Concept note

Expert Consultation on Cold Treatments

Overview

At its April 2012 meeting, the Standards Committee (SC) agreed that a meeting of cold treatments experts should be organized under the auspices of the Secretariat. This should involve the best experts in the world including experts from National Plant Protection Organizations (NPPOs) some members of the Technical Panel on Phytosanitary Treatments (TPPT) and the Technical Panel on pest free areas and system approaches for fruit flies (TPFF). This Expert Consultation on Cold Treatments (ECCT) is being planned to take place first week of December 2013 in Buenos Aires, Argentina. It is hoped the ECCT will provide a forum for discussion of issues related to the development and use of cold treatments and allow participants to build confidence in the experimental design and science supporting cold treatments, help establish mutual understanding of related issues and provide a platform for initiating future synergies among cold treatment developers.

Invited experts would be expected to provide an overview of cold treatments they have developed and/or used and to identify the main issues that need to be considered when developing, evaluating and implementing such treatments. Cold treatment experts with experience in designing and conducting research as well as those involved in the practical implementation of these cold treatments should participate in this consultation.

Objectives of the ECCT are to:

* provide a forum for cold treatments researchers from around the world to discuss and share the scientific and practical issues related to the development of cold treatments and determine acceptable common approach
* provide a forum for cold treatment experts to understand the constraints and identify common methods to address these constraints
* identify gaps in the research and methodologies used, including statistical analyses of data and the limitations of these analyses and facilitate collaboration to conduct future research
* build an international scientific network of cold treatments experts who will be able to share information and data to develop more globally acceptable cold treatments and increase the confidence in the cold treatment evaluation process
* identify critical requirements for operation of cold treatments
* provide a forum for collaboration

Expected outputs of the ECCT:

* a list of cold treatments the ECCT considers acceptably effective and a database of cold treatments currently used internationally
* agreement on a common approach to the development of cold treatments including scientific methodologies and statistical analyses of data
* approved example of an experimental design
* approved plan for future collaboration among all involved in the ECCT

Resources are available for limited a number of experts in accordance with IPPC criteria of prioritization to receive travel assistance.[[1]](#footnote-1)

**Annex 1: Proposed agenda items for the Experts Consultation on Cold Treatments**

1. General

* Overview of the development of phytosanitary treatments under the IPPC framework
* History of cold treatments in general and overview of cold treatments used internationally
* An overview of cold treatments currently approved by RPPOs or NPPOs

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| 2. Efficacy session: Methods used to develop cold treatments (Experimental design and factors to be taken into account) * Appropriateness of efficacy levels used in the development of cold treatments (probit 9, ED99.99)
* Stated and unstated assumptions in cold treatment research and their validity.
* Differences in cold-tolerance among populations of the same pest species
* Host effect on pest tolerance to cold treatments (species, cultivar)
* Measuring survival/mortality
* Accliimation to cold by pest and commodity
* Infestation rate
* Infestation method
* Load factor
* Case study(ies) on session specific
* Effect of cold treatment on product quality
* The possibility of using surrogate species
* the advantages and disadvantages of extrapolating from low test subject numbers
* Confidence limits and sample size in quarantine research
* Calculating efficacy level
* Can generic cold treatments be developed?
* Developing cold treatments by comparison with pests and hosts for which treatments already exist.
* Research methodology vs. commercial applicability
 | 3. Operational session: Large scale trials for cold treatments and practical aspects affecting implementation * Similarities and differences between confirmatory testing and commercial use.
* Threshold of unacceptable commercial application of treatment.
* Action threshold of unacceptable outcome of inspection for PPO inspectors.
* The most suitable implementation technology for cold treatments approved by contracting parties (i.e. procedure for pre-treatment, treatment, post-treatment, pre-cooling)
* Refrigeration chambers, containers, vessels and other facilities for conducting cold treatments, equipment age..
* Implementation of temperature measuring equipment for cold treatments
* Particular issues with cold treatments during transportation (number and placement of temperature monitors (sensor/probes) during transportation, documentation of measuring data, etc.)
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4. Providing supporting evidence

* Background – requirements in ISPM 28. 2007 - *Phytosanitary treatments for regulated pests* and the IPPC standard setting process
* Challenges with the data review and evaluation process
* Critical requirements for successful operation of cold treatments (e.g. for an ISPM on cold treatments based on ISPM 18 and ISPM 28)

5. Overview and conclusions

* General and specific conclusions
* Next steps

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| **Steering committee:**Jan Bart Rossel – AustraliaJane Chard – United Kingdom Eduardo Willink – ArgentinaAlice Baxter – South Africa | **Facilitators:**Andrew Jessup – AustraliaGuy Hallman – USAChair of the meeting | **IPPC Secretariat:**Brent LarsonArtur ShamilovAdriana Moreira  |

1. [https://www.ippc.int/index.php?id=1110798&frompage=1110514&tx\_publication\_pi1[showUid]=2184777&type=publication&L=0](https://www.ippc.int/index.php?id=1110798&frompage=1110514&tx_publication_pi1%5bshowUid%5d=2184777&type=publication&L=0) [↑](#footnote-ref-1)