

MINISTRY OF AGRICULTURE  
DEPARTMENT OF AGRICULTURE AND CO-OPERATION

Notification

New Delhi, Dated: the 21st March, 2012

G.S.R. 238 (E).- Whereas the draft of Fruits and Vegetables Grading and Marking (Amendment) Rules, 2011, was published as required by section 3 of the Agricultural Produce (Grading and Marking) Act, 1937 (1 of 1937) in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide notification number G.S.R.799(E), dated the 9<sup>th</sup> November, 2011, inviting objections and suggestions from all persons likely to be affected thereby within forty-five days from the date on which copies of the said notification published in the Gazette of India were made available to the public;

And whereas copies of the said notification were made available to the public on the 20<sup>th</sup> November, 2011;

And whereas the objections and suggestions received from the public in respect of the said draft rules have been duly considered;

Now, therefore, in exercise of the powers conferred by section 3 of the Agricultural Produce (Grading and Marking) Act, 1937 (1 of 1937), and in supersession of the Apples Grading and Marking Rules, 1984 except as respects things done or omitted to be done before such supersession, the Central Government hereby makes the following rules, namely:-

1. (1) These rules may be called the Fruits and Vegetables Grading and Marking (Amendment) Rules, 2012.  
  
(2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Fruits and Vegetables Grading and Marking Rules, 2004,
  - (a) in rule 4 for the words and figures “Schedule II to XLII”, the words and figures “Schedule II to L” shall be substituted;
  - (b) after Schedule XLII, the following Schedules shall be inserted, namely:-

## Schedule - XLIII

### GRADE DESIGNATION AND QUALITY OF APPLES

1. Apples shall be obtained from varieties (cultivars) of *Malus Pumila* Mill or *Malus Sylvestris* Mill or *Malus domestica* Borkh of the *Rosaceae* family.
2. **Minimum Requirements:**
  - (i) Apples shall be-
    - (a) whole, the stalk should be intact up to the shoulder height, the cut should be clean and should not damage the adjacent skin;
    - (b) firm;
    - (c) sound, not affected by rotting or deterioration which makes it unfit for consumption;
    - (d) clean, free from any visible foreign matter;
    - (e) free from scabs;
    - (f) free from pests and damage caused by them or diseases affecting the general appearance of the produce;
    - (g) free from abnormal external moisture such as condensation following removal from cold storage;
    - (h) free from any foreign smell or taste;
    - (i) free from damage caused by low or high temperature;
    - (j) free from skin puncture;
    - (k) free from signs of dehydration; and
    - (l) free from internal blackening or rottingrotting.
  - (ii) Apples shall have minimum total soluble solids of eleven degree brix.
  - (iii) Apples shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission or requirement of importing country.

### 3. Criteria For Grade Designation:

Grade designation	Grade requirements	Grade tolerances
Extra class	<p>Apples in this class must be of superior quality. The flesh must be sound. They shall be characteristic of the variety and they must be free of 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.</p> <p>(five percent of the fruits may have the defects as given in Table A)</p>	<p>Five percent by number or weight of apples not satisfying the requirements of the grade, but meeting those of Class-I or, exceptionally, coming within the tolerances of that grade. Included therein shall be allowed not more than 1% for apples affected by internal breakdown.</p>
Class -I	<p>Apples in this class must be of good quality. The flesh must be sound and they must be characteristic of the variety. Provided that the following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package which have:</p> <ul style="list-style-type: none"> <li>-a slight defect in shape and development;</li> <li>- a slight defect in colouring;</li> <li>- slight skin or other defects.</li> </ul> <p>(ten percent of the fruits may have the defects as given in Table A)</p>	<p>Ten percent by number or weight of apples not satisfying the requirements of the grade, but meeting the requirements of grade II.</p> <p>Included therein shall be allowed not more than 1% for apples affected by decay or internal breakdown</p>
Class-II	<p>This class includes apples, which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements. Provided that the following do not amount to defect if the apples retain their essential characteristics as regards the quality, the keeping quality and presentation which have:</p> <ul style="list-style-type: none"> <li>- defects in shape and development;</li> <li>- defects in coloring;</li> <li>- skin or other defects.</li> </ul> <p>(ten percent of the fruits may have the defects as given in Table A)</p>	<p>Ten percent by number or weight of apples not satisfying the requirements of the grade, but meeting the minimum requirements, with the exception of apples affected by decay or internal breakdown that should not be more than two percent.</p> <p>Included therein shall be allowed, maximum of 2% by number or weight of fruits which may show the following defects:</p> <ul style="list-style-type: none"> <li>• cork like blemishes(bitter pit)</li> <li>• slight damage or unhealed broken skin/cracks.</li> </ul>

**TABLE A- DEFECT TOLERANCES**

Defects Allowed		Extra Class	Class I	Class II
Russetting outside Calyx/ stem cavity	• smooth net-like	1 % of surface area	3% of surface area	5 % of surface area
	• Smooth solid	1 %	1 % of surface area	3 % of surface area
Accumulation for both types of russetting should not exceed		1 %	3 %	5 %
Accumulated Blemishes & Bruising including		Nil	1 Sq. cm	2 Sq. cm
-Within this limit scar caused by scabs* ( <i>Venturia inaequalis</i> ) shall not exceed.		Nil	0.25 Sq.cm	0.5 Sq. cm
Stem or Calyx cracks (healed or well cured)		Nil	0.5 cm	1 cm
Maximum length of elongated shaped defects		Nil	1 cm	2 cm

\* This provision applies without prejudice to the applicable Plant Protection Rules.

#### 4. Other Requirements:

- (i) Apples must have been carefully picked and have colour that is characteristic of the variety. The development and condition of the apples must be such as to enable them:
  - to reach the appropriate stage of physiological maturity corresponding to the particular characteristics of the variety;
  - to withstand transport and handling, and
  - to arrive in satisfactory condition at the place of destination.
- (ii) The contents of each package must be uniform and contain only apples of the same origin, variety, quality, size and same degree of ripeness.
- (iii) The Extra Class fruits must be packed in layers only.
- (iv) The apples in Class-I and Class-II may be presented in one of the following forms, namely:-

- in regular layers according to size;
  - in open or closed containers;
  - loose in consumer packages;
  - shipping packages (master containers or cartons); or
  - in bulk or pallet bins.
- (v) Consumer packages (of net weight not exceeding 5 Kg) may contain mixture of varieties, provided they are of uniform grade designation and each variety is of the same origin. The visible part of the content of the package must be representative of the entire content.
- (vi) Other than bulk or pellet packing, the maximum net weight of the fruits shall not exceed 20Kg.
- (vii) Stickers shall be affixed to each produce so that, when removed ,they neither leave visible traces of glue, nor lead to skin defects.

## 5. Provisions Concerning Size

- (i) Size code is determined by the diameter in millimeter of the equatorial section or weight of the fruit in grams in accordance with the Table B as follows:

**TABLE B - SIZE CODE**

Size code	Diameter in mm	Weight in gm
A	More than 80	More than 241
B	76-80	211-240
C	71-75	181-210
D	66-70	151-180
E	61-65	121- 150
F	56-60	91-120
G	50-55	60-90

- (ii) Size Tolerances: For all classes, 10% by number or weight of apples not satisfying requirements of the size code.

## 6. Colouring Criteria For Apples:

Following shall be the colouring criteria for different grades of apples of different varieties except for green and yellow apple varieties.

Grade	Percentage characteristic colour of the variety
Extra class	85 or more
Class-I	70 or more
Class-II	Less than 70

**Explanation for the purpose of this ruleeee,-**

- (a) “blemish” means superficial bruising which is not covered under other defects.
- (b) “flesh defects” means visible water core and internal or external bitter pit.
- (c) “other skin defects” means defects due to hail (healed), limb damage, dark brown or black marks produced by branches, insect pest and disease spot not resulting in skin punctures.
- (d) “russetting” means particular type of skin, abnormal roughening or streak and scarring of the fruit surface, which characteristically is smooth.

## Schedule-XLIV

### GRADE DESIGNATION AND QUALITY OF BITTER GOURD

1. Bitter gourds shall be obtained from varieties (cultivars) of *Momordica charantia* L. of **Cucurbitaceae** family.
2. **Minimum requirements:**
  - (i) **Bitter gourds shall be -**
    - (a) whole, the stalk may be present provided it is clean and neatly cut ;
    - (b) fresh in appearance and having well developed tubercles;
    - (c) firm;
    - (d) sound, produce affected by rotting or deterioration such as to make it unfit for consumption shall be excluded;
    - (e) clean, free of any visible foreign matter;
    - (f) free from pests, larvae and mites;
    - (g) free from damage caused by the pests;
    - (h) free from abnormal external moisture;
    - (i) free from any foreign smell or taste;
    - (j) free from damage caused by low and high temperature;
    - (k) free from skin puncture;
    - (l) free from dehydration, water soaking and shriveling;
    - (m) free from internal or over-developed blackening;
    - (n) free from hard seeds and red seeds;
    - (o) free from flowers.
  - (ii) Bitter gourd shall comply with the residue levels of pesticides, heavy metals and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.
  - (iii) Bitter gourds must not be less than 70 mm of length without stem or stalk.



### 3. Criteria For Grade Designation:

Grade designation	Grade requirements	Grade tolerances
Extra class	<p>Bitter gourds in this class must be of superior quality. In shape, size and colour, they must be characteristic of the variety. Stalk must be intact and flesh must be perfectly sound. 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.</p> <p>Bitter gourds in this class must be with neatly cut stems.</p>	5% by number or weight of bitter gourd not satisfying the requirements of the grade, but meeting those of Class-I or, exceptionally, coming within the tolerances of that grade.
Class- I	<p>Bitter gourd must be of good quality. In shape, sizing and colour, they must be characteristic of the variety. Provided that the following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package which have:</p> <ul style="list-style-type: none"> <li>- a slight defect in shape and development;</li> <li>- a slight defect in colour;</li> <li>- slight skin defects (scratches, scars, scraps and blemishes) not to exceed 2 sq.cm. cumulative area of the total surface area;</li> <li>- slight bruising not exceeding 1 sq. cm of total surface area causing discoloration.</li> </ul> <p>The skin defects must not affect the pulp.</p>	10% by number or weight of bitter gourd not satisfying the requirements of the grade, but meeting those of Class-II or exceptionally, coming within the tolerances of that grade.
Class-II	This includes bitter gourds which do not qualify for inclusion in the higher grades but satisfy the minimum requirements.	- 10% by number or weight of bitter gourd not satisfying

	<p>Provided that the following do not amount to defect if the bitter gourds retain their essential characteristics as regards the quality, the keeping quality and presentation:</p> <ul style="list-style-type: none"> <li>- defects in shape and development;</li> <li>- defects in colour.</li> <li>- skin defects (scratches, scars, scraps and blemishes) not to exceed 4 cm. cumulative area of total surface area.</li> </ul> <p>The skin defects must not affect the pulp.</p>	<p>the requirements of the grade, but meeting the minimum requirements.</p>
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#### 4. Other requirements:

- (i) Bitter gourds must have been carefully picked and have colour that is characteristic of the variety and to the area in which they are grown. The development and condition of the bitter gourds must be such as to enable them:-
  - to reach the appropriate stage of maturity corresponding to the particular characteristics of the variety;
  - to withstand transport and handling, and
  - to arrive in satisfactory maturity condition at the place of destination and should not become yellow or should not show the indications of ripening.
- (ii) For Extra Class bitter gourds must be packed in layers but sufficiently separated from each other.
- (iii) Bitter gourds may be presented in one of the following forms, namely:-
  - (a) in regular layers according to size;
  - (b) in open or closed containers;
  - (c) loose in consumer packages;
  - (d) shipping packages (master containers or cartons); or
  - (e) in bulk or pallet bins (retail display or promotion).
- (iv) It shall be marked on the package according to the colour of the bitter gourds packed:
  - Light green
  - Green
  - Whitish

## 5 .Provisions Concerning Sizing:-

- (A) i) The size of the bitter gourd shall be determined by the length without stem/stalk in mm.

Size code	Length in mm without stem
A*	40-70
B	70-100
C	101-140
D	141-180
E	181-230
F	231 and above

- ii) \*Size Code “A” shall be marked as “Baby bitter gourd.”

### (B) **Size tolerances:**

For all classes: 10% by number or weight of bitter gourd not satisfying requirements of the size code.

## Schedule-XLV

### GRADE DESIGNATION AND QUALITY OF BOTTLE GOURD OR LAUKI

1. Bottle Gourd or Lauki or Ghiya shall be obtained from varieties (cultivars) of *Lagenaria siceraria* (Molina) Standl. of family *Cucurbitaceae*.
2. **Minimum requirements:**
  - (i) Bottle gourd shall be -
    - (a) whole;
    - (b) firm;
    - (c) intact;
    - (d) fresh in appearance (shining skin);
    - (e) well trimmed (neatly cut stalk with 2-10 cm length from the shoulder of the fruit)
    - (f) clean, free of any visible foreign matter;
    - (g) free from bruising or extensive healed overcuts;
    - (h) free from damage caused by pest or diseases;
    - (i) free from abnormal external moisture, excluding condensation following removal from cold storage;
    - (j) free from foreign smell or taste;
    - (k) free from signs of internal shriveling or dehydration or water-soaking;
    - (l) free from damage caused by low temperature or high temperature or frost;
    - (m) free from chemical traces, artificial colour;
    - (n) free from grittiness of skin;
    - (o) free from fissures or cavities on the surface; and
    - (p) free from internal blackening or red colour of flesh or seeds.
  - (ii) Bottle gourds shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.

### 3. Criteria For Grade Designation:

Grade designations	Grade requirements	Grade tolerances
1	2	3
Extra class	<p>Bottle gourd must be of superior quality. They must be characteristic of the variety and/or commercial type in shape, external appearance, development and colour. 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. bottle gourd must be uniform in colour. They must be:</p> <ul style="list-style-type: none"> <li>- well developed;</li> <li>- have a typical colour for the variety; and</li> <li>- free of defects including all deformations and particularly those caused by seed formation.</li> </ul>	<p>5 % by number or weight of bottle gourd not satisfying the requirements of the grade, but meeting those of Class I grade or, exceptionally, coming within the tolerances of that grade.</p>
Class -I	<p>Bottle gourd must be of good quality. They must be characteristics of the variety or commercial type in shape.</p> <p>They must ;</p> <ul style="list-style-type: none"> <li>- reasonably developed; and</li> <li>- reasonably well shaped.</li> </ul> <p>Provided that the following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.-</p> <ul style="list-style-type: none"> <li>- a slight deformation, but without seed formation;</li> <li>- a slight defect in colour especially the light coloured part of the bottle gourd where it touched the ground during growth;</li> <li>- slight skin blemishes due to rubbing and handling or low temperatures not to exceed 5</li> </ul>	<p>10 % by number or weight of bottle gourd not satisfying the requirements of the grade, but meeting those of Class II or, exceptionally, coming within the tolerances of that grade.</p>

	<p>percent of the total surface area, provided that such blemishes have healed and do not affect the keeping quality.</p> <p>The defect must not affect the pulp.</p>	
Class -II	<p>This class includes bottle gourds which do not qualify for inclusion in the higher classes but satisfy the minimum requirements. Provided that the following do not amount to defect, namely:-</p> <ul style="list-style-type: none"> <li>- deformation other than serious seed development;</li> <li>- defects in colour up to one-twentieth of the surface;</li> <li>- considerable discoloration in the affected part are not allowed;</li> <li>- healed cracks not affecting the pulp;</li> <li>- slight damage caused by rubbing and handling not exceeding 10 percent of the total surface area, provided which does not seriously affect the keeping quality and appearance.</li> <li>- Slight pale colour due to ground touching during growth.</li> </ul> <p>The defects must not affect the flesh.</p>	<p>10 % by number or weight of bottle gourd not satisfying the requirements of the grade, but meeting the minimum requirements.</p>

#### 4. Other requirements:

- (i) Bottle gourd must have been carefully picked and have reached an appropriate degree of development and display satisfactory maturity in accordance with criteria proper to the variety and to the area in which they are grown. The development and condition of the bottle gourd must be such as to enable them;
  - to withstand transport and handling, and
  - to arrive in satisfactory condition at the place of destination.
- (ii) The content of each package must be uniform and contain only bottle gourds of the same origin, variety, quality, size, same degree of maturity and development.

- (iii) Bottle gourds must be packed sufficiently tightly so as to avoid damage during transport.
- (iv) In case of short bottle gourd, it shall be marked on the package "Early bottle gourd".
- (v) Bottle gourd may be marked as per shape.-
  - Cylindrical
  - Club shaped
  - Globular
  - Goose-necked
  - Elongated
  - Oblong
  - Flattened
  - Cervical

## 5. Provision Concerning Sizing:

**(A) size is determined by the length or weight of the bottle gourd.**

**(i) Length:**

Size Code	Length in cm without peduncle
A	upto20
B	21-30
C	31- 40
D	41-50
E	51and above

**(ii) Weight:**

Size Code	Weight in grams
A	Below 200
B	201-400
C	401-600
D	601-800
E	801-1000
F	1001-1200
G	1201-1500
H	Above 1500

Size code G&H shall not be applicable for extra class and class-I.

**(B) Size tolerances:**

For all classes: 10% by number or weight of bottle gourd not satisfying requirements of the size code.

## **Schedule - XLVI**

### **GRADE DESIGNATION AND QUALITY OF SPONGE GOURD**

1. Sponge gourd shall be obtained from varieties (cultivars) of *Luffa cylindrica* of family *Cucurbitaceae*.

**2. Minimum requirements:**

- (i) Sponge gourd shall be:-
  - (a) whole (with stalk);
  - (b) firm;
  - (c) intact,
  - (d) fresh in appearance;
  - (e) sound with characteristic shape of the variety, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
  - (f) clean, free of any visible foreign matter (properly drained, if washed);
  - (g) free from bruising or extensive healed overcuts;
  - (h) free from damage caused by pest or diseases;
  - (i) free from abnormal external moisture, excluding condensation following removal from cold storage;
  - (j) free from foreign smell or taste;
  - (k) free from signs of internal shriveling or dehydration or water-soaking;
  - (l) free from damage caused by low temperature or high temperature or frost;
  - (m) free from bitter taste;
  - (n) free from grittiness of skin;
  - (o) free from fissures, cavities;
  - (p) free from internal blacking and hard fiber formation;
  - (q) free from black or yellowish spots.
- (ii) Sponge gourd shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.



### 3. Criteria for Grade Designation:

Grade designations	Grade requirements	Grade tolerances
1	2	3
Extra class	<p>Sponge gourd must be of superior quality. They must be characteristic of the variety or commercial type in shape, external appearance, development and colour. 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. sponge gourd must be uniform in colour.</p> <p>They must be:</p> <ul style="list-style-type: none"> <li>-Well trimmed with neatly cut stem (Peduncle up to 5 cm);</li> <li>-well developed;</li> <li>- well shaped and practically straight (maximum height of the arc: 10 mm per 20 cm of length of the sponge gourd);</li> <li>-have a typical colour of the variety; and</li> <li>-free of defects including all deformations and particularly those caused by seed formation (black coloured seeds).</li> </ul>	<p>5 % by number or weight of sponge gourd not satisfying the requirements of the grade, but meeting those of Class I grade or, exceptionally, coming within the tolerances of that grade.</p>
Class- I	<p>Sponge gourd must be of good quality. They must be characteristics of the variety and/or commercial type. They must be ;</p> <ul style="list-style-type: none"> <li>- reasonably developed;</li> <li>- reasonably well shaped and straight (maximum</li> </ul>	<p>10 % by number or weight of sponge gourd not satisfying the requirements</p>

	<p>height of the arc: 10 mm per 15 cm of the length of sponge gourd).</p> <p>Provided that the following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.-</p> <ul style="list-style-type: none"> <li>- slight deformation;</li> <li>- slight defect in colour, slight pale especially the light coloured part of the sponge gourd where it touched the ground during growth; and</li> <li>-slight skin blemishes due to rubbing and handling or low temperatures not to exceed 5 percent of the total surface area, provided that such blemishes have healed and do not affect the keeping quality.</li> </ul> <p>The defect must not affect the flesh.</p>	<p>of the grade, but meeting those of Class II or, exceptionally, coming within the tolerances of that grade.</p>
Class II	<p>This class includes sponge gourd which do not qualify for inclusion in the higher classes but satisfy the minimum requirements: Provided that the following do not amount to defect if the sponge gourds retain their essential characteristics as regards the general appearance, the quality, the keeping quality and presentation in the package which have -</p> <ul style="list-style-type: none"> <li>- deformation other than seed development;</li> <li>- defects in colour up to one-tenth of the surface;</li> <li>- considerable defects in colour in the affected part are not allowed;</li> <li>-healed cracks provided not affecting the flesh;</li> <li>- slight damage caused by rubbing and handling not to exceed 10 percent of the total surface area.</li> </ul> <p>The defects must not affect the flesh.</p> <p>Slightly crooked Sponge Gourd may be allowed in this</p>	<p>10 % by number or weight of Sponge Gourd not satisfying the requirements of the grade, but meeting the minimum requirements.</p>

	Class which has a maximum height of the arc of 20 mm per 20 cm of length of the Sponge Gourd.	
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#### 4. Other Requirements:

- (i) Sponge gourd must have been carefully picked and have reached an appropriate degree of development and display satisfactory maturity in accordance with criteria proper to the variety and to the area in which they are grown. The development and condition of the sponge gourd must be such as to enable them-
  - to withstand transport and handling, and
  - to arrive in satisfactory condition at the place of destination. It should not become yellowish/pale.
- (ii) In Extra Class, the content of each package must be uniform and contain only sponge gourds of the same origin, variety, quality, size, same degree of maturity and development.
- (iii) Crooked sponge gourd having a greater arc than 20 mm per 10 c.m. length of the sponge gourd must be packed separately and marked "Crooked sponge gourd" in the package.
- (iv) Sponge gourd must be packed sufficiently tightly so as to avoid damage during transport.
- (v) In case of short sponge gourd, it shall be marked on the package "Short sponge gourd" or "Mini-sponge gourd".
- (vi) It shall be marked on the package according to the colour of the sponge gourd –
  - Green, if the green colour is more than 80% of the total surface area.
  - Dark green, if the dark green colour is more than 90% of the total surface area.
- (vii) Sponge gourd may be presented in one of the following styles:-
  - In regular layer according to size;
  - In open or closed container;
  - Loose in consumer package;
  - In shipping packages.

**5. Provisions Concerning Sizing:**

**(A) Sizing is determined by the weight of the Sponge Gourd-**

Size code	Weight In grams
A	Up to 200
B	201 to400
C	401to600
D	601to 800
E	801 to1000
F	1001 to1200
G	1201to 1500
H	Above 1500

**(B) Size tolerances:**

For all classes: 10% by number or weight of sponge gourd not satisfying requirements of the size code.

## **Schedule-XLVII**

### **GRADE DESIGNATION AND QUALITY OF CUCUMBERS**

1. Cucumbers shall be obtained from varieties (cultivars) of *Cucumis sativas L.* cucumbers for processing and gherkins are being excluded.

2. **Minimum requirements:**

- (i) Cucumbers shall be -

- (a) whole;
    - (b) firm;
    - (c) intact,
    - (d) fresh in appearance;
    - (e) sound with characteristics shape of the variety, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
    - (f) clean, free of any visible foreign matter;
    - (g) free from bruising and/or extensive healed overcuts,;
    - (h) free from damage caused by pest or diseases;
    - (i) free from abnormal external moisture, excluding condensation following removal from cold storage;
    - (j) free from foreign smell and/or taste;
    - (k) free from signs of internal shriveling/dehydration or water-soaking;
    - (l) free from damage caused by low temperature and/or high temperature or frost;
    - (m) free from bitter taste;
    - (n) free from hard seeds inside;
    - (o) free from grittiness of skin;
    - (p) free from fissures; and
    - (q) free from stalk or flower.

- (ii) Cucumbers shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.

### 3. Criteria For Grade Designation:

Grade designations	Grade requirements	Grade tolerances
1	2	3
Extra class	<p>Cucumbers must be of superior quality. They must be characteristic of the variety and/or commercial type in shape, external appearance, development and colour. 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. Cucumbers must be uniform in colour. They must be:</p> <ul style="list-style-type: none"> <li>- well developed;</li> <li>- well shaped and straight (maximum height of the arc: 10 mm per 10 cm of length of the cucumber);</li> <li>- have a typical colour for the variety; and</li> <li>- free of defects including all deformations and particularly those caused by seed formation.</li> </ul>	<p>5 % by number or weight of cucumbers not satisfying the requirements of the grade, but meeting those of Class I grade or, exceptionally, coming within the tolerances of that grade.</p>
Class I	<p>Cucumbers must be of good quality. They must be characteristics of the variety and/or commercial type. They must be ;</p> <ul style="list-style-type: none"> <li>- reasonably developed;</li> <li>- reasonably well shaped and straight (maximum height of the arc: 10 mm per 10 cm of the length of cucumber).</li> </ul> <p>The following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package which have -</p> <ul style="list-style-type: none"> <li>- a slight deformation, but excluding that caused by seed formation;</li> <li>- a slight defect in colour especially the light coloured part of the cucumber where it touched the ground during growth; and</li> </ul>	<p>10 % by number or weight of cucumbers not satisfying the requirements of the grade, but meeting those of Class II or, exceptionally, coming within the tolerances of that grade.</p>

	<ul style="list-style-type: none"> <li>- slight skin blemishes due to rubbing and handling or low temperatures not to exceed 2 percent of the total surface area, provided that such blemishes have healed and do not affect the keeping quality.</li> </ul> <p>The defect must not affect the pulp.</p>	
Class II	<p>This class includes cucumbers which do not qualify for inclusion in the higher classes but satisfy the minimum requirements: Provided that the following do not amount to defect, namely:-</p> <ul style="list-style-type: none"> <li>-deformation other than seed development;</li> <li>- defects in colour up to one-tenth of the surface but does not include considerable defects in colour in the affected part;</li> <li>- healed cracks provided not affecting the pulp;</li> <li>- slight damage caused by rubbing and handling not to exceed 4 percent of the total surface area, provided which does not seriously affect the keeping quality and appearance.</li> </ul> <p>The defects must not affect the pulp.</p> <p>The defects are allowed for straight cucumbers.</p> <p>Crooked cucumbers are allowed only if they have no more than slight defects in colour and have no defects or deformation other than crookedness.</p> <p>Slightly crooked cucumbers may have a maximum height of the arc of 20 mm per 10 cm of length of the cucumber.</p>	10% by number or weight of cucumber not satisfying the requirements of the grade, but meeting the minimum requirements.

#### 4. Other Requirements:

- (i) Cucumbers must have been carefully picked and have reached an appropriate degree of development and display satisfactory maturity in accordance with criteria proper to the variety and to the area in which they are grown. The development and condition of the cucumber must be such as to enable them :-
  - to withstand transport and handling, and
  - to arrive in satisfactory condition at the place of destination.
- (ii) The content of each package must be uniform and contain only cucumbers of the same origin, variety, quality, size, same degree of maturity and development.

- (iii) Cucumbers must be packed sufficiently tightly as to avoid damage during transport.
- (iv) In case of short cucumbers, it shall be marked on the package "Short cucumbers" or "Mini-cucumbers".
- (v) Crooked cucumbers having a greater arc than 20 mm per 10 cm. length of the cucumber must be packed separately and marked "crooked cucumber" in the package.
- (vi) It shall be marked on the package according to the colour of cucumbers packed inside –
  - (a) Green
  - (b) Light green
  - (c) White.

## 5. Provision Concerning Sizing:

### A. Sizing shall be determined by the weight of the cucumber :

- (i) Cucumbers grown must weigh 180 g or more.

Size code	Weight in grams
A*	Up to 180
B	181-250
C	251 and above

- (ii) Sizing is compulsory for 'Extra Class' and Class- I.
- (iii) \*Size code "A" shall be marked as "short cucumber".

### B. Size tolerances:

For all classes, 10% by number or weight of cucumber not satisfying requirements of the size code.



## **Schedule-XLVIII**

### **GRADE DESIGNATION AND QUALITY OF AUBERGINES OR EGG PLANT OR BRINJAL**

1. Aubergines shall be obtained from varieties (cultivars) of *Solanum melongena* L. var. *esculentum*, *insanum* and *ovigerum*.

#### **2. Minimum requirements:**

- (i) Aubergines shall be:-
  - (a) whole;
  - (b) firm;
  - (c) intact with calyx and peduncle;
  - (d) fresh in appearance;
  - (e) sound with characteristic shape of the variety, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
  - (f) clean, free of any visible foreign matter;
  - (g) free from bruising or extensive healed over-cuts;
  - (h) free from damage caused by pest or diseases;
  - (i) free from abnormal external moisture, excluding condensation following removal from cold storage;
  - (j) free from foreign smell and/or taste;
  - (k) free from signs of internal shriveling or dehydration or water-soaking;
  - (l) free from damage caused by low temperature or high temperature or frost;
  - (m) free from fibrous flesh formation;
  - (n) free from over- development of seeds; and
  - (o) free from cavities and fissures.
- (ii) Aubergines shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.

### 3. Criteria For Grade Designation: For Aubergines -

Grade designations	Grade requirements	Grade tolerances
1	2	3
Extra Class	<p>Aubergines must be of superior quality. They must be characteristic of the variety or commercial type in shape, external appearance, development and colouring. They must be free of defects, with the exception of very slight superficial defects provided the do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.</p> <p>Aubergines must be uniform in colour.</p>	<p>5 % by number or weight of aubergines not satisfying the requirements of the grade, but meeting those of Class I grade or, exceptionally, coming within the tolerances of that grade.</p>
Class I	<p>Aubergines must be of good quality. They must be characteristics of the variety or commercial type. Provided that the following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:-</p> <ul style="list-style-type: none"> <li>• slight defects of shape;</li> <li>• slight discolorations at the base;</li> <li>• slight bruising and/or slight healed cracks provided they do not cover more than 2 sq. cm.</li> </ul> <p>The defects must not affect the flesh of the fruit.</p>	<p>10 % by number or weight of aubergines not satisfying the requirements of the grade, but meeting those of Class II or, exceptionally, coming within the tolerances of that grade.</p>

Class II	<p>This class includes aubergines which do not qualify for inclusion in the higher classes but satisfy the minimum requirements: Provided that the following do not amount to defect, namely:-</p> <ul style="list-style-type: none"> <li>• Slight defects of shape;</li> <li>• Slight dis-colouration at the base;</li> <li>• Slight bruising and/or slight healed cracks or sun-scorched provided they do not cover more than 4 sq. cm.</li> <li>• Slight dry superficial defect provided they do not cover more than 4 sq.cm.</li> </ul> <p>The defects must not affect the flesh of the fruit</p>	<p>10 % by number or weight of aubergines not satisfying the requirements of the grade, but meeting the minimum requirements.</p>
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#### 4. Other Requirements:

The aubergines must have been carefully picked and have reached an appropriate degree of development and display satisfactory maturity in accordance with criteria proper to the variety and to the area in which they are grown. The development and condition of the aubergines must be such as to enable them;

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

The content of each package must be uniform and contain only aubergines of the same origin, variety, quality, size, same degree of maturity and development.

Elongated aubergines packed in the same package must be sufficiently uniform as regards the length.

It shall be marked on the package according to the colour of the aubergines packed inside, namely :-

- Violet
- Purple
- Green

- Striped
- White

It shall be marked on the package, according to the shape of the aubergines packed, namely :-

- Small Globus aubergines ;
- Elongated aubergines;
- Globus aubergines;

## 5. Provision Concerning Sizing:

**(A)Sizing of the aubergines shall be determined** either based on the maximum diameter of the equatorial section on the longitudinal axis.

- or by weight.

(a) Sizing by diameter: The minimum diameter shall be 20 mm for small globus aubergines, 35 mm for elongated aubergines and 75 mm for globus aubergines .

The difference between the smallest and largest aubergines in the same package must not exceed:-

- 5 mm for small globus aubergines;
- 20 mm for elongated aubergines;
- 25 mm for globus aubergines.

(b) For sizing by weight, the minimum weight is fixed at 50 grams. The following scale must be complied with:

Up to 100 grams with a maximum difference of 20 grams between the smallest and largest aubergines in the same package;

- 100 to 300 grams with a maximum difference of 50 grams between the smallest and largest aubergines in the same package;
- 300 to 500 grams with a maximum difference of 75 grams between the smallest and largest aubergines in the same package;
- above 500 grams with a maximum difference of 200 grams between the smallest and largest aubergines in the same package.

Compliance with the sizing scale is compulsory for extra class. In addition, elongated aubergines must have a minimum length, excluding peduncle, of 80 mm.

**(B). Size tolerances:**

For all classes: 10% by number or weight of aubergines not satisfying requirements of the size code.

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## Schedule-XLIX

### GRADE DESIGNATION AND QUALITY OF CABBAGE

1. Cabbage shall be obtained from varieties of *Brassica oleracea* L.var. *capitata* of family *Brassicaceae*.
2. **Minimum requirements:**
  - (i) Cabbage shall be with firm compact head. It shall be.-
    - (a) fresh in appearance, turgid to relatively turgid wrapper outer leaves;
    - (b) intact and compact;
    - (c) sound;
    - (d) clean;
    - (e) well trimmed;
    - (f) free of pests affecting the general appearance of the produce;
    - (g) free of damage caused by pests, insect injury and diseases;
    - (h) free of abnormal external moisture;
    - (i) free of any foreign smell or taste;
    - (j) free from blackening, tip burning;
    - (k) free from burst head due to over maturity or growth pressure;
    - (l) free from wilting.
  - (ii) They shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.

### 3. Criteria for grade designation:

Grade Designation	Grade requirements	Grade tolerances
Extra Class	<p>Cabbage must be of superior quality. They must be characteristic of the variety or commercial type.</p> <p>It must be : -</p> <ul style="list-style-type: none"> <li>- well formed, firm and compact,</li> <li>- uniform in colour,</li> <li>- free from any defects due to mechanical injuries, like torn leaves, bruises or other physical injuries.</li> </ul>	5 % by number or weight of Cabbage not satisfying the requirements of the grade, but meeting those of Class I or, exceptionally, coming within the tolerances of that grade.
Class I	<p>Cabbage must be of good quality. They must be characteristic of the variety and/or commercial type.</p> <p>The Cabbage must be :</p> <ul style="list-style-type: none"> <li>- Firm, compact,</li> <li>- have not more than 4 wrapper leaves;</li> <li>- free from defects such as blemishes, diseases, traces of frost and bruising.</li> </ul> <p>Provided that the following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package which have -</p> <ul style="list-style-type: none"> <li>- slight defects in shape or development;</li> <li>- slight defects in colour;</li> <li>- slight bruising not exceeding 2 sq.cm. of the surface area.</li> </ul>	10 % by number or weight of Cabbage not satisfying the requirements of the grade, but meeting those of Class II.
Class II	This grade includes Cabbage which do not qualify for inclusion in the higher grades, but satisfy the minimum requirements. The following do not amount to defect if it retains its essential characteristic as regards to general	10 % by number or weight of Cabbage not satisfying the requirements of the grade but meeting with the minimum requirements and

	appearance, quality, keeping quality and presentation in the package which have - - slightly deformed, - yellowish in colour on outer leaves not to exceed one-tenth of the total surface area; - slight traces of sun scorching; - slight superficial damages on outer leave by frost; and - slight bruising not exceeding 4 sq.cm. of surface area.	fit for human consumption.
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#### 4. Other requirements:

(i) The Cabbages must have been carefully picked and have reached an appropriate degree of development and maturity in accordance with criteria proper to the variety and to the area in which they are grown. The development and condition of the Cabbage must be such as to enable them :-

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

(ii) Cabbages shall be presented as-

- (a) "Well Trimmed" Cabbages with a sufficient number of leaves left on to protect the head. These leaves must be healthy. It shall be packed only in Extra class and Class-I.
- (b) It shall be marked on the package according to the colour of the Cabbage. namely:-
  - Green;
  - Dark green;
  - Blue green; and
  - Dark red or purple

#### 5. Provision Concerning Sizing:

(A) Sizing shall be determined by the weight of the Cabbage according to the Table given below, namely :-

Size Code	Weight in grams
A	Below 250
B	251-500
C	501-750
D	751-1000



E	More than 1 kg
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- (B) It shall be marked as Early Cabbage if the weight of the cabbage is less than 150 grams.

**(C)Size Tolerances:**

For all classes: 10% by number or weight of cabbage not satisfying requirements of the size code.

**Note :**(1) Cabbage: Ahead bearing plant of Brassicaceae family whose main axis is short and thick and the leaves are densely packed in to gigantic bud of head.

(2) Well trimmed : The head of the cabbage shall not have more than four wrapper leaves and stem does not extend more than 1.5 cm beyond the point of attachment of the outermost leaf.

(3) Fresh : Turgid to relatively turgid wrapper leaves.

(4) Wilting: Withering of wrapper and outer leaves due to loss of turgidity.

(5) Burst head: Opening of head as a result of over maturity or growth pressure.

(6) Tip burn: Browning /blackening of the leaf margin injuries of the cabbage head.

## SCHEDULE-L

### GRADE DESIGNATION AND QUALITY OF SNAKE GOURD OR SERPENT GOURD

1. Snake gourd or serpent gourd shall be obtained from varieties (cultivars) of *Trichosanthes cucumerina* L. of family *Cucurbitaceae*.

**2. Minimum requirements:**

- (i) Snake gourd shall be:-

- (aa) whole;
- (b) firm;
- (c) intact,
- (d) fresh in appearance;
- (e) properly trimmed (at least with 3 cm long stalk beyond the shoulder of the fruit)
- (f) sound with characteristics shape of the variety, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- (g) clean, free of any visible foreign matter, stains and dust;
- (h) free from bruising or extensive healed overcuts;
- (i) free from damage caused by pest or diseases;
- (j) free from abnormal external moisture, excluding condensation following removal from cold storage;
- (k) free from foreign smell and/or taste;
- (l) free from signs of internal shriveling or dehydration or water-soaking;
- (m) free from damage caused by low temperature or high temperature or frost;
- (n) free from artificial colour and bleaching;
- (o) free from hard seeds ,over-ripeness of seeds inside;
- (p) free from hard seed, free from grittiness of skin;
- (q) free from fissures, cavities on the surface;
- (r) free from flower;
- (s) free from crookedness in shape;
- (t) free from internal blackening of flesh, and
- (u) free from pests affecting the general appearance of the produce.

- (ii) Snake gourd or serpent gourd shall comply with the residue levels of heavy metals, pesticides and other food safety requirements as laid down by the Codex Alimentarius Commission for exports or requirements of the importing country.

### 3. Criteria for grade designation:

Grade designations	Grade requirements	Grade tolerances
1	2	3
Extra class	<p>Snake Gourd or serpent gourd must be of superior quality. They must be characteristic of the variety or commercial type in shape, external appearance, development and colour. 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. Snake gourd must be uniform in colour. They must be:</p> <ul style="list-style-type: none"> <li>- well developed;</li> <li>- well shaped;</li> <li>- have a typical colour for the variety; and</li> <li>- free of defects including all deformation.</li> </ul>	5% of the number or weight of snake gourd not satisfying the requirements of the grade, but meeting those of Class I grade or, exceptionally, coming within the tolerances of that grade.
Class I	<p>Snake gourd or serpent gourd must be of good quality. They must be characteristic of the variety or commercial type. They must be -</p> <ul style="list-style-type: none"> <li>- reasonably developed;</li> <li>- reasonably well shaped</li> </ul> <p>(maximum height of the arc: 10 mm per 10 cm of the length of Snake Gourd)</p> <p>The following do not amount to defect if they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package which have -</p> <ul style="list-style-type: none"> <li>- a slight deformation,</li> <li>- a slight defect in colour; and</li> <li>- slight skin blemishes due to rubbing and handling or low temperatures not exceeding 5 percent of the total surface area, provided that such blemishes have healed and do not affect the keeping quality.</li> </ul> <p>The defect must not affect the flesh.</p>	10 % of the number or weight, of snake gourd not satisfying the requirements of the grade, but meeting those of Class II or, exceptionally, coming within the tolerances of that grade.

Class II	<p>This class includes snake gourd which do not qualify for inclusion in the higher classes but satisfy the minimum requirements. The following do not amount to defect if the Snake Gourd/Serpent Gourd retain their essential characteristics as regards the quality, keeping quality and presentation which have -</p> <ul style="list-style-type: none"> <li>- deformation other than serious seed development;</li> <li>- defects in colour up to twentieth part of the surface;</li> <li>- but does not include snake gourd grown under protection, considerable defects in colour in the affected part;</li> <li>- healed cracks provided not affecting the flesh;</li> <li>- slight damage caused by rubbing and handling not exceeding 5 percent of the total surface area, provided that does not seriously affect the keeping quality and appearance.</li> </ul> <p>Provided that the defect has not affect the flesh and the ribs.</p> <p>Crooked snake gourds are allowed only if they have no more than slight defects in colour and have no defects of deformation other than crookedness.</p> <p>Slightly crooked snake gourds have a maximum height of the arc of 15 mm per 10 cm of length of the snake gourd.</p>	10 % by number or weight of snake gourd not satisfying the requirements of the grade, but meeting the minimum requirements.
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#### 4. Other requirements:

- (i) Snake gourd must have been carefully picked and have reached an appropriate degree of development and display satisfactory maturity in accordance with criteria proper to the variety and to the area in which they are grown. The development and condition of the snake gourd or serpent gourd must be such as to enable them;
  - to withstand transport and handling, and
  - to arrive in satisfactory condition at the place of destination.
- (ii) In case of "Extra Class" and "Class-I", the content of each package must be uniform and contain only snake gourd of the same origin, variety, quality, size, same degree of development and maturity.
- (iii) Snake gourd must be packed sufficiently tightly in "Extra Class" as to avoid damage during transport.

- (iv) In case of short “snake gourd”, it shall be marked on the package “Early snake gourd”
- (v) Crooked snake gourd having a greater arc than 15 mm per 10 cm length of the Snake Gourd must be packed separately and marked “crooked snake gourd” on the package.
- (vi) It shall be marked on the package according to the colour of the snake gourd-
  - **“Green”**, if the green colour is more than 90% of the surface area; and
  - **“White”**, if the white colour is more than 75% of the total surface area.

#### 5. Provision Concerning Sizing:

- (A) Sizing shall be determined by the length of the snake gourd according to the Table given below, namely :-

Table	
Size code	Length in cm (without peduncle)
A	Up to 30
B	31-45
C	46-60
D	61-75
E	76-90
F	91 and above

#### (B) Size tolerances:

For all classes: 10% by number or weight of snake gourd not satisfying requirements of the size code.

**Note:** (i) The principal rules were published in the Gazette of India, Part II, section 3, Sub-section(I), vide number GSR .220 ,dated 26<sup>th</sup> June,2004 and were last amended vide number G.S.R. 186(E) dated, 12th March, 2010.

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