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**Specialized Section on Standardization
of Fresh Fruit and Vegetables**

Revised standard for broccoli

Submitted by the secretariat

Summary

The following document is submitted to the Working Party for adoption as the revised United Nations Economic Commission for Europe (UNECE) standard FFV-48 concerning the marketing and commercial quality control of broccoli (calabrese).

The document is based on the document ECE/CTCS/WP.7/2019/6 adopted by the Working Party at its seventy-fifth session in 2019. It incorporates revisions agreed by the Specialized Section on Standardization of Fresh Fruit and Vegetables (GE.1) as contained in document ECE/CTCS/WP.7/GE.1/2023/8. It also integrates the proposed modification to the standard layout for standards on fresh fruit and vegetables as agreed by GE.1 at its 2023 session and contained in document ECE/CTCS/WP.7/GE.1/2023/2.



I. Definition of produce

This standard applies to broccoli of varieties (cultivars) grown from *Brassica oleracea* var. *italica* Plenck to be supplied fresh to the consumer, broccoli for industrial processing being excluded.

II. Provisions concerning quality

The purpose of the standard is to define the quality requirements for broccoli after preparation and packaging.

However, if applied at stages following export/dispatch, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity
- a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

A. Minimum requirements

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

- intact; for the purpose of presentation some sprouts may be 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
- fresh in appearance
- practically free from pests
- practically free from damage caused by pests
- free of abnormal external moisture; in the case where crushed ice is used traces of residual water are not considered to constitute abnormal moisture
- free of any foreign smell and/or taste.

The cut of the floral stem must be clean and as square as possible.

Hollow stems are not considered a defect provided the hollow part is sound, fresh and not discoloured.

The development and condition of broccoli must be such as to enable it:

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

B. Classification

Broccoli is classified in two classes, as defined below:

(i) Class I

Broccoli in this class must be of good quality. It must be characteristic of the variety and/or commercial type.

Broccoli must be:

- firm and compact
- tightly-grained
- free of defects such as stains or traces of frost.

The buds must be fully closed.

The floral stem must be sufficiently tender and free of woodiness.

The following slight defects, 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:

- a slight defect in shape
- a slight defect in colouring
- a slight defect in development.

Leaves extending above the head may be allowed provided these are green, sound, fresh and tender.

(ii) Class II

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

Broccoli may be:

- slightly loose and less compact
- less tightly-grained.

The buds must be practically closed.

The floral stem must be reasonably tender, and may have a trace of woodiness.

The following defects may be allowed, provided broccoli retains its essential characteristics as regards the quality, the keeping quality and presentation in the package:

- defects in shape
- defects in colouring
- defects in development
- slight bruising and injury.

Leaves extending above the head may be allowed provided these are green, sound, fresh and tender.

III. Provisions concerning sizing

Size is determined either by the diameter of the floral stem at the cut end or by the maximum diameter of the head.

The minimum size shall be:

- 8 mm for broccoli graded by diameter of the floral stem
- 2 cm for broccoli graded by the diameter of the head and presented prepacked or bunched
- 6 cm for broccoli graded by the diameter of the head.

In any case, the ratio between the diameter of the head and that of the floral stem in each package must not be less than 2:1.

The maximum size shall be 20 cm in height, except for long-stemmed type broccoli.

To ensure uniformity in size, the range in size between produce in the same package shall not exceed:

- 20 mm for broccoli graded by diameter of the floral stem
- 4 cm for broccoli graded by the diameter of the head if the smallest head has a diameter of less than 10 cm
- 8 cm for broccoli graded by the diameter of the head if the smallest head has a diameter of 10 cm or more.

For all prepacked or bunched produce, uniformity of size is not required.

The size requirements shall not apply to miniature produce.¹

IV. Provisions concerning tolerances

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated.²

A. Quality tolerances

(i) Class I

A total tolerance of 10 per cent, by number or weight, of broccoli not satisfying the requirements of the class but meeting those of Class II is allowed. Within this tolerance not more than 1 per cent in total may consist of produce satisfying neither the requirements of Class II quality nor the minimum requirements, or of produce affected by decay.

(ii) Class II

A total tolerance of 10 per cent, by number or weight, of broccoli satisfying neither the requirements of the class nor the minimum requirements is allowed. Within this tolerance not more than 2 per cent in total may consist of produce affected by decay.

B. Size tolerances

For all classes (if sized): a total tolerance of 10 per cent, by number or weight, of broccoli not satisfying the requirements as regards sizing is allowed.

V. Provisions concerning presentation

A. Uniformity

The contents of each package must be uniform and contain only broccoli of the same origin, variety or commercial type, quality and size (if sized).

Broccoli in Class I must be uniform in colouring.

¹ Miniature broccoli refers to broccoli, which has been cultivated with the specific aim of obtaining broccoli of a small size. Broccoli which is not fully developed shall be excluded. All other requirements of the standard must be met.

² A conformity check shall be made by assessing primary or composite samples. It is based on the principle of presumption that the quality of the randomly taken samples is representative of the quality of the lot. The OECD Operating Rules for Conformity Checks are recommended for application – also by operators – at the stages of dispatch as well as in wholesale and distribution centres and storerooms of food retail. <https://www.oecd.org/agriculture/fruit-vegetables/publications/oecd-fruit-and-vegetables-rules.htm>.

However, a mixture of broccoli of distinctly different colours may be packed together in a package, provided they are uniform in quality and, for each colour concerned, in origin. However, in case of those mixtures uniformity in size is not required.

Miniature broccoli must be reasonably uniform in size. They may be mixed with other miniature products of a different species and origin.

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

B. Packaging

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

Where crushed ice is used, care must be taken to ensure the heads do not lie in melted water.

The materials used inside the package must be 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.

Packages must be free of all foreign matter.

VI. Provisions concerning marking

Each package³ must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

A. Identification

Packer and/or dispatcher/exporter:

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 authority⁴ if the country applying such a system is listed in the UNECE Code Mark Registry. In the case where there is no street address available, the physical address can be made up of the name of the farm or facility, the nearest village, town, region, and postal code; or GPS coordinates and a PO Box address together with nearest town, region and country shall be accepted as a physical address.⁵

B. Nature of produce

- “Broccoli” or “Calabrese” if the contents are not visible from the outside
- “Long-stemmed type broccoli”, or equivalent denomination where appropriate
- “Mixture of broccoli”, or equivalent denomination, in the case of a mixture of distinctly different colours of broccoli. If the produce is not visible from the outside, the colours and the quantity of each in the package must be indicated

³ These marking provisions do not apply to sales packages presented in packages bearing these particulars. However, they do apply to sales packages (pre-packages) presented individually.

⁴ The 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-2) country/area code of the recognizing country, if not the country of origin.

⁵ Reservation by the United States of America on the use of a PO Box address, as it may not allow facility inspections or rapid intervention in case of recalls, and is not part of its national labelling requirement related to packer and/or dispatcher/exporter.

- Miniature broccoli, or other appropriate term for miniature produce. Where several species of miniature produce are mixed in the same package, all products and their respective origins must be mentioned.

C. Origin of produce

- Country of origin⁶ and, optionally, district where grown, or national, regional or local place name
- In the case of a mixture of distinctly different colours of broccoli of different origins, the indication of each country of origin shall appear next to the name of the colour concerned.

D. Commercial specifications

- Class
- Size (if sized) expressed as minimum and maximum diameter (floral stem in mm; head in cm), optional
- “Packed with crushed ice”, where appropriate.

E. Official control mark (optional)

Adopted 1994

Last revised 2023

Aligned with the Standard Layout 2021 and 2023

The OECD Scheme for the Application of International Standards for Fruit and Vegetables has published an explanatory illustrated brochure on the application of this standard. The publication may be obtained from the OECD bookshop at: www.oecdbookshop.org.

⁶ The full or a commonly used name should be indicated.