Draft ANNEX to ISPM 28: Methyl iodide fumigation treatment for *Carposina sakaskii* on Malus X domestica (2023-006)

**Status box**

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| *This is not an official part of the annex to the standard and it will be modified by the IPPC Secretariat after adoption.* |
| **Date of this document** | 2024-05-24 |
| **Document category** | Draft annex to ISPM 28 |
| **Current document stage** | *To* 2024-06 TPPT meeting |
| **Major stages** | 2023-08 Treatment submitted in response to 2017 call for treatments (ongoing).2023-08 Technical Panel on Phytosanitary Treatments (TPPT) reviewed and requested further information from submitter.2023-09 standards committee (sc) added M*ethyl iodide fumigation treatment for Carposina sakaskii on Malus x domestica (2023-004)* to the TPPT work programme.2024-02 TPPT received updated on registration status and agreed to wait for additional information 2024-06 TPPT reviewed treatment  |
| **Treatment Lead** | 2023-09 Scott MYERS (US, Treatment Lead) |
| **Notes** |  |

Scope of the treatment

1. This treatment describes the fumigation of *Malus x domestica* using methyl iodide [iodomethane] to reduce the risk of introduction and spread of *Carposina sasakii* pests.
2. 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.

Treatment description

1. **Name of treatment** Methyl iodide fumigation treatment for *Carposina sasakii* on *Malus x*

 *domestica*

1. **Active ingredient** Methyl iodide [iodomethane]
2. **Treatment type** Fumigation
3. **Target pest[s]** *Carposina sasakii* (Matsumura, 1900) (Lepidoptera: Carposinidae)
4. **Target regulated articles** Fruit of *Malus x domestica*

Treatment schedule

1. Fumigation of *Malus x domestica* fruit in accordance with a schedule that achieves the minimum concentration–time product (CT) within a single 2-hour period at the temperature and final residual concentration specified in Table 1.

**Table 1.** Minimum concentration–time product (CT) within a single 2-hour period for *Malus x domestica* fruit fumigated with methyl iodide.

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| **Temperature** | **Minimum CT (g∙h/m3)** | **Minimum concentration (g/m3)** |
| 15 °C or above | 32.8 | 16.9 |

1. There is 95% confidence that the treatment according to this schedule kills not less than 99.992% of eggs and larvae of *Carposina sasakii*.
2. This treatment should be applied in accordance with the requirements of ISPM 43 (*Requirements for the use of fumigation as a phytosanitary measure*).
3. The measured temperature of the fruit (pulp) or the ambient air (whichever is lower) is used to calculate the methyl iodide dose, and must be at least 15 °C or above throughout the duration of the treatment.

Other relevant information

1. The treatment schedules described here are based on the work of Soma *et al.* (2023) using larval mortality.
2. The efficacy of this schedule was calculated based on an estimated total of 37,002 late-instar larvae of *Carposina sasakii* treated with no survival.

References

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

**Soma, Y., Takahashi, M, Machida, M, Kawakami, F., Ishigiri, Y., Kato, M., Kawaii, T., Omura, K., Saito, M., Ozeki, Y., Hoshikawa, Y., Mishiro, K.** 2023. Quarantine treatment by methyl iodide fumigation to apple fruit infested by the peach fruit moth, *Carposina sasakii*. *Res. Bull. Pl. Prot. Japan*, 59: 1-12.