

Phytosanitary procedures
Procédures phytosanitaires**PM 3/75 (1) *Globodera rostochiensis* and *Globodera pallida*: sampling soil attached to ware potato tubers for detection prior to export and at import****Specific scope**

This Standard describes the procedure by which ware potato lots are tested to determine lot freedom from *Globodera rostochiensis* and *Globodera pallida* immediately prior to packaging for export and at import. This Standard does not concern seed potatoes (including farm saved seed). This Standard is not applicable to potatoes that are free from soil (e.g. washed tubers) or to potato in loose storage.

Specific approval and amendment

First approved in 2014–09.

Introduction

Globodera rostochiensis and *Globodera pallida* (potato cyst nematodes) are EPPO A2 pests and details about their biology, distribution and economic importance can be found in EPPO/CABI (1997) and the Plant Quarantine data Retrieval system (PQR) on the EPPO website.

Potato cyst nematodes occur in most parts of the EPPO region although their distribution in most areas is not precisely known. Whereas the production of ware potatoes in fields officially designated as infested is commonly regulated by EPPO member countries, the production of ware potatoes in fields of unknown potato cyst nematode status is not regulated.

Some countries may require testing of soil from the tubers to demonstrate freedom from *G. rostochiensis* and *G. pallida* (EPPO Standards PM 3/70 and PM 3/71). Alternatively, other countries require that potatoes produced and exported for consumption are cultivated on fields shown to be free by potato cyst nematodes. Field freedom from *G. rostochiensis* and *G. pallida* based on sampling and testing of soil prior to planting is a general requirement for seed potatoes and may also be suitable to confirm lot freedom of ware potatoes. However, there are limitations to pre-planting sampling and testing of fields for the detection of potato cyst nematodes in ware potatoes. For instance, in many countries there is no standardized system of soil sampling and testing for ware potato production and the introduction of such a regime may not easily be implemented. As an alternative to pre-planting soil testing, and also to allow for more flexibility,

the following procedure is described for sampling soil attached to ware potato tubers destined for export to countries where phytosanitary import requirements for *G. rostochiensis* and *G. pallida* are in place. This procedure is not applicable for ware potatoes in loose storage.

The main advantages of sampling soil attached to potato tubers at loading or at import for detection of potato cyst nematodes are:

- Traceability of results is improved as testing results can be assigned directly to the exported consignments, thus enabling a better transparency in trade. Otherwise, once the crop has been removed from the field there may be no reliable traceback to place of production;
- Soil sampling of potato lots (e.g. at the time of loading) can be done more rapidly than by field sampling. However, this requires adequate storage facilities at the loading place while awaiting test results;
- It gives potato producers greater flexibility in terms of marketing because field sampling and testing prior to planting of the crop is not necessary;
- The importing country may undertake similar controls and tests on the same material (attached soil) and use similar methods.

Sampling potato lots before export or at import

Soil attached to potato tubers may be officially sampled immediately prior to packaging, prior to loading for export,

prior to secure storage before export, or immediately at unloading during import. The following methods should be applied:

- During sorting and packaging tubers may be brushed, cleaned or handled in such a way that soil attached to tubers will become dislodged. This soil should be collected in a clean container. All equipment used for sorting and cleaning should be handled in such way that the risk of cross-contamination between different lots is minimized;
- Alternatively, a number of bags or boxes (see EPPO Standard PM 3/70) should be selected at random, emptied out or shaken, and soil collected. It needs to be ensured that the sample is representative of the whole consignment.

An official soil sample of at least 10 mL of soil per tonne of potatoes but not more than 50 mL per tonne of potatoes should be taken from the collected soil and tested. The importing country may specify the appropriate level of sampling within this range. The soil sample should be representative of the whole consignment. If less than the minimum amount of soil is available (e.g. brushed potatoes or potatoes from sandy soils), then all the soil/debris available should be tested. The sampling rate should be documented in all cases.

After sampling, the potatoes should immediately be packed into new bags, or containers which are new or cleaned and disinfected. This does not apply to potatoes which are not packed (loose storage). The lots should be stored under appropriate conditions until test results are

available to ensure traceability. Care should be taken that the packed lots do not come in contact with potatoes or soil which may be infested by potato cyst nematodes.

Identification

Soil samples should be tested by an official laboratory and testing should employ methods for the extraction of potato cyst nematodes described in the EPPO Standard PM 7/119 on nematode extraction. Identification of cysts should be done as described in EPPO Diagnostic Protocol PM 7/40 for *G. pallida* and *G. rostochiensis*.

References

- EPPO/CABI (1997) *Globodera rostochiensis* and *Globodera pallida*. In: *Quarantine Pests for Europe*, 2nd edn (eds Smith IM, McNamara DG, Scott PR & Holderness M), pp. 601–606. CAB International, Wallingford (GB).
- EPPO Standard PM 3/70 Export certification and import compliance checking for potato tubers. Available at <http://archives.eppo.int/EPPOStandards/procedures.htm> [accessed on 1 September 2014].
- EPPO Standard PM 3/71 General crop inspection procedure for potatoes. Available at <http://archives.eppo.int/EPPOStandards/procedures.htm> [accessed on 1 September 2014].
- EPPO Standard PM 7/40 Diagnostic Protocol for *Globodera rostochiensis* and *Globodera pallida*. Available at <http://archives.eppo.int/EPPOStandards/diagnostics.htm> [accessed on 1 September 2014].
- EPPO Standard PM 7/119 Nematode extraction. Available at <http://archives.eppo.int/EPPOStandards/diagnostics.htm> [accessed on 1 September 2014].