This phytosanitary treatment was adopted by the Fifth Session of the Commission on Phytosanitary Measures in 2010.
The annex is a prescriptive part of ISPM 28:2007.

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

ISPM 28 PHYTOSANITARY TREATMENTS

PT 10: Irradiation treatment for *Grapholita molesta* (2010)

Scope of the treatment

This treatment applies to the irradiation of fruits and vegetables at 232 Gy minimum absorbed dose to prevent the emergence of adults of *Grapholita molesta* 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 *Grapholita molesta*

Active ingredient: N/A

Treatment type: Irradiation

Target pest: *Grapholita molesta* (Busck) (Lepidoptera: Tortricidae)

Target regulated articles: All fruits and vegetables that are hosts of *Grapholita molesta*.

Treatment schedule

Minimum absorbed dose: 232 Gy to prevent the emergence of adults of *Grapholita molesta*.

Efficacy and confidence level of the treatment is $ED_{99.9949}$ at the 95% confidence level.

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

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

[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.

Other relevant information

Since irradiation may not result in outright mortality, inspectors may encounter live, but non-viable *Grapholita molesta* (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 Hallman (2004) that determined the efficacy of irradiation as a treatment for this pest in *Malus domestica*.

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.

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Publication history

This is not an official part of the standard

2006-04 CPM-1 added work topic *Irradiation treatment for* Grapholita molesta (2006-127A)

2006-12 TPPT developed draft text and recommended it to the SC

2007-07 SC revised draft text and approved for member consultation via email

2007-10 Member consultation under fast-track process

2008-07 TPPT reviewed and revised draft text via email

2008-12 SC revised draft text via e-decision

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

2009-05 SC requested TPPT for review draft text

2009-11 TPPT revised draft text via email

2009-11 SC reviewed draft text for adoption

2010-03 CPM-5 adopted Annex 10 to ISPM 28

ISPM 28. 2007 **Annex 10** *Irradiation treatment for* Grapholita molesta (2010). Rome, IPPC, FAO.

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