



INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

ISPM 28 PHYTOSANITARY TREATMENTS

PT 15: Vapour heat treatment for *Bactrocera cucurbitae* on *Cucumis melo* var. *reticulatus*

(2014)

Scope of the treatment

This treatment comprises the vapour heat treatment of *Cucumis melo* var. *reticulatus* (netted melon) fruit to result in the mortality of eggs and larvae of melon fly (*Bactrocera cucurbitae*) at the stated efficacy¹.

Treatment description

Name of treatment Vapour heat treatment for *Bactrocera cucurbitae* on *Cucumis melo* var. *reticulatus*

Active ingredient N/A

Treatment type Physical (vapour heat)

Target pest *Bactrocera cucurbitae* (Coquillett) (Diptera: Tephritidae)

Target regulated articles Fruit of netted melon (*Cucumis melo* var. *reticulatus*).

Treatment schedule

Exposure in a vapour heat chamber:

- at a minimum of 95% relative humidity
- to air temperature increasing from room temperature to more than 46 °C
- for between three to five hours, until fruit core temperature reaches 45 °C

¹The 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.

- followed by 30 minutes at a minimum of 95% relative humidity in an air temperature of 46 °C and with fruit pulp temperature at a minimum of 45 °C.

Once the treatment is complete, the melons should be cooled at ambient air temperature to allow their core temperature to drop below 30 °C.

The efficacy and confidence level of the treatment is effective dose (ED)99.9889 at the 95% confidence level.

The commodity temperature and relative humidity should be monitored continuously at <1 minute intervals during treatment and should not fall below the stated level.

Other relevant information

In evaluating this treatment the Technical Panel on Phytosanitary Treatments (TPPT) considered issues associated with temperature regimes and thermal conditioning, taking into account the work of Hallman and Mangan (1997).

This schedule was based on the work of Iwata *et al.* (1990) and developed using the “Earl’s Favourite” cultivar of *Cucumis melo* var. *reticulatus*.

The fruit may be damaged if the core temperature exceeds 47 °C.

References

- Hallman, G.J. & Mangan, R.L.** 1997. Concerns with temperature quarantine treatment research. In G.L. Obenauf, ed. *Proceedings of the 1997 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reduction*. San Diego, CA, USA, Nov. 3–5. pp. 79-1–79-4. Available at <http://www.mbao.org/mbao97.html> (accessed September 2010).
- Iwata, M., Sunagawa, K., Kume, K. & Ishikawa, T.** 1990. Efficacy of vapour heat treatment on netted melon infested with melon fly *Dacus cucurbitae* Coquillett (Diptera: Tephritidae). *Research Bulletin of the Plant Protection Service, Japan*, 26: 45–49.

Publication history

This is not an official part of the standard

2006 Treatment submitted to TPPT

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2011-07 Member consultation

2011-12 TPPT response to comments to SC

2012-05 SC e-decision returned draft to TPPT

2012-12 TPPT reviewed draft

2013-02 Letter to submitter

2013-07 TPPT reviewed submitter response and recommended to the SC for CPM adoption

2013-10 SC e-decision approved draft for CPM adoption

2014-04 CPM-9 adopted Annex 15 to ISPM 28:2007

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