DRAFT ANNEX TO ISPM 28: Irradiation treatment for *Planococcus lilacinus* (2023-035)

Status box

This is not an official part of the annex to the standard and it will be modified by the IPPC Secretariat after adoption.	
Date of this document	2025-12-02
Document category	Draft annex to ISPM 28
Current document stage	*To* CPM-20 (2026) for adoption
Major stages	2023-08 Treatment submitted in response to 2017 call for treatments (ongoing). 2023-09 Standards Committee (SC) added *Irradiation treatment for* Planococcus lilacinus (2023-035) to the TPPT work programme via e-decision (2024_eSC_Nov_14), subsequently (in 2023-11) assigning it priority 1. 2023-10 Technical Panel on Phytosanitary Treatments (TPPT) revised and recommended to SC for first consultation. 2024-03 SC approved for first consultation via e-decision (2024_eSC_May_08). 2024-07 First consultation. 2025-01 TPPT revised the draft, approved the responses to first consultation comments and recommended the draft to the SC for adoption by CPM. 2025-06 SC recommended to CPM for adoption via e-decision (2025_eSC_Nov_05).
Treatment Lead	2023-08 Takashi KAWAI (JP, Treatment Lead)
Notes	2024-10 Edited 2025-12 Edited

Scope of the treatment

This treatment describes the irradiation of fruits, vegetables and ornamental plants at 163 Gy minimum absorbed dose to prevent the development of F_1 second-instar nymphs of *Planococcus lilacinus* at the stated efficacy.[1]

Treatment description

Name of treatment Irradiation treatment for *Planococcus lilacinus*

Active ingredient n/a

Treatment type Irradiation

[1] The scope of phytosanitary treatments does not include issues related to pesticide registration or other domestic requirements for contracting parties' approval of treatments. Treatments adopted by the Commission on Phytosanitary Measures may not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures before contracting parties approve a treatment. In addition, potential effects of treatments on product quality are considered for some host commodities before their international adoption. However, evaluation of any effects of a treatment on the quality of commodities may require additional consideration. There is no obligation for a contracting party to approve, register or adopt the treatments for use in its territory.

Target pest	*Planococcus lilacinus* (Cockerell, 1905) (Hemiptera: Pseudococcidae)
Target regulated articles	All fruits, vegetables and ornamental plants that are hosts of *Planococcus lilacinus*

Treatment schedule

Minimum absorbed dose of 163 Gy to prevent development to the F_1 second-instar nymph stage of *Planococcus lilacinus.*

There is a 95% confidence that the treatment according to this schedule prevents offspring developing to the F_1 second-instar nymph stage from not less than 99.9969% of all life stages of *Planococcus lilacinus*.

This treatment should be applied in accordance with the requirements of ISPM 18 (*Requirements for the use of irradiation as a phytosanitary measure*).

This treatment should not be applied to hosts stored in a modified atmosphere because the modified atmosphere may affect the treatment efficacy.

Other relevant information

Because irradiation may not result in outright mortality, inspectors may encounter live but non-viable *Planococcus lilacinus* eggs, nymphs and adults during the inspection process. This does not imply a failure of the treatment.

The Technical Panel on Phytosanitary Treatments based its evaluation of this treatment on the research reported by Ma *et al*. (2022), which determined the efficacy of irradiation as a treatment for *Planococcus lilacinus* on *Cucurbita maxima*.

The efficacy of this schedule was calculated based on a total of 97 384 treated gravid females resulting in prevention of offspring developing to the second-instar nymph stage.

Extrapolation of treatment efficacy to all hosts was based on knowledge and experience that radiation dosimetry systems measure the actual radiation dose absorbed by the target pest independent of host commodity, and evidence from research studies on a variety of pests and commodities. These include studies on the following pests and hosts: *Anastrepha fraterculus* (*Eugenia pyriformis*, *Malus pumila* and *Mangifera indica*), *Anastrepha ludens* (*Citrus paradisi*, *Citrus sinensis*, *Mangifera indica* and artificial diet), *Anastrepha obliqua* (*Averrhoa carambola*, *Citrus sinensis* and *Psidium guajava*), *Anastrepha suspensa* (*Averrhoa carambola*, *Citrus paradisi* and *Mangifera indica*), *Bactrocera tryoni* (*Citrus sinensis*, *Malus pumila*, *Mangifera indica*, *Persea americana*, *Prunus avium* and *Solanum lycopersicum*), *Cydia pomonella* (*Malus pumila* and artificial diet), *Grapholita molesta* (*Malus pumila* and artificial diet), *Pseudococcus jackbeardsleyi* (*Cucurbita* sp. and *Solanum tuberosum*) and *Tribolium confusum* (*Hordeum vulgare*, *Triticum aestivum* and *Zea mays*) (Bustos *et al.*, 2004; Gould and von Windeguth, 1991; Hallman, 2004a, 2004b, 2013; Hallman and Martinez, 2001; Hallman *et al.*, 2010; Jessup *et al.*, 1992; Mansour, 2003; Tunçbilek and Kansu, 1996; von Windeguth, 1986; von Windeguth and Ismail, 1987; Zhan *et al*., 2016). It is recognized, however, that treatment efficacy has not been tested for all potential hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, the treatment will be reviewed.

References

The present annex may refer to ISPMs. ISPMs are available on the International Phytosanitary Portal (IPP) at www.ippc.int/core-activities/standards-setting/ispms.

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