



Food and Agriculture  
Organization of the  
United Nations



**International Plant Protection Convention**  
Protecting the world's plant resources from pests

INTERNATIONAL STANDARD FOR PHYTOSANITARY MEASURES 28

PHYTOSANITARY TREATMENT

ISPM 28  
ANNEX 12

ENG

# PT 12: Irradiation treatment for *Cylas formicarius elegantulus*

Produced by the Secretariat of the  
International Plant Protection Convention (IPPC)

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## ISPM 28

# Phytosanitary treatments for regulated pests

## PT 12: Irradiation treatment for *Cylas formicarius elegantulus*

Adopted 2011; published 2016

### Scope of the treatment

This treatment applies to the irradiation of fruits and vegetables at 165 Gy minimum absorbed dose to prevent the development of F1 adults of *Cylas formicarius elegantulus* at the stated efficacy. This treatment should be applied in accordance with the requirements outlined in ISPM 18<sup>1</sup> (*Guidelines for the use of irradiation as a phytosanitary measure*).

### Treatment description

<b>Name of treatment:</b>	Irradiation treatment for <i>Cylas formicarius elegantulus</i>
<b>Active ingredient:</b>	N/A
<b>Treatment type:</b>	Irradiation
<b>Target pest:</b>	<i>Cylas formicarius elegantulus</i> (Summers) (Coleoptera: Brentidae)
<b>Target regulated articles:</b>	All fruits and vegetables that are hosts of <i>Cylas formicarius elegantulus</i> .

### Treatment schedule

Minimum absorbed dose of 165 Gy to prevent the development of F1 adults of *Cylas formicarius elegantulus*.

There is 95% confidence that the treatment according to this schedule prevents the development of not less than 99.9952% of F1 adults of *Cylas formicarius elegantulus*.

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 *Cylas formicarius elegantulus* (eggs, larvae, pupae and/or adults) during the inspection process. This does not imply a failure of the treatment.

Countries with established trapping and surveillance activities for *Cylas formicarius elegantulus* need to take account of the fact that adult insects may be detected in the traps in the importing country. Although these insects will not establish, countries need to assess whether such treatments are

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<sup>1</sup> 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.

applicable in their countries, i.e. whether or not such findings would disrupt existing surveillance programmes.

The Technical Panel on Phytosanitary Treatments based its evaluation of this treatment on the research work undertaken by Follet (2006) and Hallman (2001) that determined the efficacy of irradiation as a treatment for this pest in *Ipomoea batatas*.

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 recognised, 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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**von Windeguth, D.L. & Ismail, M.A.** 1987. Gamma irradiation as a quarantine treatment for Florida grapefruit infested with Caribbean fruit fly, *Anastrepha suspensa* (Loew). Proceedings of the Florida State Horticultural Society, 100: 5–7.

#### **Publication history**

*This is not an official part of the standard*

2006-12 TPPT developed draft text

2007-04 CPM-2 added topic *Irradiation treatment for Cylas formicarius elegantulus* (2006-124)

2007-10 SC revised draft text and approved for MC

2007-10 SC sent for MC under fast-track process

2008-03 Secretariat received formal objections prior to CPM-3

2008-08 SC revised draft text with TPPT consultation via email

2008-12 SC recommended draft text to CPM via e-decision

2009-03 Secretariat received formal objections prior to CPM-4

2009-05 SC requested TPPT to review

2009-08 TPPT revised draft text

2009-12 SC recommended draft text to CPM via e-decision

2010-03 Secretariat received formal objections prior to CPM-5

2010-05 SC requested TPPT to review

2010-07 TPPT revised draft text

2010-08 SC recommended draft text to CPM via e-decision

2011-03 CPM-6 adopted Annex 12 to ISPM 28

**ISPM 28. Annex 12** *Irradiation treatment for Cylas formicarius elegantulus* (2011). Rome, IPPC, FAO.

2014-10 Secretariat made minor formatting changes.

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).

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## IPPC

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).



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