

2023 FIRST CONSULTATION

1 July – 30 September 2023

Compiled comments for 2023 First Consultation: 2021-028_Draft_PT_VHTPlanococcus

Summary

Participants


Name	Summary
Australia	Comments entered
Azerbaijan	No comment
Barbados	Barbados has no objections to the adoption of this protocol.
European Union Σ	The comments on the draft standard are submitted by the European Commission on behalf of the European Union and its 27 Member States.
Gabon	annexe validée
Malawi	We support the draft
Singapore	Singapore is supportive of this draft annex.

T (Type) - B = Bullet, C = Comment, P = Proposed Change, R = Rating

S (Status) - A = Accepted, C = Closed, O = Open, W = Withdrawn, M = Merged

Para	Text	T	Comment
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (52) Argentina (1 Oct 2023 4:17 AM) Argentina supports the COSAVE comments
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (49) Barbados (30 Sep 2023 6:35 PM) Barbados views this treatment as an important addition to the management of this pest and hence supports its adoption.
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (48) Costa Rica (30 Sep 2023 1:45 AM) We have no comments
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (47) Peru (29 Sep 2023 11:14 PM) Peru agrees with the comments agreed upon as COSAVE
G	(General Comment)	C	<i>Category : EDITORIAL</i> (46) Paraguay (29 Sep 2023 8:52 PM) Paraguay de acuerdo con los comentarios de COSAVE.
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (45) Russian Federation (29 Sep 2023 4:35 PM) General Comment: The Russian Federation

			would like to formally endorse the EPP0 comments submitted via the IPPC Online Comment System.
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (44) Belarus (29 Sep 2023 4:09 PM) General comment: Republic of Belarus, would like to formally endorse the EPP0 comments submitted via the IPPC Online Comment System
G	(General Comment)	C	<i>Category : EDITORIAL</i> (43) Switzerland (29 Sep 2023 3:18 PM) Switzerland would like to formally endorse the EPP0 comments submitted via the IPPC Online Comment System.
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (42) Philippines (29 Sep 2023 4:37 AM) The PH has no further comments on the Vapour heat treatment for Planococcus lilacinus
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (30) United Kingdom (26 Sep 2023 5:23 PM) The UK supports the comments the EPP0 secretariat have submitted on behalf of those EPP0 member countries which are not part of the European Union.
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (29) European Union (26 Sep 2023 3:09 PM) The EU and its 27 MSs have no comments on this draft text.
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (28) New Zealand (26 Sep 2023 12:21 AM) This standard doesn't refer to ISPM 42 but the Cold treatment for Thaumatotibia leucotreta on Citrus sinensis (2017-029) does. This treatment should be applied in accordance with the requirements of ISPM 42 (Requirements for the use of temperature treatments as phytosanitary measures). The fruit should reach the treatment temperature before treatment exposure time

			commences. The fruit surface temperature should be monitored and recorded, and the temperature should not drop below the stated level throughout the duration of the treatment.
G	(General Comment)	C	<i>Category : TECHNICAL</i> (26) IPPC Regional Workshop Africa (23 Sep 2023 3:49 PM) Useful
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (25) IPPC Regional Workshop Africa (23 Sep 2023 3:49 PM) We support Draft Annex to ISPM 28
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (24) Malawi (23 Sep 2023 2:42 PM) We support the draft Annex to ISPM 28
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (12) EPPO (19 Sep 2023 9:21 AM) EPPO has no comments on this draft
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i>  Mexico (10) Mexico (15 Sep 2023 7:16 PM) Mexico has reviewed and supports the Draft annex to ISPM 28: Vapour heat treatment for <i>Planococcus lilacinus</i> (2021-028) in its current format.
G	(General Comment)	C	<i>Category : EDITORIAL</i> (6) Guyana (4 Sep 2023 1:27 AM) Guyana has no objection to the draft annex to ISPM 28: Vapour heat treatment for <i>Planococcus lilacinus</i>
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (5) Kenya (28 Aug 2023 3:25 PM) Kenya is in agreement with the proposed draft. No comments
G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (4) Thailand (22 Aug 2023 5:39 AM) Thailand agreed with the proposed draft annex to ISPM 28: Vapour heat treatment for <i>Planococcus lilacinus</i>
1	DRAFT ANNEX TO ISPM 28: Vapour heat treatment for <i>Planococcus lilacinus</i> (2021-028) ON SELENICEREUS UNDATUS(2021-028)	P	<i>Category : SUBSTANTIVE</i> (34) China (28 Sep 2023 7:43 AM) The treatment schedule was formulated following the research conducted by Ren et al. (2021) and only the <i>Selenicereus undatus</i> fruits were used for testing. In accordance with the guidelines outlined in ISPM 28, specifically PT 15, PT 21, PT 30, PT

			31, and PT 32, it is important to note that the scope of this treatment pertains exclusively to <i>Selenicereus undatus</i> .
1	DRAFT ANNEX TO ISPM 28: Vapour heat treatment for <i>Planococcus lilacinus</i> (2021-028)	C	<i>Category : TECHNICAL</i> (13) Canada (20 Sep 2023 4:03 PM) General comment: Canada does not have comments on the draft Annex to ISPM 28: Vapour heat treatment for <i>Planococcus lilacinus</i>
31	Target regulated articles <i>Fruit of dragon fruit (Selenicereus undatus)</i> Host commodities of <i>Planococcus lilacinus</i>	P	<i>Category : SUBSTANTIVE</i> (35) China (28 Sep 2023 7:56 AM) The treatment schedule was formulated following the research conducted by Ren et al. (2021) and only the <i>Selenicereus undatus</i> fruits were used for testing. In accordance with the guidelines outlined in ISPM 28, specifically PT 15, PT 21, PT 30, PT 31, and PT 32, it is important to note that the scope of this treatment pertains exclusively to <i>Selenicereus undatus</i> .
31	Target regulated articles <i>Host commodities</i> of <i>Planococcus lilacinus</i>	C	<i>Category : TECHNICAL</i> (14) United States of America (20 Sep 2023 8:31 PM) Host commodities include species from 37 plant families and 74 genera. This seems too broad a target.
33	Preheating of the commodity to room-a temperature (25-of 25 °C)-C before treatment may be required to prevent surface condensation.	P	<i>Category : TECHNICAL</i> (11) Uruguay (18 Sep 2023 6:36 PM) To clarify
33	Preheating of the commodity to room-a temperature (25-of 25 °C)-C before treatment may be required to prevent surface condensation.	P	<i>Category : TECHNICAL</i> (9) COSAVE (13 Sep 2023 4:37 PM) To clarify
35	at a minimum of <i>95% relative humidity</i> ;	C	<i>Category : TECHNICAL</i> (40) Australia (29 Sep 2023 2:53 AM) Requesting clarity on the 95% RH minimum. We could not identify where in the paper (Ren et al 2021) recorded RH during confirmatory treatment was listed, nor during treatments for impact on fruit quality. ISPM42 section 3.2.2 says VHT uses hot moist air, but does not require that air to be at 95%. Other VHT PTs such as PT30 and PT31 require 95% RH but the associated paper (Heather et al 1997) says that the treatment was conducted at >95% RH. PT32 papaya has a requirement for 80% RH. In this case the authors have not stated the

			RH. Request clarity on whether 95% is required for efficacy for this treatment or whether the treatments were efficacious at a lower RH.
37	for 70 minutes once the fruit surface temperature has reached 49 °C.	C	<i>Category : SUBSTANTIVE</i> (27) New Zealand (26 Sep 2023 12:16 AM) For Author to consider. There is no reference to surface temperature in ISPM 42 and vapour heat only refers to core temperature. Guidance is needed on how to monitor surface temperature. Ren 2021 does not explain how it was done.
37	for 70 minutes once the <u>fruit-commodity</u> surface temperature has reached 49 °C.	P	<i>Category : TECHNICAL</i> (22) Japan (22 Sep 2023 4:30 AM) As 'Target regulated articles' indicates 'commodities f Planococcus lilacinus', commodity is more accurate than fruit.
37	for 70 minutes once the fruit <u>surface temperature</u> has reached 49 °C.	C	<i>Category : TECHNICAL</i> (15) United States of America (20 Sep 2023 8:32 PM) Measuring the surface temperature of the fruit makes sense when targeting a surface pest, but for uneven shaped fruit like dragon fruit, it may generate large variabilities depending on where and how the sensor is attached. Although Follet (2004) used surface temperature for vapor heat treatment and found that the surface was nearly the same as the air temperature, he used Chinese peas (which are thin, flat, and smooth) hanging individually in the chamber, which were easy to monitor. Can the authors describe in more detail how sensors were attached to dragon fruit and how fruit were arranged in the chamber?
38	Once the treatment is complete, <u>commoditiesfruits-</u> may be air-cooled using ambient air.	P	<i>Category : TECHNICAL</i> (23) Japan (22 Sep 2023 4:31 AM) As 'Target regulated articles' indicates 'commodities f Planococcus lilacinus', commodity is more accurate than fruit.
39	There is 95% confidence that the treatment according to this schedule kills not less than <u>99.9910%</u> of all life stages of <i>Planococcus lilacinus</i> .	C	<i>Category : TECHNICAL</i> (16) United States of America (20 Sep 2023 8:33 PM) Evidence from Ren et al. (2021) suggests treatment is efficacious for the immature/nymph and adult stages of this

		cryptic surface pest even on a commodity with ideal fruit architecture to conceal it. But they do not describe how the pest insects were established on the target commodity (Dragon Fruit). Instead, they described how potatoes that were used in the initial tolerance tests were infested. Was the target commodity infested in the same way?
41	In evaluating this treatment, the Technical Panel on Phytosanitary Treatments considered issues associated with temperature regimes and thermal conditioning, taking into account the work of Hallman and Mangan (1997).	<p>C <i>Category : SUBSTANTIVE</i> (37) China (28 Sep 2023 7:58 AM) According to the confirmatory trials in the paper by Ren et al. (2021), did all the test insects successfully infest the dragon fruit? In terms of heat tolerance, is there a difference between naturally-infested mealybug individuals and the naked adult females (unattached to dragon fruit) ?</p> <p>When possible, colonized target arthropod should be no older than three generations at the initiation of the tests, without re-stocking, and maintained on natural hosts to maintain normal physiology and behavior. Otherwise, an experiment to compare treatment efficacy between laboratory and wild populations may be necessary according to the relevant regulation, for example NAPPO RSPM 34 (Development of Phytosanitary Treatment Protocols for Regulated Arthropod Pests of Fresh Fruits or Vegetables). The practical observations from the experiment revealed that the relocation of adult female insects posed a notable challenge in re-infesting new hosts. The subsequent corroborative experiment, as detailed in the paper, reported an average infestation of more than 229 adult female mealybugs per dragon fruit. Nonetheless, the methodology employed to guarantee the successful infested (fixed) of all these insects to the dragon fruit lacks elaboration. As a result, we don't know how many mealybugs fixed on the fruits? The mealybugs successfully infest on to the dragon fruit might possess a higher heat tolerance compared to the scattered mealybugs within the container.</p>
41	In evaluating this treatment, the Technical Panel on Phytosanitary Treatments	<p>C <i>Category : SUBSTANTIVE</i> (36) China (28 Sep 2023 7:58 AM)</p>

<p>considered issues associated with temperature regimes and thermal conditioning, taking into account the work of Hallman and Mangan (1997).</p>	<p>In the experiment described by Ren et al. (2021), not all life stages of the cacao mealybug were tested. We suggest that the submitter should continue testing the tolerance of preoviposition adult females and oviposition adult females to heat treatment in order to determine the most tolerant stage.</p> <p>Ren et al. (2021) did not assess the developmental timeline of the cacao mealybug. Their investigation solely focused on instars younger than 26 days, consequently preventing confirmation that the age range spanning 19 to 26 days signifies the female adult stage of the mealybug.</p> <p>Based on the developmental timetable experiment results conducted under similar conditions by Ming Gao (2019) and Ma et al. (2022), the nymphal stage of this insect lasts approximately 28-30 days, and the pre-oviposition females take 7 days to develop into ovipositional females. The study conducted by Mukhopadhyay & Ghose (2009) also unveiled that the nymphal phase of the cacao mealybug endured for approximately 17 to 32 days. Additionally, the female adults exhibited a pre-oviposition period of 6 days, all within the temperature range of 25 to 31.5°C.</p> <p>Reference: Gao, M. 2019. Phytosanitary fumigation treatment of <i>Planococcus lilacinus</i> (Cockerell) (Pseudococcidae: Homoptera) using gaseous phosphine. master's thesis. Haerbin: Heilongjiang University. Mukhopadhyay A.K., Ghose S.K. 1999. Biology of the Mealybug <i>Planococcus lilacinus</i> (Cockerell) (Pseudococcidae: Homoptera), <i>Environment & Ecology</i>, 17(2): 464-466. Ma, C., Liu, H., Liu, B., Zhao, J. P., Zhao, Q. Y., Song, Z. J., ... & Zhan, G. P. (2022). Gamma and X-ray irradiation as a phytosanitary treatment against various stages of <i>Planococcus lilacinus</i> (Hemiptera: Pseudococcidae). <i>Journal of Asia-Pacific</i></p>
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43	All life stages were tested except the egg stage, as <i>Planococcus lilacinus</i> is mostly ovoviviparous (eggs hatch before laying).	C Entomology, 25(4), 102009. Category : TECHNICAL (18) United States of America (20 Sep 2023 8:35 PM) Ren et al. (2021) did not test the egg stage of the pest because the species is "mostly ovoviviparous (eggs hatch before laying)". "Mostly" implies there might be exceptions. Is there any evidence to show under what conditions or at what rate ovoviviparous reproduction occurs in <i>P. lilacinus</i> ? The study by Follet (2004) on <i>M. hirsutus</i> indicates that eggs of some mealybugs may be more heat resistant than other life stages. Can the authors provide evidence to support a conclusion that all eggs carried by the tested adult females were killed by the treatment? Can the authors describe how many of the adult females were carrying eggs?
43	All life stages were tested except the egg stage, as <i>Planococcus lilacinus</i> is mostly ovoviviparous (eggs hatch before laying).	C Category : TECHNICAL (17) United States of America (20 Sep 2023 8:34 PM) Ren et al. (2021) did not clearly describe the number of mealybugs tested in each replicate in the tests of life stage tolerance, and they did not test further once 100% mortality was reached. Best practice for dose response testing is to test doses somewhat above the expected effective dose, especially with small sample sizes. Note that Follet (2004) found some survival of adults after 40 minutes at 47°C even though he had found 100% adult mortality after 35 minutes at the same temperature.
44	The efficacy of this schedule was calculated based on a total of 33 195 female adults of <i>Planococcus lilacinus</i> treated with no survivors.	C Category : TECHNICAL (21) United States of America (20 Sep 2023 8:37 PM) Can the authors make their raw data for all the trials available? This would facilitate review and could increase confidence in the conclusions.
45	Extrapolation of treatment efficacy to all host commodities was based on knowledge and experience that surface pests are exposed to the heat regardless of the nature of the host with which they are associated, and evidence from research studies on a variety of pests and commodities. These include studies on the thermal death kinetics of insects (Neven, 2000; Wang, Tang and Hansen, 2007). It is	C Category : TECHNICAL (41) Australia (29 Sep 2023 2:55 AM) It appears this has been extrapolated from tests on dragon fruit. Request the TPPT to consider whether this is sufficient evidence for extrapolation to other host commodities including coffee, avocado, grape, mango and

	<p>recognized, however, that treatment efficacy has not been tested for all potential hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, then the treatment will be reviewed.</p>	<p>lychee based on previous PT development.</p>
45	<p>Extrapolation of treatment efficacy to all host commodities was based on knowledge and experience that surface pests are exposed to the heat regardless of the nature of the host with which they are associated, and evidence from research studies on a variety of pests and commodities. These include studies on the thermal death kinetics of insects (Neven, 2000; Wang, Tang and Hansen, 2007). It is recognized, however, that treatment efficacy has not been tested for all potential hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, then the treatment will be reviewed.</p>	<p>C <i>Category : TECHNICAL</i> (20) United States of America (20 Sep 2023 8:37 PM) Hosts of <i>Planococcus lilacinus</i> include plant species from 37 families and 74 genera (ScaleNet), which could vary greatly in fruit size, structure, heat sensitivity, and effect on pest tolerance. No supporting studies have been presented testing the efficacy of this treatment against <i>P. lilacinus</i> on any other commodities. We suggest that prescribing this treatment for all hosts of <i>P. lilacinus</i> may not be justified, and that if the IPPC-TPPT accepts the treatment that they consider limiting it to Dragon fruit until more commodities can be tested.</p>

Compiled comments in Spanish for 2023 First Consultation: 2021-028_Draft_PT_VHTPlanococcus

Summary

Participants

Name	Summary
Australia	Comments entered
Azerbaijan	No comment
Barbados	Barbados has no objections to the adoption of this protocol.
European Union Σ	The comments on the draft standard are submitted by the European Commission on behalf of the European Union and its 27 Member States.
Gabon	annexe validée
Malawi	We support the draft
Singapore	Singapore is supportive of this draft annex.

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Para	Text	T	Comment
38	Se tiene un nivel de confianza del 95 % en que el tratamiento conforme a este protocolo mate a no menos del 99,9910 % de todas las etapas de desarrollo de <i>Planococcus lilacinus</i> .	C	<i>Category : SUBSTANTIVE</i> (31) Colombia (27 Sep 2023 5:46 PM) La aceptación del tratamiento es de 99.9910 que no alcanza a igualar o superar el probit 9 (99.9968) Verificar si el nivel de aceptación de la prueba Probit 9 fue modificado en alguna norma anterior para aceptar o declinar la remisión del comentario sobre el nivel de mortalidad de la plaga.
40	Al evaluar este tratamiento, el Grupo técnico - <u>Técnico</u> sobre tratamientos fitosanitarios - <u>Tratamientos Fitosanitarios</u> consideró cuestiones relativas a los regímenes de temperaturas y el acondicionamiento térmico, teniendo en cuenta el trabajo de Hallman y Mangan (1997).	P	<i>Category : EDITORIAL</i> (32) Colombia (27 Sep 2023 5:48 PM) Se sugiere poner mayúscula en cada palabra por tratarse de un nombre propio.
43	La eficacia del presente protocolo se calculó sobre la base del tratamiento de 33 195 hembras adultas de <i>Planococcus lilacinus</i> , de las que no sobrevivió ninguna.	C	<i>Category : TECHNICAL</i> (33) Colombia (27 Sep 2023 5:49 PM) Verificar si el tamaño de la experimentación en los tratamientos cuarentenarios es posible que se acepte a mediana escala, ya que por lo general las pruebas de gran escala se hacen con 100 mil individuos.

Compiled comments in French for 2023 First Consultation: 2021-028_Draft_PT_VHTPlanococcus**Summary****Participants**

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Barbados	Barbados has no objections to the adoption of this protocol.
European Union Σ	The comments on the draft standard are submitted by the European Commission on behalf of the European Union and its 27 Member States.
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Para	Text	T	Comment
G	(General Comment)	C	<i>Category : EDITORIAL</i> (51) Sao Tomé and Príncipe (30 Sep 2023 11:21 PM) d'accord avec la norme
24	Le présent document décrit le traitement thermique à la vapeur des marchandises hôtes de <i>Planococcus lilacinus</i> visant à entraîner la mortalité de <i>Planococcus lilacinus</i> à tous les stades de développement au degré d'efficacité déclaré ¹ .	C	<i>Category : EDITORIAL</i> (38) Chad (28 Sep 2023 1:57 PM) visant à entraîner la mortalité de celui ci à tous les stades de développement au degré d'efficacité déclaré
35	à une humidité relative d'au moins 95 pour cent;	C	<i>Category : EDITORIAL</i> (39) Chad (28 Sep 2023 2:00 PM) à une humidité relative d'au moins 95 %
52	Problèmes potentiels liés à la mise en œuvre	C	<i>Category : TECHNICAL</i> (50) Sao Tomé and Príncipe (30 Sep 2023 11:13 PM) pas de commentaire