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Steering Committee on Trade Capacity and Standards

Working Party on Agricultural Quality Standards

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

Seventy-second session

Geneva, 6–8 May 2024

Item 5 (a) of the provisional agenda

Review of existing standards:

Discussion of proposals resulting from the last session

Proposal by the food loss and waste working group to amend the standard for carrots

Submitted by the food loss and waste working group

Summary

At its 2022 meeting, the Specialized Section agreed to establish an ad-hoc working group to conduct a review of the standard layout and selected ECE standards for fresh fruits and vegetables to identify possible clauses that could contribute to reducing food loss and waste. The working group is composed of Brazil, France, South Africa, Spain, Sweden (rapporteur) and the United States of America.

Over the past two years, the working group met in three online meetings and one in-person meeting on the sidelines of the 2023 session of the Working Party on Agricultural Quality Standards. It started its work by reviewing the standard for carrots.

The following proposal for revisions to the standard for carrots is submitted by the ad-hoc working group for the consideration of the Specialized Section. The proposed changes are marked in strike-through for deleted text and underline for added text. The standard has been aligned with the revised standard layout adopted in 2023.



UNECE standard FFV-10 concerning the marketing and commercial quality control of carrots

I. Definition of produce

This standard applies to carrots of varieties (cultivars) grown from *Daucus carota* L. to be supplied fresh to the consumer, carrots for industrial processing being excluded.

Carrots may be marketed with or without leaves.

II. Provisions concerning quality

The purpose of the standard is to define the quality requirements for carrots 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
- for products graded in classes other than the “Extra” Class, 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, the carrots must be:

- intact
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- clean, that is to say:
 - practically free of any visible foreign matter, if they are washed
 - practically free of excess dirt and impurities if they are not washed
- practically free from pests
- practically free from damage caused by pests
- firm
- ~~• not forked~~
- free of secondary roots
- not woody
- not running to seed
- free of abnormal external moisture
- free of any foreign smell and/or taste

In case of topped carrots the leaves must be evened off or cut off at the top of the root. In case of carrots with leaves, these must be sound, fresh and clean. The foliage may be trimmed.

The development and condition of the carrots must be such as to enable them:

- to withstand transportation and handling

- to arrive in satisfactory condition at the place of destination

B. Classification

Carrots are classified in three classes, as defined below:

(i) “Extra” Class

Carrots in this class must be of superior quality and washed. They must be characteristic of the variety or the varietal type.

The roots must be:

- smooth
- fresh in appearance
- regular in shape
- free from defects such as fissures, bruises, cracks, sunburn, and soft rot
- ~~free of fissures~~
- ~~free of bruises and cracks~~
- ~~free of damage due to frost~~
- free of green or discoloured ~~violet/purple~~ tops

They must be free from defects with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

(ii) Class I

Carrots in this class must be of good quality. They must be characteristic of the variety or the varietal type.

The roots must be fresh in appearance.

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 (but not forked)
- slight defects in colouring
- slight defects such as fissures, bruises, cracks, sunburn, and soft rot
- ~~slight healed cracks~~
- ~~slight cracks or fissures due to handling or washing~~
- slight traces of soil, if washed
- green or discoloured ~~violet/purple~~ tops up to:
 - 1 cm long for roots not exceeding 10 cm in length
 - 2 cm for other roots

In case of carrots with leaves, the foliage may be slightly discoloured.

(iii) Class II

This class includes carrots that do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above.

The following defects may be allowed, provided the carrots retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape, including one fork (two tips)
- fissures and cracks not reaching the heart
- other defects such as bruises, sunburn, and soft rot
- ~~• healed cracks not reaching the heart~~
- ~~• cracks or fissures due to handling or washing~~
- ~~• one fork (two tips)~~
- some secondary roots
- defects in colouring
- green or discoloured violet/purple tops up to:
 - 2 cm long for roots not exceeding 10 cm in length
 - 3 cm for other roots

In case of carrots with leaves, the foliage may show some discolouration.

III. Provisions concerning sizing

Sizing is optional in Class II.

Size is determined by the maximum diameter or the weight of the root when without foliage.

The minimum size in “Extra” Class and Class I shall be:

- 10 mm when sizing is by diameter and 8 g when sizing is by weight in the case of early carrots¹ and small-root varieties.
- 20 mm when sizing is by diameter and 50 g when sizing is by weight in the case of main-crop carrots and large-root varieties.

The maximum size in “Extra” Class and Class I shall be:

- 40 mm when sizing is by diameter and 150 g when sizing is by weight in the case of early carrots and small-root varieties.
- 45 mm when sizing is by diameter and 200 g when sizing is by weight in the case of main-crop carrots and large-root varieties of the “Extra” Class.

To ensure uniformity in size, for “Extra” Class and Class I the range in size between produce in the same package shall not exceed:

- 20 mm or 150 g for Class “Extra”
- 30 mm or 200 g for Class I

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

¹ Roots in which growth has not been arrested.

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 application of the OECD Operating Rules for Conformity Checks is recommended for application – also by operators – at the stages of dispatch as well as in wholesale and distribution centres and storerooms of food retail.

A. Quality tolerances

(i) “Extra” Class

A total tolerance of 5 per cent, by number or weight, of carrots not satisfying the requirements of the class but meeting those of Class I is allowed. Within this tolerance not more than 0.5 per cent in total may consist of produce satisfying the requirements of Class II quality.

In addition, a total tolerance of 5 per cent by weight of carrots having a slight trace of green or violet/purple colouring at the top is allowed.

(ii) Class I

A total tolerance of 10 per cent, by number or weight, of carrots 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. However, broken carrots and/or carrots that have lost their tips are excluded from that tolerance.

In addition, a total tolerance of 10 per cent by weight of broken carrots and/or carrots that have lost their tips is allowed. Broken tips with a diameter of 4 mm and less do not count as broken and are thus not included in the 10 per cent tolerance.

(iii) Class II

A total tolerance of 10 per cent, by number or weight, of carrots 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.

In addition, a total tolerance of 25 per cent by weight of broken carrots is allowed. Broken tips with a diameter of 4 mm and less do not count as broken and are thus not included in the 25 percent tolerance.

B. Size tolerances

Sizing is optional in Class II.

For all classes (if sized): a total tolerance of 10 per cent, by number or weight, of carrots 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 carrots of the same origin, variety or varietal type, quality and size (if sized).

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

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

B. Packaging

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

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.⁵ 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.⁶

B. Nature of produce

- If the contents are not visible from the outside:
 - “Bunched carrots” or “carrots”
 - “Early carrots” or “main-crop carrots”
- “Mixture of carrots”, or equivalent denomination, in the case of a mixture of distinctly different varietal types and/or colours of carrots. If the produce is not visible from the outside, the varietal types and/or colours and the quantity of each in the package must be indicated.

C. Origin of produce

- Country of origin⁷ and, optionally, district where grown, or national, regional or local place name.
- In the case of a mixture of distinctly different varietal types and/or colours of carrots of different origins, the indication of each country of origin shall appear next to the name of the varietal type and/or colour concerned.

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 See <http://www.unece.org/trade/agr/codemarkregistry.html>.

⁶ 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.

⁷ The full or a commonly used name should be indicated.

D. Commercial specifications

- Class
- Size (if sized) expressed as minimum and maximum diameters or weights (optional)
- Number of bunches (in the case of bunched carrots).

E. Official control mark (optional)

Adopted 1962

Last revised [2021]

Aligned with the Standard Layout ~~2021~~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.
