

## 2020 FIRST CONSULTATION

1 July – 30 September 2020

### Compiled comments for Draft PT: Cold treatment for *Thaumatotibia leucotreta* on *Citrus sinensis* (2017-029)

#### Summary of Comments

Name	Summary
Cuba	No hay comentarios al documento propuesto.
European Union	The Comments have been introduced by the European Commission on behalf of the European Union and its Member States.
Myanmar	No comment
OIRSA	Revisión Completa
Singapore	Singapore is supportive of this ISPM.
Viet Nam	Viet Nam would like to support agreement with this draft

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

FAO sequential number	Para	Text	T	Comment
1	G	(General Comment)	C	<b>Guyana</b> Guyana has no reservation regarding the draft document at this point. <i>Category : SUBSTANTIVE</i>
2	G	(General Comment)	C	<b>Australia</b> Australia has reviewed this phytosanitary treatment and is supportive of this treatment and the respective text. <i>Category : TECHNICAL</i>
3	G	(General Comment)	C	<b>Costa Rica</b> I agree with the draft. No comment <i>Category : SUBSTANTIVE</i>
4	G	(General Comment)	C	<b>Paraguay</b> Paraguay agrees with Cosave's comments <i>Category : TECHNICAL</i>
5	G	(General Comment)	C	<b>Argentina</b> We have no comments on this phytosanitary treatment <i>Category : SUBSTANTIVE</i>
6	G	(General Comment)	C	<b>Slovenia</b> Slovenia would like to formally endorse the EPPO comments submitted via the IPPC Online Comment System. <i>Category : TECHNICAL</i>
7	G	(General Comment)	C	<b>OIRSA</b> Sin comentarios trascendentales para este documento. <i>Category : SUBSTANTIVE</i>

8	G	(General Comment)	C	<b>Barbados</b> Barbados approves of the content of this draft. <i>Category : SUBSTANTIVE</i>
9	G	(General Comment)	C	<b>Mexico</b> I support the document as it is and I have no comments <i>Category : SUBSTANTIVE</i>
10	G	(General Comment)	C	<b>United States of America</b> The two schedules provided in this treatment are primarily based upon a study by Moore et al. 2017 that tested the efficacy of a range of times and temperatures of cold treatment for control of <i>Thaumatotibia leucotreta</i> (false codling moth) on citrus and diet. USDA treatment experts have expressed concerns about this treatment. USDA has been using a more conservative treatment based on Myburgh (1965), along with a systems approach for field pest suppression, for many years. During this time, detections of live <i>T. leucotreta</i> have occurred after treatment. The schedule USDA currently uses is -0.55°C or below for 22 continuous days, with 8 hours of treatment time added for each day or part of a day where the temperature is above 31.5 °F (-0.27 °C). After using this treatment schedule for many years, our impression is that the USDA treatment schedule is at the edge of (operational) treatment efficacy, and that pest pressure can result in interceptions of live pests. In addition, results from Myburgh (1965) suggest that a small percentage (0.03%) of <i>T. leucotreta</i> larvae could survive 1.11 °C for 21 days. However, we acknowledge there were limitations to this study. Literature Cited: Moore, S. D., W. Kirkman, P. R. Stephen, S. Albertyn, C. N. Love, T. G. Grout, and V. Hattingh. 2017. Development of an improved postharvest cold treatment for <i>Thaumatotibia leucotreta</i> (Meyrick) (Lepidoptera: Tortricidae). <i>Postharvest Biology and Technology</i> 125: 188-195. Myburgh, A. C. 1965. Low temperature sterilization of false codling moth, <i>Argyroplote leucotreta</i> Meyr., in export citrus. <i>Journal Ent. Soc. S. Africa</i> 28(5): 277-285. <i>Category : TECHNICAL</i>
11	G	(General Comment)	C	<b>Uruguay</b> We agree with the document as it is <i>Category : TECHNICAL</i>
12	G	(General Comment)	C	<b>Qatar</b> We don't have any comment <i>Category : SUBSTANTIVE</i>
13	G	(General Comment)	C	<b>Thailand</b> Thailand has no objection on the proposed draft Cold treatment for <i>Thaumatotibia leucotreta</i> on <i>Citrus sinensis</i> . <i>Category : SUBSTANTIVE</i>
14	G	(General Comment)	C	<b>Nigeria</b> NPPO Nigeria recommends the adoption of the DRAFT ANNEX TO ISPM 28: Cold treatment for <i>Thaumatotibia leucotreta</i> on <i>Citrus sinensis</i> . <i>Category : SUBSTANTIVE</i>
15	G	(General Comment)	C	<b>Malawi</b> We agree with draft annex <i>Category : SUBSTANTIVE</i>
DRAFT ANNEX TO ISPM 28: Cold treatment for <i>Thaumatotibia leucotreta</i> on <i>Citrus sinensis</i> (2017-029)				

16	1	<b>DRAFT ANNEX TO ISPM 28: Cold treatment for <i>Thaumatotibia leucotreta</i> on <i>Citrus sinensis</i> (2017-029)</b>	C	<b>Nepal</b> We don't have any comment on the document <i>Category : EDITORIAL</i>
17	1	<b>DRAFT ANNEX TO ISPM 28: Cold treatment for <i>Thaumatotibia leucotreta</i> on <i>Citrus sinensis</i> (2017-029)</b>	C	<b>Viet Nam</b> Viet Nam would like to support agreement with this draft <i>Category : SUBSTANTIVE</i>
18	1	<b>DRAFT ANNEX TO ISPM 28: Cold treatment for <i>Thaumatotibia leucotreta</i> on-<b>fruit of</b> <i>Citrus sinensis</i> (2017-029)</b>	P	<b>Botswana</b> <i>Category : EDITORIAL</i>
19	13	2018-05 <a href="#">SC-Standards Committee (SC)</a> added the topic to the TPPT work programme with priority 2.	P	<b>European Union</b> Abbreviation to be developed for its first use. <i>Category : EDITORIAL</i>
20	13	2018-05 <a href="#">SC-Standards Committee (SC)</a> added the topic to the TPPT work programme with priority 2.	P	<b>EPPO</b> Abbreviation to be developed for its first use. <i>Category : EDITORIAL</i>
Treatment description				
21	27	<b>Name of treatment</b> Cold treatment for <i>Thaumatotibia leucotreta</i> on <i>Citrus <del>sinensis</del>sinensis fruit</i>	P	<b>Botswana</b> <i>Category : EDITORIAL</i>
Treatment schedule				
22	33	<b>Schedule 1: 1.0 °C or below for 19 continuous days</b>	P	<b>European Union</b> Moved after previous schedule 2 for consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>
23	33	<b>Schedule 1: 1.0 °C or below for 19 continuous days</b>	P	<b>EPPO</b> Moved after previous schedule 2 for consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first).

				<i>Category : EDITORIAL</i>
24	34	<del>There is 95% confidence that the treatment according to this schedule kills not less than 99.9972% of eggs and larvae of <i>Thaumatotibia leucotreta</i>.</del>	P	<b>European Union</b> Moved after previous schedule 2 for consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>
25	34	<del>There is 95% confidence that the treatment according to this schedule kills not less than 99.9972% of eggs and larvae of <i>Thaumatotibia leucotreta</i>.</del>	P	<b>EPPO</b> Moved after previous schedule 2 for consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>
26	35	<b>Schedule 21: -0.2 °C or below for 16 continuous days</b>	P	<b>European Union</b> For consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>
27	35	<b>Schedule 21: -0.2 °C or below for 16 continuous days</b>	P	<b>EPPO</b> For consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>
28	36	There is 95% confidence that the treatment according to this schedule kills not less than 99.9969% of eggs and larvae of <i>Thaumatotibia leucotreta</i> . <u>Schedule 2: 1.0 °C or below for 19 continuous days</u> There is 95% confidence that the treatment according to this schedule kills not less than 99.9972% of eggs and larvae of <i>Thaumatotibia leucotreta</i> .	P	<b>European Union</b> Moved from [33] and [34] for consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>
29	36	There is 95% confidence that the treatment according to this schedule kills not less than 99.9969% of eggs and larvae of <i>Thaumatotibia leucotreta</i> . <u>Schedule 2: 1.0 °C</u>	P	<b>EPPO</b> Moved from [33] and [34] for consistency with the other phytosanitary treatments (the schedule with the lowest temperature should be presented first). <i>Category : EDITORIAL</i>

		<u>or below for 19 continuous days</u> There is 95% confidence that the treatment according to this schedule kills not less than 99.9972% of eggs and larvae of <i>Thaumatotibia leucotreta</i> .		
30	37	For both schedules, fruit must reach the treatment temperature before treatment exposure time commences. The fruit <u>core</u> temperature should be monitored and recorded, and the temperature should not exceed the stated level throughout the duration of the treatment.	P	<b>Japan</b> As defined in section 4.2 of ISPM 42, the fruit core temperature should be monitored during cold treatment, so add "core" to clarify the monitoring point. <i>Category : TECHNICAL</i>
31	37	For both schedules, fruit must reach the treatment temperature before treatment exposure time commences. The fruit temperature should be monitored and <del>recorded</del> <u>recorded internally</u> , and the temperature should not exceed the stated level throughout the duration of the treatment. <u>The treatment should be repeated if fluctuation in temperature intervals recorded.</u>	P	<b>Egypt</b> <i>Category : TECHNICAL</i>
32	38	This treatment should be applied in accordance with the requirements of ISPM 42 ( <i>Requirements for the use of temperature treatments as phytosanitary measures</i> ).	C	<b>Botswana</b> agreed <i>Category : SUBSTANTIVE</i>

Other relevant information			
33	41	Schedules 1 and 2 were based on the work of Moore <i>et al.</i> (2017) and were developed using the fourth- and fifth-instar larvae of <i>Thaumatotibia leucotreta</i> bred on an artificial diet. Research by Moore <i>et al.</i> (2016) demonstrated that larvae in artificial diet were at least as cold-tolerant as larvae in fruit.	<p>C</p> <p><b>China</b> The reference (Moore et al. 2016) shows that cold-tolerant of larvae in fruit is obviously stronger than that in artificial diet. The larvae in artificial diet can not be used in the large scale efficacy trials. It suggests the difference of cold-tolerant should be re-evaluated between the larvae in fruits and the larvae in diet. Moore S.D., Kirkman, W., Albertyn, S. &amp; Hattingh, V. 2016. Comparing the use of laboratory-reared and field-collected <i>Thaumatotibia leucotreta</i> (Lepidoptera: Tortricidae) larvae for demonstrating efficacy of postharvest cold treatments in citrus fruit. <i>Journal of Economic Entomology</i>, 109(4) 1571–1577. Erratum (2016), <i>Journal of Economic Entomology</i> 110(2): 793, doi:10.1093/jee/tow270. Explanation: The results (Table 2) in Moore et al. (2016) show that : the LD50 of the last instar larvae in fruits is higher than that of the larvae in diet, and the confidence intervals do not overlap. Although LD99.9 is an extrapolation value, the LD99.9 of the larvae in fruits is still higher than that of the larvae in diet at 2 °C, and the overlapping part of the confidence interval is very limited (18.19-25.58 vs. 16.96-19.40). If other more sensitive comparison methods such as lethal dose ratio test are used, the results may be significantly different. In addition, the commonly used predictive values such as LD90 and LD95 may also be significantly different. Therefore, it is suggested that the data of dose response test should be re-evaluated to clarify the cold-tolerance of larvae. <i>Category : SUBSTANTIVE</i></p>
34	43	The efficacy of schedule 2 was calculated based on 98 113 fourth- and fifth-instar larvae treated with no survivors. This number is based on 100 044 larvae corrected per replicate for control mortality; the average control mortality was 1.7%.	<p>C</p> <p><b>Botswana</b> agreed <i>Category : SUBSTANTIVE</i></p>