Food and Agriculture Organization of the United Nations

International Plant Protection Convention

REPORT

Technical Panel on Phytosanitary Treatments (TPPT)

Virtual meeting

15 January 2025

IPPC Secretariat

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CONTENTS

1. Opening of the meeting

1.1 Welcome by the IPPC Secretariat

[1] The IPPC Secretariat (hereafter referred to as "the secretariat") welcomed all participants to the first virtual Technical Panel on Phytosanitary Treatments (TPPT) meeting of 2025.

[2] The Secretariat welcomed Mr. Matias Buttera as the newly appointed Steward and noted Mr. Edouard Nya as the newly appointed Assistant Steward, following SC November 2024.

2. Meeting arrangements

[3] The TPPT *proposed* that secretariat runs the meeting, *elected* Scott MYERS as rapporteur and *adopted* the agenda (Appendix 1).

3. Administrative matters

[4] The documents list (Appendix 2) and the participants list (Appendix 3) had been made available to the TPPT before the meeting.

4. Revision of PT consultation comments

4.1 Combination of irradiation and modified atmosphere treatment for *Trogoderma granarium* (2023-032) – From first consultation

[5] The Treatment Lead, Scott MYERS, introduced the treatment lead summary[1] and provided an update on the status of this draft treatment following the first round of consultation in 2024.

[6] It was noted that the main concerns received through the first round of consultation in 2024 related to the lack of most tolerant life stage testing. With a number of comments pointing out that diapausing larvae were not evaluated in this treatment, with only non-diapausing larvae used.

[7] The TPPT noted that there have been prior studies on phytosanitary irradiation as a standalone treatment for khapra beetle at doses similar to the irradiation component of the proposed treatment (200 Gy). These studies have used prevention of reproduction or failure to advance to later life stages as treatment endpoints.

[8] The TPPT considered the lack of most tolerant stage testing at the stated treated endpoint for the initial submission. Egg, diapausing larva and pupa were not evaluated. Therefore, the treatment schedule could state that based on the data provided there is 95% confidence that the treatment according to this schedule results in mortality from not less than 99.9973% of non-diapausing larva and adult life stages of *Trogoderma granarium*. However, given *T. granarium* larvae are frequently in diapause, excluding them from the treatment would prevent it from being used.

[9] Using the term "results in mortality" in the efficacy statement could be considered to include diapausing larva as Gao et al found they would not pupate following a treatment of 150 Gy.

[10] Previous work supports a 200 Gy standalone treatment for all stages and adults are the most tolerant if prevention of F1 egg hatch is the treatment endpoint. However, determining an estimated level of treatment efficacy and applied dose from the available publications may be challenging as some data is not provided.

[11] The TPPT noted that the treatment can be supported by the submitted papers, and previous work indicates that it is a safe treatment, however further work is required to determine the exact end point and efficacy calculation.

[1] 08_TPPT_2025_Jan

[12] Additionally, consideration was given to the practicality of the combination treatment in commercial applications. It was suggested that the TPPT consider the treatment from the perspective of a standalone irradiation treatment, therefore the treatment lead will further consider the draft, taking into consideration the consultation comments received and discussions through the TPPT.

[13] The TPPT:

(1) *agreed* that further consideration of the draft is needed, with treatment lead Scott MYERS to provide an update to the TPPT at their face-to-face meeting in June 2025.

4.2 Irradiation treatment for *Pseudococcus baliteus* (2023-033) – From first consultation

[14] The Treatment Lead, Michael ORMSBY, introduced the treatment lead summary[2] and provided an update on the draft treatment following the first round of consultation in 2024, and outlined the significant comments made by member countries and proposed responses.

[15] Comments included references to confirmatory testing and the proposed inclusion of further relevant references to support that adult females of *Pseudococcus baliteus* are the most resistant stage at irradiation treatment, as well questions on the recommended exposure time to the treatment to ensure maximum mortality.

[16] The TPPT considered further relevant references, identifying Seth, R., Zarin, M., Khan, Z. & Seth, R.K. 2016[3] to be included in the list of references to further support the noted resistant stage, as also referenced in draft PT Irradiation treatment for *Paracoccus marginatus* (2023-034). The TPPT recommended that this comment be noted as modified.

[17] The TPPT then discussed the comment in relation to the recommended exposure time to the treatment to ensure maximum mortality.

[18] It was noted that irradiation treatment is the application of rays to host material. The "absorbed dose" is the accumulated level of exposure to those rays over time measured through radiation dosimetry. The absorbed dose rate is defined as the rate of change of the absorbed dose with time: as such "time" is incorporated into the dose.

[19] In addition to the above information, the TPPT agreed to include a sentence noting that there is no consistent information stating that the exposure time effects treatment outcomes for phytosanitary treatments. It was also agreed that the response will refer to ionising radiation, to encompass other radiation treatments.

[20] The TPPT:

(2) *requested* Treatment Lead, Michael Ormsby, amend the draft PT and comment responses as discussed during the meeting and include reflected amendments in the draft PT; and

(3) *agreed* that there were significant or major technical comments received through the consultation process that this treatment be recommended for second consultation.

4.3 Irradiation treatment for *Paracoccus marginatus* (2023-034) – From first consultation

[21] The Treatment Lead, Meghan NOSEWORTHY, introduced the treatment lead summary[4] and provided an update on the status of this draft treatment following the first round of consultation in 2024.

[2] 05_TPPT_2025_Jan

[3] **Seth, R., Zarin, M., Khan, Z. & Seth, R.K.** 2016. Towards phytosanitary irradiation of *Paracoccus marginatus* (Hemiptera: Pseudococcidae): ascertaining the radiosensitivities of all life stages. *Florida Entomologist*, 99 (Special Issue 2): 88–101. https://journals.flvc.org/flaent/article/view/88681

[4] 10_TPPT_2025_Jan

[22] It was noted that the comments were positive and supportive of the draft annex for irradiation treatment of *Paracoccus marginatus*, with no substantial comments received.

[23] Minor comments suggesting changes to the text of the draft annex were incorporated to maintain consistency with other annexes to ISPM 28, including adding 'and ornamental plants' to the Scope of the treatment, and writing out the genus and species and ensure alphabetic order for parenthetical organisms for all hosts and pests.

[24] The TPPT noted that as per the IPPC Procedure Manual for Standard Setting, for draft PTs, the SC may recommend them for adoption by the CPM if no significant or major technical comments are made during the first consultation. Therefore, it was agreed that this treatment would be recommended for adoption.

[25] Additionally, one member questioned the need for Implementation Issues to be included in draft PTs. It was noted that this section was requested for inclusion in all ISPMs by the SC in May 2016, however the TPPT questioned the relevance of this section in draft PTs. The TPPT considered this as something which may be further discussed with the SC.

[26] The TPPT:

(4) *agreed* that as no significant or major technical comments were received through the consultation process that this treatment be recommended to the SC for adoption by the CPM.

4.4 Irradiation treatment for *Planococcus lilacinus* (2023-035) – From first consultation

[27] The Treatment Lead, Takashi KAWAI, introduced the treatment lead summary[5] and provided an update on the status of this draft treatment following the first round of consultation in 2024.

[28] It was noted that a minor amendment to the text of the draft PT included reference to the scientific names for the pest *(Planococcus lilacinus)* and fruit *(Cucurbita maxima)* on which the efficacy of the irradiation was determined, so as to be consistent with the wording of other PTs.

[29] Additionally, a comment received suggested to replace the word 'gravid' with 'late' when noting the efficacy calculation on treated females. This suggestion was not incorporated as in PT45, late stage female of *Pseudococcus jackbeardslayi* was used for large-scale confirmatory testing and the developmental stage in the PT was described as below:

> *'The efficacy of this schedule was calculated based on a total of 131 512 mature adult females treated with offspring prevented from developing to the second-instar nymph stage…'*

[30] Members therefore agreed that the term 'gravid female' to be more concise and easier to understand than 'mature adult females treated with offspring'.

[31] The TPPT noted that as per the IPPC Procedure Manual for Standard Setting, for draft PTs, the SC may recommend them for adoption by the CPM if no significant or major technical comments are made during the first consultation. Therefore, it was agreed that this treatment would be recommended for adoption.

[32] It was also noted that in the October 2023 TPPT meeting report it was recommended that the endpoint of PT 19 should be revisited and the supporting information reviewed, to determine if revision or the removal of the schedule for the same pest may be necessary, if PT 2023-035 is approved. The TPPT discussed this further during agenda item 6.

[5] 13_TPPT_2025_Jan

[33] The TPPT:

(5) *agreed* that as no significant or major technical comments were received through the consultation process that this treatment be recommended to the SC for adoption by the CPM.

5. TPPT membership

5.1 Revision of TPPT membership

[34] Members noted that at the TPPT meeting in June 2024, members agreed to the extension of Peter LEACH as a TPPT member for another term.

[35] It was also noted that the term of Daojian YU as a member of the TPPT was due to end after June 2025. It was acknowledged that required NPPO support was available to extend the membership for another term. All TPPT members were in support to extend the membership of Daojian YU for another term with this outcome to be reported to the SC in May 2025.

[36] The Secretariat advised that Toshiyuki DOHINO will retire from the NPPO, and a member of the TPPT, prior to the scheduled June 2025 physical meeting. The Secretariat and members thanked Toshiyuki for his long-term contributions, dedication and significant work within the TPPT.

[37] The TPPT agreed for Takashi KAWAI to take the lead for draft PT Cold treatment for *Zeugodacus tao* on *Citrus sinensis* (2023-004) and draft PT Irradiation treatment for *Frankliniella occidentalis* on all fresh commodities (2017-019), following Toshiyuki's resignation and prior to a replacement member being appointed. It was noted that a call would be opened following the June 2025 meeting.

[38] It was also advised that Eduardo WILLINK will retire from the TPPT following the end of his term in June 2025, following which a call will be made to find a replacement member. The Secretariat and TPPT members additionally thanked Eduardo for his commitment and considerable contributions to the TPPT.

[39] The TPPT:

(6) *thanked* Toshiyuki DOHINO and Eduardo WILLINK for their significant work through the TPPT;

(7) *noted* that a call for experts will be opened following the June 2025 meeting to fill the two vacant positions; and

(8) *agreed* for Takashi KAWAI to act as lead for draft PTs 2023-004 and 2017-019 prior to a replacement member being appointed.

6. Any other business

[40] Following discussions in agenda item 4.4, the TPPT considered the requirement to retain *Planococcus lilacinus* in PT 19 if the draft PT Irradiation treatment for *Planococcus lilacinus* (2023-035) is recommended for adoption.

[41] It was noted that whilst the same mealy bug species is referenced in both the current PT 19 and the draft PT 2023-035, both irradiation treatments have a different endpoint and dose. It was noted that PT 19 is a higher dose and has an endpoint which prevents the reproduction of adult females, whereas the new draft PT has an endpoint of F1 life stages.

[42] Therefore, the TPPT agreed to keep PT 19 and did not see a need to revisit or review the current PT 19 should the draft PT 2023-035 be adopted.

[43] The TPPT also noted the dates for the next meeting will be 16-20 June 2025, most likely in Yokohama, Japan.

(9) *agreed* to retain PT 19 should draft PT 2023-035 be adopted.

9. Close of the meeting

[44] The secretariat thanked all participants for their contributions and closed the meeting.

Appendix 1: Agenda

	Agenda Item	Document No.	Presenter
1.	**Opening of the Meeting**		IPPC Secretariat
2.	**Meeting Arrangements**		IPPC Secretariat
2.1	Election of the Chairperson		IPPC Secretariat
2.2	Election of the Rapporteur		IPPC Secretariat
2.3	Adoption of the Agenda	01_TPPT_2025_Jan	IPPC Secretariat
3.	**Administrative Matters**		IPPC Secretariat
3.1	Documents list	02_TPPT_2025_Jan	IPPC Secretariat
3.2	Participants list	03_TPPT_2025_Jan	IPPC Secretariat
4.	**Revision of PT consultation comments**		IPPC Secretariat
4.1	Combination of irradiation and modified atmosphere treatment for *Trogoderma granarium* (2023-032) – From first consultation - TPPT Lead's notes - Consultation comments and Lead's responses - Amended draft PT References: - Afify et al 2024 PI and khapra - Gao et al 2004a - Gao et al 2004b	08_TPPT_2025_Jan 09_TPPT_2025_Jan 04_TPPT_2025_Jan 16_TPPT_2025_Jan 17_TPPT_2025_Jan 18_TPPT_2025_Jan	MYERS
4.2	Irradiation treatment for *Pseudococcus baliteus* (2023-033) – From first consultation - TPPT Lead's notes - Consultation comments and Lead's responses - Amended draft PT	05_TPPT_2025_Jan 06_TPPT_2025_Jan 07_TPPT_2025_Jan	ORMSBY
4.3	*Irradiation treatment for Paracoccus marginatus* (2023-034) – From first consultation - TPPT Lead's notes - Consultation comments and Lead's responses - Amended draft PT	10_TPPT_2025_Jan 11_TPPT_2025_Jan 12_TPPT_2025_Jan	NOSEWORTHY
4.4	Irradiation treatment for *Planococcus lilacinus* (2023-035) – From first consultation - TPPT Lead's notes - Consultation comments and Lead's responses - Amended draft PT	13_TPPT_2025_Jan 14_TPPT_2025_Jan 15_TPPT_2025_Jan	KAWAI
5.	**TPPT Membership**		IPPC Secretariat/ALL
5.1	Revision of TPPT membership	03_TPPT_2025_Jan	IPPC Secretariat/ALL

	Agenda Item	Document No.	Presenter
6.	**Any Other Business**		IPPC Secretariat/ALL
7.	**Close of the Meeting**		IPPC Secretariat

Appendix 2: Documents list

Document no.	Agenda item	Document title	Date posted / updated
Meeting documents			
01_TPPT_2025_Jan	2.3	Provisional agenda	09/01/2025
02_TPPT_2025_Jan	3.1	Document List	09/01/2025
03_TPPT_2025_Jan	3.2	Participants List	09/01/2025
08_TPPT_2025_Jan	4.1	TPPT Lead's notes Irradiation and MA treatment for *Trogoderma granarium* (2023-032)	09/01/2025
09_TPPT_2025_Jan	4.1	Compiled comments for Draft annex to ISPM 28: Combination of irradiation and modified atmosphere treatment for *Trogoderma granarium* (2023-032) - 2024 First Consultation - Lead's Response	09/01/2025
04_TPPT_2025_Jan	4.1	2023-032_Draft_PT_MA_Ir_Trogoderma	09/01/2025
16_TPPT_2025_Jan	4.1	Efficacy of Gamma Radiation on Mortality, Reproduction, DNA Damage and Antioxidant Enzymes on Trogoderma granarium everts (Coleoptera: Dermestidae) - Afify et al 2024 PI and khapra	09/01/2025
17_TPPT_2025_Jan	4.1	The effect of irradiation on *Trogoderma granarium* in grain and legume - Gao et al 2004a	09/01/2025
18_TPPT_2025_Jan	4.1	Irradiation as a phytosanitary treatment of food and agricultural commodities - Gao et al 2004b	09/01/2025
05_TPPT_2025_Jan	4.2	TPPT Lead's notes - Irradiation treatment for *Pseudococcus baliteus* (2023-033)	09/01/2025
06_TPPT_2025_Jan	4.2	Compiled comments for Draft annex to ISPM 28: Irradiation treatment for *Pseudococcus baliteus* (2023-033) - 2024 First Consultation - Lead's Response	09/01/2025
07_TPPT_2025_Jan	4.2	2023-033_Draft_PT_Ir_Pbaliteus_eng	09/01/2025
10_TPPT_2025_Jan	4.3	TPPT lead's notes Irradiation treatment for *P. marginatus* (2023-034)	09/01/2025
11_TPPT_2025_Jan	4.3	Compiled comments for Draft annex to ISPM 28: Irradiation treatment for *P. marginatus* (2023-034) - 2024 First Consultation - Lead's Response	09/01/2025
12_TPPT_2025_Jan	4.3	2023-034_Draft_PT_Ir_Pmarginatus_eng	09/01/2025
13_TPPT_2025_Jan	4.4	TPPT Lead's notes Irradiation treatment for *Planococcus lilacinus* (2023-035)	09/01/2025
14_TPPT_2025_Jan	4.4	Compiled comments for Draft annex to ISPM 28: Irradiation treatment for *Planococcus lilacinus* (2023-035) - 2024 First Consultation - Lead's Response	09/01/2025
15_TPPT_2025_Jan	4.4	2023-035_Draft_PT_Ir_Plilacinus_eng	09/01/2025

Appendix 3: Participants list

	Participant role & Expertise	Name, mailing, address, telephone	Email address	Term begins	Term ends
	Steward	**Mr Matías GONZALEZ BUTTERA** Dirección Nacional de Protección Vegetal - SENASA Venezuela 162 (C1063), City of Buenos Aires ARGENTINA	mbuttera@senasa.gob.ar		
	Assistant Steward	**Mr Edouard NYA** M.Sc. Ingénieur Agronome Chief National Laboratory For Analysis and Diagnosis of Agricultural Products and Inputs Directorate of Regulations and Quality Control of Agricultural Inputs and Products Ministry Of Agriculture and Rural Development Republic of Cameroon **CAMEROON** Tel: (+237) 696 18 99 73	nyaedouard@yahoo.fr		
	Member Chemical Fumigation Temperature Modified atmosphere	**Mr Michael ORMSBY** Principle Advisor – Office of the Chief Biosecurity Officer Ministry for Primary Industries P.O Box 2526, Wellington, 6011 **NEW ZEALAND** Tel: +64 4 894 0486	michael.ormsby@mpi.govt.nz;	October 2020 (3rd term)	2025
	Member Fumigation Temperature	**Mr Eduardo WILLINK** Estación Experimental Agroindustrial Obispo Colombres, P.O.Box 9, Las Talitas (4101) Tucumán **ARGENTINA** Tel: +54 381-4521010 +54-381 154692512	ewillink@arnet.com.ar; eduwillink@gmail.com	October 2020 (3rd term)	2025
	Member Fumigation Temperature	**Mr Scott MYERS** USDA APHIS 1398 W Truck Rd., Buzzards Bay, MA, **USA** Tel: 508-563-0959	scott.w.myers@aphis.usda.gov;	May 2023 (3rd term)	2028
	Member Irradiation Fumigation Temperature	**Mr Daojian YU** Shenzhen Customs District, P. R. China, GACC 1011, Fuqiang Road, Shenzhen, 518045,Guangdong, **CHINA** Tel: +86-755-82117990	yudj_2002@aliyun.com	May 2019 (2nd term)	2024

	Participant role & Expertise	Name, mailing, address, telephone	Email address	Term begins	Term ends
	Member Irradiation Temperature	**Mr Toshiyuki DOHINO** Disinfestation Technology Section, Research Center Yokohama Plant Protection Station Ministry of Agriculture, Forestry and Fisheries (MAFF) 1-16-10, Shin-yamashita, Naka-ku, Yokohama 231-0801 **JAPAN** Tel: +81 45 622 8893 Fax: +81 45 621 7560	toshiyuki_dohino100@maff.go.jp;	October 2020 (2nd term)	2025
	Member Irradiation Temperature	**Ms Vanessa Simoes Dias DE CASTRO** Entomologist Insect Pest Control Section Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture International Atomic Energy Agency | Vienna International Centre, PO Box 100, 1400 Vienna **IAEA** **Telephone number: +43 (1) 2600-27418** **Fax: +43 (1) 26007 27418**	V.Dias-De-Castro@iaea.org;	May 2023 (1st term)	2028
	Member Irradiation Temperature Chemical Fumigation	**Mr Peter Llewellyn LEACH** Senior Principle Entomologist and Market Access Focus Team Leader, Agri-Science Queensland, Department of Agriculture Fisheries (DAF) 21 Redden St. Portsmith, Queensland 4870 **AUSTRALIA** Tel: +61 408077752	peter.leach@daf.qld.gov.au	January 2019 (1st term)	2024
	Member Temperature	**Ms Meghan NOSEWORTHY** Research Manager – Entomology and Phytosanitary Research Canada/ Natural Resources Canada – Canadian Forest Service Address: 506 West Burnside Road, Victoria, BC, V8Z 1M5 **CANADA** Telephone number: 250 298 2354	Meghan.noseworthy@nrcan-rncan.gc.ca;	April 2022 (1st term)	2027

	Participant role & Expertise	Name, mailing, address, telephone	Email address	Term begins	Term ends
	Member Irradiation, Fumigation, Temperature, Modified Atmosphere	**Mr Guoping ZHAN** Professor Chinese Academy of Inspection and Quarantine (CAIQ), P. R. China Address: No. A3, Gaobeidian Bei Lu, Chaoyang District, Beijing, 100123, **CHINA** Telephone number: +86 136 1119 2153	zhangp@caiq.org.cn; zhgp136@126.com;	April 2022 (1st term)	2027
	Member Fumigation Temperature	**Mr Takashi KAWAI** Senior researcher, Disinfestation Technology Section, Research Division, Yokohama Plant Protection Station, MAFF Japan / Ministry of Agriculture, Forestry and Fisheries (MAFF) Address: 1-16-10, Shin-yamashita, Naka-ku, Yokohama 231-0801, **JAPAN** Telephone number:(+81) 45 622 8893	takashi_kawai660@maff.go.jp;	April 2022 (1st term)	2027
	IPPC Secretariat Lead	**Mr Artur Shamilov** International Plant Protection Convention Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla 00153 Rome ITALY Tel: +39 06 570 52454	Artur.Shamilov@fao.org		
	IPPC Secretariat Support	**Ms Colleen STIRLING** International Plant Protection Convention Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla 00153 Rome ITALY Tel: +39 06 570 52454	Colleen.Stirling@fao.org;		
	IPPC Secretariat Support	**Mr Daniel TORELLA** International Plant Protection Convention Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla 00153 Rome ITALY Tel: +39 06 570 52454	Daniel.Torella@fao.org		