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Plant Protection  
Convention

INTERNATIONAL STANDARD FOR PHYTOSANITARY MEASURES 28

PHYTOSANITARY TREATMENT

ISPM 28  
ANNEX 37

ENG

# PT 37: Cold treatment for *Bactrocera tryoni* on *Vitis vinifera*

Produced by the Secretariat of the  
International Plant Protection Convention (IPPC)

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## ISPM 28

### Phytosanitary treatments for regulated pests

#### PT 37: Cold treatment for *Bactrocera tryoni* on *Vitis vinifera*

Adopted 2021; published 2021

##### Scope of the treatment

This treatment describes the cold treatment of fruit of *Vitis vinifera* (table grapes) to result in the mortality of eggs and larvae of *Bactrocera tryoni* at the stated efficacy.<sup>1</sup>

##### Treatment description

<b>Name of treatment</b>	Cold treatment for <i>Bactrocera tryoni</i> on <i>Vitis vinifera</i>
<b>Active ingredient</b>	n/a
<b>Treatment type</b>	Physical (cold)
<b>Target pest</b>	<i>Bactrocera tryoni</i> (Froggatt, 1897) (Diptera: Tephritidae)
<b>Target regulated articles</b>	Fruit of <i>Vitis vinifera</i> (table grapes)

##### Treatment schedules

###### Schedule 1: 1 °C or below for 12 continuous days

There is 95% confidence that the treatment according to this schedule kills not less than 99.9964% of eggs and larvae of *Bactrocera tryoni*.

###### Schedule 2: 3 °C or below for 14 continuous days

There is 95% confidence that the treatment according to this schedule kills not less than 99.9984% of eggs and larvae of *Bactrocera tryoni*.

For both schedules, the fruit must reach the treatment temperature before treatment exposure time commences. The fruit core temperature should be monitored and recorded, and the temperature should not exceed the stated level throughout the duration of the treatment.

This treatment should be applied in accordance with the requirements of ISPM 42 (*Requirements for the use of temperature treatments as phytosanitary measures*).

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<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. Treatments adopted by the Commission on Phytosanitary Measures may not provide information on specific effects on human health or food safety, which should be addressed using domestic procedures before contracting parties approve 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.

## Other relevant information

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

The efficacy of the schedules was calculated based on the following estimated numbers of treated larvae with no survivors: 82 863 for schedule 1 and 182 450 for schedule 2.

Schedules 1 and 2 were based on the work of De Lima *et al.* (2011) and NSW DPI (2007) and developed using failure to pupariate as the measure of mortality.

Schedule 1 was developed using the cultivars ‘Ruby Seedless’, ‘Flame Seedless’ and ‘Thompson Seedless’.

Schedule 2 was developed using the cultivars ‘Red Globe’, ‘Crimson Seedless’ and ‘Thompson Seedless’.

## References

The present annex may refer to ISPMs. ISPMs are available on the International Phytosanitary Portal (IPP) at <https://www.ippc.int/core-activities/standards-setting/ispms>.

**De Lima, C.P.F., Jessup, A.J., Mansfield, E.R. & Daniels, D.** 2011. Cold treatment of table grapes infested with Mediterranean fruit fly *Ceratitis capitata* (Wiedemann) and Queensland fruit fly *Bactrocera tryoni* (Froggatt) Diptera: Tephritidae. *New Zealand Journal of Crop and Horticultural Science*, 39 (2): 95–105.

**Hallman, G.J. & Mangan, R.L.** 1997. Concerns with temperature quarantine treatment research. In G.L. Obenauf, ed. *Proceedings of the Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reduction*. San Diego, USA, 3–5 November 1997, pp. 79–1–79-4.

**NSW DPI** (New South Wales Department of Primary Industries). 2007. *Cold treatment of Australian table grapes infested with eggs and larvae of the Queensland fruit fly (Bactrocera tryoni (Froggatt)) Diptera: Tephritidae*. Gosford, Australia, NSW DPI. 120 pp.

## Publication history

*This is not an official part of the standard*

2017-06 Treatment submitted in response to 2017-02 call for treatments (*Cold treatment of Australian Table grapes against Mediterranean fruit fly and Queensland fruit fly*).

2017-07 Technical Panel on Phytosanitary Treatments (TPPT) reviewed the submission.

2018-05 SC added topic *Cold treatment of Bactrocera tryoni on table grapes* (2017-023B) to the TPPT work programme with priority 1.

2018-06 TPPT revised the draft and recommended it to SC for first consultation.

2018-11 TPPT final review via e-forum (2018\_eTPPT\_Oct\_01).

2019-03 SC approved the draft for consultation via e-decision (2019\_eSC\_May\_11).

2019-07 First consultation.

2020-02 TPPT reviewed the responses to consultation comments and the draft and recommended it to the SC for approval for second consultation.

2020-03 TPPT finalized the responses to consultation comments via e-forum (2020\_eTPPT\_Feb\_01).

2020-04 SC approved the responses to comments and the draft for second consultation via e-decision (2020\_sSC\_May\_16).

2020-07 Second consultation.

2020-11 TPPT meeting reviewed and recommended to the SC for approval for adoption by the CPM.

2021-03 CPM-15 adopted the phytosanitary treatment.

**ISPM 28. Annex 37.** *Cold treatment for Bactrocera tryoni on Vitis vinifera* (2021). Rome, IPPC, FAO.

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## IPPC

The International Plant Protection Convention (IPPC) is an international plant health agreement that aims to protect global plant resources and facilitate safe trade.

The IPPC vision is that all countries have the capacity to implement harmonized measures to prevent pest introductions and spread, and minimize the impacts of pests on food security, trade, economic growth, and the environment.

### Organization

- ◆ There are over 180 IPPC contracting parties.
- ◆ Each contracting party has a national plant protection organization (NPPO) and an Official IPPC contact point.
- ◆ 10 regional plant protection organizations (RPPOs) have been established to coordinate NPPOs in various regions of the world.
- ◆ IPPC liaises with relevant international organizations to help build regional and national capacities.
- ◆ The Secretariat is provided by the Food and Agriculture Organization of the United Nations (FAO).

**International Plant Protection Convention Secretariat**  
ippc@fao.org | www.ippc.int

**Food and Agriculture Organization of the United Nations**  
Rome, Italy

