

SCHEDULE-XXXIII
GRADE DESIGNATION AND QUALITY OF CARROTS

1. Carrots shall be obtained from varieties (cultivars) of *Daucus carota* L.

2. **MINIMUM REQUIREMENTS:**

(i) Carrots shall be:-

- (a) intact, firm, sound and clean;
- (b) fresh in appearance;
- (c) free from any visible foreign matter;
- (d) free of pests affecting the general appearance of the produce;
- (e) free of damage caused by pests;
- (f) free from damage caused by low and/or high temperature;
- (g) free of abnormal external moisture;
- (h) free of any foreign smell and/or taste;
- (i) free from fissures;
- (j) free from root splitting and forking.
- (k) free from cavity spot, sponginess, pithiness and hollow heart;
- (l) free from secondary roots;
- (m) free from Nematode galls.

(ii) Carrots shall not be woody, running to seed and forked,

(iii) Carrots shall be properly washed and well dried,

(iv) Carrots shall comply with the residue levels of heavy metals, pesticides and other food safety parameters as laid down by the Codex Alimentarius Commission for exports.

3. **CRITERIA FOR GRADE DESIGNATION:**

Grade designations	Grade requirements	Grade tolerances
1	2	3
Extra class	Carrots must be of superior quality. They must be well developed and have all the characteristic and colouring typical of the variety. They must be free of defects with the exception of very slight superficial defects provided they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package; The roots must be: - regular in shape. Green or violet/purple tops are not allowed.	5 % by weight of Carrots not satisfying the requirements of the grade, but meeting those of Class I grade or, exceptionally, coming within the tolerances of that grade. 5 % by weight of carrots having a slight trace of green or violet/purple colouring at the top.

Class I	Carrots must be of good quality. They must be well developed and have all the characteristic and colour typical of the variety. The following slight defects may be there, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package; - slight defects in shape; - slight defects in colouring; - slight healed cracks; - slight cracks or fissures due to handling or washing. Green or violet/purple tops upto 1 cm. long for carrots not exceeding 10 cm. in length, and upto 2 cm. for other carrots are allowed.	10 % by weight of Carrots not satisfying the requirements of the grade, but meeting those of Class II or, exceptionally, coming within the tolerances of that grade. However, broken carrots /or carrots which have lost their tips are excluded from that tolerance, 10% by weight of broken carrots and/or roots which have lost their tips.
Class II	This grade includes Carrots which do not qualify for inclusion in the higher grades, but satisfy the minimum requirements. Carrots may have the following defects, provided they retain their essential characteristics as regards the quality, the keeping quality and presentation in the package. - defects in shape and colour; - healed cracks not reaching the heart; - cracks or fissures due to handling or washing Green or violet/purple tops upto 2 cm. long for carrots not exceeding 10 cm. in length and upto 3 cm. for other carrots, are allowed.	10 % by weight of Carrots not meeting the requirements of the grade, but meeting the minimum requirements. In addition, not more than 25% by weight of broken carrots may be allowed.

4. OTHER REQUIREMENTS

- (i) The carrots must have been carefully picked and have reached an appropriate degree of development in accordance with criteria proper to the variety and to the area in which they are grown.

The development and condition of the carrot must be such as to enable them;

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

(ii) Carrots may be presented in one of the following ways:

(a) Bunched carrots:

The roots must be presented with their foliage, which must be fresh, green and sound. Roots in the same bunch should be uniform in size. The bunches in package should be practically uniform in weight and arranged evenly in one or more layers.

(b) Topped carrots:

The foliage must be evened off or neatly cut off at the top of the carrot without damaging the root. The root must be.-

- put up in small packages,
- arranged in several layers or jumble packed.
- despatched in bulk (direct loading into a transport vehicle or vehicle compartment) for class II.

(iii) The material 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.

(iv) In case where washed carrots are covered with pure peat, the peat used shall not be considered as foreign matter.

5. PROVISIONS CONCERNING SIZING:

(i) Size is determined by the maximum diameter or the weight of the carrot without foliage.

(a) for early carrots/bunched carrots/small root varieties.

Code	Diameter (in mm.)	Weight (in gms.)
A	10 – 20	8 - 20
B	21 - 30	21 - 80
C	31 - 40	81 – 100
D	41 - 45	101 - 110

(b) For topped or Large root varieties

Code	Diameter (in mm.)	Weight (in gms.)
A	21 – 30	45 – 80
B	31 – 45	81 – 150
C	46 and above	151 and above

Size code “C” roots for topped or large root varieties shall not be classified under “Extra class”.

(ii) Size tolerances

For all classes: 10 % by weight of roots not satisfying the requirements as regards sizing.

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Note.- Fruits and Vegetables Grading and Marking Rules were published in the Gazette of India, Part II, Section 3, Sub- section (i), vide No. GSR 220, dated, the 26th June,2004.

First amendment of Fruits and Vegetables Grading and Marking Rules was published in the Gazette of India vide GSR No.171 dated 9th August,2007.

