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COMMITTEE FOR TRADE, INDUSTRY AND  
ENTERPRISE DEVELOPMENT

Working Party on Agricultural Quality Standards  
Fifty-ninth session, Geneva, 2003

Item 6(a) of the Provisional Agenda

**Revised UNECE Standard for Seed Potatoes (S-1)**

**Note by the secretariat:** This document contains the first part (up to Annex II) of the revised UNECE Standard for Seed Potatoes (S-1) as agreed by the Specialized Section and recommended to the Working Party on Agricultural Quality Standards for adoption. The second part is contained in TRADE/WP.7/2003/3/Add.1.

Changes to previous versions have been marked with underline for new text and strike-through for deletions.

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**UNECE STANDARD**  
concerning the certification and  
commercial quality control of

**SEED POTATOES**  
moving in international trade between and to  
UNECE member countries

## INTRODUCTION

### 1 About UNECE

UNECE was set up in 1947 by ECOSOC. It is one of five regional commissions of the United Nations.

Its primary *goal* is to encourage greater economic cooperation among its member States.

It *focuses* on economic analysis, environment and human settlements, statistics, sustainable energy, trade, industry and enterprise development, timber and transport.

UNECE *activities* include policy analysis, development of conventions, regulations and standards, and technical assistance.

UNECE has *55 member States*. However, all interested UN member States may participate in its work. Over 70 international professional organizations and other non-governmental organizations take part in UNECE activities.

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### 2 History and goals of the Working Party on Agricultural Quality Standards

#### 2.1 History

In October 1949, the Economic Commission for Europe's Committee on Agricultural Problems established the Working Party on Standardization of Perishable Foodstuffs to determine common standards for perishable foodstuffs" and to study steps to be taken on the international level in order to secure the general adoption of standards and control systems". Later, the responsibility of the Working Party was extended to cover non-edible horticultural produce and quality development which is reflected in its present name.

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The activities have led to the elaboration of a wide range of UNECE standards for fresh fruit and vegetables, dry and dried fruit, seed potatoes, eggs and egg products, meat and cut flowers. Standards for fruit juices and quick frozen foods have been elaborated in Joint ECE/Codex Alimentarius Groups of Experts and are now further developed in the relevant Codex bodies.

## 2.2 *Goals*

UNECE standards harmonize existing national commercial quality standards for perishable produce to:

- Facilitate fair international trade and prevent technical barriers to trade
- Improve producers' profitability and encourage production of high quality produce
- Protect consumers' interest

With the Working Party and five Specialized Sections UNECE groups provide a forum where countries can discuss all issues of commercial quality that may arise from their domestic markets and which have an implication on international trade. The groups offer assistance to countries in transition by organizing workshops on the harmonization of national standards with international commercial standards.

## 3 **History, goals and scope of the UNECE standard for seed potatoes**

### 3.1 *History*

Work on the UNECE Standard for Seed Potatoes began in 1958.

At the 9<sup>th</sup> session of the Working Party:

Some disagreements were raised concerning the nomenclature of the different categories of seed potatoes. The Group of Experts (from the Federal Republic of Germany, Netherlands and United Kingdom) was charged of preparing an analysis of existing national regulations and drafting recommendations for international standardization.

Provisional recommendations were adopted in 1960 at the 10<sup>th</sup> session of the Working Party in order to try them out and revise them according to the experience.

The first version of the text was adopted by the Working Party in 1963 at its 16<sup>th</sup> session. The standard has been regularly updated since then.

### 3.2 *Goals and scope*

The goal of the Standard is to act as world reference to facilitate fair international trade by:

- creating a harmonized certification system
- promoting its use and
- defining harmonized quality requirements for seed potatoes

To reach this goal the Standard covers the following requirements controlled by certification:

- varietal identity and purity;
- genealogy and traceability;
- diseases and pests;
- external quality and physiology;
- sizing and labelling;

As a consequence, the Standard considers issues falling the WTO-TBT agreement under as well as the WTO-SPS agreement.

#### **4 Application of the Standard**

4.1 The Standard adopted by the Working Party is recommended to countries for application as defined below.

4.2 Countries applying this Standard should notify the UNECE Secretariat of their National Designated Authority (NDA) responsible for its implementation.

4.3 Application means the use of the UNECE Standard for export and import. This means for

*Export:* All seed potatoes certified and labelled for export by the NDA meet at least the requirements of the Standard.

*Import:* Seed potatoes certified and labelled according to the UNECE Standard are accepted for import by the NDA for parameters covered by the Standard except where additional or more stringent requirements are applied by the country in respect to diseases and pests if:

- the same requirement is applied to domestic production AND
- these requirements are justified to prevent introduction or spread of these diseases and pests which do not exist there or which seem particularly injurious to the crops in that country or in any part of its territory.

4.4 The NDA shall notify the UNECE secretariat of each additional or more stringent requirement together with technical or scientific justification.

4.5 The application of the Standard is without prejudice of any other legislation concerning industrial of commercial property, protection of crops, and health of persons and animals.

#### **5 Development of the standard**

For the development of the standard and the work of the Specialized Section, the Working Procedures of the Working Party on Agricultural Quality Standards and its specialized sections apply and can be obtained from the UNECE Secretariat. According to these procedures all UN members can participate with the same rights.

#### **6 Cooperation with other international organisations**

6.1 *European Union*

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In July 1966 the Council of the European Union adopted a Council Directive on the marketing of seed potatoes, applicable to the production with a view to marketing, and to the marketing of seed potatoes within the Community (Directive 2002/56/EC-OJ L 193, 20.07.2002 former 66/403/EEC).

Within its recitals, it was stated "it is desirable to establish a uniform certification scheme for the Community based on the experience gained in the application of the scheme of the Economic Commission for Europe".

The above Directive envisaged that provisions should be made for authorizing the marketing within the Community of seed potatoes harvested in third country where they afford the same assurances as seed potatoes officially certified within the Community and complying with the Community rules. The last Council Decision (Council Decision 95/513/EC, OJ L 296, 9.12.1995, p. 31) on the equivalence of seed potatoes produced in third countries established that seed potatoes harvested in the countries as specified and officially controlled by the relevant Authorities and which belong to the categories specified therein are equivalent to seed potatoes harvested within the Community. Seed potatoes shall be certified and their containers officially marketed and sealed in accordance with the UNECE Standard for Seed Potatoes recommended by the Working Party on Standardization of Perishable Produce and Quality Development of the UNECE. The Decision does not affect the requirements which member states establish under Council Directive 2000/29/EC (former 77/93/EEC) on protective measures against the introduction into the Member States organisms harmful to plants or plant products (OJ L 169, 10.7.2000, p.1)

## 6.2 *EPPO*

In 1999, the European and Mediterranean Plant Protection Organisation (EPPO/OEPP) published a recommended certification scheme for seed potatoes. This scheme focussed on micro- propagation as the recommended method of initial seed production (nuclear stock) and detailed the organisms, which should be tested for and the appropriate test procedures. Conditions and tolerances for the production of Pre-basic TC (mini-tubers) were also defined. The requirements for the certification of Pre-basic, Basic and Certified category seed potatoes were aligned, as far as possible, with those of the UNECE Standard for Seed Potatoes.

## 6.3 *NAPPO*

In 1995, the North American Plant Protection Organization (NAPPO) approved a potato standard: NAPPO Regional Standard for Phytosanitary Measures (RSPM#3), "Requirements for the Importation of potatoes into a NAPPO member country."

The standard identifies a number of pest risk management measures including federal or state/provincial Seed potato certification systems. Also, it established common criteria for limited generation certification systems and diagnostics. It includes lists of quarantine pests for the three NAPPO countries. The pest lists in the standard are reviewed on an annual basis to verify the technical justification for these pests to remain on quarantine lists and to incorporate new terminology from the International Plant Protection Convention (IPPC), e.g. regulated non-quarantine pests. The NAPPO standard does not deal with so-called quality pests because they are outside the mandate of the IPPC.

The revised standard will also include an appendix describing Potato virus Y, N strain (PVYn) diagnostics. The next step will be to harmonize protocols among the three countries for nematode identification.

**7 Editorial Note on this edition**

This edition of the standard includes the following new items/ changes:

- Table of contents
- Introduction
- Provisions concerning the variety
- Annexes I (list of diseases for initial stock), II (field tolerances), IV (consequential amendments), VII (definition for initial stock), VIII (new images for blemish diseases)
- New Annex X, Summary table of tolerances

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**UNECE STANDARD S-1**  
concerning the certification and  
commercial quality control of

**SEED POTATOES**  
moving in international trade between and to  
UNECE member countries

**I. DEFINITION OF PRODUCE**

Seed potatoes are tubers or any other propagation material, other than true seed, of *Solanum tuberosum L.* acceptable for certification by the NDA in accordance with the provisions concerning the variety (see Section II)<sup>1</sup> and which, after regular inspection :

1. during growth
2. at sorting
3. during verification inspection

are certified by an officially approved body as suitable for reproduction.

This standard does not apply to seed potatoes :

1. intended for trials or scientific purposes
2. intended for selection work.

These shall, however, always be covered by documentary confirmation of quality by an officially approved body.

**II. PROVISIONS CONCERNING THE VARIETY<sup>1</sup>**

Varieties shall be accepted into the Standard only if an official description and a reference sample are available from the NDA.

The variety should be distinct, uniform and stable according to the guidelines of UPOV and have a denomination allowing its identification.

**III. PROVISIONS CONCERNING QUALITY**

The purpose of the standard is to define the quality requirements of seed potatoes at the export control point, after preparation and packaging.

**A. Minimum requirements**

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<sup>1</sup> Reservation from the United States to allow for further consultation.



Seed potatoes shall be substantially free from injurious diseases and pests and from any defects likely to impair their quality as seed. They shall be substantially dry outside and, in general, of normal shape for the variety.

These requirements shall be observed in conjunction with the standards and tolerances set out under B. Classification.

Neither growing crops of seed potatoes nor seed potatoes shall be treated with sprout inhibitors.

## **B. Classification**

Seed potatoes shall be classified according to variety and the standards given below. Their classification shall be subject to official control in the producing country. Seed potatoes shall be placed in two classes within each of three categories as defined below:

### **(i) Pre-basic Category Seed**

These are seed potatoes of generations prior to basic seed

- (a) Pre-basic TC class seed shall be directly derived by micropropagation and may be tissue culture plantlets or tubers of the first generation meeting the requirements specified in Annexes I, II, III and IV.
- (b) Pre-basic class seed shall be generations of seed multiplied in the field prior to basic seed, meeting the requirements specified in Annexes II, III, and IV.

### **(ii) Basic Category Seed**

These are seed potatoes descended directly from Pre-basic or Basic category seed or produced under special provisions of a national certification scheme and are mainly intended for the production of certified seed potatoes.<sup>2</sup>

Seed shall be classified as either Basic I or Basic II according to the minimum requirements given in Annexes II, III and IV.

### **(iii) Certified Category Seed**

These are seed potatoes descended directly from Pre-basic, Basic or Certified category seed and are mainly intended for the production of potatoes other than seed potatoes.

Seed shall be classified as either Certified I or Certified II according to the minimum requirements given in Annexes II, III and IV.

### **(iv) Field generation:**

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<sup>2</sup>The representatives of the European Commission and France reserved their position on this issue.

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Each class may additionally be classified according to the number of generations (FG1, FG2 etc.). The final designation of a class will therefore contain a class name and may contain a field generation record (e.g. Basic I FG3, Certified I FG3).

**C. Derogation from classification ~~National Classification~~**

Producing countries are, however, free to create within the categories and classes provided for in paragraph B, classes which are subject to specific requirements.

**D. Sampling**

Sampling of seed potatoes for certification purposes shall be carried out officially or under official supervision.

**E. ~~National phyto-sanitary provisions~~**

~~The provisions of this standard do not hinder national legislation provisions justified by reasons of the protection of the health of persons and animals or the protection of crops or industrial or commercial property.~~

~~However, each producer country for the marketing of seed potatoes in the whole or any part of its territory, take more vigorous measures than those provided for in annexes II and IV against the introduction of certain regulated non-quarantine pests which do not exist there or which seem particularly injurious to the crops in that country or in any part of its territory.~~

**F. Comparative tests**

It is recommended that trials be established by national certifying authorities to ascertain the condition of the seed potatoes certified according to this standard. The guidelines given in annex VI of this standard could be followed.

The results of such trials shall be treated in confidence but on request the results relating to individual consignments may be exchanged between the certifying authorities of the importing and exporting countries concerned.

**IV. PROVISIONS CONCERNING SIZING**

Pre-basic TC are exempt from the minimum sizing requirements.

The minimum size of tubers must be such that they do not pass through a square gauge of 28 mm; for varieties having, on average, a length of at least twice the greatest width, the square gauge must not be less than 25 mm. In the case of tubers, which are too large to pass through a square gauge of 35 mm, the difference between the maximum and minimum limits of size should be expressed in multiples of 5.

The maximum variation in size between tubers in a lot must be such that the difference between the dimensions of the two square gauges used does not exceed 20 mm unless the buyer and seller agree to deviate from this requirement.

**V. PROVISIONS CONCERNING TOLERANCES FOR SIZING**

A lot shall not contain more than 3 per cent by weight of tubers smaller than the minimum size indicated nor more than 3 per cent weight for tubers larger than the maximum size indicated.

**VI. PROVISIONS CONCERNING PRESENTATION****(i) *Condition of units of presentation***

Packages of up to 50 kg or one "hundredweight" (112 lbs avoirdupois) as the case may be, shall be new. Larger units of presentation shall be clean.

**(ii) *Closing of units of presentation***

Units of presentation shall be closed officially or under official control in such a manner that they cannot be opened without damaging the official sealing device or without leaving evidence of tampering on the official label provided for in section VI (i).

The official system of closing shall comprise either the incorporation into the system of the label mentioned above if it is without a stringhole or in all other cases, by the application of an official seal.

Only the official control service may, in case of need, reclose a package or container.

**(iii) *Weight***

With the exception of bags for Pre-Basic TC, the packaging unit for bags shall be 50 kg net, but the "hundredweight" may be used in trade with countries using that measure, unless the buyer and seller agree to deviate from these requirements.

**(iv) *Nature of contents of units of presentation***

Each unit of presentation shall contain tubers of the same variety, category, class, size and origin.

A lot should be sufficiently homogeneous.

**VII. PROVISIONS CONCERNING MARKING****(i) *Official label***

Units of presentation shall bear on the outside an official label in accordance with annex V and which has not been previously used; the label shall be white with a diagonal purple line for pre-basic seed, white for basic seed and blue for certified seed. Reference to the UN/ECE Standard may be included on the label.

**(ii) *Official statement***

Units of presentation shall have on the inside an official statement of the same colour and showing at least the particulars indicated under 3, 5 and 7 in annex V. The statement shall be so worded that any confusion with the official label referred to in (i) shall be avoided.

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This statement is not necessary when an adhesive label or a label of untearable material is used. The particulars given on the label may be indelibly printed on the unit of presentation in substitution for the official statement provided for above.

(iii) ***Re-labelling***

If a second check appears necessary, the authority which carried out the second check must be stated on the label, as well as the date of the re-closing. If a new label is necessary, this must show the particulars which appeared on the old label, the date of the re-closing and the authority concerned.

(iv) ***Supplier's label***

The units of presentation may be accompanied by a special label of the supplier.

(v) ***Chemical treatment***

The nature of the active substance of any chemical treatment of the seed potatoes shall be indicated on the outside of the unit of presentation, on a tear-resistant or adhesive label being either the official label or a label provided by the supplier, or printed on the unit of presentation. This information may also appear inside the unit of presentation.

Adopted 1963 as European Standard No. 19  
Revised 1982, 1994, 1998, 2000, 2001, 2002, 2003

## ANNEX I

**MINIMUM CONDITIONS TO BE SATISFIED  
IN THE PRODUCTION OF PRE-BASIC TC SEED POTATOES**

1. The parent material must be true to type for the variety.
2. These seed potatoes must be produced from officially certified ~~nuclear initial~~ initial stock, ~~which has been tested by appropriate methods~~ which shall be free from, at least, the following pests:

Potato Spindle Tuber Viroid

*Clavibacter michiganensis* spp. *sepedonicus* (ring rot)

*Ralstonia solanacearum* (brown rot)

*Erwinia* spp.

Potato viruses X, Y, S, M and A

Potato Leafroll Virus

3. The facilities and procedures used for this production must be subject to official approval by the certification authority. Measures must be applied to avoid contamination 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.
4. The growing medium should be pest-free.
5. All reasonable husbandry practices for the prevention or spread of pests and diseases must have been effectively carried out.
6. The growing crop must have been kept free from *Synchytrium endobioticum* (Schilb) Prc., potato viruses, bacterial diseases and from deviations of variety and type.
7. The satisfaction of these conditions and the tolerances prescribed for this class in Annexes II, III and IV shall be established by official inspection and/or testing.

The satisfaction of the conditions under item 2 shall be established by appropriate tests for those pathogens known to occur in the country.

Confirmation of variety purity or trueness-to-type may be dependent on inspection of the crop derived from the seed potatoes.

## Annex II

### MINIMUM CONDITIONS TO BE SATISFIED BY THE CROP

1. The field shall not be contaminated by *Globodera rostochiensis* (Woll) nor *Globodera pallida* (Stone).
2. The proportion of growing plants affected by blackleg shall not exceed:
  - (a) in crop for the production of pre-basic category seed, 0 per cent;
  - (b) in crop for the production of Basic I class seed, 0.5 per cent and of Basic II class seed, 1 per cent;
  - (c) in crop for the production of Certified I class seed, 1.5 per cent and of Certified II class seed, 2 per cent.
3. The proportion of growing plants showing symptoms of virus diseases shall not exceed:  
  
in crop for production of Pre-Basic TC class seed, 0 per cent;  
in crop for production of Pre-Basic class seed, 0.1 per cent;  
in crop for production of Basic I class seed, 0.4 per cent with no more than 0.2 per cent of plants showing severe virus disease  
in crop for production of Basic II class seed, 0.8 per cent with no more than 0.4 per cent of plants showing severe virus disease<sup>3</sup>  
in crop for production of Certified I class seed, 2 per cent with no more than 1 per cent of plants showing severe virus disease  
in crop for production of Certified II class seed, 10 per cent virus disease with no more than 2 per cent of plants showing severe virus disease
4. The proportion of growing plants not true to the variety and plants of another variety should not exceed:  
  
in crop for production of Pre-Basic TC class seed, 0 per cent  
in crop for production of Pre-Basic class seed, 0.01 per cent  
in crop for production of Basic category seed, 0.25 per cent  
in crop for production of Certified category seed, 0.5 per cent.
5. The crop shall be free from:
  - (a) *Synchytrium endobioticum* (Schilb) Perc.
  - (b) *Clavibacter michiganensis* Spp. *sepedonicus* (Spieck. and Kotth.) Skapt. and Burkh.
6. Depending on the circumstances and character of potato production in the country, there may be considered:
  - (a) Requirements for isolation of the crop;

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<sup>3</sup> Reservation from the United Kingdom who at the moment do not apply such a strict tolerance.

- (b) Without prejudice to the requirements of Annex IV the establishment of tolerances for virus diseases and varietal purity.
- 7. The satisfaction of the above-mentioned standards or other conditions shall be established by official inspection and/or testing.
- 8. Depending on the circumstances and character of potato production in the country a programme of post-harvest testing for virus diseases may be considered.