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| **Cold treatment for *Ceratitis capitata* on *Citrus limon* (2007-206C)** |
|  | **Contracting Party** | **Formal objection and Explanation 2014** | **SC Responses** |
| 46 | 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. | The data and other information submitted by the NPPO for the evaluation of efficacy, feasibility and applicability of these treatments were analyzed by the TPPT and found to fulfill all the requirements stated by ISPM 28 regarding sufficiency of data and requirements for scientific rigour. |
| 47 |  | 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 ℃ or below for 18 continuous days”, while the study by Willink *et* *al*. (2007) supports the schedule of “2 ℃ 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. | The TPPT noted that different research methodologies may result in different, but valid treatment schedules. The TPPT considered a recent scientific study (see 2016-09 TPPT meeting report) undertaken to investigate possible differences in cold toleranceamong populations of *Ceratitis capitata* from geographically separate regions. Based on the assessment of the findings, the TPPT concluded that there is no evidence to support there are significant differences in cold tolerance among populations of *C. capitata* and that comparisons between the treatment schedules mentioned in the objection (carried out with different research methodologies) do not provide evidence for differences in cold toleranceamong populations of *C. capitata*. Therefore this phytosanitary treatment fully meets the requirements set out in ISPM 28.  |
| 48 |  | 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 | The TPPT is unaware of evidence that would suggest cultivar differences in cold treatment efficacy in C*. limon*. In accordance with ISPM 28 section 3.2.1, the TPPT accepts the treatment applicability for all lemon cultivars. |
| 49 |  | 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. | The TPPT re-examined the data from De Lima et al. (2007) and concluded that the difference in tolerance between second and third instar were extremely small. The TPPT noted that the study was highly robust and that it demonstrated that all life stages were killed after treatment application. |
| 50 |  | 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 < *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. | The TPPT considered that pre-cooling, temperature monitoring and recording are important operationally but are not part of the treatment schedule. NPPOs certifying the use of cold treatments should therefore ensure these operational issues are managed appropriately. Further guidance to NPPOs on these issues will be addressed by the drafting of the ISPM on requirements for the use of temperature treatments. Reference to pre-cooling has therefore been removed from the draft treatment schedule.  |
| 51 |  | 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. | The TPPT considers that the treatment submission conformed with ISPM 28 requirements, including the level of evidence provided. Therefore this phytosanitary treatment fully meets the requirements set out in ISPM 28. |
|  52 | Argentina (supported by Peru and Uruguay) | Argentina hereby expresses a formal objection with regard to the draft cold treatment for *Ceratitis* *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 *Ceratitis* *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 *Ceratitis* *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 PRAAdoption 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. | The TPPT considers that the submitted information does not affect the efficacy of the treatment and maintains that the proposed treatment is feasible and applicable in a wide range of countries (as per ISPM 28). The TPPT considers that these issues are important operationally but are not part of the treatment schedule. The treatment includes information to highlight potential issues associated with chilling injury and that *C. limon* is considered a conditional host of *C. capitata*. |
| 53 | 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 teatments 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. | Initial acceptance of the schedule was based on unpublished data in addition to the studies by Willink *et al.* 2007 and Gastaminza et al. 2007 as part of the original submission. These additional data was included in the list of references for the proposed schedule. .The TPPT noted that different research methodologies may result in different, but valid treatment schedules. The TPPT considered a recent scientific study (see 2016-09 TPPT meeting report) undertaken to investigate possible differences in cold toleranceamong populations of *Ceratitis capitata* from geographically separate regions. Based on the assessment of the findings, the TPPT concluded that there is no evidence to support there are significant differences in cold tolerance among populations of *C. capitata* and that comparisons between the treatment schedules mentioned in the objection (carried out with different research methodologies) do not provide evidence for differences in cold toleranceamong populations of *C. capitata*. Therefore this phytosanitary treatment fully meets the requirements set out in ISPM 28.  |
| 54 |  | Suggestions for improvement to the draft ISPMJapan 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. | The TPPT has considered the four treatment schedules and agreed that they fulfil the requirements in ISPM 28. The TPPT supports transparency and encourages treatment submitters to make data available to all IPPC contracting parties. |
| 55 |  | 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. | The TPPT and the IPPC Secretariat have taken steps to include more of the rationale and validity for the draft treatments to satisfy these suggestions |