

# CODEX ALIMENTARIUS COMMISSION



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**Agenda Item 10**

**CX/FFV 17/20/11**

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

20<sup>th</sup> Session

Kampala, Uganda, 2 – 6 October, 2017

### DISCUSSION PAPER ON GLOSSARY OF TERMS USED IN THE LAYOUT FOR CODEX STANDARDS FOR FRESH FRUITS AND VEGETABLES

(Prepared by the Electronic Working Group chaired by Mexico)

#### BACKGROUND

1. The 19th Session of the Codex Committee on Fresh Fruits and Vegetables (CCFFV19)<sup>1</sup> held in Ixtapa Zihuatanejo, Guerrero (Mexico) in October 2015 agreed to establish an EWG, led by Mexico, and working in English and Spanish to prepare a draft Glossary of Terms for Application in the Layout for Codex Standards for Fresh Fruits and Vegetables for consideration at its next session.
2. The EWG had the participation of 22 member countries, which are included as Appendix II.

#### Discussion in the Working Group

3. The Chair noted that Glossary of Terms for Use with UNECE Standards on Fresh Fruit and Vegetables 2016 was officially published by UNECE at the seventy-second Session of the Working Party in 2016 ([https://www.unece.org/fileadmin/DAM/trade/agr/standard/standard\\_layout/Glossary\\_FFV\\_2016\\_E.pdf](https://www.unece.org/fileadmin/DAM/trade/agr/standard/standard_layout/Glossary_FFV_2016_E.pdf)). The Chair further noted that the glossary contains definitions that have the objective of facilitating the interpretation and implementation of the provisions within the UNECE standards for fresh fruit and vegetables.
4. Based on the comments submitted by EWG members and the Glossary developed by UNECE, the draft glossary of terms used in the layout for Codex standards for fresh fruits and vegetables for members future reference was prepared (Appendix I).

#### Recommendation

5. CCFFV is invited to consider Appendix I, the draft glossary of terms used in the Layout for Codex standards for fresh fruits and vegetables

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<sup>1</sup> REP16/FFV, para 103

**DRAFT GLOSSARY OF TERMS USED IN THE LAYOUT  
FOR CODEX STANDARDS FOR FRESH FRUITS AND VEGETABLES**

**1. TERMINOLOGY PERTAINING TO BOTANICAL CLASSIFICATION****1.1. Family**

Classification unit in the taxonomic categories, including genera sharing a number of major characteristics. The name of each family ends with “-aceae”.

**1.2. Genus**

Group of species sharing several traits. A genus includes beings among which inbreeding not possible due to their belonging to different species, in which case fertilization is impossible or sterile specimens named hybrids are produced. The name of each genus is both capitalized and underlined.

**1.3 Species**

Group of similar organisms, closely connected in structure and functionality, where inbreeding naturally occurs. The names of species are written in small letters and underlined.

**1.4 Variety**

Within certain species, groups recognizable by hereditary traits even though those traits are not important enough to be considered as pertaining to another species.

**2. TERMINOLOGY PERTAINING TO FRUIT MATURATION****2.1 Breathing**

Biochemical process in which fruit cells consume oxygen to transform simple sugars and obtain energy, releasing carbon dioxide and water.

**2.2 Physiological maturity or ripeness**

Part of the maturation process of fruits where they are likely, under appropriate conditions, to continue transforming and reach the level of maturity making them apt for consumption. Fruits are best harvested at that particular point. Doing it before that ensures quite irregular a maturation process.

**2.3. Maturity for consumption**

The physiological condition in which the fruit shows physical, chemical and sensible characteristics making it apt for consumption.

**2.4. Aging**

Period in which biochemical changes such as flesh softening as well as other changes in color and structure occur in the fruit, making it inappropriate for consumption.

**2.5 Climactere**

Period in which some fruits increase their breathing rate, to reach a “climactic” point, and then gradually decrease it.

**2.6 Climacteric fruits**

Those fruits undergoing, after harvest, a period in which their breathing rate increases to “climax”, thus maturing considerably after harvesting.

**2.7 Non climacteric fruits**

Those fruits decreasing their breathing activity after harvesting. Their maturing process remains practically unchanged after harvesting.

**3. TERMINOLOGY PERTAINING TO THE PARTS OF FRUITS****3.1 Fruit**

Botanically speaking, that part of the plant containing the seeds. Basically the fertilized and consequently developed ovary; it may also have other parts connected to it. The fruit structure consists in the pericarp and the seeds.

### 3.2 Pericarp

That part of the fruit covering and protecting the seeds, and resulting from the transformation of the ovaric wall. It is made up by three parts named: epicarp, mesocarp, and endocarp.

### 3.3 Epicarp (skin or peel)

Layer originating from the ovarian external epidermis and constituting what we call skin or peel.

### 3.4 Mesocarp

Resulting from the transformation of the ovarian chlorophyllic parenchyma. In a large number of fruits, the mesocarp is fleshy and overdeveloped, thus accumulating large amounts of water, starch, sugars, organic acids, as well as other substances. It makes up what we call the "flesh" of the fruit.

### 3.5 Endocarp

The endocarp is a layer resulting from the transformation of the ovarian inner epidermis and covering the cavity containing the seeds. A number of fruits lack an endocarp, the seeds being scattered inside the mesocarp.

### 3.6 Seed

The fertilized and transformed ovule in phanerogamous plants. Likewise, it is that part of the plant responsible for the perpetuation of the species.

### 3.7 Almond

The inner part of the seed in fleshy fruits. It contains the embryo and a number of sustaining substances.

### 3.8 Flavedo

Used only for citrics. The flavedo is the pigmented epicarp (skin) of those fruits.

### 3.9 Albedo

Used only for citrics. The albedo is the white mesocarp between the epicarp (skin) and the endocarp (segments) in citrics.

### 3.10 Peduncle

Part of the fruit attaching it to the plant.

### 3.11 Apex

Part of the fruit situated exactly opposite to the peduncle.

### 3.12 Hull

This term refers to the nut's pericarp.

### 3.13 Bunch

Several fruits attached to a common axis.

## 4. TERMINOLOGY PERTAINING TO FRUITS' CHARACTERISTICS

### 4.1 Consistency

Flesh firmness.

### 4.2 Polar diameter

Measured from the central core of the fruit, proceeding lengthwise from the basis of the peduncle toward the apex.

### 4.3 Equatorial diameter

Measured at a right angle from the polar diameter, at the widest section point.

### 4.4 Size

The degree of development of a fruit, stated in terms of volume.

### 4.5 Well developed fruit

Produce showing the physical and chemical characteristics of species and variety.

### 4.6 Whole fruit

Produce free of whatever damage or deterioration likely to affect its integrity.

#### 4.7 Clean fruit

Produce free of mud, branches, leaves or any other foreign matter.

#### 4.8 Sound fruit

Produce free of disease, damage, rot, damage caused by insects or pests, and free of live or dead insects or their larvae.

#### 4.9 Fresh fruit

Produce not submitted to any industrial processing changing substantially its natural properties.

#### 4.10 Homogeneity or uniformity

Terms used to indicate that the produce are very similar as to shape, size, and color.

### **5. TERMINOLOGY PERTAINING TO FRUIT DEFECTS**

#### 5.1 Defects classified according to the damage caused.

##### 5.1.1. Defect

Whatever deterioration affecting the appearance or usability of the produce.

##### 5.1.2 Slight defect

Does not have a major impact on the acceptance of the produce by the consumers. Slight defects include: bruising, blemishes, and other non extensive outside defects.

##### 5.1.3 Major defect

Without being critical, major defects do have a considerable impact on the acceptance of the produce by the consumers. Produce may show evidence of pests or disease, scabs, and similar blemishes not affecting the flesh.

##### 5.1.4 Critical defect

The defect on the flesh of the produce is likely to cause rejection by the consumer. It may consist in severe cases of pest attack or disease, unscarred blemishes and other damage affecting the flesh.

##### 5.1.5 Defective unit

Unit showing one or several defects.

##### 5.1.6 Minor defective unit

Unit showing one or several minor defects, while being free of major or critical defects.

##### 5.1.7 Major defective unit

Unit showing one or several major defects, in addition to minor ones, although none of a critical nature.

##### 5.1.8 Critically defective unit

Unit showing one or several critical defects, in addition to major and minor ones.

#### 5.2 Causes

##### 5.2.1 Genetic – physiological.

Due to hereditary abnormality or to unfavorable environmental conditions during growth and development.

##### 5.2.2 Entomological

Due to actions linked to insect feeding, spawning and biting.

##### 5.2.3 Microbiological

Due to fungal, bacterial, yeast, or viral action.

##### 5.2.4 Mechanical

Due to inappropriate manipulation of the produce during and after harvesting.

##### 5.2.5 Meteorological

Due to a variety of natural atmospheric phenomena such as hail, rain, wind, and frost.

#### 5.3 Commonest defects

### 5.3.1 Deformation

Anomaly in the shape of the produce measured against those typical of species and variety.

### 5.3.2 Color variation

Evident in superficial areas showing a color not corresponding to the produce, in terms of maturity, species, or variety.

### 5.3.3 Damage caused by citrus red spider mite

This particular damage occurs in pomegranate, avocado and especially citrics. It is caused by several species of Tetranychus attacking the skin cells of the produce. Produce attacked by Tetranychus sexmaculatus (Riley) show white or silvery areas, while those attacked by Brebipalpus californicus show dark areas with scarred corky plates.

### 5.3.4 Sooty mould

Damage produced in citrics by the Phyllocoptruta oleivora mite, which bites the epidermic cells of the produce. Cells take on a reddish (brownish gray – blackish) hue due to the oxidization of the oils exuded by the attacked cells. Sometimes, the fumagina caused by fungi of the genus Capnodium (see 2.5.3.7) is also called “Sooty mould”.

### 5.3.5 Anthracnose

Fungal disease which, after attacking the stem, leaves, and fruits of a variety of plants, causes typical brown or darker colored necrotic lesions likely to cover wide areas. It is caused by fungi pertaining to *Colletotrichum*, *Glomerella*, *Gloesporium*, *Gnomonia*, *Marssonina*, *Mycosphaerella*, *Neofabrae* and *Pseudopeziza* genres.

### 5.3.6 Powdery Mildew

A variety of diseases caused by certain fungi, which after developing on the surface of the infested tissue, produce very thin layers of powder-like spots.

### 5.3.7 Fumagina

Disease attacking the surface of certain tropical and subtropical fruits, caused by fungus *Capnodium* sp. The mycelia affix on the skin surface forming a thin film with the appearance of soot layers.

### 5.3.8 Melanosis

Disease common in citrics, and caused by fungus *Diaporthe citri* Wolf. At the beginning, the skin shows small stains or gummy cells clusters irregularly scattered, which are likely to form dark rough scabs.

### 5.3.9 Rot

Destruction and decay of fruit cells and flesh, paired with extraneous odor and taste due to microorganism invasion.

#### 5.3.9.1 Dry rot

Rot by fungal infection.

#### 5.3.9.2. Soft rot

Rot by bacterial infection.

#### 5.3.9.3 Peduncular rot

Fungal or bacterial rot attacking the fruit from the stem cavity and often penetrating into the flesh to reach the seeds of the fruit.

### 5.3.10 Crusts

Scabs on the surface of the fruit.

### 5.3.11 Bruising

Softened areas or spots on the skin or flesh of the fruit, caused by blows, packing, tight ties in package or other reasons.

### 5.3.12 Bites

Variably deep lesions either mechanically caused or inflicted by predators such as birds, rodents or others.

### 5.3.13 Limb rub

Injuries caused by violent friction on the skin of the fruit. Cover irregular areas.

#### 5.3.14 Scarred lesion

Areas of fibrous tissue replacing normal skin after destruction of some of the dermis.

#### 5.3.15 Unhealed lesion

Any kind of penetrating injury with no regenerated tissue and showing raw flesh unprotected from the environment.

#### 5.3.16 Oleocelosis

Occurs on citrus skin when the flavedo oil cells break. The defect is usually due to harvesting at the wrong hours or rough handling. Hardly detectable on the first day, oleocelosis usually becomes apparent by the next day.

#### 5.3.17 Cracks

Fissure on fruit surface, caused by mechanical, physiological, or meteorological actions. They may or may not be healed.

#### 5.3.18 Sunburns

Discoloration in some area of the fruit surface due to overexposure to sunrays.

#### 5.3.19 Latex burns

Discoloration caused by latex dripping on the skin of certain fruits. The affected part takes on a darker shade.

#### 5.3.20 Hail damage

Produced by the action of hail, multifarious damage can be seen on the surface and/or flesh.

#### 5.3.21 Frostbite

May be due to deficient refrigerating, and have different effects such as discoloration, external or internal flesh darkening, softening, etc.

#### 5.3.22 Extraneous matters

Presence of any kind of extraneous matter on the fruit, such as mud, stems, leaves, animal excrement, or other impurities.

### **6. TERMINOLOGY PERTAINING TO FRUIT MARKETING**

#### 6.1 Marketing

This term includes all trade operations carried out to move commodities from the production areas to the consumption centers.

#### 6.2 Marketing channels

The means used by the producer and the buyer to bring the product to the consumer.

#### 6.3 Retailer

A person who visits wholesalers or medium wholesalers to purchase products later sold to the final consumer.

#### 6.4 Wholesaler

A person who buys large quantities of a product directly from the producer or middleman to be later distributed under the most appropriate market conditions.

#### 6.5 Middleman

A person devoted to buy goods in wholesale and middle wholesale for distribution in vegetable markets.

#### 6.6 Storage

The process of keeping a product in an establishment equipped for custody or sale.

#### 6.7 Collection Center

Place where a variety of agricultural products are collected to be distributed to vegetable markets at a later date.

#### 6.8 Vegetable Markets

A marketplace where products are directly sold to consumers.

#### 6.9 Local Market

This concept includes trade operations involving commodities commercialized within a production area.

#### 6.10 Regional Market

This concept includes trading of commodities within a region or influence area, which as a whole constitute the domestic market.

#### 6.11 Domestic Market

This term includes all the trade operations conducted throughout the country.

### **7. TERMINOLOGY PERTAINING TO FRUIT HARVESTING AND PACKAGING**

#### 7.1 Harvesting

The cutting and picking of agricultural products.

#### 7.2 Spraying

Exposure of fruits to the action of appropriate chemical agent in order to prevent or eliminate plagues or diseases.

#### 7.3 Harvesting Package

Package used at the field, generally a container made of wood, plastic, canvas or any other material, where fruits are stored while harvesting.

#### 7.4 Handling

Any kind of maneuver involving fruits, whether in bulk or packed, at any time, from harvesting to consumption.

#### 7.5 Pre-selection

Manual operation; fast or superficial removal of foreign mater and products with obvious quality flaws.

#### 7.6 Selection

Mechanical or manual operation to separate products meeting certain quality requirements, such as size, shape, color and degree of maturity.

#### 7.7 Classification

Operation consisting in separating fruits according to quality criteria.

#### 7.8 Washing

Operation by which fruits are cleaned with water to remove impurities or foreign mater adhered to them.

#### 7.9 Waxing

Application of a fine layer of natural or synthetic wax to fruits in order to prolong their shelf life and improve their appearance.

#### 7.10 Degreening

Accelerating the occurrence of a yellow pigmentation due to destruction of chlorophyll.

#### 7.11 Painting

The action of covering fruits with vegetable colorings in order to improve their appearance.

#### 7.12 Packaging

The process of storing the product properly inside of a suitable container.

#### 7.13 Overfilling

Quantity of fruit exceeding package capacity.

#### 7.14 Labeling

The process of applying a label identifying the product thoroughly.

#### 7.15 Loading

The process of arranging in an orderly fashion the packages containing any product.

#### 7.16 Packer

Premises where the product is selected, classified and packed.

## **8. TERMINOLOGY PERTAINING TO TRANSPORT**

### **8.1 Transport**

The carrying of a product through diverse routes from the production areas to the final consumer.

### **8.2 Bulk Transport**

The carrying of the products inside a vehicle without any package or container toward distribution centers.

### **8.3 Packed Product Transport**

Transportation of packed products arranged in an orderly fashion inside a vehicle toward distribution centers.

### **8.4 Refrigerated Transport**

Any means of transport having suitable cold-storage equipment. This transport is used to carry perishable products over long distances, in order to ensure optimal preservation.

### **8.5 Non-refrigerated Transport**

Any means of transport not having cold-storage equipment. This transport is used to carry perishable products over short distances (less than 1000 km).

## **9. TERMINOLOGY PERTAINING TO INSPECTIONS**

### **9.1 Inspection**

The process of measuring, examining, testing or somehow comparing a unit against the specifications agreed upon.

### **9.2 Product Unit**

The unit inspected to determine its classification. A unit may comprise a single product, a dozen, a set, or a shipment of it.

### **9.3 Sampling Plan**

Proceeding used to determine the number of units to be inspected, as well as the criteria to be applied for the acceptance of a batch.

### **9.4 Fruit or Vegetable Quality**

The set of characteristics of a product used to distinguish one unit from another, and relevant in terms of its acceptance by the consumer.

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