

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
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ORGANIZATION



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Agenda Item 4(b)

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

*21st Session,
San Antonio, Texas, U.S.A., 23-27 September 2002*

PROPOSED DRAFT CODEX STANDARDS FOR PROCESSED FRUITS AND VEGETABLES

(At Step 3 of the Codex Procedure)

Governments and interested international organizations wishing to submit comments on the attached ***Proposed Draft Codex Standards for Processed Fruits and Vegetables*** (AT STEP 3) are invited to do so **NO LATER THAN 20 AUGUST 2002** to Ms. Ellen Y. Matten, U.S. Codex Office, Food Safety and Inspection Service, US Department of Agriculture, Room 4861 South Building, 1400 Independence Ave. S.W., Washington, DC, 20250-2700, Fax: +1 202 720 3157, E-mail: uscodex@usda.gov, with a copy to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Foods Standards Programme, Via delle Terme di Caracalla, 00100 Rome, Italy (Fax No. 39.06.5705.4593 or E-Mail codex@fao.org).

BACKGROUND

1. In view of the extensive programme of work for the Codex Committee on Processed Fruits and Vegetables, the 20th Session of the CCPFV unanimously agreed to establish a Priority List for the Standardization of Processed Fruits and Vegetables to be considered at its next and subsequent sessions. The Committee noted that it should continue to take account of the Criteria for the Establishment of Work Priorities (Codex Procedural Manual, 12th Edition, pages 60-61) when establishing and maintaining the priority list.

2. The Committee accepted the offer of the following delegations to prepare Proposed Draft Codex Standards for the following commodities for timely circulation, comment at Step 3 and further consideration at the 21st Session of the CCPFV:

- Canned Citrus Fruits (United States)
- Ginseng (Korea)
- Jams, Jellies and Marmalades (United Kingdom)
- Soy Sauce (Japan)
- Canned Tomatoes (United States in collaboration with the World Processing Tomato Council)
- Canned Tomato Concentrate (United States in collaboration with the World Processing Tomato Council)
- Canned Vegetables (France, in collaboration with Thailand)
- Guidelines for Packing Media for Canned Vegetables (France)

3. The Committee agreed that the governments designated would provide drafts of these Standards to the Secretariat for circulation and comments at Step 3. In taking this decision, the Committee noted that the initiative to elaborate a proposed draft Standard for Ginseng would be subject to approval as new work by the 24th Session of the Codex Alimentarius Commission.¹
4. However, the Commission was unable to complete its review of proposals for the elaboration of new standards and related texts. and therefore, it requested to convene an extraordinary session of the Executive Committee to consider the unfinished business from that Session.² The 49th (Extraordinary) Session of the Executive Committee of the Codex Alimentarius Commission approved the elaboration of a Standard for Ginseng inclusive of all varieties and origins.³
5. Governments and interested international organizations are invited to comment at Step 3 on the attached ***PROPOSED DRAFT CODEX STANDARDS FOR PROCESSED FRUITS AND VEGETABLES*** , ***preferable by e-mail***, as directed above.

¹ ALINORM 01/27 paras. 9-12

² ALINORM 01/41 para. 216

³ ALINORM 03/3 para. 22 & App. III

**PROPOSED DRAFT CODEX STANDARD FOR
CANNED CITRUS FRUITS
(At Step 3 of the Codex Procedure)**

1. SCOPE

This Standard applies to canned grapefruit and canned mandarin oranges as defined in Section 2 below and offered for direct consumption including for catering purposes or for repacking if required. It does not apply to the product when indicated as being intended for further processing.

2. DESCRIPTION

2.1 PRODUCT DEFINITION

2.1.1. Canned grapefruit is the product:

- (a) prepared from washed, ripe grapefruit, conforming to the characteristics of the fruit of *Citrus paradisi* Macfadyen;
- (b) packed with water or other suitable liquid packing medium, nutritive sweeteners, and suitable seasoning or flavouring ingredients appropriate to the product; and
- (c) processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. Before processing, the fruit shall have been properly washed and peeled and the membrane, seeds and core shall have been substantially removed from the sections.

2.1.2 Canned mandarin oranges is the product:

- (a) prepared from sound, mature mandarin oranges conforming to the characteristics of *Citrus reticulata* Blanco (including all the suitable commercial varieties for canning);
- (b) packed with water or other suitable liquid packing medium; and
- (c) processed by heat in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. Before processing, the fruit shall have been properly washed and peeled and the membrane, fibre strands originating from albedo or core, and seeds (if any) shall have been substantially removed from the segments.

2.2 COLOUR TYPES (canned grapefruit only)

2.2.1 White - produced from white-fleshed grapefruit.

2.2.2 Pink - produced from pink or red-fleshed grapefruit.

2.3 STYLES

2.3.1 Canned grapefruit may be packed as either:

- (a) **Sections or Segments** - consists of whole fruit segments in which a segment's length is at least 75% of the apparent length of the original segment. (A segment which is split in one place only and is not prone to disintegrate shall be considered whole, but parts of a segment joined by a "thread", or by membrane only shall not be considered "whole".); or
- (b) **Broken Sections or Broken Segments** - consists of fruit segments that do not satisfy Section 2.3.1(a).

2.3.2 Canned mandarin oranges may be packed as:

- (a) **Whole Segment Style** - consists of fruit segments which are practically intact and also retain their original form but may be split just slightly.
- (b) **Broken Segment Style** - consists of portions of segments which retain at least one half of the original apparent size, or which are large enough to remain on a screen having 12 mm square openings, formed by a wire of 2 mm diameter.
- (c) **Pieces Style** - consists of portions of segments that are large enough to remain on a screen having 8 mm square openings formed by a wire of 2 mm diameter

2.3.3 OTHER STYLES

For canned grapefruit and canned mandarin oranges:

Any other presentation of the product shall be permitted provided that the product:

- (a) Is sufficiently distinctive from other forms of presentation laid down in this Standard;

- (b) Meets all relevant requirements of this Standard, including requirements relating to limitations on defects, drained weight, and any other requirements in this Standard which are applicable to that style in the Standard which most closely resembles the style or styles intended to be provided for under this provision; and
- (c) Is adequately described on the label to avoid confusing or misleading the consumer.

2.4 SIZES IN WHOLE SEGMENT STYLE (Canned Mandarin Oranges only)

2.4.1 Designation in accordance with size

Canned mandarin oranges in whole segment style may be designated according to size in the following manner:

- (a) Uniform single size
 - "Large" - 20 or less whole segments per 100 g. of drained fruit
 - "Medium" - 21 to 35 whole segments per 100 g. of drained fruit
 - "Small" - 36 or more whole segments per 100 g. of drained fruitSingle sizes shall also meet the uniformity requirements of Section 3.4.6.
- (b) Mixed sizes - A mixture of two or more single sizes.

2.4.2 Compliance with single size designation

2.4.2.1 Classification of "Defectives"

Any sample unit or container that does not meet the count and uniformity requirements of Section 2.4.1 shall be considered a "defective" for size classification. In the determination of compliance with size classifications, broken segments are disregarded.

2.4.2.2 Lot Acceptance

A lot should be considered as meeting the criteria for a uniform size designation when the number of "defectives" as defined in Section 2.4.2.1 does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 BASIC INGREDIENTS

Canned citrus fruit as defined in Section 2 and liquid packing media appropriate to the product.

3.2 PACKING MEDIA

3.2.1 Canned grapefruit may be packed in any one of the following:

- (a) **Water** - in which water or a mixture of water and juice (less than 50% juice) is the liquid packing medium.
- (b) **Juice** - in which grapefruit juice is the sole liquid packing medium and to which no water has been added directly or indirectly.
- (c) **Juice and Water** - in which grapefruit juice and water are combined as a liquid packing medium with not less than 50% juice.
- (d) **Syrup** - in which water, juice, or juice and water is combined with nutritive sweetener(s) as a liquid packing medium and are classified on the basis of cut-out strength as specified below:

<u>Liquid Media</u>	<u>Brix Measurement</u>
Slightly sweetened syrup	- not less than 12° Brix
Slightly sweetened grapefruit juice	- same as above
Slightly sweetened grapefruit juice and water	- same as above
Light syrup	- not less than 16° Brix
Lightly sweetened grapefruit juice	- same as above
Lightly sweetened grapefruit juice and water	- same as above
Heavy syrup	- not less than 18° Brix
Heavily sweetened grapefruit juice	- same as above
Heavily sweetened grapefruit juice and water	- same as above

3.2.2 Canned mandarin oranges may be packed in any one of the following:

- (a) **Water** - in which water is the sole packing medium;
- (b) **Citrus juice** - in which mandarin orange juice, or any other citrus juice, is the sole packing medium;
- (c) **Mixed citrus juices** - in which two or more citrus juices, which may include mandarin orange juice are combined to form the packing medium;
- (d) **Water and fruit juice(s)** - in which water and mandarin orange juice, or water and any other fruit juice (singly or in combination) are combined to form the packing medium.
- (e) **Fruit juice** – in which one or more fruit juice is the sole packing medium.
- (f) **With nutritive sweetener(s)** - any of the foregoing packing media (a) through (e) may have one or more of the following nutritive sweeteners added: sucrose, invert sugar syrup, dextrose, fructose, fructose syrup, dried glucose syrup, glucose syrup, invert sugar.

3.2.2.1 Classification of packing media when nutritive sweeteners are added to canned mandarin oranges

3.2.2.1.1 When nutritive sweeteners are added to mandarin orange juice or other fruit juices, the liquid media shall be not less than 14° Brix and shall be classified on the basis of the sample strength as follows:

Lightly sweetened (name of fruit) juice(s) not less than 14° Brix

Heavily sweetened (name of fruit) juice(s) not less than 18° Brix

3.2.2.1.2 When nutritive sweeteners are added to water or water and mandarin orange juice or water and other fruit juices the liquid media shall be classified on the basis of the cut-out strength as follows:

(a) Basic syrup strengths

Light syrup not less than 14° Brix

Heavy syrup not less than 18° Brix

(b) Optional packing media

Slightly sweetened water not less than 10° Brix but less than 14° Brix

Extra light syrup not less than 10° Brix but less than 14° Brix

Extra heavy syrup more than 22° Brix

3.2.3 Compliance with packing medium Brix requirements shall be determined on average, but no container may have a Brix value lower than that of the next category below.

3.3 OTHER PERMITTED INGREDIENTS (Canned Grapefruit only)

- Lemon juice,
- Spices.

3.4 QUALITY CRITERIA

Canned citrus fruit shall have a normal flavour, odour, and colour and possess a texture characteristic of the product.

3.4.1 Colour

(a) For canned grapefruit:

The colour shall be typical of grapefruit of the colour-type concerned which has been properly prepared and properly processed.

(b) For canned mandarin oranges:

The colour of the segments shall be a rich yellow to orange, typical colour of properly prepared and properly processed fruit, free from any brown tinge and the liquid packing medium shall be reasonably clear except when it contains juice.

3.4.2 Flavour

Canned grapefruit and canned mandarin oranges shall have a normal flavour and odour free from flavours or odours foreign to the product. Canned grapefruit with special ingredients shall have a flavour characteristic of that imparted by the grapefruit and the other substances used.

3.4.3 Texture

(a) For canned grapefruit:

The texture shall be firm and characteristic of the product and shall be reasonably free from dry cells or fibrous cells affecting the appearance or the edibility of the product. Segments shall be practically free from signs of disintegration.

(b) For canned mandarin oranges:

The texture shall be reasonably firm and characteristic for the canned product and reasonably free from dry cells or fibrous portions affecting the appearance or edibility of the product.

3.4.4 Wholeness (canned grapefruit only)

In the style of Sections or Segments, not less than 50% by weight of drained fruit shall be in whole segments.

3.4.5 Defects and Allowances:

(a) For canned grapefruit:

The finished product shall be prepared from such materials and under such practices that it shall be reasonably free from extraneous fruit matter such as peel or core or albedo and shall not contain excessive defects whether specifically mentioned in this Standard or not. Certain common defects shall not be present in amounts greater than the following limitations:

- The total surface covered by membrane shall not exceed 20 square centimetres per 500 g. of total contents; and
- Developed seeds shall not exceed 4 per each 500 g. of total contents. (A developed grapefruit seed is defined as a seed which measures more than 9 mm. in any dimension.)
- Not more than 15% by weight of the drained grapefruit may be blemished units. A blemished unit is a grapefruit section or any portion thereof which is damaged by lye peeling, by discolouration, or by any other visible injury.

(b) For canned mandarin oranges:

The product shall be substantially free from defects within the limits set forth as follows:

<u>Defect</u>	<u>Maximum Limit in the Drained Fruit</u>
Broken segments and pieces (as defined in 2.3.2) (Whole segment style)	10% m/m
Pieces (as defined in 2.3.2) (Broken segment style)	15% m/m
Membrane (Aggregate area)	7 cm ² /100 g (based on sample average)
Fibre strands (Aggregate length)	5 cm/100 g (based on sample average)
Seeds (that measure more than 4.0 mm in any dimension)	1/100 g (based on sample average)

3.4.6 Uniformity of Size

For canned mandarin oranges (whole segment style - single sizes only) - In the 95%, by count, of units (excluding broken segments) that are most uniform in size, the weight of the largest unit shall be no more than twice the weight of the smallest unit.

3.4.7 Classification of "Defectives"

For canned grapefruit and canned mandarin oranges - A container that fails to meet one or more of the applicable quality requirements, as set out in Section 3.4 (except those based on averages) shall be considered a "defective".

3.4.8 Lot Acceptance

(a) For canned grapefruit and canned mandarin oranges:

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.4, when the number of "defectives", as defined in Section 3.4.7 does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

(b) For canned mandarin oranges:

The lot must comply with requirements of Section 3.4.6 which are based on sample average.

4. FOOD ADDITIVES

(a) For canned grapefruit:

INS	Food Additive	Maximum Level
4.1 ACIDITY REGULATORS		
330	Citric Acid	Limited by GMP
4.2 FIRMING AGENTS		
509	Calcium Chloride	0.035% calcium by wt. in final product, derived from added calcium salts
327	and/or Calcium Lactate	
4.3 FLAVOURS		
4.3.1	Natural and artificial flavouring	Limited by GMP

(b) For canned mandarin oranges:

4.4 ACIDITY REGULATORS

Any acidity regulator listed in Table 3 of the Codex General Standard for Food Additives or listed in food category 04.1.2.4 (Canned or bottled (pasteurized) fruit) in Tables 1 and 2 of the Codex General Standard for Food Additives. In addition, the following as indicated:

INS	Food Additive	Maximum Level
461	Methyl Cellulose (anti-clouding agent)	10 mg/kg

5. CONTAMINANTS

5.1 HEAVY METALS

The products covered by the provisions of this Standard shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for these products.

5.2 PESTICIDE RESIDUES

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these products.

6. HYGIENE

- 6.1 It is recommended that the products 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, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 6.2 The products 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).

- (a) The name of the product shall include the colour type “pink” if the grapefruit is pink;
- (b) The following shall be included as part of the name or in close proximity to the name of the product:
 - The style: “sections” or “segments”; or “broken sections” or “broken segments”, as appropriate;
 - The packing medium as appropriate:
 - “water”,
 - “grapefruit juice”,
 - “grapefruit juice and water”,
 - “slightly sweetened syrup”,
 - “light syrup”,
 - “heavy syrup”,
 - “slightly sweetened grapefruit juice”
 - “lightly sweetened grapefruit juice”
 - “heavily sweetened grapefruit juice”
 - “slightly sweetened grapefruit juice and water”
 - “lightly sweetened grapefruit juice and water”
 - “heavily sweetened grapefruit juice and water”

7.1.2 For canned mandarin oranges:

- (a) The style, as appropriate, shall be declared as a part of the name or in close proximity to the name, as follows:
 - **Whole segments** - A size classification for Whole segments style may be stated on the label if the pack complies with the appropriate requirements of Section 2.4.1 of this Standard. In addition, the number of units present in the container may be shown by a range of count, e.g. "(number) to (number) whole segments".
 - **Broken segments**
 - **Pieces**
- (b) In the case of mixed sizes, such size designation shall be declared in close proximity to the style designation, e.g. "mixed sized whole segments".
- (c) The packing medium shall be declared as part of the name or in close proximity to the name as described below:

<u>Packing Medium Name</u>	<u>Description</u>
"In water" or "Packed in water"	When packing medium is composed of water or water and one or more citrus juices in which water predominates
"In mandarin orange juice" or "In (name of fruit) juice"	When the packing medium is composed solely of mandarin orange juice, or any other single fruit juice
"In (names of fruits) juice" or "In fruit juices" or "In mixed fruit juices"	When the packing medium is composed of two or more fruit juices, which may include mandarin orange juice
"Lightly sweetened (name of fruit) juice" or "Heavily sweetened (name of fruit) juice" or "Lightly sweetened citrus or fruit juices" or "Heavily sweetened citrus or mixed fruit juices"	As appropriate, when nutritive sweeteners are added to mandarin orange juice or other fruit juices
"Light syrup" or "Heavy syrup" or "Slightly sweetened water" or "Extra light syrup" or "Extra heavy syrup"	As appropriate, when nutritive sweeteners are added to water, or water and a single fruit juice (including mandarin orange juice), or water and two or more fruit juices, in which there is less than 50% juice by volume
"Mandarin orange juice and water" or "(name of fruit) juice(s) and water"	When the packing medium contains water and mandarin orange juice or water and one or more fruit juice(s), in which the fruit juice comprises 50% or more by volume of the packing medium, it shall be designated to indicate the preponderance of such fruit juice

8.2 OTHER STYLES

If the product is produced in accordance with the other styles provision (Section 2.3.3), the label shall contain in close proximity to the name of the product such additional words or phrases that will avoid misleading or confusing the consumer.

9. METHODS OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

PROPOSED DRAFT STANDARD FOR GINSENG
(At Step 3 of the Codex Procedure)

1. SCOPE

This Standard applies to dried ginseng and ginseng extract products which have been suitably treated, processed and manufactured from sound, clean and fresh ginseng roots.

2. DESCRIPTION

2.1 PRODUCT DEFINITION

2.1.1 Dried Ginseng

Dried Ginseng is the product:

- (a) packaged after sorting fresh ginseng roots, washing, heating or not, and then drying by sun, hot air or other recognized methods.
- (b) packaged after powdering or slicing the dried ginseng in Section (a).

2.1.2 Ginseng Extract Products

Ginseng Extract Products are the products:

- (a) packaged after extracting soluble components of the dried ginseng root in Section 2.1.1(a) with water and/or ethanol, and then filtering and concentrating.
- (b) packaged after powdering the products in Section 2.1.2 (a).
- (c) packaged after mixing the products in Section 2.1.2 (a) as a basic ingredient with bulking agents and adding (or not adding) the extracts of edible plants. The product may be powdered or granulated after mixing.

2.2 TYPES OF GINSENG

2.2.1 Dried Ginseng

2.2.1.1 White Ginseng - processed by drying fresh ginseng roots by the sun, hot air or other recognized methods of dehydration. The product has a milky white or light yellow color and should be presented in one of the following by product type:

- (a) **Main body white ginseng** - processed into the form of main body ginseng having primary lateral roots.
- (b) **Lateral root white ginseng** - processed from the lateral roots or the fine roots.
- (c) **Powdered white ginseng** - processed by powdering the main body white ginseng or the lateral root white ginseng.
- (d) **Sliced white ginseng** - processed by slicing the main body white ginseng by a regular thickness in width, length or diagonally.

2.2.1.2 Red Ginseng - processed by cooking ginseng roots by either steaming or other recognized methods of heating, and then drying. The product has a light or dark reddish brown color and should be presented in one of the following by product type:

- (a) **Main body red ginseng** - processed into the form of main body ginseng having primary lateral roots.
- (b) **Lateral root red ginseng** - processed from the lateral root or the fine root.
- (c) **Powdered red ginseng** - processed by powdering the main body red ginseng or the lateral root red ginseng.
- (d) **Sliced red ginseng** - processed by slicing the main body red ginseng by a regular thickness in width, length or inclination direction.

2.2.1.3 Taekuk Ginseng - processed by cooking ginseng roots by a method among boiling, or other recognized methods of heating, and then drying. The product has a light brown color inner part, light yellow color cortex(epidermis) and should be presented in one of the following by product type:

- (a) **Main body Taekuk ginseng** - processed into the form of main body ginseng having primary lateral roots.

- (b) **Lateral root Taekuk ginseng** - processed from the lateral root or the fine root.
- (c) **Powdered Taekuk ginseng** - processed by powdering the main body red ginseng or the lateral root red ginseng.
- (d) **Sliced Taekuk ginseng** - processed by slicing the main body red ginseng by a regular thickness in width, length or diagonally.

2.2.2 Ginseng Extract Products

2.2.2.1 White Ginseng Extract

- (a) **White Ginseng Extract** - processed by extracting soluble components of the dried white ginseng with water and/or ethanol, followed by filtering and concentrating.
- (b) **Powdered White Ginseng Extract** - processed by powdering the white ginseng extract.
- (c) **White Ginseng Compound** - processed by mixing the concentrated white ginseng extract as a basic ingredient with bulking agents and adding (or not adding) the extract of edible plants. The product should be presented granulated, powdered or fluid type.

2.2.2.2 Red Ginseng Extract

- (a) **Red Ginseng Extract** - processed by extracting soluble components of the dried red ginseng with water and/or ethanol, followed by filtering and concentrating.
- (b) **Powdered Red Ginseng Extract** - processed by powdering the red ginseng extract.
- (c) **Red Ginseng Compound** - processed by mixing the concentrated red ginseng extract as a basic ingredient with bulking agents and adding (or not adding) the extract of edible plants. The product should be presented granulated, powdered or fluid type.

2.2.2.3 Taekuk Ginseng Extract

- (a) **Taekuk Ginseng Extract** - processed by extracting soluble components of the dried Taekuk ginseng with water and/or ethanol, followed by filtering and concentrating.
- (b) **Powdered Taekuk Ginseng Extract** - processed by powdering the Taekuk ginseng extract.
- (c) **Taekuk Ginseng Compound** - processed by mixing the concentrated Taekuk ginseng extract as a basic ingredient with bulking agents and adding (or not adding) the extract of edible plants. The product should be presented granulated, powdered or fluid type.

2.3 OTHER TYPES OF GINSENG PRODUCTS

Any other presentation of the product shall be permitted provided that the product:

- (a) is sufficiently distinctive from other forms of presentation laid down in the Standard;
- (b) meets all relevant requirements of the Standard;
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 BASIC INGREDIENTS

Clean and sound ginseng

3.2 OTHER PERMITTED INGREDIENTS

Sugars

(including those as defined in the Codex Standard for Sugars
CX-STAN 212-1999)

Vitamins

Dextrin

Extracts of edible plants

in
ginseng compound

3.3 QUALITY CRITERIA

Ginseng shall have a normal flavour, color, taste and the characteristic ginsenoside pattern of ginseng.

3.3.1 Dried Ginseng

- (a) **Moisture**
 - Main body ginseng maximum 14.0%
 - Lateral root ginseng maximum 14.0%
 - Powdered ginseng maximum 9.0%
 - Sliced ginseng maximum 14.0%
- (b) **Ash** maximum 6.0%
- (c) **Water-saturated 1-butanol extracts** minimum 20 mg/g
- (d) **Ginsenoside Rb₁, Rf, Rg₁** identified

3.3.2 Ginseng Extract Products

- (a) **Moisture**
 - Powdered ginseng extract maximum 8.0%
 - Ginseng compound maximum 10.0%
 - (Granulated and Powdered type only)
- (b) **Solids**
 - Ginseng extract minimum 60.0%
 - Ginseng compound minimum 60.0%
 - (Fluid type only)
- (c) **Water-insoluble solids**
 - Ginseng extract maximum 3.0%
- (d) **Water-saturated 1-butanol extracts**
 - Ginseng extract minimum 70 mg/g
 - Powdered ginseng extract minimum 100 mg/g
 - Ginseng compound minimum 7.0 mg/g
- (e) **Ginsenoside Rb₁, Rf, Rg₁** identified

3.4 DEFINITION OF DEFECTS

The following defects should be applied to the main body ginseng and lateral root ginseng among the dried ginseng.

- (a) **Insect-damaged ginseng** - Ginseng which is damaged by insects or contains dead insects.
- (b) **Moldy ginseng** - Ginseng which is affected by mold to a visible extent or by decay.

3.5 CLASSIFICATION OF "DEFECTIVES"

A container that fails to meet one or more of the applicable quality requirements as set out in Sections 3.3 and 3.4 shall be considered a "defective".

3.6 LOT ACCEPTANCE

A lot should be considered as meeting the applicable quality requirements referred to in Section 2.3, when the number of "defectives", as defined in Section 3.5, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

4 HYGIENE

4.1 It is recommended that the product covered under 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, Rev. 3-1997), and other relevant Codex texts, such as Codes of Hygienic Practice and Codes of Practice.

4.2 The products should comply with any microbiological criteria established in accordance with the Principals for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997)

5. WEIGHTS AND MEASURES

5.1 FILL OF CONTAINER

5.1.1 Minimum Fill

The net weight of the product, as percentage of the indicated weight, shall not be less than 97%.

5.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill of Section 5.1.1 shall be considered a "defective".

5.1.3 Lot Acceptance

A lot should be considered as meeting the requirement of Section 5.1.1 when the number of "defectives", as defined in Section 5.1.2, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

6. LABELLING

Prepackaged products covered under this Standard shall be labelled in accordance with the Codex General Standard for the Labelling of Prepackaged Foods (Codex STAN 1-1985, Rev. 1-1991).

6.1 THE NAME OF THE PRODUCTS

The name of products shall be "Ginseng".

6.2 COUNTRY OF ORIGIN AND SCIENTIFIC NAME OF SPECIE

The country of origin and the scientific name of species for the ginseng covered by the Standard shall be stated.

6.3 OTHER LABELLING REQUIREMENTS

6.3.1 The appropriate name of the product described in Section 2.2.1 shall be: "main body white ginseng", "lateral root white ginseng", "powdered white ginseng", "sliced white ginseng", "main body red ginseng", "lateral root red ginseng", "powdered red ginseng", "sliced red ginseng", "main body Taekuk ginseng", "lateral root Taekuk ginseng", "powdered Taekuk ginseng", "sliced Taekuk ginseng".

6.3.2 The appropriate name of the product described under Section 2.2.2 shall be: "white ginseng extract", "powdered white ginseng extract", "white ginseng compound", "red ginseng extract", "powdered red ginseng extract", "red ginseng compound", "Taekuk ginseng extract", "powdered Taekuk ginseng extract", "Taekuk ginseng compound".

6.3.3 Other Types

If the product is made in accordance to Section 2.3, the label shall state, in close proximity to the product's name, such relevant words or phrases that will avoid misleading or confusing the consumer.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 SAMPLING

Sampling shall be in accordance with the *FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods* (AQL-6.5) (CAC/RM 42-1969).

In addition, the following applies:

- (a) Samples shall be taken and stored in a protected place to prevent deterioration.

- (b) Precautions shall be taken to protect the sample, the material being sampled, the sampling instruments, and the sample containers from extraneous contamination.
- (c) The sample shall be placed in clean dry glass containers with air-tight stoppers or closures. It shall be marked with full details of sampling, date of sampling, name of the vendor and other particulars of the consignment.

7.2 DETERMINATION OF MOISTURE CONTENT

According to AOAC 44.1.03

7.3 DETERMINATION OF SOLID CONTENT

According to AOAC 44.1.03, and report dried residue as solids.

7.4 DETERMINATION OF ASH CONTENT

According to AOAC 32.1.05

7.5 DETERMINATION OF WATER-INSOLUBLE SOLIDS CONTENT

According to the method described in Annex A

7.6 DETERMINATION OF WATER-SATURATED 1-BUTANOL EXTRACTS CONTENT

According to the method described in Annex B

7.7 IDENTIFICATION OF GINSENOSIDE RB₁, RF, RG₁

According to the method described in Annex C

ANNEX A

DETERMINATION OF WATER-INSOLUBLE SOLID CONTENT

Accurately weigh 1g sample into a 25 ml centrifugal tube that is cooled in desiccator after being dried for 2 hours at 105°C. Add 15 ml of distilled water and dissolve. Centrifuge for 15 minutes at 3000×g at room temperature, discard supernatant, and add 15 ml of distilled water into the centrifugal tube containing the pellet. Then, repeat twice this centrifugation. Dry to constant weight in oven, cool, weigh and calculate the content of water-insoluble solid content.

$$\text{water-insoluble solid content(\%)} = \frac{W_1 - W_2}{S} \times 100$$

S: weight of sample (g)

W₁: weight of centrifugal tube and residue after drying (g)

W₂: weight of centrifugal tube (g)

ANNEX B

DETERMINATION OF WATER-SATURATED 1-BUTANOL EXTRACTS

1. PREPARATION OF WATER-SATURATED 1-

Mix 1-butanol with water in the ratio of 70:30 in a separatory funnel, shake vigorously for several minutes, and wait until separation is complete into two layers. Collect 1-butanol layer(upper layer) for further extraction.

2. ANALYSIS METHOD

2.1 DRIED GINSENG

Accurately weigh 5 g of the sample which is passed through a minimum 80-mesh standard sieve, place in a 250 ml flask, add 50 ml water-saturated 1-butanol reflux in water bath at 70°C - 80°C for 1 hour, filter, cool and collect in 250 ml separatory funnel. Then, repeat twice the extraction and filtration. Dissolve the concentrates with 50 ml distilled water, shake vigorously, and wait until separation is complete into two layers. Collect 1-butanol layer(upper layer) in evaporation flask, vacuum-evaporate, add 50 ml diethyl ether, reflux in water bath at approximately 46°C for 30 minutes, and decant the diethyl ether. Dry the residue to constant weight in oven, cool, weigh, and calculate the content of 1-butanol extracts.

$$\text{water-saturated 1-butanol extracts(mg/g)} = \frac{W_1 - W_2}{S} \times 100$$

S: weight of sample (g)

W1: weight of flask after concentrating and drying extracts (mg)

W2: weight of flask (mg)

2.2 GINSENG EXTRACT PRODUCTS

2.2.1 Ginseng Extract and Powdered Ginseng Extract

Accurately weigh 2g of the sample, place in 100 ml evaporation flask (for Ginseng extract, vacuum-evaporate after weighing). Add 50 ml 1-butanol, reflux in water bath at 70°C - 80°C for 1 hour, cool, filter, and collect in 250 ml separatory funnel. Then, repeat twice the extraction and filtration. Dissolve the concentrates with 50 ml distilled water, shake vigorously, and wait until separation is complete into two layers. Collect 1-butanol layer in evaporation flask, vacuum-evaporate, add 50 ml diethyl ether, reflux in water bath at approximately 46°C for 30 minutes, and decant the diethyl ether. Dry the residue to constant weight in oven, cool, weigh, and calculate the content of 1-butanol extracts according to the equation in Section 2.1.

2.2.2 Ginseng Compound

Accurately weigh 10g of the sample, place in a flask, add 50 ml methanol, extract by shaking at room temperature for 1 hour, and filter. Then, repeat the extraction and filtration. Wash the filter paper with 50ml methanol. Collect the filtrates and vacuum-evaporate in water bath. Dissolve the concentrates with 50 ml distilled water, place in a 250 ml separatory funnel, add 50 ml 1-butanol, shake vigorously, and collect the 1-butanol layer after complete separation into two layers. Then, apply twice the 1-butanol extraction to the water layer. Wash the butanol layer with 50 ml distilled water. Collect the 1-butanol layer, vacuum-evaporate, add 50 ml diethyl ether, reflux in water bath at approximately 46°C for 30 minutes, and decant the diethyl ether. Dry the residue to constant weight in oven, cool, weigh, and calculate the content of 1-butanol extracts according to the equation in Section 2.1.

ANNEX C

IDENTIFICATION OF GINSENOSIDE RB1, RF, RG1

Ginsenosides of Ginseng products are analyzed by using thin layer chromatography (TLC) and high performance liquid chromatography (HPLC).

1. PREPARATION OF SAMPLE SOLUTION

Dilute the dried 1-butanol extract of Annex B with ten-fold volume of methanol, dissolve completely, and filter (0.45µm sieve).

2. PREPARATION OF STANDARD SOLUTION

Dissolve standard ginsenosides, such as ginsenoside-Rb1, -Rf, and -Rg1, in methanol to make a 1% solution and filter (0.45µm sieve).

3. IDENTIFICATION

(a) Thin layer chromatography

Spot 2-5µl of the standard and sample solutions, indicated above, on a TLC plate (silica gel), previously oven dried at 110°C for 15 minutes. Develop with an upper solution of 1-butanol:ethylacetate:water (5:1:4, v/v/v) or lower solution of chloroform:methanol:water (65:35:10, v/v/v). Spray 10% sulfuric acid or 30% sulfuric acid-ethanol solution on a TLC plate and oven dry at 110°C for 5-10 minutes to reveal the colour. Identify the ginsenosides of Ginseng products by comparing the Rf values and colors with those of standard ginsenosides.

(b) High performance liquid chromatography

Analyze the standard and sample solutions, indicated above, with HPLC by following the operating condition. Identify ginsenosides of the sample by comparing retention times of the peaks with those of the standard.

Operating condition:

Column: NH2 column, µ-Bondapak C18 column, or carbohydrate analyzing column

Detector: RI or UV (203nm)

Eluent

-RI detector; acetonitrile:water:1-butanol (80:20:10, v/v/v), or acetonitrile:water (80:20, v/v)

-UV detector; acetonitrile:water (30:70, v/v)

Flow rate: RI detector: 1.0 ml/min

UV detector: 1.5 ml/min

**PROPOSED DRAFT REVISED CODEX STANDARD FOR
JAMS, FRUIT PRESERVES, JELLIES AND MARMALADE
(At Step 3 of the Codex Procedure)**

1. SCOPE

- 1.1 This Standard applies to jams (fruit preserves), jellies and marmalades as defined in Section 2 below and offered for direct consumption including for catering purposes, or for repacking if required.
- 1.2 This Standard does not apply to:
- (a) products indicated as being intended for further processing; or
 - (b) products for use in the manufacture of fine bakery wares, pastries or biscuits i.e. bakery jam; or
 - (c) products prepared with non-carbohydrate sweeteners and which are clearly intended or labelled as intended for diabetic or dietetic use; or
 - (d) reduced sugar products or those with a very low sugar content.

2. DESCRIPTION

2.1 PRODUCT DEFINITIONS

PRODUCT	DEFINITION										
<u>Jam</u>	Is the product brought to a suitable gelled consistency, made from the fruit pulp or fruit puree of one or more kinds of fruit, which is mixed with sugars and/or other carbohydrate sweeteners such as honey, with or without the addition of water.										
<u>Extra Jam</u>	<p>is the product brought to a suitable gelled consistency, made from the unconcentrated fruit pulp of one or more kinds of fruit, which is mixed with sugars and/or other carbohydrate sweeteners such as honey, with or without the addition of water.</p> <p>The following extra jams may be obtained entirely or in part from the unconcentrated fruit puree of the fruits concerned.</p> <ul style="list-style-type: none"> (ii) rosehip extra jam (ii) seedless blackberry, blueberry, raspberry and redcurrant extra jams <p>The following fruits may not be mixed with others in the manufacture of extra jam:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Apples</td><td style="width: 50%;">Pears</td></tr> <tr> <td>Clingstone plums</td><td>Pumpkins</td></tr> <tr> <td>Cucumbers</td><td>Tomatoes</td></tr> <tr> <td>Grapes</td><td>Water-melons</td></tr> <tr> <td>Melons</td><td></td></tr> </table>	Apples	Pears	Clingstone plums	Pumpkins	Cucumbers	Tomatoes	Grapes	Water-melons	Melons	
Apples	Pears										
Clingstone plums	Pumpkins										
Cucumbers	Tomatoes										
Grapes	Water-melons										
Melons											
<u>Jelly and Extra Jelly</u>	<p>are the products brought to a semi solid gelled consistency which should be practically free from suspended particles and made from the juice and/or aqueous extracts of one or more fruits mixed with sugars and/or carbohydrate sweeteners such as honey with or without the addition of water.</p> <p>In the manufacture of extra jelly, the following fruits may not be mixed with others:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Apples</td><td style="width: 50%;">Pears</td></tr> <tr> <td>Clingstone plums</td><td>Pumpkins</td></tr> <tr> <td>Cucumbers</td><td>Tomatoes</td></tr> <tr> <td>Grapes</td><td>Water-melons</td></tr> <tr> <td>Melons</td><td></td></tr> </table>	Apples	Pears	Clingstone plums	Pumpkins	Cucumbers	Tomatoes	Grapes	Water-melons	Melons	
Apples	Pears										
Clingstone plums	Pumpkins										
Cucumbers	Tomatoes										
Grapes	Water-melons										
Melons											
<u>Marmalade</u>	is the product brought to a suitable gelled consistency made from the whole fruit, fruit pulp, puree, juice, aqueous extract or peel of citrus fruits mixed with sugars and/or carbohydrate sweeteners such as honey, with or without the addition of water.										
<u>Jelly Marmalade</u>	is the product described under marmalade from which all the insoluble solids have been removed but which may or may not contain a small proportion of thinly cut peel.										

2.2 OTHER DEFINITIONS

For the purposes of this Standard the following definitions shall also apply:

<u>Fruit</u>	(a) Fresh, substantially sound, wholesome and clean which is of suitable ripeness but free from deterioration and containing all its essential characteristics except that it has been trimmed sorted and otherwise treated to remove any blemishes, bruises, toppings, tailings, cores, pits (stones) and may or may not be peeled. (b) Shall also be taken to include the edible parts of tomatoes, trimmed rhubarb stems, carrots, sweet potatoes cucumbers pumpkins and melons and water melons with seeds stem and rind removed. (c) In the case of ginger this should be taken to mean the edible root of the ginger plant (<i>Zingiber officinale</i>) in a fresh or preserved state. Ginger may be dried or preserved in syrup
<u>Fruit Pulp</u>	The edible part of the whole fruit, if appropriate, less the peel, skin, seeds, pips and similar which may have been sliced or crushed but which has not been reduced to a puree
<u>Fruit Puree</u>	The edible part of the whole fruit, if appropriate, less the peel, skin, seeds pips and similar which has been reduced to a puree by sieving or a similar process.
<u>Aqueous Extracts</u>	The aqueous extract of fruits which subject to losses occurring during proper manufacture, contains all the water soluble constituents of the fruit concerned.
<u>Citrus Fruit</u>	
<u>Sugars</u>	(a) Sugars as defined in the Codex Alimentarius (b) Standard on Sugars extracted from fruit, (c) Fructose syrup (d) Honey

2.2 PRESENTATION

Any other presentation of the product is permitted provided that it:

- (a) is sufficiently different from those described in this Standard
- (b) meets all the requirements of this Standard; and
- (c) is adequately described on the label to avoid confusing or misleading the consumer with products covered by this Standard

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

3.1.1 Basic Ingredients

Products covered by this Standard shall consist of the following:

- (1) Fruit ingredient as defined in Section 2.2 in quantities laid down in Sections 3.1.1.1(a)– (d) below.
- (2) These are exclusive of any added sugar or optional ingredients. In the cases of jelly and extra jelly the quantities where appropriate shall be calculated after deduction of the weight of water used in preparing the aqueous extracts.
- (3) Sugar as defined in Section 2.2 and /or sweetening agent

3.1.2 Fruit Content

- (a) Jam and Jelly

Jam and Jelly, as defined in Section 2.1, shall be produced such that the quantity of the fruit ingredient used as a percentage of finished product shall be not less than:

- 35% in general
- 25% for blackcurrants, quinces, redcurrants, rosehips, rowanberries and sea-buckthorns
- 16% for cashew apples
- 15% for ginger
- 6% for passion fruit

(b) Extra Jam and Extra Jelly

Extra jam and Extra Jelly, as defined in Section 2.1, shall be produced such that the quantity of fruit ingredient used as a percentage of finished product shall be not less than:

- 45% in general
- 35% for blackcurrants, quinces, redcurrants, rosehips, rowanberries and sea-buckthorns
- 26% for cashew apples
- 25% for ginger
- 8% for passion fruit

(c) Marmalade

The product as defined in Section 2.1 shall be produced such that the quantity of **citrus fruit ingredient** used as a percentage of finished product shall be not less than:

- 20% of which not less than 7.5% is obtained from the endocarp.

In addition the term **jelly marmalade** as defined in Section 2.1 may be used when the product contains no insoluble matter but may contain small quantities of thinly cut peel.

3.1.3 Optional Ingredients

The following optional ingredients may also be used as in certain products as indicated below: -

Ingredient	PERMITTED IN
Fruit Juice or fruit juice concentrate	- Jam only
Red fruit juice	- Jam, extra jam made from gooseberries, plums, raspberries, redcurrants, rosehips, rhubarb or strawberries
Red beetroot juice	- Jam, jelly made from gooseberries, plums, raspberries, redcurrants or strawberries
Leaves of <i>Pelargonium odoratissimum</i>	- Jam, extra jam, jelly and extra jelly made from quince
Essential oils	- In all products
Citrus fruit juice and citrus peel	- In all products including marmalades
Liquid pectin, butter, margarine and other edible oils and fats (antifoaming agent), spirits, wine, liqueur wine, nuts, herbs and spices, vanilla and vanilla extracts, vanillin and food grade water	- In all products

3.2 SOLUBLE SOLIDS

The soluble solids content for the finished products defined in Section 3.1.1(a) – (d) shall in all cases not be lower than 60%. This shall be determined by refractometer subject to a tolerance of ± 3 refractometric degrees with the temperature corrected to 20°C and using the International Sucrose Scale but making no corrections for insoluble solids or acids. Those products where the sugars have been replaced wholly or partially by sweeteners are not covered by this Standard.

3.3 QUALITY CRITERIA

3.3.1 General Requirements

Fruits may be fresh, frozen, canned, concentrated and freeze-dried or may have undergone other physical preservation treatments.

The end product shall be of an appropriate gelled consistency, having normal colour and flavour appropriate to the type or kind of fruit ingredient used in the preparation of the mixture, while taking into account any flavour imparted by optional ingredients or any permitted colouring agents used. It shall be free from defective materials normally associated with fruits. Jelly and extra jelly shall be reasonably clear or transparent.

Sulphur dioxide or its salts may be used in the raw fruit material as an aid to manufacture(i.e. preservation) except in the manufacture of “extra” products provided that the maximum level of sulphur dioxide laid down in Section 4.4 for the final product is not exceeded.

3.3.2 Defects and Tolerances for Jams

The products covered by this Standard shall be largely free of defects such as plant material skins (if peeled), stones and pieces of stones and mineral matters. In the case of berry fruits and passion fruit, seeds shall be considered a natural fruit component and not a defect unless the product is presented as seedless.

3.3.3 Lot Acceptance

A lot shall be considered as meeting the quality requirements referred to in Sections 1, 2 and 3 when the number of ‘defectives’ does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

4. FOOD ADDITIVES

INS	Food Additive	Maximum Level
4.1 ACIDITY REGULATORS		
330	Citric acid	Limited by GMP
331(i), (ii) and (iii)	Mono, di and tri sodium citrates	
333(i) (ii) and (iii)	Mono, di and tri calcium citrates	
270	Lactic acid	
327	Calcium lactate	
296	Malic acid	
350(i), (ii)	sodium and sodium hydrogen malate	
334	L-Tartaric acid	
335(i) and (ii)	Mono and di sodium tartrates	
Base : In jams, jellies and marmalades only:		
524	Sodium hydroxide	Limited by GMP
4.2 ANTIFOAMING AGENTS		
471	Mono- and diglycerides of fatty acids	Limited by GMP
900	Di methyl polysiloxane	10 mg/kg
4.3 ANTIOXIDANT		
300	Ascorbic acid	Limited by GMP
4.4 COLOURS		
100	Curcumin	Limited by GMP
140	Chlorophylls and chlorophyllins	
141	Copper complexes of chlorophylls and chlorophyllins	
150a	Plain caramel	
150b	Caustic sulphite caramel	
150c	Ammonia caramel	
150d	Sulphite ammonia caramel	
160a	Carotenes	
(i)	Mixed carotenes	
(ii)	Beta-carotene	
160c	Paprika extract, capsanthin, capsorubin	
162	Beetroot red, betanin	
163	Anthocyanins	

INS	Food Additive	Maximum Level
104	Quinoline Yellow	10 mg/kg singly or in combination
110	Sunset Yellow	
120	Cochineal, carminic acid, carmines	
124	Ponceau 4R, cochineal Red A	
142	Green S	
160d	Lycopene	
161b	Lutein	
4.5 FIRMING AGENTS		
In jams, jellies and marmalades only:		
170(i)	Calcium carbonate	Limited by GMP
227	Calcium bisulphite	
327	Calcium lactate	
509	Calcium chloride	
578	Calcium gluconate	
4.6 FLAVOURINGS		
Natural fruit essences of the named fruits in the respective product		Limited by GMP
4.7 PRESERVATIVES		
220	Sulphur dioxide (residual carry over)	100 mg/kg (in the end product if made with sulphited fruit)
	Sulphur dioxide (added)	50 mg/kg (not permitted in extra jam or extra jelly)
<i>The following maybe required particularly in hotter countries and where product may not always be kept refrigerated?</i>		
[200	<i>Sorbic acid</i>	<i>1g/kg</i>
211	<i>Sodium benzoate</i>	<i>1g/kg</i>
16	<i>Esters of p- hydroxy benzoic acid</i>	<i>1g/kg]</i>
4.8 THICKENING AND GELLING AGENTS		
440 (i) and (ii)	Pectins	Limited by GMP
In jams, jellies and marmalades only:		
400	Alginic acid	10 g/kg singly or in combination
401	Sodium alginate	
402	Potassium alginate	
403	Ammonium alginate	
404	Calcium alginate	
406	Agar	
407	Carrageenan	
410	Carob seed flour (locust bean gum)	
412	Guar gum	
415	Xanthan gum	
418	Gellan gum	

5. CONTAMINANTS

5.1 HEAVY METALS

The products covered by the provisions of this Standard shall comply with those maximum limits for heavy metals established by the Codex Alimentarius Commission for these products.

5.2 PESTICIDE RESIDUES

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these products.

6. HYGIENE

- 6.1 It is recommended that the products covered by 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, Rev. 3 1997) and other relevant Codex texts such as Codes of Hygienic Practice and other Codes of Practice.

- 6.2 The products 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).

7. WEIGHTS AND MEASURES

7.1 FILL OF CONTAINER

7.1.1 Minimum Fill

The container should be well filled with the product which should occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

7.1.2 Classification of “Defectives”

A container that fails to meet the requirement for minimum fill (90% container capacity) of section 7.1.1 should be considered a “defective”

7.1.3 Lot Acceptance

A lot should be considered as meeting the requirement of section 7.1.1 when the number of “defectives” as defined in section 7.1.2 does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

8. LABELLING

- 8.1 The products covered by this Standard shall be labelled in accordance with the Codex General Standard for the Labelling of Pre-packaged Foods (CODEX STAN 1-1985 Rev 1-1991).

8.2 THE NAME OF THE PRODUCT

- 8.2.1 The name of the product shall be one of the following:

- Jam, preserve, or conserve
- Extra jam, extra preserve, or extra conserve
- Jelly
- Extra jelly
- Marmalade or jelly marmalade

- 8.2.2 The name of the product shall provide an indication of the fruit(s) used in descending order of weight. In the case of products made with three or more different fruits the alternative phrase “mixed fruit” or similar wording may be used.

- 8.2.3 The name of the product may provide an indication of the variety of fruit e.g. “Victoria” plum and /or may include an adjective describing the character e.g. “seedless”, “shredless”

- 8.2.4 Jam made from ginger, pineapple or figs, with or without the addition of citrus fruits may be called “ginger marmalade” pineapple marmalade or fig marmalade if this is a customary name in the country of sale.

- 8.2.5 In the case of marmalade which is not made exclusively from oranges the designation shall contain the citrus fruits from which the product was prepared except where the proportion of other citrus fruits is less than 10%.

8.3 FRUIT QUANTITY DECLARATION

The products covered by this Standard shall indicate the fruit ingredient content with the phrase “prepared with X g of fruit per 100g. This relates to the quantity and type of fruit ingredient used in the product as sold with a deduction for the weight of any water used in preparing the aqueous extracts.

8.4 SUGAR DECLARATION

The products covered by this Standard shall indicate the total sugar content with the phrase “total sugar content Xg per 100g” .

8.5 SULPHUR DIOXIDE DECLARATION

The products covered by this Standard shall indicate in the ingredients list the presence of any residual sulphur dioxide if contained in the product at a level greater than 10mg/kg

8.6 ASCORBIC ACID DECLARATION

If ascorbic acid is added to the product it shall be declared in the ingredients list as ascorbic acid.

8.7 LABELLING OF NON RETAIL CONTAINERS

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, distributor and/or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, distributor and/or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9. METHOD OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

**PROPOSED DRAFT CODEX STANDARD FOR
SOY SAUCE
(At Step 3 of the Codex Procedure)**

1. SCOPE

This Standard applies to the products as defined in Section 2 below.

2. DESCRIPTION

2.1 PRODUCT DEFINITION

Soy sauce is a liquid seasoning obtained by fermentation of soybeans and/or by hydrolysis of vegetable proteins.

Individual definition of each type of soy sauce is described under Section 2.1.1 through 2.1.4.

2.1.1 Naturally brewed soy sauce is the product obtained by:

- (a) *Aspergillus oryzae* and/or *Aspergillus sojae* as a starter are cultured in either soybeans or soybeans and cereal grains; or bacteria and/or molds and/or yeasts are cultured in either soybeans or soybeans and cereal grains,
- (b) the mixture of the product obtained by (a) and salt water is fermented and aged for not less than 90 days below its temperature of 40°C.

Instead of salt water in the process described above, Naturally brewed soy sauce, or a mixture of Naturally brewed soy sauce and salt water may be used.

2.1.2 Short-term brewed soy sauce is the product obtained by:

- (a) *Aspergillus oryzae* and/or *Aspergillus sojae* as a starter are cultured in either soybeans or soybeans and cereal grains,
- (b) the mixture of the product obtained by (a) and salt water is fermented and aged keeping its maximum temperature at or above 40°C, or for less than 90 days.

2.1.3 Non brewed soy sauce is the product obtained by:

- (a) Vegetable protein materials, such as defatted soybeans, are hydrolyzed by using acids or enzymes (the product obtained by this process is hereinafter referred to as "Hydrolyzed Vegetable Protein"),
- (b) sugars, salt, etc. are added to (a).

2.1.4 Mixed soy sauce is the product obtained by:

- (a) The different types of the soy sauces defined in subsections 2.1.1 through 2.1.3 are mixed; or
- (b) soy sauce(s) and Hydrolyzed Vegetable Protein are mixed.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

3.1.1 Basic Ingredients

3.1.1.1 Naturally brewed soy sauce and Short-term brewed soy sauce

- (a) Soybeans (including defatted soybeans),
- (b) Salt,
- (c) Potable water.

3.1.1.2 Non brewed soy sauce

- (a) Vegetable proteins
- (b) Sugars (as defined in the Codex Standard for Sugars CX-STAN 212-1999)
- (c) Potable water
- (d) Salt (to be used only in the case of process using enzymes)

3.1.2 Other Permitted Ingredients

For Naturally brewed soy sauce and Short-term brewed soy sauce (a) to (g) may be used, and for Non brewed soy sauce (a) and (d) to (g) may be used.

- (a) Cereal grains
- (b) Vegetable proteins
- (c) Sugars
- (d) Vinegar
- (e) Sweet rice wines
- (f) Distilled alcohol of agricultural origin
- (g) Salt
- (h) Hydrolyzed Vegetable Protein

3.2 QUALITY FACTORS

- (a) Total nitrogen not less than 0.7%(w/v)

Provided, however, that the product derived from wheat not less than 80% of total of soybeans and cereal grains weight shall have the total nitrogen of not less than 0.4%(w/v).

- (b) Soluble solids contents, exclusive of added salt not less than 6%(w/v)

4. FOOD ADDITIVES

INS	Food Additive	Maximum Level
4.1 ACIDITY REGULATORS		
260	Acetic acid, gracial	Limited by GMP
262	Sodium acetate	
270	Lactic acid	
330	Citric acid	
334	L-Tartaric acid	200 mg/kg
4.2 ANTIFOAMING AGENTS		
900	Polydimethylsiloxane	50 mg/kg
4.3 COLOURS		
150a	Caramel Colour class I	Limited by GMP
150c	Caramel Colour class III	1500 mg/kg
150d	Caramel Colour class IV	
4.4 FLAVOUR ENHANCERS		
508	Potassium chloride	Limited by GMP
621	Monosodium L-glutamate	
627	Disodium 5'-guanylate	
631	Disodium 5'-inosinate	
635	Disodium 5'-ribonucleotides	
4.5 PRESERVATIVES		
210	Benzoic acid	600mg/kg expressed as benzoic acid, singly or in combination
211	Sodium benzoate	
214	Ethyl p-hydroxybenzoate	250 mg/kg expressed as p-hydroxybenzoic acid, singly or in combination
216	Propyl p-hydroxybenzoate	
4.6 SWEETENERS		
420	Sorbitol	Limited by GMP
950	Acesulfame K	350mg/kg

INS	Food Additive	Maximum Level
4.7 THICKENING AND STABILIZING AGENTS		
412	Guar gum	Limited by GMP
414	Gum Arabic	
415	Xanthan gum	

5. HYGIENE

- 5.1 It is recommended that the products 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, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 5.2 The products 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).

6. LABELLING

Prepackaged products covered by this Standard shall be labelled in accordance with the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991).

6.1 THE NAME OF THE PRODUCTS

- 6.1.1 The name of the products shall be labelled as follows.

Naturally brewed soy sauce
Short-term brewed soy sauce
Non brewed soy sauce
Mixed soy sauce

According to the descriptions in subsection 2.1.1 through 2.1.4

- 6.1.2 The name of Mixed soy sauce shall be accompanied by the type of soy sauce mixed or Hydrolyzed Vegetable Protein in the descending order of contents in weight percentage in the product.
- 6.1.3 Soy sauce may be labelled to indicate its character according to the national legislation.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 SAMPLING

Sampling shall be in accordance with the Codex General Guidelines on Sampling (under preparation).

7.2 METHODS OF ANALYSIS

See Codex Alimentarius Volume 13.

**PROPOSED DRAFT REVISED CODEX STANDARD
FOR CANNED TOMATOES
(At Step 3 of the Codex Procedure)**

1. SCOPE

This Standard applies to product as defined in Section 2.1 below and offered for direct consumption including for catering purposes or for repacking if required. It does not apply to product when indicated as being intended for further processing.

2. DESCRIPTION

2.1 PRODUCT DEFINITION

Canned tomatoes is the product:

- (a) prepared from washed, ripened tomatoes, conforming to the characteristics of the fruit of *Lycopersicon esculentum* P. Mill, of red or reddish varieties (cultivars) which are clean and which are substantially sound, and which may be peeled or unpeeled;
- (b) packed with or without a suitable liquid packing medium (other than added water), and seasoning ingredients appropriate to the product; and
- (c) processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. The tomatoes shall have had the stems and calices removed and shall have been cored, except where the internal core is insignificant as to texture and appearance.

2.2 VARIETAL TYPE

Tomatoes of distinct varietal groups with respect to shape or other similar physical characteristics may be designated as:

2.2.1 **Round:** globular or semi-globular shape.

2.2.2 **Pear or Egg or Plum:** elongated shape.

2.3 Styles

Canned tomatoes in these styles are normally prepared with peel removed; if the peel is not removed, the style is considered additionally as "Unpeeled":

2.3.1 Whole

2.3.2 Whole and Pieces

2.3.3 Pieces

2.3.4 Diced

2.3.5 Sliced

2.3.6 Wedges

2.4 OTHER STYLES

Any other presentation of the product shall be permitted provided that the product:

- (a) is sufficiently distinctive from other forms of presentation laid down in this Standard;
- (b) meets all relevant requirements of this Standard, including requirements relating to limitations on defects, drained weight, and any other requirements in this Standard which are applicable to that style in the Standard which most closely resembles the style or styles intended to be provided for under this provision; and
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

2.5 TYPES OF PACK

2.5.1 Regular Pack - with a liquid medium added.

2.5.2 Solid Pack - without any added liquid.

2.5.3 Flavoured or Stewed or Seasoned - packed with vegetable ingredients, such as onions, peppers, and celery, not exceeding 10% m/m of the product.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

3.1.1 Basic Ingredients

Canned tomatoes as defined in Section 2.1 and liquid packing medium appropriate to the product.

3.1.2 Packing Media

Canned tomatoes may be packed in the following packing media:

- (a) Juice: the unconcentrated, undiluted liquid from ripened tomatoes.
- (b) Residual tomato material: the liquid strained from the residue from preparing tomatoes for canning.
- (c) Puree or Pulp: tomato puree or pulp (concentrated tomato juice containing not less than 8% but less than 24% tomato soluble solids).
- (d) Paste: tomato paste (highly concentrated tomato liquid containing not less than 24% tomato soluble solids).

3.2.3 Other Permitted Ingredients

- (a) Spices, spice oils, seasoning, and flavouring.
- (b) Natural vegetable products such as onion, peppers, celery, and basil leaf, not exceeding in total 10% m/m of the product.
- (c) Salt.
- (d) When acidifying agents are used, dry nutritive carbohydrate sweeteners including sucrose, dextrose, and dried glucose syrup.

3.3 QUALITY CRITERIA

Canned tomatoes shall have normal flavour, odour, and colour and shall possess texture characteristic of the product.

3.3.1 Definitions

- 3.3.1.1 **Whole or Almost Whole**: a tomato of any size in which the contour is not materially altered by coring or trimming; the unit may be readily restored to practically its original conformation; it may be slightly cracked or split but not to the extent that there is a material loss of placenta.
- 3.3.1.2 **Objectionable core material**: internal core material of tough and fibrous texture or tomato tissue representing the tomato core that is definitely objectionable as to appearance and edibility.
- 3.3.1.3 **Blemishes**: areas which are abnormal and contrast strongly in colour and/or texture with the normal tomato tissue and which would normally be removed in the preparation of tomatoes for culinary use.
- 3.3.1.4 **Extraneous plant material**: tomato leaves, stems, calyx bracts, and similar plant material.
- 3.3.1.5 **Peel (or skin)**: considered a defect except in "Unpeeled" styles; it is that which adheres to the tomato flesh or is found loose in the container.

3.3.2 Colour

The colour of the drained tomatoes shall have normal colour characteristics for ripened tomatoes that have been properly prepared and properly processed. Canned tomatoes containing other permitted ingredients shall be considered to be of characteristic colour when there is no abnormal discolouration for the respective ingredients used.

3.3.3 Flavour

Canned tomatoes shall have a normal flavour and odour free from flavours or odours foreign to the product and canned tomatoes with special ingredients shall have a flavour characteristic of that imparted by the tomatoes and the other substances used.

3.3.4 Size or Wholeness

Size or wholeness, as such, is only a factor in the style designated as "Whole" style. Canned tomatoes of "Whole" style shall consist of not less than 80% m/m of drained tomatoes in whole or almost whole units, except that in any container there may be one unit that is not whole or almost whole.

3.3.5 Allowances for Defects

The finished product shall be prepared from such materials and under such practices that it shall be substantially free from objectionable core material and extraneous plant material and shall not contain excessive defects whether specifically mentioned in this Standard or not. Certain common defects shall not be present in amounts greater than the following limitations:

3.3.5.1 *Peel* (except in "Unpeeled" styles)

Average - not more than 15 square centimeters aggregate area per kg of total contents.

3.3.5.2 *Blemishes*

Average - not more than 3.5 square centimeters aggregate area per kg of total contents.

3.3.5.3 *Mould Count* (in accordance with the AOAC Method 945.90).

- (a) For canned tomatoes packed with or without tomato juice, the lot shall be considered nonconforming if, when the juice or liquid portion is analyzed, the average mould count in 6 subsamples is 15% or more and the mould counts of all the subsamples are more than 12%.
- (b) For canned tomatoes packed in tomato puree, the lot shall be considered nonconforming if, when the liquid portion is analyzed, the average mould count in 6 subsamples is 29% or more and the mould counts of all of the subsamples are more than 25%.

3.3.6 Classification of "Defectives"

A container that fails to meet one or more of the applicable quality requirements as set out in Section 3.3 (except peel and blemishes, which are based on an average, and mould which is covered specifically in Section 3.3.5.3) shall be considered a "defective".

3.3.7 Lot Acceptance

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.3.6 when:

- (a) for those requirements which are not based on averages, the number of "defectives", as defined in Section 3.3.6, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969); and
- (b) the requirements which are based on sample averages (and related requirements for mould) are complied with.

4. FOOD ADDITIVES

- (a) **Acidity Regulators** - Any acidity regulator listed in Table 3 of the Codex General Standard for Food Additives or listed in food category 04.2.2.4 (Canned or bottled (pasteurized) or retort pouch vegetables) in Tables 1 and 2 of the Codex General Standard for Food Additives.
- (b) **Firming Agents** – Calcium salts as firming agents may be added such that calcium ion content in the end product in the styles "diced", "sliced", and "wedges" is not greater than 0.08%, and calcium ion content in the end product in the styles "whole", "whole and pieces", and "pieces" is not greater than 0.045%.

5. CONTAMINANTS

5.1 HEAVY METALS

The products covered by the provisions of this Standard shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for these products.

5.2 PESTICIDE RESIDUES

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these products.

6. HYGIENE

- 6.1 It is recommended that the products 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, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 6.2 The products 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).

7. WEIGHTS AND MEASURES

7.1 FILL OF CONTAINER

7.1.1 Minimum Fill

The container should be well filled with tomatoes and the product (including packing medium) should occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

7.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90% container capacity) of Section 7.1.1 shall be considered a "defective".

7.1.3 Lot Acceptance

A lot should be considered as meeting the requirement of Section 7.1.1 when the number of "defectives" as defined in Section 7.1.2, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

7.1.4 Minimum Drained Weight

- 7.1.4.1 The drained weight of the product shall be not less than 50% of the weight of distilled water at 20°C which the sealed container will hold when completely filled.
- 7.1.4.2 The requirements for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers examined is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

8. LABELLING

- 8.1 Canned tomatoes shall be labelled in accordance with the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991).

8.2 THE NAME OF THE PRODUCT

- 8.2.1 The name of the product shall be "Tomatoes".
- 8.2.2 The following shall be included as part of the name or in close proximity to the name of the product:
- (a) if the peel has not been removed, the word "Unpeeled";
 - (b) the packing material: "tomato puree," "tomato pulp," "tomato paste", or "residual tomato material" where appropriate.
- 8.2.3 The following shall be so stated on the label as to be easily discernible by the consumer:
- (a) the style: "diced", "sliced", or "wedges", where appropriate.
 - (b) the type: "flavoured", "seasoned", or "stewed", where appropriate, whichever of these terms is commonly used in the country concerned, or a declaration of the vegetable ingredients, e.g., "with X", where appropriate.
- 8.2.4 The name of the product may, if the product complies with the requirements set out in Section 3.3.4, include: the style: "Whole"
- 8.2.5 If the product is produced in accordance with the other styles provision (Section 2.4), the label shall contain in close proximity to the name of the product such additional words or phrases that will avoid misleading or confusing the consumer.
- 8.2.6 The following may be stated on the label:
- (a) the type: "solid pack" if the pack complies with Section 2.5.2;

- (b) the packing material: "juice" if the packing medium complies with Section 3.1.2 (a).

9. METHODS OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

**PROPOSED DRAFT REVISED CODEX STANDARD FOR
PROCESSED TOMATO CONCENTRATES
(At Step 3 of the Codex Procedure)**

1. SCOPE

This Standard applies to product as defined in Section 2.1 below and offered for direct consumption including for catering purposes or for repacking if required. It does not apply to product when indicated as being intended for further processing. The Standard does not include the products commonly known as tomato sauce, chili sauce, and ketchup, or similar products which are highly seasoned products of varying concentrations containing characterizing ingredients such as pepper, onions, vinegar, or sugar, etc., in quantities that materially alter the flavour, aroma, and taste of the tomato component.

2. DESCRIPTION

2.1 PRODUCT DEFINITION

2.1.1 Processed Tomato Concentrate is the product:

(1) Prepared by concentrating the liquid obtained from substantially sound, mature red tomatoes (*Lycopersicum esculentum* P. Mill) strained or otherwise prepared to exclude skins, seeds, and other coarse or hard substances in the finished product; and

(2) Preserved by physical means.

2.1.2 “Tomato Puree” or “Tomato Pulp”- Tomato concentrate that contains not less than 8%, but less than 24% of the natural tomato soluble solids.

2.1.3 “Tomato Paste” - Tomato concentrate that contains 24% or more of natural tomato soluble solids.

2.1.4 The concentration shall be 8 or more percent natural tomato soluble solids but not dehydrated to a dry powder or flake form.

2.1.5 Salt and other suitable seasoning ingredients may be added.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

3.1.1 Basic Ingredients

Processed tomato concentrate as defined in Section 2.1.

3.1.2 Other Permitted Ingredients

(a) Salt (sodium chloride);

(b) Spices, flavoring, and dried aromatic plants (such as basil leaf or onions, etc.) but not sugars or other sweeteners;

(c) Lemon juice (single strength or concentrated) used as an acidulant; and

(d) Water (to adjust final composition).

3.2 QUALITY CRITERIA

Processed tomato concentrates shall have a normal flavour, odour, and colour and shall possess texture characteristic of the product.

3.2.1 Colour

The product when diluted with water to reach approximately 8% natural tomato soluble solids shall have a fairly good red colour, free from abnormal colours for the product.

3.2.2 Texture

The concentrated product shall have a homogeneous, evenly divided texture indicative of good manufacturing practices.

3.2.3 Flavour

The product when diluted with water to reach approximately 8% natural tomato soluble solids shall have a good flavour characteristic of properly processed tomato concentrates without any objectionable flavour foreign to the product.

3.2.4 Defects

Processed tomato concentrates shall be prepared from such materials and under such practices that the product is substantially free from extraneous plant materials or similar objectionable substances and shall not contain excessive defects (whether or not specifically mentioned in this Standard).

Certain common defects, when so large or numerous or of such contrasting colour or nature as to affect noticeably the appearance or usability of the product, include:

- (a) dark specks or scale-like particles;
- (b) seeds or objectionable particles of seeds;
- (c) objectionable tomato peel because of colour and/or size;
- (d) harmless plant materials other than those used as seasonings;
- (e) mineral impurities - 60 mg/kg based on diluted product of 8% solids; and
- (f) other similar and objectionable defects.

3.2.4.1 Mould Count (in accordance with AOAC Method 965.41).

The product shall be considered nonconforming if the average mould count in 6 subsamples is 45% or more and the mould counts of all of the subsamples are more than 40%.

3.2.5 Classification of "Defectives"

A container that fails to meet the natural tomato soluble solids requirements, as set out in Sections 2.1.2 - 2.1.4, and/or one or more of the applicable quality requirements, as set out in Section 3.2, shall be considered a "defective".

3.2.6 Lot Acceptance

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.2.5 when:

- (a) the number of "defectives", as defined in Section 3.2.5, does not exceed the acceptance number (c) of the appropriate sampling in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969); and
- (b) maximum allowances for mould count are not exceeded (see Section 3.2.4.1).

4. FOOD ADDITIVES

Acidity Regulators - Any acidity regulator listed in Table 3 of the Codex General Standard for Food Additives or listed in food category 04.2.2.4 (Canned or bottled (pasteurized) or retort pouch vegetables) in Tables 1 and 2 of the Codex General Standard for Food Additives.

5. CONTAMINANTS

5.1 HEAVY METALS

The products covered by the provisions of this Standard shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for these products.

5.2 PESTICIDE RESIDUES

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these products.

6. HYGIENE

- 6.1 It is recommended that the products 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, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 6.2 The products 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).

7. WEIGHTS AND MEASURES

7.1 FILL OF CONTAINER

7.1.1 Minimum Fill

Containers shall be filled as full as commercially practicable having regard for the concentration of the product. When packed in rigid containers, the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

7.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90% container capacity) of Section 7.1.1 shall be considered a "defective".

7.1.3 Lot Acceptance

A lot should be considered as meeting the requirement of Section 7.1.1 when the number of "defectives", as defined in Section 7.1.2, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

8. LABELLING

8.1 Tomato concentrates shall be labelled in accordance with the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991).

8.2 THE NAME OF THE PRODUCT

8.2.1 The name of the product shall be:

“Tomato Puree” or “Tomato Pulp” if the food contains not less than 8% but less than 24% tomato soluble solids;

“Tomato Paste” if the food contains not less than 24% tomato soluble solids; or

“Tomato Concentrate” if accompanied by a declaration of the percentage of natural tomato soluble solids.

8.3 Declaration of the Percentage of Natural Tomato Soluble Solids

The percentage solids may be included on the label in either of the following manners:

(i) The minimum percentage of natural tomato soluble solids (example: "Minimum Solids - 20%").

(ii) A range within 2% of the natural tomato soluble solids (example: "Solids - 20% to 22%").

8.4 A declaration, as part of the name or in close proximity to the name, shall be made of any seasoning or flavouring which characterizes this product, e.g., "With X", when appropriate.

8.5 LABELLING OF NON-RETAIL CONTAINERS

Information for non-retail containers shall be given on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, or distributor, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, or distributor may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

**PROPOSED DRAFT CODEX STANDARD FOR
CERTAIN CANNED VEGETABLES
(At Step 3 of the Codex Procedure)**

1. SCOPE

This Standard applies to canned carrots, French beans and wax beans, asparagus, garden peas, palm, mature processed peas, sweet corn, and baby corn, as defined in Section 2 below and offered for direct consumption, including for catering purposes or for repackaging if required. It does not apply to the product when indicated as being intended for further processing.

2. DESCRIPTION

2.1 PRODUCT DEFINITIONS

The canned vegetables referred to in this Standard are vegetables:

- (a) Prepared from fresh (barring mature processed peas) and sound vegetables, as defined in Section 2.2, having reached appropriate maturity for processing. None of their essential elements are removed from them but they shall be washed and prepared appropriately, depending on the product to be produced. They undergo operations such as washing, peeling, grading, cutting, etc., depending on the type of product.

This Standard does not cover vegetables that are lacto-fermented, pickled or preserved in vinegar.

- (b) Packaged with a liquid conforming with the provisions of the Codex Guidelines for Packing Media for Canned Vegetables.¹

This liquid covers the vegetables or does not exceed 20% of the total net weight of the product.

When the product packaged without a liquid packing medium, or in a liquid packing medium that does not exceed 20% of the total net weight of the product, and the container is closed in a manner creating within it a minimum internal negative pressure:

- of 500² millibars (measured at 20°C) for containers with a capacity lower than or equal to 2550 ml,
- of 300 millibars for containers with a capacity higher than 2550 ml, the words 'packaged without a liquid packing medium' or 'vacuum packaged' may be used.
- (c) Submitted, before or after packaging in a hermetically closed container, to an appropriate heat treatment aimed at preventing spoilage and ensuring product stability in normal storage conditions at room temperature.

2.2 SPECIFIC DEFINITIONS OF PRODUCTS

- 2.2.1 The name 'carrots' stands for the product prepared using clean and sound roots of varieties (cultivars) of carrots complying with the characteristics of the species *Daucus carota* L., rid of their tops, green extremities and peel.
- 2.2.2 The names 'French beans' or 'wax beans' stand for the products prepared from the fresh pods (or runners), incompletely ripe and with cut off ends, of *Phaseolus vulgaris* L or *Phaseolus multiflorus* LMK.
- 2.2.3 The name 'asparagus' stands for the product prepared from the edible portions of peeled or unpeeled stems of varieties of asparagus complying with the characteristics of *Asparagus officinalis* L.
- 2.2.4 The name 'peas' stands for the product prepared from incompletely ripe, fresh grains of *Pisum sativum* L peas, of the smooth or wrinkled varieties.
- 2.2.5 The name 'palm hearts' stands for the product prepared from the terminal buds of wild palms (upper and inferior meristems), where young stems rise, rid of fibrous parts. The product has a heterogeneous structure. These wild palms have the characteristics of *Euterpe edulis* (single stem) or *Euterpe oleracea* (several stems in a clump) and with other species of wild palms fit for human consumption.

The name 'shoots of palms' (or 'shoots of cultivated palm') correspond to the central part of the stem of young and sound shoots, rid of fibrous parts, of the cultivated palm of varieties derived from *Bactris gasipaes*, or other species of cultivated palm fit for human consumption.

¹ At a present time proposal of Codex Guidelines for Packing Media for Canned Vegetables.

² Thailand's proposal: 400 millibars.

- 2.2.6 The name 'mature processed peas' stands for the product prepared using clean, sound, whole, threshed, and dried grains of the species *Pisum sativum* L., which has undergone soaking, but excluding the *macrosporum* sub-variety.
- 2.2.7 The name 'sweetcorn' stands for the product prepared from clean and sound grains of sweetcorn, of white or yellow colour, complying with the characteristics of *Zea mays saccharata* L.
- 2.2.8 The name 'baby corn' or 'baby corn cob' stands for the product prepared from selected young corn cob without pollination of commercial varieties conforming to the characteristics of *Zea mays* L., from which silk and husk are removed.

2.3 STYLES

2.3.1 Carrots

(a) Whole:

Conical or cylindrical cultivars (for example, *Chantenay* and *Amsterdam* varieties): carrots which, after processing, more or less keep their initial shape. The largest diameter of carrots, measured at right angles to the longitudinal axis, shall not exceed 50 mm. The ratio between the diameters of the biggest and smallest carrots shall not be greater than 3/1.

Spherical cultivars ('Paris' carrots): carrots that have reached full maturity, of rounded shape, whose largest diameter in each direction shall not exceed 45 mm.

(b) Young whole carrots:

(i) Conical or cylindrical cultivars: carrots whose diameter does not exceed 23 mm and whose length does not exceed 100 mm.

(ii) Spherical cultivars: whole carrots whose diameter in each direction does not exceed 27 mm³.

(c) Halves: Carrots cut along the longitudinal axis into two roughly equal parts.

(d) Quarters: Carrots cut into four roughly equal parts by slicing in two points perpendicularly to the longitudinal axis.

(e) Lengthways portions: Carrots sliced lengthways, in a straight or wavy manner, into four or more pieces of roughly equal dimensions, at least 20 mm long at the point of the largest width.

(f) Rounds: Carrots cut, in a straight or wavy manner, perpendicularly to the longitudinal axis, in rounds with a maximum thickness of 8 mm⁴ and a maximum diameter of 50 mm.

(g) Diced: Carrots cut into cubes with an approximately 12 mm⁵ side at most.

(h) Strips: Carrots cut lengthways, in a straight or wavy manner, into sticks. The section of the sticks should not exceed 5 mm (measured at the longest edges of the section).

(i) Double-size diced: carrots cut in regular pieces, of a square section, whose longer dimension is roughly twice the shorter, which should not exceed 12.5 mm.

(j) Pieces: Whole carrots cut widthways into sections of a thickness above 10 mm, or whole carrots cut in two and sliced widthways into sections, or else carrot sections whose shape or grade may be irregular and whose size is greater than that of rounds or double-size diced.

(k) Finger cuts: Pieces of whole carrots, of at least 40 mm length and a diameter lower than or equal to 23mm.

2.3.2 French Beans and Wax Beans

2.3.2.1 French beans and wax beans come in the following shapes and sizes:

(a) Whole: whole pieces graded of any length.

(b) Cut/broken: pieces cut widthways with respect to the longitudinal axis; approximately uniform pieces of 20 mm to 50 mm length.

³ CL 1997/1-PFV – annex XXIV : 18 mm

⁴ CL 1997/1-PFV – annex XXIV : 10 mm.

⁵ CL 1997/1-PFV – annex XXIV : 12,5 mm.

- (c) Small cuts: pieces cut widthways with respect to the longitudinal axis, pieces as uniform as possible of 10 mm to 20 mm length.
- (d) Cut lengthways: pieces in strips, of a thickness under 6.5 mm, of which the majority are cut slantwise or lengthways.

2.3.2.2 French beans and wax beans defined in a) are graded in accordance with the following table. The grade is measured on the main axis at the widest point from one suture to the other.

Grading Requirements for Beans (French Beans or Wax Beans)

CATEGORIES	GRADING CRITERION (mm)	Maximum percentage of non conforming beans
1. Extra small	6.5	10%
2. Very small	8.0	10%
3. Small	9.0	15%
4. Medium	10.5	25%
5. Large	Out of grade	
6. Not screened	Not screened (*)	Natural breakdown of the size of beans (*).

(*) **Not screened:** beans in the natural proportion of size after cleaning, without the removal or addition of screened beans.

2.3.3 Asparagus:

2.3.3.1 Asparagus comes in the following shapes and sizes:

- (a) Asparagus or long asparagus: tip and adjoining part of the spear measuring at most 18 cm and at least 12 cm⁶ in length;
- (b) Short asparagus: tip and adjoining part of the spear measuring at most 12cm and at least 7 cm⁷ in length;
- (c) Asparagus tips: upper extremity (bud) and adjoining part of spears measuring at most 7 cm⁸ and at least 4 cm in length;
- (d) Asparagus cut with tips or without tips: spears cut widthways into chunks with or without tips, measuring at most 7 cm⁹ and at least 2 cm in length. This type of presentation shall comprise at least 20% with tips;
- (e) Cut asparagus: spears cut widthways into chunks measuring at most 6cm in length. Tips may be present.

2.3.3.2 Asparagus are canned as follows in terms of their colour:

- (a) White asparagus: white, cream or yellowish spears; no more than 20% in number of spears may have violet, green, light green or yellowish green tips;
- (b) White asparagus with violet or green tips: asparagus, 'short' asparagus and 'tips' of white, cream or yellowish white asparagus may have violet, green, light green or yellowish green tips, and these colours may also apply to the adjoining region, but no more than 25% in number of the units may present these colours over more than 20%¹⁰ of their length;
- (c) Green asparagus the units are green, light green or yellowish green: no more than 20% in number of the units may present a white, cream or yellowish white colour in the lower part of the spear over more than 20% of their length;
- (d) Mixes: mixes of white, cream, yellowish white, violet, green, light green or yellowish green units.

2.3.3.3 Asparagus may be designated in terms of their grade as follows; the grade corresponds to the maximum diameter of the thickest part of the unit measured perpendicularly to the longitudinal axis of the unit.

⁶ CL 1997/1-PFV-annex XXIII : 15 cm

⁷ CL 1997/1-PFV-annex XXIII : at most 15 cm, and at least 10,5 cm in length.

⁸ CL 1997/1-PFV-annex XXIII : 10,5 cm

⁹ CL 1997/1-PFV-annex XXIII : 6 cm

¹⁰ CL 1997/1-PFV-annex XXIII : 50%

STYLES	PEELED ASPARAGUS	UNPEELED ASPARAGUS
Small	Up to 8 mm	Up to 10 mm
Medium	From above 8 mm to 13 mm inclusive	From above 10 mm to 15 mm inclusive
Large	From above 13 mm to 18 mm inclusive	From above 15 mm to 20 mm inclusive
Very large	More than 18 mm	More than 20 mm

2.3.4 Garden Peas

Garden peas are canned whole according to the grades given in the following table.

NAMES	Diameter of the circular perforations of the corresponding screen (these perforations are those through which raw grains must pass)
GARDEN PEAS	
Extra small garden peas	7.5 mm
Very small garden peas	8.2 mm
Small garden peas	8.75 mm
Medium garden peas	9.3 mm
Large garden peas	out of grade
SWEET GARDEN PEAS	
Extra small sweet garden peas	7.5 mm
Very small sweet garden peas	8.2 mm
Small sweet garden peas	9.3 mm
Medium sweet garden peas	10.2 mm
Large sweet garden peas	Out of grade
Sweet garden peas *	Not screened

Garden peas may be canned with mixes from different screens subject to the mandatory statement on the label of the percentage in weight coming from the different screens according to Section 7.

* Sweet garden peas: garden peas of wrinkled varieties, in the natural proportion of sizes after beating and cleaning, without the removal or addition of screened peas.

2.3.5 Wild Palm and Cultivated Palm

2.3.5.1 Palm is presented in the following table:

- 'Palm hearts' correspond to the terminal bud of the wild palm and the upper part of the stem, cut widthways into pieces having a minimum length of 40 mm and a maximum length depending on the size of the container.¹¹
- 'Palm shoots' or 'shoots of cultivated palm' correspond to the young shoots of the cultivated palm and come from the central part of the stem cut widthways into pieces having a minimum length of 40mm and a maximum length depending on the size of the container.¹¹
- 'Palm stem pieces' correspond to the conical part of the stem, from young shoots of cultivated palm, closest to the root, cut widthways into pieces having a minimum length of 40 mm and a maximum length depending on the size of the container.¹¹
- 'Palm tips' correspond to the upper part of the stem from young shoots of cultivated palm, cut widthways into pieces having a minimum length of 40 mm and a maximum length depending on the size of the container.¹¹
- 'Rounds' of 'palm hearts' or of 'palm shoots' or of 'palm shoots of cultivated palm', or of 'palm stems' of cultivated palm, or of 'palm tips' of cultivated palm, as defined in a), b), c), d), correspond to these products cut widthways into pieces having a minimum thickness of 25 mm and a maximum thickness of 40 mm.¹²

¹¹ CL 1997/1-PFV- annex XXIII : 120 mm maximum.

¹² CL 1997/1-PFV-annex XXIII : at least 15 mm and at most 35 mm.

- (f) ‘Slices’ of ‘palm hearts’ or of ‘palm shoots’ or of ‘palm shoots of cultivated palm’, or of ‘palm stems’ of cultivated palm, or of ‘palm tips’ of cultivated palm shoots’ as defined in a), b), c), d), correspond to these products cut into pieces having a minimum thickness of 3 mm and a maximum thickness of 25 mm.

2.3.5.2 ‘Palm shoots’ or ‘shoots’, ‘palm stem pieces’ and ‘palm tips’ of cultivated palm may be graded as follows in terms of their diameter.

GRADES NAMES	GRADE CRITERIA
Small	10 mm ¹³ to 25 mm inclusive
Medium	More than 25 mm to 35 mm inclusive
Large	More than 35 mm to 50 mm inclusive
Very large	More than 50 mm
Mixed grades	Mix of 2 grades or more

Thickness is measured at the thickest part of the unit perpendicularly to the longitudinal axis.

2.3.6 Sweet Corn

2.3.6.1 Whole grains packaged with or without a liquid packing media:

2.3.6.2. Creamed corn: whole grains or relatively whole grains, packed with a creamy liquid derived from the corn grains, so as to obtain a product with a creamy consistency.

2.3.7. Baby Corn Cob

2.3.6.1. Baby corn comes in the following styles:

- (a) Whole - whole cob of baby corn from which silk, husk and shank are removed.
- (b) Cut corn - baby corn with diameter not more than 25 mm cut crosswise into section having a length between 1,5 and 4cm.

2.3.6.2 Canned baby corn in whole style may be designated according to size in the following manner.

Cob Size	Length (cm)	Diameter (cm)
Extra large	10 – 13	>1.8
Large	8 – 10	1.0 - 2.0
Medium	6 – 9	1.0 - 1.8
Small	4 – 7	< 1.5

2.4 Other Styles

Any other presentation of the product should be permitted provided that the product:

- (a) is sufficiently distinctive from other forms of presentation laid down in the Standard; and,
- (b) meets all relevant requirements of the Standard, including those relating to limitations on defects, drained weight, and any other requirement in the Standard which are applicable to that style in the Standard which most closely resembles the style or styles intended to be provided for under this provision; and,
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **COMPOSITION**

3.1.1 Basic Ingredients

Vegetables as defined in Section 2 and the appropriate liquid packing medium for the product.

3.2 **PACKING MEDIA**

In accordance with the Codex Guidelines for Packing Media for Canned Vegetables (under development).

¹³ CL 1997/1-PFV-annex XXIII : 15 mm maximum.

3.3 OTHER PERMITTED INGREDIENTS

- (a) Vinegar,
- (b) Garnish composed of one or several vegetables within the limit of 10% of the net drained weight of the product,
- (c) Extract of mint,
- (d) Oil.¹⁴

3.4 QUALITY CRITERIA

3.4.1 Flavour, Texture and Colour

- 3.4.1.1 Canned vegetables shall have normal flavour, odour and colour of canned vegetables, corresponding to the type of vegetable used and shall possess texture characteristic of the product. They shall be free of fibrous and/or tough parts.
- 3.4.1.2 Creamed corn should present a fine but not excessively fluid consistency, or which may be dense and thick but not excessively dry or pasty, so that after two minutes a moderate but not excessive separation of free liquid can be seen.

3.4.2 Grading Uniformity

3.4.2.1 Asparagus

- (1) Length: the specifications required in Section 2.3.3 regarding the types of presentation of asparagus are met when:
 - (a) The most frequent length of the units of the sample remains within the limits laid down for this category of type of presentation;
 - (b) The length of the units is reasonably uniform. By 'reasonably uniform', on the basis of the average of the samples, the following is meant:
 - (i) Asparagus (or long asparagus), short asparagus and asparagus tips: at least 75% of the number of units do not deviate by more than 1cm from the most frequent length and at least 90% of the number of units do not deviate by more than 2cm from the most frequent length.
 - (ii) Asparagus cut with tips or without tips: at least 75% of the number of units do not deviate by more than 1cm from the most frequent length and at least 90% of the number of units do not deviate by more than 2cm from the most frequent length.
- (2) Diameter: compliance with respect to the 'individual grade' names.
 - (a) When a product is said to be, presented or sold as complying with the names of the individual grades of Section 2.3.3, the sampling unit should comply with the specified diameter for each individual grade, provided no more than 25% in number of all the units contained in the container belong to the group (or groups) of adjacent grades.
 - (b) Any container or sampling unit which exceeds the tolerance of 25% laid down above should be considered 'defective' as far as grading is concerned.

3.4.2.2 Carrots

- (1) Length: for carrots defined in 2.3.1 a) and b) at least 75% of the drained weight shall not deviate by more than 5 mm from the average carrot length, and at least 90% of the net drained weight shall not deviate by more than 10 mm from the average carrot length.
- (2) Diameter and other measurements: there is a 10% tolerance with respect to the maximum dimension.
- (3) Any container or sampling unit that exceeds the tolerances set forth in 1) and 2) should be considered defective.

¹⁴ Thailand's proposal

3.4.2.3 Palms

- (1) Length: the specifications laid down in Section 2.3.5 concerning the types of presentation of palm are met when:
 - (a) The most frequent length of the sample units remains within the limits laid down for the category of type of presentation;
 - (b) The length of units is reasonably uniform. On the basis of the average of samples and subject to compliance with the provisions of Section 2.3.5, 'reasonably uniform' means that the gap between the length of all the units and the predominant length does not exceed approximately ± 5 mm,¹⁵ and the gap between the thickness of all the units and the predominant thickness does not exceed 5 mm¹⁵
- (2) Diameter:

When a product is said to be, presented or sold as complying with the individual grade provisions laid down in Section 2.3.5.2, the sampling unit or the container is considered as complying with the specified diameter for each individual grade provided when no more than 20%¹⁶ in number for products from cultivated palms, belong to the group (or groups) of adjacent grades.

3.4.2.4 Baby Corn or Baby Corn Cob

- (1) For every size of whole baby corn, the length of the longest cob should not be more than 3cm longer than the length of the shortest cob in each container.
- (2) Any container or sampling unit that exceeds the tolerances laid down in paragraph 1) should be considered defective.

3.4.2.5 Lot Acceptance

A lot should be considered as meeting the applicable quality requirements about individual grades when the number of 'defective' units does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

3.4.3 Defects and Tolerances

Canned vegetables should be substantially free from defects. Certain common defects should not be present in amounts greater than the following limitations:

3.4.3.1 Defects and Tolerances for Carrots

Whole Carrots and Whole Young Carrots, Carrots in Halves, in Quarters, Strips, Finger Cuts

DEFECTS	Tolerances as a percentage of the drained product weight
(a) <u>Blemished carrots</u> : blemished or faded zones with a diameter above 5 mm	20
(b) <u>Mechanical damage</u> : carrots that are crushed or grazed during canning	10
(c) <u>Malformations</u> : deformations or fissures that appeared during growth	20
(d) <u>Unpeeled parts</u> : 30% or more of the surface is unpeeled	20
(e) <u>Fibrous</u> : carrots that are hard or woody owing to their fibrousness	10
(f) <u>Black or dark green collar</u> : collar with a ring that is one millimetre thick over more than half its circumference.	20
(g) <u>Foreign vegetal matter</u> : vegetal substance from the carrot or any other innocuous vegetal matter	1 piece per 1000g of total content in the container

The total amount of defects from a) to f) shall not exceed 35% of the weight

¹⁵ CL 1997/1-PFV-annex XXIII : 10 mm

¹⁶ CL 1997/1-PFV-annex XXIII : 30%

Defects c), d) and f) do not apply to diced, rounds, strips, double-size diced; for these presentations the total amount of defects a), b) and e) shall not exceed 25%.

3.4.3.2 Defects and Tolerances for French Beans and Wax Beans

3.4.3.2.1 Definitions of Defects

(a) Stringy pods:

A bean is recognised as being stringy if one of the strings on each side of the pod resists being pulled.

(b) Damaged pods:

Beans are deemed to be damaged if they have pods presenting rust, blemishes greater than 5 mm in diameter, spots, or —upon organoleptic examination—whose skin has grown thick, thereby diminishing the food value.

(c) Harmless plant material:

Parts of the plant (bean) and innocuous foreign vegetal matter are considered as vegetal debris.

(d) Pieces of beans:

Pieces of beans whose length is lower than 20 mm (for cans of whole beans).

(e) Pods without ends removed:

Beans whose attachment is still present (beans where only the protuberance remains where the peduncle was attached are not considered as pods without ends removed).

3.4.3.2.2 Defect Tolerances

The following limitations of defects are expressed in percentages, and related to the drained weight of the product.

CATEGORY	Stringy pods	Pods without ends removed	Defective pods	Bean pieces	Harmless plant material	Aggregate defects
Extra small French beans	2	3	3	3	1	8
Very small French beans	3	3	3	3	3	10
Small French beans	3	3	3	3	3	10
Small wax beans	3	3	3	3	3	10
Medium French beans	3	3	4	4	4	15
Medium wax beans	3	3	4	4	4	15
French beans	3	3	5	5	5	20
Wax beans	3	3	5	5	5	20

3.4.3.3 Defects and Tolerances for Asparagus

DEFECTS AND TOLERANCES	MAXIMUM
(a) Asparagus tips and other parts crushed (broken or crushed pieces to the extent that they seriously impair the product aspect and comprising fragments under 1cm in length)	5% in number
(b) Foreign matter (such as sand, soil or substances from soil)	The product should be reasonably free of such defects
(c) Asparagus with skin (only in the case of asparagus presented peeled) (units comprising unpeeled zones which seriously impair the aspect or the edibility of the product)	10% in number
(d) Hollow asparagus (hollow units to the extent that they seriously impair the product aspect), and fibrous, tough asparagus.	10% in number
(e) Deformed asparagus (comprising spears or tips that are very curved, or any unit seriously impaired by splitting into two or any other malformation) and open tips.	10% in number
(f) Damaged asparagus (by a colour defect, a mechanical lesion, a disease, or damaged by any other means to the extent that the aspect or the edibility of the product is seriously impaired).	10% in number
Total of all the defects described in a), d), e), f), for the following types of presentation:	
Asparagus	15% in number
Short asparagus	15% in number
Asparagus tips	15% in number
Asparagus cut with tips	20% in number
Cut asparagus	25% in number

3.4.3.4 Defects and Tolerances for Garden Peas

Defects	Maximum limit in drained weight m/m		
	Extra small	Very small	Other gradin
(a) <u>Blemished peas</u> : peas with colour defect, germinated and worm-eaten peas	1	2	3
(b) <u>Yellow peas</u> : entirely yellow peas, but not colourless peas	1	1	2
(c) <u>Peas fragments</u> : fractions of peas, separated or detached cotyledons, excluded whole peas without skin	5	5	5
(d) <u>Foreign vegetal matter</u> : parts of the plant (peas), and innocuous foreign vegetal matter	0,5	1	1
TOTAL of defects a, b, c and d (m/m)	6	7	10

3.4.3.5 Defects and Tolerances for Sweet Corn

Sweet corn grains should have a reasonably tender texture, offering some resistance to chewing yet without being hard or tough.

The finished product shall be practically free of fragments of cobs, silks, shucks, grains with an abnormal colour or a malformation, foreign vegetal matter and other defects not expressly mentioned. The proportion of certain current defects shall not exceed the following limits:

DEFECTS	DEFINITION OF DEFECTS	TOLERANCE IN m/m (%)
Foreign vegetal matter	Fragments of cobs, awns, shucks, foreign grains or a different variety of sweetcorn	0.2 ¹⁷
Blemished grains	Grains affected by a lesion due to insects or diseases, or presenting an abnormal colour	1
Torn grains	Grains keeping a piece of cob or hard matter adhering to them	2
Split grains or empty skins	Entirely open grains	5 ¹⁸

Any unit where the proportion of defects exceeds the tolerances laid down above shall be considered defective.

3.4.3.6 Defects and Tolerances for Wild Palms and Cultivated Palms

(a) Definition of Defects

- A - Defective texture: hard or fibrous and/or excessively soft texture which seriously impairs product edibility.
- B - Mineral impurities: such as sand, gravel or other soil elements.
- C - Damaged units: units presenting colour defects, scars and grazes, abrasions and other imperfections of the same type which seriously impair product appearance.
- D - Mechanical damage: broken or split units, fragments or detached pieces, which seriously impair product appearance.
- E - Abnormal colour: colour considerably different from the typical colour of the product.
- F - Physiological defects: for 'palm hearts' and 'palm hearts in rounds', units with palm tree stem apical meristems.

(b) Defect Tolerances

DEFECTS	WEIGHT PERCENTAGE WITH RESPECT TO THE DRAINED WEIGHT OF THE PRODUCT ¹⁹
A – Defective texture	10
B – Mineral impurities	0.1
C – Damaged units	10 ²⁰
D – Mechanical damage	10
E – Abnormal colour	10
F – Physiological defects	10
TOTAL amount of defects for palm hearts, palm shoots or shoots of cultivated palm, palm stem pieces and palm tips .	20
TOTAL amount for other styles	25

¹⁷ The Thailand's proposal is : 0,5% m/m

¹⁸ The Thailand's proposal is : 10% m/m

¹⁹ CL 1997/1-PFV annex XXXIII : defects c),d),e) and f) are expressed with numbers.

²⁰ CL 1997/1-PFV annex XXXIII : 15%.

3.4.3.7 Defects and Tolerances for Mature Processed Peas

DEFECTS	MAXIMUM LIMITS Weight percentages with respect to the product drained weight
(a) <u>Blemished peas</u> : peas with slight blemishes or spots	10
(b) <u>Very blemished peas</u> : peas with spots and colour defects or otherwise blemished to the extent that their aspect or edibility are seriously affected; worm-eaten peas come under this category	2
(c) <u>Pea fragments</u> : fractions of peas such as separated or detached cotyledons, crushed cotyledons partially or totally broken, and detached skins	10
(d) <u>Foreign vegetal matter</u> : any fragment of tendril, peduncle, leaf or pod and any other foreign matter.	0,5

The total of the defects a), b), c) and d) should not exceed 15% by weight.

3.4.3.8 Defects and Tolerances for Baby Corn

(a) Whole Baby Corn

Defects	Maximum limit in drained weight (simple size 1 kg)
(a) Discolour	5%
(b) Irregular shape	5%
(c) Young husk and shank	10%
(d) Silk broken from the cob	20 cm of broken silks put together
(e) Brown tip	5%
(f) Broken tip with the diameter larger than 5 mm (Broken tip means tips of the cobs that are broken after packing. When these pieces are put together, the cob shape will be formed.)	5%
(g) Damage resulting from cutting	10%
(h) Broken pieces (broken pieces means the portions of broken pieces that cannot be put together to form the cob shape.)	2%
TOTAL DEFECTS without d)	25%

(b) Cut Baby Corn

Defects	Maximum limits in drained weight (sample size 1 kg)
(i) Over/under size	5%
(j) Discolour	5%
(k) Peel	5%
(l) Silk	20 cm of broken silks put together
TOTAL DEFECTS without l)	20% ²¹

3.5 CLASSIFICATION OF DEFECTIVES

A container that fails to meet one or more of the applicable quality requirements, as set out in Section 3.4 (except those based on sample average) should be considered a “defective”.

3.6 LOT ACCEPTANCE

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.4 when:

²¹ Error about this total amount: France contacts Thailand

- (a) for those requirements which are not based on averages, the number of defectives, as defined in Section 3.4, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969); and
- (b) the requirements of Section 3.4, which are based on sample average, are complied with.

4. FOOD ADDITIVES

4.1 CANNED VEGETABLES

INS	Food Additive	Maximum Level
4.1 ACIDITY REGULATORS		
260	Acetic acid	Limited by GMP
261(i)	Potassium acetate	
262(i)	Sodium acetate	
263	Calcium acetate	
270	Lactic acid	
300	Ascorbic acid	
301	Sodium ascorbate	
302	Calcium ascorbate	
325	Sodium lactate	
326	Potassium lactate	
327	Calcium lactate	
330	Citric acid	
331	Sodium citrates	
332	Potassium citrates	
333	Calcium citrates	
334	Tartaric acid	
335	Sodium tartrates	
336	Potassium tartrates	
337	Double tartrate of sodium and potassium	
575	Glucono-delta-lactone	
4.1.2 Additives authorized in certain canned vegetables		
386	Ethylene Diamine Tetra Acetate (EDTA)	30mg/kg (baby corn) ²²
621	Monosodium glutamate	GMP (canned peas, canned French beans & wax beans)
296	Malic acid	GMP (canned asparagus and canned baby corn ²³)
509	Calcium chloride	GMP (canned mature processed peas)
578	Calcium gluconate	GMP (mature processed peas)
170(ii)	Calcium bicarbonate	GMP (mature processed peas)
142	Green solid FCF	200 mg/kg (mature processed peas: singly or in combination)
102	TartrazinE	
133	Brilliant blue FCF	25 mg/kg (calculated as tin, packaged in glass jars or in entirely coated cans)
412	Stannous chloride	

²² Thailand's proposal

²³ Thailand's proposal for baby corn : GMP

5. CONTAMINANTS

5.1 HEAVY METALS

The products covered by the provisions of this Standard shall comply with those maximum levels for heavy metals established by the Codex Alimentarius Commission for these products.²⁴

5.2 PESTICIDE RESIDUES

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these products

6. HYGIENE

- 6.1. It is recommended that the products 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, Rev. 3 – 1997), and of the Recommended International Code of Hygienic Practice for Low-Acid and Acidified Low-Acid Canned Foods (CAC/RCP 23-1979, rev. 1-1989) and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 6.2. The products 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).
- 6.3. To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.
- 6.4. When tested by appropriate method of sampling, the product:
 - (a) shall be free from microorganisms capable of development in the product under normal conditions of storage, and
 - (b) shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.
- 6.5. Canned vegetables has to undergo a heat treatment in order to destroy *Clostridium botulinum* spores.

7. WEIGHTS AND MEASURES

7.1 FILL OF CONTAINER

7.1.1 Minimum Fill

The container should be well filled with vegetables and the product (including the packing medium) should occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled. This provision does not apply to vacuum packaged vegetables.

7.1.2 Classification of 'Defectives'

A container that fails to meet the requirement for minimum fill (90% container capacity) of Section 7.1.1 should be considered a 'defective'.

7.1.3 Lot Acceptance

A lot should be considered as meeting the requirements of Section 7.1.1 when the number of 'defectives', as defined in Section 7.1.2, does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

7.2 MINIMUM DRAINED WEIGHT

The drained weight of the product should not be less than the following percentages, calculated on the basis of the weight of distilled water at 20°C, which the sealed container will hold when completely filled.²⁵

²⁴ CL 1997/1-PFV : lead : 0,1 mg/kg; tin : 200 mg/kg for metallic cans unvarnished.

²⁵ For non metallic rigid containers such as glass jars, the basis for the determination should be calculated on the weight of distilled water at 20°C which the sealed container will hold when completely filled less 20 ml.

7.2.1 Carrots

Type of Presentation	Minimum drained weight (%)
Whole	62.5
Halves, whole young carrots	62.5
Lengthways portions	62.5
Diced, double-size diced	62.5
Strips	52.0
Quarters, pieces, rounds	62.5
Carrots	62.5
Finger cuts	62.5

7.2.2 French Beans and Wax Beans

Type of presentation	Minimum drained weight (%)
Whole	52
Other presentations, except strips	54
Strips	50

7.2.3 Asparagus

Type of presentation	Minimum drained weight (%)	
	Peeled	Unpeeled
White asparagus	59	57
Short white asparagus		
Green asparagus	54	57
Other types of presentation	58	55

7.2.4 Sweet Corn

Type of presentation	Minimum drained weight (%)
With a liquid packing medium	66[61] ²⁶
Vacuum packaged or without a liquid packing medium	67

7.2.5 Garden Peas

Type of presentation	Minimum drained weight (%)
Extra small	66%
Very small	
Small	
Medium	62.5%
Large	
Not graded	

7.2.6 Palm

Type of presentation	Minimum drained weight (%)
Hearts, shoots (or palm), stems, palm tips	58 ²⁷
Other styles	59

7.2.7 Baby Corn

The minimum drained weight of whole baby corn and cut baby corn should not be less than 45%.

²⁶ The Thailand's proposal is : 61%

²⁷ CL 1997/1-PFV annex XXXIII : 53% (850 ml) and 52% (425 ml).

7.2.8 Lot Acceptance

A lot should be considered as meeting the requirements of Section 7.1.4 when it complies with the checking of the average (on average the quantity contained in all the containers of the lot is not lower than the quantity stated on the label), and also when the number of 'defective' units (containers that fails to meet the requirements for drained weight of Section 7.2) does not exceed the acceptance number (c) of the appropriate sampling plan in the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969).

8. LABELLING

8.1 Canned vegetables shall be labelled in accordance with the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991).

8.2 THE NAME OF THE PRODUCT

8.2.1 The names of the canned products shall be those defined in Section 2.2.

8.2.2 The styles and the grade (or grades when grades are mixed) if the vegetables are graded, as defined in Section 2.3, shall be declared as part of the name or in close proximity to the name.

8.2.3 For vegetables which can be graded, the words 'not graded' appear on the labelling if that is the case.

8.2.4 For asparagus, colour has to be included into the styles defined in paragraph 2.2.3. For white asparagus, the words "not peeled" shall be declared if that is the case.

8.2.5 When colour of mature processed peas is not green, colour of peas should be declared (for example: brown peas or yellow peas); canned processed peas may be named "mature processed peas" or "processed peas" or "mature cooked peas".

8.2.6 For sweet corn, the word "white" is declared part of the name when white variety is used.

8.2.7 When garden peas are canned with mixes of different screens defined in Section 2.3.4, the percentage in weight coming from the different screens should be declared.

8.2.8 Other styles – If the product is produced in accordance with the other styles provision (Section 2.4), the label contain in close proximity to the name of the product such additional words or phrases that will avoid misleading or confusing the consumer

8.2.9 The type of packaging ('vacuum packaged' or 'without a liquid packing medium') shall be declared as part of the name or in close proximity to the name, when products are canned as defined in Section 2.1.b).

8.3 LABELLING OF NON-RETAIL CONTAINERS

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, distributor and/or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, distributor and/or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF ANALYSIS AND SAMPLING

See Codex Alimentarius Volume 13.

**PROPOSED DRAFT GUIDELINES FOR
PACKING MEDIA FOR CANNED VEGETABLES
(At Step 3 of the Codex Procedure)**

1. SCOPE

- 1.1 The following guidelines describe the composition and labeling requirements for packing media for use with canned vegetables.

2. COMPOSITION AND DESIGNATIONS TO BE USED IN LABELLING

- 2.1. Any of the following packing media may be used.
- 2.2. Water: possibly with added salt.
- 2.3. Water with added salt, and/or sugars and/or other sweeteners such as honey, or without added sugars, with or without aromatics plants, spices or extracts thereof, seasoning, regular or concentrated fruit juice, oil¹, or vinegar¹. These ingredients should not alter in any way the flavor characteristic of the product.
- 2.4. If an added ingredient does alter the flavor characteristic of the product, the name of said ingredient should be affixed to the commercial designation of the product or in close proximity.

The product may be designated as “vacuum packed” or “without packing media” when the product is packaged without packing media or with a packing media that does not exceed 20% of the product’s net weight and when the container is sealed in such conditions as to generate the following minimum internal pressure at 20°C:

- 500 millibars² for containers of a capacity of 2550 ml or less
- 300 millibars for containers of a capacity greater than 2550 ml.

¹ Proposed by Thailand
² Proposed by Thailand : 400 millibars