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Formal Objections to Draft ISPMs presented to adoption to CPM-9 (2014)
Agenda item 9.2
Prepared by the IPPC Secretariat

I. Background

1. The IPPC Standard setting procedure¹ states if a formal objection is received at least 14 days prior to the Commission meeting, the draft standard is returned to the Standards Committee (SC) for their consideration.
2. **The IPPC Secretariat received formal objections from Argentina, Chile, China, Japan, Uruguay, Paraguay and Republic of Korea.**
3. The details of the formal objections are in Attachment 1 listed by draft ISPM. Where one formal objection addressed several draft ISPMs, the Secretariat has adapted the text to match the format of Attachment 1.
4. Some formal objections contained one comment that addressed several drafts, this comment has been modified to apply to each specific draft ISPM.
5. The following draft ISPMs received formal objections:
 - Draft ISPM on Determination of host status of fruit to fruit fly (Tephritidae) (2006-031) as contained in CPM 2014/03_02

¹ See section 2, IPPC Standard setting procedure: <https://www.ippc.int/core-activities/governance/ippc-procedure-manual>

Phytosanitary Treatments:

- Cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A) as contained in CPM 2014/03_04
- Cold treatment for *Ceratitis capitata* on *Citrus reticulata* x *Citrus sinensis* (2007-206B) as contained in CPM 2014/03_05
- Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C) as contained in CPM 2014/03_06
- Cold treatment for *Bactrocera tryoni* on *Citrus sinensis* (2007-206E) as contained in CPM 2014/03_07
- Cold treatment for *Bactrocera tryoni* on *Citrus reticulata* x *Citrus sinensis* (2007-206F) as contained in CPM 2014/03_08
- Cold treatment for *Bactrocera tryoni* on *Citrus limon* (2007-206G) as contained in CPM 2014/03_09
- Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (2007-210) as contained in CPM 2014/03_10

6. The IPPC Standard setting procedure states that “In exceptional circumstances, not including DPs and PTs, there should be an opportunity for the CPM Chair, in consultation with the SC Chair and the Secretariat, to propose a discussion of the formal objection at the CPM meeting with the aim that the formal objection can be lifted and the ISPM be adopted.” For the draft ISPM on Determination of host status of fruit to fruit fly (Tephritidae) (2006-031) as contained in CPM 2014/03_02, this consultation has taken place and it has been determined this issue is complex and should be addressed by the SC.

ATTACHMENT 1

CPM 2014/03_02: Determination of host status of fruit to fruit fly (Tephritidae) (2006-031)

Formal objection presented by Uruguay and supported by Argentina, Chile, Paraguay and Peru

Uruguay hereby expresses formal objection to the draft standard *Determination of host status of fruit to fruit flies* (Tephritidae) (2006-031) in relation to the term “conditional host”, supported by the CPM-8 decision regarding Criteria to help determine whether a formal objection is technically justified.

At present the term “conditional host” is worldwide used by many NPPOs and fruit flies experts in a broader sense than this draft standard does.

This term is used for fruits (green bananas, mature green avocados) that occasionally can be hosts under specified conditions.

In addition the current use of conditional host is also recognized to be connected with the determination of host status in the laboratory which is not included in this draft, as laboratory trials carried out under artificial conditions are irrelevant to determine host status.

Aluja, recognized fruit fly expert, defines the term “conditional host” as “a host plant unequivocally not found infested in the field but can be infested under manipulated conditions, also called potential or artificial host”. As stated in the draft standard, these potential or artificial conditions “are inherent in laboratory tests in which fruit flies are presented with harvested fruit that undergoes rapid physiological changes and thereby may become more susceptible to infestation. In addition, it has been widely documented that under artificial conditions, females of polyphagous species will lay eggs in almost any fruit presented to them and, in most cases the larvae will develop into viable adults.”

As a result of aforementioned, a new definition of “conditional host” will be in contradiction with the present understanding of this term.

In order to avoid this confusion we support the TPFf approach of retaining the terms “natural host”, “non-natural host” and “non host” in the draft, taking into account that there are various terms that are used to describe host status and that it is important to reach an harmonization for common understanding.

In addition, the meaning of conditional host was discussed by the SC-7 and the TPFf in consultation with the Steward and they agreed to keep the term “non-natural host”.

Finally, the TPG was asked by the SC to check the term “conditional host”, whose suggestion was in line with the opinion of the SC-7, Steward and TPFf.

CPM 2014/03_04: Cold treatment for *Ceratitis capitata* on *Citrus sinensis* (2007-206A)

Formal objection presented by China

China believes that the conditions for adopting <Cold treatment for *Ceratitis capitata* on *Citrus sinensis*> (CPM 2014/03_04) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 4 references, among which only 3 are drawn from laboratory studies. And one of the major bases, i.e. the study by De Lima *et al.* (2007) is less rigorous and insufficient in data record and test design, which can hardly support the cold treatment standard.
2. The study of the cold treatment for *Ceratitis capitata* on *Citrus sinensis* 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 *Ceratitis capitata*. And hence it may incur high phytosanitary risk that the draft standard extrapolates the study findings from a specific geographical population of *Ceratitis capitata* to all the populations of the species worldwide.
3. As the bases for the draft standard, the studies by De Lima *et al.* (2007) and Willink *et al.* (2007) test only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk.
4. The ISPM should provide clear and definite treatment schedules for the purpose of consistent adoption of the Plant Protection Organizations of different countries. The temperature requirements are the same (2°C or below) in schedule 1 and schedule 3 in the draft standard, while the duration requirements are “18 continuous days” and “21 continuous days” respectively. Should the draft standard be approved, the Plant Protection Organizations of the contracting parties would be confused with the two different schedules of the same temperature, and dispute might arise between the Plant Protection Organizations of the importing and exporting countries.
5. The temperature requirements are the same in schedule 1 and schedule 3, the duration in schedule 1 is shorter than that in schedule 3, and hence the efficacy of schedule 3 should be better. However the ED value for schedule 1 is 99.9978, greater than that of 99.9917 for schedule 3 with the same cultivar “Valencia”, which constitutes an obvious logical error. Meanwhile, the ED value of schedule 3 is less than the scientific value of 99.9968, which will incur phytosanitary risk in practical application.
6. For most fruit flies, usually the third instar is the most tolerant larva stage for low temperature. The second instar larvae of *Ceratitis capitata* were tested by De lima *et al.* (2007), the reliability of the tolerance needs to be validated. Especially, it deserves much attention that there is a broad difference between the test results in the references and the phytosanitary treatment requirements which has been proven to be effective by the practical application by the contracting parties. For that reason, the draft standard should be treated cautiously and further test is in need.
7. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *Gidelines 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.

8. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

Formal objection presented by Japan

Japan appreciates the extensive discussions and efforts of the SC and the TPPT in developing important phytosanitary treatments over the years.

Japan would like to express its formal objections with regards to th[is] draft cold treatments because the schedule is not deemed to fulfil the requirements for phytosanitary treatment in section 3 of ISPM 28 [...].

Japan does not object to the treatment schedules proposed, insofar as they will be used in certain countries where research was conducted and they are well supported by research data and rationale for presenting the schedules. However Japan has concerns about the feasibility and applicability (especially versatility of the treatment e.g. application to a wide range of countries) of the above-mentioned four treatments proposed as international standards.

For the purpose of developing efficient phytosanitary treatments to be used as international standards by contracting countries that wish to use them, Japan suggests that the adoption of the said four standard treatments be suspended until the following points are reviewed.

This cold treatment standard provides two different treatment schedules for a cultivar Valencia at the same temperature (Schedule 1: 2 °C for 18 days, Schedule 3: 2 °C for 21 days) based on different research results, De Lima *et al.* (2007) and Willink *et al.* (2007a and b) respectively (Refer to Table A).

According to Willink *et al.* (2007b) which is the basis for Schedule 3 (2 °C for 21 days), one larva survived on day 19 at 2 °C. This result suggests that schedule 1 is not applicable to a wide range of countries where *C. capitata* is present, and for which in turn the schedules are lacking in versatility.

Furthermore, two different treatment periods for the same target regulated article (cultivar) at the same treatment temperature may cause unnecessary confusion about which schedule should be applied by the NPPOs.

The summary of research submitted by the exporting countries to Japan as well as data referred to in the draft ISPMs (Table attached to this document) shows differences between fruit fly populations in terms of their cold hardiness. This is likely because there are notable differences in treatment days for the same target article at the same treatment temperature (5-7days). Japan suggested in the member consultation in 2009 that the differences between fruit fly populations in terms of cold

hardiness possibly indicate tolerance (susceptibility) to cold treatment differs by origins. However, the TPPT concluded that “*while there were considered to be phenotypic differences (plasticity) induced by the environment and as a result of seasonal or geographical effects, it was not thought that this was a significant issue.*” (2010 TPPT Meeting Report) It has not been explained the rationale as to why the TPPT concluded the differences are not thought to be a significant issue in terms of effectiveness of phytosanitary treatment. Japan underlines the difference between fruit fly populations in terms of cold hardiness should be duly taken into account so that the treatments can achieve stated efficacy in any circumstances.

In addition, the proposed standard treatment on orange (CPM 2014/03_04) seems to support the differences between fruit fly populations in terms of their cold hardiness because it presents different treatment schedules (18 days / 21 days) at the same temperature (2.0°C) based on the different results conducted in different countries.

Suggestions for improvement to the draft ISPM

Japan would like to suggest that the said four standard treatments be reviewed while taking into account the following points, with the understanding that the standard treatment should be feasible and applicable to a wide range of countries without inviting any confusion in implementing them once they are adopted by the CPM.

1. It is requested that a treatment schedule which is the least restrictive measure available but is effective in disinfecting target pests in any circumstances be developed. It is also requested that available research data and existing treatment schedules used in many countries be collected.

For this purpose, Japan is willing to provide available research data submitted by exporting countries to the IPPC Secretariat when requesting export of their products to Japan, subject to the approval of these countries.

2. More detailed information on the rationale and validity of presenting draft standard treatments made by the SC and TPPT should be available to the contracting countries for their scrutiny.

Table. The results of cold treatment tests for Mediterranean fruit fly (*Ceratitis capitata*) on orange by country
[adapted by the IPPC Secretariat to fit this paper]

Country	Treatment temperature	The last day of viable larvae found (No of survivors)	Most tolerant life stage to cold	Data source	Referred in ISPM
A. <i>Ceratitis capitata</i> on orange (<i>Citrus sinensis</i>) CPM 2014/03_04 Schedule 1: 2 °C or below for 18 continuous days for cultivar “Navel” and “Valencia” Schedule 2: 3 °C or below for 20 continuous days for cultivar “Navel” and “Valencia” Schedule 3: 2 °C or below for 21 continuous days for cultivars “Washington Navel”, “Salustiana”, “Valencia” and “Lue Gim Gong”					
Country A	2.0 ± 0.5 °C	day 19 (one survived on day 18 and day 19)	3rd instar	Willink <i>et al.</i> (2007b) (Valencia)	✓
Country B	2.0 ± 0.5°C	day 14	2nd instar	De Lima <i>et al.</i> (2007) (Valencia)	✓
Country B	2.0 ± 0.5°C	day 14	2nd instar	De Lima <i>et al.</i> (2007) (Navel)	✓
Country C	2.0 °C	day 10	immature and mature instar	Data submitted to Japan (Valencia)	
Country C	2.0 °C	day 10	immature and mature instar	Data submitted to Japan (Navel)	
Country B	3.0 ± 0.5°C	day 16	2nd instar	De Lima <i>et al.</i> (2007) (Valencia)	✓
Country B	3.0 ± 0.5°C	day 16	2nd instar	De Lima <i>et al.</i> (2007) (Navel)	✓

“Data submitted to Japan” is research data referred in developing a schedule and submitted to Japan by exporting countries whose treatment temperature is 2 or 3 °C.

Formal objection presented by Republic of Korea

According to Willink et al (2007b), one larva survived on day 19 at 2C, which does not support the Schedule 1 (2C for 18 days).

In addition, 2 different periods were suggested at the same temperature (2C) for the same commodity which may lead confusion and debate. Rep. of KOREA hopes, ISPMs are developed with through analysis to provide effective and least trade restricted schedules in harmonized way.

CPM 2014/03_05: Cold treatment for *Ceratitis capitata* on *Citrus reticulata* × *C. sinensis* (2007-206B)

Formal objection presented by China

China believes that the conditions for adopting < Cold treatment for *Ceratitis capitata* on *Citrus reticulata* × *C. sinensis* > (CPM 2014/03_05) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 2 references among which only 1 is drawn from laboratory studies. And as the major basis for the draft standard, the study by De Lima *et al.* (2007) is less rigorous and insufficient in data record and test design, which can hardly support the cold treatment standard.
2. The study of the cold treatment for *Ceratitis capitata* on *Citrus sinensis* 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 *Ceratitis capitata*. And hence it may incur high phytosanitary risk that the draft standard extrapolates the study findings from a specific geographical population of *Ceratitis capitata* to all the populations of the species worldwide.
3. As the bases for the draft standard, the study by De Lima *et al.* (2007) tests only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk.
4. For most fruit flies, usually the third instar is the most tolerant larva stage for low temperature. The second instar larvae of *Ceratitis capitata* were tested by De Lima *et al.* (2007), the reliability of the tolerance needs to be validated. Especially, it deserves much attention that there is a broad difference between the test results in the references and the phytosanitary treatment requirements which has been proven to be effective by the practical application by the contracting parties. For that reason, the draft standard should be treated cautiously and further test is in need.
5. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *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.
6. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

Formal objection presented by Japan

Japan appreciates the extensive discussions and efforts of the SC and the TPPT in developing important phytosanitary treatments over the years.

Japan would like to express its formal objections with regards to th[is] draft cold treatments because the schedule is not deemed to fulfil the requirements for phytosanitary treatment in section 3 of ISPM 28 [...].

Japan does not object to the treatment schedules proposed, insofar as they will be used in certain countries where research was conducted and they are well supported by research data and rationale for presenting the schedules. However Japan has concerns about the feasibility and applicability (especially versatility of the treatment e.g. application to a wide range of countries) of the above-mentioned four treatments proposed as international standards.

For the purpose of developing efficient phytosanitary treatments to be used as international standards by contracting countries that wish to use them, Japan suggests that the adoption of the said four standard treatments be suspended until the following points are reviewed.

According to Willink *et al.* (2007b), four larvae survived on day 20 at 2 °C and one larva survived on day 21 at 2 °C. It shows that the treatment schedule presented for tangor (2 °C for 18 days) supported by De Lima *et al.* (2007) referred to in CPM 2014/03_5 may not achieve the stated efficacy for the fruit fly population in the research of Willink *et al.* (2007b). It means the treatment schedule is not an efficient phytosanitary treatment in terms of its applicability (Refer to Table B).

The summary of research submitted by the exporting countries to Japan as well as data referred to in the draft ISPMs (Table attached to this document) shows differences between fruit fly populations in terms of their cold hardiness. This is likely because there are notable differences in treatment days for the same target article at the same treatment temperature (5-7days). Japan suggested in the member consultation in 2009 that the differences between fruit fly populations in terms of cold hardiness possibly indicate tolerance (susceptibility) to cold treatment differs by origins. However, the TPPT concluded that “*while there were considered to be phenotypic differences (plasticity) induced by the environment and as a result of seasonal or geographical effects, it was not thought that this was a significant issue.*” (2010 TPPT Meeting Report) It has not been explained the rationale as to why the TPPT concluded the differences are not thought to be a significant issue in terms of effectiveness of phytosanitary treatment. Japan underlines the difference between fruit fly populations in terms of cold hardiness should be duly taken into account so that the treatments can achieve stated efficacy in any circumstances.

In addition, the proposed standard treatment on orange (CPM 2014/03_04) seems to support the differences between fruit fly populations in terms of their cold hardiness because it presents different treatment schedules (18 days / 21 days) at the same temperature (2.0°C) based on the different results conducted in different countries.

Suggestions for improvement to the draft ISPM

Japan would like to suggest that the said four standard treatments be reviewed while taking into account the following points, with the understanding that the standard treatment should be feasible and applicable to a wide range of countries without inviting any confusion in implementing them once they are adopted by the CPM.

1. It is requested that a treatment schedule which is the least restrictive measure available but is effective in disinfecting target pests in any circumstances be developed. It is also requested that available research data and existing treatment schedules used in many countries be collected.

For this purpose, Japan is willing to provide available research data submitted by exporting countries to the IPPC Secretariat when requesting export of their products to Japan, subject to the approval of these countries.

2. More detailed information on the rationale and validity of presenting draft standard treatments made by the SC and TPPT should be available to the contracting countries for their scrutiny.

Table. The results of cold treatment tests for Mediterranean fruit fly (*Ceratitidis capitata*) on tangor by country
[adapted by the IPPC Secretariat to fit this paper]

Country	Treatment temperature	The last day of viable larvae found (No of survivors)	Most tolerant life stage to cold	Data source	Referred in ISPM
B. <i>Ceratitidis capitata</i> on tangor (<i>Citrus reticulata</i> × <i>C. sinensis</i>) CPM 2014/03_05 Schedule 1: 2 °C or below for 18 continuous days, Schedule 2: 3 °C or below for 20 continuous days					
Country A	2.0 ± 0.5°C	day 21 (four survived on day 20, one on day 21)	3rd instar	Willink <i>et al.</i> (2007b)	
Country B	2.0 ± 0.5°C	day 14	2nd instar	De Lima <i>et al.</i> (2007)	✓
Country B	3.0 ± 0.5°C	day 16	2nd instar	De Lima <i>et al.</i> (2007)	✓

"Data submitted to Japan" is research data referred in developing a schedule and submitted to Japan by exporting countries whose treatment temperature is 2 or 3 °C.

Formal objection presented by Republic of Korea

According to Willink et al (2007b), there were 4 larvae survived on day 20 at 2C and 1 larva on day 21 at 2C, which does not support the proposed schedule (2C for 18 days).

CPM 2014/03_06Rev1: Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C)

Formal objection presented by China

China believes that the conditions for adopting < Cold treatment for *Ceratitis capitata* on *Citrus limon* > (CPM 2014/03_06Rev1) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 3 references among which only 1 is drawn from laboratory studies. And as the major basis for the draft standard, the study by De Lima *et al.* (2007) is less rigorous and insufficient in data record and test design, which can hardly support the cold treatment standard.
2. The study of the cold treatment for *Ceratitis capitata* on *Citrus sinensis* 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 *Ceratitis capitata*. And hence it may incur high phytosanitary risk that the draft standard extrapolates the study findings from a specific geographical population of *Ceratitis capitata* to all the populations of the species worldwide.
3. As the bases for the draft standard, the study by De Lima *et al.* (2007) tests only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk
4. For most fruit flies, usually the third instar is the most tolerant larva stage for low temperature. Second instar larvae of *Ceratitis capitata* were tested by De Lima *et al.* (2007), the reliability of the tolerance needs to be validated. Especially, it deserves much attention that there is a broad difference between the test results in the references and the phytosanitary treatment requirements which has been proven to be effective by the practical application by the contracting parties. For that reason, the draft standard should be treated cautiously and further test is in need.
5. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *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.
6. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

Formal objection presented by Argentina and supported by Chile, Paraguay, Perú and Uruguay

Argentina hereby expresses a formal objection with regard to the draft cold treatment for *Ceratitidis capitata* on *Citrus limon* (2007-206C) - Draft Annex to ISPM 28:2007.

We submit this formal objection in the framework of the “Criteria to help determine whether a formal objection is technically justified” and supported by the items whereby “parts of the draft ISPM conflict with the provisions of the IPPC” and the formal objection “is supported by scientific justification or other technical evidence” and it “considers the potential effects on the product quality and intended use of the regulated article”.

We are concerned about the practical feasibility of adopting this cold treatment and its implications on the quality of lemon fruits.

For many years Argentina has tried to export lemons to countries like Japan applying cold treatments for the control of Fruit Fly. Nowadays, we have stopped sending fresh lemons because of huge cold damage on fruits.

The December 2012 TPPT meeting has analyzed and responded to the SC’s concerns about chilling injury in lemons during in-transit cold disinfestation. They have mentioned that “chilling injury symptoms have occurred at various times and caused significant losses to fruit quality as well as to grower and exporter incomes due to loss of market value and acceptability”. TPPT describes then instances where chilling injury has occurred. In the first numeral (In-transit temperatures have fallen to below the target temperature for prolonged periods) the Argentinean case is cited. Here it can be read that “in order to make sure the treatment is completed, the temperature is maintained at greater than 2°C below the target disinfestation temperature during the whole trip (40 to 50 days), and this situation has been known to result in chilling injury”.

While 40 to 50 days is not part of the treatment schedule, it is not possible to apply treatment for lemons exports from Argentina, because this is a common time period for a shipment. This situation should not be acceptable taking into account the “Feasibility and applicability” issue stated under point 3.3 of ISPM 28. The sixth indent under this point stated that feasibility and applicability includes items such as “versatility of the phytosanitary treatment (e.g. application to a wide range of countries, pests and commodities)”.

In addition, according to the item “other relevant information” in the draft treatment, *Citrus limon* is considered to be a conditional host of *Ceratitidis capitata*. However the conditions under which the fruit is a host (when the treatment could be required) are not mentioned. *Citrus limon* is only a host of *Ceratitidis capitata* under particular conditions (high pest population together with physiological condition of the fruit). Fruit in these conditions is not harvested for export.

Taking into account mentioned above, we consider this cold treatment would not be an alternative phytosanitary measure. Moreover, CPM has adopted other ISPMs (Systems Approach for fruit flies, areas of low pest prevalence for fruit flies) that could be options for pest risk management according to the results of PRA

Adoption of this treatment would imply trade restrictions for some countries, contrary to the purpose of trade facilitation of international standards.

Argentina has profuse experience as technical evidence about the practical impossibility of applying cold treatment on *Citrus limon* for countries like Japan.

We kindly invite CPM not to proceed or encourage the adoption of phytosanitary treatments which are not able to be applied by some countries.

Formal objection presented by Japan

Japan appreciates the extensive discussions and efforts of the SC and the TPPT in developing important phytosanitary treatments over the years.

Japan would like to express its formal objections with regards to th[is] draft cold treatments because the schedule is not deemed to fulfil the requirements for phytosanitary treatment in section 3 of ISPM 28 [...].

Japan does not object to the treatment schedules proposed, insofar as they will be used in certain countries where research was conducted and they are well supported by research data and rationale for presenting the schedules. However Japan has concerns about the feasibility and applicability (especially versatility of the treatment e.g. application to a wide range of countries) of the above-mentioned four treatments proposed as international standards.

For the purpose of developing efficient phytosanitary treatments to be used as international standards by contracting countries that wish to use them, Japan suggests that the adoption of the said four standard treatments be suspended until the following points are reviewed.

The treatment schedule for lemon (2°C for 16 days or 3°C for 18 days) does not demonstrate effectiveness because data submitted to Japan shows that one larva survived on day 17 at 2°C and on day 22 at 3°C respectively (Refer to Table C).

The summary of research submitted by the exporting countries to Japan as well as data referred to in the draft ISPMs (Table attached to this document) shows differences between fruit fly populations in terms of their cold hardiness. This is likely because there are notable differences in treatment days for the same target article at the same treatment temperature (5-7days). Japan suggested in the member consultation in 2009 that the differences between fruit fly populations in terms of cold hardiness possibly indicate tolerance (susceptibility) to cold treatment differs by origins. However, the TPPT concluded that *“while there were considered to be phenotypic differences (plasticity) induced by the environment and as a result of seasonal or geographical effects, it was not thought that this was a significant issue.”* (2010 TPPT Meeting Report) It has not been explained the rationale as to why the TPPT concluded the differences are not thought to be a significant issue in terms of effectiveness of phytosanitary treatment. Japan underlines the difference between fruit fly populations in terms of cold hardiness should be duly taken into account so that the treatments can achieve stated efficacy in any circumstances.

In addition, the proposed standard treatment on orange (CPM 2014/03_04) seems to support the differences between fruit fly populations in terms of their cold hardiness because it presents different treatment schedules (18 days / 21 days) at the same temperature (2.0°C) based on the different results conducted in different countries.

Suggestions for improvement to the draft ISPM

Japan would like to suggest that the said four standard treatments be reviewed while taking into account the following points, with the understanding that the standard treatment should be feasible and applicable to a wide range of countries without inviting any confusion in implementing them once they are adopted by the CPM.

1. It is requested that a treatment schedule which is the least restrictive measure available but is effective in disinfecting target pests in any circumstances be developed. It is also requested that available research data and existing treatment schedules used in many countries be collected.

For this purpose, Japan is willing to provide available research data submitted by exporting countries to the IPPC Secretariat when requesting export of their products to Japan, subject to the approval of these countries.

2. More detailed information on the rationale and validity of presenting draft standard treatments made by the SC and TPPT should be available to the contracting countries for their scrutiny.

Table. The results of cold treatment tests for Mediterranean fruit fly (*Ceratitis capitata*) on lemon by country
[adapted by the IPPC Secretariat to fit this paper]

Country	Treatment temperature	The last day of viable larvae found (No of survivors)	Most tolerant life stage to cold	Data source	Referred in ISPM
C. <i>Ceratitis capitata</i> on lemon (<i>Citrus limon</i>) CPM 2014/03_06Rev1 Schedule 1: 2 °C or below for 16 continuous days, Schedule 2: 3 °C or below for 18 continuous days					
Country A	2.0 ± 0.5 °C	day 17 (one survived on day 16 and day 17)	3rd instar	Data submitted to Japan	
Country B	2.0 ± 0.5°C	day 12	2nd instar	De Lima <i>et al.</i> (2007)	✓
Country C	2.0 ± 0.5°C	day 10	egg (48 hrs)	Data submitted to Japan	
Country A	3.0 ± 0.5 °C	day 22 (one survived on day 21 and day 22)	3rd instar	Data submitted to Japan	
Country B	3.0 ± 0.5°C	day 14	2nd instar	De Lima <i>et al.</i> (2007)	✓

“Data submitted to Japan” is research data referred in developing a schedule and submitted to Japan by exporting countries whose treatment temperature is 2 or 3 °C.

CPM 2014/03_07: Cold treatment for *Bactrocera tryoni* on *Citrus sinensis* (2007-206E)

Formal objection presented by China

China believes that the conditions for adopting < Cold treatment for *Bactrocera tryoni* on *Citrus sinensis* > (CPM 2014/03_07) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 2 references among which only 1 is drawn from laboratory studies. And as the major basis for the draft standard, the study by De Lima *et al.* (2007) is less rigorous and insufficient in data record and test design, which can hardly support the cold treatment standard.

2. As the bases for the draft standard, the study by De Lima *et al.* (2007) tests only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk.

3. For most fruit flies, usually the third instar is the most tolerant larva stage for low temperature. The first instar larvae of *Bactrocera tryoni* were tested by De Lima *et al.* (2007), the reliability of the tolerance needs to be validated. Especially, it deserves much attention that there is a broad difference between the test results in the references and the phytosanitary treatment requirements which has been proven to be effective by the practical application by the contracting parties. For that reason, the draft standard should be treated cautiously and further test is in need.

4. In the draft standard submitted for member consultation in 2009, there were two treatment schedules, namely “2°C or below for 16 continuous days” and “3°C or below for 16 continuous days”. Without support from further test data or other scientific justification, the current draft directly deletes the schedule “2°C or below for 16 continuous days” and keeps only the schedule “3°C or below for 16 continuous days” based on the only 1 empirical reference. China considers that such deletion is poorly scientifically justified.

5. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *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.

6. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

CPM 2014/03_08: *Bactrocera tryoni* on *Citrus reticulata* x *C. sinensis* (2007-206F)

Formal objection presented by China

China believes that the conditions for adopting < Cold treatment for *Bactrocera tryoni* on *Citrus reticulata* x *C. sinensis* > (CPM 2014/03_08) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 2 references among which only 1 is drawn from laboratory studies. And as the major basis for the draft standard, the study by De Lima *et al.* (2007) is less rigorous and insufficient in data record and test design, which can hardly support the cold treatment standard.
2. As the bases for the draft standard, the study by De Lima *et al.* (2007) tests only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk.
3. For most fruit flies, usually the third instar is the most tolerant larva stage for low temperature. The first instar larvae of *Bactrocera tryoni* were tested by De Lima *et al.* (2007), the reliability of the tolerance needs to be validated. Especially, it deserves much attention that there is a broad difference between the test results in the references and the phytosanitary treatment requirements which has been proven to be effective by the practical application by the contracting parties. For that reason, the draft standard should be treated cautiously and further test is in need.
4. The ED value of a study is fixed when the tests are completed. However, the ED value was 99.9989 in the draft submitted for member consultation in 2009, 99.9980 in the draft submitted to CPM 7, 99.9970 in the draft revised by the TPPT in 2012, and finally 99.9986 in the current draft to be submitted to CPM 9, which shows that the draft standard is obviously inadequate in rigor.
5. In the draft standard submitted for member consultation in 2009, there were two treatment schedules, namely “2°C or below for 16 continuous days” and “3°C or below for 16 continuous days”. Without support from further test data or other scientific justification, the current draft directly deletes the schedule “2°C or below for 16 continuous days” and keeps only the schedule “3°C or below for 16 continuous days” based on the only 1 empirical reference. China considers that such deletion is poorly scientifically justified.
6. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *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.
7. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

CPM 2014/03_09: Cold treatment for *Bactocera tryoni* on *Citrus limon* (2007-206G)

Formal objection presented by China

China believes that the conditions for adopting < Cold treatment for *Bactocera tryoni* on *Citrus limon* > (CPM 2014/03_09) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 3 references among which only 1 is drawn from laboratory studies. And as the major basis for the draft standard, the study by De Lima *et al.* (2007) is less rigorous and insufficient in data record and test design, which can hardly support the cold treatment standard.

2. As the bases for the draft standard, the study by De Lima *et al.* (2007) tests only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk.

3. For most fruit flies, usually the third instar is the most tolerant larva stage for low temperature. The first instar larvae of *Bactocera tryoni* were tested by De lima *et al.* (2007), the reliability of the tolerance needs to be validated. Especially, it deserves much attention that there is a broad difference between the test results in the references and the phytosanitary treatment requirements which has been proven to be effective by the practical application by the contracting parties. For that reason, the draft standard should be treated cautiously and further test is in need.

4. The ISPM should provide clear and definite treatment schedules for the purpose of consistent adoption of the Plant Protection Organizations of different counties. The treatment duration are the same (“14 continuous days”) in schedule 1 and schedule 2 in the draft standard, while the temperature requirements are “2°C or below” and “3°C or below” respectively. Should the draft standard be approved, the Plant Protection Organizations of the contracting parties would be confused with the two different schedules of the same duration, and dispute might arise between the Plant Protection Organizations of the importing and exporting countries.

5. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *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.

6. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

CPM 2014/03_10: Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (2007-210)

Formal objection presented by China

China believes that the conditions for adopting < Cold treatment for *Ceratitis capitata* on *Citrus paradisi* > (CPM 2014/03_10) are not perfectly satisfied and formally objects to adopting the draft standard. The reasons are as follows:

1. High security of phytosanitary treatment requires a large number of studies and test data. The draft standard is based on 3 references among which only 2 are drawn from laboratory studies, which can hardly support the cold treatment standard.
2. The study of the cold treatment for *Ceratitis capitata* on *Citrus sinensis* 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 *Ceratitis capitata*. And hence it may incur high phytosanitary risk that the draft standard extrapolates the study findings from a specific geographical population of *Ceratitis capitata* to all the populations of the species worldwide.
3. As the bases for the draft standard, the study by Willink *et al.* (2007) tests only a few of cultivars while the difference of cultivars has not been taken into consideration. The extrapolation of the findings from a few cultivars to all the cultivars may incur phytosanitary risk.
4. 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. The wording in the draft standard “Pre-cooling of the commodity to treatment temperature may be required” is ambiguous, and 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 < *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.
5. China further maintains that the treatment standards differ from the conceptual standards. It has a direct relationship with the spread of pests infesting agricultural products and the achievement of the purpose and responsibility of the International Plant Protection Convention. The treatment standard approved by CPM should be based on sufficient test data or a large volume of the practical application of the treatment by the contracting parties. If the method concluded from a few tests was promoted globally in a form of ISPM, it would turn the contracting parties into trial sites of new methods and technologies and finally significantly increase the risk of pest spread.

Formal objection presented by Japan

Japan appreciates the extensive discussions and efforts of the SC and the TPPT in developing important phytosanitary treatments over the years.

Japan would like to express its formal objections with regards to th[is] draft cold treatments because the schedule is not deemed to fulfil the requirements for phytosanitary treatment in section 3 of ISPM 28 [...].

Japan does not object to the treatment schedules proposed, insofar as they will be used in certain countries where research was conducted and they are well supported by research data and rationale for presenting the schedules. However Japan has concerns about the feasibility and applicability (especially versatility of the treatment e.g. application to a wide range of countries) of the above-mentioned four treatments proposed as international standards.

For the purpose of developing efficient phytosanitary treatments to be used as international standards by contracting countries that wish to use them, Japan suggests that the adoption of the said four standard treatments be suspended until the following points are reviewed.

References in the schedule for grapefruit (CPM 2014/03_10), Willink *et al.* (2007a) and Willink *et al.* (2007b), do not give grounds for Schedule 2 (3 °C for 23 days) because related data is not mentioned in these research papers. Therefore, the rationale for presenting the schedule should be described in the ISPM with referential data (Refer to Table D).

The summary of research submitted by the exporting countries to Japan as well as data referred to in the draft ISPMs (Table attached to this document) shows differences between fruit fly populations in terms of their cold hardiness. This is likely because there are notable differences in treatment days for the same target article at the same treatment temperature (5-7days). Japan suggested in the member consultation in 2009 that the differences between fruit fly populations in terms of cold hardiness possibly indicate tolerance (susceptibility) to cold treatment differs by origins. However, the TPPT concluded that *“while there were considered to be phenotypic differences (plasticity) induced by the environment and as a result of seasonal or geographical effects, it was not thought that this was a significant issue.”* (2010 TPPT Meeting Report) It has not been explained the rationale as to why the TPPT concluded the differences are not thought to be a significant issue in terms of effectiveness of phytosanitary treatment. Japan underlines the difference between fruit fly populations in terms of cold hardiness should be duly taken into account so that the treatments can achieve stated efficacy in any circumstances.

In addition, the proposed standard treatment on orange (CPM 2014/03_04) seems to support the differences between fruit fly populations in terms of their cold hardiness because it presents different treatment schedules (18 days / 21 days) at the same temperature (2.0°C) based on the different results conducted in different countries.

Suggestions for improvement to the draft ISPM

Japan would like to suggest that the said four standard treatments be reviewed while taking into account the following points, with the understanding that the standard treatment should be feasible and applicable to a wide range of countries without inviting any confusion in implementing them once they are adopted by the CPM.

1. It is requested that a treatment schedule which is the least restrictive measure available but is effective in disinfecting target pests in any circumstances be developed. It is also requested that available research data and existing treatment schedules used in many countries be collected.

For this purpose, Japan is willing to provide available research data submitted by exporting countries to the IPPC Secretariat when requesting export of their products to Japan, subject to the approval of these countries.

2. More detailed information on the rationale and validity of presenting draft standard treatments made by the SC and TPPT should be available to the contracting countries for their scrutiny.

Table. The results of cold treatment tests for Mediterranean fruit fly (*Ceratitidis capitata*) on lemon by country
[adapted by the IPPC Secretariat to fit this paper]

Country	Treatment temperature	The last day of viable larvae found (No of survivors)	Most tolerant life stage to cold	Data source	Referred in ISPM
D. <i>Ceratitidis capitata</i> on grapefruit (<i>Citrus paradisi</i>) CPM 2014/03_10 Schedule 1: 2 °C or below for 19 continuous days, Schedule 2: 3 °C or below for 23 continuous days					
Country A	2.0 ± 0.5°C	day 17	3rd instar	Willink <i>et al.</i> (2007b)	✓
Country B	2.0 ± 0.5°C	day 12	2nd and 3rd instar	Data submitted to Japan	
Country A	3.0 ± 0.5 °C	day 21	mature instar	Data submitted to Japan	
Country B	3.0 ± 0.5°C	day 14	2nd and 3rd instar	Data submitted to Japan	

"Data submitted to Japan" is research data referred in developing a schedule and submitted to Japan by exporting countries whose treatment temperature is 2 or 3 °C.

Formal objection presented by Republic of Korea

Proposed schedule 2 (3C for 23days) is not supported by relevant references (Willink et al 2007 a & b).