

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

Agenda Item 6

CRD 13

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON FRESH FRUITS AND VEGETABLES

20th Session

Kampala, Uganda, 2 – 6 October, 2017

REVISED DRAFT STANDARD FOR WARE POTATOES

(Prepared by India)

NOTE: THIS CRD CONTAINS TWO PARTS I.E. PART A: IN TRACK CHANGES AND PART B: CLEAN COPY OF THE DRAFT STANDARD

PART A: IN TRACK CHANGES

1. SCOPE

The purpose of the standard is to define the quality requirements for ware potatoes at the export-control stage after preparation [\(e.g. brushing and /or washing\)](#) and packaging. However, if applied at stages following packaging, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity;
- for ware potatoes graded in classes other than the “Extra” Class, a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

Due to varietal ~~factors~~[characteristics](#), ware potato tubers vary in:

Shape: from spherical to ovoid

External/skin color: from white through yellow to tan and from reddish through blue

Flesh Color: from white to yellow to blue.

2. DEFINITION OF PRODUCE

This Standard applies to commercial varieties¹ and hybrids of ware potato grown from *Solanum tuberosum* L., of the *Solanaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Ware potatoes for industrial processing and early potatoes are excluded.

3. PROVISIONS CONCERNING QUALITY

3.1 Minimum Requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the ware potatoes must be:

- intact;
- sound; produce affected by rotting or deterioration, which makes it unfit for consumption is excluded
- fresh in appearance;
- firm;

¹.Varieties of ware potatoes are different in tuber shape ,skin, flesh colour as well as depth and colour of the eye cavities

- Practically clean and practically free of any visible foreign matter²;
 - practically free from pests³;
 - ~~and practically free from~~ damage caused by pest affecting the general appearance of the produce;
- ~~(Provisions for pests and damage caused by pests apply without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC)).~~
- free of abnormal external moisture, excluding condensation following removal from cold storage;
 - free of any foreign smell;
 - free of damage caused by low or high temperature;
 - practically unsprouted i.e. sprout may not be longer than 1,3 mm;
 - free of external and internal defects affecting the appearance, keeping quality and presentation in the package, such as:
 - Green colouration; pale green flush not exceeding one eighth of the surface area and which can be removed by normal peeling does not constitute a defect;
 - brown stains due to heat;
 - cracks (including growth cracks), cuts, bites, bruises or roughness (only for varieties of which the skin is not normally rough) exceeding 4 mm in depth;
 - deformities²;
 - grey, blue or black sub-epidermal stains; exceeding 5 mm in depth;
 - rust stains, hollow or black hearts and other internal defects;
 - deep common potato scab and powdery potato scab, of a depth of 2 mm or more.
 - superficial common potato scab, i.e. scab spot in all must not extend over more than a quarter of the surface of the tuber.

The development and condition of the ware potatoes must be such as to enable them to:

- withstand transportation and handling; and
- arrive in satisfactory condition at the place of destination.

3.1.1 Minimum Maturity Requirements

Ware potatoes must be sufficiently developed with cured skin, with account being taken of the characteristics of the variety¹ and/or commercial type and the area in which they are grown.

3.2 Classification

In accordance with Section 5 – Provisions concerning Tolerances, ware potatoes are classified into the following classes.

“Extra” Class, Class I and Class II.

4. PROVISIONS CONCERNING SIZING

Ware potatoes are sized by diameter, ~~count or weight~~; or in accordance with trading practices. When sized in accordance with trading practices, the package must be labelled with the size and method used as mentioned below.

When size is determined by the equatorial diameter (means the maximum distance taken from the right angle on the largest axis of the tuber) of the ware potato (in mm) in accordance with the following table that can be used as a guide in an optional way:

²Visible foreign matter excludes visual indicators of treatment with sprout inhibitors

³Provisions for pests apply without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

Formatted: Font: (Asian) Times New Roman, Superscript

Formatted: Indent: Left: 1", No bullets or numbering

Formatted: Font: (Asian) SimSun, 9 pt, Superscript

Formatted: Normal, Justified, Indent: Left: 0", Space After: 0 pt

Formatted: Font: (Default) Arial, (Asian) SimSun, 9 pt, Font color: Black

Size Code	Equatorial Diameter in mm
<u>1 A</u> (Small Potato)	18-24 <u>more than 80</u>
<u>2 B</u> (long varieties)	25-75 <u>35-80</u>
<u>3 C</u> (round varieties)	35-80 <u>25-75</u>
<u>4 D</u>	<u>more than 80</u> <u>18-24</u>

5. PROVISIONS CONCERNING TOLERANCES

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fail conformity assessment, may be allowed to be resorted and brought into conformity in accordance with the *Guidelines for Food Import Control Systems*(CAC/GL 47-2003) paras9, 10 and 27.

5.1 Quality Tolerances

S.No.	Quality Tolerances	Tolerances allowed, percentage of defective produce, by number or weight		
		Extra Class	Class I	Class II
<u>1</u>	Total Tolerances for ware potatoes not satisfying the minimum requirements of which no more than:	5	10	10
	1.1 Skin Defects: <ul style="list-style-type: none"> • Brown stains, cuts, bites • Bruises or roughness • Late blight, bacterial wilt and ring rot • Grey, blue or black sub-epidermal stains; > 5mm deep • Deep common potato scab and powdery potato scab, > 2 mm deep. • superficial common potato scab > 25% of surface • Sprouts > <u>1.3</u>mm • <u>Green coloration > 1/8 of the surface area; skinning- skin missing or "feathered"; internal defects including blackheart</u> 			
	<u>1.2 Frozen, decay, soft rot and or internal breakdown</u>	<u>1</u>	<u>1</u>	<u>2</u>
	<u>1.3 Soil and Extraneous matter</u>	<u>0.25</u>	<u>0.5</u>	<u>0.5</u>
	<u>Green coloration > 1/8 of the surface area; skinning- skin missing or "feathered"; internal defects including blackheart</u>	5	10	10
<u>2</u>	Additional Tolerances			
<u>2</u>	<u>(a) Produce B</u> belonging to other varieties than <u>Marked Indicated</u>	2	2	2
	<u>Frozen, decay, soft rot and or internal breakdown</u>	4	4	2
	<u>Soil and Extraneous matter</u>	<u>0.25</u>	<u>0.5</u>	<u>0.5</u>

Formatted Table

Formatted: Font color: Auto

Formatted: Font: (Asian) SimSun, Strikethrough

Formatted: Font: (Asian) SimSun, Bold

Formatted: Font: (Default) Arial, (Asian) Times New Roman, 10 pt

Formatted: List Paragraph, Don't add space between paragraphs of the same style, Numbered + Level: 1 + Numbering Style: a, b, c, ... + Start at: 1 + Alignment: Left + Aligned at: 0.03" + Indent at: 0.28", Tab stops: 0.2", Left

S.No.	Quality Tolerances	Tolerances allowed, percentage of defective produce, by number or weight		
		Extra Class	Class I	Class II
3	(b) Size Tolerances- Off size from what is indicated/marketed	10	10	10

Formatted Table

Formatted: Font: (Default) Arial, (Asian) Times New Roman, 10 pt

Formatted: List Paragraph, Don't add space between paragraphs of the same style, Numbered + Level: 1 + Numbering Style: a, b, c, ... + Start at: 1 + Alignment: Left + Aligned at: 0.03" + Indent at: 0.28", Tab stops: 0.2",

6. PROVISIONS CONCERNING PRESENTATION

6.1 Uniformity

The contents of each package (or lot for produce presented in the bulk transport vehicle) must be uniform and contain only ware potatoes of the same origin, variety or commercial type, quality and size (if sized).

The visible part of the contents of the package (or lot for produce presented in the bulk transport vehicle) must be representative of the entire contents.

However, a mixture of distinctly different ware potatoes of different colours (except green) may be packed together in a sales package, provided they are uniform in quality and, for each variety concerned, in origin.

6.2 Packaging

Ware potatoes must be packed in such a way as to protect the produce properly. The materials used inside the package must be of food grade quality, clean and of a quality such as to avoid causing any external or internal damage [as well cross-contamination](#) to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Ware potatoes shall be packed in each package in compliance with the appropriate sections of the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables* (CAC/RCP 44-1995).

6.2.1 Description of Containers

The packages shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the ware potatoes. Packages must be free of all foreign matter and smell.

7. PROVISIONS CONCERNING MARKING OR LABELLING

7.1 Consumer Packages

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985), the following specific provisions apply:

7.1.1 Nature of Produce

If the produce is not visible from the outside, each package shall be labelled as to the name of the produce "Ware Potato" and should be labelled as to name of the variety and/or commercial type.

7.1.2 Origin of Produce

Country of origin³ and, optionally, district where grown, or national, regional or local place name.

In case of a mixture of distinctly different varieties of ware potatoes of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2 Non-Retail Containers

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, either printed on the package itself or on a label secured to the fastening (if the labels are placed inside the packages (string bag), this should be done in such a way that the indications concerning marking are readable from the outside); or in the documents accompanying the shipment and attached in a visible position inside the transport vehicle [unless the document is replaced by an electronic solution. In that case the identification must be machine readable and easily accessible.](#)

7.2.1 Identification

³ The full or a commonly used name should be indicated.

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁴.

7.2.2 Nature of Produce

~~Each shall be labelled as to the name of the produce and may be labelled as to name of the variety <and/or commercial type>. Name of the produce "Ware Potato" if the contents are not visible from the outside. Name of the Variety and/or commercial type (optional).~~ The shape of the tuber may be marked (optional) on the label such as oval, round and long.

7.2.3 Origin of Produce

Country of origin and, optionally, district where grown or national, regional or local place name.

In the case of a mixture of distinctly different varieties of ware potatoes of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2.4 Commercial Identification

- class
- size (if sized)
- Optional indications: colour of flesh, colour of skin, shape of tuber

7.2.5 Official Inspection Mark (optional)

8 CONTAMINANTS

8.1 The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission and where there is no relevant Codex MRLs recognition of destination country MRLs is an alternative.

8.2 The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193-1995).

9. HYGIENE

9.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CAC/RCP 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

9.2 The produce should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CAC/GL 21-1997).

⁴ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark.

PART B: CLEAN COPY**DRAFT STANDARD FOR WARE POTATOES****1. SCOPE**

The purpose of the standard is to define the quality requirements for ware potatoes at the export-control stage after preparation (e.g. brushing and /or washing) and packaging. However, if applied at stages following packaging, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity;
- for ware potatoes graded in classes other than the "Extra" Class, a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

Due to varietal characteristics, ware potato tubers vary in:

Shape: from spherical to ovoid

External/skin color: from white through yellow to tan and from reddish through blue

Flesh Color: from white to yellow to blue.

2. DEFINITION OF PRODUCE

This Standard applies to commercial varieties⁵ and hybrids of ware potato grown from *Solanum tuberosum* L., of the *Solanaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Ware potatoes for industrial processing and early potatoes are excluded.

3. PROVISIONS CONCERNING QUALITY**3.1 Minimum Requirements**

In all classes, subject to the special provisions for each class and the tolerances allowed, the ware potatoes must be:

- intact;
- sound; produce affected by rotting or deterioration, which makes it unfit for consumption is excluded
- fresh in appearance;
- firm;
- Practically clean and practically free of any visible foreign matter⁶;
- practically free from pests³;
- practically free from damage caused by pest affecting the general appearance of the produce;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell;
- free of damage caused by low or high temperature;
- practically unsprouted i.e. sprout may not be longer than 1 mm;
- free of external and internal defects affecting the appearance, keeping quality and presentation in the package, such as:
 - Green colouration; pale green flush not exceeding one eighth of the surface area and which can be removed by normal peeling does not constitute a defect;

⁵Varieties of ware potatoes are different in tuber shape, skin, flesh colour as well as depth and colour of the eye cavities

⁶Visible foreign matter excludes visual indicators of treatment with sprout inhibitors

³Provisions for pests apply without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

- o brown stains due to heat;
- o cracks (including growth cracks), cuts, bites, bruises or roughness (only for varieties of which the skin is not normally rough) exceeding 4 mm in depth;
- o deformities;
- o grey, blue or black sub-epidermal stains; exceeding 5 mm in depth;
- o rust stains, hollow or black hearts and other internal defects;
- o deep common potato scab and powdery potato scab, of a depth of 2 mm or more.
- superficial common potato scab, i.e. scab spot in all must not extend over more than a quarter of the surface of the tuber.

The development and condition of the ware potatoes must be such as to enable them to:

- withstand transportation and handling; and
- arrive in satisfactory condition at the place of destination.

3.1.1 Minimum Maturity Requirements

Ware potatoes must be sufficiently developed with cured skin, with account being taken of the characteristics of the variety and/or commercial type and the area in which they are grown.

3.2 Classification

In accordance with Section 5 – Provisions concerning Tolerances, ware potatoes are classified into the following classes.

“Extra” Class, Class I and Class II.

4. PROVISIONS CONCERNING SIZING

Ware potatoes are sized by diameter, or in accordance with trading practices. When sized in accordance with trading practices, the package must be labelled with the size and method used as mentioned below.

When size is determined by the equatorial diameter (means the maximum distance taken from the right angle on the largest axis of the tuber) of the ware potato (in mm) in accordance with the following table that can be used as a guide in an optional way:

Size Code	Equatorial Diameter in mm
1	more than 80
2	35-80
3	25-75
4	18-24

5. PROVISIONS CONCERNING TOLERANCES

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fail conformity assessment, may be allowed to be resorted and brought into conformity in accordance with the *Guidelines for Food Import Control Systems*(CAC/GL 47-2003) paras 9, 10 and 27.

5.1 Quality Tolerances

S.No.	Quality Tolerances	Tolerances allowed, percentage of defective produce, by number or weight		
		Extra Class	Class I	Class II
1	Total Tolerances for ware potatoes not satisfying the minimum requirements of which no more than:	5	10	10
	1.1 Skin Defects:			

S.No.	Quality Tolerances	Tolerances allowed, percentage of defective produce, by number or weight		
		Extra Class	Class I	Class II
	<ul style="list-style-type: none"> • Brown stains, cuts, bites • Bruises or roughness • Late blight, bacterial wilt and ring rot • Grey, blue or black sub-epidermal stains; > 5mm deep • Deep common potato scab and powdery potato scab, > 2 mm deep. • superficial common potato scab > 25% of surface • Sprouts > 1 mm • Green coloration > 1/8 of the surface area; skinning- skin missing or "feathered"; internal defects including blackheart 			
	1.2 Frozen, decay, soft rot and or internal breakdown	1	1	2
	1.3 Soil and Extraneous matter	0.25	0.5	0.5]
2	Additional Tolerances			
	(a) Produce belonging to other varieties than Marked	2	2	2
	(b) Size Tolerances- off size from what is indicated/marketed	10	10	10

6. PROVISIONS CONCERNING PRESENTATION

6.1 Uniformity

The contents of each package (or lot for produce presented in the bulk transport vehicle) must be uniform and contain only ware potatoes of the same origin, variety or commercial type, quality and size (if sized).

The visible part of the contents of the package (or lot for produce presented in the bulk transport vehicle) must be representative of the entire contents.

However, a mixture of distinctly different ware potatoes of different colours (except green) may be packed together in a sales package, provided they are uniform in quality and, for each variety concerned, in origin.

6.2 Packaging

Ware potatoes must be packed in such a way as to protect the produce properly. The materials used inside the package must be of food grade quality, clean and of a quality such as to avoid causing any external or internal damage as well cross-contamination to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Ware potatoes shall be packed in each package in compliance with the appropriate sections of the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables* (CAC/RCP 44-1995).

6.2.1 Description of Containers

The packages shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the ware potatoes. Packages must be free of all foreign matter and smell.

7. PROVISIONS CONCERNING MARKING OR LABELLING

7.1 Consumer Packages

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985), the following specific provisions apply:

7.1.1 Nature of Produce

If the produce is not visible from the outside, each package shall be labelled as to the name of the produce "Ware Potato" and should be labelled as to name of the variety and/or commercial type.

7.1.2 *Origin of Produce*

Country of origin⁷ and, optionally, district where grown, or national, regional or local place name.

In case of a mixture of distinctly different varieties of ware potatoes of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2 *Non-Retail Containers*

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, either printed on the package itself or on a label secured to the fastening (if the labels are placed inside the packages (string bag), this should be done in such a way that the indications concerning marking are readable from the outside); or in the documents accompanying the shipment and attached in a visible position inside the transport vehicle unless the document is replaced by an electronic solution. In that case the identification must be machine readable and easily accessible.

7.2.1 *Identification*

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁸.

7.2.2 *Nature of Produce*

Each shall be labelled as to the name of the produce and may be labelled as to name of the variety <and/or commercial type>. The shape of the tuber may be marked (optional) on the label such as oval, round and long.

7.2.3 *Origin of Produce*

Country of origin and, optionally, district where grown or national, regional or local place name.

In the case of a mixture of distinctly different varieties of ware potatoes of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2.4 *Commercial Identification*

- class
- size (if sized)
- Optional indications: colour of flesh, colour of skin, shape of tuber

7.2.5 *Official Inspection Mark (optional)*

8 CONTAMINANTS

8.1 The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission and where there is no relevant Codex MRLs recognition of destination country MRLs is an alternative.

8.2 The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193-1995).

9. HYGIENE

9.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CAC/RCP 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

9.2 The produce should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CAC/GL 21-1997).

⁷ The full or a commonly used name should be indicated.

⁸ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark.