Irradiation treatment for Ceratitis capitata (draft annex to ISPM No. 28)

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Outline

- Background to adopted irradiation treatments
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Background to adopted irradiation treatments

- 14 draft irradiation treatments were sent for member consultation in 2007. After revision to take into account member comments, the drafts were submitted to CPM-4 in 2009.
- 8 irradiation treatments were adopted in 2009 and formal objections were received on 6 draft treatments.
- The drafts were further amended as a result of the objections and 5 drafts were submitted to CPM-5.
- 3 irradiation treatments were adopted in 2010. Two were returned to the Standards Committee (SC).

Irradiation treatment for *Ceratitis capitata*

- This treatment was recommended by the technical panel on phytosanitary treatments (TPPT) and approved for member consultation by the SC in 2008.
- It involves a lower irradiation dose than the generic treatment for fruit flies of the family Tephritidae adopted in 2009 (150 Gray minimum absorbed dose).
- It may be appropriate for circumstances where *C. capitata* is the only target pest.

Treatment description

- Target regulated articles: all fruit and vegetables that are hosts of *Ceratitis capitata*
- Schedule: Minimum absorbed dose of 100 Gray to prevent the emergence of adults of *C. capitata*.
- Efficacy and confidence level of the treatment is ED99.9970 at the 95% confidence level.
- The treatment should be applied in accordance with the requirements of ISPM No. 18 (*Guidelines for the use of irradiation as a phytosanitary measure*).
- The 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 *Ceratitis capitata* (larvae and/or pupae) during the inspection process. This does not imply a failure of the treatment.

- The TPPT based its evaluation of this treatment on the research work undertaken by Follett and Armstrong (2004) and Torres-Rivera and Hallman (2007), which established the efficacy of irradiation as a treatment for this pest in *Carica papaya* and *Mangifera indica*.

Other relevant information cont.

- 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 number of pests and commodities.

- 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.

Footnote

- The footnote on adopted treatments was modified by the CPM-5 in 2010 to clarify that effects on product quality are considered for some hosts prior to adoption and further evaluation of effects on product quality may be required.

"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."