CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda item 6 **CX/FFV 22/22/7 Add1**

Original language only

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FRESH FRUITS AND VEGETABLES

Twenty-second Session

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

Comments in reply to CL 2022/11/OCS-FFV

Comments of Chile, Cuba, European Union, India, Kenya, Saudi Arabia, Thailand, ICUMSA and PRRI

Background

1. This document compiles comments received through the Codex Online Commenting System (OCS) in response to CL 2022/11/OCS-FFV issued in March 2022. Under the OCS, comments are compiled in the following order: general comments are listed first, followed by comments on specific sections.

Explanatory notes on the appendix

2. The comments submitted through the OCS are hereby attached as **Annex I** and are presented in table format.

Annex I
Original language only

GENERAL COMMENTS

COMMENT	MEMBER / OBSERVER
Cuba apoya lo descrito en la carta circular CL 2022/11/OCS-FFV sobre la definición de términos de aplicación en el diseño de normas del codex para frutas y hortalizas frescas	**Cuba**
The GLOSSARY OF TERMS FOR USE WITH UNECE STANDARDS ON FRESH FRUIT AND VEGETABLES 2016 is in use and is mainly defining and explaining the same terms as CCFFV standards. To avoid any confusion in trade, it is strongly recommended to align the Codex glossary as closely as possible to the UNECE glossary.	**European Union**
India supports the Agenda Item.	**India**
Document contents seem appropriate for the stated subject. Very useful to have the information as shown in the footnotes because of potential confusion when the text is translated into other languages.	**ICUMSA**

DEFINITION OF TERMS FOR APPLICATION IN THE LAYOUT FOR CODEX STANDARDS FOR FRESH FRUITS AND VEGETABLES

It is important to explain the intention of the glossary, an introduction after the headline should be inserted: "This glossary has the objective of facilitating the interpretation and implementation of the provisions within the Codex standards for fresh fruit and vegetables."	**European Union**
Saudi Arabia suggests modifying the plural form of the word "fruit" from “fresh fruit” to “fresh fruits”, to ensure coherence throughout the document.	**Saudi Arabia**

Part 1: Definition of terms used in CCFFV standards

Fresh Fruit and Vegetable[1]: Fruits and vegetables physical and textural characteristics that have not been changed or processed in any manner including by salting, drying, freezing, cooking, juicing, sugaring ~~or drying~~dehydrating. They may undergo post-harvest practices to maintain freshness, shelf life and to facilitate transportation, storage and handling without affecting their raw nature as when harvested. Versión en Inglés se elimina el termino repetido y se agrega el tratamiento faltante dentro del listado. **Frutas y hortalizas frescas[1] :** Características físicas y de textura de las frutas y hortalizas que no han sido modificadas ni procesadas de ninguna manera, incluyendo la salazón, la desecación, la congelación, la cocción, el exprimido, el azucarado o ~~el secado~~deshidratado. Pueden someterse a prácticas posteriores a la cosecha para mantener el estado fresco, la vida útil y facilitar el transporte, el almacenamiento y la manipulación sin afectar su naturaleza cruda como cuando se cosechan. Versión español se elimina el termino repetido y se agrega el tratamiento faltante dentro del listado.	**Chile**
1. SCOPE: This indicates the ~~general name of the fresh fruit and vegetables (FFV) being standardized and the~~ point of application of the standard. Pursuant to the Standard Layout as agreed in 2017 (appendix VI of REP18/FFV) the scope does not indicate the name of the standardized ffv. **Fruit:** The seed-bearing ~~structure developed from the ovary~~ parts of ~~a flowering plant~~perennial plants. ~~In some plants it is the edible part, the mesocarp (flesh~~ Due to genetic characteristics or ~~pulp layer) located between the exocarp (peel/skin) and the endocarp (the seed/s). Fruits are divided into the following two groups~~specific treatment, fruit may be seedless. It is important to provide an explanation that is scientifically correct and easy to understand by non-scientific readers. **Climacteric ~~fruits:~~ fruits** ~~Fruits having a~~ are able to continue the ripening process ~~that is accompanied by increased ethylene production due to increased respiration.~~after harvest provided they are picked at the appropriate stage of maturity. The ripening process is accompanied by increased ethylene production due to increased respiration. For traders the scientific information is not sufficient. They should receive more practical information. **Non-climacteric ~~fruits:~~ fruits** ~~Fruits having~~ are not able to continue the ripening process after harvest. Thus, they must be picked at full maturity and ripeness or at a stage very close to this. Their ripening process ~~that~~ is not accompanied by increased ethylene production due to increased respiration. For traders the scientific information is not sufficient. They should receive more practical information. **Vegetable:** The edible non-fruit ~~portions~~ part of plants such as bulbs, flowers, leaves, roots, stems and ~~tubers~~tubers as well as fruit from annual plants such as cucumbers, melons, sweet peppers, tomatoes, watermelons.	**European Union**

It is important to provide an explanation that is scientifically correct and easy to understand by non-scientific readers. ~~**Shipping Point:** Physical location from where the FFV is shipped into the trade channel, it can be a field, packhouse or warehouse.~~ The term “shipping point” is not used in the standard.	
Fresh Fruit and Vegetable[1]: Fruits and vegetables **whose** physical and textural ~~characteristics that~~ characteristics have not been changed or processed in any manner including by salting, drying, freezing, cooking, ~~juicing,~~ juicing **and** sugaring ~~or drying~~. They may undergo post-harvest practices to maintain freshness, shelf life and to facilitate transportation, storage and handling without affecting their raw nature as when harvested. Rationale: The word ‘drying’ is repeated twice. Further for better clarity the definition needs slight grammatical correction.	**India**
1. SCOPE Add: 'along the food chain.' to the last part of the statement Justification: Provides clarity on standard application on product handling and encompasses the FBO on the scope **Fruit:** The seed-bearing structure developed from the ovary of a flowering plant. In some plants it is the edible part, the mesocarp (flesh or pulp layer) located between the exocarp (peel/skin) and or either the endocarp (the seed/s). Fruits are divided into the following two groups. Added: or either; Justification: In some fruits like apples, tomatoes, and guavas all parts are edible while in others it is as captured in the definitions.	**Kenya**
Fresh Fruit and Vegetable[1]: Fruits and vegetables physical and textural characteristics that have not been changed or processed in any manner including by salting, ~~drying,~~ freezing, cooking, juicing, sugaring or drying. They may undergo post-harvest practices to maintain freshness, shelf life and to facilitate transportation, storage and handling without affecting their raw nature as when harvested. Removed duplication	**PRRI**
Vegetable: The edible non-fruit portions of plants such as bulbs, flowers, leaves, roots, stems and tubers. Saudi Arabia suggests the addition of “rhizomes” to the portions of vegetables.	**Saudi Arabia**
Fresh Fruit and Vegetable~~[1]~~: Fruits and vegetables physical and textural characteristics that have not been changed or processed in any manner ~~including by salting, drying, freezing, cooking, juicing, sugaring or drying~~to alter their normal live active. They may undergo post-harvest practices to maintain freshness, shelf life and to facilitate transportation, storage and handling without affecting their raw nature as when harvested. Rationale To emphasize that fresh fruit and vegetables should not be processed, we propose to add the text “to alter their normal live active”. Footnote 4 should also be deleted since it is not related to the definition of “fresh fruits and vegetables”.	**Thailand**

Fruit: The seed-bearing structure developed from the ovary and surrounding tissues of a flowering plant. ~~In some plants it is the edible part, the mesocarp (flesh or pulp layer) located between the exocarp (peel/skin) and the endocarp (the seed/s).~~ Fruits are divided into the following two ~~groups~~groups of respiration. Rationale Climacteric and non-climacteric fruits should be properly classified by respiration rate after harvesting. **Climacteric fruits:** Fruits having a ripening process that is accompanied by ~~increased ethylene production due to increased respiration~~pronounced increase of respiration rate after harvest.. Rationale Climacteric and non-climacteric fruits should be properly classified by respiration rate after harvesting. **Non-climacteric fruits:** Fruits having a ripening process that is not accompanied by ~~increased ethylene production due to increased respiration~~an increase of respiration rate after harvest. Rationale Climacteric and non-climacteric fruits should be properly classified by respiration rate after harvesting. **Vegetable:** The edible non-fruit portions of plants such as ~~bulbs~~roots, ~~flowers~~tubers, ~~leaves~~stems, ~~roots~~leaves, ~~stems and tubers~~flowers include fruiting vegetable. Rationale Fruiting vegetables should be included in the definition of “vegetable.” **Destination:** The final point of arrival of the product (indicated on the shipping documents) usually for international FFV trade, this is the foreign port of arrival or importer’s ~~warehouse~~warehouse depending on trade agreement. Rationale We propose adding “depending on trade agreement” in the text for additional clarity and flexibility.	

2. DEFINITION OF PRODUCE

2. DEFINITION OF PRODUCE: This section of the standard identifies the species, sub-species/ variety and/or cultivar and – where necessary the part of the plant – being ~~standardized (fruit, leaves, rhizome, root, stem, tuber etc.), along with the species, sub-species/variety and/or cultivar~~standardized. Change order, as the part of the plant is not specified in each standard.	**European Union**

Species: ~~A~~ From the scientific point of view is the species one of the basic units of biological classification. It is a group of ~~living~~ closely related organisms ~~consisting of similar individuals~~ that are very similar, capable of ~~exchanging genes or interbreeding~~interbreeding and reproducing fertile offspring. ~~A biological classification ranking immediately below~~ Wherever the ~~genus or subgenus, comprising related organisms or populations~~term “species” is mentioned in the standard it refers to the species listed in section I definition of produce. **~~Variety~~Variety (cultivated variety, cultivar):** ~~A naturally occurring variation~~ Taxon that has been selected for a particular attribute or combination of ~~individual plants within~~ attributes, and is clearly distinct, uniform, and stable in its characteristics and when propagated by appropriate means, retains those characteristics. In some particular cases, the term “cultivar” is equivalent to “variety” which is a ~~species that can reproduce~~single botanic taxon of the lowest known rank. Varieties are recognised for their unique characteristics by authorities for variety protection. They may have been derived by mutation or hybridization. **~~Cultivar:~~** ~~Cultivated varieties~~ **~~Hybrids:~~** ~~FFV developed from~~**Mutant**: A mutant that has been selected from the basic variety, having the same genotype but differing in specific morphological or physiological characteristics. This change can bring, e.g. more or less colour, longer shelf life, different shape, or taste. The most distinctive characteristics of the variety remain intact. A mutant may be given protection as a variety. ~~crosses between two species, varieties or cultivars, or developed from a series of crosses between parents.~~ Hybrids may be obtained by crosses between varieties. Hybrids between species are called interspecific hybrids. Add a definition for "Mutant" **Commercial Type:** Produce with similar technical characteristics ~~including~~ and/or appearance, but which may belong to different varieties. Example: Round tomatoes are the same commercial type even if different varieties exist. Example: Garlic can have different commercial types: dry; semi-dry; fresh; even if it is the same variety. **Industrial Processing:** ~~The process of transforming the~~ ~~physical~~ Processing is the transformation of raw fruit and ~~textural characteristics~~ vegetables into a new product different from its initial fresh stage, terminating the natural living processes of a plant.Industrial processing is done in a food processing facility. Fruit and vegetable processing comprises extracting juice, canning, preserving, freezing, or dehydrating. However, trimming, peeling, cutting, washing, grading, sorting and packaging are part of preparation, not processing. Whether a trimmed or cut produce is covered or not depends on the standard.. ~~of raw FFV into a new product through chemical or physical means. Industrial processing includes juice extraction, pulp/puree creation, canning, preserving, freezing or drying/dehydrating.~~	
Industrial Processing: The process of transforming the ~~physical~~ physical, organoleptic and textural characteristics of raw FFV into a new product through chemical or physical means. Industrial processing includes juice extraction, pulp/puree creation, canning, preserving, freezing or drying/dehydrating. Added Organoleptic Justification: During processing flavour and aroma (components of organoleptic) are also affected and therefore it is important to include it in this definition.	**Kenya**

Industrial Processing: The process of transforming the physical and textural characteristics of raw FFV into a new product through chemical ~~or ,~~physical or biological means. Industrial processing includes juice extraction, pulp/puree creation, canning, preserving, freezing or drying/dehydrating. Rationale Industrial processing should also include biological means.	**Thailand**
Hybrids: FFV ~~developed from~~produced by ~~crosses between~~ crossing two species, varieties or cultivars, or ~~developed~~ from a series of crosses between such parents.	**PRRI**

3. PROVISIONS CONCERNING QUALITY

~~Los~~ Estos requisitos ~~mínimos~~ son los prerrequisitos organolépticos ~~más bajos~~ mínimo que deben cumplir las frutas y hortalizas frescas para ser comercializadas, cumpliendo así las expectativas de rendimiento del consumidor y los criterios de inocuidad alimentaria. Estos requisitos cambian en función de las características fisiológicas individuales de las frutas y hortalizas frescas, de las prácticas comerciales y de las inquietudes en materia de inocuidad alimentaria. Las desviaciones/excepciones de estos requisitos previos están permitidas y se denominan "tolerancia" y colectivamente, "Tolerancias permitidas de productos defectuosos". Redacción al español más coherente con lo que se quiere expresar. Dado que significa que son los que sí o sí debe tener el producto.	**Chile**
~~**Intact/whole:**~~ **Intact/whole:** The whole fruit or vegetable as it was harvested. The produce is not damaged and does not have any injury. Depending on the characteristics of the product, trimmed products may still be regarded as intact. ~~has no physical parts/pieces missing. However, depending on the characteristics of the FFV (roots, rhizomes and tubers such as yams, ginger, taro) may be trimmed and still be considered as whole/intact.~~ **Sound~~:~~:** ~~The fruit or vegetable is~~ Produce free from ~~physical and chemical defects (injury and diseases) affecting its eating and/or keeping quality. The produce is free from disease~~fungal, ~~rot~~bacterial or virus disease or other deterioration (such as decay, breakdown or damage caused by ~~physical means and~~ any reason, or physiological disorders, seen in the ~~presence~~ field or during storage) that appreciably affects the appearance, edibility, the keeping quality of ~~live~~ the produce or ~~dead insects including insect larvae.~~market value. Note: pest damage caused by insects, mites, rodents are dealt with in a specific entry. **Clean:** Free from visible foreign matter.**Visible foreign matter:** Any visible extraneous material not usually associated with fruits and vegetables such as dust, soil, substrate, chemical residue or other foreign ~~objectionable~~ matter.**Practically free from visible foreign matter:** Only superficial foreign matter shall be visible on the ~~FFV surface, including soil, dirt~~ produce and ~~residues~~ not spread over the whole edible part (i.e. small amount of ~~agricultural production inputs, evident to~~ foreign matter near the ~~naked eye~~ calyx or ~~with adjusted corrected vision lenses~~peduncle area). ~~Permissible post-harvest treatments such as waxes, shredded paper used for cushioning and other wrapping materials are allowed, their minute particles are not considered as making~~ A specific limit may be defined in the ~~product unclean~~respective standard. As standards use the term “practically free from visible foreign matter”, especially the term “practically free from” must be defined.	**European Union**

~~**Extraneous Matter:** Vegetal matter associated with the part of the plant the FFV was harvested from, Examples for fruits are leaves, twigs and loose stems/peduncles.~~

The extraneous matter and foreign matter described here may be found in a package but not necessarily attached to the produce. Thus, these definitions should be moved to 6.2.1 Description of containers.

~~**Foreign Matter:** Vegetal and non-vegetal matter not associated with the part of the plant the FFV was harvested from, such as stones, pieces of bark, sticks, twigs, metal, plastic, and glass.~~

move to 6.2.1 Description of containers

~~**Terms describing firmness in FFV**~~

The term “firm” is already described. Terms to describe firmness are not being used within the standard and should therefore not be mentioned. This part should be deleted.

~~**Fresh Fruits:** In some fresh fruits, firmness is measured using pressure test (penetrometer). The penetrometer’s result is also used to describe levels of flesh development and maturation/ripeness in some fruits such as apples, pear, apricot, peaches and nectarines.~~

~~The degree of firmness is described progressively as:~~

~~**Hard:** the fruit’s flesh is tenacious and not yielding to moderate hand pressure~~

~~**Firm:** the flesh yields very slightly to moderate hand pressure~~

~~**Firm ripe:** the flesh yields slightly to moderate hand pressure~~

~~**Ripe:** the flesh yields readily to moderate hand pressure~~

~~**Over-ripe:** the flesh has softened and has signs of breakdown, yields readily to hand pressure, deterioration is quickening, and the produce is unacceptable for wholesale trade.~~

~~**Roots, Rhizomes and Tubers:** Firm means these vegetables are turgid, solid, tenacious and do not yield readily to hand pressure.~~

~~**Leafy Vegetables:** Firm means these vegetables are crisp, not wilted or flabby and can be readily snapped/torn by hand.~~

Fresh in appearance: ~~The FFV~~Appearance of fruit and vegetables displaying the characteristics of recently harvested produce (i.e. color, texture, firmness, turgescence), including absence of shriveling, wilting or signs of senescence. Portraying the desired unimpaired quality except in some fruits, a

change of color that may occur due to the ripening process. ~~having its original external skin and condition or as close as possible to when harvested. Portraying the desired unimpaired quality except in some fruits, a change of color that may occur due to the ripening process.~~

~~**Terms Describing Degrees of Freshness**~~

If terms are not used in a standard, they should not be mentioned.

~~**Fresh:** Normal succulence, brightness and firmness shown like when harvested. This is important as any impairment of original fresh quality reduces the product's value.~~

~~**Firm:** Compact, solid, substantial and yields very slightly to moderate pressure. Indicative of normal development and good condition. Very important in root crops, cucurbits, eggplant, etc.~~

~~**Crisp:** Turgid, brittle and breaks readily. This denotes a fresh condition that is desirable, e.g., in celery, rhubarb, and spinach.~~

~~**Tender:** Succulent and of delicate texture. This is a desirable condition in vegetables, e.g., asparagus, artichokes, spinach, and beans.~~

~~**Flabby:** Soft, limp, pliable, and lacking firmness. Flabbiness is often due to loss of stored nutrients and water on account of improper storage conditions, sprouting or old age, such as in sprouted potatoes or aged carrots.~~

~~**Pithy:** Open texture with air spaces in pith or central portion that is usually the result of very rapid growth. This condition is especially applicable to celery, radishes, turnips and carrots.~~

~~**Shriveled:** Shrunken, drawn, or wrinkled resulting in a marked change in form and often in size. This is an extreme condition resulting from excessive transpiration or old age.~~

~~**Spongy:** Easily compressed and of loose open texture. This is usually the result of very rapid or irregular growth in commodities such as poorly headed cabbage or lettuce and immature or sprouted onions.~~

Pests: ~~Animals, insects or micro-organisms whose presence or actions are detrimental to FFV quality, keeping quality/storage and/or safety.~~ Species of animal, especially mites or insects or rodents, that is injurious or potentially injurious, whether directly or indirectly to the fruit and vegetable or its presentation. While the scientific definition of pests includes any species, strain or biotype of plant, animal or pathogenic agent injurious to the produce, in the context of the fruit and vegetable standards pests would not cover fungal or bacteriological disorders (they would be covered by the term "sound"). **Practically free from pests:** The occasional insect, mite or other animal in the package or sample, unless otherwise indicated in the standard. Phytosanitary measures would always overrule this allowance.

The proposed definition is more explicit and helpful for the understanding of the standard language

Foreign smell and/or taste: Smell or taste not associated ~~natural~~ with ~~individual~~ the natural product and due to storage, transportation and post-harvest conditions, resulting in FFV ~~including~~ absorbing abnormal smells ~~resulting from unapproved post-harvest practices~~and/or tastes, in particular through the proximity of other product that give off volatile odours. It includes off-flavours due to over-ripeness or bad inappropriate conditions.

Check if in line with UNECE

Damage caused by low and/or high temperature: ~~Damage caused to the FFV after harvest due to exposure to non-ambient temperatures such as freezer burn, frozen flesh, certain types of sunburn and skin discoloration.~~Damage caused to the FFV before or after harvest due to exposure to non-product specific temperatures and/or extreme temperatures such as frost or heat. Damages may appear as freezer burn, frozen flesh, certain types of sunburn, chilling injury.

Pest Damage: Physical injury ~~to, or that detracts from the appearance of the FFV~~ to skin and/or flesh caused by pest (insects, mammals, birds etc.~~) ~~) -~~ feeding/gnawing, living on or ~~in. This definition also includes~~ in the FFV, and/or current or past presence of ~~dead pest or~~ pests at any stage of their development, on or in the FFV including nest/frass, excreta or dead pest fragments. This damage may affect the flesh, exposing it to exterior contact and may affect edibility.

~~**Insect Injury:** Various injuries due to insects at any stage of their development, their current or past presence in the FFV including nest/frass, excreta or dead insect fragments.~~

Insect injury is already covered by “Pest Damage”.

Bruise: A physical injury ~~that ruptures~~ caused by an impact and injuring the ~~outer surface/skin of~~ plant tissue underneath the ~~FFV without penetrating through~~ skin while the ~~underlying tissue~~skin remains intact. The affected flesh discolors, suberizes and/or cracks. **Slight Bruise:** covers a small area and is not very deep; e.g., it may be removable by normal peeling.

As standards use the term “slight bruise” it should be described.

Frostbite: Damage to the FFV resulting from ~~non-ambient low~~ freezing temperatures (below 0 °C / 32.0 °F) in the field before harvest. This may manifest as the following defects in ~~the~~ FFV- skin discoloration, soft or ~~flabby tissue~~flabby, external and/or internal flesh darkening.**Chilling injury:** Damage to the FFV resulting from inappropriate temperatures after harvest, i.e. temperatures too low for the species, variety, degree of ripeness of the product concerned. It may result in skin discoloration, sunken lesions, soft tissue, and decay.

It is important to show the difference between frostbite and chilling injury.

~~**Limb rub**~~**Rubbing:** Injuries to the ~~fruit~~ skin caused by friction between the fruits surface and the ~~tree’s~~ limb and/or branch ~~during~~ of the ~~fruit’s growth~~tree as well as any foreign objects. Due to this rubbing, the skin suberizes.

Rubbing may have different causes and should not be restricted to limb or branch rub.

Decay: ~~Deterioration and/or decomposition induced by fungi, bacteria resulting from injury (physical damage), pest damage, diseases and~~ Defect (progressive or ~~senescence; or an aerobic decomposition of~~ not) seriously affecting the ~~FFV by bacteria as a natural process~~ edibility and/or keeping quality of ~~change/senescence~~the produce.
Rot: ~~To decompose due to biological action. Depending on individual FFV physical characteristics and trade practices other descriptors such as "soft rot" or "decay" is used instead of rot~~Deterioration induced by fungi, bacteria, yeasts.

Immature/not sufficiently developed:

Move to 3.1.1 Minimum Maturity Requirements

~~**Badly misshapen:** The FFV's shape is so decidedly deformed that it does not conform to the established/normal shape characteristics and therefore its appearance is seriously affected.~~

This term is not used in the standards.

3.1.1 Minimum Maturity ~~Requirements (fruit only)~~Requirements: Horticultural/market maturity.

The item "sufficiently developed (vegetables, roots, rhizomes, tubers" is part of point 3.1.1, which consequently do not apply to "fruit only".

Maturity[2]: The fruit has attained a physiological and biochemical stage of development at which it possesses the desired characteristics/pre-requisites to provide the minimum accepted level of utility to the consumer (normal taste/flavor, odor and texture). Maturity is dependent on the characteristics of each produce.

Sufficiently developed (vegetables, roots, rhizomes, tubers): measured ~~by~~by days from planting or flowering, ~~ground color, skin texture, flavor, leaf texture, shape, firmness/compactness. The following terms firm, tender, flabby, pithy, shriveled, woody, translucent are used to indicate stages of Sufficient Development~~ shape and ~~together with~~ size.**Immature/not sufficiently developed:** FFV that have not attained the ~~general quality or condition~~ physiological and biochemical stage of ~~vegetables, used~~ development at which they possess the desired characteristics/pre-requisites to ~~describe maturity~~provide the minimum accepted level of utility to the consumer (not sufficiently developed to meet commercial utility requirements).

The list is a mixture of characteristics that may – depending on the produce – be a characteristic of sufficient or insufficient or even over-development. The list is not instructive for traders.
As the standards do not use the terms for different levels they should not be mentioned.

3.2 Classification: ~~The placing of~~ Grouping FFV into ~~groups/classes~~ classes based on ~~physical and physiochemical characteristics/parameters (shape, color, taste/maturity and the presence or absence of defects)~~quality levels in relation to relevant parameters.~~.~~

3.2.1 "**Extra" Class**: Selection of FFV of superior quality. The produce shall have the characteristics typical of the variety or commercial type and shall fulfil the minimum requirements. The produce may have slight superficial defects only, unless otherwise indicated in the standard. The slight superficial defects

should affect only very small areas of the produce and should hardly contrast with the typical coloring, nature of the skin or typical shape. The produce shall not have any defect affecting the internal quality. **3.2.2 Class I**: Selection of fruit or vegetables of good quality. The produce shall have the characteristics typical of the variety or commercial type and shall fulfil the minimum requirements. The produce may have slight defects only in shape, development, coloring and skin, unless otherwise indicated in the standard. The slight defects should affect only small areas of the produce and should only slightly contrast with the typical coloring, nature of the skin or typical shape. The produce shall not have any defect affecting the internal quality.	
Sound: The fruit or vegetable is free from physical and chemical defects (injury and diseases) affecting its eating and/or keeping quality. The produce is free from disease, rot, damage caused by physical means and the presence of live or dead insects including insect **eggs and** larvae. Rationale: Presence of live insects would also include insect eggs. **Foreign Matter:** Vegetal and non-vegetal matter not associated with the part of the plant the FFV was harvested from, such as stones, pieces of bark, sticks~~, twigs,~~ , metal, plastic, and glass. Rationale: Twigs is an extraneous matter and not foreign matter. ~~**Crisp:** Turgid, brittle and breaks readily. This denotes a fresh condition that is desirable, e.g., in celery, rhubarb, and spinach.~~ Rationale: Crisp / crispiness relates to pleasantly hard or firm when it is bite. This term does not seem appropriate for fresh fruits and vegetables.	**India**
Saudi Arabia suggests that from the definition of pests following the terms coming afterwards are better to be sub-categorized under “Terms Describing Degrees of Quality” rather than Terms Describing Degrees of Freshness.	**Saudi Arabia**

Sound: The fruit or vegetable is free from ~~physical and chemical defects (injury and diseases)~~ rotting affecting its eating and/or keeping quality. The produce is free from disease, rot, damage caused by physical means and the presence of live or dead insects including insect larvae. Rationale The first sentence should focus on the visual defect of a fruit or vegetable cause by rotting that affects its eating and/or keeping quality. Physical defects are already included in the second sentence. **Fresh Fruits:** In some fresh fruits, firmness is measured using pressure ~~test~~ tester (penetrometer). The penetrometer's result is also used to describe levels of flesh development and maturation/ripeness in some fruits such as apples, pear, apricot, peaches and nectarines. The degree of firmness is described progressively (using personal experience) as: **Hard:** the fruit's flesh is tenacious and not yielding to moderate hand ~~pressure~~pressure or finger pressure? Rationale We would like to seek clarification on whether hand pressure and finger pressure are similarly practical for testing firmness. **Firm:** the flesh yields very slightly to moderate hand ~~pressure~~pressure or finger pressure? Rationale We would like to seek clarification on whether hand pressure and finger pressure are similarly practical for testing firmness. **Firm ripe:** the flesh yields slightly to moderate hand ~~pressure~~pressure or finger pressure? Rationale We would like to seek clarification on whether hand pressure and finger pressure are similarly practical for testing firmness. **Ripe:** the flesh yields readily to moderate hand ~~pressure~~pressure or finger pressure? Rationale We would like to seek clarification on whether hand pressure and finger pressure are similarly practical for testing firmness. **Over-ripe:** the flesh ~~has softened~~ is soft and ~~has~~ shows signs of breakdown, yields readily to hand pressure, deterioration is quickening, and the produce is unacceptable for ~~wholesale~~ trade. ~~**Leafy Vegetables:** Firm means these vegetables are crisp, not wilted or flabby and can be readily snapped/torn by hand.~~ Rationale The characteristics of leafy vegetables do not include firmness.	**Thailand**

Firm: Compact, solid, substantial and yields very slightly to moderate pressure. Indicative of normal development and good condition. Very important in root crops, cucurbits, some eggplant, etc.

Rationale
Some types of eggplants are not characterized by firmness, such as long eggplants.

Crisp: Turgid, brittle and breaks readily. This denotes a fresh condition that is desirable, e.g., in celery, rhubarb, and ~~spinach~~head lettuce.

Rationale
Spinach is not a good example because it is not crispy, so it should be deleted. We would like to add head lettuce as an example of a crispy vegetable.

Pithy: Open texture with air spaces in pith or central portion that is usually the result of ~~very rapid growth~~malnutrition. This condition is especially applicable to celery, radishes, turnips and carrots.

Rationale
Pithy is mainly caused by malnutrition, especially a lack of boron as micronutrient. This defect is not related to very rapid growth.

Damage caused by low and/or high temperature: Damage caused to the FFV after harvest due to exposure to non-ambient temperatures such as chilling injury, freezer burn, frozen flesh, certain types of sunburn and skin discoloration.

Rationale
It is important to include chilling injury since the damage is caused by low temperature.

Bruise: A physical injury that ruptures the outer surface/skin of the FFV with or without penetrating through the underlying tissue.

Rationale
Bruise is a skin injury. It may also affect underlying tissues.

Decay: Deterioration and/or decomposition of tissue induced by fungi, bacteria resulting from injury (physical damage), pest damage, diseases and or senescence; or an aerobic decomposition of the FFV by bacteria and/or fungi as a natural process of change/senescence

Rationale
We suggest adding the text as proposed to make it clearer.

Damage: Any specific defect or an equally objectionable variation of defects or a combination of defects, which materially detracts from the appearance, edibility, utility or shipping quality of the FFV. Damage may be caused by physical ~~means, insects, pests and unfavorable environmental factors~~ chemical or biological means such as wind, ~~hail~~ pest and ~~frost~~pesticide.

Rationale
Damage is caused by physical, chemical or biological means. The examples provided should be relevant to the mean order mentioned before.

Maturity[2]: The fruit has attained a physiological ~~and biochemical~~ stage of development at which it possesses the desired characteristics/pre-requisites to provide the minimum accepted level of utility to the consumer (normal taste/flavor, odor and texture). Rationale Maturity is a stage of physiological development that is not related to biochemical changes. We, therefore, suggest removing the text “and biochemical". Footnote 2 In some non-English languages maturity and ripeness are the same word and have the same meaning. Rationale Editorial correction. **Maturity measurements most commonly used for fruits at inspection points include:** ~~sugar content (brix degrees – brix)~~ total soluble solid (%brix), ~~sugar-acid~~ total soluble solid-acid ratio, shape, juice content, ground color changes and pressure testing of the flesh using a penetrometer. Rationale The determination of total soluble solids is a common parameter of maturity measurement. Thailand would like to propose replacing sugar content with total soluble solids.	
Foreign Matter: Vegetal and non-vegetal matter not associated with the part of the plant the FFV consists of or was harvested from, such as stones, pieces of bark, sticks, twigs, metal, plastic, and glass. Leafy vegetables might represent most of the above-ground part of the plant, harvested whole. **Foreign smell and/or taste:** Smell or taste not associated ~~natural~~ naturally with individual FFV including smells resulting from unapproved post-harvest practices. **3.2.2 Class II**: Selection of fruit or vegetables of marketable quality. The produce may have defects regarding shape, development, coloring and skin as well as the minimum requirements, unless otherwise indicated in the standard. The produce shall not have serious defects affecting the ~~internal~~ intrinsic quality. As the quality may be affected by changing outer parts of the FFV, but still result in serious defect, the term "intrinsic" should be preferably used.	**PRRI**

4. PROVISION CONCERNING SIZING

~~**Size**~~**Sizing:** The ~~physical dimension or mass~~ classification of ~~the FFV measured by one of,~~ fruit and vegetables is based on their physical dimensions or ~~a combination of the following:~~mass.**Size:** The physical dimension or mass of the FFV expressed individually by: As the terms “sizing” and “size” are frequently mixed up, clarification should be provided. **Count**: the number of individual FFV ~~units~~ per package or ~~in an agreed container volume~~to a set volume/dimension. The term “container” my be misleading, as in “6.2 Packaging” different terms are defined. The definition can be made by volume and/or dimensions. **Length:** the longitudinal axis of the FFV measured from the stem end/peduncle to the blossom /growth end/apex excluding the ~~peduncle except in a few cases~~peduncle. **Diameter:** the greatest dimension (equatorial section) of the FFV measured at right angles to a line from the stem to the blossom end; or determined by the FFV passing through a round opening in any position~~. Diameter is measured either by the maximum or minimum diameter of the equatorial section of each FFV or a diameter range per package.~~ . **Weight:** the individual weight of each ~~FFV or a weight range per package~~FFV. Ranges should not be part of the description on size of individual FFV, as this only consist of count, length, diameter and weight. **Minimum size:** the absolute smallest acceptable size or size range in the standard. A minimum size is established to guarantee sufficient development of the produce for its intended purpose. **Uniformity in size**: A size or size range that is defined to guarantee uniform appearance of the FFV in the package with respect to the physical dimensions. It may be expressed by a fixed size, minimum and maximum size, or a ~~minimum/maximum number of units in the package~~size range.**Miniature products:** Miniature product means a variety or cultivar of fruit or vegetable, obtained by plant breeding (Example: Miniature varieties, such as cherry tomatoes) and/or special cultivation techniques (Example: High density sowing, such as miniature cabbage) aimed at producing smaller sized specimens. **Tolerances:** The ~~sum~~ maximum percentage of all the allowances/deviations that are permitted within a lot of FFV or a class, from the requirements of the standard. Tolerances are assessed on samples taken from the lot in accordance with a pre-set ratio and/or based on recognized internationally agreed methods of sampling (such as OECD or Codex rules for conformity checks). The cumulated defects found in a sample must be set in context to the weight or number of the sample, in order to calculate the percentage and to check whether the tolerances are met. ~~**Allowance:** The amount of a factor/defect (e.g., staining) deviation permitted by a minimum requirement in a lot of produce. The allowance can be part of the tolerance or separate/independent.~~	**European Union**

Lot: A quantity of produce presented for inspection as one unit, having similar characteristics ~~regarding type and or~~ with regard to: - packer, dispatcher and/or shipper - country of origin - nature of produce - class of produce - size (if the produce is graded according to size) - variety or commercial type (according to the relevant provisions of the standard) - type of packaging and ~~origin:~~presentation	
Sublot: the ~~result of diving~~ result**s** of **dividing** a very large ~~volumes~~ volume of FFV such as a car lot (rail carload) or boat load into smaller ones for inspection purposes. Rationale: For better clarity the definition needs slight grammatical correction.	**India**
Minimum size: the absolute smallest acceptable size or size range in the standard. Saudi Arabia suggests the addition of the word “individual” as the following: "the absolute smallest acceptable ^individual size or size range in the standard".	**Saudi Arabia**
Length: the longitudinal axis of the FFV measured from the stem end/peduncle to the blossom /growth end/apex excluding the ~~peduncle except~~ peduncle, unless otherwise indicated in ~~a few cases~~an applicable standard.	**PRRI**

5. PROVISIONS CONCERNING TOLERANCES

Package: Individual containers of produce that individually or collectively facilitate safe handling, storage, transportation and sale of the produce. Packages vary in size and function based on the produce characteristics and its trade practices. Its main function is to contain, protect and preserve the product.. Road, rail, ship and air containers are not considered as packages. Types of packages are: **Sales package:** Individual containers in which produce is offered ~~for sale. Its main function is~~ to ~~contain, protect and preserve~~ the ~~product. These may be small, containing a few grams of products such as fresh herbs~~ final user or ~~as large as pallet bins holding 200 Kg~~ consumer at the point of ~~watermelons or pumpkins.~~purchase for sale. **Pre-package/Primary package:** Sales packages having product enclosed completely or only partially, but in such a way that the contents cannot be altered without opening or changing the packaging. Protective films covering single produce are not considered as a pre-package **6.2.1 Description of Containers:** The type containers in which the FFV is placed in such as or multilayer, consumer sales package and bulk containers. **Extraneous Matter:** Vegetal matter associated with the part of the plant the FFV was harvested from, Examples for fruits are leaves, twigs and loose stems/peduncles.**Foreign Matter**: Vegetal and non-vegetal matter not associated with the part of the plant the FFV was harvested from, such as stones, pieces of bark, sticks, twigs, metal, plastic, and glass.	**European Union**

Sales package: Individual containers in which produce is offered for sale. Its main function is to contain, protect and preserve the product. These may be small, containing a few grams of products such as fresh herbs or as large as pallet-bins holding 200 ~~Kg~~ **kg** of watermelons or pumpkins. Rationale: As per defined format.	**India**
~~**Tolerances**~~**Tolerances/Total Tolerances:** The sum of all the allowances/deviations that are permitted within a lot of FFV or a class, from the requirements of the standard. Tolerances are assessed on samples taken from the lot in accordance with a pre-set ratio and/or based on recognized internationally agreed methods of sampling (such as OECD or Codex rules for conformity checks). Rationale: Both “tolerances” and “total tolerances” are used in Codex Standards for Fresh Fruit and Vegetables in with the same meaning.	**Thailand**

7. PROVISIONS CONCERNING MARKING OR LABELLING

7.1.1 Name of produce: The common name or the trade name under which the product is traded.**Synonym**: Officially accepted name that can replace the variety name and that refers to the same variety. ~~**Conformity check:** Inspection carried out by an inspector to check that FFV conform to the requirements laid down in a standard~~	**European Union**
7.2. Non-retail Containers: ~~Packages/containers whose sole purpose~~ Any container that is not intended to be offered for ~~transportation, storage and wholesale trade of~~ direct sale to the ~~produce~~consumer. The food in the non-retail container is for further food business activities before being offered to the consumer.	**Thailand**
Saudi Arabia suggests the addition of following definitions: • LOT number (#): A definitive quantity of a commodity produced essentially under the same conditions. •Production date (Manufacturing Date):The date on which the food becomes the product as described and written by manufacture. •Date of packaging: The date on which the food is placed in the immediate container in which it will be ultimately sold to the consumer.	**Saudi Arabia**

Part 2: Additional terms

Senescence: The gradual aging/deterioration of FFV due to physical and physio-biochemical changes which naturally occur. It may be accompanied by either flesh softening, changes in color, structure and other organoleptic characteristics. Its ~~progression at a point~~ situation renders the FFV unsuitable for consumption. Rationale Senescence also results from physical changes. **Well-formed/Well shaped**: The FFV have the normal shape characteristic of the variety. Rationale We propose adding “normal” for clarity **Blossom/Growth End/Apex:** The part of FFV opposite the stalk/peduncle at which ~~growth~~the vegetative growth stops ~~occurs~~. Rationale With the biological term, blossom, growth end or apex refers to vegetative stage of the life cycle of plant.	**Thailand**