This phytosanitary treatment was adopted by the Sixth Session of the Commission on Phytosanitary Measures in 2011.
The annex is a prescriptive part of ISPM 28:2007.

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

ISPM 28:2007 PHYTOSANITARY TREATMENTS

PT 14: Irradiation treatment for *Ceratitis capitata* (2011)

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 *Ceratitis capitata* at the stated efficacy. This treatment should be applied in accordance with the requirements outlined in ISPM 18:2003[1].

Treatment description

Name of treatment	Irradiation treatment for *Ceratitis capitata*
Active ingredient	N/A
Treatment type	Irradiation
Target pest	*Ceratitis capitata* (Diptera: Tephritidae) (Mediterranean fruit fly)
Target regulated articles	All fruits and vegetables that are hosts of *Ceratitis capitata*

Treatment schedule

Minimum absorbed dose of 100 Gy to prevent the emergence of adults of *Ceratitis capitata*

Efficacy and confidence level of the treatment is $ED_{99.9970}$ at the 95% confidence level.

Treatment should be applied in accordance with the requirements of ISPM 18:2003.

[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.

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

Other relevant information

Since irradiation may not result in outright mortality, inspectors may encounter live but non-viable *Ceratitis capitata* (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 Follett and Armstrong (2004) and Torres-Rivera and Hallman (2007), which determined the efficacy of irradiation as a treatment for this pest in *Carica papaya* and *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 (with hosts in parentheses): *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*; also artificial diet) and *Grapholita molesta* (*Malus domestica*; also artificial diet) (Bustos *et al*., 2004; Gould and von Windeguth, 1991; Hallman, 2004, Hallman and Martinez, 2001; Jessup *et al*., 1992; Mansour, 2003; von Windeguth, 1986; von Windeguth and 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.

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Publication history

This is not an official part of the standard

2007-12 TPPT developed draft text

2008-04 CPM-3 added topic *Irradiation treatment for* Ceratitis capitata (2007-204)

2008-11 SC revised draft text and approved for MC

2010-06 SC sent for MC under fast-track process

2010-12 SC recommended draft text to CPM via e-decision

2011-03 CPM-6 adopted Annex 14 to ISPM 28

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