
**Fresh peas –
Specification and grading**

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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/061:2010, Fresh peas - Specification and grading, East African Standard.

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

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

Fresh peas - Specification and grading

1 Scope

This standard applies to peas of varieties (cultivars) grown from *Pisum sativum* L. and *Vigna sinensis*/ *Vigna unguiculata* L. to be supplied fresh to the consumer, peas for industrial processing being excluded.

According to the type of consumption, peas are classified in the following groups:

- Shelling peas (round peas, wrinkled peas) intended for consumption without the pod;
- Mange-tout peas and sugar snap peas intended for consumption with the pod.
- Cowpeas, also known as southern peas or field peas intended for consumption with the pod.

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*.

ES ISO 22002-1, *Prerequisite programmes on food safety - Part 1 Food manufacturing*.

3 Terms and definitions

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

3.1

similar varietal characteristics

the pods of peas in any container are of the same general type. For example, in the case of cowpeas, varieties of the blackeye type shall not be mixed with varieties of the purple hull type or varieties of the Crowder type; also small seeded varieties shall not be mixed with large seeded varieties.

3.2

overmature

the pod has developed beyond the stage at which it is desirable as a fresh product. Pods shall be considered overmature when they show definite drying or shrivelling, or when green podded varieties are wrinkled, the green faded and they show yellow or a conspicuous yellowish or whitish cast affecting one-half or more of the surface, or when purple hull varieties show excessively dark purplish colour over the entire surface.

3.3

excessively small

the pod is so short that there is space for only two peas which are at least fairly well developed.

3.4

excessively young

the pod has not developed any peas of a size suitable for shelling for the variety. Such pods with only slightly developed peas are commonly called "snaps."

3.5

badly misshapen

the pod is badly constructed, crooked, or badly twisted.

3.6

fairly well filled

at least two-thirds of the length of the pod is filled with peas which are at least fairly well developed for the variety, exclusive of the normal spaces between peas and vacant space for one pea at each end of the pod.

3.7

fairly well formed

the pod is not curved or crooked to the extent that it forms approximately a semicircle or right angle.

3.8

well filled

more than two-thirds of the pod contains peas which are at least fairly well developed.

3.9

damage

any defect which materially affects the appearance, or the edible or shipping quality of the individual pod, or the general appearance of the pods in the container. The pods in a container shall be considered damaged when stems, leaves or trash are present in sufficient quantities to materially affect the general appearance. Any one of the following defects, or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

- a) Stings when any pea is discoloured, or when the appearance of the pod is materially affected by numerous, discoloured stings;
- b) Scars when the pod is so extensively blemished or distorted in shape as to materially affect its appearance;
- c) Discoloration such as that caused by rust, blight or insects when so extensive or in such contrast to the colour of the pod as to materially affect its appearance;
- d) Wilting when the pod is badly wilted or very flabby; and,
- e) Dirt or other adhering foreign material when materially affecting the appearance of the individual pod or the general appearance of the pods in the container.

3.10

serious damage

any injury or defect which seriously affects the appearance, edible or shipping quality. Badly misshapen pods or pods seriously affected with downy mildew injury shall be considered as being seriously damaged.

4 Provisions concerning quality

4.1 General requirements

The purpose of the standard is to define the quality requirements for peas 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,

a) the pods must be:

- intact; however mange-tout peas and sugar snap peas may have their ends removed;
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- clean, practically free of any visible foreign matter (including parts of the flowers)
- free from hard filaments or films in mange-tout peas and sugar snap peas
- practically free from pests
- practically free from damages caused by pests
- free of abnormal external moisture
- free of any foreign smell and/or taste.

b) the seeds must be:

- fresh
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- normally developed in shelling peas
- practically free from pests
- practically free from damages caused by pests
- free of any foreign smell and/or taste.

4.2.2 The development and condition of peas must be such as to enable them:

- to withstand transport and handling, and
- to arrive in satisfactory condition at the place of destination.

4.3 Classification

Peas are classified in the classes defined below:

4.3.1 Class I

Peas in this class must be of good quality. They must be of similar characteristic of the variety and/or the commercial type.

The pods must be:

- fresh and turgid
- fairly well formed, fairly well filled
- not overmature or excessively young
- are free from decay and worm holes
- free from damage caused by stems, leaves and trash, stings or other insect injury, scars, discoloration, wilting, dirt or other adhering foreign material, disease, mechanical or other means
- free from damage caused by heating.

For shelling peas:

i) the pods must be:

- with peduncles attached,
- well filled, containing at least 5 seeds.

ii) the seeds must be:

- well-formed
- tender
- succulent and sufficiently firm, i.e., when squeezed between two fingers they should become flat without disintegrating
- at least half the full-grown size but not full-grown
- non-farinaceous
- undamaged, with no cracks in the skin.

iii) the following slight defects of the pod, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight skin defects, injuries and bruises
- slight defects in shape
- slight defects in colouring.

For mange-tout peas and sugar snap peas:

- the seeds if present must be small and underdeveloped
- the following very slight defects of the pod, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:
 - very slight skin defects, injuries and bruises
 - very slight defects in shape
 - very slight defects in colouring.

For cowpeas:

- Unless otherwise specified, each pod shall be not less than 12.7 cm in length.

4.3.2 Class II

This class includes peas which do not qualify for inclusion in Class I but satisfy the minimum requirements specified above.

For shelling peas:

- the pods must contain at least three seeds
- peas may be more developed than those in Class I, but over-mature peas are excluded.
- the following defects may be allowed provided the peas retain their essential characteristics as regards the quality, the keeping quality and presentation:
 - defects of the pods:
 - skin defects, injuries and bruises provided these are not progressive and there is no risk of the seeds being affected
 - some loss of freshness, excluding wilted pods.
 - defects of the seeds:
 - a slight defect in shape
 - a slight defect in colouring
 - slightly harder
 - slightly damaged.

For mange-tout peas and sugar snap peas:

- the seeds, if present, may be slightly more developed than in Class I,
- the following characteristics may be allowed provided the peas retain their essential characteristics as regards the quality, the keeping quality and presentation:
 - slight skin defects, injuries and bruises,
 - slight defects in shape, including those due to the seed formation
 - slight defects in colouring
 - some loss of freshness excluding wilted pods.

For cowpeas:

- the pods shall be free from serious damage caused by stems, leaves and trash, and there shall be no requirement for minimum length, and except for the increased tolerances specified in Clause 6.

4.3.3 Unclassified

"Unclassified" consists of pods of peas which have not been classified in accordance with either of the foregoing grades. The term "unclassified" is not a grade within the meaning of this standard but is provided as a designation to show that no grade has been applied to the lot. The peas shall, however, meet the minimum requirements provided in 4.2.

5 Provisions concerning sizing

Sizing is not compulsory for peas. However, unless otherwise specified, each pod shall be not less than 12.7 cm in length for cowpeas of Class I.

6 Provisions concerning tolerances

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

6.1 Class I

10 % by weight of peas not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

For cowpeas

- 6.1.1** 5 % for pods which are shorter than the specified minimum length;
- 6.1.2** 5 % for pods which are excessively young; and,
- 6.1.3** 10 % for other grade defects, including not more than 5 % for pods with worm holes or affected by decay, but not more than one-fifth of this amount, or 1 %, for pods affected by decay.

6.2 Class II

10 per cent by weight of peas satisfying neither the requirements of the class nor the minimum requirements, with the exception of produce affected by rotting, progressive diseases or any other deterioration rendering it unfit for consumption.

For cowpeas

- 6.2.1** 10 % for pods which are excessively young; and,
- 6.2.2** 15 % for other grade defects, including not more than 5 % for pods with worm holes or affected by decay, but not more than two-fifths of this amount, or 2 %, for pods affected by decay.

7 Provisions concerning presentation

7.1 Uniformity

The contents of each package¹ must be uniform and contain only peas of the same origin, variety or commercial type and quality.

The visible part of the contents of the package must be representative of the entire contents.

7.2 Packaging

Peas must be packed in such a way as to protect the produce properly.

The materials used inside the package must be new, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly paper or stamps, bearing trade specifications is allowed provided the printing or labelling has been done with non-toxic ink or glue.

Packages must be free of all foreign matter.

NOTE 1: Packaging materials may be required to meet different regulations in Ethiopia.

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 package¹ 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 authority².

8.2.2 Nature of produce

- "Shelling peas", "Mange-tout peas", "Sugar Snap peas", "Cowpeas/Crowder peas" or equivalent denominations if the contents are not visible from the outside.
- "trimmed", "topped and tailed" or other indications where mange-tout peas and sugar snap peas are presented without the peduncle and/or the pistil, as the case may be if the contents are not visible from the outside.

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.

¹Package 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.

²The 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.

8.2.5 Official control mark (optional)**9 Contaminants**

Peas 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 ES ISO 22002-1.

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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