



TANZANIA STANDARD

Cashew kernels – Specification

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0 Foreword

This Tanzania Standard is intended to guide processors/exporters in achieving quality of cashew kernels required for market.

In the preparation of this Tanzania Standard assistance was drawn from the following publications:

ISO 6477: 1988, *Cashew kernels – Specification* published by the International Organization for Standardization (ISO).

In reporting the results of a test or analysis made in accordance with this Tanzania Standard, if the final value observed or calculated is to be rounded off, it shall be done in accordance with TZS 4 (see clause 2).

1 Scope

This Tanzania Standard specifies requirements and methods of sampling and test for kernels obtained from the cashew tree (*Anacardium occidentale*, Linnaeus) for human consumption.

2 References

The following referenced documents are indispensable for the application 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:

TZS 4, *Rounding off numerical values*

TZS 742 *Oleaginous seeds – Sampling*

TZS 1314 *Oleaginous seeds – Methods of test*

TZS 109 *Food processing units – Code of hygiene – General*

ISO 565 *Test sieves – Woven metal wire cloth, perforated plate and electro formed sheet – Nominal sizes of openings*

TZS 538 *Packaging and labeling of foods*

TZS 122 *Microbiology of food and feeding stuffs – Horizontal method for the detection of salmonella spp*

TZS 731 *Microbiology of food and feeding-stuffs – Horizontal method for the detection and enumeration of presumptive Escherichia coli – Most Probable Number Technique*

Codex Stan 193-1995 *General Standard for Contaminants and Toxins in Food and Feed*

3 TERMS AND DEFINITIONS

For the purposes of this Tanzania Standard, the following terms and definitions shall apply:

3.1 Cashew kernels

Product obtained by roasting or steaming, shelling and removing the testa of the cashew nut.

3.2 Extraneous matter

Means glass, metal, stones, coal, excreta and anything else other than cashew nut kernel

3.3 scorched kernels

Kernels that are discoloured due to overheating during shelling or blanching.

3.4 whole kernel

A cashew kernel is classified as whole if it has the characteristic shape of a cashew kernel and not more than 1/8th of the kernel has been broken off. This grade may also be designated as W.

3.5 Splits kernel

One half of a cashew kernel that has been split lengthwise, provided not more than 1/8 of this cotyledon has been broken off.

3.6 Butts

kernels which have been broken crosswise.

4 Requirements

4.1. General requirements

Cashew kernels shall be:

4.1.1 of a characteristic shape and may be either scorched or unscorched, in the form of wholes or pieces.

4.1.2 completely free from rancidity. Any signs of rancidity shall be tested organoleptically.

4.1.3 dry, have colour characteristic to variety, characteristic flavor, uniform appearance free from discoloration, spots and adhering testa,

4.1.4 free from living insects, moulds, dead insect, mites, insects fragments, excrement and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision) or with such magnification as maybe necessary in any particular case. If the magnification exceeds x 10, the fact shall be stated in the test report.

4.1.5 free from dust, stalks, fibrous matter and stones.

4.2 Grades

Grades and grade designation shall be as given in annex A.

4.3 Specific requirements

Cashew kernels shall also comply with the requirements given in table 1.

Table 1- Requirements for Cashew kernels

| SNo | Characteristics | Requirements | Methods of tests |
|-----|-----------------------|--------------|------------------|
| 1 | Moisture, % (m/m) Max | 5 | TZS 1314 |

5 Contaminants

5.1 Metal contaminants

Cashew kernels shall comply with those maximum metal contaminants stipulated in Codex Stan 193-1995 (See clause 2)

5.2 Pesticide residues

Cashew kernels shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

5.3 Mycotoxins

The maximum contents of aflatoxins in cashew kernels, when determined in accordance with the method described in TZS 1314:2010 (see clause 2), shall be 5 ppb for aflatoxin B₁ and 10 ppb for total aflatoxin.

6 Hygiene

6.1 Cashew kernels shall be processed in accordance with TZS 109 (see clause 2).

6.2 Cashew kernel shall be free from pathogenic microorganisms and shall comply with the microbiological limits given in table 2

TABLE 2: Microbiological requirements

| S/No. | Organism | Maximum limit | Method of Test |
|-------|---------------------|-----------------|----------------|
| 1. | Salmonella per 25 g | Shall be absent | TZS 122 |
| 2. | E. coli MPN/g | Shall be absent | TZS 731 |

7 Sampling and methods of test

7.1 Sampling

Sampling of cashew kernels shall be done in accordance with TZS 742 (see clause 2).

7.2 Methods of test

Cashew kernels shall be tested in accordance with TZS 1314 (see clause 2).

8 PACKAGING, MARKING AND LABELING

8.1 Packaging

The product shall be packed in suitable and hygienic food grade packaging materials which protect the safety and quality of the product.

8.2 Marking and labeling

8.2.1 The product shall be marked and labeled in accordance with TZS 538 (see clause 2).

8.2.2 In addition each Container/packet of product shall be legibly and indelibly marked with the following information:

- a) Name of the product
- b) Trade name or brand, if any;
- c) Grade designation;
- d) Name, address of the producer and/or packer;
- e) Batch or code number;
- f) Date of packing;
- g) Best before date
- h) Net weight;
- i) Country of origin;
- j) Year of harvest (Crop year)
- k) Storage condition

8.2.3 The containers may also be marked with the TBS Standards Mark of Quality.

NOTE – The TBS Standards Mark of Quality may be used by the manufacturers only under licence from TBS. Particulars of conditions under which the licences are granted, may be obtained from TBS.

9 Storage and transportation

9.1 Storage

9.1.1 Cashew kernels shall be stored in a well ventilated environment and stacked on pallets to avoid moisture ingress. They shall be stored in leak proof warehouses.

9.1.2 Warehouses shall have either insect repellents or killers.

9.2 Transportation

Cashew kernels shall be transported in well secured wagons/containers/trucks to avoid loss and spoilage.

Annex A

Grades, grade designations, names used in the trade and characteristics of cashew kernels

| Cashew kernels (whole) | | | | |
|---|-------------------|---|--------------------------------|--|
| Grade ¹⁾ | Grade designation | Number of kernels per kilogram (per pound) | | Characteristics |
| I II III IV V VI VII | W 180 | 265 to | 395 (120 to 180) | Cashew kernels shall have the characteristic shape, shall be white, very pale ivory or light ash-grey in colour, shall be free from insect damage, damaged cashew kernels and black or brown spots. The kernels shall be completely free from skin (integument). |
| | W 210 | 440 to | 465 (200 to 210) | |
| | W 240 | 485 to | 530 (220 to 240) | |
| | W 280 | 575 to | 620 (260 to 280) | |
| | W 320 | 660 to | 706 (300 to 320) | |
| | W 400 | 770 to | 880 (350 to 400) | |
| | W 450 | 880 to | 990 (400 to 450) | |
| W 500 | 990 to | 1 100 (450 to 500) | | |
| 1) Tolerance: Broken kernels and kernels of the next lower grade, if any, shall not together exceed 5 % (m/m) at the time of packing. | | | | |
| Scorched cashew kernels (whole) | | | | |
| Grade ¹⁾ | Grade designation | Known in the trade as | | Characteristics |
| VIII | SW | Scorched wholes | | Cashew kernels shall be free from insect damage, damaged kernels and black spots and skin (integument). The kernels may be light brown, light ivory, light ash-grey or deep ivory in colour due to scorching as a result of overheating. |
| 1) Tolerance: Broken kernels and kernels of the next lower grade, if any, shall not together exceed 5 % (m/m) at the time of packing. | | | | |
| Dessert cashew kernels (whole) | | | | |
| Grade ¹⁾ | Grade designation | Known in the trade as | Permissible blemish | Characteristics |
| IX | SSW or SWIA | Scorched wholes : seconds or scorched wholes IA | Slightly shrivelled kernels | Cashew kernels shall have the characteristic shape, shall be free from insect damage and skin (integument). Slightly scorched kernels and kernels with slight speckling and discoloration are permitted. The kernels may also be immature. The kernels may be light brown, light blue or light ivory in colour due to scorching. |
| X | | Dessert | | Cashew kernels shall have the characteristic shape, shall be free from insect damage and skin (integument). Scorched, discoloured, speckled and shrivelled kernels are permitted. The kernels may show deep black spots. |
| 1) Tolerance: Broken kernels and kernels of the next lower grade, if any, shall not together exceed 5 % (m/m) at the time of packing. | | | | |

Annex A (continued)

| Cashew kernels (white pieces) | | | | |
|-------------------------------|-------------------|-----------------------|--|---|
| Grade ¹⁾ | Grade designation | Known in the trade as | Description | Characteristics |
| XI | B | Butts | Kernels broken crosswise and naturally attached | Cashew kernels shall be white, pale ivory or light ash-grey in colour, free from insect damage, damaged kernels and black spots. The pieces shall be completely free from skin (integument). |
| XII | S | Splits | Kernels split naturally lengthwise | See grade XI |
| XIII | LWP | Large white pieces | Kernels broken into more than two pieces and not passing through a sieve of aperture 4,75 mm (see ISO 565, R 40/3) | See grade XI |
| XIV | SWP | Small white pieces | Broken kernels smaller than those described as LWP, but not passing through a sieve of aperture 2,80 mm (see ISO 565, R 20/3) | Cashew kernels shall be white, pale ivory or light ash-grey in colour, free from insect damage, damaged kernels and black spots. The pieces shall be completely free from skin (integument). |
| XV | BB | Baby bits | Broken kernels smaller than those described as SWP, but not passing through a sieve of aperture 1,70 mm (see ISO 565, R 40/3) | See grade XIV |
| XVI | SB | Scorched | Scorched kernels broken crosswise and naturally attached | Cashew kernels shall be free from insect damage, damaged kernels, black spots and skin (integument). The pieces may be light brown or deep ivory in colour due to scorching as a result of overheating. |
| XVII | SS | Scorched splits | Scorched kernels split naturally lengthwise | See grade XVI |
| XVIII | SP | Scorched pieces | Scorched kernels broken into pieces and not passing through a sieve of aperture 4,75 mm (see ISO 565, R 40/3) | See grade XVI |
| XIX | SSP | Scorched small pieces | Scorched kernels smaller than those described as SP, but not passing through a sieve of aperture 2,80 mm (see ISO 565, R 20/3) | See grade XVI |

1) Tolerance: Up to 5 % (m/m) of the next lower grade or pieces at the time of packing.

Annex A (concluded)

| Grade ¹⁾ | Grade designation | Known in the trade as | Description | Permissible blemish | Characteristics |
|---|-------------------|--|--|---|---|
| XX | SPS | Scorched pieces: seconds or scorched pieces IA | Scorched kernels broken into pieces, but not passing through a sieve of aperture 4,75 mm (see ISO 565, R 40/3) | Pieces of shrivelled kernels; they may be deformed due to incomplete development and may have black spots | Cashew kernels shall be free from insect damage and skin (integument). Scorched pieces with surface speckling and discoloration are permitted. The kernels may be light brown, deep ivory or light to deep blue in colour. |
| XXI | DP | Dessert pieces | See grade XX | More shrivelled than those described as SPS and deeply scorched | Cashew kernels shall be free from insect damage and skin (integument). The kernels may be deeply scorched, may have surface speckling and discoloration, may be brown, deep ivory or light to deep blue in colour, may be deformed and shrivelled due to incomplete development and may have spots. |
| 1) Tolerance: Up to 5 % (m/m) of the next lower grade or pieces at the time of packing. | | | | | |
| Grade ¹⁾ | Grade designation | Known in the trade as | Description | Permissible blemish | Characteristics |
| XXII | DSP | Dessert small pieces | Dessert kernels of the same description as, but smaller than, DP and not passing through a sieve of aperture 2,80 mm (see ISO 565, R 20/3) | See grade XXI | See grade XXI |
| XXIII | DB | Dessert butts | Dessert kernels broken crosswise and naturally attached | See grade XXI | See grade XXI |
| XXIV | DS | Dessert splits | Dessert kernels split naturally lengthwise | See grade XXI | See grade XXI |
| 1) Tolerance: Up to 10 % (m/m) of the next lower grade at the time of packing. | | | | | |