
Fresh kale — Specification and grading

ICS:67.080.01

Published by Ethiopian Standards Agency

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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical committee for fruit and vegetable (TC-13) and published by Ethiopian Standard Agency (ESA).

In preparation of this Ethiopian Standard, references have been made to the following:

CD/K/077:2010, Fresh kale — Specification and grading.

Codex Stan 193, Codex general standard for contaminants and toxins in food.

Acknowledgement is made for the use information from the above publications.

Fresh kale — Specification and grading

1. Scope

This Ethiopian standard applies to kale leaves, plants, or bunches of kale leaves or plants, of the varieties grown from *Brassica carinata*, but shall not be applicable to mixtures of kale leaves, plants, or bunches of kale leaves or plants.

NOTE: Kales are also obtained from the following *Brassica* varieties:

- *Brassica oleracea* var. *acephala*; subgroup *laciniata*; kale, collards, curly kale; dwarf type, highly curled foliage.
- *Brassica oleracea* var. *acephala*; subgroup *plana*; smooth-leafed kale; a smooth rosette type.
- *Brassica oleracea* var. *acephala*; subgroup *millecapitata*; thousand-head kale; tall-growing form, producing whorls of young shoots high above the soil.
- *Brassica oleracea* var. *acephala*; subgroup *palmifolia*; tree kale; tall (>2 m).
- *Brassica oleracea* var. *acephala*; subgroup *medullosa*; marrow-stem kale; long, thickened stems, occasionally curled.

2. Normative 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.

CES 73, *General standard for pre-packaged foods labeling*.

ES 577, *Recommended code of practice. General principles of Food hygiene*.

ES 929, *Code of practice -food hygiene management*.

ES 1246, *Code of practice for packaging and transport of fruits and vegetable*.

ES ISO 4833, *Microbiology of food and animal feeding stuffs- Horizontal method for the enumeration of microorganisms-Colony-count technique at 30 °C*.

3. Terms and definitions

For the purpose of this standard the following definition shall apply.

3.1

one type

the kale in any container shall have the same general character of growth and colour; i.e., curly leaf type and distinctly smooth leaf types shall not be mixed, and distinctly purple type plants shall not be mixed with green or blue type kale. As blue type kale often shows a purplish tinge on some leaves while other plants of this type may not show this colour, such a mixture shall be considered as one type.

3.2

well trimmed

the butt is trimmed off to not more than three-fourths of an inch from the point of attachment of the outer leaves and that yellow, discoloured, dried or otherwise damaged leaves which materially affect the appearance of the plant have been removed.

3.3

damage

any defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the plant. A plant shall be considered as damaged by a seedstem when the flower buds are dried or have opened, or when the seedstem extends above the top of the plant when the leaves are folded

together around the seedstem, or if the removal of part of the seedstem has caused the appearance of the plant to be materially injured.

4. Provisions concerning quality

4.1 General requirements

The purpose of the standard is to define the quality requirements of kales at the market control stage, after preparation and packaging.

4.2 Minimum requirements

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

- a)** Intact;
- b)** sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- c)** clean and trimmed, i.e. practically free from all earth or other growing medium and practically free of any visible foreign matter;
- d)** fresh in appearance;
- e)** practically free from pests;
- f)** practically free from damage caused by pests;
- g)** turgescient;
- h)** not running to seed;
- i)** free of abnormal external moisture; and
- j)** free of any foreign smell and/or taste.

4.2.2 The produce must be of normal development. The development and condition of the produce must be such as to enable it:

- a)** to withstand transportation and handling
- b)** to arrive in a satisfactory condition at the place of destination.

4.3 Classification

The produce is classified as defined below:

4.3.1 Class I

Class I consists of kale of one type which are well trimmed, not stunted, free from decay and from damage caused by yellow or discoloured leaves, seedstems, wilting, bud burn, freezing, dirt, disease, insects, or mechanical or other means.

4.3.2 Commercial class

Commercial class consists of kale which meet the requirements of Class I except that bronze or slightly yellowish colour affecting only the edges of the leaves shall be permitted, provided these edges are not dried.

5. Provisions concerning sizing

Sizing is not used in the grading of this produce.

6. Provisions concerning tolerances

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances, by count, are provided as specified.

6.1 Quality tolerances

Ten percent in any lot which fail to meet the requirements of the specified grade, including therein not more than 1 percent affected by wet decay.

6.2 Application of tolerances

Individual samples are subject to the following limitations:

- a)** For packages which contain 15 specimens or more and a tolerance of 10 percent or more is provided,

individual samples in any lot may contain not more than one and one-half times the tolerance specified. For packages which contain 15 specimens or more and a tolerance of less than 10 percent is provided, individual samples may contain not more than double the tolerance specified except that at least one defective specimen may be permitted in any sample provided that the average for the entire lot is within the tolerance specified for the grade.

- b) For packages which contain less than 15 specimens, individual samples in any lot may contain not more than double the tolerance specified, except that at least one defective specimen may be permitted in any sample provided that the average for the entire lot is within the tolerance specified for the grade.

7. Provisions concerning presentation

7.1 Uniformity

The contents of each package must be uniform and contain only kales of the same origin, quality, colour and size (if sized). The visible part of the contents of the package must be representative of the entire contents.

7.2 Packaging

Kales must be packed in such a way as to protect the produce properly. The materials used inside the package must be new¹, clean, and of a 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. Kales shall be packed in each container in compliance with ES 1246.

7.2.1 Description of containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of kales. Packages must be free of all foreign matter and smell.

7.3 Presentation

Kales may be presented as kale leaves, plants, or bunches of kale leaves or plants.

8. Marking and labeling

8.1 Consumer packages

The labeling shall comply with the requirements of CES 73, and shall be legibly and indelibly marked with the following:

8.1.1 Nature 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 name of the variety and/or commercial type.

8.2 Non-retail containers

Each package² must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

8.2.1 Identification

The exporter, packer and/or dispatcher shall be identified by name and physical address (e.g. street/ city/ region/ postal code and, if different from the country of origin, the country) or a code mark officially recognized by the national authority³.

¹For the purposes of this Standard, this includes recycled material of food-grade quality.

²Package units of produce prepacked for direct sale to the consumer shall not be subject to these marking provisions but shall conform to the national requirements. However, the markings referred to shall in any event be shown on the transport packaging containing such package units.

³The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark, and the code mark should be preceded by the ISO 3166 (alpha) country/area code of the recognizing country, if not the country of origin.

8.2.2 Nature of produce

- kale leaves, plants, or bunches of kale leaves or plants.

8.2.3 Origin of produce

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

8.2.4 Commercial specifications

- Class
- Nature expressed by "Kale leaves", "Kale plants", "Bunched kale leaves" or "Bunched kale plants"
- Number of bunches or plants.

8.2.5 Official control mark (optional)

9. Contaminants

Kales shall comply with those maximum levels for heavy metals and pesticide residue established by the Codex Alimentarius Commission (CODEX STAN 193) for this commodity respectively.

10. Hygiene

10.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of ES 577, ES 929, and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

10.2 The produce should comply with any microbiological criteria established in accordance with ES ISO 4833.

Organization and Objectives

The Ethiopian Standards Agency (ESA) is the national standards body of Ethiopia established in 2010 based on regulation No. 193/2010. ESA is established due to the restructuring of Quality and Standards Authority of Ethiopia (QSAE) which was established in 1998.

ESA's objectives are:-

- ❖ Develop Ethiopian standards and establish a system that enable to check whether goods and services are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes. Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed from our website.

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International Involvement

ESA, representing Ethiopia, is a member of the International Organization for Standardization (ISO), and Codex Alimentarius Commission (CODEX). It also maintains close working relations with the International Electro-technical Commission (IEC) and American Society for Testing and Materials (ASTM). It is a founding member of the African Regional Organization for standardization (ARSO).

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