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DRAFT ZANZIBAR NATIONAL STANDARD

Dried or dehydrated chilli pepper and paprika — Specification

ZANZIBAR BUREAU OF STANDARDS

First edition

Foreword

This draft Zanzibar national standard has been prepared by the spices and culinary herbs technical committee. In accordance with the Zanzibar Bureau of Standards General Procedures, this draft is here by presented to the public in order to receive any technical comment concerns.

In the preparation of this standard, the reference was made to the following sources:

CXS 353-2022- *Standard for dried or dehydrated chilli pepper and paprika*

Zanzibar Bureau of Standard (ZBS)
P.O.Box 1136
Zanzibar
Tel: +255 24 2232225
Fax: +255 24 2232225
E-mail: info@zbs.go.tz
Web: www.zbs.go.tz

Dried or dehydrated chilli pepper and paprika — Specification

1 Scope

This draft Zanzibar National Standard specifies the requirements and the methods of sampling and test for dried or dehydrated chilli pepper and paprika of the *Capsicum spp*.

2 Normative references

The following referenced documents are indispensable for the application of this draft Zanzibar National Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies;

CODEX STAN 193, *General Standard for Contaminants and Toxins in Foods*

EAS 99, *Spices and condiments — Nomenclature*

ISO 1108, *Spices and condiments — Determination of non-volatile ether extract*

ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

ISO 4831, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms — Most probable number technique*

ISO 4833-1, *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 degrees C by the pour plate technique*

ISO 4833-2, *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 2: Colony count at 30 degrees C by the surface plating technique*

ISO 6571, *Spices, condiments and herbs — Determination of volatile oil content (hydrodistillation method)*

ISO 6579-1:2017, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presunptive Escherichia coli — Most probable number technique*

ISO 16050*, Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products*

ISO 927, *Spices and condiments — Determination of extraneous matter and foreign matter content*

ISO 948, *Spices and condiments — Sampling*

ZNS 48, *Spices and condiments — Determination of total ash*

ZNS 49, *Spices and condiments — Determination of moisture content — Entrainment method*

ZNS 50, Spices and condiments — Determination of acid-insoluble ash

ZNS 61, *Packaging and labeling of food*

ZNS 88, *Code of hygienic practices for Spices and condiments*

ZNS 94, *Rounding off numerical values*

3 Terms and definitions

For the purpose of this draft Zanzibar National Standard the terms and definitions given in EAS 99 and the following shall apply.

3.1
dried or dehydrated chilli pepper and paprika
the product obtained from drying the fruits of *Capsicum species* of the family Solanaceae with or without seeds or stalks

3.2
ground chilli pepper
product obtained by grinding whole dried chilli with or without the placenta, seeds, calyx and stalk, and without any other added matter.

3.3
ground paprika
product obtained by grinding whole dried paprika excluding the placenta, seeds, calyx and stalk, and without any other added matter.

3.4
unripe chilli fruits
fruits not yet mature, the colour of which is considerably different from that of the batch under consideration. generally, the fruits are green or pale yellow in colour.

3.5
marked fruits
black or black-stained fruits

3.6
broken fruits
fruits which are broken during handling and of which a part of the pod is missing

3.7
fragments
small pieces of fruits coming from broken fruits

3.8
ASTA
American Spices Trade Association

4 Requirements

4.1 Raw material

Dried or dehydrated chilli pepper and paprika shall be prepared from sound fruits of the *Capsicum species* of the family Solanaceae.

4.2 Styles

Dried and dehydrated chilli pepper and paprika shall be styled as follows:

- **a)** whole (with or without stalk);
- **b)** crushed/cracked/broken/flakes; and
- **c)** ground/powdered.

4.3 Classification (optional)

Dried chilli peppers and paprika may be classified in accordance with the chemical and physical requirements in table 1 and table 2, whole/ ground paprika and hot paprika may be classified into the following classes:

a) extra class

b) class I/grade I

c) class II/grade II

When dried or dehydrated paprika and hot paprika is traded as unclassified, the provisions for physical and chemical requirements applicable to class II/grade II shall apply as minimum requirements.

4.4 General requirements

Dried and dehydrated chilli pepper and paprika shall

a) Ground chilli peppers may vary in colour from pale white to dark blackish red according to the species/varieties.

b) Ground paprika may vary in colour from orange to red through yellowish and brownish red to pale reddish brown according to the species/varieties.

c) have a characteristic odour, flavour and colour which can vary depending on geo-climatic factors/conditions;

d) be free from any foreign odour, flavour or colour especially from rancidity and mustiness.

4.5 Specific requirements

4.5.1 Dried and dehydrated chilli pepper and paprika shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1: Requirements for grades of paprika and hot paprika

Product	Styles	Class/Grade	Moisture % w/w (max)	Total ash on dry basis %w/w (max)	Acid-insoluble ash on dry basis % w/w (max)	Crude fiber, percent by mass, Max	Non-volatile ether extract on dry basis, Min	Pungency Scoville heat units	Colour value ASTA Colour units (min)
Chilli peppers	Whole	-	*11*	*10*	*1.6*	*NA*	*NA*	≥900	*NA*
	Crushed/cracked/broken/flakes	-			*1.6*				
	Ground/powder	-			*1.6**	*30*	*12*		
Paprika	Whole	*Extra*	*11*	*10*	*1.3*	*NA*	*NA*	≤ 480	*120*
		I			*1.6*				*100*
		II			*1.6*				*80*
	Crushed/cracked/broken/flakes	-	*11*	*10*	*1.6*			≤ 480	*80*
	Ground/powder	*Extra*	*11*	*10*	*1.6*	*30*	*12*	≤ 480	*120*
		I							*100*
		II							*60*
Hot paprika	Whole	*Extra*	*11*	*10*	*1.6*	*NA*	*NA*	*>480 <900*	*120*
		I							*100*
		II							*80*
	Crushed/cracked/broken/flakes	-	*11*	*10*	*1.6*			*>480 <900*	*80*
	Ground/powder	*Extra*	*11*	*10*	*1.6*	*30*	*12*	>480 <900	*120*
		I							*100*
		II							*60*
Test method			ZNS 49	ZNS 48	ZNS 50	ISO 5498	ISO 1108	*ISO 3513*	

** If the product contains anticaking agents (max 2 percent), this value is allowed to be maximum 3 percent for paprika and 3.6 percent for hot paprika.*

Table 2. Physical requirements of dried or dehydrated chilli pepper and paprika

Product	*Styles/Form*	*Class/ Grade*	*Mammalian excreta or/and other excreta [a] mg/kg (max)*	*Mould damage % w/w (max)*	*Insect damage % w/w (max)*	*Extraneous Matter [b] % w/w (max)*	*Foreign Matter [c] % w/w (max)*	*Live insects count/100 g*
Chilli peppers	Whole	-	*1*	*3[d]*		*1*	*0.5*	*0*
	Crushed/cracked/broken/flakes	-	*NA*	*NA*	*NA*	*NA*	*NA*	*0*
	Ground/powder	-	*NA*	*20[e]*	*NA*	*NA*	*NA*	*0*
Paprika and Hot paprika	Whole	*Extra*	*1*	*NA*	*NA*	*1*	*0.1*	*0*
		I	*1*	*NA*	*NA*	*1*	*0.5*	*0*
		II	*1*	*NA*		*1*	*0.5*	*0*
	Crushed/cracked/broken/flakes	-	*NA*	*NA*	*NA*	*NA*	*NA*	*0*
	Ground/powder	-	*NA*	*20[e]*	*NA*	*NA*	*NA*	*NA*
	Test method	ISO 927						

a Excreta from other animals, such as reptiles and birds.
b Vegetative matter associated with the plant from which the product originates but not accepted as part of the final product.
c Any visible/detectable objectionable foreign matter or material not usually associated with the natural components of the spice plant, such as sticks, stones, burlap bagging, metal, etc.
d Mould damage combined with insect damage.
e This does not mean the product could be 20 percent mouldy it means that mould filaments can be observed in 20 percent of the fields examined using Howard Mould Count.
N/A=Not applicable, means that this form of the above product has not been evaluated for this provision, and currently we do not have values. N/A does not refer to zero

4.5.2 Ground chillies and paprika shall be ground to such fineness that all of it passes through a sieve of 500 micron (0.500 mm).

4.6 Defects and tolerances

Whole dried and dehydrated chilli pepper and paprika shall not exceed limits set for common defects as specified in Table 2.

Table 2: Classification of defects

Sn	Defects		Limit	Test method
i.	unripe fruits, % m/m, max		2	Annex A
ii.	marked fruits, % m/m, max		2	
iii.	broken fruits and fragments, % m/m, max	Extra	5	
		Garde 1	10	
		Garde II		
iv.	*off size,* % m/m, max		*5*	ISO 927
v.	*w/w other similar varieties, % m/m, max*		*5*	

5 Additives

5.1 Dried and dehydrated chilli pepper and paprika shall be free from added colouring matter and preservatives.

5.2 Anticaking agents when used shall be in General Standard for Food Additives CXS 192

6 Contaminants

6.1 Pesticides residues

Dried and dehydrated chilli pepper and paprika shall not exceed maximum residue limit as stipulated in the CODEX Pesticides Residues in Food Online Database.

6.2 Heavy metals

Dried and dehydrated chilli pepper and paprika shall not exceed maximum residue limit as stipulated in CODEX STAN 193.

6.3 Aflatoxin limits

Total aflatoxin shall not exceed 10 µg/L and aflatoxin B_1 shall not exceed 5 µg/L when tested with ISO 16050.

7 Hygiene

Dried and dehydrated chilli pepper and paprika shall be prepared under Good Hygienic Practices in accordance with ZNS 88 and shall comply with microbiological limits given in Table 3 when tested in accordance with the methods specified therein.

Table 2: Microbiological limits for Dried and dehydrated chilli pepper and paprika

S/No	Characteristic	Requirements	Test methods

i.	*Salmonella spp.* per 25 g	Absent	ISO 6579
ii.	*Bacillus cereus*	10^4	ISO 7932
iii.	*Sulphite Reducing Clostridia (SRC)*	10^3	ISO 15213-1

8 Packaging and labelling

8.1 Packaging

Dried and dehydrated chilli pepper and paprika shall be packaged in food grade material that secures the integrity and the safety of the product.

8.2 labelling

8.2.1 In addition to the labelling requirements specified in ZNS 61, the containers shall also be legibly and indelibly labelled with the following:

a) name of product;
b) trade name or brand name if any;
c) name and physical and postal address of manufacturer and/or packer;
d) batch or code number;
e) net weight;
f) manufacture and best before date;
g) country of origin;
h) storage condition.
i) year of the harvest (in case of whole);
j) class/grade, if applicable
k) size for whole style if applicable

8.2.2 The language on the label shall be Kiswahili or Kiswahili and English. Other language may be used depending on the designated market.

9 Sampling and test

Sampling of Dried and dehydrated chilli pepper and paprika shall be done in accordance with ISO 948.

Annex A

(normative)

Determination of unripe fruits, marked fruits, and broken fruits and fragments

Spread out the sample, the extraneous matter of which has been removed on a white sheet of matt paper. Segregate the unripe fruits, the marked fruits, and the broken fruits and fragments by physical separation.

Weigh separately, to the nearest 0.1 g, these three categories of defective fruits. The masses m_0, m_1 and m_2 are obtained for unripe, marked, and broken fruits and fragments, respectively. Their percentages are calculated from expressions given below.

Unripe fruits = $\frac{m_0}{M} \times 100$

Marked fruits = $\frac{m_1}{M} \times 100$

Broken fruits and fragments = $\frac{m_2}{M} \times 100$

where

M = mass of the initial sample, in g;
m_0 = mass of unripe fruits, in g;
m_1 = mass of marked fruits, in g; and
m_2 = mass of broken fruits and fragments, in g.

