



2010-103: Draft Annex to ISPM 28:2007 - Cold treatment for *Ceratitis capitata* on *Citrus sinensis* var. Navel and Valencia-late

Comm no.	Para no.	Comment type	Comment	Explanation	Country
1.	G	Editorial	For better implementation of the ISPM the requery of temperature monitoring should be defined	For better implementation of the ISPM the frequency of temperature monitoring should be defined	OIRSA
2.	G	Substantive	I support the document as it is and I have no comments		Singapore, Lao People's Democratic Republic, Canada, Thailand, Nepal, Barbados, New Zealand, Korea, Republic of, Ghana, Belize, Australia
3.	G	Substantive	Suggest to set specific operational procedures firstly taking example of the irradiation treatments and then draft the standards as annex.	The specific operational procedures should be established as soon as possible, otherwise it can't provide guidance.	China
4.	G	Substantive		The USA recommends that this treatment not be approved by the IPPC. Most of our concerns involved infestation of the fruit and the condition of the fruit fly colony used during this research. These concerns are 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. (1995) 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 either Metidation 40 at 0.1% or Malathion 50 at 0.2% in the field, 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	United States of America

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				survivability of <i>Ceratitits 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 colony and control mortality. Santaballa et al. (1995) showed that the survival rate of eggs to adults was only 3.84% in Navel oranges and 7.28% in Valencia oranges and control mortality exceeded 90% in many replicates. While we recognize that this may partially be the result of the high inoculation rate of eggs into the oranges (i.e., 200 eggs/fruit), we are concerned that this may also reflect issues with the colony. This is supported by the observation that the survival rate of eggs to adults was only 53% in diet (Santaballa et al. 1995). 4. Artificial infestation. Santaballa et al. (1995) 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. Literature Cited: Santaballa, E., R. Laborda, and A. Dalmau. 1995. Report of quarantine cold treatment to control <i>Ceratitits capitata</i> (Wied) to export oranges to Japan. Technical report.	
5.	G	Substantive	<u>This cold treatment is for the same species of Citrus of those treatments formally objected before CPM 9 and, for this reason, it should be revised after consideration of the formal objections presented.</u>	This cold treatment is for the same species of Citrus of those treatments formally objected before CPM 9 and, for this reason, it should be revised after consideration of the formal objections presented.	COSAVE, Uruguay, Chile, Brazil, Peru, Argentina
6.	G	Substantive	<u>(1) 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 to a wide range of countries, the proposed treatment schedule needs to be reviewed and verified taking into account the possible regional differences in fruit fly populations in terms of cold</u>	(1) According to the research data by Santaballa et al. (1995) in Spain, supporting this proposed treatment schedule (2 °C for consecutive 16 days)(2010-103), larvae survived on Day 10 at 2 °C. On the other hand, Wilink et al. (2007) referred by the draft schedule (2007-006A) showed that one larva from fruit fly population in	Japan

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			<p><u>tolerance. 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 that 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></p> <p><u>(2) Clarify the reason that target regulated article is Valencia-late.</u></p>	<p>Argentina survived on Day 19 at 2 °C. These researches suggest possible regional differences in fruit fly populations in terms of cold tolerance. Also the draft schedule established by using fruit fly population in Spain may not be applicable to the fruit fly population in Argentina. (2) According to Santaballa (1995), Vallencia was used in the experiment.</p>	
7.	G	Technical	<p><u>Disagree to adopt the draft annex for the conditions for adopting are not perfectly satisfied.</u></p>	<p>1.High security of phytosanitary treatment requires a large number of studies and test data. The standard is based on only 2 references, which can hardly support the cold treatment standard. 2.The study of the references 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</p>	China

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				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 < 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.	
8.	1	Editorial	Draft ANNnex to ISPM 28:2007: Cold treatment FORfor Ceratitits capitata on Citrus sinensis var. Navel and Valencia-late (2010-103)	1) Replace "ANNex" by "Annex". 2) Replace "FOR" by "for".	EPPO, European Union, Georgia, Serbia, Morocco
9.	1	Editorial	Draft AnnNNex to ISPM 28:2007: Cold treatment forFOR Ceratitits capitata on Citrus sinensis var. nNavel and yValencia-late (2010-103)	Edits. Variety names should not be capitalized. Suggest global change.	United States of America, Mexico
10.	1	Translation	Draft ANNex to ISPM 28:2007: Cold treatment FOR Ceratitits capitata on Citrus sinensis var. Navel and Valencia-late (2010-103)	"Cold treatment FOR Ceratitits capitata" should be translated into Spanish as "Tratamiento con frío contra Ceratitits capitata"	OIRSA
11.	4	Editorial	This treatment comprises the cold treatment of fruit of <i>Citrus sinensis</i> varieties Navel and Valencia-late ¹ to result in the mortality of eggs and larvae (all ages) of <i>Ceratitits capitata</i> (Mediterranean fruit fly) at the stated efficacy ² .	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 not been included in adopted standards.	United States of America
12.	4	Technical	This treatment comprises the cold treatment of fruit of <i>Citrus sinensis</i> varieties Navel and Valencia-late ¹ to result in the mortality of eggs and larvae (all ages <u>instars</u>) of <i>Ceratitits capitata</i> (Mediterranean fruit fly) at the stated efficacy ² .	More technically correct	United States of America
13.	4	Translation	This treatment comprises the cold treatment of fruit of <i>Citrus sinensis</i> varieties Navel and Valencia-late ¹ to result in the mortality of eggs and larvae (all ages) of <i>Ceratitits capitata</i> (Mediterranean fruit fly) at the stated	"This treatment comprises the cold treatment of fruit of Citrus sinensis varieties Navel and Valencia-late to result in the mortality of eggs	OIRSA

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			efficacy ² .	and larvae" should be translated into Spanish as "Este tratamiento consiste en el tratamiento con frío a frutos de Citrus sinensis de las variedades Navel y Valencia Late para provocar la mortalidad de huevos y larvas"	
14.	6	Translation	Name of treatment Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus sinensis</i> var. Navel and Valencia-late	"Cold treatment for <i>Ceratitis capitata</i> " should be translated into Spanish as "Tratamiento con frío contra <i>Ceratitis capitata</i> "	OIRSA
15.	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
16.	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
17.	12	Translation	2 °C (maximum fruit pulp temperature) or below for 16 continuous days.	"2 °C (maximum fruit pulp temperature) or below for 16 continuous days." should be translated into Spanish as "16 días consecutivos a 2 °C (temperatura máxima de la pulpa de la fruta) o por debajo."	OIRSA
18.	13	Editorial	The efficacy is: effective dose (ED) _{99,9959} at the 95% confidence level.	For better understanding	OIRSA
19.	13	Translation	The efficacy is effective dose (ED) _{99,9959} at the 95% confidence level.	"The efficacy is effective dose (ED) _{99,9959} at the 95% confidence level." should be translated into Spanish as "La eficacia es: dosis efectiva (DE) _{99,9959} a un nivel de confianza de 95%."	OIRSA
20.	16	Substantive	Pre-cooling of the commodity to treatment temperature must may be required.	To align it with paragraph 14 where fruit must reach treatment temperature before treatment starts.	United States of America
21.	19	Editorial	Cerdá, M., Santaballa, E. & Dalmau, A. 1997. <i>Report of quarantine cold treatment to control Ceratitis capitata (Wied.) to export Salustiana oranges to Japan.</i> Valencia, Spain, Universidad Politécnica de Valencia.	Needs a period. Technically, should be spelled out, but Secretariat to determine whether necessary. See same issue also in paragraph 20	United States of America