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Fresh pumpkin and squash — Specification and grading



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Foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to coordinate the elaboration of standards and is

- (a) a member of International Organisation for Standardisation (ISO) and
- (b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and
- (c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of key stakeholders including government, academia, consumer groups, private sector and other interested parties.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 2, *Food and Agriculture*, Subcommittee SC 4, *Fruits, vegetables, spices and related products*

Fresh pumpkin and squash — Specification and grading

1 Scope

This Uganda Standard specifies the requirements, sampling and test methods for pumpkin and (winter) squash, both of cucurbit family (*Cucurbita pepo*, *C. moshata*, *C. maxima*, *C. mixta*) having a hard shell and mature seeds commercially produced for fresh consumption. This standard does not include pumpkin and squash intended for use in industrial processed pumpkins

2 Normative references

The following referenced documents referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6633, *Fruits, vegetables and derived products — Determination of lead content — Flameless atomic absorption spectrometric method*

US 1659, *Materials in contact with food - Requirements for packaging materials*

US CAC/RCP 53, *Code of Hygienic Practice for Fresh Fruits and Vegetables*

US EAS 38, *Labelling of pre-packaged foods — General requirements*

US ISO 874, *Fresh fruits and vegetables — Sampling*

US ISO 6561-2, *Fruits, vegetables and derived products — Determination of cadmium content — Part 2: Method using flame atomic absorption spectrometry*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

well matured

stage of development which is indicative of good handling and keeping quality for the variety

3.2

food grade packaging material

material that will safeguard the hygienic, safety, nutritional, technological and organoleptic qualities of the product

3.3 visible foreign matter
any visible extraneous material not usually associated with fruits and vegetables such as dust, soil, substrate, chemical residue

3.4 pest
species of animal, especially mites or insects, that is injurious or potentially injurious, whether directly or indirectly to the fruit and vegetable or its presentation.

3.5 decay
defect (progressive or not) seriously affecting the edibility and/or keeping quality of the produce.

3.6 firm
level of firmness enabling trading, storing and keeping acceptable eating quality of produce, depending on the nature of produce

3.7 cracked
split open, exposing the flesh

definition or description for squash/appendix

4 Quality requirements

4.1 Minimum requirements.

In all classes, subject to the specific provisions for each class and the tolerances allowed, the pumpkin or squash shall be as follows:

- a) whole with stalk intact;
- b) characteristic of the variety;
- c) well matured fresh and firm
- d) clean and practically free of any visible foreign matter;
- e) not broken or cracked to affect the flesh quality;
- f) practically free from pests affecting the general appearance;
- g) free from damage / injuries caused by scars, soft rot, dry rot, freezing, disease, mechanical or other means affecting flesh quality;
- h) free of abnormal external moisture on the skin, excluding the condensation following removal from cold storage;
- i) free of any foreign odours and/or taste;
- j) free of physical and physiological damage affecting flesh quality.
- k) developed and of such conditions as to enable them with standard transport and handling
- l) free from decay

4.2 Maturity requirements

Pumpkins or squash shall be harvested when the fruit is completely matured and post-harvest handling is not adversely affected. Indices used to determine harvest maturity, including the following below:

- a) external appearance
- b) hardness of the rind
- c) stem texture
- d) die-back of the tendril nearest the fruit
- e) brighter internal colour, and the skin gloss is lost and the fruit sounds hollow when tapped.

4.3 Classification

Pumpkin or squash is classified into 3 classes as follows

4.3.1 “Extra” Class

Pumpkin or squash shall be of superior quality. They shall be practically normal in shape and free from skin defects, with the exception of very slight abnormality or superficial defects and not affect to the general appearance, the flesh quality, the keeping quality and presentation in the package.

4.3.2 Class I

Pumpkin or squash shall be of good quality. The following slight abnormality or defects may be allowed:

- a) slight abnormality in shape;
- b) slight defects of shallow scars on skin;

The abnormality or defects shall not affect the general appearance, the flesh quality, the keeping quality and presentation in the package.

4.3.2 Class II

Pumpkin or squash which does not meet the requirement of higher classes shall satisfy the minimum requirements specified in Section 4, the following abnormality or defects may be allowed:

- a) slight abnormality of shape;
- b) skin defects of shallow scars, scratches, scabs, pressed marks and rubbing traces.

The abnormality or defects shall not affect the general appearance, the flesh quality, the keeping quality and presentation in the package.

4.4 Size requirements

Minimum and / or maximum size of any lot pumpkin or squash sizes are determined by weight per fruit as shown in Table 1:

Table 1 — Sizing requirements for pumpkin or squash

Size code	Weight per fruit (Kg)
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1	>5.0
2	>4.0 to 5.0
3	>3.0 to 4.0
4	>2.0 to 3.0
5	>1.5 to 2.0
6	>1.0 to 1.5
7	>0.5 to 1.0
8	≤0.5

Note Quality classification and sizes are jointly determined by terms of trade. Trading partners may identify classes differently depending on their requirements or seasonal limitation.

5 Tolerances

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the requirements for the class indicated.

5.1 Quality tolerances

5.1.1 "Extra" Class

5 % by number or weight not satisfying the requirements of "Extra" class, but meeting either Class I or within the tolerances of Class I

5.1.2 Class I

10 % by number or weight of pumpkin not satisfying the requirements of Class I, but meeting either Class II or within the tolerances of Class II and do not exceed the following individual limits stated below:

- a) decay: 2 % for soft rot or wet breakdown or serious damage by dry rot
- b) injuries: 6 %

5.1.3 Class II

15 % by number or weight of pumpkin satisfying neither the requirements of Class II, nor the minimum requirements with the exception of produce affected by bruises, rotteness or any other characteristics unfit for consumption provided the following individual limits are not exceed as stated below:

- a) decay: 2 %
- b) injuries: 8 %

5.2 Size tolerances

5 % in any lot for specimens which are smaller than a specified minimum weight, and 15% which are larger than a specified maximum weight

5.3 Application of tolerance

When packed in containers the entire contents shall be sample or when in bulk or bulk bins, the sample shall consist of approximately 50 pounds (22.680kg) or 25 specimens when fairly uniform in size. Samples are subject to the following limitations:

5.3.1 For a tolerance of 10 % or more, individual samples in any lot may contain not more than one and one-half times the tolerance specified, except that when the individual sample contains 15 specimens or less, individual samples may contain not more than double the tolerance specified: provided, that at least two defective or off-size specimens may be permitted in any individual sample: And provided further, that the average for the entire lot is within the tolerance specified for the grade

5.3.2 For a tolerance of less than 10 %, individual samples in any lot may contain not more than double the tolerance specified: Provided, that at least one defective or off-size specimen may be permitted in any individual sample: And Provided further, That the average for the entire lot is within the tolerance specified for the grade.

6 Contaminants

6.1 Heavy metals

In addition to complying with those maximum levels for contaminants and toxins given in US 738, the level of lead (Pb) and Cadmium (Cd) in pumpkin or squash, when tested in accordance with AOAC 999.11 shall not exceed 0.05 mg/kg.

6.2 Pesticide residues

Pumpkin or squash shall comply with those maximum residue limits established by the Codex Alimentarius Commission

7 Hygiene

Pumpkin or squash shall be produced and handled in hygienic manner in accordance with the appropriate sections of Code of Hygienic Practice for Fresh Fruits and Vegetables (US CXC 53-2003)

8 Packaging

8.1 Pumpkin or squash shall be packaged in food grade packaging material in accordance with US 1659.

8.2 Pumpkin or squash of each package shall perform uniformity of variety, quality, size and maturity. The visible part of pumpkin or squash of the package shall be the representative of the entire contents.

9 Weights and measures

Pumpkin or squash shall be packaged in accordance with the weights and measures regulations

10 Labelling

10.1 General labelling requirements

In addition to the requirements of US EAS 38 the following specific labelling requirements shall apply and shall be legibly and indelibly marked

- a) name of the produce; "Pumpkin or Squash " and/or "Pumpkin or Squash variety".
- b) class;

- c) size code (optional);
- d) net weight in metric units;
- e) name and address of producer and/or distributor;
- f) lot identification;
- g) country of origin;

10.2 Non retail containers

When labelling non-retail packages, information for non-retail packages shall either be given on the packages or in accompanying documents, except that the name of the product, lot identification and the name and address of the producer or packer, importer shall appear on the packages.

11 Sampling

Sampling shall be done in accordance with US ISO 874

Bibliography

- [1] *U.S. Grades Standards for Fall and Winter Type Squash and Pumpkins*, October 13, 1983 (Reprinted — January 1997)
- [2] *Thai Agricultural Standard TAS 1513-2012, Pumpkin*
- [3] *Regulations relating to the grading, packing and marking of fresh vegetables intended for sale in the republic of South Africa*, 24 May 2013
- [4] *Quality Standards for Pumpkin*
- [5] *UNECE standards on fresh fruits and vegetables, Glossary of terms*, 2016

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