



ISPM 28
Annex [XX]

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

ISPM 28 PHYTOSANITARY TREATMENTS

PT [XX]: **Cold treatment for *Ceratitis capitata* on *Citrus* *reticulata* × *C. sinensis*** **(201[X])**

Scope of the treatment

This treatment comprises the cold treatment of fruit of *Citrus reticulata* × *Citrus sinensis*¹ (tangor) to result in the mortality of eggs and larvae of *Ceratitis capitata* (Mediterranean fruit fly) at the stated efficacy².

Treatment description

Name of treatment	Cold treatment for <i>Ceratitis capitata</i> on <i>Citrus reticulata</i> × <i>Citrus sinensis</i>
Active ingredient	N/A
Treatment type	Physical (cold)
Target pest	<i>Ceratitis capitata</i> (Diptera: Tephritidae) (Mediterranean fruit fly)
Target regulated articles	Fruit of <i>Citrus reticulata</i> × <i>Citrus sinensis</i> (tangor)

¹ *Citrus* species and hybrids are named according to the nomenclature in Cottin, R. 2002. *Citrus of the world: a citrus directory*. Montpellier, France, INRA-CIRAD.

² 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 schedule

Schedule 1: 2 °C or below for 18 continuous days

The efficacy is effective dose (ED)_{99,9970} at the 95% confidence level.

Schedule 2: 3 °C or below for 20 continuous days

The efficacy is ED_{99,9970} at the 95% confidence level.

The fruit must reach the treatment temperature before treatment exposure time is started. The fruit temperature should be monitored and recorded, and the temperature should not exceed the stated level throughout the duration of the treatment.

Other relevant information

Pre-cooling of the commodity to treatment temperature may be required.

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).

Schedules 1 and 2 were based on the work of De Lima *et al.* (2007) and were developed using cultivars “Ellendale” and “Murcott”.

References

- De Lima, C.P.F., Jessup, A.J., Cruickshank, L., Walsh, C.J. & Mansfield, E.R. 2007. Cold disinfestation of citrus (*Citrus* spp.) for Mediterranean fruit fly (*Ceratitis capitata*) and Queensland fruit fly (*Bactrocera tryoni*) (Diptera: Tephritidae). *New Zealand Journal of Crop and Horticultural Science*, 35: 39–50.
- Hallman, G.J. & Mangan, R.L. 1997. Concerns with temperature quarantine treatment research. In G.L. Obenauf, ed. *1997 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reduction*, San Diego, CA, USA, Nov. 3–5. pp. 79-1–79-4.

Publication history

This is not an official part of the standard

2007-09 Treatment submitted in response to the Call for treatments

2007-12 TPPT meeting combined Cold treatment of *Citrus reticulata* x *C. sinensis* for *Ceratitis capitata* 2007-106 and 2007-206D to create 2007-206B

2008-04 CPM-3 added subject under the topic Fruit fly treatments

2008-09 SC approved for member consultation via e-decision

2009-06 Sent for member consultation

2010-07 TPPT meeting revised the text and recommended to SC for CPM-7 (2012) adoption

2011-11 SC commented by e-decision

2012-12 TPPT meeting revised the text and recommended to SC for CPM adoption

2013-06 SC recommended to CPM-9 for adoption

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