



**ISPM 28**  
**Annex [XX]**

## **INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES**

### **ISPM 28 PHYTOSANITARY TREATMENTS**

#### **PT [XX]: Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (201[X])**

#### **Scope of the treatment**

This treatment comprises the cold treatment of fruit of *Citrus paradisi* (grapefruit) to result in the mortality of eggs and larvae of *Ceratitis capitata* (Mediterranean fruit fly) at the stated efficacy<sup>1</sup>.

#### **Treatment description**

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

#### **Treatment schedule**

**Schedule 1: 2 °C or below for 19 continuous days**

<sup>1</sup> 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.

The efficacy is effective dose (ED)<sub>99,9917</sub> at the 95% confidence level.

### **Schedule 2: 3 °C or below for 23 continuous days**

The efficacy is ED<sub>99,9916</sub> 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 Willink *et al.* (2007a, b).

Schedule 1 was developed using cultivars “Marsh Seedless”, “Star Ruby”, “Henninger’s Ruby” and “Rouge la Toma”.

Schedule 2 was developed using cultivar “Henninger’s Ruby”.

### **References**

- 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.
- Willink, E., Gastaminza, G., Gramajo, M.C., Salvatore, A., Villagrán, M.E., Carrizo, B., Macián, A., Avila R., & Favre, P.** 2007a. Estudios básicos para el desarrollo de tratamientos cuarentenarios con frío para *Ceratitis capitata* y *Anastrepha fraterculus* en cítricos de Argentina. *In* Moscas de los frutos y su relevancia cuarentenaria en la citricultura del Noroeste Argentino: once años de investigaciones 1996–2007. E. Willink, G. Gastaminza, L. Augier y B. Stein editores. Las Talitas, Tucumán Argentina. Available at <http://www.eaac.org.ar> (last accessed on 18 September 2013).
- Willink, E. Gastaminza, G., Gramajo, M.C., Salvatore, A., Villagrán, M.E., Carrizo, B., Macián, A., Avila, R., Favre, P., Toledo, S., García Degano, M.F., Socias, M.G. & Oviedo, A.** 2007b. Tratamientos con frío para el control de *Ceratitis capitata* y *Anastrepha fraterculus* para la exportación de cítricos. *In* Moscas de los frutos y su relevancia cuarentenaria en la citricultura del Noroeste Argentino: once años de investigaciones 1996–2007. E. Willink, G. Gastaminza, L. Augier y B. Stein editores. Las Talitas, Tucumán Argentina. Available at <http://www.eaac.org.ar> (last accessed on 18 September 2013).

**Publication history**

*This is not an official part of the phytosanitary treatment and it will be modified by the IPPC Secretariat after adoption.*

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

2007-12 TPPT meeting revised the text Cold treatment of *Citrus paradisi* for *Ceratitis capitata*.

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 recommended to CPM for adoption

2012-03 Treatment was formally objected

2012-09 TPPT virtual meeting drafted response to Formal Objections (no revision recommended in regards with FO)

2012-12 TPPT meeting revised the text (no changes done) and recommended to SC for CPM adoption

2013-06 SC recommended to CPM-9 for adoption

**ISPM 28. 2007: Annex [XX] Cold treatment for *Ceratitis capitata* on *Citrus paradisi* (201[X]), Rome, IPPC, FAO.**

Publication history: Last modified October 2013