

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
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Agenda Item 6

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**JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON FRESH FRUITS AND VEGETABLES**

Fifteenth Session

Mexico City, Mexico, 19 – 23 October 2009

**PROPOSALS FOR AMENDMENTS TO THE PRIORITY LIST FOR THE STANDARDIZATION
OF FRESH FRUITS AND VEGETABLES**

- Comments in response to CL 2008/13-FFV

(Comments of Iran and Philippines)

IRAN

The National Codex Committee of Iran appreciates the assistance of the Near East Codex Committee and is pleased to submit the following project document, as well as a draft codex standard for Pomegranates.

Project Document

JUSTIFICATION FOR THE DRAFTING OF CODEX STANDARD FOR POMEGRANATE



1. The purpose and the scope of the Standard

The scope of the standard is pomegranate of the *Puniceae* family, which is supplied fresh to the consumer after proper preparation and packaging. The objective of the standard is to consider the characteristics of pomegranate for fresh consumption within the framework of an international document.

2. Relevance and timeliness

Due to the growing trend of the worldwide production and trade in pomegranates, it is necessary to establish standards covering the safety, quality and hygiene of the fruit; a reference agreed upon by international consensus between the main producing and trading countries. In addition, the drafting of a codex standard for pomegranate will help to protect consumers' health and to promote fair trade in accordance with current international agreements.

Pomegranates are planted and grown in many regions of the world including countries such as Turkey, Afghanistan, Pakistan, India, Armenia, Georgia, Tajikistan, Jordan, Egypt, Italy, Tunisia, Azerbaijan, Libya, Lebanon, Sudan, Myanmar, Bangladesh, Mauritania, Morocco, Cyprus, Spain, Greece, France, China, Japan, and the U.S.A. However, among these countries, Iran, India and the United States of America have the highest area under cultivation with the greatest varieties diversity. Consumption of pomegranate in Iran is estimated to be on average between 7-8 kg per person per year.

The global production, trade and consumption of pomegranates and the fruit's derivatives and by-products are clearly on the rise. More significantly, the present status of this fruit is not limited to any particular region and hence justifies the elaboration of an international standard commensurate with the pomegranate's true standing as an increasingly valuable worldwide commodity.

3. Main aspects to be covered

The standard entails aspects related to quality, size, safety and labeling in order to provide adequate product characteristics and to protect consumer's health. To supply high quality safe products, the objective of the standard are to:

- Establish the minimum requirements for pomegranates, including and in addition to the quality class parameters.
- Define the categories to classify pomegranates in accordance with the characteristics of the fruit
- Establish tolerances regarding quality and size permitted in packaged pomegranates.
- Include the provisions to be considered related to the uniformity of the packaged product and the packaging used.
- Include provisions for the labeling and marking of the product in accordance with the general standard for the labeling of prepackaged foods
- Include provisions for contaminants with reference to the general standard for contaminants and toxins in foods
- Include provisions for hygiene with reference to the recommended international code of practice for hygiene and general principles of food hygiene

4. Assessment against the Criteria for the Establishment of Work Priorities

General criterion

Consumer protection from the point of view of health and the prevention of fraudulent practices. Quality of the produce to meet consumer needs and the minimum requirements of food safety. The elaboration of the standard for pomegranates would be to the benefit of developing countries in particular, because developing countries are the major producer, exporter and consumer of pomegranates.

Criteria applicable to commodities

a) Volume of production and consumption in individual countries and volume and pattern of trade between countries:

Area under cultivation in Iran in the calendar year 21st March 2005-21st March 2006 was 7,404 hectares of seedlings and 56,329 hectares of fruit bearing trees. Production in the same period was 705,166 Metric tons. Yield per hectare was 12,519 kg. Total world wide production of pomegranate is approximated at 1,500,000 tons and Iran produces some 47% of world production.

In addition, Iran has the highest area under cultivation, the highest production level and is the number one exporter worldwide. Tables 1 and 2 show the relative status of the major pomegranate producing countries.

Table 1. Pomegranate production in 2007-2008

Country	Production (tons)
Iran	870,161
India	849,000
USA	110,000

Turkey	80,000
Tunisia	75,000
Spain	35,000

Source: Data by the Plant Protection Department of the Iranian Ministry of Agriculture, National Horticulture Information Service of National Horticulture Board, Ministry of Agriculture, Govt. of India, United States Department of Agriculture

Table 2. Area under cultivation in 2007-2008

Country	Area under cultivation (ha)
Iran	69,027
India	54,755
USA	15,000
Turkey	8,500
Tunisia	12,600
Spain	3,000

Source: Data by the Plant Protection Department of the Iranian Ministry of Agriculture, National Horticulture Information Service of National Horticulture Board, Ministry of Agriculture, Govt. of India, United States Department of Agriculture

Iran is at the top of list of pomegranate exporting countries. In 2007 Iran exported over 32,951 metric tons worth USD 36,925,660. Main importing countries were Republic of Korea, Russia followed by various West European countries. Table 3 shows the relative worldwide distribution of Iranian exports in 2006:

Table 3. Worldwide exports of pomegranate from Iran in 2006 (tons)

Country	2006
Afghanistan	5.1
Albania	34.5
Armenia	257.9
Austria	19.5
Bahrain	267.9
Belarus	20
Canada	0.1
Cyprus	0.5
Denmark	18
England	169.5
Finland	0
France	4.5
Germany	464.5
Georgia	2
Greek	242.9
Holland	1677.4
Iraq	37
Ireland	0.2
Italy	198.7
Japan	85.1
Kuwait	109.4
Malaysia	0
Qatar	33.9
Republic of Korea	10719.3
Russia	11304.9

Saudi Arabia	0.1
Singapore	0
Sweden	100.3
Switzerland	55.7
Thailand	1.8
Turkey	185.7
Ukraine	1080.2
United Arab Emirates	180.2

Source: Data by the Plant Protection Department of the Iranian Ministry of Agriculture and the Iranian Customs Authority

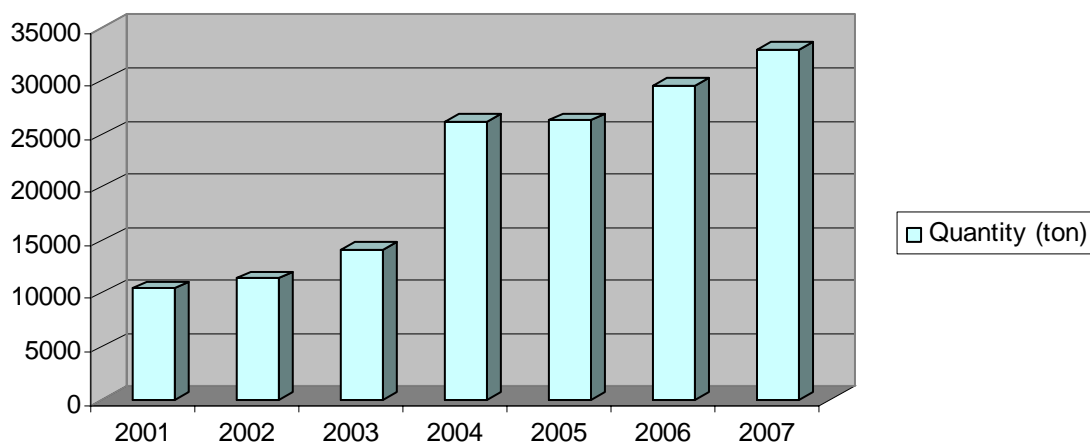
Worldwide pomegranate production and trade has displayed a significant upward trend during the past decade; in the case of Iran in particular, having experienced a significant boost from 2003 onwards. Table 4 and the corresponding graphs ('a' and 'b' below) reveal the pattern of Iranian pomegranate exports during the period covering the years 2001 to 2007:

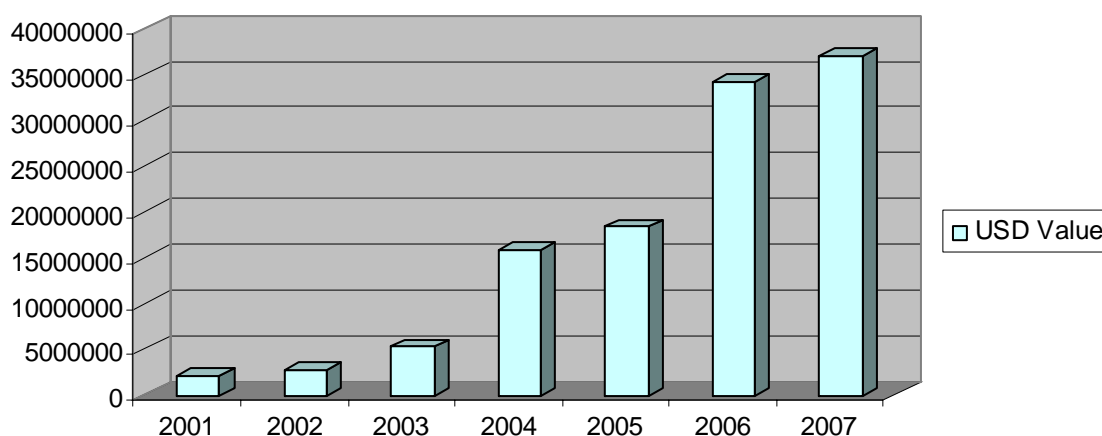
Table 4. Exports of pomegranate from Iran during 2001-2007

Year	Quantity (tons)	USD Value
2001	10,413.8	2,097,827
2002	11,375.8	2,826,553
2003	14,075.5	5,269,310
2004	26,197.6	15,796,955
2005	26,270.6	18,384,719
2006	29,564.8	34,135,229
2007	32,951.2	36,925,660

Source: Data by the Plant Protection Department of the Iranian Ministry of Agriculture and the Iranian Customs Authority

Graph a. Exported quantities



Graph b. Exported value

b) Diversification of national legislations and apparent resultant or potential impediments to international trade: Many importers have commented that Pomegranates (from Iran) are exported under the conditions of the national Iranian standard. They would prefer to import the fruit under international criteria based on a codex standard. Therefore, the new work would provide internationally recognized specific standards in order to enhance international trade and to accommodate the importers requirements.

Forecasts show that the overall consumption of and trade in pomegranates is on the rise and in the first International conference on pomegranate in Turkey in October 2006, among the orchard fruits, pomegranate was chosen as the fruit of the next decade. International Standard Organization (ISO) has in the past drawn up a basic standard for pomegranate fruit. In addition, the European Union also requires a certificate of Global GAP for any fresh fruit or vegetable supplied in EU countries. Due to absence of a global standard for pomegranate, and work already undertaken by any other international organization (like UN/ECE) on pomegranate (UN/ECE has not framed a standard for fresh pomegranates). Incorporation of these aspects under this point is necessary as per the Procedural Manual.

Hence, to incorporate all existing disparate standards in a single improved comprehensive standard acceptable across board internationally, the establishment of a codex standard is seen as a necessity.

As a result, by eliminating the variable (sometimes conflicting) sets of rules and regulations, trade barriers will be reduced and we would gain a comprehensive legal framework for the minimum acceptable standards for pomegranates internationally.

c) International or regional market potential: International and regional markets have shown an increase and growing trade of this product in the world over the last six years.

d) Amenability of the commodity to standardization: The characteristics of pomegranates, from its cultivation through to harvest, fruit characteristics, cultivar varieties, composition, quality and packaging all lend to adequate parameters for the standardization of the product. An outline of some characteristics, botanical definition, origin, ecological conditions of Pomegranates:

Pomegranate, attractive deciduous and somewhat thorny large shrub or small tree (*Punica granatum L.*) belonging to the family Punicaceae, native to semitropical Asia (Iran) and naturalized in the Mediterranean region in very early times. It has long been cultivated as an ornamental and for its edible fruit. The fruit, about the size of an apple, bears many seeds, each within a fleshy crimson seed coating, enclosed in a tough yellowish to deep red rind. Pomegranates are either eaten fresh or used for syrup, in which the juice of the acid fruit pulp is the chief ingredient. The astringent properties of the rind and bark have been valued medicinally for several thousand years, especially as a vermifuge. The pomegranate is now cultivated in most warm climates. Pomegranates are classified in the division Magnoliophyta, class Magnoliopsida, and order Mortals, family Punicaceae.

The leaves are opposite or sub-opposite, glossy, narrow oblong, entire, 3-7 cm long and 2 cm broad. The flowers are bright red, 3 cm in diameter, with five petals (often more on cultivated plants). Flowers are hermaphrodite with 4-8 leathery sepals and equal number of red petals, numerous stamens and variable number of carpals, which together make lower ovary. The fruit is a berry, between an orange and a grapefruit in size, 7-12 cm in diameter with a rounded hexagonal shape, and has thick reddish skin and many seeds.

Table 5. Nutritional value of Pomegranate (per 100 g edible portion)

Compositions	Unit	Q.T.Y
Water	g	80-82.3
Energy	kcal	63-78
Protein	g	0.5-0.95
Fat	g	0.3-0.9
Carbohydrates	g	16.4
Fiber	g	0.2-0.6
Ash	g	0.5
Phosphorus	mg	8.0
Iron	mg	0.3
Potassium	mg	259
Calcium	mg	3.0
Sodium	mg	3.0
Manganese	mg	3.0
Zinc	mg	0.12
Magnesium	mg	0.15
Copper	mg	0.07
Selenium	mg	0.6
Panthenic acid	mg	0.596
Vitamin B1	mg	0.03
Vitamin B2	mg	0.03
Vitamin B3	mg	0.03
Vitamin C	mg	4-6

Pomegranate is a small tree, usually not more than 5.0 meters height and it is adapted to arid or semi arid climates with mild winters. Pomegranate is fairly drought tolerant and can grow on calcareous or acid soils. Iran is among the countries of the temperate region of the northern hemisphere and relatively close to the equator. But being relatively distant from large bodies of water, its precipitation is low and is considered as an arid region. On the other hand, having high mountain ranges as well as a central desert, Iran possesses variable climates and ecological niches.

Large parts of Iran within the boundaries of central desert (Dasht-e-kavir and Kavir-e-Loot) have arid or semi-arid conditions which make them suitable for pomegranate and pistachio production. In fact, in all of the provinces bordering the central desert, cultivation of pomegranate has been going on from ancient times for its economical, ornamental, and Medicinal properties. Areas under cultivation, rate of expansion, varieties diversity, and yield per tree and product quality are considerable. All of these point to the fact that pomegranate is an endemic tree of Iran.

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards: There is no general commodity standard covering pomegranates. The new work will enhance consumer protection and facilitate pomegranate trade by establishing an internationally agreed quality standard.

f) Number of commodities which would need separate standards indicating whether raw, semi-processed or processed: A single standard for pomegranate will cover all varieties of pomegranate traded worldwide.

g) Work already undertaken by other international organizations in this field: The Iranian national standard and the ISO standard for Pomegranate have been drafted and are implemented.

Iran is considered the origin and the major genetic reservoir of pomegranates. Iran is the number one producer and exporter of pomegranate in the world. Furthermore, due to suitable climate, the quality of Iranian pomegranates is the best among commercially available in international trade. It is for this reason that Republic of Korea, which ranks first among countries importing pomegranate, imports only from Iran.

ISIRI 262, 2007 was prepared by the national technical committee of Iran on Fresh Fruits and Vegetables. This national standard specifies requirements and test methods for pomegranate fruit and applies to commercial cultivars of Pomegranate grown from *Punica granatum* (L.) of the Punicaceae family, to be supplied fresh to consumer, after preparation and packaging. Pomegranates for industrial processing are not covered by the said standard.

The ISO standard (ISO 23393:2006) specifies some requirements and test methods for pomegranate fruit too, but on many criteria and parameters – such as terms and definitions, classification, fruit sizing, tolerances, classes and presentation – there are some inadequacies and it would merit an update and a revision.

To that end, Iran is in the process of proposing some recommendations for the revision of the ISO standard as well.

5. Relevance to the Codex strategic objectives

The elaboration of a codex standard for pomegranate is in line with the strategic objective to promote the maximum application of codex standards by countries in their national legislation and to facilitate international trade. This proposal is based on scientific considerations and contributes to state the minimum quality requirements for pomegranates for human consumption, with the purpose of protecting the consumer's health and achieving fair practices in the food trade. This proposal is relevant to Activity 1.2 “Review and develop Codex standards and related texts for food quality” of the Strategic Plan 2008-2013.

6. Information on the relation between the proposal and other existing Codex documents

This is proposed as a new global standard and has no relation to any other existing Codex text on this item, except that the standard will make references to relevant standards and related texts developed by general subject committees. In fact, there is no comparable standard for fresh pomegranates framed by any global body.

7. Identification of any need for any requirements for and availability of expert scientific advice

For the elaboration of this project document, the information generated by the research working group at the national level for the characterization of pomegranates has been taken as reference. Therefore, in the case of requiring any further information in the course of the elaboration of the standard, this group of experts may be consulted.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for

There is not expected to be any need for technical input from external bodies on this matter.

9. Proposed time schedule

DATE	ADVANCE AND PROCEDURES
October 2009	CCFFV: Agreement to initiate new work as a global standard.
July 2010	CAC: Approval of new work.
May 2011	CCFFV: Consideration of the proposed draft Standard at Step 4.
July 2011	CAC: Adoption at Step 5 or 5/8 [depending on the progress of development].
[October 2012]	[CCFFV: Consideration of the draft Standard at Step 7]
[July 2013]	[CAC: Adoption at Step 8]

Draft Codex Standard for Pomegranates

1. DEFINITION OF PRODUCE

This standard applies to commercial cultivars of Pomegranate, grown from *Punica granatum* L., of the *Punicaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Pomegranates for industrial processing are excluded.

2. PROVISIONS CONCERNING QUALITY

2.1 MINIMUM REQUIREMENTS

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

- whole
- sound. Produce affected by deterioration such as to make it unfit for consumption is excluded;
- clean;
- free of pests and damage caused by them affecting the general appearance of the produce;
- free of any foreign smell and/or taste;
- free of damage caused by low temperature or frost;
- free from dead insects, insects fragment and rodent contamination visible to the naked eye;
- free of abnormal external moisture, excluding condensation following removal from storage, and Pomegranates packed;
- practically free of extensive cracking;
- free of any discoloration of arils cultivar red aril;
- free of sign of excessive external shriveling and wilting;

2.1.1 The Pomegranate fruit must be picked when it has reached an appropriate degree of development and ripeness in accordance with criteria proper to the cultivars and/or commercial type and to the area in which they are grown.

The development and condition of the pomegranate must be such as to enable it

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

2.2 CLASSIFICATION

Pomegranates are classified in three classes defined below:

2.2.1 "Extra" Class

Pomegranates in this class must be of superior quality. They must be characteristic of the cultivars and/or commercial type. The exception of slight defects provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package given in Annex I.

2.2.2 Class I

Pomegranates in this class must be of good quality. They must be characteristic of the cultivars and/or commercial type. The following slight defects are allowed, provided that 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 coloring;
- Slight skin defects or other defects (see Annex I);

The defects must not, in any case, affect the flesh of the fruit.

2.2.3 Class II

This class includes Pomegranates which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in section 2.1 above. The following defects are allowed provided that the pomegranates retain their essential characteristic as regards the quality, the keeping quality and presentation:

- Defects in shape ;
- Defects in coloring;
- Skin defects or other defects (see Annex I);

The defect must not, in any case, affect the flesh of the fruit.

3. PROVISION CONCERNING SIZING

Size is determined by the measuring maximum diameter of the equatorial section or by weight. When sized by weight, size is determined accordance with the following table:

Size Code	Weight(g)
A-8	590-650
A-9	530-590
A-10	470-530
A-12	380-470
B-15	300-380
B-18	260-300
C-20	240-260
C-22	200-240

When sized by diameter, size is determined in accordance with the following table:

Size Code	Diameter (mm)
16	>114
22	103-114
30	92-103
36	79-92
42	69-79

4. PROVISIONS CONCERNING TOLERANCES

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

4.1.1 "EXTRA" Class

Five percent by number or weight of Pomegranates not satisfying the requirements of the class, but meeting those of class I or coming within the tolerances of that class.

4.1.2 Class I

Ten percent by number or weight of Pomegranates not satisfying the requirements of the class, but meeting those of class II or coming within the tolerances of that class.

4.1.3 Class II

Ten percent by number or weight of Pomegranates satisfying neither the requirements of the class nor the minimum requirements, with exception of produce affected by rotting, or any other deterioration rendering it unfit for consumption.

4.2 SIZE TOLERANCE

For all classes of fruit subjected to rules of uniformity, ten percent by number or weight of pomegranates not meeting size indicated on the package.

5. PROVISIONS CONCERNING PRESENTATION

5.1 UNIFORMITY

The contents of each package must be uniform and contain only Pomegranates of the same origin, cultivars and/or commercial type, quality and size. The visible part of the contents of the package must be representative of the entire contents.

A mixture of pomegranates of distinctly different colours, varieties and/or commercial types may be packed together in a sales unit, provided they are uniform in quality and, for each color, variety and/or commercial type concerned, in origin¹.

Pomegranates must be packed in such a way as to maintain the product's quality and integrity. 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 of proper or stamps bearing trade specifications is allowed, provided the printing or labeling has been done with non-toxic ink or glue.

Pomegranates shall be packed in each container in compliance with the Recommended International Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables (CAC/RCP 44-1995).

5.2 Description of containers

The container shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the Pomegranates. Packages must be free of all foreign matter and smell.

6. MARKINGS OR LABELING

6.1 CONSUMER PACKAGES

In addition to the requirements of the Codex General Standard for the Labeling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions apply:

6.1.1 Nature of produce

If the produce is not visible from the outside, each package shall be labeled as to the name of the produce and may be labelled as to the name of cultivar and/or commercial type.

6.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outsides, or in the documents accompanying the shipment. For produce transported in bulk these particulars must appear on a document accompanying the goods.

6.2.1 Identification

Name and addresses of exporter, packager and/or dispatcher. Identification code (optional).

6.2.2 Nature of produce

Name of the produce" Pomegranate" and commercial type if the contents are not visible from the outside. Name of the variety or varieties, where appropriate. (Optional)

6.2.3 Origin of produce

Country of origin and optionally district where grown or national, regional or local place name.

6.2.4 Commercial identification

-Class;

- Size (if sized);

- If appropriate, a statement indicating the use of preservatives;

- Any other marking required by the purchaser, such as date of packing (if known);

- Net weight (optional).

1 - The sales unit should be designed to be purchased in its entirety.

6.2.5 Official inspection mark (optional)**7. CONTAMINANTS****7.1 PESTICIDE RESIDUES**

The produce covered by this standard shall comply with the maximum residues limits for pesticides establishing by the Codex Alimentarius Commission for this commodity.

7.2 OTHER CONTAMINANTS

The produce covered by this standard shall comply with the maximum levels of the codex general standard for contaminants and toxins in foods (CODEX/STAN 193-1995).

8. HYGIENE

8.1 It is recommended that the produce covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the recommended international Code of Practice-General Principles of Food Hygiene (CAC/RCP 1-1969), Code of Hygiene Practice For Fresh Fruits and Vegetables (CAC/RCP 53-2003), and other relevant Codex texts such as Codes of Hygiene Practice and Codes of Practice.

8.2 The produce should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological criteria for foods (CAC/GL 21-1997).

Annex I
Maximum allowance for defects

Class	Damaged fruits, max number of spoiled fruits/100 fruits (%)	Immature fruits, max number of immature fruits/100 fruits (%)	Fermented fruits, max number of fermented fruits/100 fruits (%)	Extraneous matter, max mass fraction (%)	Total of defects, (%)
Extra	5	1	1	0.5	6≤
I	7	2	2	1	9≤
II	10	3	3	1.5	13≤

Note: For the purpose of this document 'damaged' pomegranate may include the following: bruises, or darkened in color, frozen, sun brunt or showing the presence of visible decomposition caused by bacteria, fungi, visible mould hyphae or any other indications of disease.

PHILIPPINES

The Philippines maintains and proposes for the inclusion and development of international standard for durian as part of the priority list for standardization of fresh fruits and vegetables. Durian was also produced in other regions apart from Southeast Asia and likewise traded internationally and therefore merits its development at international level.