



2010-102: Draft Annex to ISPM 28:2007 - Cold treatment for *Ceratitis capitata* on *Citrus clementina* var. *Clemenules*

Comm no.	Para no.	Comment type	Comment	Explanation	Country
1.	G	Substantive	I support the document as it is and I have no comments		Lao People's Democratic Republic, Canada, Georgia, Thailand, Nepal, Barbados, Dominica, New Zealand, Korea, Republic of, Ghana, Belize, Australia
1.	G	Substantive	I support the document as it is and I have no comments		Burundi, Gabon
3.	G	Substantive	<u>Suggest to set specific operational procedures firstly taking example of the irradiation treatments and then draft the standards as annex.</u>	The specific operational procedures should be established as soon as possible, otherwise it can't provide guidance.	China
4.	G	Substantive	<u>Cold treatments should be put on hold to be revised only when the formal objection on treatments schedules presented at CPM 9 have been resolved.</u>	Cold treatments should be put on hold to be revised only when the formal objections on treatment schedules presented at CPM 9 have been resolved.	COSAVE, Uruguay, Chile, Brazil, Peru, Argentina
5.	G	Substantive	<u>Japan appreciates and supports development of phytosanitary treatments as international standards that can be used by a wide range of countries. With the understanding that the standard treatments should meet the requirements described in section 3 of ISPM 28, especially versatility of the treatment e.g. application should be applicable to a wide range of countries. Therefore, the proposed treatment schedule needs to be reviewed and verified taking into account the possible variation in cold tolerance of fruit fly population in different regions. In this context, available research data supporting existing treatment schedules should be collected from countries where <i>C. capitata</i> is present in order to verify if the proposed treatment schedule achieves the stated efficacy in a wide range of countries. For this purpose, Japan is willing to provide the IPPC Secretariat with available research data which were submitted by exporting countries, subject to the approval of these countries.</u>	According to the research data by Santaballa et al. (2009) in Spain which was referred to the proposed schedule (2°C or below for 16 continuous days)(2010-102), viable larvae (third instar) were found on Day 12 under the condition of 2±0.5°C. On the other hand, research data submitted by the other country to Japan showed that a viable larva (third instar) was found on Day 14 under the same temperature. These researches suggest possible regional differences in fruit fly populations in terms of cold tolerance.	Japan

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6.	G	Substantive	The frequency of temperature monitoring should be specified	For better implementation of the standard	OIRSA
7.	G	Technical	Disagree to adopt the draft annex for the conditions for adopting are not perfectly satisfied.	<p>1.High security of phytosanitary treatment requires a large number of studies and test data. The standard is based on only 1 reference, which can hardly support the cold treatment standard. 2.The study of the reference by Santaballa E. et al (2009)in the standard demonstrates a treatment schedule of 2°C or below for 16 continuous days. The study of the cold treatment for <i>Ceratitis capitata</i> on <i>Citrus sinensis</i> by De Lima et al. (2007) demonstrates a treatment schedule of “2 °C or below for 18 continuous days”, while the study by Willink et al. (2007) supports the schedule of “2 °C or below for 21 continuous days”, which indicates that there could be a big difference of low temperature tolerance between different geographical populations of <i>Ceratitis capitata</i>. And hence it may incur high phytosanitary risk that the draft standard extrapolates the study findings from a specific geographical population of <i>Ceratitis capitata</i> to all the populations of the species worldwide. 3.Pre-cooling before treatment, temperature monitoring and recording during the treatment have a direct influence on the efficiency. The draft standard sets only the temperature and duration requirements for the treatment without illustrating the approach to meeting such requirements. Some important operational requirements such as temperature monitoring and recording are not addressed in the draft at all. Should the draft standard be approved, the ambiguous and incomplete operational requirements could render the treatment invalid. Considering the wide application and significant influence of the cold treatment worldwide, it is recommended that taking the example of setting the series of irradiation treatment standards, an comprehensive operational standard similar to <</p>	China

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				<p>Guidelines for the Use of Irradiation as a Phytosanitary Measure> (ISPM 18) be set in advance to standardize the operational requirements including pre-cooling, temperature monitoring and recording, and then proceed to specific cold treatment measures. 4. There is no scientific basis to reflect the difference of the different variety Citrus.</p>	
8.	G	Technical		<p>The USA recommends that this treatment not be approved by the IPPC. Our concerns involve infestation of the fruit and the condition of the fruit fly colony used during this research, as follows: 1. Colony replenishment. It is important that test populations accurately represent wild insect populations. Therefore, regular replenishment of the colony with field-collected individuals is a critical component of phytosanitary treatment research. While Santaballa et al. (2009) stated that replenishment occurred periodically, few additional details (e.g., frequency, methodology) were provided. 2. Chemical treatment of study fruit. Fruit were treated with mineral oil and Malathion 50 at 0.2% five months before harvest, as well as receiving post-harvest fungicide and waxing treatments. No information was presented showing that these treatments have no effect on the fitness or survivability of <i>Ceratitis capitata</i>. The use of chemicals adds an additional, uncontrolled variable into the study. This is particularly concerning given the high control mortality rates observed in this study. 3. High control mortality. Based on the inoculation rate of the clementines, it appears that control mortality rates exceeded 90% in some replicates. While we recognize that this may partially be the result of the high inoculation rate of eggs into the clementines (i.e., 200 eggs/fruit), we are concerned that the colony used in this work may be the same colony used by Santaballa et al. (1995). In this latter paper, the</p>	United States of America

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				<p>survival rate of eggs to adults was only 53% in diet. 4. Artificial infestation. Santaballa et al. (2009) infested the commodity via artificial inoculation. However, they presented no information comparing the cold tolerance of Mediterranean fruit fly in artificially-infested clementines with naturally-infested clementines. The USA reviewed Santaballa et al. (2009) and an unpublished technical report outlining the same research in May 2012 at the request of Spain. We determined that there is uncertainty with regards to this research and it was not approved by USDA at that time. Since then, Spain has decided to proceed with a new cold treatment research project for Mediterranean fruit fly in clementines. The USDA and Spain finalized the research protocol for this project in November 2013 and research should be commencing this year. Therefore, it may be better for the IPPC to wait on approving a Spanish cold treatment for Mediterranean fruit fly in clementines until the new research has been completed. Literature Cited: Santaballa, E., R. Laborda, and M. Cerda. 2009. Quarantine cold treatment against <i>Ceratitidis capitata</i> (Wiedemann) (Diptera: Tephritidae) to export clementine mandarins to Japan. Bol. San. Veg. Plagas 35: 501-512. Santaballa, E., R. Laborda, and A. Dalmau. 1995. Report of quarantine cold treatment to control <i>Ceratitidis capitata</i> (Wied) to export oranges to Japan. Technical report.</p>	
9.	1	Editorial	Draft Annex to ISPM 28:2007: Cold treatment for <i>Ceratitidis capitata</i> on <i>Citrus</i> CLEMENTINA <u>clementina</u> var. <i>clemenules</i> (2010-102)	Name of species should be in small caps.	Singapore
10.	1	Editorial	Draft Annex to ISPM 28:2007: Cold treatment for <i>Ceratitidis capitata</i> on <i>Citrus</i> <u>clementina</u>CLEMENTINA var. <u>Clemenules</u> clemenules (2010-102)	1) Name of the species not in capitals. 2) "Clemenules" with a capital and not in italics if it is a cultivar name.	EPPO, European Union, Georgia, Serbia, Morocco

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11.	1	Editorial	Draft Annex to ISPM 28:2007: Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus clementina</i> CLEMENTINA var. <i>clemenules</i> (2010-102)	Edit	United States of America, Mexico												
12.	1	Translation	Draft Annex to ISPM 28:2007: Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus CLEMENTINA</i> var. <i>clemenules</i> (2010-102)	"Cold treatment for <i>Ceratitis capitata</i> " should be translated into Spanish as "Tratamiento con frío contra <i>Ceratitis capitata</i> "	OIRSA												
13.	2	Editorial	<table border="1"> <tr> <td>Status box</td> <td></td> </tr> <tr> <td>This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.</td> <td></td> </tr> <tr> <td>Date of this document</td> <td>2014-04-23</td> </tr> <tr> <td>Document category</td> <td>Draft Annex XX to ISPM 28:2007</td> </tr> <tr> <td>Current document stage</td> <td>2014-04 SC approved for MC</td> </tr> <tr> <td>Major stages</td> <td> 2010 Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus clementina</i> var. <i>cClemenules</i> Treatment submitted 2010-07 TPPT reviewed treatment and requested additional information 2012-05 TPPT received additional information 2012-12 TPPT requested additional information 2013-02 TPPT sent letter to Submitter through Secretariat 2013-05 Submitter responded </td> </tr> </table>	Status box		This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.		Date of this document	2014-04-23	Document category	Draft Annex XX to ISPM 28:2007	Current document stage	2014-04 SC approved for MC	Major stages	2010 Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus clementina</i> var. <i>cClemenules</i> Treatment submitted 2010-07 TPPT reviewed treatment and requested additional information 2012-05 TPPT received additional information 2012-12 TPPT requested additional information 2013-02 TPPT sent letter to Submitter through Secretariat 2013-05 Submitter responded	Variety names should not be capitalized. Global change.	United States of America
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			<p>2013-07 TPPT recommended to SC for MC only for var. <i>Clemenules</i></p> <p>2013-09 TPPT approved treatment schedule (virtual meeting)</p> <p>2014-02 SC e-decision for approval for MC</p> <p>2014-03 Secretariat applied changes suggested by forum and opened poll</p> <p>2014-03 SC approved draft treatment for MC via poll</p>		
			<p>Treatment lead</p> <p>2010-11 Mr Antarjo DIKIN (ID)</p> <p>2012-05 Mr Ray CANNON (UK)</p> <p>2012-12 Mr Andrew JESSUP (AU)</p>		
			<p>Secretariat notes</p> <p>2013-09 Secretariat started using previously revised footnote regarding treatment adoption</p> <p>2014-04 Editor edited text</p>		
14.	4	Editorial	<p>This treatment comprises the cold treatment of fruit of <i>Citrus clementina</i> var. <i>Clemenules</i>¹ to result in the mortality of eggs and larvae (all ages) of <i>Ceratitis capitata</i> (Mediterranean fruit fly) at the stated efficacy².</p>	<p>Edit. The Secretariat should ensure that all treatments not include the common name because common names are varied across regions and across languages. In addition, common names have</p>	<p>United States of America</p>

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				not been included in adopted standards.	
15.	4	Technical	This treatment comprises the cold treatment of fruit of <i>Citrus clementina</i> var. <i>Clemenules</i> ¹ to result in the mortality of eggs and larvae (all instars ^{ages}) of <i>Ceratitis capitata</i> (Mediterranean fruit fly) at the stated efficacy ² .	More technically correct	United States of America, Mexico
16.	4	Translation	This treatment comprises the cold treatment of fruit of <i>Citrus clementina</i> var. <i>Clemenules</i> ¹ to result in the mortality of eggs and larvae (all ages) of <i>Ceratitis capitata</i> (Mediterranean fruit fly) at the stated efficacy ² .	"This treatment comprises the cold treatment of fruit of <i>Citrus clementina</i> var. <i>Clemenules</i> to result in the mortality of eggs and larvae (all ages) of <i>Ceratitis capitata</i> (Mediterranean fruit fly) at the stated efficacy." should be translated into Spanish as "Este tratamiento consiste en el tratamiento con frío a frutos de <i>Citrus clementina</i> var. <i>Clemenules</i> para provocar la mortalidad de los huevos y larvas (de todas las edades) de <i>Ceratitis capitata</i> (mosca mediterránea de la fruta) con la eficacia indicada."	OIRSA
17.	6	Editorial	Name of treatment Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus clementina</i> var. <i>Clemenules</i>	Edit	United States of America
18.	6	Translation	Name of treatment Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus clementina</i> var. <i>Clemenules</i>	"Cold treatment for <i>Ceratitis capitata</i> " should be translated into Spanish as "Tratamiento con frío contra <i>Ceratitis capitata</i> "	OIRSA
19.	9	Editorial	Target pest <i>Ceratitis capitata</i> (Wiedemann)(Diptera: Tephritidae)(Mediterranean fruit fly)	Common name already given in paragraph [4].	EPPO, European Union, Georgia, Serbia, Morocco
20.	9	Editorial	Target pest <i>Ceratitis capitata</i> (Wiedemann)(Diptera: Tephritidae)(Mediterranean fruit fly)	Ensure that the Secretariat make these draft standards consistent with adopted standards (i.e. Species name, author, family/order information, no common name listed)	United States of America
21.	10	Editorial	Target regulated articles Fruit of <i>Citrus clementina</i> Hort. ex Tanaka (Clemenules)	According to Cottin 2002, 'Hort' should be changed to 'hort'	EPPO, European Union, Georgia, Serbia, Morocco
22.	10	Editorial	Target regulated articles Fruit of <i>Citrus clementina</i> Hort. ex Tanaka (C Clemenules)	Edit	United States of America
23.	13	Editorial	The efficacy is effective dose (ED) _{99.9906} at the 95% confidence level.	Not sure to fully understand this traditional sentence in PTs.	EPPO, Georgia, Serbia,

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					Morocco
24.	13	Translation	The efficacy is effective dose (ED) _{99.9906} at the 95% confidence level.	"The efficacy is effective dose (ED) _{99.9906} at the 95% confidence level" should be translated as "La eficacia es: dosis efectiva (DE) _{99.9906} a un nivel de confianza de 95%."	OIRSA
25.	16	Technical	Pre-cooling of the commodity to treatment temperature must may be required.	To align this para with para [14] where it states the fruit must reach the treatment temperature before the treatment starts.	United States of America
26.	17	Editorial	In evaluating this treatment the Technical Panel on Phytosanitary Treatments (TPPT) considered the technical justification for extending the treatment for all <i>Citrus reticulata</i> varieties and hybrids as originally submitted but recommended including only the one variety, "Clemenules", based on the work presented in Santaballa <i>et al.</i> (2009).	Spelling mistake (should be reticulata)	EPPO, European Union, Georgia, Serbia, Morocco
27.	19	Editorial	Santaballa, E., Laborda, R. & Cerdá, M. 2009. Quarantine cold treatment against <i>Ceratitidis capitata</i> (Wiedemann) (Diptera: Tephritidae) to export clementine mandarins to Japan. <i>Boletín de Sanidad Vegetal Plagas</i> , 35: 501–512 (in English).	A blank is missing after "Diptera:".	EPPO, European Union, Georgia, Serbia, Morocco
28.	19	Technical	Santaballa, E., Laborda, R. & Cerdá, M. 2009. Quarantine cold treatment against <i>Ceratitidis capitata</i> (Wiedemann) (Diptera:Tephritidae) to export clementine mandarins to Japan. <i>Boletín de Sanidad Vegetal Plagas</i> , 35: 501–512 (in English).	The US rejects this research because of use of chemicals and waxes to fruit during and post-harvest; no information on replenishing the colony; no tests on dead rate, 3% survival on diet in the colony; artificial infestation with no comparison to impact. See USA general comments	United States of America