



UPDATE ON ACTIVITIES OF THE TECHNICAL PANEL ON PHYTOSANITARY TREATMENTS (MAY 2014 TO APRIL 2015)

(Prepared by the IPPC Secretariat, Standard Setting team)

1. Secretariat Support

[1] The Technical Panel on Phytosanitary Treatments (TPPT) has been receiving support from the following IPPC Secretariat staff:

- Mr Nuri NIYAZI (Secretariat lead)
- Ms Adriana MOREIRA (back-up Secretariat lead)

[2] It should be noted that the IPPC Secretariat lead changed in July 2014 as Mr Artur SHAMILOV left the IPPC Secretariat.

2. TPPT Membership

[3] According to the specification for the TPPT (TP 3)¹, the number of participants should be six to ten. The current membership of the TPPT comprises ten members. A call for TPPT experts² was issued in August 2014 (and closing on 26 October 2014). Three new members were approved by the SC in November 2014³ and a fourth new member was approved by the SC by way of an e-decision in February 2015⁴. The SC was informed and noted at its November 2014 meeting that Mr. Andrew JESSUP of Australia had tendered his resignation from the TPPT in October 2014.

[4] The current composition of the TPPT is as follows:

PARTICIPANT ROLE	NAME	COUNTRY	EXPERTISE					TERM EXPIRES
			Irradiation	Chemical	Fumigation	Temperature	Modified Atmosphere	
Member	Mr Patrick GOMES	US	X					2017 (1 st Term)
Member	Mr Guy HALLMAN	US	X		X	X	X	2017 (1 st Term)
Member	Mr Eduardo WILLINK	AR			X	X		2015 (2 nd Term)
Member	Mr Yuejin WANG	CN			X			2015 (2 nd Term)
Member	Mr Michael ORMSBY	NZ		X	X	X	X	2015 (2 nd Term)
Member	Mr Scott MYERS	US			X	X		2018 (1 st Term)
Member	Mr Matthew SMYTH ^{##}	AU	X		X	X		2019 (1 st Term)

¹ Specification number TP 3: <https://www.ippc.int/en/publications/1308/>

² IPPC 2014 August Call for Experts (TPDP, TPPT, EWGs): <https://www.ippc.int/en/calls/2014-august-call-for-experts-tpdp-tppt-ewgs/>

³ SC November 2015 Report: <https://www.ippc.int/en/publications/2665/>

⁴ 2015_ESC_MAY_03: Additional TPPT member nomination in response to the 2014-08 call for experts

PARTICIPANT ROLE	NAME	COUNTRY	EXPERTISE				TERM EXPIRES
Member	Mr Glenn BOWMAN ^{##}	AU	X	X	X	X	2019 (1 st Term)
Member	Mr Daojian YU ^{##}	CN	X		X	X	2019 (1 st Term)
Member	Mr Toshiyuki DOHINO ^{##}	JP	X			X	2020 (1 st Term)

^{**} Members with terms expiring in 2015; ^{##} Members newly appointed in 2014/2015

[5] As indicated in the above membership table, the terms of appointment of three TPPT members are expiring in 2015; these are:

- Mr Eduardo WILLINK (Argentina)
- Mr Yuejin WANG (China)
- Mr Michael ORMSBY (New Zealand)

[6] For all three TPPT members listed above, the Secretariat received expressions of support for the members to continue their work with the TPPT from their national IPPC contact points. The Secretariat and the TPPT Steward reviewed the composition of the TPPT and recommend the SC extend their membership for another 5-year term for all three TPPT members listed above. The SC is also invited to recognize the contributions of Mr Andrew JESSUP to the work of the TPPT and to consider conveying the appreciation of the SC for the services rendered.

3. Overview of the TPPT activities between May 2014 and April 2015

[7] The TPPT has held three meetings since May 2014 – the reports of all meetings can be found on the IPP⁵ and the SC is invited to note these:

- One face-to-face meeting held between 23 and 27 June 2014 in Bali, Indonesia;
- Two virtual meetings held on 25 September 2014 and 17 February 2015, respectively.

[8] In addition, eight TPPT e-forum discussions and five email discussions were held to exchange views and provide comments on various draft phytosanitary treatments and other documents related to TPPT working procedures and research recommendations.

[9] A summary of the discussions and outcomes of the TPPT meetings and intersession activities is provided by work plan area below.

4. Advancement of the Portfolio of Draft Phytosanitary Treatments between May 2014 and April 2015

[10] The TPPT continued the development of 20 draft phytosanitary treatments during the May 2014 to April 2015 period, these treatments were advanced to various stages of development along the standard setting process, as outlined in the following sections. It should be noted that four treatments were adopted at the 10th Session of the Commission on Phytosanitary Measures (CPM-10), bringing the current TPPT portfolio of draft phytosanitary treatments to 16 treatments.

⁵ TPPT meeting reports: <https://www.ippc.int/en/core-activities/standards-setting/expert-drafting-groups/technical-panels/technical-panel-phytosanitary-treatments/>

- [11] The TPPT at its 2014 face-to-face meeting discussed the matter of a possible issuance of a call for treatments. In consideration of the need for alternative treatments to methyl bromide fumigation, the outcomes from the Expert Consultation on Cold Treatments⁶ and the current TPPT work programme, the TPPT decided to recommend to the SC consideration of an IPPC call for treatments in 2015.

4.1 Treatments receiving formal objections prior to CPM-9 (2014)

- [12] Formal objections were made by contracting parties in 2014 to eight draft phytosanitary treatments (cold treatments in fruit flies). These were returned to the TPPT by SC 2014 May. At its 2014 face-to-face meeting the TPPT reviewed the formal objections and drafted responses, which were subsequently reviewed further in a TPPT e-forum discussion in August 2014. The TPPT at its September 2014 virtual meeting made additional modifications to the draft TPPT responses to formal objections received for the draft cold treatments and subsequently approved via email the finalized version for review by the SC for its endorsement in conjunction with submission of the relevant draft phytosanitary treatments. It should be noted that some of the draft treatments were adjusted when they were reviewed to take into account new information that became available to the TPPT.
- [13] At its 2014 face-to-face meeting the TPPT decided to re-submit the below three draft cold treatments to the SC to be considered for recommending to the CPM for adoption; the Secretariat subsequently presented these to the SC at its 2014 November meeting, and the SC endorsed the TPPT responses to formal objections and recommended the PTs to CPM-10 (2015) for adoption by vote (the treatments were later adopted by CPM-10 by consensus):⁷

- Cold treatment for *Bactrocera tryoni* on *Citrus sinensis* (2007-206E)
- Cold treatment for *Bactrocera tryoni* on *Citrus reticulata* × *C. sinensis* (2007-206F)
- Cold treatment for *Bactrocera tryoni* on *Citrus limon* (2007-206G)

- [14] The TPPT decided at its 2014 face-to-face meeting to defer recommendation of the remaining five draft cold treatments pending review of the ongoing and planned research into cold tolerance in fruit flies regarding both regional differences and cultivar delineation, conducted by the IAEA/FAO Joint Division of Nuclear Techniques in Agriculture as well as the Phytosanitary Temperature Treatments Expert Group (PTTEG)⁸:

- Cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A)
- Cold treatment for *Ceratitis capitata* on *Citrus reticulata* × *C. sinensis* (2007-206B)
- Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C)
- Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (2007-210)

⁶ Expert Consultation on Cold Treatments: <https://www.ippc.int/en/core-activities/standards-setting/expert-consultation-on-cold-treatments/>

⁷ In response to a subsequent informal query by a contracting party regarding the final treatments schedules presented by the TPPT in the three draft cold treatments, the TPPT in consultation with the Steward provided an explanatory document entitled “Influence of Treatment Efficacy on Selecting Phytosanitary Treatments” via the Secretariat. This document is available as annex to the February 2015 TPPT Virtual Meeting: <https://www.ippc.int/en/core-activities/standards-setting/expert-drafting-groups/technical-panels/technical-panel-phytosanitary-treatments/>

⁸ Phytosanitary Temperature Treatments Expert Group: <https://www.ippc.int/en/liasion/organizations/core-activities/standards-setting/phytosanitarytemperaturetreatmentsexpertgroup>.

- Cold treatment for *Ceratitis capitata* on *Citrus reticulata* cultivars and hybrids (2007-212)

[15] In the context of the review by the TPPT of issues raised in formal objections to several cold treatments the TPPT invited the SC to consider reminding contracting parties that there was no obligation for a contracting party to approve, register or implement a CPM adopted phytosanitary treatments for use in its territory and to consider adding a statement to this effect as a note in the response to the formal objections.

[16] At its 2014 face-to-face meeting the TPPT further noted the formation of the Phytosanitary Temperature Treatments Expert Group (PTTEG)⁹ in December 2013 and its plans to undertake an analysis of cold tolerance in fruit flies (regarding both regional differences and cultivar delineation). In this connection, the TPPT invited the SC to note the selection of Mr Guy HALLMAN (USA) to act as liaison between the TPPT and the PTTEG to exchange information on the research of temperature treatments to help support the development of international phytosanitary treatments.

4.2 Treatment from 2013 member consultation

[17] At its 2014 face-to-face meeting the TPPT reviewed the draft treatment schedule and portfolio, 2013 member comments on the phytosanitary treatment, the treatment lead's draft responses to member comments and treatment evaluations, as well as the TPG recommendations on terminology for the below phytosanitary treatment; the TPPT recommended the treatment to the SC, who approved it via e-decision in September 2014¹⁰ for submission to CPM-10 (the treatment was subsequently adopted by CPM-10):

- Irradiation treatment for *Dysmicoccus neobrevipes*, *Planococcus lilacinus* and *Planococcus minor* (2012-011)

4.3 Treatments from 2014 member consultation

[18] The below six draft phytosanitary treatments underwent member consultation during the 1 July through 30 November 2014 commenting period and the respective TPPT treatment leads are preparing responses to member comments and revising the draft PTs accordingly. These will be discussed at the next TPPT virtual meeting (currently scheduled for 26 May 2015):

- High temperature forced air treatment for *Bactrocera melanotus* and *B. xanthodes* on papaya (2009-105)
- Vapour heat treatment for *Carica papaya* Solo (2009-109)
- Cold treatment for *Ceratitis capitata* on *Citrus clementina* var. Clemenules (2010-102)
- Cold treatment for *Ceratitis capitata* on *Citrus sinensis* var. Navel and Valencia (2010-103)
- Vapour heat treatment for *Ceratitis capitata* in *Mangifera indica* (2010-106)
- Irradiation treatment for *Ostrinia nubilalis* (2012-009)

4.4 Treatments for 2015 member consultation

⁹ Phytosanitary Temperature Treatments Expert Group: <https://www.ippc.int/en/liasion/organizations/core-activities/standards-setting/phytosanitarytemperaturetreatmentexpertgroup>.

¹⁰ 2014_eSC_Nov_10: Approval of the phytosanitary treatment: irradiation for *Dysmicoccus neobrevipes*, *Planococcus lilacinus* and *Planococcus minor* (2012-011) for submission to the CPM for adoption.

[19] The below four draft phytosanitary treatments were reviewed by the TPPT at its 2014 face-to-face meeting and were recommended to the SC for member consultation; the SC subsequently approved, via e-decision¹¹, all four of these draft treatments for the member consultation period starting on 1 July 2015:

- Sulfuryl fluoride fumigation of insects in debarked wood (2007-101A)
- Sulfuryl fluoride fumigation of nematodes and insects in debarked wood (2007-101B)
- Heat treatment of wood using dielectric heating (2007-114)
- Vapour heat treatment for *Bactrocera tryoni* on *Mangifera indica* (2010-107)

4.5 Treatment pending further information from submitter

[20] At its 2014 face-to-face meeting, the TPPT reviewed the status of the below draft phytosanitary treatment, noting that supporting data that had been requested from the submitter after the TPPT 2013 face-to-face meeting was still outstanding. The TPPT agreed to send a final notice letter (17 July 2014 and a reminder 25 March 2015) informing the submitter that the treatment would be recommended for removal from the *List of topics for IPPC standards* unless the required supporting data was submitted by 2 May 2015:

- Vapour heat treatment on *Mangifera indica* Manila Super (2009-108)

[21] The SC is invited to consider the matter of non-receipt of required information from the submitter of this draft phytosanitary treatment, including the TPPT recommendation of removal of the treatment from the *List of topics for IPPC standards*.

5. Working TPPT criteria for treatment evaluation

[22] At its 2014 face-to-face meeting the TPPT reviewed and modified the “Working TPPT criteria for treatment evaluation”, addressing the SC May 2014 concerns regarding the consistency of section 4.1 *Use of historical data* with ISPM 28 (*Phytosanitary treatments for regulated pests*) *inter alia*. The adjustments made to the “Working TPPT criteria for treatment evaluation”, as summarized in the below points, have been incorporated in the latest update of the IPPC Standard Setting Procedure Manual¹² and the SC is invited to note the changes made:

- Section 3.1 was modified to clarify that historical data may be used to support the general effectiveness of treatments in use for many years, provided that submissions included specific data demonstrating a particular level of efficacy.
- A new section under 3 was added on experimental conditions suitable for international trade and text on mortality added to section 6 to align the evaluation criteria with the suggested “Instructions to assist NPPOs and RPPOs in proper and complete submissions” (see section 6.5).
- The panel modified the general considerations for temperature treatments to include cold treatments.

¹¹ 2014_eSC_Nov_07: Approval of the draft phytosanitary treatment: heat treatment of wood using dielectric heating (2007-114) for member consultation.

2014_eSC_Nov_08: Approval of the draft phytosanitary treatment: vapour heat treatment for *Bactrocera tryoni* on *Mangifera indica* (2010-107) for member consultation.

2014_eSC_Nov_09: Approval of the draft phytosanitary treatments: sulfuryl fluoride fumigation of insects in debarked wood (2007-101A) and sulfuryl fluoride fumigation of nematodes and insects in debarked wood (2007-101B) for member consultation.

¹² IPPC Standard Setting Procedure Manual: <https://www.ippc.int/en/publications/2366/>

- Since the papers in 5.1 *Selected references* were not referenced in the text, the section title was changed to *Selected reading*.
- The wording in section 10.7 regarding the difference of cold tolerance in cultivars of *Citrus sinensis* was adjusted to state that the data underpinning the proposed treatments *may* have indicated that different cultivars responded differently to cold treatments, and a note was added to explain that the criterion was under review by the TPPT.
- A new section on “Characterization of heated air treatments” is proposed (see section 6.2).

[23] On the above-mentioned issue of historical data, the SC at its May 2014 meeting reviewed a TPPT paper entitled “TPPT procedure for reviewing and accepting data to support historical-based phytosanitary treatments”. Comments on the document by several SC members were received by the Secretariat subsequent to the SC meeting and reviewed by the TPPT Steward. In discussion between the Secretariat and the Steward, the most appropriate avenue of positioning the document “TPPT procedure for reviewing and accepting data to support historical-based phytosanitary treatments” was thought to be its inclusion in the “Working TPPT criteria for treatment evaluation” and it is thus submitted to the SC May 2015 meeting for noting for inclusion in the latter document.

[24] At its 2014 face-to-face meeting the TPPT further invited the SC to note the following documents produced by the TPPT in recent years for inclusion in the “Working TPPT criteria for treatment evaluation”:

- Most thermotolerant stage of Tephritidae
- Presence of live adult insects after irradiation phytosanitary treatment;

6. Development of various documents related to TPPT working procedures and research recommendations

6.1 TPPT recommendations for future research on high temperature forced air treatment

[25] During the period under review, the TPPT continued to work on the document “TPPT recommendations for future research on high temperature forced air treatment” in an effort to provide recommendations to the treatment submitter of the related draft phytosanitary treatment “High temperature forced air treatment for *Bactrocera melanotus* and *B. xanthodes* on papaya” (2009-105) (originally submitted as “High temperature forced air treatment for selected fruit fly species (Diptera: Tephritidae) in fruit). The work underpinning this draft treatment intended to provide for a generic high temperature forced air (HTFA) treatment covering all fruit fly pests of quarantine concern in the region, thus facilitating export of fruit to external markets.

[26] In its evaluation of the treatment at its 2013 meeting, the TPPT had, however, considered that the submitted data only supported recommendations of HTFA treatment for only two tephritid fruit fly species, namely *B. melanotus* and *B. xanthodes*, on one fruit crop, i.e. *Carica papaya*. It was agreed that the panel would provide guidance to the submitter on the research required to extend the treatment to other fruit fly species and hosts of interest to them in international trade. The paper thus intends to encourage the submitter, or indeed other interested parties, to consider submitting additional data in the future to add other fruit fly species or fruit commodities to the treatment.

[27] A first draft was provided by the assigned lead TPPT member and reviewed at the TPPT 2014 meeting. In consideration of the discussions at that meeting and subsequent comments provided by several TPPT members the lead revised the document and it was reviewed again in a TPPT e-forum discussion in January 2015. The further revision of the draft document was presented to the TPPT for discussion at its

2015 February virtual meeting. The TPPT at that meeting agreed to finalize the document “TPPT recommendations for future research on high temperature forced air treatment” in consideration of a few remaining suggested modification and to submit it to the SC for noting and requesting the Secretariat to append it to the report of the 2015 February TPPT virtual meeting. This document will also be used when liaising with treatment submitters.

6.2 Characterization of heated air treatments

[28] The document “Characterization of heated air treatments” was initiated to address concerns regarding the complexity of HTFA treatments that had been raised during a TPPT e-forum discussion in August 2013. The issue of the characterization of heated air treatments was added to the TPPT work program in April 2014, with the objective of providing the following information:

- what information should be provided in phytosanitary treatment submissions that are prescribing the use of heated air;
- explaining the differences between vapour heat treatments (VHT) and HTFA treatments;
- how temperatures should be recorded during experiments (e.g. highest temperature recorded during the confirmatory tests should be considered as a minimum requirement, minimum core temperature for the entire load and minimum time at that core temperature, heat-up time);
- factors which can affect efficacy of heat treatments and factors which may not be significant for commercial application;
- what type of information a treatment schedule should contain and examples of VHT and HTFA treatment schedules (e.g. hydro cooling is not part of a schedule).

[29] The draft paper “Characterization of heated air treatments” was discussed at the 2014 face-to-face meeting, several virtual meetings and a TPPT e-forum. This paper is now presented to the SC for noting and inclusion in the “Working TPPT criteria for treatment evaluation”.

6.3 Extrapolation to estimate efficacy

[30] At its 2014 face-to-face meeting, the TPPT decided to add to its work program a paper describing its position on “Extrapolation to estimate efficacy”, to be submitted to the SC for inclusion in the “Working TPPT criteria for treatment evaluation”. The lead TPPT member tasked with preparing the document presented the first draft at the 2015 February virtual meeting. A short discussion was held at that meeting regarding the use of extrapolation to estimate efficacy or rather as a means of placing bounds on efficacy, particularly in the context of high treatment levels required for phytosanitary treatments. An e-discussion forum was held in March 2015 for members to submit comments and exchange views and the draft is currently under revision by the lead TPPT member for presentation at the next TPPT virtual meeting in May 2015.

6.4 Technical support document for definition of effective dose

[31] As requested by the SC in its 2014 May meeting, the TPPT added the development of a paper to its work program to discuss the term *effective dose* (2013-017), taking into account the options proposed by the Technical Panel on Glossary.

[32] A draft document entitled “Technical support document for definition of effective dose” was discussed at the 2014 TPPT face-to-face meeting, several virtual meetings and an e-mail exchange. The TPPT agreed to invite the SC (i) to consider the use of the recommended text to describe the level of efficacy achieved by a treatment schedule and (ii) to consider amending existing treatment schedules in accordance with the revised text.

6.5 Instructions to assist NPPOs and RPPOs in proper and complete submissions

[33] A document entitled “Instructions to assist NPPOs and RPPOs in proper and complete submissions” was developed in response to the need for such guidance that had been raised by the TPPT. It was noted that

the guidance provided in the draft document was based fully on the “Working TPPT criteria for treatment evaluation” and aimed to assist submitters to adequately discharge their responsibilities to provide a complete and accurate phytosanitary treatment submission, *inter alia* appropriate statistical analysis of the research results, including efficacy values.

- [34] This document has been discussed and revised at the 2014 TPPT face-to-face meeting, and two TPPT e-forum discussions. The lead TPPT member is currently working to address and incorporate the comments and suggestions received.

7. Amendments to phytosanitary treatments

- [35] At its 2014 face-to-face meeting, when discussing the formal objection for draft phytosanitary treatment “Cold Treatment for *Ceratitis capitata* on *Citrus sinensis*” (2007-206A), the panel noted that several schedules were foreseen to be submitted in the future for the same fruit (different cultivars) and pest. The TPPT would like to have the possibility to review adopted phytosanitary treatments, so that they could propose amendments if data for new schedules becomes available. This would be a situation comparable to the revisions of DPs or the Amendments to the Glossary (1994-001), i.e. where once a revision is proposed, only the new schedule information would be open for member comments. The TPPT would like to add to their work programme the review and possible revision of adopted phytosanitary treatments.

8. Planned TPPT Work Programme for May 2015 to April 2016

- [36] The TPPT plans to advance the portfolio of draft phytosanitary treatments as follows:

- 4 draft phytosanitary treatments will undergo member consultation from July through November 2015 and the TPPT will subsequently review the member comments accordingly;
- 6 draft phytosanitary treatments that were under member consultation in 2014 will be revised based on member comments and TPPT responses to member comments will be prepared - these draft treatments are expected to be recommended to the SC in sufficient time for them to be presented to CPM-11 for adoption;
- the review of 5 draft phytosanitary treatments that are currently on hold after having been formally objected at CPM-9 (2014), are pending further analysis in regards to the possible varietal or population differences: it is unclear how quickly these can be progressed as the TPPT is, in part, awaiting the results of research by the IAEA/FAO Joint Division of Nuclear Techniques in Agriculture as well as the PTTEG – advancement of these treatments will be reviewed at the 2015 TPPT face-to-face meeting.

- [37] As noted in section 4, the TPPT has recommended that a call for phytosanitary treatments be issued in 2015. The Secretariat notes this recommendation and would like to bring to the attention of the SC its concerns regarding the long term availability of both human and financial resources to process a potentially large volume of treatment submissions over a long time period, particularly in view of the possible undertaking by the TPPT of the drafting of the following five ISPMs (pending SC consideration of adding this task to the TPPT work programme):

- Requirements for the use of fumigation as a phytosanitary measure (2014-004)
- Requirements for the use of temperature treatments as a phytosanitary measure (2014-005)
- Requirements for the use of modified atmosphere treatments as a phytosanitary measure (2014-006)

- Requirements for the use of chemical treatments as a phytosanitary measure (2014-003)
- Requirements for the use of irradiation as a phytosanitary measure (Revision to ISPM 18) (2014-007)

[38] The TPPT will continue to work on several documents relating to the TPPT working procedures and research recommendations, including “Extrapolation to estimate efficacy” and “Consideration of Probit 9 as a treatment efficacy standard”.