

DRAFT ANNEX TO ISPM 28: IRRADIATION TREATMENT FOR *OSTRINIA NUBILALIS* (2012-009)

Status box	
This is not an official part of the standard and it will be modified by the IPPC Secretariat after adoption.	
Date of this document	2015-10-14
Document category	Draft Annex to ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>)
Current document stage	<i>To SC for approval for adoption</i>
Major stages	<p>2012 Treatment submitted</p> <p>2012-12 TPPT reviewed treatment and requested additional information</p> <p>2013-02 TPPT sent letter to Submitter through Secretariat</p> <p>2013-05 Submitter responded</p> <p>2013-07 TPPT recommended to SC for MC</p> <p>2013-09 TPPT approved treatment schedule (virtual meeting)</p> <p>2013-09 TPPT started drafting paper on adult emergence after irradiation</p> <p>2014-02 TPPT approved paper on adult emergence after irradiation and submitted to Secretariat</p> <p>2014-02 SC e-decision for approval for MC</p> <p>2014-03 Secretariat applied changes suggested by forum and opened poll</p> <p>2014-03 SC approved draft treatment for MC via poll (2014_eSC_May_06)</p> <p>2015-02 Member consultation comments under review by TPPT</p> <p>2015-05 TPPT May virtual meeting</p> <p>2015-09 TPPT September meeting</p>
Treatment lead	<p>2015-05 Mr Matthew SMYTH (AU)</p> <p>2012-12 Mr Andrew JESSUP (AU)</p>
Secretariat notes	<p>2013-09 Secretariat started using previously revised footnote regarding treatment adoption</p> <p>2014-04 Edited</p> <p>2015-09 Edited</p>

Scope of the treatment

- [1] This treatment comprises the irradiation of fruits and vegetables at a minimum absorbed dose of 289 Gy to prevent F₁ development past fifth instar, or a minimum adsorbed dose of 343 Gy to prevent F₁ egg hatching from irradiated parent pupae (the most tolerant life stage) of *Ostrinia nubilalis* (European corn borer)¹.

¹ The scope of phytosanitary treatments does not include issues related to pesticide registration or other domestic requirements for contracting parties' approval of treatments. IPPC adopted treatments may not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures prior to contracting parties approving 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.

Treatment description

- [2] **Name of treatment** Irradiation treatment for *Ostrinia nubilalis*
- [3] **Active ingredient** N/A
- [4] **Treatment type** Irradiation
- [5] **Target pest** *Ostrinia nubilalis* (Hübner) (Lepidoptera: Crambidae)
- [6] **Target regulated articles** All fruits and vegetables that are hosts of *Ostrinia nubilalis*

Treatment schedules

- [7] Minimum absorbed dose of 289 Gy to prevent F₁ development past fifth instar in eggs through late pupae of *O. nubilalis*.
- [8] There is 95% confidence that the treatment according to this schedule prevents F₁ development past fifth instar of not less than 99.987% of late pupae of *O. nubilalis*.
- [9] Minimum absorbed dose of 343 Gy to prevent F₁ egg hatching in eggs through late pupae of *O. nubilalis*.
- [10] There is 95% confidence that the treatment according to this schedule prevents F₁ egg hatching in eggs of not less than 99.9914% of late pupae of *O. nubilalis*.
- [11] Treatments should be applied in accordance with the requirements of ISPM 18 (*Guidelines for the use of irradiation as a phytosanitary measure*).
- [12] These irradiation schedules should not be applied to fruits and vegetables stored in modified atmospheres because they may affect the treatment efficacy.

Other relevant information

- [13] Because irradiation may not result in outright mortality, inspectors may encounter live, but non-viable, *O. nubilalis* (larvae, pupae or adults) during the inspection process. This does not imply a failure of the treatment.
- [14] In evaluating this treatment the Technical Panel on Phytosanitary Treatments (TPPT) considered issues associated with the possible survival of sterile adults. If sufficient numbers of these were to escape from irradiated infested fruits and vegetables and fly into pest monitoring traps, a quarantine response could be triggered, possibly resulting in economic loss and trade restrictions. The TPPT considered that, based on the work described in Hallman and Hellmich (2009) and Hallman *et al.* (2010), the numbers of fit survivors would be sufficiently low to make this an unlikely event.

References

- [15] The present annex refers to ISPMs. ISPMs are available on the International Phytosanitary Portal (IPP) at <https://www.ippc.int/core-activities/standards-setting/ispms>.
- [16] **Hallman, G.J. & Hellmich, R.L.** 2009. Ionizing radiation as a phytosanitary treatment against European corn borer (Lepidoptera: Crambidae) in ambient, low oxygen, and cold conditions *Journal of Economic Entomology*, 102(1): 64–68.
- [17] **Hallman, G.J., Levang-Brilz, N.M., Zettler, L. & Winborne, I.C.** 2010. Factors affecting ionizing radiation phytosanitary treatments, and implications for research and generic treatments. *Journal of Economic Entomology* 103(6): 1950–1963.