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First edition

**DRAFT MALAWI STANDARD**

# **Fresh sweet potatoes – Specification**

**NOTE: This is a draft Malawi standard and it shall neither be used nor regarded as a Malawi Standard**

# **Fresh sweetpotatoes – Specification**

**Obtainable from the  
Malawi Bureau of Standards  
P O Box 946  
BLANTYRE**

**Tel: +265 870 488  
Fax: +265 870 756  
E-mail: [mbs@malawi.net](mailto:mbs@malawi.net)  
Website: [www.mbsmw.org](http://www.mbsmw.org)**

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### FOREWORD

This draft Malawi standard was prepared by MBS/TC 53, the Technical Committee on *Root and tuber crops and their products*, to provide the requirements and methods of sampling and test for fresh sweetpotatoes [*Ipomoea batatas* (L.) Lam.] for human consumption.

In preparing this draft Malawi standard, reference was made to the following standard:

East African Standard, EAS 771:2012, *Fresh sweetpotatoes – Specification*.

Acknowledgement is made for the use of the information.

### TECHNICAL COMMITTEE

This draft Malawi standard was prepared by MBS/TC 53, the Technical Committee on *Root and tuber crops and their products* and the following companies, organizations and institutions were represented:

Blantyre City Council;  
International Potato Center Malawi;  
Lilongwe University of Agriculture and Natural Resources;  
Malawi Bureau of Standards;  
Ministry of Agriculture, Irrigation and Water Development – Bvumbwe Agricultural Research Station;  
Ministry of Industry – Department of Small and Medium Enterprises and Cooperatives;  
Peoples Trading Centre;  
Shoprite Trading Limited;  
Tehilah Bakery; and  
University of Malawi – The Polytechnic.

### NOTICE

*This standard shall be revised every five years or whenever necessary in order to keep abreast of progress. Comments are welcome and shall be considered when the standard is being revised.*

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## DRAFT MALAWI STANDARD

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# Fresh sweetpotatoes – Specification

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### 1 SCOPE

This draft Malawi standard specifies the requirements and methods of sampling and test for fresh sweetpotatoes [*Ipomoea batatas* (L.) Lam.] to be supplied fresh and either packaged or sold loose for human consumption.

### 2 NORMATIVE REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this draft Malawi standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this draft Malawi standard are encouraged to take steps to ensure the use of the most recent edition of the standards indicated below. Information on current valid national and international standards can be obtained from the Malawi Bureau of Standards.

MS 19: *Labelling of prepackaged foods – General standard;*

MS 237: *Food additives – General standard;*

MS 302: *Contaminants and toxins in foods – General standard;*

MS 1611: *Production and handling of sweetpotatoes – Code of practice; and*

MS 1520: *Fresh fruits and vegetables – Sampling.*

### 3 TERMS AND DEFINITIONS

For the purposes of this draft Malawi standard, the following terms and definitions shall apply.

#### 3.1

##### **badly misshapen**

potato tuber that is seriously deformed relative to the varietal shape

#### 3.2

##### **clean**

practically free from dirt or staining or other foreign matter or extraneous matter

#### 3.3

##### **extraneous matter**

organic matter of plant origin other than the fresh sweetpotato

#### 3.4

##### **firm**

not soft, shrivelled or flabby

#### 3.5

##### **food grade material**

material that is free from substances that are hazardous to human health

#### 3.6

##### **foreign matter**

organic and inorganic materials (such as sand, soil, glass) other than extraneous matter in the sweetpotato

### **3.7**

#### **fresh**

storage roots obtained from a plant of the species *ipomoea batatas (L) Lam* having visual characteristics of colour, texture and firmness typical of just harvested sweetpotato at the time of sale

### **3.8**

#### **practically free**

produce without defects in excess of those that can be expected to result from, and be consistent with good cultural and handling practices employed in the production and marketing of the fresh sweetpotatoes

### **3.9**

#### **sound/wholesome**

free from pests, diseases, serious deterioration (such as but not limited to decay, breakdown, freezing damage, or softness) or adulteration/contamination, that appreciably affects their appearance, edibility and the keeping quality of the produce or market value

### **3.10**

#### **sprout**

new shoot emerging from the root

### **3.11**

#### **sweetpotato**

storage roots obtained from a plant of the species *ipomoea batatas (L) Lam*, primarily used for human consumption

### **3.12**

#### **whole**

fresh storage roots which have not been subjected to any mechanical damage or peeling of its initial harvested mass with the exemption of trimming

## **4 QUALITY REQUIREMENTS**

### **4.1 General requirements**

Fresh sweetpotatoes shall have reached an appropriate degree of physiological development and maturity taking into account the characteristics of the variety and the area in which they are grown. The sweetpotatoes shall have been carefully harvested.

### **4.2 Specific requirements**

Fresh sweetpotatoes supplied to the market shall be:

**4.2.1** Fresh, whole and firm;

**4.2.2** Wholesome/sound and produce not affected by rot, mould or deterioration as to make it unfit for consumption;

**4.2.3** Clean, and practically free of any visible extraneous matter or foreign matter, except permitted substances used to prolong its shelf life;

**4.2.4** Of colour, taste and texture characteristic of variety;

**4.2.5** Practically free of pests and damage caused by pests;

**4.2.6** Free of excess external moisture, adequately surface dried if they have been washed;

**4.2.7** Free of any foreign smell and/or taste with exception of preservation agents allowed under clause 5;

**4.2.8** Practically free of mechanical damage and bruising; and

**4.2.9** Free from greening.

**4.2.10** Free from serious deformities (i.e., malformation, bad misshape)

### **4.3 Quality tolerances**

Tolerances for the quality requirements shall be such that:

**4.3.1** A total of no more than 10 % of the sweetpotatoes in the lot may fail the requirements;

**4.3.2** No more than 3 % of the sweetpotatoes may be affected by rot, mould or deterioration as to make it unfit for consumption;

**4.3.3** No more than 3 % of the sweetpotatoes may be affected by damage caused by pests; and

**4.3.4** No more than 3 % of the sweetpotatoes may be affected by rot, mould or deterioration; and damage caused by pests in combination.

## **5 CLASSIFICATION OF FRESH SWEETPOTATOES**

### **5.1 Types of classes**

Fresh sweetpotatoes may be classified before marketing. Where classification is done the following grades shall be used in accordance with the requirements of each class and the quality tolerances in clause 7.

**5.1.1** Extra class;

**5.1.2** Class I; and

**5.1.3** Class II.

### **5.2 Class requirements**

#### **5.2.1 Extra class**

**5.2.1.1** Extra class sweetpotatoes shall meet the specific requirements in clause 4.2 and shall be:

**5.2.1.1.1** Of superior quality in terms of texture and appearance; and

**5.2.1.1.2** Characteristic of the variety and uniform in shape and size.

**5.2.1.2** Extra class sweetpotatoes shall be free from defects, with the exception of defects on the surface affecting not more than 2 % of the sweetpotatoes.

#### **5.2.2 Class I**

**5.2.2.1** Class I sweet potatoes shall meet the specific requirements in clause 4.2 and shall be:

**5.2.2.1.1** Of good quality; and

**5.2.2.1.2** Uniform in shape and size that are characteristic of the variety.

**5.2.2.2** The following slight defects may be allowed, provided these do not affect the general appearance, the quality, the keeping quality and presentation of sweetpotatoes:

**5.2.2.2.1** Defects in shape not exceeding 5 % of the sweetpotatoes;

**5.2.2.2.2** Bruising, not exceeding 10 % of the surface area of the sweetpotatoes;

**5.2.2.2.3** Scraped areas, not exceeding 20 % of the surface area of the sweetpotatoes; and

**5.2.2.2.4** Scarred and healed damage, not exceeding 5 % of the surface area of the sweetpotatoes.

### 5.2.3 Class II

5.2.3.1 Class II sweetpotatoes shall meet the specific requirements in clause 4.2 but may not qualify for inclusion in the higher classes.

5.2.3.2 The following defects may be allowed:

5.2.3.2.1 Defects in shape not exceeding 10 % of the sweetpotatoes;

5.2.3.2.2 Bruising, not exceeding 20 % of the surface area of roots;

5.2.3.2.3 Scraped areas, not exceeding 30 % of the surface area of sweetpotatoes; and

5.2.3.2.4 Scarred and healed damage, not exceeding 10 % of the surface area of the sweetpotatoes.

## 6 PROVISIONS CONCERNING TOLERANCES

### 6.1 Quality tolerances

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

6.1.2 The following tolerance limits may be allowed for specific classes:

6.1.2.1 Extra class: 5 % by weight of sweetpotatoes not satisfying the requirements of extra class, but meeting those of Class I or exceptionally coming within the tolerances of class I;

6.1.2.2 Class I: 10 % by weight of sweetpotatoes not satisfying the requirements of class I, but meeting those of Class II or exceptionally, coming within the tolerances of class II; and

6.1.2.3 Class II: 20 % by weight of sweetpotatoes not satisfying the specific requirements, with the exception of produce affected by rotting or any other deterioration rendering it unfit for consumption.

### 6.2 Size tolerances

For all classes, 10 % by number or weight of sweetpotatoes corresponding to the size immediately above and/or below that indicated on the package.

## 7 SIZE DESIGNATION OF FRESH SWEETPOTATOES

Fresh sweetpotatoes may be designated by size in accordance with Table 1. When the designations in Table 1 are used the sizes shall be within the specification in Table 1. Size is determined by weight.

**Table 1 – Size for fresh sweetpotatoes**

1	2	3	4
S/N	Size code	Size	Weight (g)
1	A	Large	> 650
2	B	Medium	450 – 650
3	C	Small	< 450

## 8 FOOD ADDITIVES

Fresh sweetpotatoes may be preserved by use of food additives in accordance with MS 237.

## **9 CONTAMINANTS**

### **9.1 Pesticide residues**

Fresh sweetpotatoes shall conform to those maximum residue limits for pesticide residues established by Codex Alimentarius Commission for this commodity.

### **9.2 Other contaminants**

Fresh sweetpotatoes shall conform to those maximum levels of contaminants and toxins in food and feed in accordance with MS 302.

## **10 HYGIENE**

Fresh sweetpotatoes shall be handled a hygienic manner complying with MS 1611.

## **11 PACKAGING AND LABELLING**

### **11.1 Packaging**

Fresh sweetpotatoes may be sold packaged or loose. Packaging of fresh sweetpotatoes shall comply with requirements of the packaging section in MS 1611.

### **11.2 Labelling**

**11.2.1** In addition to the requirements of MS 19, the following specific requirements shall apply and shall be legibly and indelibly marked:

**11.2.1.1** Name of the produce to be shown on the label shall be "Fresh sweetpotatoes";

**11.2.1.2** Name, physical and postal address of the producer and/ packer or vendor shall be declared;

**11.2.1.3** Country of origin of the produce;

**11.2.1.4** Place of origin such as district, or region;

**11.2.1.5** Name of variety;

**11.2.1.6** Commercial identification shall be declared by:

**11.2.1.6.1** Grade (only when classified);

**11.2.1.6.2** Variety or cultivar or type;

**11.2.1.6.3** Size (size code); and

**11.2.1.6.4** Net weight (in metric system).

**11.2.1.7.** Lot identification (batch number);

**11.2.1.8** Declaration of preservatives, if used;

**11.2.1.9** Date of harvest;

**11.2.1.10** Packing date;

**11.2.1.11** Storage conditions; and

**11.2.1.12** Indication "for human consumption".



**11.2.2** 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 produce, lot identification and the name and address of the producer or packer shall appear on the package.

## **12 METHODS OF SAMPLING AND TESTING**

**12.1** Sampling shall be done in accordance with MS 1520.

**12.2** Tests for pesticide residues, contaminants and toxins shall be conducted in accordance with the recommended methods of the Codex Alimentarius Commission, AOAC and other internationally recognized methods of test.

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**THE MALAWI BUREAU OF STANDARDS**

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Industry and Trade. Set up in 1972 by the Malawi Bureau of Standards Act (Cap: 51:02), the Bureau is a parastatal body whose activities aim at formulating and promoting the general adoption of standards relating to structures, commodities, materials, practices, operations and from time to time revise, alter and amend the same to incorporate advanced technology.

**CERTIFICATION MARK SCHEME**

To bring the advantages of standardization within the reach of the common consumer, the Bureau operates a Certification Mark Scheme. Under this scheme, manufacturers who produce goods that conform to national standards are granted permits to use the Bureau's "Mark of Quality" depicted below on their products. This Mark gives confidence to the consumer of the commodity's reliability.

