

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

REGIONAL STANDARD FOR YACON

Latin America and the Caribbean

CXS 324R-2017

Adopted in 2017. Amended in 2023.

2023 Amendments

Following decisions taken at the Forty-sixth Session of the Codex Alimentarius Commission in December 2023, amendments were made in Section 7.2 Labelling of non-retail containers.

1. SCOPE

The purpose of this standard is to define the quality requirements for yacon at the export-control stage, after preparation 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 products graded in classes other than the extra class, a slight deterioration due to their development and 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.

2. DEFINITION OF PRODUCE

This standard applies to the tuberous roots of varieties and/or commercial types of yacon grown from *Smallanthus sonchifolius*, (Poepp. & Endl.) H. Robinson, from the Asteraceae family, to be supplied fresh to the consumer after preparation and packaging. Yacon for industrial processing is 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 yacon must be:

- intact;
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean; practically free of any visible foreign matter;
- practically free from pests;
- free of damage caused by pests affecting the flesh;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- fresh in appearance;
- firm;
- free of mechanical damage and bruising;
- free of damage caused by frost or low temperatures;
- free of damage caused by cracking or high temperatures; and
- free of any foreign smell and/or taste;

The cut at the distal (narrow) of the yacon should not exceed 2 cm in diameter.

The stalk end should have a clean cut between 1 cm and 2.5 cm in length in case of varieties and/or commercial types that have distinct stalk.

The development and condition of the yacon must be such as to enable it:

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

3.1.1 *Minimum maturity requirements*

The yacon must have reached an appropriate degree of maturity for trade and consumption in conformity with the characteristics of the variety, and/or commercial type and the growing area.

3.2 Classification

The yacon is classified into three classes defined below:

3.2.1 *Extra class*

The yacon in this class must be of superior quality. They must be characteristic of the variety and/or commercial type. They must be free from defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

3.2.2 Class I

The yacon in this class must be of good quality. They must be characteristic of the variety and/or commercial type. The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight defects in shape;
- scarring or healed damage, not exceeding ten percent of the surface area;
- scraped areas, not exceeding ten percent of the product surface.

The defects must not, in any case, affect the pulp of the product.

3.2.3 Class II

This class includes yacon that do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 3.1 above. The following defects may be allowed, provided the yacon retains the essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape;
- scarring or healed damage, not exceeding 20 percent of the surface area; and
- scraped areas, not exceeding 20 percent of the product surface.

The flesh must be free of major quality defects.

4. PROVISIONS CONCERNING SIZING

The yacon may be sized by the maximum diameter of the equatorial section of each root (thicker cross section) and by the weight of each root, in accordance with existing trade practices. The package must be labelled with the corresponding size according to the following table which is a guide and may be used on an optional basis.

Size code	Larger diameter (mm)	Weight (g)
1	> 70	> 300
2	> 50 to 70	> 120 to 300
3	30 to 50	≤ 120

All sizes may have the following forms: fusiform, oval or ovate, obovate and irregular, because some yacon cultivars tend to form more smooth and symmetrical than other roots.

5. PROVISIONS CONCERNING TOLERANCES

5.1 Quality 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.

5.1.1 Extra class

Five percent by number or weight of yacon not satisfying the requirements of the class but meeting those of class I.

5.1.2 Class I

Ten percent by number or weight of yacon not satisfying the requirements of the class but meeting those of class II.

5.1.3 Class II

Ten percent by number or weight of yacon satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting or any other deterioration rendering them unfit for consumption.

5.2. Size tolerances

For all classes if sized: ten percent by number or weight of yacon not satisfying the requirements as regards to sizing.

6. PROVISIONS CONCERNING PRESENTATION

6.1 Uniformity

The contents of each package or lot must be uniform as to the form and contain only yacon of the same origin, variety and/or commercial type, colour, quality and size.

The visible part of the content of the package must be representative of the entire content.

However, a mixture of yacon of different varieties and/or commercial types may be packaged together provided they are uniform in quality and the origin of each variety and/or commercial type is the same.

6.2 Packaging

Yacon 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 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.

Stickers individually affixed to the produce shall be such that, when removed, they neither leave visible traces of glue nor lead to skin defects.

Yacon shall be packed in each container in compliance with the *Code of Practice for Packaging and Transport of Fresh Fruit and Vegetables* (CXC 44-1995).¹

6.2.1 Description of containers

The container shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of yacon.

Packages must be free of all foreign matter and smell.

7. PROVISIONS CONCERNING MARKING AND LABELLING

7.1 Consumer packages

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985),² the following specific provisions apply:

7.1.1 Nature of produce

Each package shall be labelled as to the name of the produce and may be labelled as to the name of the variety and/or commercial type.

7.1.2 Origin of produce

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

In the case of a mixture of distinctly different varieties of yacon of different origins, the indication of each country of origin shall appear next to the name of the variety and/or commercial type concerned.

7.2. Labelling of non-retail containers

The labelling of non-retail containers should be in accordance with the *General Standard for the Labelling of Non-Retail Containers of Foods* (CXS 346-2021).³

In addition, the following specific requirement shall apply:

7.2.1 Nature of produceⁱⁱ

Name of the produce, variety and/or commercial type (optional).

In the case of a mixture of distinctly different varieties and/or commercial types, names of the different varieties and/or commercial types.

In the case of a mixture of distinctly different varieties and/or commercial types and/or colours of yacon, which are not visible from the outside, varieties and/or commercial types and/or colours must be indicated.

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

ⁱⁱ The product covered by the provisions of this standard should allow traceability in accordance with appropriate sections of *Principles for Traceability/Product Tracing as a Tool within a Food Inspection and Certification System* (CXG 60-2006).

8. FOOD ADDITIVES

This standard applies to yacon as identified in food category 04.2.1.1 “untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed and nuts and seeds”, and therefore no food additives is allowed in accordance with the provisions of the *General Standard for Food Additives* (CXS 192-1995).⁴

9. CONTAMINANTS

- 9.1** The product covered by this standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission for this product is applied.
- 9.2** The produce covered by this standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).⁵

10. HYGIENE

- 10.1** 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* (CXC 1-1969),⁶ the *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-2003)⁷ and other relevant Codex texts such as codes of hygienic practice and codes of practices.
- 10.2** The produce should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria related to Foods* (CXG 21-1997).⁸

NOTES

¹ FAO and WHO. 1995. *Code of Practice for Packaging and Transport of Fresh Fruit and Vegetables*. Codex Alimentarius Code of Practice, No. CXC 44-1995. Codex Alimentarius Commission. Rome.

² FAO and WHO. 1985. *General Standard for the Labelling of Prepackaged Foods*. Codex Alimentarius Standard, No. CXS 1-1985, Codex Alimentarius Commission. Rome.

³ FAO and WHO. 2021. *General Standard for the Labelling of Non-Retail Containers of Foods*. Standard, No. CXS 346-2021. Codex Alimentarius Commission. Rome.

⁴FAO and WHO. 1995. *General Standard for Food Additives*. Codex Alimentarius Standard, No. CXS 192-1995 Codex Alimentarius Commission. Rome.

⁵ FAO and WHO. 1995. *General Standard for Contaminants and Toxins in Food and Feed*. Codex Alimentarius Standard, No. CXS 193-1995 Codex Alimentarius Commission. Rome.

⁶ FAO and WHO. 1969. *General Principles of Food Hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969 Codex Alimentarius Commission. Rome.

⁷ FAO and WHO. 2003. *Code of Hygienic Practice for Fresh Fruits and Vegetables*. Codex Alimentarius Code of Practice, No. CXC 53-2003. Codex Alimentarius Commission. Rome.

⁸ FAO and WHO. 1997. *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods*. Codex Alimentarius Guideline, No. CXG 21-1997 Codex Alimentarius Commission. Rome.

Members of the Codex Alimentarius Commission in the Region of Latin America and the Caribbean are indicated on the Codex website at <https://www.fao.org/fao-who-codexalimentarius>.