



Economic Commission for Europe**Steering Committee on Trade Capacity and Standards****Working Party on Agricultural Quality Standards****Specialized Section on Standardization of Seed Potatoes****Forty-eighth session**

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Item 3 of the provisional agenda

Revision of the Standard for Seed Potatoes**Amendments to Annex I and Annex VII of the Standard for Seed Potatoes *****Submitted by the secretariat**

The following document was coordinated by the delegation of Finland (on behalf of delegations of Euroseeds, Finland, Germany, and the Netherlands) and contains suggested changes and comments to Annexes I and VII of the Standard for Seed Potatoes.

Proposed amendments are highlighted in the document below.

The document is submitted according to ECE/CTCS/2019/10 section IV, ECE/CTCS/2019/2 Decision 2019-8.6, and A/75/6 (Sect. 20).

I. Annex I**Minimum conditions to be satisfied in the production of Pre-basic Tissue Culture (TC) seed potatoes****Micropropagation material**

1. Pre-basic Tissue Culture (TC) seed potatoes must be produced from initial stock. **The initial stock must be derived from mother plants which are free from the harmful organisms under item 2.** The **mother plants** must have varietal identity. (*Proposal of Finland.*)

(*Comment of Germany:* We suggest deleting above sentence and replacing it with the following: **“Pre-basic Tissue Culture (TC) seed potatoes must be produced from initial stock. Mother plants used for initial stock must have varietal identity.”**)

* Submitted on the above date to include all comments and suggested amendments to the annexes of the Standard.

The original wording would mean that a virus infected mother plant does not comply with freedom from the pests mentioned under item 2. However, theoretically that virus infected mother plant could still be transferred into tissue culture and then be subjected to a virus elimination procedure. As a result, a virus free initial stock totally complying with the requirements of item 2 could be achieved. Hence, focusing on pest freedom of initial stock is recommended as sufficient and a preferred sentence is proposed above.)

2. Initial stock shall be known to be free from, at least, the following pests:

- *Clavibacter michiganensis* subsp. *sepedonicus* (ring rot)
- *Ralstonia solanacearum* (brown rot)
- *Pectobacterium* spp. and *Dickeya* spp. (syn. *Erwinia* spp.)
- *Candidatus* Liberibacter *solanacearum*
- *Candidatus* Phytoplasma *solani*
- Potato spindle tuber viroid
- Potato viruses X, Y, S, M and A
- Potato Leaf Roll Virus

3. The satisfaction of the conditions under item 2 shall be established by appropriate tests as approved by the Certification Authority (CA).

Production of Pre-basic TC seed potatoes (e.g. minitubers) *(Proposal of Finland.)*

4. The facilities and procedures used for the production of Pre-basic TC seed potatoes **may** be approved by the CA. *(Comment of Netherlands: We suggest “**must**” instead of “**may**”.)*

The facilities and procedures used for the production of Pre-basic TC seed potatoes should include:

- Measures to avoid contamination from pathogens and pests, e.g. protected environment, double door entry, protective clothing, dedicated footwear or disinfection. The record-keeping system should document the source of the material and the volume of production;
- Pest-free growing medium;
- All reasonable husbandry practices for the prevention or spread of pathogens and pests.

5. The satisfaction of conditions and the tolerances prescribed for Pre-basic TC seed potatoes in annexes II, III and IV **shall** be established by official inspection and/or testing as approved by the CA **if Pre-basic TC seed potatoes are intended for marketing**. *(Proposal of Finland)*

*(Comment of Euroseeds: We suggest “**shall**” be replaced by “**may**”, to be in line with proposal for item 4 (“may be approved by the CA”). This point has already been mentioned in the Standard but it did not relate directly to the production of mini-tubers.)*

*(Comment of Netherlands: Netherlands does not agree to use “**intended for marketing**” for a number of reasons. First, the intention for marketing is not mentioned anywhere else in the Standard. Section 1 of the Standard says the Standard does not apply to potatoes intended for planting for trials or scientific purposes, and for selection work. It does not however, state that the Standard only applies to plants for planting intended for marketing.*

In Annex III.C.1 it says that “All seed potato lots to be certified under the Standard must be inspected before marketing.” This is different than stating that meeting the conditions is only necessary when the minitubers are intended for marketing. This is only practical if the Specialized Section were to adopt this change, it would mean that companies producing

PBTC either for their own production of seed potatoes or for production under contract, are totally exempt of meeting any condition whatsoever. If they want to introduce *Ralstonia* or *Clavibacter* into the system, they can.)

II. Annex VII

Definitions of terms applicable to the Standard

The definitions provided herein apply specifically to certified seed potatoes moving into international trade under provisions of this Standard and their meaning may therefore differ from their classical meaning.

Incorporation of the terms in this glossary signifies their unique use by countries, which have adopted the Standard.

Blackleg:

Commonly used name of a bacterial disease of potatoes, generally caused by *Pectobacterium atrosepticum* (syn. *Erwinia carotovora* subsp. *atroseptica*). Similar symptoms may, however, be caused by *Pectobacterium carotovorum* (formerly *E. carotovora* subsp. *carotovora*) and *Dickeya* spp. (syn. *E. chrysanthemi*).

Certification:

An official control procedure, which aims at ensuring the production and supply of seed potatoes which satisfy the requirements of this Standard.

Chilling injury:

Consists of internal damage to the tuber caused by exposure to temperatures slightly below or slightly above freezing, even for a relatively short period of time. A greyish discoloration predominantly of the vascular tissue can occur within hours after exposure. Chilling injury results in a tuber with no, or very poor, germination.

Clonal selection:

A system of potato propagation that starts from selected plants that fulfil the requirements of the pre-basic seed.

Clonal stock:

Propagation stock of a particular variety descended from a clonally selected mother plant. Clonal stocks are subject to visual inspection (diseases and **varietal identity**) (*proposal of Finland*) and additional testing for diseases.

Consignment:

A quantity of seed potatoes consisting of one or more lots which have been consigned to one commercial party and is covered by one set of documents.

Contaminated field:

A field made subject to regulatory action because of the presence of a designated pathogenic organism in the soil.

Crop

A defined area of seed potatoes that is limited to one variety and class and is registered as a single unit for certification. The origin is documented.

Certifying Authority (CA):

Organization(s), agency or agencies designated by government and/or industry to administer the certification of seed potatoes.

Disease:

Any disturbance of a plant caused by pathogenic organisms which interferes with its normal structure, function or economic value.

External defects:

Any tuber defect that can be detected externally. Countable tubers are those which may have a negative impact on yielding capacity or storability, or which are likely to lead to secondary infection.

Field:

A defined area of land used for cultivation of seed potatoes.

Free from:

Not present in numbers or quantities that can be detected by the application of appropriate sampling, inspection and testing procedures.

Field generation number:

The number of growing cycles since the first introduction in the field after micropropagation or clonal selection.

Homogeneous:

Uniform in composition and appearance.

Initial stock:

Initial or nuclear (EPPO Standard) stock refers to the pathogen-tested microplants that form the basis of tissue culture seed potato propagation cycle. *(Proposal of Finland)*

Inspection:

Visual examination of plants, tubers, container, equipment or facilities by an authorized person, to determine compliance with regulations.

Lot:

A quantity of seed potatoes of the same variety and class, derived from the same crop and bearing a unique reference number. There may be multiple lots per crop.

Micropropagative multiplication:

The process of propagating microplants of initial stock by taking nodal cuttings under aseptic conditions to produce large numbers of microplants. The resulting microplants are retained for further multiplication cycles or grown to maturity to provide harvestable tubers usually of the class PBTC.

Mother plant:

An identified plant or tuber from which material is taken for propagation. The mother plant is used for initial stock or for clonal selection. *(Proposal of Finland)*

Origin:

The crop from which the seed potatoes are derived and which can be identified.”

Parent material:

Initial stock or selected plants or tubers in the clonal selection used to increase a clone of seed potatoes. *(Proposal of Finland)*

Phytosanitary provisions:

Provisions in accordance with the International Plant Protection Convention.

Potato leaf roll disease:

A severe virus disease caused by potato leaf roll virus (PLRV). Plants are usually smaller than healthy plants and sometimes stunted. The top of the plant is paler and the leaves are more erect than usual. Older lower leaves roll upward and become brittle, such that they can be easily broken (metallic rustling) when squeezed gently. Primary infection may cause a slight rolling of the upper leaves, sometimes accompanied by discoloration.

Primary virus infection:

Infection occurring during the current growing season and not arising from the seed tuber.

Quality:

The sum of all characteristics that determine the acceptance of seed potatoes in relation to the specifications of this Standard.

Quality Control:

The control by the CA of all activities encountered in the process of producing and marketing seed potatoes in conformance with the Standard.

Quality pest:

A pest carried by planting material, subject to official regulatory control, but not a quarantine pest.

Quarantine pest:

A pest of potential national economic importance to the country thereby endangered and not yet present there, or present but not widely distributed and being actively controlled.

Regulated non-quarantine pest:

A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party.¹

Rot:

Rot is the disintegration of tissue as a result of the action of invading organisms, usually bacteria or fungi² Rot can be triggered by environmental factors. A tuber rot may be classified as either a wet (also called soft) or dry rot according to its external and internal appearance, and the diseases causing these types of rots are specified in the List of Diseases and Pests.

Wet rot: tuber softening to maceration, associated with a fluid exudate, which has arisen due to a primary or secondary bacterial and/or fungal infection.

Dry rot: tuber tissue exhibiting a sunken, necrotic lesion without the loss of fluid exudates, which may remain localized or enlarge by becoming wrinkled and mummified to encompass the whole tuber.

Sampling:

The procedure of drawing at random a number of tubers, plants or parts of plants, which may be taken as representative of the lot or the field.

Severe Mosaic:

Disease symptom caused by a virus, characterized by discolouration and distortion of foliage, and easily discernible by visual inspection.

Sprout inhibitor:

A chemical substance, applied either to the plants during the growing season or to the tubers after harvest, which suppresses or prevents the normal development of sprouts.

Substantially free:

Not present in numbers or quantities in excess of those that can be expected to result from and be consistent with normal handling and good cultural practices employed in the production and marketing of the commodity.

Testing:

The use of one or more procedures, other than inspection for determining the presence of a pathogenic agent or for varietal identification.

¹ International Standard for Phytosanitary Measures 5 (ISPM 5, 2012).

² From "Holliday P (1989). A Dictionary of Plant Pathology. Cambridge University Press.

Traceability:

A system of documentation that enables the source and performance of a lot to be tracked during the classification process.

“Virus diseases:

Manifest themselves by deformations of the foliage with or without discolouration. The determination is based on the count of plants with virus symptoms in a crop at the time of the inspection. Simple diagnostic field kits are available that can aid identification of many of the viruses and there are laboratories that offer comprehensive testing, if required. If a virus is suspected the inspector may seek confirmation using approved diagnostic tests.

Virus symptoms in potato plants can be discolouration, mottling, rugosity, crinkling, rolling and brittleness of the leaves or dwarfing of the plant, as with mosaic or/and potato leaf roll disease. It is important to note that the actual virus, virus strain, potato variety, environmental conditions all may affect the expression of the virus symptoms.

The following viruses or virus combinations are normally associated with symptoms of virus:

PLRV, PVY, PVA or PVM

PVY + PVX, PVA + PVX or PVX + PVS.

PVS, PVX, and other viruses, depending on the strain and variety, may be latent or show mild symptoms.”
