

Commodity-specific phytosanitary measures
Mesures phytosanitaires par marchandise**PM 8/1 (2) Potato****Specific scope**

The purpose of this Standard is to recommend to EPPO Member countries the phytosanitary measures which they should use or require for seed and ware potatoes moving in international trade to prevent the introduction and spread of quarantine pests. Farm-saved seed is not covered because it is not grown under an official certification scheme and should not be traded. The recommended phytosanitary measures for A1 pests are addressed to all EPPO Member countries and those for A2 pests are aimed at countries where the pest does not occur or is not widely distributed. These

recommendations are derived from the phytosanitary measures included in EPPO Standard PM 1/2 (EPPO A1 and A2 Lists), EPPO Standards PM2 (pest-specific phytosanitary measures, which were withdrawn in 2006) and Pest Risk Analyses (PRAs).

Specific approval and amendment

First approved in 2004-09.

Revised in 2017-09

1. Plants and commodities concerned**1.1 Commodities of potato**

The EPPO potato Standard concerns three commodities of potato defined specifically for this standard as follows:

- *Breeding material*: *Solanum* species which may include heritage potato varieties, lines/accessions used in potato breeding, gene bank material (vegetative and true potato seed) and is of:
 - uncertain health status because it has never received testing by the NPPO for freedom from quarantine pests or has no evidence of such testing; or
 - verified health status, because it has been tested by the NPPO and has been found free from quarantine pests.
- *Certified seed potatoes*: tubers (including minitubers) and potato micropropagative material of cultivated tuber-forming *Solanum* species (usually *Solanum tuberosum*) for planting which are produced under an official certification scheme to meet specified requirements (e.g. for pest freedom). *Solanum tuberosum* and any other *Solanum* species cultivated in a similar way on a commercial scale.
- *Ware potatoes*: tubers of cultivated tuber-forming *Solanum* species for consumption or processing.
The following definitions also apply:
- *Certification scheme*: system for the production of vegetatively propagated plants for planting, intended for

further propagation or for sale, obtained from nuclear stock after several propagation stages under conditions ensuring that stated health standards are met. The filiation of the material is recorded throughout the scheme (EPPO Standards PM 4 Production of healthy plants for planting).

- *Farm-saved seed potatoes*: seed potatoes not produced under the official certification scheme for seed potatoes and not traded but retained by the grower for planting on their own place of production.
- *Potato micropropagative material*: plants *in vitro* of tuber-forming *Solanum* species (also known as ‘microplants’).
- *Minitubers of potato*: a tuber produced from potato micropropagative material in pest-free growing medium in a facility under specified protected conditions.
- *Nuclear stock*: plants individually tested by the most rigorous procedure in a certification scheme and found free from specified pests. All such plants should be maintained at all times under strict conditions ensuring freedom from infection by those pests. According to the crop concerned, plants propagated from nuclear-stock material may remain as nuclear stock provided that they do not leave the nuclear-stock conditions (EPPO Standards PM 4 Production of healthy plants for planting).
- *Plot*: a field or part of a field on which a distinct crop is grown in a particular growing season.

It should be noted that certain other plants (e.g. other hosts of quarantine pests of potato and plants accompanied by soil in which potatoes were previously grown) may also be subject to phytosanitary requirements on account of the potential spread of quarantine pests of potato.

1.2 Risks from different potato commodities

Potatoes constitute a special group of commodities for the purposes of international trade. This is because they can potentially carry a large number of very damaging pests. To prevent their spread and to maintain economic yields requires that planting material (seed potatoes) be free of certain pests and in general has a low pest level. The phytosanitary risk from potatoes carrying pests depends primarily on whether they are breeding material, certified seed potatoes or ware potatoes.

1.2.1 Breeding material of uncertain health status

Potato breeding material (as defined in this Standard) poses a high phytosanitary risk because it may have an uncertain plant health status, i.e. it may not have been adequately tested or maintained under official control to prevent or minimize infection by potato pests. This is the basis for prohibiting the import of all breeding material of potato, of whatever origin, except under a special permit, subject to a testing regime under post-entry quarantine (EPPO Standard PM 3/21). As long as breeding material is not adequately tested and then maintained under official control (quarantine, EC 2008/61), breeding material has to be considered as a potential risk and should not be marketed.

1.2.2 Breeding material of verified health status

Potato breeding material which has been tested and found free from diseases according to EPPO Standard PM 3/21 may be released from quarantine and moved internationally. It poses similar risks to certified seed potatoes but may not be eligible for certification because, for example, it may not be of a listed variety under marketing regulations.

1.2.3 Certified seed potatoes

Certified seed potatoes have a specific plant health status, i.e. they should be free from quarantine pests but may be infested with regulated non-quarantine pests (IPPC 2002a) or other pests to specific tolerances depending on the class of material. They therefore generally present a lesser risk than breeding material but a greater risk than ware potatoes because they are propagated and planted widely. If it is intended to import seed potatoes from a country where EPPO quarantine pests are present it may be possible to apply phytosanitary measures to prevent infestation by these pests in order to allow trade with a phytosanitary certificate. In other cases, it may not be possible to mitigate all the phytosanitary risks. Trade in seed potatoes should

then be prohibited except on the same basis as breeding material and, where appropriate, subject to post-entry quarantine. All imported certified seed potatoes (as defined in this Standard) should satisfy the official requirements made for certified seed potatoes produced within the importing country.

Two categories of certified seed potatoes present a lower risk than field-grown certified seed potatoes:

- *micropropagative material (microplants)*: microplants produced according to EPPO Standard PM 3/62 *Production of pathogen-free microplants of potato* should have the lowest level of phytosanitary risk since they have been tested and found free from EPPO quarantine pests and – when relevant – other pests and are maintained and produced under a high level of confinement, including aseptic handling to prevent the risk of pest infestation
- *minitubers*: minitubers produced according to EPPO Standard PM 3/63 *Production of pathogen-free minitubers of potato* should have a very low level of phytosanitary risk since they are derived directly from pathogen-free plants grown in a soil-free or pest-free medium under protected conditions that prevent or minimize the risk of pest infestation.

Micropropagative material and minitubers may also be produced according to ISPM 33 *Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade*.

Farm-saved seed potatoes should not be moved internationally.

1.2.4 Ware potatoes

Ware potatoes for direct human consumption (or processing) may present a lower level of phytosanitary risk than seed potatoes. This is because ware potatoes are not intended to be planted. However, illegal planting will significantly increase the risks. In addition certain pathways can result in cross-contamination of seed potatoes, and the inappropriate disposal of effluent or waste from grading or processing ware potatoes can contaminate agricultural land or waterways. It may therefore be necessary to apply specific phytosanitary measures to ensure that the risk is minimized. The risk can, if appropriate, be even further limited by ensuring that internationally traded ware potatoes cannot grow if planted (e.g. by treatment with sprout suppressants). If the risk cannot be reduced to acceptable levels for a particular import trade then prohibition may be necessary.

1.3 Criteria for different potato commodities

The three distinct categories (breeding material, certified seed potatoes and ware potatoes) present different risks. It is therefore important, as a first step, for the importing country to ensure that imported potatoes have been correctly identified. In the case of certified seed potatoes, micropropagative material or minitubers present a lower risk than field-grown seed or ware potatoes.

1.3.1 Criteria for certified seed potatoes

Certified seed potatoes are produced according to an officially approved certification scheme, ensuring that they are free from specified pests or meet specified pest tolerances. They are identified by the phytosanitary certificate which accompanies them and by the packaging that includes an official label designating the contents as seed potatoes. Seed potatoes are separated into different classes, according to the number of generations in the propagation system, the level of containment under which they are produced, and the tolerances which are accepted for potato pests. EPPO Standard PM 4/28 *Certification scheme for seed potatoes* differentiates between nuclear stock (maintained in the laboratory) and four classes of propagation stock (I, II, III, IV), following the terminology used in other EPPO Standards. In seed potato production, the terminology of the UN-ECE Standard is more widely used. EPPO propagation stock I corresponds to 'pre-basic TC' (i.e. micropropagative material or minitubers produced under axenic conditions). EPPO propagation stocks II, III and IV correspond to, respectively, 'pre-basic', 'basic' and 'certified'. These are produced in the field, under conditions designed to ensure that they (and the seed tubers produced from them) meet the required pest tolerances. In addition to phytosanitary requirements, seed potatoes should meet varietal, quality and marketing requirements. Separate grading, handling and packing minimize the risk of cross-contamination between ware and seed potatoes and have been shown to be important in minimizing/preventing the spread of many diseases (e.g. ring rot).

Only certified seed potato tubers produced according to EPPO Standard PM 4/28 or its equivalent should be considered to be seed potatoes and be eligible for import. The scheme includes testing for regulated pests at the nuclear-stock level, and contains appropriate requirements for pest freedom, or tolerances, throughout the system. Since the later steps in the propagation system are subject to external influences, because material is grown outside of confinement, confidence in the phytosanitary status of the crop in the exporting country can only be obtained through an adequate inspection and testing system within the certification scheme. In addition, for certain pests, further requirements may be needed, such as a pest-free place of production, pest-free area (including protection from interaction with potatoes or machinery from outside the area) or other specific demands (see EPPO Standard PM 3/61 *Pest-free areas and pest-free production and distribution systems for quarantine pests of potato*). For regulatory purposes, the potato certification scheme of the country of origin should be assessed by the importing country (see Appendix 2), as well as the competence of the producers, and of the agencies or government bodies responsible for certification. Potatoes that do not satisfy these criteria are, by definition, not certified seed potatoes, even if planted.

1.3.2 Criteria for certified seed potatoes: micropropagative material (microplants)

In the closed sterile environments in which nuclear stock and propagation stock I (microplants) are maintained or produced, confidence in phytosanitary security comes from the confinement procedures, the testing procedures, the skills of the personnel and internal and external quality control systems. The criteria to be met for production and control can be defined independently of external circumstances to allow trade of this material (see EPPO Standard PM 3/62 *Production of pathogen-free microplants of potato*).

1.3.3 Criteria for certified seed potatoes: minitubers

Propagation stock I (minitubers) grown under aphid-proof mesh or in sealed-environment rooms may be at risk from viral and bacterial diseases. This can be minimized by, for example, employing an isolated location from potato pests, production out of season and the use of a well-designed facility and management protocols. Cultivation under aphid-free conditions may also afford protection against other arthropod pests. The main threat, however, comes from fungal pathogens. For all diseases (except fungal) it is possible to define criteria to be met for production and control to allow trade independent of external circumstances. The criteria to be met for production and control can be defined independently of external circumstances to allow trade of this material. For further details on the production of pathogen-free minitubers of potato see EPPO Standard PM 3/63.

1.3.4 Criteria for ware potatoes

Ware potatoes are identified as such by the phytosanitary certificate which accompanies them and possibly by the packaging. To ensure that the phytosanitary risk remains small, phytosanitary measures may be applied. These may include a pest-free area and freedom of the potato production and distribution system from specific pests in the exporting country and treatment or safe disposal of waste and effluent in the importing country, particularly for processors.

2. Pests of potato recommended for regulation

This Standard relates to the EPPO A1 and A2 pests recognized as being of primary importance for potato (EPPO Standard PM 1/2). The phytosanitary measures described in the Standard are primarily aimed at preventing the introduction or spread of these specific pests in the EPPO region. Details on all these pests can be found in EPPO Global Database (<https://gd.eppo.int/>). EPPO A1 and A2 Lists are subject to additions and deletions. The present list will therefore be revised whenever new pests are added to the EPPO A1 or A2 List.

Table 1. Specific pests of potato recommended for regulation

Type	A1 pests	A2 pests
Insects	<i>Bactericera cockerelli</i> <i>Diabrotica speciosa</i> <i>Epirix subcrinita</i> <i>Epirix tuberis</i> <i>Pheletes (Limonius) californicus</i> <i>Melanotus communis</i> <i>Premnotrypes latithorax</i> <i>Premnotrypes suturicallus</i> <i>Premnotrypes vorax</i>	<i>Epirix cucumeris</i> <i>Epirix papa</i> <i>Leptinotarsa decemlineata</i> <i>Tecia solanivora</i>
Nematodes	<i>Nacobbus aberrans</i>	<i>Ditylenchus dipsaci</i> <i>Globodera pallida</i> <i>Globodera rostochiensis</i> <i>Meloidogyne chitwoodi</i> <i>Meloidogyne fallax</i> <i>Meloidogyne enterolobii</i>
Fungi	<i>Stagonosporopsis andigena</i> <i>Puccinia pittieriana</i> <i>Septoria malagutii</i> <i>Thecaphora solani</i>	<i>Synchytrium endobioticum</i>
Prokaryotes	' <i>Ca. Liberibacter solanacearum</i> ' (Solanaceae haplotypes) ' <i>Ca. Phytoplasma americanum</i> ' (Potato purple top wilt phytoplasma) <i>R. syzygii</i>	' <i>Ca. Phytoplasma solani</i> ' (Stolbur) <i>Clavibacter michiganensis</i> subsp. <i>sepedonicus</i> <i>Ralstonia solanacearum</i>
Viruses/viroids	<i>Andean potato latent virus</i> <i>Andean potato mild mosaic virus</i> <i>Andean potato mottle virus</i> <i>Potato black ringspot virus</i> <i>Potato virus T</i> <i>Potato yellow dwarf virus</i> <i>Potato yellowing virus</i> <i>Potato yellow vein virus</i>	<i>Pepino mosaic virus</i> <i>Potato spindle tuber viroid</i> <i>Tomato chlorosis virus</i> <i>Tomato spotted wilt virus</i> <i>Tomato yellow leaf curl virus</i> <i>Tomato ringspot virus</i>

2.1 Specific pests of potato recommended for regulation

The specific quarantine pests of potato covered by this Standard are listed in Table 1.

2.2 Other regulated pests

Since imported seed potatoes are required to meet the EPPO Standard PM 4/28 *Certification scheme for seed potatoes* (or equivalent), other pests regulated in accordance with that scheme are also covered in this standard (e.g. *Ditylenchus destructor*).

2.3 Polyphagous pests of potato and pests which are potential contaminating pests on potato

In addition to the specific quarantine pests of potato, there are polyphagous quarantine pests which have been recorded

to infest potato and which could be carried on consignments of tubers, for example *Heteronychus arator* and *Thrips palmi*. There are also pests which do not directly infest potato but may contaminate the soil accompanying potato tubers, for example *Diabrotica virgifera* and *Phymatotrichopsis omnivora*. The phytosanitary risk from these polyphagous and contaminating pests can be minimized by applying general inspection procedures and the requirement for tubers to be free from plant debris and from soil to specified tolerance levels.

2.4 Other exotic pests

The above lists do not cover all possible organisms which could be categorized as quarantine pests of potato in EPPO countries. If potatoes are imported from countries of origin with which no previous trade in potatoes has occurred consideration should be given to subjecting other pests to PRA. These may include:

- known plant pests whose phytosanitary importance for potato is uncertain
- species recorded on potato whose status as potato pests is uncertain
- exotic strains of pests whose phytosanitary significance is uncertain in relation to indigenous or established strains.

3. Commodity-specific phytosanitary requirements for potato

Each specific quarantine pest of potato has been considered by the EPPO Working Party on Phytosanitary Regulations and pest-specific phytosanitary requirements have been recommended (EPPO Standards PM 2, withdrawn in 2006) or specific management measures have been developed when the pest was submitted to PRA. These pest-specific phytosanitary requirements have been rearranged on a commodity-specific basis for the different categories of potatoes. Each potato commodity should satisfy the requirements of Section 1.3.

The relevant commodity-specific requirements also include measures for polyphagous, contaminating and other exotic pests which may be associated with consignments of potatoes. The risk that polyphagous quarantine pests may be carried on the foliage of potato plants is covered by the general prohibition of plants of stolon- and tuber-forming Solanaceae. In cases where the commodities are prohibited, entry may be possible under scientific permit, with a period of post-entry quarantine (EPPO Standard PM 3/21 *Post-entry quarantine procedures for potato*). The commodity-specific requirements may refer to specific phytosanitary measures that are described in detail in separate EPPO Standards or in appendices to this Standard.

Normally, it is recommended that the requirements fulfilled by the exporting countries are accepted by the importing country on the basis of phytosanitary certification. EPPO Standard PM 3/71 *General inspection procedure for potato tubers* provides specific guidance on inspection procedures in exporting countries. However, in certain cases where the trade is new there remains a degree of uncertainty about the adequacy of the measures which can only be resolved by following

transitional arrangements as described in Appendix 1. Cases where such procedures may apply are specifically identified in this section, and the corresponding requirements are preceded by the following phrase: 'subject, where appropriate, to transitional arrangements'.

3.1 Regulation of quarantine pests of potato

All EPPO countries should regulate as quarantine pests the potato pests in the EPPO A1 List (Section 2.1).

For all EPPO A2 pests (Section 2), EPPO countries where a given A2 pest does not occur, or where it is not widely distributed, may regulate it as a quarantine pest. If they do, they should make the requirements specified for this pest.

3.2 Regulation of potato commodities

3.2.1 Breeding material of uncertain health status

Plants (including plants in tissue culture) of stolon- and tuber-forming <i>Solanum</i> species and other <i>Solanum</i> spp. capable of hybridizing with <i>S. tuberosum</i>	Prohibited
Tubers of <i>Solanum</i> species (except seed potatoes)	Prohibited
Seeds of stolon- and tuber-forming <i>Solanum</i> species and other <i>Solanum</i> species hybridizing with <i>S. tuberosum</i>	Prohibited

3.2.2 Breeding material of verified health status

Breeding material of verified health status (e.g. material tested and released from quarantine in accordance with EPPO Standard 3/21) should be accompanied by a phytosanitary certificate indicating that it meets all relevant phytosanitary requirements (as for certified seed potatoes).

3.2.3 Seed potatoes

All EPPO countries should make the following general requirements (mainly targeting polyphagous and contaminating pests):

Seed potatoes	Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • produced in a certification scheme equivalent to EPPO Standard PM 4/28 (see Section 1.3.1) • tolerance for soil (1% w/w unless a lower figure is specified below) and free from plant debris • packed in containers which are new, or cleaned and disinfected • free from larvae, pupae or adults of insects by visual inspection • PC and, if appropriate, RC*
Seed potatoes (micropropagative material)	Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • produced according to EPPO Standard PM 3/62
Seed potatoes (minitubers)	Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • produced according to EPPO Standard PM 3/63

*PC, phytosanitary certificate; RC, re-export phytosanitary certificate.

All EPPO countries should make the following requirements:

In the following lists:

- when 'OR' or 'AND' is written in capitals this separates 2 sections of options
- when 'or' or 'and' is not in capitals they separate only one option from another.

Seed potatoes (except micropropagative material and minitubers)	Field freedom, pre-planting, from viable cysts of <i>Globodera rostochiensis</i> and <i>Globodera pallida</i> according to PM 9/- National regulatory control system for <i>Globodera rostochiensis</i> and <i>G. pallida</i> (under development) and PM 7/40 Diagnostic protocol for <i>Globodera rostochiensis</i> and <i>Globodera pallida</i> for detection).
Seed potatoes (except micropropagative material and minitubers) from countries where any of the following pests occur: <ul style="list-style-type: none"> • <i>Diabrotica speciosa</i> • <i>Epitrix cucumeris</i>, • <i>Epitrix papa</i>, • <i>Epitrix subcrinita</i>, <i>Epitrix tuberis</i>, <i>Nacobbus aberrans</i>, <i>Premnotrypes latithorax</i>, <i>Premnotrypes suturicallus</i>, <i>Premnotrypes vorax</i>, <i>Stagonosporopsis andigena</i>, <i>Puccinia pittieriana</i>, <i>Septoria lycopersici</i> var. <i>malagutii</i>, <i>Tecia solanivora</i> • <i>Thecaphora solani</i> 	Tolerance for soil (0.1% w/w) and free from plant debris AND Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • pest-free area for the respective pest(s) and origin from a pest-free potato production and distribution system for the respective pest(s) according to EPPO Standard PM 3/61
Seed potatoes (except micropropagative material and minitubers) from countries where any of the following pests occur: <ul style="list-style-type: none"> • <i>Pheletes (Limonius) californicus</i>, <i>Melanotus communis</i> 	Tolerance for soil (1% w/w) and free from plant debris
Seed potatoes (except micropropagative material and minitubers) from countries where any of the following pests occur: <ul style="list-style-type: none"> • <i>Andean potato latent virus</i>, <i>Andean potato mild mosaic virus</i>, <i>Andean potato mottle virus</i>, <i>Potato black ringspot virus</i>, <i>Pepino mosaic virus</i>, <i>Potato spindle tuber viroid</i>, <i>Potato virus T</i>, <i>Potato yellow dwarf virus</i>, <i>Potato yellowing virus</i>, <i>Potato yellow vein virus</i>, <i>Tomato chlorosis virus</i>, <i>Tomato yellow leaf curl virus</i>, <i>Tomato ringspot virus</i>, 'Ca. <i>Liberibacter solanacearum</i>' (Solanaceae haplotypes), 'Ca. <i>Phytoplasma americanum</i>' (Potato purple top phytoplasma) 	Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • pest-free area for the respective pest(s) and origin from a pest-free potato production and distribution system for the respective pest(s) according to EPPO Standard PM 3/61

EPPO countries where *Meloidogyne chitwoodi* and *Meloidogyne fallax* do not occur, or where they are not

widely distributed, may regulate them. If they do, they should make the following requirements:

Seed potatoes (except micropropagative material and minitubers) from countries where *Meloidogyne chitwoodi* or *Meloidogyne fallax* occur

Pest-free area for the respective nematode(s) according to EPPO Standard PM 3/61
OR
Place of production freedom from the respective nematode(s) following EPPO Standard PM 9/17 *National regulatory control systems for Meloidogyne chitwoodi and Meloidogyne fallax*
OR
Freedom from the respective nematode(s) by testing after harvest following PM 3/69 *Meloidogyne chitwoodi and M. fallax: sampling potato tubers for detection*

Seed potatoes (except microplants and minitubers) from countries where *M. chitwoodi* and *M. fallax* are not known to occur

Confirmation by detection survey (following ISPM 6 *Guidelines for surveillance*)

EPPO countries where *Clavibacter michiganensis* subsp. *sepedonicus* does not occur or which implement EPPO

Standard PM 9/2 are recommended to make the following requirements:

Seed potatoes (except micropropagative material and minitubers) from countries where *Clavibacter michiganensis* subsp. *sepedonicus* occurs

Subject, where appropriate, to transitional arrangements:
• implementation of EPPO Standard PM 9/2
OR
• pest-free area for *C. michiganensis* subsp. *sepedonicus* and origin from pest-free potato production and distribution system for *C. michiganensis* subsp. *sepedonicus* according to EPPO Standard PM 3/61

Seed potatoes (except micropropagative material and minitubers) from countries where *C. michiganensis* subsp. *sepedonicus* is not known to occur

Confirmation by detection survey (following ISPM 6 *Guidelines for surveillance*)

EPPO countries where *C. michiganensis* subsp. *sepedonicus* occurs but is not widely distributed may decide that they do not need to implement EPPO Standard PM 9/2 and, in this case, may decide to apply less stringent measures. A suggested

requirement is: pest-free area for *C. michiganensis* subsp. *sepedonicus* according to EPPO Standard PM 3/61 or pest-free place of production (since the last growing season) for *C. michiganensis* subsp. *sepedonicus*.

EPPO countries where *Ralstonia solanacearum* does not occur or which implement EPPO Standard PM 9/3 are recommended to make the following requirements:

Seed potatoes (except micropropagative material and minitubers) from countries where *Ralstonia solanacearum* occurs

Subject, where appropriate, to transitional arrangements:
• implementation of EPPO Standard PM 9/3
OR
• pest-free area for *R. solanacearum* and origin from a pest-free potato production and distribution system for *R. solanacearum* according to EPPO Standard PM 3/61

Seed potatoes (except micropropagative material and minitubers) from countries where *R. solanacearum* is not known to occur

Confirmation by detection survey (following ISPM 6 *Guidelines for surveillance*)

EPPO countries where *R. solanacearum* occurs but is not widely distributed may decide that they do not need to implement EPPO Standard PM 9/3 and, in this case, may decide to apply less stringent measures. A suggested requirement is:

pest-free area for *R. solanacearum* according to EPPO Standard PM 3/61 or pest-free place of production (since the last growing season) for *R. solanacearum*.

EPPO countries where *Potato spindle tuber viroid* does not occur or which implement the EPPO-recommended national regulatory control system against this pest (EPPO Standard 9/13) are recommended to make the following requirements:

Seed potatoes (except micropropagative material and minitubers) from countries where <i>Potato spindle tuber viroid</i> occurs	Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • implementation of EPPO Standard PM 9/13 OR <ul style="list-style-type: none"> • pest-free area for <i>Potato spindle tuber viroid</i> and origin from pest-free potato production and distribution system for <i>Potato spindle tuber viroid</i> according to EPPO Standard PM 3/61
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Seed potatoes (except micropropagative material and minitubers) from countries where <i>Potato spindle tuber viroid</i> is not known to occur	Confirmation by detection survey (following ISPM 6 <i>Guidelines for surveillance</i>)
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EPPO countries where *Potato spindle tuber viroid* occurs but is not widely distributed may decide that they do not need to implement the EPPO National Regulatory Control System (PM 9/13) and, in this case, may decide to apply less stringent measures. A suggested requirement is: pest-free area for *Potato spindle tuber viroid* according to EPPO Standard PM 3/61 or pest-free place of production (since the last growing season) for *Potato spindle tuber viroid*.

EPPO countries where '*Ca. Phytoplasma solani*' (Stolbur) does not occur, or where it is not widely distributed, may regulate it. If they do, they should make the following requirements:

Seed potatoes (except micropropagative material and minitubers) from countries where ' <i>Ca. Phytoplasma solani</i> ' (Stolbur phytoplasma) occurs	Pest-free area for ' <i>Ca. Phytoplasma solani</i> ' according to EPPO Standard PM 3/61 OR pest-free place of production for ' <i>Ca. Phytoplasma solani</i> ' (since the last growing season)
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EPPO countries where *Synchytrium endobioticum* occurs but is not widely distributed should make the following requirements:

Seed potatoes (except micropropagative material and minitubers) from countries where <i>Synchytrium endobioticum</i> occurs and that implement EPPO Standard PM 9/5	Field freedom (symptoms of <i>S. endobioticum</i> never observed) OR Field 'fully descheduled' by EPPO Standard PM 3/59
Seed potatoes (except micropropagative material and minitubers) from countries where <i>S. endobioticum</i> occurs and that do not implement EPPO Standard PM 9/5	Pest-free place of production and immediate vicinity (symptoms never observed) OR Any previously affected fields in the place of production or immediate vicinity 'descheduled' by EPPO Standard PM 3/59

3.2.4 Ware potatoes

All EPPO countries should make the following general requirements (mainly targeting polyphagous and contaminating pests):

Ware potatoes	Subject, where appropriate, to transitional arrangements: <ul style="list-style-type: none"> • tolerance for soil: 2% w/w, unless a lower figure is specified below and free from plant debris • packed in containers which are new, or cleaned and disinfected • free from larvae, pupae or adults of insects by visual inspection • PC and, if appropriate, RC*
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*PC, phytosanitary certificate; RC, re-export phytosanitary certificate.

All EPPO countries should make the following requirements:

<p>Ware potatoes from countries where any of the following pests occur:</p> <ul style="list-style-type: none"> • <i>Diabrotica speciosa</i>, <i>Nacobbus aberrans</i>, <i>Premnotrypes latithorax</i>, <i>Premnotrypes suturicallus</i>, <i>Premnotrypes vorax</i>, <i>Stagonosporopsis andigena</i>, <i>Puccinia pittieriana</i>, <i>Septoria lycopersici</i> var. <i>malagutii</i>, <i>Tecia solanivora</i>, <i>Thecaphora solani</i> 	<p>Tolerance for soil: 1% w/w and free from plant debris AND Subject, where appropriate, to transitional arrangements:</p> <ul style="list-style-type: none"> • pest-free area for the respective pest(s) and origin from a pest-free potato production and distribution system for the respective pest(s) according to EPPO Standard PM 3/61
<p>Ware potatoes from countries where any of the following pests occur:</p> <ul style="list-style-type: none"> • <i>Phelates (Limonius) californicus</i>, <i>Melanotus communis</i> 	<p>Tolerance for soil: 1% w/w and free from plant debris</p>
<p>Ware potatoes from countries where any of the following pests occur:</p> <ul style="list-style-type: none"> • <i>Andean potato latent virus</i>, <i>Andean potato mild mosaic virus</i>, <i>Andean potato mottle virus</i>, <i>Potato black ringspot virus</i>, <i>Potato virus T</i>, <i>Potato yellow dwarf virus</i>, <i>Potato yellowing virus</i>, <i>Potato yellow vein virus</i>, 'Ca. <i>Liberibacter solanacearum</i>' solanacearum' (Solanaceae haplotypes) 	<p>Subject, where appropriate, to transitional arrangements:</p> <ul style="list-style-type: none"> • pest-free area for the respective pest(s) and origin from pest-free potato production and distribution system for the respective pest(s) according to EPPO Standard PM 3/61
<p>Ware potatoes from non-EPPO countries where <i>Globodera pallida</i> or <i>Globodera rostochiensis</i> occur</p>	<p>Subject, where appropriate, to transitional arrangements: Pest-free area for the respective pest(s) and origin from pest-free potato production and distribution system for the respective pest(s) according to EPPO Standard PM 3/61, AND Confirmation by inspection or testing of tubers on import that the respective pest(s) does not occur according to EPPO Standard PM 7/40 <i>Diagnostic protocol for Globodera rostochiensis and Globodera pallida</i></p>
<p>Ware potatoes from countries where <i>Epitrix subcrinita</i> or <i>Epitrix tuberis</i> occur</p>	<p>Pest-free area for <i>E. subcrinita</i> and <i>E. tuberis</i> according to EPPO Standard PM 3/61 OR Implementation of EPPO Standard PM 9/22 for the respective pest(s) OR Soil tolerance: 0.1% w/w</p>
<p>Ware potatoes from countries in Central and South America where the following pests are not known to occur:</p> <ul style="list-style-type: none"> • <i>Nacobbus aberrans</i>, <i>Stagonosporopsis andigena</i>, <i>Andean potato latent virus</i>, <i>Andean potato mild mosaic virus</i>, <i>Andean potato mottle virus</i>, <i>Potato black ringspot virus</i>, <i>Potato virus T</i>, <i>Potato yellow vein virus</i>, <i>Puccinia pittieriana</i>, <i>Septoria lycopersici</i> var. <i>malagutii</i>, <i>Tecia solanivora</i>, <i>Thecaphora solani</i>, 'Ca. <i>Liberibacter solanacearum</i>' solanacearum' (Solanaceae haplotypes) 	<p>Confirmation by detection survey that the pests do not occur AND Confirmation by inspection or testing of tubers on import that the pests do not occur (according to current EPPO or IPPC Standards where available)</p>
<p>EPPO countries where <i>Meloidogyne chitwoodi</i> and <i>Meloidogyne fallax</i> do not occur, or where they are not</p>	<p>widely distributed, may regulate them. If they do, they should make the following requirements.</p>
<p>Ware potatoes from countries where <i>Meloidogyne chitwoodi</i> or <i>Meloidogyne fallax</i> occur</p>	<p>Subject, where appropriate, to transitional arrangements:</p> <ul style="list-style-type: none"> • implementation of EPPO Standard PM 9/17 for the respective nematode <p>OR</p> <ul style="list-style-type: none"> • pest-free area for the respective nematode and origin from pest-free potato production and distribution system for the respective nematode according to EPPO Standard PM 3/61
<p>EPPO countries where <i>M. chitwoodi</i> or <i>M. fallax</i> occur but are not widely distributed may decide that they do not need to implement the EPPO National Regulatory Control System (PM 9/17) and apply less stringent measures. A</p>	<p>suggested requirement is: pest-free area for <i>M. chitwoodi</i> or <i>M. fallax</i> according to EPPO Standard PM 3/61 or pest-free place of production (since the last growing season) for <i>M. chitwoodi</i> or <i>M. fallax</i>.</p>

EPPO countries where *Clavibacter michiganensis* subsp. *sepedonicus* does not occur or which implement EPPO

Standard PM 9/2 are recommended to make the following requirements:

Ware potatoes from countries where *Clavibacter michiganensis* subsp. *sepedonicus* occurs

Subject, where appropriate, to transitional arrangements:

- implementation of EPPO Standard PM 9/2
- or
- pest-free area for *C. michiganensis* subsp. *sepedonicus* and origin from pest-free potato production and distribution system for *C. michiganensis* subsp. *sepedonicus* according to EPPO Standard PM 3/61

Ware potatoes from countries where *C. michiganensis* subsp. *sepedonicus* is not known to occur

Confirmation by detection survey (following ISPM 6 *Guidelines for surveillance*)

EPPO countries where *C. michiganensis* subsp. *sepedonicus* occurs but is not widely distributed may decide that they do not need to implement EPPO Standard PM 9/2 and, in this case, may decide to apply less stringent

measures. A suggested requirement is: pest-free area for *C. michiganensis* subsp. *sepedonicus* according to EPPO Standard PM 3/61 or field freedom (since the last growing season) for *C. michiganensis* subsp. *sepedonicus*.

EPPO countries where *Ralstonia solanacearum* does not occur or which implement EPPO Standard PM 9/3 are recommended to make the following requirements:

Ware potatoes from countries where *Ralstonia solanacearum* occurs

Subject, where appropriate, to transitional arrangements:

- implementation of EPPO Standard PM 9/3
- or
- pest-free area for *R. solanacearum* and origin from pest-free potato production and distribution system for *R. solanacearum* according to EPPO Standard PM 3/61

Ware potatoes from countries where *R. solanacearum* is not known to occur

Confirmation by detection survey (following ISPM 6 *Guidelines for surveillance*)

EPPO countries where *R. solanacearum* occurs but is not widely distributed may decide that they do not need to implement EPPO Standard PM 9/3 and, in this case, may decide to apply less stringent measures. A

suggested requirement is: pest-free area for *R. solanacearum* according to EPPO Standard PM 3/61 or field freedom (since the last growing season) for *R. solanacearum*.

EPPO countries where *Potato spindle tuber viroid* is not known to occur or which implement the EPPO-recommended national

regulatory control system against this pest (EPPO Standard PM 9/13) are recommended to make the following requirements:

Ware potatoes from countries where *Potato spindle tuber viroid* occurs

Subject, where appropriate, to transitional arrangements:

- implementation of EPPO Standard PM 9/13
- or
- pest-free area for *Potato spindle tuber viroid* and origin from pest-free potato production and distribution system for *Potato spindle tuber viroid* according to EPPO Standard PM 3/61

Ware potatoes from countries where *Potato spindle tuber viroid* is not known to occur

Confirmation by detection survey (following ISPM 6 *Guidelines for surveillance*)

EPPO countries where *Potato spindle tuber viroid* occurs but is not widely distributed may decide that they do not need to implement the EPPO national regulatory control system (Standard PM 9/13) and, in this case, may decide to

apply less stringent measures. A suggested requirement is: pest-free area for *Potato spindle tuber viroid* according to EPPO Standard PM 3/61 or field freedom (since the last growing season) for *Potato spindle tuber viroid*.

EPPO countries where *Synchytrium endobioticum* occurs but is not widely distributed should make the following requirements.

Ware potatoes from countries where <i>Synchytrium endobioticum</i> occurs that do not implement EPPO Standard PM 9/5	Field freedom (symptoms of <i>S. endobioticum</i> never observed) or Field 'fully' or 'partially descheduled' by EPPO Standard PM 3/59
EPPO countries where <i>Epitrix cucumeris</i> , <i>Epitrix papa</i> , <i>Epitrix subcrinita</i> or <i>Epitrix tuberis</i> do not occur or which	implement EPPO Standard PM 9/22 are recommended to make the following requirements:
Ware potatoes from countries where <i>Epitrix cucumeris</i> , <i>Epitrix papa</i> , <i>Epitrix subcrinita</i> or <i>Epitrix tuberis</i> occur	Subject, where appropriate, to transitional arrangements: •implementation of EPPO Standard PM 9/22 or •soil tolerance (0.1% w/w) and free from plant debris

4. Phytosanitary measures for potato

The phytosanitary measures and concepts which appear in Section 3, directly or within other standards, are listed in Table 2. Their present status and location is given.

Table 2. Phytosanitary measures for potato

Type	Subject	Title
ISPMs	Pest-free areas	ISPM 4 <i>Requirements for the establishment of pest-free areas</i> (IPPC, 1995)
	Surveillance	ISPM 6 <i>Guidelines for surveillance</i> (IPPC, 1997)
	Pest-free places of production	ISPM 10 <i>Requirements for the establishment of pest-free places of production and pest-free production sites</i> (IPPC, 1999)
	Phytosanitary equivalence	ISPM 24 <i>Guidelines for the determination and recognition of equivalence of phytosanitary measures</i> (IPPC, 2005)
	Production of pest free microplants and minitubers	ISPM 33 <i>Pest free potato (Solanum spp.) micropropagative material and minitubers for international trade</i> (IPPC, 2010)
EPPO Standards PM 9 National regulatory control systems	<i>Clavibacter michiganensis</i> subsp. <i>sepedonicus</i>	EPPO Standard PM 9 /2
	<i>Ralstonia solanacearum</i>	EPPO Standard PM 9/3
	Potato spindle tuber viroid on potato	EPPO Standard PM 9/13
	<i>Synchytrium endobioticum</i>	EPPO Standard PM 9/5
	<i>Globodera pallida</i> and <i>G. rostochiensis</i>	EPPO Standard PM 9/– (in preparation)
	<i>Meloidogyne chitwoodi</i> and <i>M. fallax</i>	EPPO Standard PM 9 /17
EPPO Standards PM 3 Phytosanitary procedures	<i>Epitrix</i> species damaging potato tubers	EPPO Standard PM 9/22
	<i>Bactericera cockerelli</i> and <i>Candidatus Liberibacter solanacearum</i>	EPPO Standard PM 9/– (in preparation)
	<i>Synchytrium endobioticum</i> : soil tests and descheduling of previously infested plots	EPPO Standard PM 3/59
	<i>Meloidogyne chitwoodi</i> and <i>M. fallax</i> : sampling potato tubers for detection	EPPO Standard PM 3/69
	<i>Globodera rostochiensis</i> and <i>Globodera pallida</i> : sampling soil attached to ware potato tubers for detection prior to export and at import	EPPO Standard PM 3/75
	Post-entry quarantine procedures for potato	EPPO Standard PM 3/21
	Production of pathogen-free microplants of potato	EPPO Standard PM 3/62
	Production of pathogen-free minitubers of potato	EPPO Standard PM 3/63
	Pest-free areas, pest-free production and distribution systems for potato	EPPO Standard PM 3/61
	Export certification and import compliance checking for potato tubers	EPPO Standard PM3/70
General crop inspection procedure	EPPO Standard PM 3/71	
Certification scheme for seed potatoes	EPPO Standard PM 4/28	

(continued)

Table 2 (continued)

Type	Subject	Title
EPPO Standards PM 4 Schemes for the production of healthy planting material		
EPPO Standards PM 10 Phytosanitary treatments	Disinfection procedures in potato production	EPPO Standard PM 10/1
Appendices to the present EPPO Standard	Transitional arrangements Criteria for evaluating certification schemes for potato	Appendix 1 Appendix 2

References

- IPPC (1996) ISPM 4 Requirements for the establishment of pest-free areas. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).
- IPPC (1997) ISPM 6 Guidelines for surveillance. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).
- IPPC (1999) ISPM 10 Requirements for the establishment of pest-free places of production and pest-free production sites. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).
- IPPC (2002a) ISPM 16 Regulated non-quarantine pests: concept and application. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).
- IPPC (2002b) ISPM 14 The use of integrated measures in a systems approach for pest risk management. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).
- IPPC (2005) IISPM 24 Guidelines for the determination and recognition of equivalence of phytosanitary measures. FAO, IPPC Secretariat, Rome (IT).
- IPPC (2010) ISPM 33 Pest free potato (*Solanum* spp.) micropropagative material and minitubers for international trade. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).
- IPPC (2013) ISPM 11 Pest risk analysis for quarantine pests. *International Standard for Phytosanitary Measures*. IPPC Secretariat, FAO, Rome (IT).

Appendix 1 – Transitional arrangements: procedures for the application of phytosanitary requirements

Introduction

This Appendix is concerned with the development of a programme for import of potatoes into an EPPO country from an area where currently no such trade exists. It is based on the concept of a ‘transitional arrangement’. This is a formal procedure designed to facilitate, under prescribed conditions, the import of a specified commodity. Intended to be temporary in nature, a transitional arrangement may be as simple or as complex as is necessary to address the phytosanitary risks. It provides time for the required

phytosanitary measures to be validated and for confidence to be built up between trading partners, with the aim of establishing permanent trading procedures. Under this system, the exporting country making the request should provide at the same time a ‘dossier’ containing appropriate information, as explained later in this Appendix.

Necessity for transitional arrangements

In Europe, the import of potatoes (both seed and ware) has been strictly controlled. Most European countries have permitted entry only from a relatively few defined sources with the vast majority of potential sources prohibited. This is essentially due to the following:

- importance of the potato crop to the agricultural industry
- inadequate understanding of some pest problems (though most are well known)
- severe impacts that introduced pests have inflicted on the crop
- absence of direct control measures for many potato pathogens (bacterial and viral)
- potato tubers provide a potential pathway for many potato pests because they are vegetatively propagated and often have soil associated with them
- inadequate knowledge of potato production and of regulatory and administrative systems in potential exporting countries, making it difficult to determine whether potential imports will be free from quarantine pests.

The purpose of the transitional arrangement is to establish confidence between trading partners. On the exporting side, confidence is required to ensure that sufficient time is provided for a trade to be established and that the trade can take place without undue or unexpected interference. On the importing side, confidence is required to ensure that all phytosanitary risks have been addressed and phytosanitary measures applied, where justified. If there is only one defined pest of concern, the arrangement is limited to that one pest. However, if the concerns of the importing country relate to several pests, procedures may be correspondingly more complex. If too many pests are involved, transitional arrangements may not be possible. This may also apply to

countries in which a number of poorly characterized species or strains occur and the risk is difficult to evaluate.

Outline of the development of a transitional arrangement

Where there is currently no trade in potatoes it is recommended that, on the request of an exporting country, imports should be considered under the following procedure. The same procedure may apply to imports from countries either outside or within the EPPO region. The transitional arrangement forms part of a cooperative programme between NPPOs of exporting and importing countries to establish measures that minimize the risk of quarantine pests being transferred with imported potatoes. The programme is expected to proceed through the following 3 phases:

- *phase 1* – provision of detailed information by the exporting country of how the requirements set in this Standard (EPPO Standard PM 8/1) can be met. The importing country then undertakes information gathering, PRA and evaluation of the relevant capabilities of the NPPO and certification authority of the exporting country. If the risks can be identified and suitable phytosanitary measures can be proposed, an import protocol based on procedures established in this Standard is developed
- *phase 2* – import of potato consignments under special agreed export and entry management procedures which includes entry designated by the NPPO of the importing country (usually a permit system)
- *phase 3* – review of phase 2 and establishment, if appropriate, of permanent regulations for import under phytosanitary certificates without specific permits.

The programme can stop at any point if phytosanitary risks cannot be adequately addressed.

General considerations applying to transitional arrangements

Operational capability

The NPPOs of both exporting and importing countries operating a transitional arrangement should have the operational capability to implement all relevant ISPMs.

Transparency

EPPO should be notified of any request for a transitional arrangement. Countries developing transitional arrangements should provide information on them to EPPO and to other countries on request. They should consider the risks to other countries arising from their transitional arrangements and exchange information with other countries developing similar arrangements. The outcomes of each phase of the programme should be made available to EPPO and, on request, to all countries. The agreed protocol, including the

entry system established in phase 2, should be published in an appropriate form (as required under the IPPC). Modifications to permanent regulations should be published in line with the standard practice of the NPPO concerned.

Consistency and technical justification

A transitional arrangement is a phytosanitary measure, and is accordingly subject to technical justification under the IPPC (Article VI/1b). This applies both to the necessity for the transitional arrangement as such and to each of the measures specified within the arrangement. Throughout the process, the principles of transparency, necessity, equivalence and consistency should be applied.

Phytosanitary procedures established under phases 2 and 3 of a transitional arrangement programme should be consistent with ISPMs and in particular the pest-specific and commodity-specific phytosanitary measures set out in this Standard. Where procedures are required which are more stringent than is set down in such Standards, the justification should be made available on request.

Equivalence and non-discrimination

If other exporting countries can demonstrate that they have a phytosanitary status the same as or comparable to that of countries for which transitional arrangements have been agreed, and that they apply identical or equivalent phytosanitary measures in pest management, they should expect, on request, to develop an equivalent programme based on the same or comparable special procedures.

Timing and review

Phases 1 and 2 of the transitional arrangement programme should be kept as short as possible, consistent with good phytosanitary practice. Phases 2 and 3 should be subject to regular review. Reviews should be cooperative, involving the NPPOs of both importing and exporting countries (ISPM 24 *Guidelines for the determination and recognition of equivalence of phytosanitary measures*).

Parties concerned

The fundamental principle of the transitional arrangement programme is that it is a cooperative procedure. It is an agreement between NPPOs and their governments and may involve any number of interested parties. Where appropriate, the procedure should involve all sectors of the industry including traders, growers and other parties who may have an interest in the export or import procedures.

Administrative procedures for transitional arrangements

Administrative procedures, together with appropriate legal authority, should be established by exporting countries to

facilitate transitional arrangements and to provide any relevant information required for their establishment. These administrative procedures may include:

- an official contact point for all aspects of the request, including provision of information
- a suitable structure for gathering information to support the request and to provide further information at later stages, if requested by the NPPO of the importing country
- authority to make contact and enter into agreements with the NPPOs of the importing countries to facilitate the establishment of a transitional arrangement
- a facility to enable contact with trade, grower and other interests to contribute to the process and to be informed of decisions taken
- facilities to publish information relating to requests and the details of any transitional arrangement established. Equivalent administrative procedures should also be established by importing countries, in particular to facilitate the implementation of transitional arrangements (including where necessary derogation from prohibitions established in the laws or regulations of the importing country)
- an official contact point for receipt of requests
- an appropriate mechanism to analyse and process requests
- a PRA procedure which includes:
 - reviewing the basis for the current legislation, including in particular the existing lists of quarantine pests and their associated PRAs and supporting information
 - identifying possible areas where information is lacking
 - establishing the need to seek information from the NPPO of the exporting country
- authority to make contact and enter into agreements with NPPOs of the exporting countries to facilitate the establishment of a transitional arrangement
- a facility to enable contact with trade, grower and other interests to contribute to the process and to be informed of decisions taken
- facilities to publish information relating to requests and the details of any transitional arrangement established.

Risk analysis procedures should make all possible use of data already available, and in particular take account of the information and procedures established elsewhere in this Standard and other appropriate International Standards such as ISPM 11 on PRA for quarantine pests (IPPC, 2013). The phytosanitary measures and other risk management procedures proposed for the transitional arrangement should be based on those recommended in this Standard.

The administrative procedures should establish an indicative timetable for the transitional arrangement. For phase 1 this will depend on the extent and type of information

required, the speed with which contact between interested parties can be made and the time required for working procedures to be established (e.g. 12–18 months). Phase 2 (the special procedures) should provide sufficient time for growers and traders to establish production, transport and marketing arrangements and for official services to test and validate phytosanitary measures (normally a minimum of 3 and a maximum of 5 years). Phase 3 is in two parts: review (e.g. 3–6 months) and, if appropriate, amendment of regulations (following standard legal procedures for the NPPO concerned).

Detailed programme for the development of transitional arrangements

A schematic representation of the programme is given in Fig. 1.

Phase 1: information gathering, analysis and establishing a protocol

Request

The exporting country making the request for a new trade in potatoes should at the same time provide a detailed assessment of the extent to which the requirements set out in this Standard can be met. The dossier should in particular contain:

- distribution and status in the exporting country of the pests listed in this Standard, other potato pests, and other pests regulated by the importing country which may contaminate potato tubers
- the phytosanitary measures taken to reduce pest risks to a level judged to be acceptable by the NPPO [e.g. systems approach; see ISPM 14 (IPPC, 2002b)]
- an assessment of the capacity of the NPPO of the exporting country (or authorized agent) to perform general crop inspection according to EPPO Standard 3/71
- where the phytosanitary measure involves a pest-free area, a description of the system, including establishment and maintenance
- where the phytosanitary measure involves a pest-free place of production, a description of the system
- where export involves microplants or minitubers, a description of the system
- full details of the seed potato certification programme (Appendix 2) and other relevant phytosanitary measures
- organogram of the NPPO
- documentary evidence indicating the competence of staff involved in administration, inspection and laboratory testing (education, training and experience).

Pest risk analysis

The importing country should evaluate the extent to which the requirements set out in this Standard can be met by the exporting country for the commodity. It should examine whether other pests should be subject to PRA and managed,

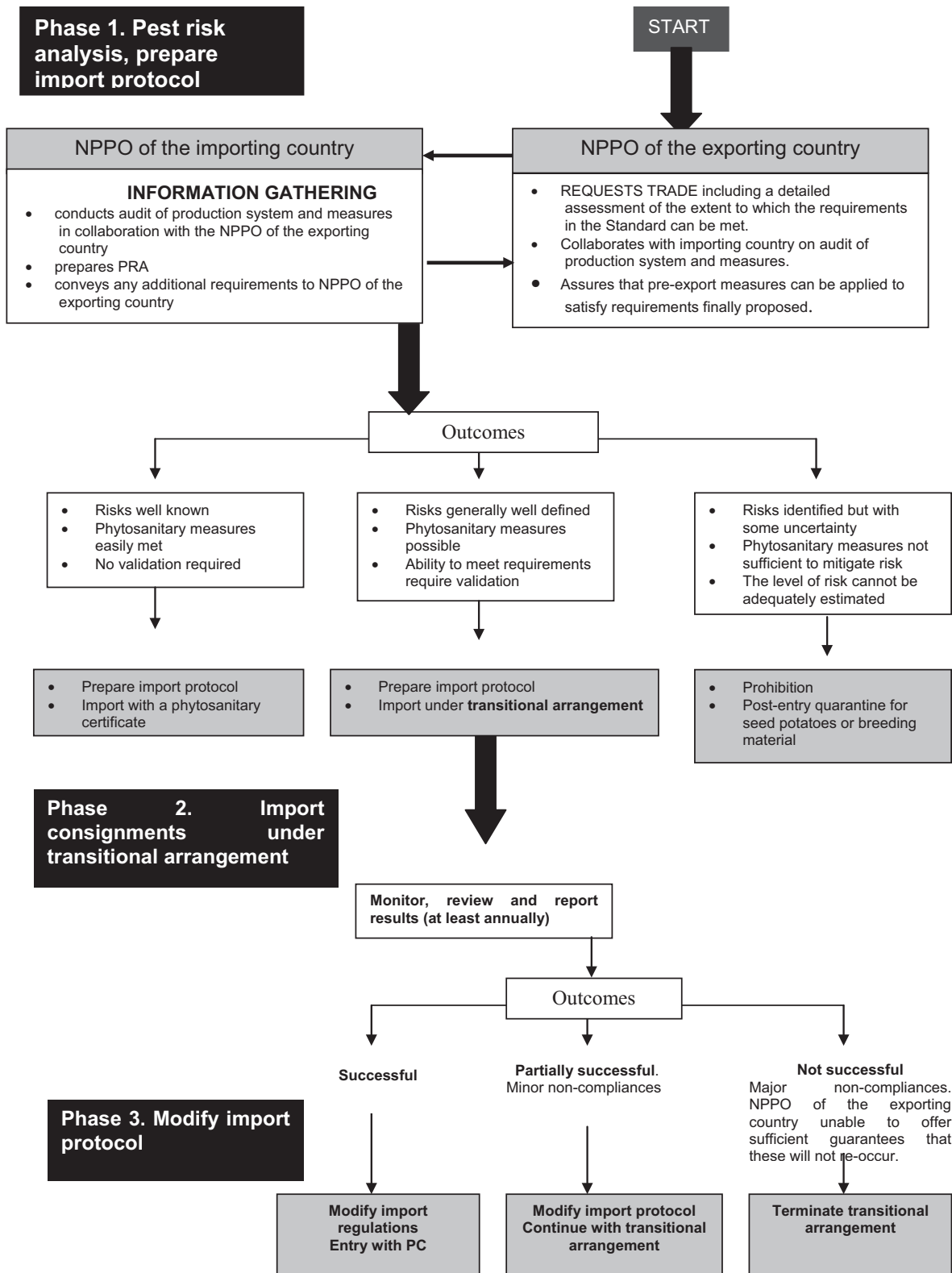


Fig. 1 Outline of import procedure for seed potatoes (including micropropagative material and minitubers) and ware potatoes where currently no trade exists.

by requesting additional information from the exporting country as appropriate. It may be necessary for personnel from the importing country to evaluate directly the relevant operational capabilities of the exporting country.

Identification of measures

This Standard makes recommendations for pest-specific and general phytosanitary measures which should be applied to reduce risk to an acceptable level. The transitional arrangement may be used to validate the effectiveness of the measures. The measures may include the following:

- production measures such as
 - derivation from pathogen-free nuclear stock
 - production in a pest-free area or pest-free place of production (if relevant)
 - production in a pest-free potato production system
 - pest management programme
 - crop inspection and/or testing
- post-harvest or pre-export measures
 - lot inspection and/or testing
 - treatment such as cleaning, washing, application of plant protection products (if relevant)
 - separation of grading, handling and storage for seed and ware potatoes
- point of entry or post-entry measures
 - lot inspection and/or testing
 - entry through designated points
 - designated end-use
 - processing or other treatment
 - issue of permits to control entry
 - notification to the NPPO of the importing country of
 - export of consignments, by the NPPO of the exporting country
 - receipt of imports, by the designated recipient.

Assurance that pre-export measures can be applied

If the measures identified by the PRA include measures such as origin in a pest-free area or from a potato production system maintained free from a specified pest, the NPPO of the importing country needs to obtain assurance from the NPPO of the exporting country that the measure can be applied effectively. The NPPO of the exporting country should provide relevant information such as:

- description of the procedures used
- legislative measures which support the pest-free area or other measure
- survey data
- sample and laboratory data
- administrative guidance or other instructions such as those for inspection personnel
- scheme and/or registration documentation to participating growers, traders or organizations
- audit and review

In some circumstances, on-site audits by personnel of the NPPO of the importing country may be appropriate.

Outcome

Three possible outcomes are envisaged:

- the risks are identified and appropriate measures can be applied effectively with the confidence of all parties – *no special procedures required as imports may be permitted under normal phytosanitary certification (i.e. a phytosanitary certificate)*
- the risks are identified and phytosanitary measures can be proposed but their suitability and application requires validation – *proceed with a special procedure*
- the risks are identified but no measures can be established or implemented which provide the required level of protection, or the risks cannot be adequately identified – *imports cannot be permitted and the application is refused.*

Establishing an import protocol

The phytosanitary measures which are identified should be assembled into an import protocol. The NPPO of the exporting country confirms that these are practicable and can be implemented. The inspection service of the NPPO of the importing country, in consultation with associated services such as Customs, should ensure that point of entry or post-entry inspection or other measures can be applied rapidly and effectively.

Phase 2: import under the special procedure

The import protocol should be published following the normal procedures of the NPPO of the importing country for other import regulations and notified in accordance with IPPC procedures. The NPPO of the exporting country should be informed through the normal procedures. Individual consignments will normally be moved under the control of either a general or a specific permit procedure. This should follow the normal procedures of the NPPO of the importing country.

It is the responsibility of the NPPO of the exporting country to ensure that all measures required prior to export are undertaken, including notification to the NPPO of the importing country and the issue of phytosanitary certificates. It is the responsibility of the NPPO of the importing country to ensure that all measures required at or after import are undertaken rapidly and efficiently.

The effectiveness of the procedures should be reviewed at appropriate intervals (normally at least annually), and the results of these reviews should be available to other EPPO countries on request. In addition the results of any checks or other inspections should be available on request to the other NPPO. If the NPPO of the exporting or importing country detects instances of non-compliance, then these should be reported to the other NPPO immediately. The NPPO of the exporting country should immediately investigate the reason for non-compliance, take steps to ensure that there is no recurrence and report the results to the other NPPO.

If instances of non-compliance are sufficiently serious and measures to avoid recurrence cannot be agreed

sufficiently quickly, the NPPO of the importing country should suspend the transitional arrangement. The NPPOs should assess whether amendment of the import protocol and resumption of an amended transitional arrangement is possible. If not, the arrangement should be cancelled and a final review should be made.

Period of validity

The transitional arrangement should be of sufficient duration to ensure that the procedure can be properly established and monitored, and to enable ready participation of the trade (a minimum of 3 years up to a maximum of 5 years is recommended so that the arrangement does not become permanent).

Phase 3: final review and transition to normal established trading conditions

Review of the transitional arrangement

Towards the end of phase 2 or within an agreed period of its termination, the NPPO of the importing country in consultation with the NPPO of the exporting country should review all aspects of the transitional arrangement. In particular the review should consider:

- whether the volume of imports has been sufficient to test the system
- any instances of non-compliance
- the effectiveness of each of the phytosanitary measures applied under the agreed protocol
- the extent to which the special procedures have been successful in providing
 - an acceptable trading facility for the exporting country
 - an acceptable reduction of risk to the importing country
 - a technical basis for adapting the importing regulations of the importing country.

Outcome

Three possible outcomes of the review can be envisaged:

- the arrangement has been successful; the original or appropriately modified measures can be applied with confidence – *the import regulations are rapidly modified and trade takes place under a normal PC*. Monitoring and auditing should be maintained according to normal phytosanitary procedures
- the arrangement has been partially successful but certain measures require modification or further validation – *the transitional arrangement continues with modified conditions for a further defined period and review*
- the arrangement has not been successful – *the arrangement is suspended*.

Communication of reason for outcome

At all stages in a transitional arrangement the importing country should notify the exporting country of the reason for outcomes (including rationale).

Appendix 2 – Criteria to evaluate seed potato certification schemes

Countries with substantial potato production usually have a seed potato certification programme. Certification schemes are administrative systems for quality control of propagation and planting material. They provide an assurance of quality for the purchaser that the planting material will be fit for its stated purpose. Essentially such schemes provide guidelines for inspection of crops with checks on health, vigour, trueness to cultivar and purity. Certificates or labels are awarded to material that successfully meets the set standards and the regulations of the scheme. This is normally referred to as 'certified material'. EPPO Standard PM 4/ 28 provides guidance on the phytosanitary aspects of a potato certification scheme. Most EPPO countries operate a potato certification scheme complying with this EPPO Standard. The expectations of buyers regarding the quality of seed potatoes are partly based on their confidence in the certification scheme used. This confidence has been built up over a number of years and results from the experienced quality of seed potatoes and from the visible demonstration that the certification scheme is tuned for the conditions under which it is applied.

The certification scheme in the exporting country should be compared in detail with EPPO Standard PM 4/28 and with the national scheme of the country making the evaluation. Documentation should be made available on all the following details of the certification scheme:

- technical details of the scheme
 - the certification scheme, including standards and tolerances (for disease, rogues, etc.) for each individual grade or class
 - rules (e.g. rotation, isolation and pre-planting soil testing requirements)
 - procedures for the production and maintenance of nuclear stock including testing requirements
 - number of generations for each category
 - details of post-harvest tuber virus testing and other quality control systems employed
 - procedures for growing-season crop and tuber inspections
 - administrative procedures (traceability)
 - labelling and sealing procedures
 - appeal procedures
- legal status of the certification scheme and certification authority, including responsibilities, number of staff involved and staff qualifications and training
- seed-potato production system(s), including parties involved and their responsibilities, and indicating responsibilities
- accreditation procedures
- audits (or, e.g., results of fields trial) to confirm (operational) effectiveness of the system
- plant health inspection and procedures.