Submission form for topics for Standards and Implementation

*(Updated by the IPPC Secretariat 2018-04-27)*

Name of Country or Organization\_: \_**Caribbean Agricultural Health and Food Safety Agency (CAHFSA)**

Introduction

In Accordance with CPM-13 decision, a combined call for topics for standards and tools for implementation is opened in 2018. IPPC contracting parties and RPPOs are invited to submit proposals for topics to be included as gaps in the Framework for Standards and Implementation for consideration to be put onto the IPPC work programme. Each submission should clearly define the problem needing resolution in sufficient detail to determine how it fits into the Framework for Standards and Implementation and the cost/benefit of the development of the standard or tool. Submitters are requested to consult the current IPPC Framework for Standards and Implementation(<https://www.ippc.int/en/publications/82439/>) to identify areas where the proposal can contribute.

Standards

This form covers submissions for new ISPMs, new components to an existing ISPM and revision or amendments to an ISPM, supplement, annex or appendix, including diagnostic protocols. Please note that a separate call for phytosanitary treatments (PTs) is made, more information on this call is available at <https://www.ippc.int/en/core-activities/standards-setting/calls-treatments/>.

Please refer to the IPPC Standard Setting Procedure Manual[[1]](#footnote-1) for an explanation of the hierarchy of terms for standards (technical area, topic and subject). The list of topics for IPPC standards adopted by the CPM is available at <https://www.ippc.int/core-activities/standards-setting/list-topics-ippc-standards>.

Implementation

This form covers submissions for new IPPC implementation resources for implementation of the Convention, ISPMs and CPM recommendations or for revisions to IPPC implementation resources. Please refer to the IPPC Framework for Standards and Implementation on implementation resources that have been adopted/developed, are under development or are planned to be developed.

Submission

This completed form should be submitted by the IPPC official contact point, preferably via e-mail, to the IPPC Secretariat (ippc@fao.org) no later than **31 August 2018**. Please use one form per topic.

An electronic version of this form is available at <https://www.ippc.int/en/core-activities/standards-and-implementation/call-for-topics-standards-and-implementation/>.

Save and submit the completed submission form as:

2018\_TOPIC\_*[Countryor organization name – Proposed title of topic]*.docx.

(Text in brackets given for explanatory purposes)

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| **Submission form for topics for Standards and Implementation** |
| 1. **Proposed by**: **Juliet Goldsmith**
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| 1. **Contact:**(Contact information of an individual able to clarify issues relating to this submission)

Name: **Juliet Goldsmith**Position and organization: **Plant Health Specialist, Caribbean Agricultural Health and Food Safety Agency (CAHFSA)**Mailing address: **Letitia Vriesdelaan 10, Paramaribo, Suriname**Phone: **+597-725-2922** Fax: E-mail: **juliet.goldsmith@cahfsa.org** |
| 1. **Proposed Topic(Choose one box only)**

[\_X\_] Standard **(go to 4)**[\_\_] Implementation resource**(go to 5)** |

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| 1. **Standards**
	1. **Type of topic: (Choose one box only)**
 |
| A. New ISPM:[\_\_] Concept[\_\_] Pest specific[\_\_] Commodity specific[\_\_] Reference | B. New componentto an existing ISPM:[\_\_] Supplement[\_\_] Annex[\_\_] Appendix[\_\_] Technical panel (technical area)[\_X] Diagnostic protocol (subject) | C. Revision/Amendment of:[\_\_] ISPM[\_\_] Supplement[\_\_] Annex[\_\_] Appendix |
| **Draft specification:** As agreed by CPM-7 (2012) and CPM-11 (2016), submissions in answer to the call for topics (except for draft diagnostic protocols, which are subject to additional criteria, see below) should be accompanied by a draft specification. Proposals for phytosanitary treatments are submitted using a different submission form in a separate call: <https://www.ippc.int/en/core-activities/standards-setting/calls-treatments/>.An annotated template for the draft specification for Standards is available on the IPP (<https://www.ippc.int/en/publications/81324/>) in English, French and Spanish.**(go to 6)** |

**OR**

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| 1. **Implementation**
	1. **Type of topic: (Choose one box only)**
 |
| 1. New implementation resource:

[\_\_] Guide (e.g. Manual)[\_\_]Training material(e.g. e-Learning)[\_\_] Awareness material[\_\_] Other (Please specify)  | 1. Revision of implementation resource

[\_\_] Guide (e.g. Manual)[\_\_]Training material (e.g. e-Learning)[\_\_] Awareness material[\_\_] Other (Please specify)  |
| * 1. Featured Convention articles, ISPMs and CPM recommendations in the proposed implementation resource

[\_\_] for Convention articles (Please specify ) [\_\_] for ISPM (Please specify) [\_\_] for CPM Recommendation (Please specify)  |
| **Draft outline:** Submissions for topics on implementation should be accompanied by a draft outline of implementation resource defining a scope and purpose, or a draft implementation resource. Commitment for financial/in-kind resources to support the development of the implementation resource may be included in the submission (non-obligatory).**(go to 6)** |

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| **6. Proposed title of document****Diagnostic Protocol for Regulated Pest: DP xx *Citrus leprosis virus*** |
| **7. Proposed priority** [\_\_] 1 (high) [\_X] 2 [\_\_] 3 [\_\_] 4(low) Comments: Priority 2 |
| **8. Featured outcome of standard/implementation resource** ISPM 27 notes that proper pest detection and pest identification are crucial for the appropriate application of phytosanitary measures…. In particular, contracting parties need proper diagnostic procedures for determination of pest status and pest reporting (ISPM 8 (Determination of pest status in an area); ISPM 17 (Pest reporting)), and the diagnosis of pests in imported consignments (ISPM 13 (Guidelines for the notification of non-compliance and emergency action)).There are apparently two distinct viruses associated with the disease; CiLV-C and CiLV-N. CiLV-C is the most important at this point in time as CiLV-N is rarely detected. Internationally accepted and harmonized diagnostic tests are essential for safe movement and fair trade of this important crop. A FAO IPPC Diagnostic Protocol (DP) will meet these needs and contracting parties will have access to a protocol for identification**.** |
| **9. Contribution to filling the gaps of the Framework for Standards and Implementation:** (2 lines max) The proposal addresses the Framework for Standards and Implementation gap # 74, Annexes to Diagnostic protocols for regulated pests (ISPM 27): **Citrus leprosis virus** |
| **10.Summary of justification for the proposal** (2 lines max)A harmonized protocol will help in accurate determination of pest distribution and rapid detection in the event of inadvertent movement or introduction. It will contribute to safer and fair trade as well as reduce conflicts associated with movement of this pest. |

**Criteria for justification and prioritization of proposed topics[[2]](#footnote-2):**

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| Submissions should address the applicable criteria for justification of the proposal (as listed below). Where possible, information in support of the justification and that may assist in the prioritization should be indicated. All core criteria must be addressed; supporting criteria should be addressed if applicable.Priority will be given to topics with the largest global impact. |
| **Core criteria (must provide information. It is expected that all submissions meet the following core****criteria)** |
| Contribution to the purpose of the IPPC as described in article I.1.This proposed diagnostic protocol provides guidance to NPPOs on the detection and identification of a regulated pest for the purpose of providing common and effective action to prevent the spread and introduction of pests moving internationally. The ability to accurately identify the pest allows for the development and promotion of appropriate measures for their control. |
| Linkage to IPPC Strategic Objectives (SOs) and Organizational results demonstrated.Supports IPPC Strategic Objectives A: Food Security, B: Environmental Protection, C: Trade Facilitation D: Capacity Development  |
| Feasibility of implementation at the global level (consider ease of implementation, technical complexity, capacity of NPPO(s) to implement, relevance for more than one region).Citrus leprosis disease,CiLV-C, is of great concern to countries in the Caribbean, Central and South America. The range of tests that exist for this pest makes it possible for suitable testing to be carried out in diagnostic laboratories in both developed and developing countries. |
| Clear identification of the problems that need to be resolved through the development of the standard or implementation resource.This is a pest of great concern to countries in the Caribbean, Central and South America. It is a quarantine pest and has the potential to affect free, fair and safe trade. There are apparently two distinct viruses associated with the disease; CiLV-C and CiLV-N. CiLV-C is the most important at this point in time as CiLV-N is rarely detected. A diagnostic protocol for CiLV in both plants and its insect vector will contribute to a balance between pests of importance to different climatic zones and commodity classes.  |
| Availability of, or possibility to collect, information in support of the proposed standard or implementation resource (e.g. scientific, historical, technical information, experience).Research on the Citrus Leprosis disease, origins, and its progression into different genera has been ongoing since the early 2000s and includes movement, replication, host-vector interactions and management. There are several scientific papers related to CiLV and similar viruses causing leprosis-like symptoms available across different journals. |

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| **Supporting criteria (information may be provided, as appropriate):** |
| **Supporting criteria (Practical)**1. Is there a regional standard and/or implementation resource on the same topic already available and used by NPPOs, RPPOs or international organizations?

Not aware of any regional standards.1. Availability of expertise needed to develop the proposed standard and/or implementation resource.

Several researchers and experts are available in the United States and Brazil |
| **Supporting criteria (Economic)**1. Estimated value of the plants protected.

In 2006, the estimated value of Citrus on a global scale had reached upwards of US$9 billion, which included both fresh and processing markets. With the introduction of other citrus diseases, including Citrus Greening, and natural disasters in the last decade, the main Citrus producing countries like the USA and Brazil reported hundreds of thousands of lost acres. 1. Estimated value of trade including new trade opportunities affected by the proposed standard and/or implementation resource (e.g. volume of trade, value of trade, the percentage of Gross Domestic Product of this trade) if appropriate.

Citrus is considered the highest value fruit crop traded internationally and is cultivated all over the world in suitable tropical and subtropical areas. The importance and widespread movement of this crop means that associated pests may easily become the target of trade conflicts. The virus is a potential threat wherever citrus is cultivated.Sweet oranges are the citrus crop most severely affected by CiLV and of the global production of this crop Brazil accounts for over 29% of the global production (FAO, 2012). |
| **Supporting criteria (Environmental)**1. Utility to reduce the potential negative environmental consequences of certain phytosanitary measures, for example reduction in global emissions for the protection of the ozone layer.
2. Utility in the management of non-indigenous species which are pests of plants (such as some invasive alien species).
3. Contribution to the protection of the environment, through the protection of wild flora, and their habitats and ecosystems, and of agricultural biodiversity.
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| **Supporting criteria (Strategic)**1. Extent of support for the proposed standard and/or implementation resource (e.g. one or more NPPOs or RPPOs have requested it, or one or more RPPOs have adopted a standard on the same topic).

Citrus leprosis disease is listed among the top ten priority pests for the Caribbean Region. The NPPOs of the region agree that a diagnostic protocol for this organism is needed. 1. Frequency with which the issue to be addressed, as identified in the submission emerges as a source of trade disruption (e.g. disputes or need for repeated bilateral discussions, number of times per year trade is disrupted).

No specific trade data is available.1. Relevance and utility to developing countries.

The host crop for this pest is a major export crop for many developing countries in Latin America and the Caribbean and so the standard would be most useful to them.1. Coverage (application to a wide range of countries/pests/commodities).

Although CiLV is currently limited in its distribution to countries in Central and South America and the Caribbean, this virus is a threat to citrus cultivation everywhere.1. Complements other standards and/or implementation resources (e.g. potential for the standard to be used as part of a systems approach for one pest, complement treatments for other pests).
2. Conceptual standard and/or implementation resource to address fundamental concepts (e.g. treatment efficacy, inspection methodology).
3. Urgent need for the standard and/or implementation resource.

CiLV-C is transmitted by an insect vector, the tenuipalpid mite (false spider mite) *Brevipalpus phoenicis* and other species in this genus. This increases the risk dramatically, as any introduction into a country previously free of the virus may result in rapid spread where known vectors are present. |
| **Diagnostic protocols are subject to additional criteria. For proposals for DPs, please elaborate on the following criteria to help the future consideration of the subject proposed:*** Need for international harmonization of the diagnostic techniques for the pest (e.g. due to difficulties in diagnosis or disputes on methodology)

Citrus leprosis disease is associated with two distinct types of viruses: *Citrus leprosis virus cytoplasmic type* (CiLV-C), a member of the genus *Cilevirus*, and *Citrus leprosis virus nuclear type* (CiLV-V), a member of the genus *Dichorhavirus.* Both belong to the family *Rhabdoviridae* and produce similar symptoms, but differ based on genome and where the virions are located. Although both are quarantinable pests, CiLV-N is rarely found (last account was in Brazil), while CiLV-C is widespread in Brazil, and has expanded into both South and Central America. The destructive potential of this disesase to citrus crops, particularly to highly susceptible sweet oranges and grapefruits will have serious implications in international trade and an internationally accepted and harmonized diagnostic tests is essential for safe movement and fair trade of this important crop. * Relevance of the diagnosis to the protection of plants including measures to limit the impact of the pest.

*Citrus leprosis virus* (CiLV-C) is a quarantine pest and economically important disease, reported only on the American continent. During the past 15 years, it has caused economic losses in Brazil, Argentina, Paraguay, Uruguay, Venezuela, Costa Rica, Panamá and Honduras. The disease was recently reported in Guatemala, Bolivia, México, Colombia and Belize.* Importance of the plants protected on the global level (e.g. relevant to many countries or of major importance to a few countries).

Citrus is considered the highest value fruit crop traded internationally and is cultivated all over the world in suitable tropical and subtropical areas. The importance and widespread movement of this crop means that associated pests may easily become the target of trade conflicts. * Volume/importance of trade of the commodity that is subjected to the diagnostic procedures (e.g. relevant to many countries or of major importance to a few countries).

CiLV-C is a quarantine pest which causes an economically important disease, reported only on the American continent. During the past 15 years, it has caused economic losses in Brazil, Argentina, Paraguay, Uruguay, Venezuela, Costa Rica, Panamá and Honduras. The disease was recently reported in Guatemala, Bolivia, México, Colombia and Belize. It is a threat to citrus-producing countries where the disease has not been reported. The disease can cause 100% yield loss ([Rodrigues, 2000](https://www.cabi.org/isc/datasheet/13449#CED02C19-0C7A-4D52-9677-774B90256D7D)).* Other criteria for topics as determined by CPM that are relevant to determining priorities

A diagnostic protocol for Citrus leprosis virus is included as a gap in the Framework for Standards and Implementation.* Balance between pests of importance in different climatic zones (temperate, tropics etc.) and commodity classes.

Although CiLV is currently limited in its distribution to countries in Central and South America, this virus is a threat to citrus cultivation everywhere. An IPPC Diagnostic Protocol would be a valuable tool in preventing spread and facilitating safe and fair trade of this important commodity.* Number of labs undertaking the diagnosis.

While there are no specific data available on the number of labs undertaking diagnosis there are several scientific papers related to CiLV and similar viruses causing leprosis-like symptoms available in different journals.* Feasibility of production of a protocol, including availability of knowledge and expertise.

It is feasible to produce a suitable protocol because a range of diagnostic tests are available and have been described in publically available publications. These include methods such as Transmission Electron Microscopy (TEM), Immunofluorescence (IF), ELISA and RT-PCR. The range of tests that exist for this pest makes it possible for suitable testing to be carried out in diagnostic laboratories in both developed and developing countries. The ability to detect CiLV-C directly in mites provides a powerful approach for an early warning system. This is an area of active research so there are experts available to draft a DP for CiLV. |
| **Literature review**[[3]](#footnote-3)(This section will provide a **summary of the topic** based on scientific and technical publications, including a referenced **list of literature reviewed**. This will help provide the scientific basis for the content of the standard/implementation resource to be used by the selected experts during the development of the standard/implementation resource)**.**CiLV-C is an economically important disease, which represents millions of dollars in damage to citrus crops in countries where it has been established, affecting mainly oranges and mandarins. Is a threat to citrus producing countries where the disease has not been reported. Several authors ([Rodrigues et al., 2001](https://www.cabi.org/isc/datasheet/13449#FCA82423-150B-47A9-A6B8-15C17C6A3A24); [Freitas et al., 2004](https://www.cabi.org/isc/datasheet/13449#887F5BC1-03BA-42E0-87BA-183CCF4E86ED)) consider CiLV-C as the most important viral disease in the Brazilian citrus industry because the costs of controlling the mite vector reach about US $90 million dollars per year.Current research shows Citrus leprosis disease symptoms can be caused by two separate viruses, a more common cytoplasmic virus termed Citrus leprosis virus C (CiLV-C) and a rarer, nuclear virus termed Citrus leprosis virus N (CiLV-N) (Pascon et al., 2006). [Roy et al. (2013)](https://www.cabi.org/isc/datasheet/13449#BD6DB2A9-4C33-4595-B82E-30DED66AEABA) recently found and described the genome sequence and structure of a new bipartite RNA Citrus leprosis virus; phylogenetic analysis indicated that the new virus was related to CiLV-C. They suggested that the virus be called Citrus leprosis virus Cytoplasmic Type 2 (CiLV-C2) which is a member of the Cilevirus genus.According to its morphology, CiLV-C has been considered part of the family Rhabdoviridae. However, [Locali et al. (2005)](https://www.cabi.org/isc/datasheet/13449#282F899F-E224-4B13-9AB9-2D54CC959C45) suggest that the virus has an RNA with a bipartite genome, unlike the typical monopartite Rhabdovirus genome. This was recently confirmed by complete CiLV-C genome sequence and phylogenetic analysis ([Bastianel et al., 2006](https://www.cabi.org/isc/datasheet/13449#15D05363-82B5-4681-99C5-0703395FAB94); Pascon et al., 2006). The complete CiLV-C nucleotide sequence confirms that the virus has a bipartite RNA; RNA 1 contains two open reading frames (ORFs) corresponding to 286 and 29 kDa, and RNA 2 contains four ORFs corresponding to 15, 61, 32 and 24 kDa. Phylogenetic analysis suggests that Citrus leprosis virus is a member of a distinct, novel virus genus and family, does not belong to the Rhabdoviridae family as previously proposed, and should be considered a type of a new genus of viruses, the Cilevirus (Locali et al., 2006). According to [Bastianel et al. (2010)](https://www.cabi.org/isc/datasheet/13449#261FC838-333A-40B6-8ED0-EA970F9CC169), this classification has been approved by the executive committee of the [ICTV (2008)](https://www.cabi.org/isc/datasheet/13449#BACCA6DD-1DDB-4465-8D35-4B93F1145040) and is awaiting ratification***References*** ***Citrus leprosis virus C (leprosis of citrus) CABI*** https://www.cabi.org/isc/datasheet/13449***Citrus leprosis research update- University of Florida***<http://www.crec.ifas.ufl.edu/extension/trade_journals/2015/2015_August_leprosis.pdf>*Citrus: World Trade Markets and Trade/ USDA Foreign Agricultural Service*https://www.fas.usda.gov/data/citrus-world-markets-and-trade***Fact Sheet: leprosis|Citrus Diseases- ID Tool.org***http://idtools.org/id/citrus/diseases/factsheet.php?name=leprosis |

**Send submissions to:** **Address:** IPPC Secretariat (AGDI)

**E-mail:**ippc@fao.org Food and Agriculture Organization of the UN

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1. IPPC Standard Setting Procedure Manual URL: <https://www.ippc.int/en/publications/85024/> [↑](#footnote-ref-1)
2. As agreed by CPM-13 (2018) [↑](#footnote-ref-2)
3. As agreed by CPM-7 (2012) and CPM-11 (2016). [↑](#footnote-ref-3)