

**Phytosanitary procedures****PM 3/63 (3) Production of pathogen-free minitubers of potato****Specific scope**

This Standard describes systems for the production of pathogen-free minitubers of potato as a basis for their international movement.

**Specific approval and amendment**

First approved in 2004-09.  
Revisions approved in 2005-09 and in 2019-09.

**Introduction**

According to EPPO Standard PM 8/1 *Commodity-specific phytosanitary measures for potato*, minitubers produced according to the present Standard may be moved into or between countries as propagation stock I (as defined in EPPO Standard 4/28 *Certification scheme for seed potatoes*) or prebasic seed TC (UN/ECE equivalent) without the need for post-entry quarantine or additional testing (which may be a requirement of the certification scheme in some countries). This possibility is subject, if appropriate, to transitional arrangements.

**Specific definitions**

*Minitubers of potato*: tubers produced by microplants of potato in a growing medium meeting specified requirements.

**Requirements**

The minitubers should meet the definition of seed potatoes in EPPO Standard PM 8/1 *Commodity-specific phytosanitary measures for potato*.

The place or site of production should be an official facility or a facility authorized by the National Plant Protection Organization (NPPO). It should be operated under standard operating procedures with appropriate quality checks. It should be audited by the NPPO (or certifying authority) at least once every 12 months. This should include a review of documentation and operating procedures.

**Requirements for pest-free production**

The minitubers should be produced at a pest-free place of production or at a pest-free production site, with

respect to all regulated pests of potatoes in the importing country. ISPM 10 *Requirements for the establishment of pest-free places of production and pest free production sites* should be consulted for general requirements. The following particular requirements should also be made.

The minitubers should have been produced from pathogen-free microplants that have been produced according to EPPO Standard PM 3/62 *Production of pathogen-free microplants of potato*. ISPM 33 *Pest free potato (Solanum spp.) micropropagative material for international trade* should also be referred to.

Only officially approved potato material should be grown in the facility. Other plant species should not normally be grown in the facility but can exceptionally be accepted if it is shown that the plants concerned are not infected by any pathogen able to infect potato.

The minituber production facility should be located ideally in a pest-free area for all regulated pests of potato in the importing country. Otherwise, measures should be used to ensure that the production site or place of production remains pest-free. Depending on the pests, measures may include:

- location of facilities in areas with low pest pressure
- production timed to take place at a time of year when there is low pest pressure
- structure and facilities (growth room, glasshouse, screenhouse) that prevent the entry of aphids and other pests.

The following precautions should be taken:

- double doors, concrete floors or floors covered with a protective sheet to prevent soil contaminating the production area
- controls on entry of staff to the facility, with only authorized staff allowed entry

- use of protective clothing (e.g. overalls and shoes dedicated for use in the production facility), disinfection of footwear and hand washing on entry.

### Growing medium, water supply and fertilizer

The growing medium should be pest-free and approved by the NPPO of the importing country. It may be a soil-less compost.

Alternatively, if the medium contains soil, it should be heat-treated to eliminate pests by a proven and documented procedure. The growing medium should be transported and stored in such a way that it does not become contaminated with pests before use.

The water supply used in the production facility for irrigation or hydroponic culture should be pest-free. Water from a deep well or spring, or mains tap water, may be used. Water that may pose a pest risk should be treated or disinfected by a proven and documented procedure before use and regular checks made to ensure that the pathogen of concern has been eliminated. Preferably only inorganic fertilizer should be used. Organic fertilizer should not be used unless sterilized by a proven and documented procedure.

### Growing cycle, harvest, storage and packaging

The plants should be kept free from pest vectors, e.g. aphids, and from other pests, at all times. For this purpose, a pest monitoring and control programme should be implemented and documented. The production facility should be cleaned after each production run. The tubers should be stored in a dedicated store that operates at a level of confinement sufficient to exclude pests. Handling equipment should be regularly cleaned, and boxes or trays used to store the material should be cleaned before each use. Facilities and equipment should also be periodically disinfected. New bags or boxes should be used for marketing the minitubers and should be sealed in a manner to prevent contamination or infestation of the minitubers by regulated pests.

### Verification of pest-free status

The growing crop should have been officially inspected at least twice and be found free from pests at each inspection. The crop should also be free from rogues and

off-types. The tubers should have been officially inspected and be free from regulated pests. For marketing purposes, they should also meet the minimum tolerances (growing medium and defects) for propagation stock I, as described in EPPO Standard PM 4/28 *Certification scheme for seed potatoes*.<sup>1</sup>

Facilities and equipment should be fit for the purpose and well maintained. The minituber producer should carry out regular inspections to ensure that the required confinement measures are maintained. All staff involved in producing the minitubers should have appropriate education, training and experience in administrative and management techniques for the production of this material.

The minituber producer should document the management, technical and operational procedures for the production of minitubers. Particular attention should be paid to those control measures used to prevent infestation or contamination of the minitubers by pests during their production, harvest and storage, and during transport to their destination. The following documents and records should also be maintained: staff training records, records of all tests done on the material, results of tests, records of lineage in a manner ensuring traceability for at least 10 years.

### Evaluation of minituber production systems

This Standard may be used in the evaluation of minituber production systems in exporting countries. The NPPO of the exporting country should give the NPPO of the importing country the opportunity to evaluate its minituber production system, including, on request, an audit of relevant documents and of the facility.

### References

**Links to the latest version of the EPPO Standards, published in the EPPO Bulletin can be found on the EPPO website <https://www.eppo.int>**

PM 3/62 *Production of pathogen-free microplants of potato*.

PM 4/28 *Certification scheme for seed potatoes*.

EPPO Standard PM 8/1 *Commodity-specific phytosanitary measures for potato*.

ISPM 10 (1999) Requirements for the establishment of pest-free places of production and pest-free production sites. *International Standards for Phytosanitary Measures 10*. IPPC Secretariat, FAO, Rome (IT).

ISPM 33 (2010) Pest free potato (*Solanum* spp.) micropropagative material and minitubers for international trade. *International Standards for Phytosanitary Measures 33*. IPPC Secretariat, FAO, Rome (IT).

<sup>1</sup>Some EPPO countries may at the present time have stricter requirements for propagation stock I. Depending on the pest, the level of confinement and the perceived phytosanitary risk, testing during the growing season and a post-harvest tuber test may be required to verify pest freedom.