



ASEAN STANDARD FOR TARO ROOTS (CORMS) (Proposed ASEAN Stan 58:2018)

1. DEFINITION OF PRODUCE

This standard applies to commercial varieties of fresh taro roots (corms) grown from *Colocasia esculenta* (L.) Schott of the Araceae family to be supplied fresh to the consumers after preparation and packaging. Taro roots for industrial processing is excluded.

2. PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

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

- whole;
- fresh in appearance;
- firm;
- free of sprouts;
- having a pseudo-stem not exceeding 10 cm in length which must have practically clean-cut surfaces. However, its absence is not considered a defect, provided that the product is properly cured;
- 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 of pests and damage caused by them affecting the general appearance of the produce;
- practically free from damage caused by low or high temperature;
- free of abnormal external moisture, excluding condensation following removal from cold storage; and
- free of any foreign odour and/or taste.

2.1.1 Taro roots should be harvested and have reached an appropriate degree of development for harvesting depending on variety, season and area in which they are grown.

The development and condition of the taro roots should be such as to enable them:

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

2.2 CLASSIFICATION

Taro roots are classified into three classes defined below:

2.2.1 "Extra" Class

Taro roots in this class must be of superior quality. They must be the characteristics of the variety. They must be free of defects, with the exception of very slight superficial defects not more than 10% of the total surface area, provided these do not affect the general appearance of the produce, quality, keeping quality and presentation in the package.

2.2.2 Class I

Taro roots in this class must be of good quality. They must be characteristic of the variety. The following may be allowed, provided these do not affect the general appearance of the produce, quality, keeping quality and presentation in the package:

- slight defects in shape;
- scarring, provided this does not cover more than 20% of the total surface area; and
- scraped areas, provided these do not exceed 20% of the total surface area.

The defects must not, in any case, affect the flesh of the produce.

2.2.3 Class II

This class includes taro roots which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in above. The following defects, however, may be allowed, provided that the taro roots retain their essential characteristics with regards to the quality, keeping quality and presentation:

- defects in shape;
- scarring, provided this does not cover more than 30% of the total surface area; and
- scraped areas, provided these do not exceed 30% of the total surface area.

The defects must not, in any case, affect the flesh of the produce.

3. PROVISIONS CONCERNING SIZING

Size code is determined by weight in accordance with the following table:

Table 1: Classification of taro roots based on the weight

Size code	Weight (g)
1	>1000
2	> 750 – 1000
3	>500 – 750
4	> 250 - 500
5	> 100- 250
6	50 - 100

4. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality shall be allowed in each package (or in each lot for produce presented in bulk) for produce not satisfying the requirements of the class indicated.

4.1 QUALITY TOLERANCES

4.1.1 "Extra" Class

Five percent by number or weight of taro roots not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

4.1.2 Class I

Ten percent by number or weight of taro roots satisfying the requirements of the class, but meeting those of Class II or exceptionally, coming within tolerances of that class.

4.1.3 Class II

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

4.2 SIZE TOLERANCES

For all classes, 10% by weight of taro roots not satisfying the requirements as regards sizing, but falling within the size immediately above or below those indicated in Section 3.

5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package must be uniformed and contained only taro roots of the same origin, variety, quality and size. The visible part of the contents of the package (or lot for produce presented in bulk) must be representative of the entire contents.

5.2 PACKAGING

Taro roots must be packed in such a way as to protect the produce properly. The materials used inside the package must be clean and of good 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.

Taro roots shall be packed in each container in compliance with the *Recommended International Code of Practice for Packaging and Transport of Tropical Fresh Fruits and Vegetables* (CXC 44-1995, Amd. 1-2004).

5.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the taro roots. Packages must be free from foreign matter and odour.

6. MARKING OR LABELLING

6.1 CONSUMER PACKAGES

In addition to the requirements of the *Codex General Standard for the Labelling of Prepackaged Foods* (CXC 1-1985, Rev. 1-1991), the following specific provisions apply:

6.1.1 Name of Produce

If the produce is not visible from the outside, 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.

6.2 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, or in the documents accompanying the shipment. For produce transported in bulk these particulars must appear on a document accompanying the goods.

6.2.1 Identification

Name and address of Exporter, Packer and/or Dispatcher. Identification code (optional).

6.2.2 Name of Produce

Name of produce if the contents are not visible from the outside. Name of variety and/or commercial type.

6.2.3 Origin of Produce

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

6.2.4 Commercial Identification

- Produce name;
- Variety name (optional)
- Class;
- Size;
- Number of units and/ or Net weight

6.2.5 Official Inspection Mark (optional)

7. CONTAMINANTS

7.1 Taro roots shall comply with maximum residue limits for pesticides established by the Codex Alimentarius Commission, ASEAN Harmonized MRLs of Pesticides and/or by authority for this commodity.

7.2 Taro roots shall comply with the maximum levels of the General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995).

8. HYGIENE

8.1 It is recommended that the product covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *Recommended International Code of Practice – General Principles of Food Hygiene* (CXC 1-1969), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

8.2 The product should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

9. METHODS OF ANALYSIS AND SAMPLING

Analytical and sampling methods to be used for ascertaining conformance to the requirements of this specification shall be in accordance with relevant text in Codex Methods of Analysis and Sampling.

References:

ASEAN Harmonized MRLs of Pesticides.

Bureau of Agriculture and Fisheries Standards. 2014. Philippine National Standard on Fresh root vegetables – Taro – Classification and grading (PNS/BAFS 126:2005 ICS 67.080.20).

Information from Brunei Darrusalam on Taro. 2017.

Information from Malaysia on Taro. 2017.

Information from Thailand on Taro. 2015.

Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991),

Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

Recommended International Code of Practice for Packaging and Transport of Tropical Fresh Fruits and Vegetables. (CAC/RCP 44-1995, Amd. 1-2004).

Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 4-2003)

ANNEX 1

VERNACULAR NAMES OF TARO ROOTS IN THE ASEAN REGION

Country	Vernacular Name
Brunei Darussalam	Keladi
Cambodia	Meum Trav
Indonesia	Talas Keladi
Lao PDR	Pheuak
Malaysia	Keladi
Myanmar	Pein u
Philippines	Gabi
Singapore	Yam
Thailand	Pheuak
Viet Nam	Khoai Mon