PT 7: Irradiation treatment for fruit flies of the family Tephritidae (generic)
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 7: Irradiation treatment for fruit flies of the family Tephritidae (generic)**

*Adopted 2009; published 2016*

**Scope of the treatment**
This treatment applies to the irradiation of fruits and vegetables at 150 Gy minimum absorbed dose to prevent the emergence of adults of fruit flies 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**

<table>
<thead>
<tr>
<th><strong>Name of treatment:</strong></th>
<th>Irradiation treatment for fruit flies of the family Tephritidae (generic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active ingredient:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Treatment type:</strong></td>
<td>Irradiation</td>
</tr>
<tr>
<td><strong>Target pest:</strong></td>
<td>Fruit flies of the family Tephritidae (Diptera: Tephritidae)</td>
</tr>
<tr>
<td><strong>Target regulated articles:</strong></td>
<td>All fruits and vegetables that are hosts of fruit flies of the family Tephritidae.</td>
</tr>
</tbody>
</table>

**Treatment schedule**
Minimum absorbed dose of 150 Gy to prevent the emergence of adults of fruit flies.

There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9968% of adult fruit flies.

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

This irradiation treatment should not be applied to fruit and vegetables stored in modified atmospheres.

**Other relevant information**
Since irradiation may not result in outright mortality, inspectors may encounter live, but non-viable larvae and/or pupae during the inspection process. This does not imply a failure of the treatment.


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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.
Phytosanitary treatments for regulated pests

(1987) that determined the efficacy of irradiation as a treatment for this pest in Averrhoa carambola, Carica papaya, Citrus paradisi, Citrus reticulata, Citrus sinensis, Lycopersicon esculentum, Malus domestica, Mangifera indica, Persea americana, Prunus avium and Vaccinium corymbosum.

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), A. suspensa (Averrhoa carambola, Citrus paradisi and Mangifera indica), Bactrocera tryoni (Citrus sinensis, Lycopersicon lycopersicum, Malus domestica, Mangifera indica, Persea americana and Prunus avium), Cydia pomonella (Malus domestica and artificial diet) and Grapholita molesta (Malus domestica 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.


**Publication history**

*This is not an official part of the standard*

2006-04 CPM-1 added topic *Irradiation treatment for fruit flies of the family Tephritidae* (2006-126)

2006-12 TPPT developed draft text

2007-05 SC approved draft text for MC

2007-10 Sent for MC under fast-track process

2008-07 TPPT revised draft text

2008-12 SC revised draft text for adoption via e-decision

2009-03 CPM-4 adopted Annex 7 to ISPM 28


2015-07 IPPC Secretariat incorporated editorial amendments and reformatted standards following revoking of standards procedure from CPM-10 (2015).

2016-04 CPM-11 noted ink amendments in relation to "effective dose".

2016-04 IPPC Secretariat incorporated ink amendments from CPM-11 (2016).

Publication history last modified: 2016-04.
The International Plant Protection Convention (IPPC) is an international plant health agreement that aims to protect cultivated and wild plants by preventing the introduction and spread of pests. International travel and trade are greater than ever before. As people and commodities move around the world, organisms that present risks to plants travel with them.

**Organization**
- There are over 180 contracting parties to the IPPC.
- Each contracting party has a national plant protection organization (NPPO) and an Official IPPC contact point.
- Nine regional plant protection organizations (RPPOs) work to facilitate the implementation of the IPPC in countries.
- IPPC 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).