under agenda item 13 and were integrated into the instructions for authors after the meeting.

- The draft revised instructions for authors are attached as Annex 6 and will be presented to the SC to be noted (May 2011).
- Hans de Gruyter will develop a draft checklist for authors for the next meeting.

11.3 Checklist for discipline leads and referees

Some space for comments had been added to the original checklist. Minor modifications were made by the Secretariat after the meeting to reflect discussions during the meeting. The Secretariat noted that, regarding clarity of protocols, the Secretariat could provide assistance with English if needed.

- The checklist is attached as Annex 7 and will be presented to the SC to be noted (May 2011).

11.4 Criteria for the prioritization of diagnostic protocols

The criteria for prioritization of diagnostic protocols had been noted in 2007. The TPDP reviewed and modified them (editorial only). Given the current number of protocols on the work programme and the fact that subjects had been added to the work programme before the criteria had been developed, TPDP members agreed to apply the criteria to the subjects on the work programme to define if they meet the criteria.

- The criteria for prioritization of diagnostic protocols (Annex 8) will be presented to the SC to be noted.
- Discipline leads should review each subject in their discipline to check if they meet the criteria, and should report to the TPDP at the next meeting.

11.5 New proposal for adoption of diagnostic protocols

The Secretariat produced a paper combining improvements already under implementation and proposals from further improvement (from the Bureau and from the TPDP regarding a public expert consultation 11.5).

Improvements already under implementation. The CPM has agreed to the possibility to not translate protocols for member consultation (see also section 9). An online commenting system was also under development. Finally, the Bureau had already agreed that standards approved for member consultation but not yet sent and queued should be posted in an area accessible to NPPOs and RPPOs. The Secretariat noted that the draft *Trogoderma granarium* protocol had been posted in such an area and sought advice on whether this should be advertised by email to NPPOs and RPPOs. The TPDP suggested that this should be done. The Secretariat added that it would request that the TPDP be granted access to this area, as currently only NPPOs and RPPOs had access.

Proposals for further improvement. The main new proposal by the Bureau was to give to the SC authority to approve protocols, with the CPM then noting the SC-approved protocols. The TPDP proposal for a public expert consultation at an early stage of development was also integrated into that paper. The paper mentioned several options regarding whether the member consultation should be maintained. If the member consultation was abandoned, the public expert consultation might need to be formalized and systematically applied. This would have to be discussed in other IPPC fora. The document also outlined the need to maintain protocols up-to-date and to have a light process for review and correction of approved protocols. In addition, the status of protocols if a ”lighter” process was in place should also be clarified, i.e. if they would still be ISPMs and the TPDP felt it was very important to maintain them as ISPMs.

The Secretariat noted issues related to publishing protocols as annexes to ISPM 27. Firstly ISPM 27 needs to be republished every year with its new annexes, and it became very large due to the size of protocols. Secondly, having protocols as annexes to ISPM 27 was the main reason for asking authors to not include annexes in protocols (to avoid having annexes to an annex). However, the TPDP supported that it would be useful to have annexes in diagnostic protocols. This might be possible if protocols were not annexed to ISPM 27 anymore but published as stand-alone documents (indicating that they were considered as annexes to ISPM 27), or another word could be used for attachments to protocols, such as ”addendum”.

The Secretariat will use TPDP comments and present a modified paper to the Bureau in October 2010. The Secretariat will inform NPPOs and RPPOs that the draft protocol for *Trogoderma granarium* has been posted, and will request access for the TPDP.

12. Update on the development of diagnostic protocols

12.1 General overview and reports on individual DPs by discipline leads

The TPDP reviewed the status of protocols, referees, lead authors and editorial teams. The bacteriology protocols could not be reviewed due to the absence of the discipline lead. The update for entomology were given by Mr Mallik Malipatil, in the absence of the discipline lead for entomology.

Lead authors and editorial teams

In some cases the discipline leads were unable to make contact with lead authors or members of editorial teams, and the Secretariat will contact NPPOs to find out if this was a simple communication problem, e.g. a change in address, or if the author was not available. This related to:

Kurt Zeller	USA	*Fusarium moniliformis/moniliforme* syn. *F circinatum*	Lead author
Yoichi Motokura	Japan	*Gymnosporangium* spp.	Editorial team
Jack Simpson	Australia	*Puccinia psidii*	Lead author
Ki-Jeong Hong	Korea Rep.	• *Dendroctonus ponderosae* syn. *Scolytus scolytus* • *Ips* spp.	Lead author x 2
Renata Cessar Vilardi Tenente	Brazil	*Aphelenchoides besseyi*, *A. ritzemabosi* and *A. fragariae*	Lead author
Teresa Lilian Cortés Momberg	Chile	*Striga* spp.	Lead author
Abdel Gabar El Tayeb Babiker Elhaj	Sudan	*Striga* spp.	Editorial team
Segun Toyosi Olaiwola Lagoke	Nigeria	*Striga* spp.	Editorial team
Concepcíon Jordá-Guttiérez	Spain	Tospoviruses (TSWV, INSV, WSMV)	Editorial team
Gerhard Pietersen	South Africa	Tospoviruses (TSWV, INSV, WSMV)	Editorial team

The discipline lead of mycology had identified a new expert from the Korean Republic for the protocol on *Gymnosporangium* spp. and the TPDP agreed that he could be invited to join the editorial team. It was agreed that discipline leads could ”hand-pick” experts in some circumstances, especially when the expertise was so small for the pest that the discipline lead was aware of experts working on it. However, in general it was preferable to go through the transparent process described in the working procedures, i.e. to select experts from the previous call or to make a new call. This would ensure that all experts are aware and that no main expert is overlooked.

The TPDP noted that in some cases, discipline leads should seek clarification as to whether the editorial team had been engaged in drafting the protocols.

- The Secretariat will contact the NPPOs of the authors or members of editorial teams who cannot be contacted in order to clarify their status.
- Discipline leads should check whether members of editorial teams have participated (or not) in the development of their protocols, and make sure editorial teams are engaged

Referees

If referees are not indicated in the status document but the protocols reach an advanced stage during the year, discipline leads should contact other TPDP members directly to sollicit them to be referees, trying to ensure a balance in the list of referees. New referees were identified at the meeting for:

- *Sorgum halepense* -- Géraldine Anthoine
- *Ditylenchus dipsaci* and *D. destructor* -- Delano James (provided his membership of the TPDP is accepted by the SC – see section 12.2)

Updates on specific protocols

Bursaphelenchus xylophilus. The discipline lead noted that experts would be consulted before presenting the draft to the TPDP. She would make use of a nematology conference in September for this purpose.

Viruses transmitted by Bemisia tabaci. The discipline lead noted that the scope of the protocol was too wide. The original idea might have been to limit it to begomoviruses or criniviruses but this should be clarified. It was noted that the subject had been proposed by EPPO, and that the EU has a general prohibition for viruses transmitted by *Bemisia tabaci* in its phytosanitary regulations. The original intent of the protocol should be clarified.

The virology discipline lead will ask the lead author to stop the development of the protocol on viruses transmitted by *Bemisia tabaci* and will develop a paper for the next TPDP meeting discussing which viruses should be covered.

12.2 Review of TPDP membership

The Secretariat presented the current composition of the TPDP. It was important that members inform the Secretariat of their intention to leave the TPDP in advance, so that a new member could be called for with an overlap of one meeting. The steward noted that the TPDP should be complete at each meeting and that dedication was expected from Panel members. The membership is attached as Annex 9.

The TPDP discussed the status of Mr Delano James. He had been selected by the SC to replace the current virology disciple lead, who at the time was planning to leave the TPDP, but plans changed and he did not leave. The SC had decided to invite Mr James to the present meeting as an invited expert, and had asked the TPDP to consider his status and make a recommendation. It was noted that Mr James has expertise in both mycology and virology, and it would be useful to have backup in these disciplines. He also had expertise with the development of ISO standards. The TPDP recommended that Mr James be added to the TPDP to especially assist with mycology, virology and ISO-related issues, and provide some backup support for those members who had a high workload or who could not participate in a meeting. A decision by the SC should be sought by email since Mr James has accepted already several tasks and a decision is needed urgently.

- The TPDP recommends that Mr Delano James should be added to the TPDP, and the Secretariat will ask the SC to decide by email.
- The Secretariat will contact the discipline leads not present at the meeting regarding their future participation

13. Scrutiny of draft diagnostic protocols

All protocols on the agenda were reviewed, with discipline leads in charge of noting suggestions and modification and talking to lead author for adjusting the protocols.

General issues for most/all draft protocols presented to the meeting.

The TPDP identified the general issues below, which apply to many of the protocols presented to the meeting. Relevant guidance will be added to the instructions for authors. All issues are repeated below so that they are taken into account when revising the protocols reviewed at the meeting.

- the instructions for authors and *Thrips palmi* protocol should be used to adjust the content and format of specific sections. For example, general information on the pest (biology, hosts, etc.) should be grouped under ”pest information”, geographic distribution should be given in a general way and not by country.
- A cover note on experts consulted and issues discussed should be added to all drafts (see section 11.2)
- Taxonomy. Mention the reference used for the names indicated in this section.
- Common names. The English common name(s) should be indicated. If possible, also indicate a reference giving common names in other languages. The Secretariat will also advise what is the current translation practice for common names in FAO languages.
- Synonyms. Only important synonyms should be mentioned, listed by chronological order. If there are other synonyms, a reference to a publication listing them can be added.
- Indicate the author after the first occurrence of the Latin name of a pest.
- In general, species should be mentioned in full and the genus abbreviated at further occurrences. However, in case abbreviating the genus is confusing, the name can be given in full, for example if

another genus starting with the same letter is mentioned in the same paragraph. (e.g. "Hosts include *Triticum aestivum* (wheat), *Triticum durum* (durum wheat), and *Triticum aestivum* x *Secale cereale* (triticale). …*T.[Tilletia] indica* has been shown to infect other …).
- Use scientific names for host plants (common names may be indicated between brackets if appropriate).
- Sampling in protocols refers to sampling for laboratory analysis, not to sampling for inspection of a commodity. For seed/grain, it might be acceptable to give more details (see table 1 in *Tilletia indica*).
- Elements regarding the preservation of specimen, especially for entomology, should be included if necessary. Under the section *identification*, guidance should be given on short- and long-term preservation (where relevant).
- Only methods of relevance for diagnosis should be indicated in the protocols.
- Common laboratory procedures should not be detailed in the text.
- Figures and text should match: all figures should be referred to in the text, or should not be in the protocol. If a figure refers to several separate elements/characters, these elements should also be cross-referred to in the text.
- A flow diagram (schematic diagram in the old instructions for authors) may be used to show the different alternative methods allowing to reach the minimum requirements for the diagnostic. It should present the alternative methods for specific circumstances (e.g. symptomatic fruit, asymptomatic fruit). The flow diagram should not refer to different scenarios/situations of use of the diagnostic protocols, i.e. interception etc. The flow diagram can first be referred to in the *identification* section, before methods are described. The flow diagram should be accompanied by some explanation in the text, indicating the methods available and their advantages.
- All figures (e.g. photos, flow diagram, line drawings) should be in a separate file, called Part 2, available as word and PDF files.
- If brand names need to be used, use the brand name disclaimer from the instructions to authors, as appropriate.
- Limit the use of footnotes to increase readibility of the text
- Contact points. It might be useful to have a global coverage when possible or at least contacts in several regions. However the centre of excellence might be in one region, and contacts from one region might be indicated in this case. In general, it is preferable to avoid mentioning two contacts from the same country, except if they have very specific expertise and no contact is available elsewhere. The Secretariat could also be mentioned, in case none of the authors can be reached.

The main points of discussion for each protocol are given below and more detailed notes on the discussion will be sent by the Secretariat to discipline leads.

13.1 Fruit flies of the genus *Anastrepha*

In the absence of the entomology discipline lead, Mr Mallik Malipatil noted comments for consideration with the lead author and editorial team. The main TPDP comments were as follows:
- Consider adding microscopy photos or a reference to microscopy photos as the current illustrations for larvae refer to electronic microscopy, which is not widely available.
- Give a table of diagnostic characters for individual species (as done for *Thrips palmi*).
- Include general elements on identification to exclude fruit flies outside the genus *Anastrepha*, before describing identification of species within *Anastrepha*.
- Change title to "major fruit fly species of the genus *Anastrepha*" (as the protocol focuses on seven important species within the genus)
- Consider including a generic key for larvae.

The protocol requires substantial changes. Mr Malipatil will relay information to the discipline lead and authors. This protocol would usefully be submitted to extra consultation of experts, through workshop etc. See also decisions under Tephritidae.

13.2 *Phytophthora ramorum*

The mycology discipline lead presented the protocol and noted comments for consideration with the lead author and editorial team. The main TPDP comments were as follows:
- The steward suggested that larch be added to the protocol as there was a recent serious outbreak in the UK. The discipline lead noted that larch could be mentioned as host in the pest information, but noted

that the protocol focused on identification on crops of importance in international trade (rhododendron and viburnum). A reference to a website (already in the protocol) would provide sufficient information. A section would also be added on symptoms on conifers in general.
- Delete general elements that apply to all protocols or do not relate to the diagnosis, e.g. handling of material, quarantine requirements, quarantine facilities.
- Add data on specificity and reliability, and how to select the methods.
- Ensure that the text and the steps in the flow diagram are in line, and that the text includes elements on the different methods and their advantages.
- In assessment of results for sequencing, indicating what to do if there is not 100% similarity between the test sample and the Genbank sequences, i.e. the text could mention how results might be influenced by the quality of the sequencing, etc. Reference to Qbank should be introduced.

The protocol requires substantial changes and will come back at the next meeting. The discipline lead will work with the lead author and editorial team.

13.3 Tephritidae (immature stages, molecular techniques)

An early draft was presented in order to obtain further guidance from the TPDP. The lead author was in contact through a conference call to explain issues:

- The scope of the protocol is too large. One solution would be to consider genera separately, and deal with the diagnosis of important species in these genera.
- Guidance on sampling is also difficult. There is a need to reduce the possibilities of what should be looked for before doing the diagnosis.
- Diagnosis of fruit flies is currently moving towards the barcoding technique, which does not require so many specimens as other methods such as RFLP and allows identification of all stages to species level. *Anastrepha* spp., *Bactrocera* spp. and *Ceratitis* spp. are already quite advanced, and it would be interesting to further develop barcodes for fruit flies. The right strategy in that case would be to start with the most important species in one of these genera, and their close relatives.
- It might be possible to combine molecular and morphological methods for important species of one genus into one protocol.

The TPDP discussed this issue after discussing barcoding under agenda item 15, and the following issues were raised:

- It was agreed that it is impossible to pursue work on the protocol as currently defined.
- For entomology and nematology, countries have not made the shift to using only molecular methods yet; these are generally used as screening methods. However, it should be recognized that molecular methods have a potential to allow diagnosis in situations not covered by morphological methods, and to enable the identification of species at all stages. Barcoding for insect identification has already made important progress by defining the conserved DNA region that need to be used, and starting to barcode a large number of species. Molecular techniques are especially useful for fruit flies, for which morphological methods are limited (only adults to species level, and in some cases third-instar larvae to genus level).
- Not many countries are up-to-date with molecular technology, and it might be better to continue with both morphological and molecular methods where possible (although it is recognized that some protocols can rely only on molecular methods, such as that for *Potato spindle tuber viroid*).
- A morphological or molecular protocol would identify the most important species of quarantine concern within a genus, and a barcoding part of this would also allow the differentiation of close relatives that might be found in consignments. Such a protocol would include a range of methods for species in all stages, i.e. morphology on adults sufficiently illustrated that a generalist could follow, possibly microscope identification of third instar larvae, possibly PCR or similar for laboratories that do not have access to sequencing, and more advanced molecular techniques such as barcoding for those who can perform sequencing. Molecular methods other than barcoding could be mentioned if relevant. This would be an excellent opportunity for the validation of morphological identification tools and potential use of barcoding strategies. There could be one protocol for a genus, or the protocol could be in two modules.

- The barcoding component of a protocol would be different than for other methods, i.e. it would explain how to do the DNA extraction, the sequencing, and the level of similarity at which identification is positive and would refer to the database of barcodes to be referred to.

The TPDP made the following recommendation:

- To change the scope of the current subject and to reduce it to one genus.
- Barcoding has a potential for identification of insects, and it would be interesting to link it to the work of the TPDP. For fruit flies, barcoding has the potential to fill the gap that exists in identification of immature stages of fruit flies.
- In the future, it might be possible to include barcoding as a molecular method in protocols, alongside morphology, but this is premature and work should start on one "model". Work could start with one genus of Tephritidae and the important species within it. This could be used as a model for insects in the future, if relevant.
- The choice of the genus is left to the lead author in collaboration with the entomology discipline leads. It should be a genus for which barcoding is already at an advanced stage, i.e. a large number of species and specimens have been sequenced and recorded in reference libraries. The choice should take account of the following:
    - A protocol on morphological methods for fruits flies in the genus *Anastrepha* is already in development and it would be a good opportunity to integrate morphological and molecular methods in one protocol. The lead author and discipline lead should consider whether synergy can be reached with the team drafting that protocol (while recognizing that this team had originally proposed to not include molecular methods in the draft protocol on *Anastrepha*). If synergy was possible, the discipline lead should coordinate the process by which the two teams work together to produce a protocol integrating both morphological and molecular methods, for the 7 species already covered by the draft *Anastrepha* protocol.
    - If it was not possible to find synergies to produce a morphological and molecular protocol for *Anastrepha*, the lead author would select another group for which barcoding is already advanced (e.g. *Ceratitis* or *Bactrocera*), would identify the species of importance in the selected genus in consultation with the discipline lead, and would produce a stand-alone molecular protocol for the genus selected.

- The SC will be invited to note that a change of scope is necessary for the protocol on *Tephritidae - Identification of immature stages of fruit flies of economic importance by molecular techniques*.
- The discipline lead will work with the lead author to determine the protocol to be developed, and will report to the TPDP by email regarding the approach that will be followed.

13.4 *Sorghum halepense*

The botany discipline lead presented the protocol and noted comments for consideration with the lead author and editorial team. This was a first draft presented to the TPDP for a plant, and guidance was needed. The main TPDP comments were as follows.

- Remove general elements that relate to sampling for inspection and not to sampling for the laboratory. The sampling size for sampling of consignments is not relevant in the protocol. The protocol should describe what is required for the test, the quantity of material and the steps to obtain it, but it should not go into earlier steps of sampling for inspection, etc.
- Under 3.5 add more details on sieving for different commodities, i.e. indicate main species and sieving size used.
- Add a flow chart. The text and flow chart should be in line. The text should indicate the advantages of the methods described, in the section on identification.
- The protocol included identification of seeds and of plants. The TPDP questioned the need to include identification of plants. It was concluded that there is no specific difficulty plants of *Sorghum halepense* using a key. The protocol should therefore focus on seeds, and could still indicate that seeds can be grown to plants for identification. Regarding identification of plants, the text could simply give a reference(s) to suitable key(s);
- Details of the CTAB method should be given (or suitable references).
- Reproducibility, sensitivity and specificity are mentioned under 4.3. Data, whether qualitative or quantitative, should be included if available.

The discipline lead will interact with the lead author and editorial team to produce a revised version of the protocol for the next meeting.

13.5 *Tilletia indica*

The mycology discipline lead presented the protocol noted comments for consideration with the lead author and editorial team. The main TPDP comments were as follows.

- Adapt the flow diagram to reflect the text, and some text should be added to explain the flow diagram.
- For seed and grain protocols, some detail on sampling is appropriate (table 1 in this specific protocol), even if such details would normally be excluded, as it is straightforward to provide data and relates to level of sensitivity of the whole test
- Delete unnecessary figures and table 3
- Include specificity data, for instance of the direct-PCR method, and details of the ringtest.

The discipline lead will adjust the text with the lead author and the editorial team by 30 September. The protocol will be sent to the TPDP by email for clearance, before submitting it to the SC for approval for member consultation.

13.6 *Ditylenchus destructor* and *D. dipsaci*

The nematology discipline lead presented the protocols and noted comments for consideration with the lead author and editorial team. The main TPDP comments were as follows.

- Consider the possibility to combine the two protocols
- Consolidate information on hosts and symptoms, and place them in the pest information section.
- Regarding extraction methods: add elements on recovery rate; indicate the basis for the methods (mobility, density) and indicate reference to other existing methods
- Reconsider temporary preparations or permanent preparations, and explain in which cases they are used, e.g. if it is relevant to keep specimen, permanent slides should be prepared.
- Consider indicating the main characters in a table, as for *T. palmi*
- Reconsider whether molecular methods are used for diagnostic purposes. The discipline lead believed that diagnosis uses only morphological methods, but would confirm with the lead author what are the practices in other regions. If molecular methods are not used for diagnostic purposes, the text could mention that they might be used for phylogenetic studies, but generally not for diagnostics.
- For *D. destructor*, if molecular methods are kept, clarify the sequence, i.e. one can perform PCR and then RFLP or sequencing. In that case, add details on sequencing.
- Indicate only methods of relevance for diagnostics, e.g. scanning electron microscopy is not used for diagnostics and this method should be deleted.
- For *D. dipsaci*, if molecular methods are kept, keep only the main ones.
- For *D. dipsaci*, limit the list of synonyms to those that are not in the main publication on synonyms.
- For *D. dipsaci*, keep important symptoms and indicate others through references.

The discipline lead will adjust the text with the lead author and the editorial team. The protocol will be reviewed at the next meeting.

13.7 *Guignardia citricarpa*

The mycology discipline lead noted that this protocol was at an advanced stage. It had been nearly ready for member consultation in 2008. In the meantime, a new species had been found, and the draft had to be modified. Symptoms of *G. citricarpa* may be confused with those caused by the newly described species, *Phyllosticta citriasiana*. This new species has been found so far only on pomelos from China and Vietnam, while *G. citricarpa* also occurs in Asia. Depending on the origin of the fruit, there might therefore be a need to discriminate between the two species if symptomatic fruits are found. The two species can be discriminated based on morphology and through molecular methods. Regarding morphology, additional studies are under way to specify the morphological characters/measurements for *P. citriasiana*. Regarding molecular methods, the PCR method described for *G. citricarpa* does not discriminate between the two species, and additional methods (Real-time PCR or sequencing) are needed if there is a doubt (e.g. Asian origin).

The main TPDP comments were as follows.

- Title should be *G. citricarpa on fruit* as advised by the TPDP at its last meeting
- Regarding distribution data, the pest is not established in North America and this record should be deleted.
- The flow diagram should be adapted
- Real-time PCR and sequencing should be clearly be identified as optional methods in the text (and in the flow diagram with broken line, grey colour or clear separation), as they are used only if there is a doubt on whether the pest identified by PCR is *G. citricarpa* or *P. citriasiana* (see above). Sequencing is an alternative to real-time PCR, which cannot not be performed by all laboratories; it should be described, and primers indicated.

The discipline lead will adjust the text with the lead author and the editorial team by 30 September. The protocol will be sent to the TPDP by email for clearance, before submitting it to the SC for approval for member consultation.

13.8 *Erwinia amylovora*

In the absence of the bacteriology discipline lead comments were noted by Mr Delano James, who will interact with the lead author and editorial team. He supported that this protocol be processed further as it is very important. However, the TPDP noted that it had been received on the first day of the meeting and members had not had a chance to review it in detail. It had also attracted comments at the last meeting. It would not be possible to finalize it for member consultation before the next meeting. The main TPDP comments were as follows.

- the text indicates that the tests are the minimum requirements, but does not mention how to select them (and there are many tests).
- need a flow diagram to understand what to do and what are the alternative methods. The flow diagram should make a difference between asymptomatic and symptomatic material, as there seems to be a limited number of tests for asymptomatic material
- Is nested PCR needed in the diagnostic protocol?
- PCR according to Stöger. More details to be given to explain the statement ”The author advises use ..”.
- Is there reinoculation after the test? The process should be clarified. It was noted that there are often pathogenicity tests at the end of bacterial testing, but this should be confirmed.
- More expert consultation on the draft would be needed, as this pathogen is a sensitive issue. The discipline lead, lead author and editorial team should consider circulating the draft more widely before it comes back to the TPDP.

Mr Delano James would interact with the lead author and editorial team. Additional consultation with experts should be organized. The protocol is expected to come back to the next meeting after modification and consultation with experts.

14. QA issues related to DPs

14.1 Further consideration of QA in relation to DPs and future activities

The TPDP discussed its role in relation to QA. It was agreed that it would be limited to elements related to the development of diagnostic protocols, as now expressed in the revised specification (Annex 9). The TPDP would not work on guidance to laboratories on QA issues to be considered when methods described in DPs are applied. This would be difficult and the size of the work programme and priorities would not allow this activity. This could be reconsidered in the future for specific protocols and specific issues if needed.

Regarding the request made at the last meeting for a full-day discussion on QA, and whether this should be organized for the next meeting in 2011, the TPDP noted that there was no need for such a session for the issues to be dealt with by the TPDP (especially since the TP would not work on horizontal issues regarding QA for laboratories). However, if the ISO paper (see section 14.6) was still open for discussion at the time of the next meeting, it might be useful to have a specific session on QA.

The Secretariat and steward will decide on the need for a full-day session on QA at the next meeting, based on result of discussions with the ISO Secretariat.

14.2 Combination of methods

In 2007, the steward had presented a paper on combination of methods in protocols and the TPDP had requested that examples be added. The steward noted that this had not been possible, but the paper was still valid. He proposed that it be added to the instructions to authors as guidance in situations where there are several methods and a flow chart needs to be developed. One member noted, as discussed at previous meeting, that it is difficult in protocols to indicate minimum requirements without considering the purpose of the diagnostic protocol; this was nevertheless what was required in the protocols.

The TPDP agreed that the paper be added to the instructions for authors as a guidance document.

14.3 Use of the terms analytical/diagnostic specificity and sensitivity, reliability and reproducibility, validation of methods, ring testing

Mr Mallik Malipatil introduced the paper, noting that comments from several members and outside experts had been integrated. The TPDP reviewed the paper and agreed that, once it is further adjusted, relevant definitions would be transferred to the instructions for authors. The complete paper would be made available on the TPDP work area, and could be used by the TPDP as a reference paper. The host suggested that this paper would be very useful outside the TPDP, but members believed that it was not settled enough and should be kept as an internal TPDP document for now.

Mr Mallik Malipatil and Ms Géraldine Anthoine will work further on the paper based on the discussions, and will circulate it to the TPDP. It will be posted on the TPDP work area as a reference document.

14.4 General discussion on possible guidance for national reference laboratories

The steward noted that this item had been on the agenda for several years. He presented an EU guidance paper on reference laboratories, which described the reasons for establishing reference laboratories (e.g. splitting tasks within a network of laboratories, ensuring a contact function in case of controversy), a summary of their tasks (e.g. final diagnosis, acting as contact point, standardization such as ring testing, maintenance of reference material) and the main criteria for national reference laboratories. Reference laboratories might be identified for specific pests or groups of pests (e.g. all nematodes; pests of a specific commodity). The TPDP welcomed the presentation and thought useful to be updated if something happened in this area. The TPDP noted however that, since it did not envisage to provide guidance to laboratories regarding the application of methods, this item should be deleted from future agendas until further notice.

14.5 Accreditation of laboratories

This item had been transferred from previous years' agendas. It was noted that accreditation systems differ depending on regions, and that it would be difficult for the IPPC to have a role in this matter. The TPDP decided that this item should be taken off the agenda of future meetings.

14.6 ISO Committee Draft (CD) ISO/CD 13484 Foodstuffs — General requirements for molecular biology analysis for detection and identification of destructive organisms in plants and derived products

The mycology dicipline lead noted that this draft was under development in an ISO Committee. Despite the indications in the title, it was also dealing with plant pathogens. Neither the IPPC nor EPPO had been involved in this process, despite a letter to the ISO Secretariat that these relevant organizations should be involved so that the resulting standard could be more useful. This standard set higher requirements than IPPC diagnostic protocols.

The nematology discipline lead noted that this had started from a French standard registered under the French standards organization "Association Française de Normalisation", and that some French laboratories were accredited against it. Its scope was limited to how to perform a reliable PCR. The draft had already undergone a round of consultation and was probably into a second round, with a deadline at the end of July 2010. If countries did not agree to this standard, it might remain a French standard of AFNOR. She noted that laboratories were not obliged to apply for accreditation to ISO standards. Mr Delano James added that

ISO standards are voluntary, aiming at facilitating trade and conflict resolution. More governments now encouraged laboratories to be ISO-accredited.

The overlap in application was noted. Although both the IPPC diagnostic protocols and the ISO draft aim at facilitating trade and helping the recognition of diagnostic results based on a protocol, the ISO draft aimed at accreditation of laboratories for PCR. It sets high requirements for PCR methods, which have not been judged necessary so far in any of the IPPC diagnostic protocols under development (e.g. sampling is done twice and PCR twice per sample, more controls, checks of equipment twice a year). It is also limited to PCR and does not take account of a possible combination of methods, which is usually used in IPPC diagnostic protocols. The ISO draft seemed more adapted to routine diagnosis for a limited number of organisms on a large scale for foodstuffs. In addition, IPPC protocols contain methods that might not fit in ISO as they are not validated or not ring-tested.

The nematology and mycology discipline leads and Mr Delano James accepted to help the Secretariat develop a letter to ISO Secretariat raising the following issues:

- It would have been nice to be consulted on this draft and the IPPC Secretariat would like to be informed in the future, when ISO is developing standards on plant quarantine issues, to be able to inform contracting parties.
- The title is misleading as it refers only to foodstuffs.
- Express concern that may increase the burden of the tests without improving the quality of results.
- There is an overlap between the ISO draft and the IPPC diagnostic protocols
- The ISO draft could establish a link by mentioning the IPPC and its diagnostic protocols
- What are the deadlines for different steps and result of the consultation?
- If still in time, obtain information on the process for NPPOs to provide comments through their national ISO contact points. The Secretariat could then send an email to NPPOs to ask them to comment on the draft.
- Express concerns on the resources of NPPO laboratories, and on the structural arrangements between the draft standard and common practice.

15. General discussion on barcoding, its relevance for DPs and the possible ways to address this technique in DPs

Mr David Schindel gave presentations on barcoding. Barcoding is a molecular method for the identification of organisms. It relies on the sequencing of a conserved gene region for a group of organisms (e.g. COI for animals, including insects, chloroplast for plants - different gene regions for different groups). A barcode reference library first needs to be established from well-identified specimens, by sampling tissue, extracting, amplifying and sequencing the specific DNA conserved region, and submitting the resulting sequence to the reference library (with details of the specimen). By doing this for a sufficient number of specimens for a large number of species, one can also identify the variation of sequences within a species and between species. The reference library can then be used to identify unknown specimens, by sampling tissue, extracting, amplifying and sequencing the specific DNA conserved region, comparing the sequence with the broad set of records in the reference library, and interpreting the results if the sequences do not correspond exactly. For organisms of interest for plant health, barcoding is more advanced for insects and plants, but projects are underway for all categories of pests. International barcode data standards defines the data needed, and more and more organisations performing barcoding are meeting these standards.

Barcoding can be used on its own or as a corroborative tool. For diagnostic purposes, it would be particularly useful for organisms in which some life stages are impossible to identify to species using morphological methods, e.g. fruit fly larvae. A meaningful reference library for diagnostic purposes would need to contain barcodes for pests of a group (e.g. a genus of Tephritidae), but also for closely-related species. This requires barcoding a large number of specimens and species before identification of unknown specimen can be performed.

Some limitations of the method are: insufficient number of barcodes in certain taxonomic groups; need to determine a conserved gene region for a group of organisms (for example work is under way for fungi, phytoplasma or bacteria. Viruses have no standard region and other solutions are being investigated); finally it requires equipment. Barcoding has a clear potential for insects and plants, as the conserved gene region has been defined and barcoding has started for some groups. For example barcoding of some genera of

Tephritidae fruit flies is already advanced. The barcoding situation is evolving rapidly, as databases are populated for different groups, genus or species by the different projects working on barcoding, and as conserved gene regions are investigated. In the future the work done in the context of QBOL, an EU-funded barcoding project, should also be considered. QBOL is targeting all quarantine pests on the EPPO lists, some of which are also on the list of protocols to be developed under the IPPC. For some groups of pests it is investigating the best conserved regions. It is also performing barcoding and populating a barcoding database for all European quarantine pests.

The TPDP agreed that barcoding currently has a clear potential for insects. It would be premature to produce a stand-alone standard on barcoding, work should start for fruit flies where there is already a lot of barcoding and which poses specific identification problems. This led to the decision under agenda item 13.3, where barcoding was identified as a possible solution for the identification of immature stages of Tephritidae, for which the protocol could not be developed as originally wished. Once a model is developed, barcoding would be especially useful for protocols addressing groups of species.

16. Priorities for new protocols and further work: consideration of proposals in 2007 call, as requested by SC (*Anguina* spp., *Conotrachelus nenuphar*, *Phoma exigua* var. *foveata*)

The steward supported that this review should be postponed due to the low priority of adding protocols to the already large work programme. The TPDP concluded that discipline leads concerned will prepare a short paper for the next meeting on each of these pests, going through each of the criteria for each pest.

The nematology, entomology and mycology discipline leads should prepare a proposal for the next meeting, based on the criteria for prioritization, as to whether *Anguina* spp., *Conotrachelus nenuphar*, *Phoma exigua* var. *foveata* should be added to the work programme.

17. Analysis of roles and functioning of the TPDP (e.g. members, editorial teams, secretariat, steward, actions in relation to development of protocols, member comments, regional workshops)

The Secretariat asked for feedback on what it should do to assist the TPDP in developing protocols. The following elements were mentioned in addition to elements identified in other agenda items:

- Secretariat to perform spot-checks (for content, format, etc.) on protocols when they are sent by the discipline lead (note: this will be possible only if deadlines are respected)
- Protocols that have not met the deadlines, or do not fulfil the instructions for authors or the checklist, will not be submitted to TPDP meetings
- Discipline leads need to increase the communication with their lead authors and editorial teams.
- New working tools should be considered that would improve the work, e.g. net-meetings, blogs, conferencing tools, webminars, etc.

18. Work plan for 2010-2011

A work plan for 2010-2011 was built (Annex 10). If deadlines are not met, the Secretariat will follow-up with individuals.

19. Date and location of next meeting

Options for dates were presented by the TPDP and preferences expressed. The Secretariat will review these date options, consider possible venues and inform the TPDP once a decision has been made.

AGENDA (up-to-date 26 July 2010)

Technical Panel on Diagnostic Protocols,
Smithsonian Institution, Washington D.C., USA
26-30 July 2010

AGENDA ITEM	DOC NO.	PRESENTER
1. Welcome and opening of the meeting	No doc.	Host, organizer & IPPC Secretariat
2. Local information	04Rev1	Host, organizer
3. Meeting logistics and arrangements	No doc.	Host, organizer, IPPC Secretariat
4. Introductions	No doc.	Members, invited experts
5. Review and adoption of agenda – Documents list	01 02	IPPC Secretariat
6. Operation of the panel – Background on the TPDP – Roles of participants, Chairperson, IPPC Secretariat, Steward, host, rapporteur	No doc.	IPPC Secretariat
7. Selection of Chairperson	No doc.	Members
8. Review of Specification	05	Steward
9. Reports		Steward & IPPC Secretariat
9.1 Report of the previous meeting (Braunschweig, Germany, 2008)	06	
9.2 Update on meetings of the CPM and SC (Steward)	24	
9.3 Update on meetings of other TPs on topics of relevance for the TPDP	No doc.	
10. Procedures related to TPs (for information)	15	IPPC Secretariat
11 Procedures related to TPDP		
11.1 Working procedure (for review, modifications proposed) Additional considerations for working procedures: - ensuring smooth transition when a member leaves the TPDP: transmission of information - specific discussion on timing during protocol development, e.g. for requiring input from authors, editorial teams, TPDP	13 No doc No doc	IPPC Secretariat, Steward
11.2.Instructions for authors (as seen at the SC May 2009) Additional considerations: - information to be supplied by authors during DP development, for cover notes on draft protocols (as decided at 2008 meeting) - Specific discussion on illustrations, arising from experience with Thrips palmi DP	07Rev1 18 25	
11.3 Checklist for discipline leads and referees (for review, modifications proposed)	17	
11.4 Criteria for prioritization of protocols	08	
11.5 New proposal for adoption of diagnostic protocols	30	
12. Update on the development of diagnostic protocols		
12.1 General overview and reports on individual DPs by discipline leads	09	IPPC Secretariat, members

AGENDA ITEM	DOC NO.	PRESENTER
12.2 Review of experts associated with the work programme - Composition of the technical panel, new terms and possible members needed based on SC decision on overlap (Secretariat) - Referees for protocols expected to be completed in 2010-2011 (to be discussed after point 13) - Update of authors and editorial board information, including approval of new nominations, and consideration of need for additional/new authors for certain protocols	 16 No doc No doc	IPPC Secretariat, members, Steward
13. Scrutiny of draft diagnostic protocols [note for leads: When you send protocols, we ask you to indicate, for each protocol, its level of priority within your discipline: *urgent – normal – could wait another year*, so that we can prioritize the discussion] - *Ditylenchus destructor* - Fruit flies of the genus *Anastrepha* spp. - *Ditylenchus dipsaci* - Tephritidae - Identification of immature stages of fruit flies of economic importance by molecular techniques - *Phytophthora ramorum* -*Tilletia indica* - *Guignardia citricarpa* - *Sorghum halepense* - *Erwinia amylovora*	 11 12 14 19 22 **(2 files)** 23 **(2 files)** 26 27 28, 29	members
14. QA issues related to DPs		
14.1 Further consideration of QA in relation to DPs and future activities	No doc.	
14.2 Combination of methods	No doc.	Jens Unger
14.3 Use of the terms analytical/diagnostic specificity and sensitivity, reliability and reproducibility, validation of methods, ring testing	10	Mali Maliptil
14.4 General discussion on possible guidance for national reference laboratories	No doc.	Jens Unger
14.5 Accreditation of laboratories (no action needed - on hold until more DPs are agreed)	No doc.	--
14.6 Other issues : - ISO Committee	21	Hans Gruyter
15. General discussion on barcoding, its relevance for DPs and the possible ways to address this technique in DPs	20	Steward, Julie Aliaga
16. Priorities for new protocols and further work - Consideration of proposals in 2007 call, as requested by SC (*Anguina* spp., *Conotrachelus nenuphar*, *Phoma exigua* var. *foveata*) - Other priorities	 No doc. No doc.	 Steward Steward
17. Analysis of roles and functioning of the TPDP (e.g. members, editorial teams, secretariat, steward, actions in relation to development of protocols, member comments, regional workshops)	No doc.	All
18. Work plan for 2010-2011	During meeting	IPPC Secretariat
19. Date and location of next meeting: Rome, date will be proposed at the 2010 meeting	No doc.	Secretariat

LIST OF DOCUMENTS (up-to-date 26 July 2010)

DOC. NUMBER	AGENDA ITEM	TITLE	DATE POSTED / DISTRIBUTED
		Provisional programme of the technical visit	15-07-2010
01_v8	5	Draft agenda v8	After meeting 02-08
02_v8	5	Draft list of documents v8	After meeting 02-08
03	-	Draft list of participants for the TPDP meeting	23-06-2010
04Rev1	-	Local information	15-07-2010
05	8	Specification for the TPDP	23-04-2010
06	9.1	Report of the previous meeting (Braunschweig, Germany, 2008)	23-04-2010
07Rev1	11.2	Instructions to authors of diagnostic protocols (SC May 2009)	27-05-2010
08	11.4	Criteria for the prioritisation of diagnostic protocols (SC Nov 2007)	23-04-2010
09	12.1	Status of draft diagnostic protocols under development by the TPDP (21-04-2010)	26-05-2010
10	14.3	Quality assurance issues associated with diagnostic protocols for regulated pests	26-05-2010
11	13	Draft protocol: *Ditylenchus destructor*	17-06-2010
12	13	Draft protocol: fruit flies of the genus *Anastrepha*	17-06-2010
13	11.1	TPDP working procedures (draft, revised)	17-06-2010
14	13	Draft protocol: *Ditylenchus dipsaci*	23-06-2010
15	10	Common procedures for TPs	23-06-2010
16	12.2	Membership of the TPDP	23-06-2010
17	11.3	Checklist for diagnostic protocols	23-06-2010
18	11.2	Cover note for protocols for member consultation	23-06-2010
19	13	Draft protocol - Tephritidae - Identification of immature stages of fruit flies of economic importance by molecular techniques	23-06-2010
20	15	DNA barcoding for identification purposes with reference to QBOL and CBOL	25-06-2010
21	14.6	Notes and draft: ISO Committee Draft (CD) ISO/CD 13484 Foodstuffs — General requirements for molecular biology analysis for detection and identification of destructive organisms in plants and derived products	10-07-2010
22	13	Draft protocol: Phytophthora ramorum (text and figures in 2 separate files called part 1 and part 2)	10-07-2010
23	13	Draft Protocol – Tilletia Indica (text and figures in 2 separate files called part 1 and part 2)	13-07-2010
24	9.2	Extracts from CPM & SC reports	14-07-2010
25	11.2	Illustrations in diagnostic protocols	19-07-2010
26	13	Draft DP Guignardia citricarpa	At meeting
27	13	Draft DP Sorghum halepense	At meeting
28	13	Draft DP Erwinia amylovora	At meeting
29	13	Erwinia amylovora. Ring test	At meeting
30	11.5	Proposal for improvements to the DP approval process	At meeting

LIST OF PARTICIPANTS

Atten-ding	Participant role/discipline	Mailing address	E-mail	Term begins	Term ends
yes	Steward	Mr Jens-Georg Unger Department for National and International Plant Health Federal Biological Research Centre for Agriculture and Forestry Messeweg 11/12 D-38104 Braunschweig Germany Tel: (+49) 531 299 3370 Fax: (+49) 531 299 3007	Jens-Georg.Unger@jki.bund.de		
yes	Member / Quality assurance	Mr Mallik Malipatil Principal Systematic Entomologist Department of Primary Industries Research Victoria Private Bag 15 Ferntree Gully Delivery Centre Victoria 3156 Australia Tel: (+61) 3 9210 9338 Fax: (+61) 3 9800 3521	mallik.malipatil@dpi.vic.gov.au	April 2008	2013
yes	Member / Botany	Ms Liping Yin Plant Quarantine Laboratory Animal and Plant Inspection and Quarantine Technology Center Shanghai Entry-Exit Inspection and Quarantine Bureau 1208 Minsheng Road Shanghai, 200135 China Tel: (+86) 21 6854 6481 Fax: (+86) 21 6854 6481	yinlp@shciq.gov.cn; yinliping@yahoo.com;	April 2008	2013
yes	Member / Nematology	Ms Geraldine Anthoine Domaine de la Motte au Vicomte BP35327 35653 Le Rheu Cedex France Tel: (33) 223 485 208 Fax: (33) 223 485 628	geraldine.anthoine@rennes.inra.fr;	April 2009	2014
No	Member / Bacteriology	Mr Keng-Yeang Lum CAB International - Southeast and East Asia Regional Centre P.O. Box 210 43400 UPM Serdang Selangor Malaysia Tel: (+60) 3 8943 2921 / 3641 Fax: (+60) 3 8942 6490	ky.lum@cabi.org; lumky2@yahoo.com;	April 2008	2013

Atten-ding	Participant role/discipline	Mailing address	E-mail	Term begins	Term ends
yes	Member / Mycology	Mr Johannes de Gruyter Head, Mycology Department Plant Protection Service (NPPO) 15 Geertjesweg P.O. Box 9102 6706 HC Wageningen Netherlands Tel: (+31) 317 496 831 Fax: (+31) 317 421 701	j.de.gruyter@minlnv.nl;	April 2008	2013
yes	Member / Virology	Mr Gerard Clover Team Manager, Virology & PEQ ,Plant Health & Environment Lab - IDC Ministry of Agriculture and Forestry Biosecurity New Zealand 231 Morrin Road St Johns P.O. Box 2095 Auckland 1140 Biosecurity New Zealand Tel: +64 9 909 5709 Fax: +64 9 570 5573 Mobile: +64 29 909 5709	gerard.clover@maf.govt.nz;	April 2008	2013
No	Member / Entomology	Ms Ana Lía Terra Director, Biological Laboratories Ministry of Livestock, Agriculture and Fisheries Agricultural Services General Directorate Av. Millán 4703 Montevideo, CP.12900 Uruguay Tel: (+598) 2 304 3992 Fax: (+598) 2 304 3992	alterra@adinet.com.uy;	April 2008	2013
	Invited expert	Mr Delano James Head, Research Section, Canadian Food Inspection Agency Sidney Laboratory 8801 East Saanich Road Sidney, BC, V8L 1H3 Canada Tel: (+1) 250 363 6650 ext 235 Fax: (+1) 250 363 6661	Delano.James@inspection.gc.ca		
	Invited expert	Mr David Schindel Executive Secretary Consortium for the Barcode of Life National Museum of Natural History Smithsonian Institution P.O. Box 37012, MRC-105 Washington, DC 20013-7012 Tel (+1) 202/633-0812; fax (+1) 202/633-2938; portable (+1) 202/557-1149	schindeld@si.edu		

Atten-ding	Participant role/discipline	Mailing address	E-mail	Term begins	Term ends
	Representative of the host country	Ms. Julie Aliaga Program Director, International Standards Animal and Plant Health Inspection Service U.S. Department of Agriculture 4700 River Road, Unit 140 Riverdale, MD 20737 USA Tel: (+1) 301 734 0763 Fax: (+1) 301 734 7639	julie.e.aliaga@aphis.usda.gov		
	Representative of the host organization	Mr Scott Miller Smithsonian Institution PO Box 37012, MRC 105 Washington, DC 20013-7012 Tel: (+1) 202-633-5132 Fax: (+1) 202-786-3141	millers@si.edu		
	IPPC Secretariat	Mr Brent Larson Standards Officer AGPP – IPPC Secretariat Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla 00153 Rome, Italy Tel: (+39) 06 5705 4915; Fax: + 39 06 5705 4819	brent.larson@fao.org		
	IPPC Secretariat	Ms Fabienne Grousset Standard Setting AGPP – IPPC Secretariat Food and Agriculture Organization of the United Nations Mailing address: Clermontgade 23A1 4000 Roskilde Denmark Tel: (+45) 24483502	fabienne.grousset@fao.org		

SPECIFICATION FOR TECHNICAL PANELS

Technical Panel No. 1:

Technical Panel ~~to develop~~ on diagnostic protocols ~~for specific pests~~

Revision 3, proposed by TPDP July 2010

Title

Technical Panel ~~to develop~~ on diagnostic protocols ~~for specific pests~~

Reason for the technical panel

Proper pest detection and pest identification are crucial for the appropriate application of phytosanitary measures. In particular, contracting parties need proper diagnostic procedures for determination of pest status and pest reporting (ISPM No. 8: *Determination of pest status in an area;* ISPM No. 17: *Pest reporting*), and the diagnosis of pests in imported consignments (ISPM No. 13: *Guidelines for the notification of non-compliance and emergency action).* ICPM-6 (2004) recognized that there was a need for international diagnostic protocols within the framework of the IPPC and approved the formation of a technical panel on diagnostic protocols. ~~ICPM-6 identified the need for diagnostic protocols (DP) for specific pests to be recommended to the Standards Committee. To do this, a Technical Panel on diagnostics was proposed.~~

Scope and purpose

The ~~T~~technical ~~p~~Panel develops ~~will produce d~~Diagnostic protocols (DPs) within the framework of ISPM 27 and develops guidance on related issues~~Ps for specific pests utilizing the format for DPs established by the Expert Working Group~~.

Tasks

The Technical Panel should:

(1) Identify ~~priorities~~the need for ~~specific~~ DPs to be developed based on the guidance paper on "*Criteria for the prioritisation of diagnostic protocols*", including considering suggestions for new DPs i.e. put forward by NPPOs, RPPOs, EWGs or other Technical Panels, and submit subjects ~~ted~~proposals for new protocols to the SC. ~~Identify the need for revising DPs. Aspects to consider include:~~

- ~~availability of existing regional standards and/or DPs used by individual countries~~
- ~~suggestions for new DPs (i.e. those put forward by NPPOs, RPPOs, EWGs or other Technical Panels).~~

(2) Identify specialists for the development or revision of a DP (authors, editorial team, experts to be consulted) and if applicable provide advice to the SC accordingly.

(3) Produce or supervise the production or revision of DPs ~~for specific pests as future annexes to ISPM No. 27 (*Diagnostic protocols for regulated pests)*~~.

(4) Submit ~~to the SC~~ draft DPs to the SC. ~~for specific pests and where necessary revisions of previously adopted DPs.~~

(5) Review adopted DPs regularly, identify the need for revising DPs and submit revisions to the SC.

(6) Consider aspects of quality assurance related to the development of DPs and their application. Where necessary establish horizontal guidance on the criteria for methods to be included in DPs (e.g. validation).

~~(4)~~(7) Provide specific advice to the SC and other TPs or EWGs on issues related to the correct nomenclature of pests.

~~(5)~~(8) Under the direction of the SC, consider other topics related to diagnosis of regulated pests ~~(ISPM No. 27)~~.

Provision of resources

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

Expertise of Technical Panel

~~At least 5-7~~ participants comprised primarily of diagnostic (where appropriate taxonomic) experts with at least one representing each discipline: entomology, acarology, nematology, mycology, ~~plant b~~bacteriology, virology (including viroids and phytoplasma) and botany. Between them participants should have practical expertise in the use of morphological and molecular/biochemical diagnostic techniques, in quality assurance and in phytosanitary procedures.

Participants

Details of technical panels and their members are available via https://www.ippc.int/index.php?id=179728 (accessed August 2010).~~Technical panel membership can be found on the International Phytosanitary Portal (IPP, https://www.ippc.int).~~ Panel members are selected by the SC and may serve a 5-year period. The SC reviews the composition of the panel on a regular basis. The individual membership may be renewed for additional terms.

Approval

Introduced into the work programme by the ICPM at its Sixth Session in 2004.
Specification approved by the SC in April 2004.
Revised specification (rev. 1) ~~First revision~~ approved by the SC, ~~in~~ November 2004.
Revised specification (rev. 2) ~~Second revision~~ approved by the SC, ~~in~~ May 2007.
Revised by the TPDP in July 2010. Revised specification (rev. 3) approved by the SC, ~~----~~[to be completed]

References

Regional standards; NPPO DPs; diagnostic manuals; EPPO DPs; ISTA; other relevant information.

Technical Panel on Diagnostic Protocols (TPDP)
WORKING PROCEDURES

(Status: approved by the TPDP October 2006 (annex 3), noted by the SC May 2007, revised by the TPDP June 2008; *revised by the TPDP July 2010*)

Annual work programme

- The TPDP annually identifies priority subjects for diagnostic protocols (DP) taking into account guidance from the Standards Committee (SC), and any requests for reviews and amendments to a DP that have been received by TPDP members and the criteria for prioritization of DPs. The TPDP submits recommendations on subjects to the SC. NPPOs and RPPOs may also submit subjects for a DP in response to the IPPC Secretariat's biennial call made for topics to be considered for the IPPC standard setting work programme. The list of subjects may be revised by the CPM.
- The TPDP reports annually through the Steward to the SC. This report includes the achievements during the year, proposals for subjects, a proposed work programme, ~~and~~ report on tasks allocated by the SC, such as revision of working procedures as necessary, and other items needing SC decision.

Nominations of experts

- Once subjects for DPs are put on the work programme, the IPPC Secretariat issues a call requesting nominations of experts for DPs identified as priorities and posts the call on the IPP. For seed-related DPs the Secretariat also informs the International Seed Testing Association and the International Seed Federation of the call.
- The TPDP discipline leads are encouraged to ~~may~~ notify relevant experts of the call.
- Experts are encouraged to be nominated by NPPOs or RPPOs, but all nominations will be considered
- The CVs of nominated experts are reviewed by the discipline lead taking into account the expertise required for authors for DPs (as detailed below). The TPDP discipline lead recommends an expert to lead the development of a DP (lead author) and a small group of experts to assist them with the development (editorial team). This information, along with a summary of the expertise of each expert, is submitted to the TPDP, who agrees or amends the recommendations as appropriate. ~~The TPDP identifies one of its members to act as a referee for the DP.~~ The list of lead authors, editorial teams and referees is included in the TPDP report, which is presented to the SC.

Expertise required for experts to draft DPs

- The editorial team should have appropriate global coverage.
- Authors of existing DPs, such as regional DPs, should be included in the editorial team, where appropriate.

Core expertise required:

- ~~technical and scientific~~diagnostic expertise with the pest~~, especially diagnostic expertise~~.

Additional expertise that would be helpful:

- taxonomy and molecular diagnostics
- practical experience related to the pest (detection, identification, isolation etc.)
- drafting of DPs (such as regional DPs)
- development of novel diagnostic methods
- experience using DPs for diagnosis of regulated pests, including in the context of international trade
- experts associated with international seed testing organizations may be included, where considered appropriate by the TPDP.

The development of a draft DP

- The lead author uses ISPM No. 27 (*Diagnostic Protocols for Regulated Pests*) and the *Instructions to authors of diagnostic protocols for regulated pests*) to produce a first draft. Additional guidance is provided by the TPDP discipline lead if needed.

- The lead author is assisted in the preparation of the DP by the editorial team.
- Where the subject of the DP is above species level ~~a genus~~, or the scope is unclear, the discipline lead and author, in consultation with the editorial team, should propose amendments to the scope of the DP. The TPDP may modify the amended scope and should inform the author and the editorial team. The TPDP should report on its discussions to the SC, in the report of a meeting or by email through the Secretariat.
- Where disagreement arises within an editorial team during preparation of a protocol, the author should discuss the issues with the discipline lead. The discipline lead may discuss the issues, if necessary, with the full editorial team in order to resolve them. The discipline lead should decide how to proceed based on scientific evidence and present a proposal to the TPDP. Once the proposal is final, it should be reported to the author and editorial team.

Changes to the editorial team

- When an expert who has been chosen as lead author is unable to continue in this role, the TPDP discipline lead will ask a member of the editorial team to become the lead author. The TPDP is informed of the change of leadership.
- ~~When a member of the editorial team is not answering, the discipline lead should request the Secretariat assistance to contact the NPPO~~
- Where additional experts are required for the editorial team, the TPDP discipline lead, in consultation with the lead author, chooses from the experts nominated in the original call for authors. If no suitable experts are available, the IPPC Secretariat is requested to seek new nominations for the DP by announcing the vacancy on the IPP, with a 30 day deadline for receipt of CVs. The TPDP discipline lead or editorial team may also notify relevant experts of the call... The TPDP discipline lead reviews the CVs and submits a recommendation of an expert, along with a summary of their expertise to the TPDP, who reviews and approves the addition, which is included in the TPDP's annual report to the SC. In special circumstances (e.g. when the expertise was so small for the pest that the discipline lead was aware of all experts working on it), discipline leads might"hand-pick" an expert, and submit a recommendation to the TPDP.
- In its review of the status of protocol the TPDP also reviews the list of lead authors, editorial teams and referees to identify those teams where additional authors or replacements are needed.
- When the lead author or a member of the editorial team is not answering, the discipline lead should request the Secretariat to contact the NPPO (date of the last attempt to contact the expert should be provided).
-

Assessment of draft DPs by the TPDP

- The lead author and editorial team discuss the draft DP (possibly involving other experts)
- ~~The draft DP should be reviewed by a wider group of experts from the particular discipline related to the DP in order to ensure broad global relevance.~~
- Once the author and editorial team are satisfied with the draft DP, the author submits it to the TPDP discipline lead -.
- The TPDP discipline lead reviews the draft DP and ensures it meets all the requirements set out by ISPM No. 27 (*Diagnostic Protocols for Regulated Pests*) instructions previously agreed to by the TPDP including the checklist for DPs.
- The discipline lead consults the lead author and editorial team to modify the draft.
- The draft DP should then be reviewed by a wider group of experts from the particular discipline related to the DP in order to ensure broad global relevance.
- The discipline lead may in consultation with the lead author request from the Secretariat that the draft is put on the IPP publicly available for comments by experts to be submitted by e-mail to the discipline lead (and lead author). This public consultation should be advertised (e.g. through NPPOs, RPPOs, scientific societies and networks (e.g. thrips net etc.), relevant organisations, conferences etc.)

- The draft may be revised by the lead author based on expert comments. The lead author lists experts involved and records substantial comments that were not be included in the draft.
- Once the discipline lead and lead author consider that the expert consultation has been completed the draft is submitted to the~~T~~he member of the TPDP identified as referee together with ~~-~~a list regarding ~~of~~ consultation on the technical level (~~experts/institutions consulted on the technical level (~~written by; reviewed by; ~~) and of -~~fora at which the draft was discussed) ~~(e.g. conferences)~~ and a list of main issues discussed~~ion points~~ during the development of the draft.
- The referee reviews the draft, assembles comments using the "checklist for DP review" and ~~sends a~~proposes changes of the ~~modified~~ draft to the discipline lead.
- The discipline lead consults the lead author and editorial team to modify the draft.
- Once satisfied with the draft DP, the TPDP discipline lead sends the draft DP and updated "checklist for DP review" to the entire TPDP, through the Secretariat, ~~-~~for assessment. The checklist should show that the draft fulfils the requirements. If relevant, the discipline lead should highlight in the protocols sections modified based on comments received at a meeting or by email. [Note: Protocols not meeting the requirements may be presented to the TPDP only to solve specific issues of content or scope. In this case, it is preferable to present only questions, except if the text of the diagnostic protocol is necessary to the discussion.]
- The TPDP either finds the draft DP suitable for member consultation and recommends it to the SC, or returns with specific comments or proposals it to the lead author and editorial team for further work, or agrees on some other action such as to consult with other relevant experts
- ~~If the draft is suitable for member consultation,~~
-

Review of member comments on a draft DP

- Member comments are compiled by the Secretariat
- Compiled member comments ~~and~~ are forwarded to the TPDP discipline lead for action, to the
- ~~Compiled member comments are forwarded to the~~ TPDP, TPDP steward and SC for information, and are posted on the IPP.
- Member comments are reviewed by the TPDP discipline lead, who produces an amended draft (with track changes) and includes responses to member comments within the compiled member comments. The TPDP discipline lead should consult with and may be assisted by the lead author and editorial team in this process, and should be assisted by the steward on specific matters. The amended draft and responses to comments are circulated to all TPDP members, with a recommendation from the TPDP discipline lead and steward on how to proceed.
- Substantial comments that have broad implications should be discussed by the TPDP, even if the discipline lead might have made a proposal for the specific DP under consideration. This process is coordinated by the TPDP discipline lead or TPDP steward. Proposed changes may be incorporated or not, or the TPDP may recommend further study, with the reasons documented.
- Whether the draft is changed or not as a result of member comments, the compiled comments and responses to comments are submitted to the SC
- If no amendments are made to the draft, it is submitted to the CPM for adoption.
- If the draft standard is changed as a result of comments, the draft is submitted to the SC, with ~~. The TPDP should make~~ recommendations on how to proceed.

Review of published DPs

- On a regular ~~n annual~~ basis, the TPDP members review existing DPs in their disciplines. In consultation with the original authors and editorial teams, discipline leads recommend updates to take into account newly published and/or validated methods, and modifications to methods in existing DPs. Proposals for update are presented to the TPDP. If a change is required, the TPDP makes a proposal and sends it to the SC with recommendations~~recommends that the SC adds the revision of the DP to the standard setting work programme~~.

- ~~Once revision is on the work programme, the TPDP either modifies the DP using expertise within the panel, consults the original lead author and editorial team, or follows the procedure for development of new DPs.~~
- ~~Once agreed by the TPDP, the revised DP is submitted to the SC.~~

ROLE OF TPDP MEMBERS

TPDP members:

- Track and manage preparation of DPs under their lead, including editing and ensuring compliance with ISPM 27.
- Consult and use TPDP procedures available on the TPDP work area.
- Ensure proper communication with lead authors and editorial teams, including: contact authors and editorial team once selected; i~~I~~nform authors and editorial teams of changes in procedures or instructions relevant to development of DPs; ensure that lead authors engage their editorial teams in the drafting process; maintain appropriate contact with lead authors and editorial teams. In case of communication problems with an expert (wrong address, no response, etc.), contact the Secretariat with details on last attempt(s).
- Identify protocols for which new lead authors or additional/replacement members of the editorial team are needed.
- Regularly update the document on the status of DPs for each DP under their lead (at dates indicated on the annual work plan) and provide updates at the TPDP meeting~~Prepare a written summary for each meeting of the status of each DP under their lead~~, including issues raised during the development of the DP.
- Act as referees for draft DPs and assemble comments using the "checklist for DP review".
- Use the "checklist for DP review" for each DP under their lead, when receiving the first draft and before presenting a draft DP to the TPDP.
- Manage the response to comments received during member consultation
- Review published DPs in their discipline ~~annually~~, and recommend revision as appropriate.
- On demand from the Secretariat, arrange for the preparation of a powerpoint presentation on a draft DP for member consultation, in preparation for regional workshops for the review of draft ISPMs.
- When they leave the TPDP, transmit appropriate information to the new member for the discipline.

DIAGNOSTIC PROTOCOLS FOR REGULATED PESTS
INSTRUCTIONS TO AUTHORS

[Status: Approved by the TPDP (October 2006), Annex 1, noted by the Standards Committee, May 2007, Revised by TPDP June 2008; adjusted after the SC November 2008, adjustments noted at SC May 2009, revised by the TPDP (July 2010)]

These instructions are based on International Standard for Phytosanitary Measures ISPM 27 (*Diagnostic protocols for regulated pests*) and are compiled to provide more specific explanatory guidance for authors of diagnostic protocols (DPs). Authors are encouraged to study ISPM 27 to ensure that the DP is consistent with the standard. Guidelines on the format of DPs are given as Appendix 1.

1. General considerations

1.1 Minimum requirements for reliable diagnosis of regulated pests

Under the heading titled ISPM 27 states:

Diagnostic protocols may be used in different circumstances that may require methods with different characteristics. Examples of such circumstances grouped according to an increased need for high sensitivity, specificity and reliability are:

- *routine diagnosis of a pest widely established in a country*
- *general surveillance for pest status*
- *testing of material for compliance with certification schemes*
- *surveillance for latent infection by pests*
- *surveillance as part of an official control or eradication programme*
- *pest diagnostic associated with phytosanitary certification*
- *routine diagnosis for pests found in imported consignments*
- *detection of a pest in an area where it is not known to occur*
- *cases where a pest is identified by a laboratory for the first time*
- *detection of a pest in a consignment originating in a country where the pest is declared to be absent.*

The ISPM also states:

Diagnostic protocols provide the minimum requirements for reliable diagnosis of regulated pests. This may be achieved by a single method or a combination of methods. Diagnostic protocols also provide additional methods to cover the full range of circumstances for which a diagnostic protocol may be used. The level of sensitivity, specificity and reproducibility of each method is indicated where possible. NPPOs may use these criteria to determine the method or combination of methods that are appropriate for the relevant circumstances.

This means that the minimum requirement usually is applicable to one of the first indents (e.g. routine surveillance). Authors should provide information for the National Plant Protection Organization (NPPO) to make decisions on the methodology required for the relevant circumstances.

If necessary, DPs may describe more than one method to take into account the varying capabilities of laboratories and the situations for which the methods are applied. Such situations include diagnosis of different developmental stages of pests, which require different methodologies, as well as the degree of certainty required by the NPPO. For some purposes a single method may be sufficient, for others a combination of methods may be necessary. This applies both to the minimum requirements for a diagnosis and where additional requirements are necessary (such as where a high degree of certainty in the diagnosis is required). In cases where morphological methods can be reliably used but appropriate molecular methods have been developed, the latter should be presented as alternative or supplementary methods.

1.2 Other general considerations

DPs are published as annexes to ISPM 27 (*Diagnostic protocols for regulated pests*). They describe procedures and methods for the detection and identification of pests that are regulated by Contracting Parties of the International Plant Protection Convention (IPPC) and relevant for international trade. They are addressed to diagnosticians/diagnostic laboratories performing official tests as part of phytosanitary measures. The DPs provide guidance on the diagnosis of specified pests. Information is provided on the

specified pest, its taxonomic status and the methods to detect and identify it. As indicated in Section 1.1, DPs contain the minimum requirements for reliable diagnosis of the specified pest and provide flexibility to ensure the methods are appropriate for a range of circumstances of use.

DPs may cover a species, taxa below species level, several species within a genus, or an entire genus, for example where several species within a genus are regulated pests.

Authors should draft DPs in accordance with the requirements given in the main text of ISPM 27.

General guidelines on the formatting of DPs are appended. By using these guidelines, authors will help ensure consistency between DPs and facilitate processing of draft DPs. These guidelines will be consolidated as more DPs are developed. Authors are also invited to refer, as a model, to the first DP (for *Thrips palmi*).

DPs are drafted by a group of authors called an editorial team co-ordinated by a lead author and overseen by a discipline lead from the TPDP. The editorial team, including the lead author, is recommended by the TPDP discipline lead and approved by the entire TPDP. To ensure global coverage of the protocol and to facilitate adoption, authors should consult relevant experts from different regions outside of the editorial team prior to submission of final drafts to the TPDP. ~~The names of the experts consulted and indications of major difficulties that have been encountered and not yet resolved should be submitted to the TPDP.~~ A cover note giving the list of experts/countries that have written and reviewed the draft, and any main discussion points that have arisen and been resolved should be included.~~A list of the experts consulted will be included in a cover letter for member consultation.~~

2. Definitions

[to be modified, if definitions are changed in the document on QA terms to be finalized in November 2010]

- Pest Diagnosis: The process of detection and identification of a pest.
- Reproducibility**:** Ability of a test method to provide consistent results when applied to aliquots of the same sample tested in different conditions.
- Sensitivity: Smallest detectable amount of the target (target may include live organisms, antibodies, nucleic acids).
- Specificity: Characteristics of a test as concerns its performance with regard to cross-reactions with non-target (false positives) or lack of reaction with target (e.g. subgroups or individuals of the pest) (false negatives).

3. Methodology

Each DP should contain the methods and guidance necessary for the named pest(s) to be detected and positively identified by an expert (i.e. an entomologist, mycologist, virologist, etc.). Authors should select methods on the basis of their sensitivity, specificity and reproducibility, also taking into account the availability of equipment, the expertise required for these methods and their practicality (for example, ease of use, speed and cost). Only methods of relevance for diagnostics should be indicated in the protocol.

All methods should be described separately in a consistent manner with sufficient detail (including equipment, reagents and consumables) to be able to perform the test without further reference to the literature. However, common laboratory procedures do not need to be detailed in the text. Brand names should not be given unless they are technically necessary and directly affect the result of the diagnosis (see also below). If the method is based on a commercial kit it is not necessary to repeat the manufacturer's instructions. DPs should not be written in the form of standard operating procedures but should provide sufficient detail to allow NPPOs to develop such procedures. Where appropriate, reference may be made to methodology described in other adopted DPs annexed to the ISPM 27.

For all methods, information on their sensitivity, specificity and reproducibility, and specifications from multi-laboratory validation trials (when available) should be included. These data, as far as possible, should be quantitative, but in the absence of quantitative data, qualitative information may be provided.

The names of particular brands of chemicals, reagents and equipment should, as far as possible, be avoided and a correct designation or description of the chemical, reagent or equipment shall be given rather than a trade name (brand name).

Brand names should only be included when the brand is considered to affect the level of specificity, sensitivity and/or reproducibility quoted in the diagnostic protocol. If this is the case, the brand name may be given in the text but shall be associated with a footnote as follows:

> FOOTNOTE: "The use of ……in this diagnostic protocol implies no approval of them to the exclusion of others that may also be suitable. This information is given for the convenience of users of this protocol and does not constitute an endorsement by the CPM of the chemical, reagent and/or equipment named. Equivalent products may be used if they can be shown to lead to the same results."

If it is known that only one chemical, reagent and/or equipment is currently available, that is suitable for the successful application of the protocol, the brand name may be given in the text of the protocol but shall be associated with a footnote as follows:

> FOOTNOTE: "The use of ……in this diagnostic protocol implies no approval to the exclusion of others that may also be suitable. This information is given for the convenience of users of this protocol and does not constitute an endorsement by the CPM of the chemical, reagent and/or equipment named. Equivalent products may be used if they can be shown to lead to the same results."

Guidance on positive and negative controls and reference material should be included in each of the tests. Methods where the inclusion of appropriate controls is essential (e.g. enzyme-linked immunosorbent assay [ELISA]) should be indicated. Sources and specifications of controls and reference materials (e.g. catalogue numbers of bacterial reference strains) should be provided.

Authors should provide information and guidance on methods that either singly or in combination lead to diagnosis of the pest. Guidance should also be provided on the interpretation of results, in particular the criteria for the determination of a positive or negative result for each method. General elements on combination of methods are provided as Appendix 2 for information.

It is not necessary to include all methods which have been reported for a particular pest, only those which are reliable, currently available and considered to be of use for the purposes described in ISPM 27.

If several methods are needed for the diagnosis, and / or if many alternative methods are included, a ~~schematic~~ flow diagram~~me~~ may be presented. It should show the different alternative methods allowing to reach the minimum requirements for the diagnostic. Where relevant, it should present the alternative methods for specific circumstances (e.g. symptomatic fruit, asymptomatic fruit). The diagram~~me~~ should indicate the reliability of each method or combination of methods. It is not intended to be a decision-making tree but is intended to assist NPPOs in determining which method(s) are appropriate for use under different circumstances. It should not refer to different scenarios/situations of use of the diagnostic protocols, i.e. interception etc. When authors conclude that a combination of methods is needed, the reasons should be provided. The flow diagram~~me~~ should be accompanied by some explanation in the text, indicating the methods available and their advantages. The flow diagram~~me~~ can first be referred to in the *identification* section, before methods are described.

When several methods are mentioned, their advantages and disadvantages should be given (e.g. duration of the test, cost, availability of reagents, requirements for specialized knowledge or equipment, limited validation data available such as covering only some populations of an organism) as well as the extent to which the methods or combinations of methods are equivalent.

If illustrations (e.g. photographs or line drawings) are essential to the diagnosis, they should be included in the protocol (detailed guidance in Appendix 1). In addition, p~~P~~hotographs that provide additional information but are not essential for the diagnosis may be posted on the IPP. In some cases links may be

provided to other web sources for photographs. The lead author is responsible for obtaining any relevant permissions to use the photographs.

4. Structure and content of a diagnostic protocol

DPs should follow the layout of section 2 of ISPM 27 and should be arranged into the following sections, numbered as follows:

1. Pest information
2. Taxonomic information
3. Detection
4. Identification
5. Records
6. Contact points for further information
7. Acknowledgements
8. References

Each section should be divided into sub-sections as required (especially the detection and identification sections) and both sections and sub-sections should be numbered. An index of the sections should be included at the start of the DP and the pages of the DP numbered. As DPs themselves will be annexes to ISPM 27, they should not have annexes or appendices.

4.1 Pest information

Authors should provide brief information on the pest (generally less than one page of type-written text), including, where appropriate, its life cycle, morphology, variation (morphological and/or biological), relationship with other organisms, host range (in general), effects on hosts, present and past geographic distribution (in general, not country-by-country), mode of transmission and dissemination (vectors and pathways). It is not necessary to include specific details about the epidemiology of the disease or its management.

Supplementary information, such as detailed information on the pest's geographic distribution or hosts, should not be included except when directly relevant for diagnosis. The DP is not intended to be a pest data sheet but reference to such data sheets should be provided when publicly available and considered to provide useful background information.

All general information on the pest (biology, hosts, etc.) should be under this section, and not under other sections of the protocol.

4.2 Taxonomic information

Under this sectionparagraph, the correct scientific name and authority should be given and an overview of the relevant taxonomic hierarchy (e.g. Kingdom, Phylum, Order, Family, Genus, Species, relevant below species taxon). Mention the references used for the scientific names indicated in this section.

Include synonyms and relevant former names (these may be taxonomically incorrect but relevant in relation to the literature) as appropriate. Only important synonyms should be mentioned, listed by chronological order. If there are other synonyms, a reference to a publication listing them can be added.

For fungi, the teleomorph name should be used; teleomorph synonyms may be included as appropriate. The anamorph name and its synonyms (as relevant) should also be presented. For viruses, internationally recognized acronyms should be included.

The English cCommon names widely used in international scientific literature should also be included. If possible and available, indicate a reference giving common names in other languages (but do not include common names in other languages in this section).

4.3 Detection

As stated in ISPM 27, this section provides information and guidance on:

- *the plants, plant products or other articles capable of harbouring the pest*

- *the signs and/or symptoms associated with the pest (characteristic features, differences or similarities with signs and/or symptoms from other causes), including illustrations, where appropriate*
- *the part(s) of the plant, plant products or other articles on/in which it may be found*
- *the developmental stages of the pest that may be encountered, together with their likely abundance and distribution on/in the plants/plant products or other articles*
- *the likely occurrence of the pest associated with developmental stages of the host(s), climatic conditions and seasonality*
- *methods for discovering the pest in the commodity (e.g. visual, hand lens)*
- *methods for extracting, recovering, and collecting the pest from the plants, plant products or other articles, or for demonstrating the presence of the pest in the plants, plant products or other articles.*
- *methods for indicating the presence of the pest in asymptomatic plant material or other materials (e.g. soil or water), such as ELISA tests or culturing on selective media*
- *viability of the pest*

The ISPM also states that *guidance is also provided on resolving possible confusion with similar signs and/or symptoms due to other causes.*

Methods for detection may be interpreted differently depending on the type of pest being considered. For example, detection of an insect may relate to observation of individuals or signs of damage in consignments, whereas detection methods for bacteria may involve culturing extracts of suspected plant material on differential or semi-selective medium.

When a detection method may also be used for identification, it is recommended that it is described in the detection section and then referred to in the following identification section. Any comments about its use for detection or identification should be included in the relevant section. Methods that detect a group of pathogens rather than a specific pathogen should be described in the detection section.

Sampling in protocols refers to sampling for laboratory analysis, not to sampling for inspection of a commodity. For seed/grain, it might be acceptable to give more details. Sampling procedures for inspectors and inspectors' instructions on recognition of the pest from signs and symptoms should not be included but only essential information for diagnosis should be given. Procedures for inspectors are likely to be covered in an inspection manual. Additional information on the sample that may be relevant for proper diagnosis should be provided (e.g. storage conditions).

Note: in some cases (e.g. virology), sections 4.3 Detection and 4.4 Identification might be combined.

4.4 Identification

In this section, in addition to a description, authors should provide information and guidance on methods that either used alone or in combination lead to the identification of the pest. Methods for quick, presumptive indications of identity (which will later need to be confirmed) may also be included.

Two main types of methodology are included in DPs, methodologies based on morphological, morphometric or biological characteristics of a pest and those based on biochemical and/or molecular properties. Morphological characteristics may be investigated directly or may only be examined after culturing or isolation of the pest. This may also be required for biochemical and/or molecular assays. Where culturing or isolation procedures are necessary components of methods, details should be provided.

Where appropriate, methods for isolation of pests from asymptomatic plants or plant products (such as tests for latent infection) should be given as well as methods for extraction, recovery and collection of pests from plant or other material. Methods should similarly be provided for direct identification of pests using biochemical or molecular tests on asymptomatic material.

ISPM 27 states:
For morphological and morphometric identifications, details are to be provided, as appropriate, on:

- *methods to prepare, mount and examine the pest (such as for light microscopy, electron microscopy and measurement techniques)*
- *identification keys (to family, genus, species)*

- *descriptions of the morphology of the pest or of its colonies, including illustrations of diagnostic characters* [as appropriate], *and an indication of any difficulties in seeing particular structures*
- *comparison with similar or related species*
- *relevant reference specimens or cultures.*

Guidance should be provided on resolving possible confusion with similar and related species or taxa.

For molecular methods, details should be provided, as appropriate, on:
- the target sequence (e.g. target gene, amplicon size and location) and reaction conditions (e.g. oligonucleotide sequence, enzyme source and thermal cycler)
- nucleic acid extraction and purification (e.g. tissue sources, extraction and purification methods, and nucleic acid concentration
- reverse transcription (e.g. reaction volume, concentration and volume of constituents, denaturation and incubation temperatures)
- polymerase chain reaction (e.g. reaction volume, concentration and volume of constituents, thermocycling conditions)
- restriction analysis (e.g. DNA preparation, reaction volume, concentration and volume of constituents, denaturation and incubation conditions)

Elements regarding the preservation of specimen, especially for entomology, should be included if necessary. Under the section identification, guidance should be given on short- and long-term preservation (where relevant).

In the case of diagnostic protocols for insects or nematodes, consider presenting the main characters for the diagnostic in a table (see *Thrips palmi*)

In the case of diagnostic protocols for plants, if there is no specific difficulty for identifying plants of the species concerned using a key, the text may simply give a reference(s) to suitable key(s).

4.5 Records

In this section, authors should refer to section 2.5 of ISPM 27 which lists the records required to be kept. There is no need to repeat section 2.5, only records that are required in addition to those detailed in ISPM 27 should be listed in the DP. However, in addition, authors should include a description of appropriate evidence of results where other NPPOs may be adversely affected by the results of the diagnosis and therefore the records and evidence of the results of the diagnosis should be retained for at least one year.

4.6 Contact points for further information

In this section, authors, in cooperation with the discipline lead, should provide contact details (name, address, e-mail, telephone, facsimile, etc.) of organizations or individuals with particular expertise on the pest(s), which may be consulted regarding any questions on the DP. These contacts must agree to act in this capacity prior to their inclusion in the DP.

It might be useful to have a global coverage when possible, or at least contacts in several regions. However the center of excellence might be in one region, and contacts from one region only might be indicated in this case. In general, it is preferable to avoid mentioning two contacts from the same country, except if they have very specific expertise and no contact is available elsewhere. The Secretariat can also be mentioned, in case none of the contact points can be reached.

4.7 Acknowledgements

In this section, the name and address of the experts who wrote the first draft of the DP are given, together with those of any others who made major contributions. In instances where these experts are the same individuals as those listed in the preceding section, the details should be cross-referenced. Only those significantly involved in the development of the draft should be included in this section.

4.8 References

ISPM 27 states: *References to accessible scientific publications and/or published laboratory manuals are given that may provide further guidance on the methods and procedures contained in the diagnostic protocol*.

In this section, relevant references to scientific publications and published laboratory manuals cited in the text should be given. The references should be kept to a minimum and should concern the diagnosis of the pest and species with which the pest may be confused, its symptomatology and methods for extraction, detection and identification. It is not necessary to include a complete list of references concerning geographic distribution, host lists, epidemiology and general biology, although reference may be made to key publications which review this information, e.g. pest data sheets. The number of references included will vary between DPs, but preferably the list should include fewer than 40 references.

See the guidelines in the Appendix to these Instructions to authors for the format of references.

Appendix 1 [modified after TPDP July 2010]

Guidelines on formatting of diagnostic protocols

~~*[to be adjusted based after the Washington meeting based on the new "style guide for the IPPC" (in preparation]*~~

General guidelines on formatting of ISPMs are given in the "Administrative guidelines for the structure of standard-setting documentation" in the IPPC Procedural Manual [to be replaced by the "IPPC style guide for standards and meeting documents", currently under development], which can be found on the internet on the IPP (https://www.ippc.int). This Appendix partly uses these guidelines but also gives additional recommendations that are specific to DPs. Authors are also invited to refer, as a model, to the first DP (*Thrips palmi*). A standardized format for protocols is also under consideration.

1- FIRST PAGE~~TITLE AND CONTENTS PAGE~~

The first page should contain

- a reference to ~~refers to~~ ISPM 27 (*Diagnostic Protocols for Regulated Pests*) (i.e. "Annex to ISPM 27") ~~and gives~~
- ~~-~~ the title of the ~~protocol. At the drafting stage, only the title of the~~ draft protocol ~~is needed i.e. the name of the organism/s for which the protocol is drafted. The formatting and other details will be added by the Secretariat at a later stage.~~
- a cover note in the format of Appendix 3, indicating experts/countries that have written and reviewed the draft, and any main discussion points that have arisen and been resolved.
- A table of contents ~~is also included on the first page. It should be added below the title~~, listing ~~. It lists~~ all ~~sections, including all~~ numbered headings and subheadings. At the drafting stage, ~~such a~~the table of contents should be ~~included~~ in the protocol ~~standard~~, but it is not necessary to indicate page numbers.

2- MAIN TEXT

Section on endorsement

The first section of the standard should be added as follows:

> "**Adoption~~Endorsement~~**
> This diagnostic protocol was adopted by the Commission on Phytosanitary Measures in ---- [to be completed after adoption]."

Numbered headings and sub-headings

Individual sections are detailed in the instructions on formatting of ISPMs above. Headings, sub-headings and further subdivisions should be numbered with Arabic numbers, for example: 1.1, 1.2.1, 1.3.2.2, etc.

Titles of level one (1., 2. etc) have a capital letter at the beginning of each word. Other numbered titles have only one capital letter at the beginning of the title.

Use of illustrations and tables

All illustrations (i.e. photographs, line drawings, flow diagramme)~~-~~ and tables should be numbered with Arabic numbers and should be referred to in the text.

Figures/tables and text should match, i.e. all figures/tables should be referred to in the text, or should not be in the protocol. If a figure refers to several separate elements/characters, these elements should also be cross-referred to in the text.

For reason of file size, all complete figures (i.e. with images/captions/associated text) should not be in the main text of the protocol, but should be provided to the discipline lead as a separate Word file. Tables should remain with the text of the protocol.

All photographs, or specially drafted or reproduced illustrations should have an attribution. The text may be small type size and oriented vertically at the side of a photograph or it may be included in the caption of an illustration.

Illustrations should be of a sufficient quality for printing. A high quality file of each illustration should be provided, separately from the text, to the IPPC Secretariat. Detailed guidance is provided below:

a) Ensure that images (photographs, diagrams, etc.) have a resolution of 300 dpi for sharp printing, and that the printed image is clear, illustrative for the purpose and of sufficiently high quality.
b) Reduce images (at 300 dpi) to the smallest final dimensions that convey the necessary information in the image (5-8 cm is considered as a good width for most illustrations). If full page illustration is needed, maximum width is 16 cm)
c) Crop all unnecessary parts of the image
d) Ensure all texts concerning the image (explanatory detail with arrows or call-outs etc) is part of the caption and/or are linked together (A lot of separate boxes with details of identification of image number and insect parts poses a great risk of error.)
e) At a late stage of development (when member comments are integrated and the protocol is being prepared for adoption, *i.e. once the figures will not change anymore*), also provide all figures/photographs as separate TIF or JPG files (compliant with a, b, c above), so that they can be further processed to achieve the optimal file size and quality.

Use of footnotes

Use of footnotes should be limited to increase readibility of the text. If footnotes are nevertheless needed, they should be numbered with Arabic numbers.

Terminology

- Phytosanitary terms should be used according to the most recent version of the ISPM No. 5: *Glossary of phytosanitary terms.*
- The general dictionary reference for English ISPMs is the Oxford English dictionary.
- Use *organize , authorize* and *recognize* (and not *organise, authorise* or *recognise*).
- Use *website* and not *Web site* or *Website.*

Latin names

- Indicate the author after the first occurrence (in the text) of the Latin name of a pest.
- The species name should be written in full at its first occurrence, e.g. *Thrips palmi*, and shortened at others: *T. palmi*. If another species of the same genus are mentioned later in the text, it is not necessary to write the genus name in full, e.g. *T. flavus*. However, in cases where abbreviating the genus is confusing, the name can be given in full, for example if another genus starting with the same letter is mentioned in the same paragraph (example: "Hosts include *Triticum aestivum* (wheat) …*T.[Tilletia] indica* has been shown to infect other …).
- Latin names are italicized (but not spp., sp. etc.)
- Use Latin names for host plants (common names may be indicated between brackets at first occurrence if appropriate)

Measurement units

- When measurement units are abbreviated, the standard abbreviation should be used, e.g.:

m	meter
s	second
W	watt
min	minute~~s~~
litre	litre
ml	milliliter
µl	microliter

Lists of items

- See *Thrips palmi* ~~In a list of items, the first level should be indicated by a "-"and the following level by "•". Avoid using automatic bullet points.~~
  - ~~If the list of items is composed of sentences, each item should start with a capital letter and end with a period.~~
  - ~~If the list of items is word or expressions, but not sentences, each item should start with a lower case letter, and there should be no ";" or period at the end of each indent. The last item should end with a period.~~

~~**Specific editorials**~~

- ~~There should be no comma before "and" in a list. e.g. "IPPC, NPPOs and RPPOs" and not "IPPC, NPPOs, and RPPOs".~~
- ~~When a term is used which has an acronym (e.g. PRA), the first occurrence in the introduction section, in the main text and in an annex or appendix should be written in full with the abbreviation between brackets (e.g. pest risk analysis (PRA)). Other occurrences should use only the abbreviation. In main titles, such terms should be written in full (and the abbreviation should not be mentioned).~~

List of references

References should be in alphabetical order.

References to other ISPMs and the IPPC are detailed in the procedural manual, but usually not needed in protocols. Regarding scientific references and other publications, some examples ~~extracted from the DP for *Thrips palmi* ~~are given below. Attention is drawn to the fact that the total number of pages should be included for references to books.

Article in a journal or proceedings:

Bhatti, J.S. 1980. Species of the genus *Thrips* from India (Thysanoptera). *Systematic Entomology*, 5: 109–166.

Brunner, P.C., Fleming, C. & Frey, J.E. 2002. A molecular identification key for economically important thrips species (Thysanoptera: Thripidae) using direct sequencing and a PCR-RFLP-based approach. *Agricultural and Forest Entomology*, 4: 127–136.

Kox, L.F.F., van den Beld, H.E., Zijlstra, C. & Vierbergen, G. 2005. Real-time PCR assay for the identification of *Thrips palmi*. *Bulletin OEPP/EPPO Bulletin*, 35: 141–148.

Mound, L.A. & Morris, D.C. 2007. A new thrips pest of *Myoporum* cultivars in California, in a new genus of leaf-galling Australian Phlaeothripidae (Thysanoptera). *Zootaxa*, 1495: 35-45.

Books or conference proceedings:

Mound, L.A. & Kibby, G. 1998. *Thysanoptera. An Identification Guide*. 2nd edition. Wallingford, UK, CAB International. 70 pp.

Nakahara, S. 1994. The genus *Thrips* Linnaeus (Thysanoptera: Thripidae) of the New World. USDA Technical Bulletin No. 1822. 183 pp.

Sakimura, K., Nakahara, L.M. & Denmark, H.A. 1986. A thrips, *Thrips palmi* Karny (Thysanoptera: Thripidae). Entomology Circular No. 280. Division of Plant Industry, Florida; Dept. of Agriculture and Consumer Services. 4 pp.

Section from a book:

EPPO/CABI. 1997. *Thrips palmi*. *In* I.M. Smith, D.G. McNamara, P.R. Scott & M. Holderness, eds. *Quarantine Pests for Europe*, 2nd edition. Wallingford, UK, CAB International. 1425 pp.

CD-Rom:

Moritz, G., Mound, L.A., Morris, D.C. & Goldarazena, A. 2004. Pest thrips of the world: visual and molecular identification of pest thrips (CD-ROM), Centre for Biological Information Technology (CBIT), University of Brisbane. ISBN 1-86499-781-8.

Article from proceedings

Murai, T. 2002. The pest and vector from the East: *Thrips palmi*. *In* R. Marullo, & L.A. Mound, eds. *Thrips and Tospoviruses: Proceedings of the 7th International Symposium on Thysanoptera*. Italy, 2–7 July 2001, pp. 19–32. Canberra, Australian National Insect Collection.

Internet documents or websites

EPPO. 2008. URL: http://www.eppo.org/ (accessed 17 June 2008).

PaDIL. 2007. Pests and Diseases Image Library. URL: http://www.padil.gov.au (accessed 18 Oct 2007.

USDA (United States Department of Agriculture). 2004. *Minimum sanitation protocols for offshore geranium cutting production*. APHIS-PPQ Pest Detection and Management Programs. 27 pp. Available at http://www.aphis.usda.gov/plant_health/plant_pest_info/ralstonia/downloads/ralstoniaworkplan.pdf (accessed January 2010).

Appendix 2. [added, TPDP July 2010]

Combination of methods in diagnostic protocols
Some general considerations on the concept

Diagnostic methods are often used in combination with others in order to increase the sensitivity, specificity or reliability of the diagnosis. ISPM 27 provides in section 1 the following guidance on this:

> "Diagnostic protocols may be used in different circumstances that may require methods with different characteristics. Examples of such circumstances grouped according to an increased need for high sensitivity, specificity and reliability are:
> - routine diagnosis of a pest widely established in a country
> - general surveillance for pest status
> - testing of material for compliance with certification schemes
> - surveillance for latent infection by pests
> - surveillance as part of an official control or eradication programme
> - pest diagnostic associated with phytosanitary certification
> - routine diagnosis for pests found in imported consignments
> - detection of a pest in an area where it is not known to occur
> - cases where a pest is identified by a laboratory for the first time
> - detection of a pest in a consignment originating in a country where the pest is declared to be absent.
> -
>
> For example, in the case of routine diagnosis, the speed and cost of a test method may be more relevant than sensitivity or specificity. However, the identification of a pest by a laboratory or in an area for the first time may require methods with a high level of specificity and reproducibility. The significance of the outcome of a diagnosis is often dependent on proper sampling procedures. Such procedures are addressed by other ISPMs (under preparation).
>
> Diagnostic protocols provide the minimum requirements for reliable diagnosis of regulated pests. This may be achieved by a single method or a combination of methods. Diagnostic protocols also provide additional methods to cover the full range of circumstances for which a diagnostic protocol may be used. The level of sensitivity, specificity and reproducibility of each method is indicated where possible. NPPOs may use these criteria to determine the method or combination of methods that are appropriate for the relevant circumstances."

In particular relevant for "the combination of methods" is the following statement:

> "Diagnostic protocols provide the minimum requirements for reliable diagnosis of regulated pests. This may be achieved by a single method or a combination of methods."

The core decisions that are required in the case of each protocol are therefore

> What is the minimum requirement for a reliable diagnosis?
> Is a combination of methods necessary to achieve this? If yes, which combination ?

It is obvious and generally accepted, that the combination of methods may only be appropriate, if at least one of the core factors "sensitivity, specificity or reliability" are increased by the combination[1]. It is however also known, that some methods may provide a higher specificity than others (and therefore may be used as a 2nd method), while such method may not provide necessarily the same sensitivity as the first method (e.g. monoclonal versus polyclonal antibodies; bioassay versus PCR). In particular in such cases the priorities of the system applied (e.g. sensitivity, specificity or reliability) as required by the framework of the diagnosis (see list of examples in quotation from ISPM 27 above) need to be careful balanced. Pending the framework

[1] In some situations it may be decided to apply both or even more tests at the same time in parallel. This paper does not address this situation and the considerations that may lead to such decisions. In general the final characteristics of the parallel application of different methods is equates to the "sum" of the best characteristics of the relevant methods applied.

in which the diagnosis is applied a certain combination may not be appropriate while in others a combination may be required.

The ~~following~~ template on the next page analyses the possible situations and provides an indication whether a combination of methods with certain characteristics may be appropriate in diagnostic protocols. This template may ~~if agreed could be a basis for a short guideline for~~ help authors of diagnostic protocols and ~~may also help~~ the TPDP to follow a consistent approach when the necessity and appropriateness of combinations of methods in DPs are discussed.

In reality when methods are combined all factors are to be considered and the methods are selected according the needs of the individual situation.

In summary the following conclusion can be drawn:

1. The addition of a second method is not recommended, if the 2nd method has a **lower sensitivity** or is **less reliable** than the first method. In these circumstances the combination increases the risk of contradicting results. Pending the mode of interpretation this may include the risk of "false negative results".

2. The addition of a second method is generally not recommended or not appropriate, if the 2nd method provides a higher sensitivity, a lower specificity or a higher reliability than the 1st method unless some other reason supports this combination.

3. The addition of a second method is recommended, if the second method provides a **higher specificity** than the first method. Such combination is often used, when the first method is cheaper or faster than the second one (screening method). In general **high costs and low speed** of methods are good reason to apply them as a second method only, if they provide on the other hand some advantages over the 1st method e.g. higher sensitivity, higher specificity or higher reliability.

How to apply this template:
1. Consider that the decision on the first method has already been taken. The second method is only applied if the result of the first method is positive. (*see also * below)*
2. Consider the individual column assuming that the other factors/methods are equivalent
3. Ask the question: Is the combination recommended? focussing on the 2nd method.

The classification "**Risk**" is used to express that the combination carries the risk of weakening a result already achieved by method 1. Such combination should be avoided in all circumstances.
The classification "**Not appropriate**" is used to express that in general the combination of such factors in the given order is not contributing to the results of a diagnosis. In some specific situations the combination may nevertheless considered to be appropriate.

	Sensitivity		**Specificity**		**Reliability**		**Costs**		**Speed**	
Method 1	higher	lower	Lower	Higher	Lower	Higher	lower	higher	lower	higher
Method 2	lower	higher	Higher	Lower	Higher	Lower	higher	lower	higher	lower
Combination recommended ?	No ----------	No/yes -+-+-+-	Yes ++++	No/yes ----------	No/yes -+-+-+-	No --------	Yes ++++	No --------	No --------	Yes ++++
Reason	Risk of contradicting results and false negative interpretation	Generally not appropriate, unless sample is already suspected	Appropriate if other factors (speed, cost etc.) suggest this order	Generally not appropriate, unless 2nd method provides some other benefit (isolation)	Generally not appropriate, unless in a situation where a false negative result (of the 1st method) can be tolerated.	Risk of contradicting results and false negative interpretation	Appropriate if 2nd method provides some other benefit. Typical situation.	Not appropriate unless 2nd method provides some other benefit (isolation)	Not appropriate unless 2nd method provides some other benefit (isolation)	Appropriate, fast result

*: In some situations it may be appropriate that the 2nd method is applied even if the result of the first test was negative. Such situations may occur where most test results are positive and only a few results are negative. This condition does not apply to import situations. Also when consignments for export are tested such situations - if they exist at all - are rare. Such situation may occur in some specific surveillance situations in a heavily infested area. The inclusion of this situation in this table would be very complex and is therefore not addressed by this.

Appendix 3 [added TPDP July 2010] –

Cover note for diagnostic protocols

Consultation on technical level (to be updated throughout DP development)	The first draft of this diagnostic protocol was written by: [include a list of experts, in the following format; do not include postal addresses] Initial of first name Family name (institution name, city, country); Initial of first name Family name (institution name, city, country) etc. Example: C. Def (Institution name, City, Country); G. Hij (Institution name, City, Country); etc. Other experts consulted [include a list of other experts consulted experts, in the same format as above] Fora at which the protocol was presented: [include a list of fora at which the protocol was presented, e.g. conference, symposium, seminar, etc., in the following format] Name, date, venue.
Main discussion points during development of the diagnostic protocol (to be updated throughout DP development)	[Include as bullet points] • • Note: Especially after experts have been consulted at early stages of development, the cover note should indicate substantial comments that were not incorporated in the draft.

CHECKLIST FOR DIAGNOSTIC PROTOCOL DISCIPLINE LEADS AND REFEREES
(Status: approved by TPDP 2010)

The comments column is intended to for the reviewer to:
- give further guidance and suggestions on how the items should be modified
- help identify technical issues in the protocol that should be mentioned for countries when sending the protocol for member consultation (i.e. to be included on the cover page of the protocol), especially those that raised discussion or debates during the development of the protocol.

The checklist is used at several stages:
- by the discipline lead to cross-check the draft sent by the lead author
- by the referee
- by the discipline lead before submitting the protocol to the TPDP. The completed checklist should be provided to the TPDP together with the protocol.

	Section	Issue to be considered	Y/N	Comments
	Cover note	Does the draft include a cover note in the format and content required by instructions to authors (this should be in the draft at least when it is sent to the referee)		
1	**General overview**			
1.1	ISPM No. 27	Does the protocol comply with ISPM 27 - are all the sections present?		
1.2	Formatting	Is the draft formatted correctly – no SOP formats, no appendices, etc		
1.3	Clarity	Is the protocol clear and concise; does it provide sufficient information for diagnosis of the pest and sources of further information		
1.4	Global relevance	Does the protocol provide sufficient information for users globally e.g. inclusion of different types of methods (where appropriate) and their limitations and/or benefits; global rather than regional perspective, unless the organism only occurs in one region and is of concern globally)		
2.	**Pest information**			
2.1	Length	Does the section provide a brief summary (no more than 1 page) of the general information on a pest?		
2.2	Reference to datasheets/databases	Does the section refer to appropriate datasheets/databases (rather than replicating information)?		
2.3	Geographical information	Is any geographical information sufficiently general?		
3.	**Taxonomic**			

	information			
3.1	Format	Is this presented in the correct format?		
3.2	Accuracy	Is the information accurate? Are appropriate references given for scientific names?		
4.	**Detection**			
4.1	Appropriate information	Does this section contain appropriate information on methods for detection of the pest? (no information on procedures for inspectors)		
4.2	Adequate description of the methods	Is there enough information for the method to be used by an expert? Does the protocol refer to manufacturers instructions when these are available?		
4.3	Instructing NPPOs	Make sure the protocol does not instruct the NPPO on the methods to use		
4.4	Sensitivity, specificity, reliability	Is there information on the sensitivity, specificity and reliability of each methods quoted, including details of the scope of any ring testing that is mentioned?		
4.5	Confusion with other organisms	Does the protocol provide sufficient information on organisms or symptoms that could be confused with the pest?		
4.6	Choice of methods	Where less commonly used methods are included, does the protocol indicate that these are for information?		
4.7	Commercial kits/brand names	Where commercial kits are available, is the reason for the choice of inclusion of a specific kit rather than others given? If brand names are used, are they essential? Is the approved "disclaimer" included?		
5.	**Identification**			
5.1	Minimum requirements	Does the protocol provide guidance on the minimum requirements for a positive diagnosis?		
5.2	Instructing NPPOs	Make sure the protocol does not instruct the NPPO on the methods to use		
5.3	Specificity sensitivity and reliability	Is there information on the sensitivity, specificity and reliability of each methods quoted, including details of the scope of any ring testing that is mentioned?		
5.4	Combination of methods	Where a combination of methods is required, is there an explanation of the reason for this?		
5.5	Commercial kits/brand names	Where commercial kits are available, is the reason for the choice of inclusion of a specific kit rather than others given? If brand names are used, are they essential? Is the approved "disclaimer" included?		
5.6	Decision scheme	Does the text and flow diagramme (if present) clearly present the options available to NPPOs?		

5.7	Flow diagramme (note: detection steps might also be included)	Does the protocol need a flow diagramme (e.g. if several methods are needed for the diagnosis, and / or if many alternative methods are included)? Does it contain the minimum requirements for a positive diagnostic? Is it in line with the text? Is it accompanied by some explanation in the text, indicating the methods available and their advantages? Is it cross-referred to at the beginning of the identification section?		
6	**Records**			
6.1	Additional requirements	Does the protocol indicate the requirements for records or evidence in addition to that listed in ISPM 27 that are essential for the pest species?		
6.2	Cases where other NPPOs are involved	Does the protocol provide the specific records and evidence that should be retained in cases where other NPPOs may be involved (e.g. interceptions)		
7.	**Contact points**			
7.1	Suitable coverage	Are the contact points appropriate?		
8.	**Acknowledgements**			
8.1		Do the acknowledgements reflect those involved?		
9.	**References**			
9.1	Complete	Are all the references in the text included in the reference list?		
9.2	Accurate	Do all the references contain the information required in Instructions to Authors? (e.g. Do they have the year of publication, journal titles in full, page numbers etc) If more than 40 references, consider whether all are needed.		
10	**Figures and photographs**			
10.1	Necessary	Are all the figures necessary, or are they “nice to have”?		
10.2	Colour photos	Are these required or should they be posted on the IPP for additional information?		
10.3	Line drawings/photographs	Are line drawings sufficient for diagnosis, or are photographs required?		
10.4	All figures	Do the figures meet the requirements of the instructions for authors		
10.4	Separate file for figures	Are illustrations separate from the text (2 separate files needed: Part 1 as containing only the text (as Word file); Part 2 containing all figures (including line drawings, photos, flow diagramme) (as Word and PDF files)		

CRITERIA FOR THE PRIORITISATION OF DIAGNOSTIC PROTOCOLS

(Status: agreed by the TPDP and submitted to (and modified by) the SC in November 2007 minor editorial at TPDP 2010)

1.	Relevance of the diagnosis to the protection of plants including measures to limit the impact of the pest.
2.	Importance of the plants protected on the global level (e.g. relevant to many countries or of major importance to a few countries).
3.	Volume/importance of trade of the commodity that is subjected to the diagnostic procedures (e.g. relevant to many countries or of major importance to a few countries).
4.	Need for international harmonization of the diagnostic techniques for the pest (due to difficulties in diagnosis or disputes on methodology).
5.	Other criteria for topics as determined by CPM that are relevant to determining priorities
6.	Balance between the disciplines (virology, entomology etc) and pests of importance in different climatic zones (temperate, tropics etc) and commodity classes.
7.	Number of labs undertaking the diagnosis.
8.	Feasibility of production of a protocol, including availability of knowledge and expertise.

MEMBERSHIP OF TECHNICAL PANEL ON DIAGNOSTIC PROTOCOLS (TPDP)
(at August 2010)

Steward: Jens Unger (Germany)

	Discipline	Country	Name	E-mail	Term begins	Term ends
1.	Steward	Germany	Mr Jens-Georg Unger	j.g.unger@bba.de		
2.	Bacteriology	Malaysia	Vacant			
3.	Botany	China	Ms Liping Yin	yinlp@shciq.gov.cn; yinliping@yahoo.com	April 2008	2013
4.	Entomology	Uruguay	Ms Ana Lía Terra	alterra@adinet.com.uy	April 2008	2013
5.	Mycology	Netherlands	Mr Johannes de Gruyter	j.de.gruyter@minlnv.nl	April 2008	2013
6.	Nematology	France	Ms Géraldine Anthoine	geraldine.anthoine@rennes.inra.fr	April 2009	2014
7.	Quality assurance	Australia	Mr Mallik Malipatil	mallik.malipatil@dpi.vic.gov.au	April 2008	2013
8.	Virology	New Zealand	Mr Gerard Clover	gerard.clover@maf.govt.nz	April 2008	2013

TPDP WORK PLAN 2010-2011

Month	Date / Task	Responsible
	2010	
Aug	3 / Ask SC to add Delano to TP as a member for virology, mycology and ISO	Secretariat
	13 / Draft TPDP report to rapporteur	Secretariat
	15 / Secretariat confirms date of next meeting and investigates location	Secretariat
	15 / Secretariat to contact Global Tax initiative and ISO	Secretariat
	15 / Secretariat to write to some NPPOs to check status of some authors and members of editorial teams	Secretariat
	15 / All TPDP members update all lead authors and editorial teams to the outcome of the TPDP meeting and provide deadlines for the lead authors.	TPDP
Sept	30 / Gerard to develop a discussion paper with Stephan Winter on Viruses transmitted by *Bemisia tabaci*	Gerard
	30 / *Guignardia citricarpa* Hans will adjust flow chart, adjust the DP and send to TPDP for approval	Hans
	30 / *Tilletia indica* Hans will adjust the DP and send to TPDP for approval.	Hans
	30 / Comment period on Plum pox virus ends	-
Oct	10 / TPDP approve *Guignardia citricarpa* and *Tilletia indica*	TPDP
	15 / Update on DPs : leads update status document & send to Secretariat	Leads
	15 / Compiled MC of draft Plum pox DP to discipline lead for action and to TPDP, TPDP stewards and SC for information	Secretariat
	20 / Secretariat sends *Guignardia citricarpa* and *Tilletia indica* to SC for approval for MC	Secretariat
Nov	05 / Draft Plum pox DP and compiled MC and responses submitted to Secretariat (after consultation of lead author, editorial team, steward as appropriate)	Gerard
	07 / Draft Plum pox DP and compiled MC and responses circulated to TPDP, with a recommendation from the TPDP discipline lead and steward on how to proceed	Secretariat
	15 / Leads provide a summary to Secretariat on the results of review of all their subjects against criteria, to ensure that all DPs on the work programme meet the criteria for DPs	Leads
	15 / Leads review the 3 proposed protocols (Anguina spp., Conotrachelus nenuphar, Phoma exigua var. foveata) against the criteria and prepare a proposal for the next meeting, based on the criteria for prioritization, on whether they should be added to the work programme	Géraldine, Ana Lia, Hans
	15 / TPDP reviews, comments and approves draft Plum pox DP	TPDP
	20 / Draft Plum pox DP and compiled MC and responses to Secretariat	Gerard & Jens
	25 / Draft Plum pox DP, compiled MC and responses to SC with recommendation on how to proceed	Secretariat
	30 / Revised document on terms for QA issues submitted to TPDP	Malik
	30 / Checklist for authors Hans will develop and circulate to TPDP	Hans
Dec	15 / SC approves draft Plum pox DP (or rejects)	SC
	20/ Secretariat processes draft Plum pox DP for CPM-6	Secretariat
	15 / Draft DPs due to discipline leads: • *Anastrepha spp.*	Ana Lia/Malik
	• *Phytophthora ramorum*	Hans
	• *Sorghum halepense*	Liping
	• *Ditylenchus destructor and D. dipsaci*	Geraldine
	• *Erwinia amylovora*	Delano
	• Any other protocol that is ready	Leads

ANNEX 10

Month	Date / Task	Responsible
2011		
Jan 2011	15 / All draft DPs sent to referees	Leads
	15 / Update on DPs : leads update status document & send to Secretariat	Leads
	28 / Final date for posting draft ISPMs (Plum pox) going to CPM-6 in languages	Secretariat
	30 / Draft DPs back to leads for final changes	Referees
Feb	30 / Letters of invites to TPDP	Secretariat
	30 / Secretariat to develop a draft "standardized format for DPs"	Secretariat
March	15 / **Deadline for submission of all draft DPs to be considered at the May 2010 TPDP meeting. Draft DP to be accompanied with checklist by lead**	Leads
	14-18 CPM-6 meeting	
	30 / Secretariat to review DPs and post on IPP (TPDP restricted work area)	Secretariat
April	15 / Update on DPs : leads update status document & send to Secretariat	Leads
	15 / **Deadline for submission of all documents (other than DPs) to be considered at the May 2011 TPDP meeting.** (Agenda points for any item that the documents have not submitted by this date will be removed from the year's TPDP agenda and placed on the agenda of the next TPDP)	Meeting participants
May	30 / TPDP meeting (Tentative: 30 May to 3 June)	Meeting participants