PT 3: Irradiation treatment for *Anastrepha serpentina*
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This phytosanitary treatment was adopted by the Fourth Session of the Commission on Phytosanitary Measures in 2009. The annex is a prescriptive part of ISPM 28.

**ISPM 28**

Phytosanitary treatments for regulated pests

**PT 3: Irradiation treatment for Anastrepha serpentina**

*Adopted 2009; published 2021*

**Scope of the treatment**

This treatment applies to the irradiation of fruits and vegetables at 100 Gy minimum absorbed dose to prevent the emergence of adults of *Anastrepha serpentina* at the stated efficacy. This treatment should be applied in accordance with the requirements outlined in ISPM 18\(^1\) (*Guidelines for the use of irradiation as a phytosanitary measure*).

**Treatment description**

**Name of treatment:** Irradiation treatment for *Anastrepha serpentina*

**Active ingredient:** N/A

**Treatment type:** Irradiation

**Target pest:** *Anastrepha serpentina* (Wiedemann) (Diptera: Tephritidae)

**Target regulated articles:** All fruits and vegetables that are hosts of *Anastrepha serpentina*.

**Treatment schedule**

Minimum absorbed dose of 100 Gy to prevent the emergence of adults of *Anastrepha serpentina*.

There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9972% of adults of *Anastrepha serpentina*.

Treatment should be applied in accordance with the requirements of ISPM 18.

**Other relevant information**

Since irradiation may not result in outright mortality, inspectors may encounter live, but non-viable *Anastrepha serpentina* (larvae and/or pupae) 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 work undertaken by Bustos *et al.* (2004) that determined the efficacy of irradiation as a treatment for this pest in *Mangifera indica*.

Extrapolation of treatment efficacy to all fruits and vegetables 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 ludens* (*Citrus paradisi* and *Mangifera indica*), *Anastrepha suspensa* (*Averrhoa carambola*, *Citrus paradisi*).

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\(^1\) The scope of phytosanitary treatments does not include issues related to pesticide registration or other domestic requirements for approval of treatments. Treatments also do not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures prior to approval of 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.
and Mangifera indica), Bactrocera tryoni (Citrus sinensis, Lycopersicon lycopersicum, Malus pumila, Mangifera indica, Persea americana and Prunus avium), Cydia pomonella (Malus pumila and artificial diet) and Grapholita molesta (Malus pumila and artificial diet) (Bustos et al., 2004; Gould & von Windeguth, 1991; Hallman, 2004, Hallman & Martinez, 2001; Jessup et al., 1992; Mansour, 2003; von Windeguth, 1986; von Windeguth & Ismail, 1987). It is recognized, however, that treatment efficacy has not been tested for all potential fruit and vegetable 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, then the treatment will be reviewed.

References
The present standard refers to International Standards for Phytosanitary Measures (ISPMs). ISPMs are available on the International Phytosanitary Portal (IPP) at https://www.ippc.int/core-activities/standards-setting/ispms.


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IPPC

The International Plant Protection Convention (IPPC) is an international plant health agreement that aims to protect global plant resources and facilitate safe trade. The IPPC vision is that all countries have the capacity to implement harmonized measures to prevent pest introductions and spread, and minimize the impacts of pests on food security, trade, economic growth, and the environment.

Organization
- There are over 180 IPPC contracting parties.
- Each contracting party has a national plant protection organization (NPPO) and an Official IPPC contact point.
- 10 regional plant protection organizations (RPPOs) have been established to coordinate NPPOs in various regions of the world.
- The IPPC Secretariat liaises with relevant international organizations to help build regional and national capacities.
- The Secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO).

International Plant Protection Convention Secretariat
ippc@fao.org | www.ippc.int

Food and Agriculture Organization of the United Nations
Rome, Italy