



**Food and Agriculture
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**World Health
Organization**

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - Fax: (+39) 06 5705 4593 - E-mail: codex@fao.org - www.codexalimentarius.org

REP15/PFV

**JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
38th Session
Geneva, Switzerland, 6 - 11 July 2015**

**REPORT OF THE 27th SESSION OF THE
CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES
Philadelphia, Pennsylvania, United States of America
8 – 12 September 2014**

NOTE: This report includes Codex Circular Letter CL 2014/28-PFV.



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CX 5/5.2

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To: Codex Contact Points
Interested International Organisations

From: Secretariat,
Codex Alimentarius Commission,
Joint FAO/WHO Food Standards Programme,
E-mail: codex@fao.org,
Viale delle Terme di Caracalla,
00153 Rome, Italy

Subject: DISTRIBUTION OF THE REPORT OF THE 27TH SESSION OF THE CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES (REP15/PFV)

The Report of the 27th Session of the Codex Committee on Processed Fruits and Vegetables is attached. It will be considered by the 38th Session of the Codex Alimentarius Commission (Geneva, Switzerland, 6-11 July 2015).

PART I: MATTERS FOR ADOPTION BY THE 38TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION

DRAFT AND PROPOSED DRAFT STANDARDS AT STEPS 8 AND 5/8 (WITH OMISSION OF STEPS 6 AND 7) OF THE PROCEDURE

1. **Draft Standard for Certain Canned Fruits** (general provisions) at Step 8 (para 29, Appendix II).
2. **Draft Annex on Canned Mangoes** (draft Standard for Certain Canned Fruits) at Step 8 (para 29, Appendix II).
3. **Proposed draft Annex on Canned Pears** (draft Standard for Certain Canned Fruits) at Step 5/8 (para 42, Appendix II).
4. **Draft Standard for Quick Frozen Vegetables** (general provisions) at Step 8 (para 76, Appendix III)
5. **Proposed draft Annexes on Quick Frozen Vegetables** (specific provisions for carrots, corn-on-the-cob, leeks and whole kernel corn) (draft Standard for Quick Frozen Vegetables) (para 76, Appendix III).
6. **Proposed draft Standard for Ginseng Products** (conversion of the Regional Standard for Ginseng Products into a worldwide standard) at Step 5/8 (para 87, Appendix IV).

Governments and international organisations wishing to submit comments on the above documents should do so in writing, in conformity with the *Procedure for the Elaboration of Codex Standards and Related Texts* (Part 3 – Uniform Procedure for the Elaboration of Codex Standards and Related Texts, Procedural Manual of the Codex Alimentarius Commission), **preferably by e-mail**, to the above address, **before 31 March 2015**.

PART II: OTHER REQUESTS FOR COMMENTS

7. **Proposed Draft Annex on Canned Pineapples** (draft Standard for Certain Canned) at Step 3 (para 43, Appendix II).

Governments and international organisations wishing to submit comments on the above document should do so in writing, in conformity with the *Procedure for the Elaboration of Codex Standards and Related Texts* (Part 3 – Uniform Procedure for the Elaboration of Codex Standards and Related Texts, Procedural Manual of the Codex Alimentarius Commission), **preferably by e-mail**, to the above address, **before 28 February 2015**.

SUMMARY AND CONCLUSIONS

The 27th Session of the Codex Committee on Processed Fruits and Vegetables reached the following conclusions:

MATTERS FOR ADOPTION/CONSIDERATION BY THE 38TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION

Proposed Draft Standards for Adoption at Steps 8 and Step 5/8

The Committee agreed to forward:

- draft Standard for Certain Canned Fruits (general provisions); draft Annex on Canned Mangoes (draft Standard for Certain Fruits); and proposed draft Annex on Canned Pears (draft Standard for Certain Canned Fruits) (paras 29, 42, Appendix II);
- draft Standard for Quick Frozen Vegetables (general provisions); proposed draft Annexes on Carrots, Corn-on-the-Cob, Leeks and Whole Kernel Corn (draft Standard for Quick Frozen Vegetables) (para 76, Appendix III);
- proposed draft Standard for Ginseng Products (conversion of the Regional Standard for Ginseng Products into a worldwide standard) (para 87, Appendix IV).

Other Texts for Adoption

The Committee agreed to forward:

- amendments to the food additive provisions in the *Standard for Canned Chestnuts and Canned Chestnut Puree* (CODEX STAN 145-1985), *Standard for Canned Bamboo Shoots* (CODEX STAN 241-2003) and Annex on Canned Mushrooms (*Standard for Certain Canned Vegetables*) (CODEX STAN 297-2009) (para 101, Appendix V);
- amendments to the *Standard for Pickled Fruits and Vegetables* (CODEX STAN 260-2007) (provisions for packing media for pickled vegetables and provisions for food additives for pickled fruits and vegetables) (paras 98, 101, 104, Appendix VI);
- revocation of the *Standard for Canned Pears* (CODEX STAN 61-1981), *Standard for Canned Mangoes* (CODEX STAN 159-1987); *Standard for Quick Frozen Carrots* (CODEX STAN 140-1983); *Standard for Quick Frozen Corn-on-the-Cob* (CODEX STAN 133-1981); *Standard for Quick Frozen Leeks* (CODEX STAN 104-1981); and *Standard for Quick Frozen Whole Kernel Corn* (CODEX STAN 132-1981) (paras 29, 42, 76).

Matters of Interest to the Codex Alimentarius Commission

The Committee:

- provided replies and feedback to the Commission concerning the monitoring of the implementation of the Strategic Plan 2014-2019 as to those activities relevant to the work of CCPFV (paras 7 – 15);
- agreed to return the proposed draft Annex on Canned Pineapples (draft Standard for Certain Canned Fruits) for comments at Step 3 and further consideration at its next session (para 43, Appendix II);
- agreed to return the proposed draft Annexes on a number of quick frozen vegetables (including methods of analysis for quick frozen vegetables in general) to Step 2 for redrafting, circulation for comments at Step 3 and further consideration at its next session (para 77);
- agreed to further consider prioritisation of work on the review of remaining individual standards for processed fruits and vegetables and a discussion paper on ways to deal with the standardisation of dry and dried produce (paras 114, 119);
- agreed that paprika, dried chilli peppers, dried garlic and dried ginger could be considered for new work in the Committee on Spices and Culinary Herbs rather than in the Committee on Processed Fruits and Vegetables (para 125).

Matters referred to other Codex committees

Committee on Methods of Analysis and Sampling

The Committee agreed to forward to CCMAS methods of analysis for canned fruits and ginseng for endorsement, advice and information (paras 18, 85, Appendices II, IV).

Committee on Food Additives

The Committee agreed to forward food additive provisions for canned chestnut and canned chestnut puree, canned bamboo shoots, canned mangoes and pickled fruits and vegetables for endorsement by CCFA (paras 89-91, 98, 101, Appendices V and VI).

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INTRODUCTION

1. The 27th Session of the Codex Committee on Processed Fruits and Vegetables (CCPFV) was held in Philadelphia, Pennsylvania, United States of America, from 8 to 12 September 2014 at the kind invitation of the Government of the United States of America. Mr Richard Boyd, of the United States of America, chaired the Session. The Session was attended by 28 Member countries, 1 Member Organisation and Observers from the United Nations Economic Commission for Europe (UNECE) and 2 international organisations. The list of participants is attached to this report as Appendix I.

OPENING OF THE SESSION

2. The Session was opened by Ms Mary Frances Lowe, Codex Manager, US Codex Office on behalf of Mr Brian Ronholm, Deputy Under Secretary for Food Safety, U.S Department of Agriculture. She congratulated the Committee on its 50th Anniversary and stressed the continuing importance of Codex remaining true to its mission of developing science-based food safety and quality standards that protect consumers' health and ensure fair trade practices, while adapting to the challenges of an ever-changing world and meeting the diverse needs of a greatly increased number of member countries and stakeholders.

Division of Competence¹

3. The Committee noted the division of competence between the European Union and its Member States, according to paragraph 5, Rule II of the Procedure of the Codex Alimentarius Commission.

ADOPTION OF THE PROVISIONAL AGENDA (Agenda Item 1)²

4. The Committee adopted the Provisional Agenda as its Agenda for the Session.

MATTERS REFERRED TO THE COMMITTEE BY THE CODEX ALIMENTARIUS COMMISSION AND ITS SUBSIDIARY BODIES (Agenda Item 2)³

5. The Committee noted the information presented in documents CX/PFV 14/27/2 and CX/PFV 14/27/2-Add.1 and agreed that items for action on food additives and the proposal for new work on paprika would be discussed under relevant agenda items.

STRATEGIC PLAN 2014 – 2019: STATUS OF IMPLEMENTATION

6. The Committee noted that the Strategic Plan 2014 – 2019⁴ had been adopted by the 37th Session of the Commission and that monitoring of its implementation was ongoing. The Committee considered the questions in the template (Appendix II of CX/PFV 14/27/2-Add.1).
7. The Committee agreed that activities related to Strategic Goals 1, 3 and 4 were of relevance to the Committee.

Activity 1.1.1 - Consistently apply decision-making and priority-setting criteria across Committees to ensure that the Standards and work areas of highest priority are progressed in a timely manner

Activity 1.2.1 - Develop a systematic approach to promote identification of emerging issues related to food safety, nutrition and fair practices in the food trade

Activity 1.2.2 - Develop and revise international and regional standards as needed, in response to needs identified by Members and in response to factors that affect food safety, nutrition and fair practices in the food trade

8. The Committee confirmed that it prioritised its work in accordance with the *Criteria for the Establishment of Work Priorities* in the Procedural Manual⁵ and that no further specific criteria were needed.
9. The Committee noted that no specific approach was needed for identification of emerging issues related to fair practices in the food trade, but that as part of its two-pronged approach to its work, i.e. to continue the review process and to take on new work proposals, countries were encouraged to bring to the attention of the Committee the need for work on emerging issues.

¹ [CRD 1.](#)

² [CX/PFV 14/27/1.](#)

³ [CX/PFV 14/27/2](#); [CX/PFV 14/27/2-Add.1.](#)

⁴ The Strategic Plan 2014-2019 is available for downloading on the Codex website at: <http://www.codexalimentarius.org/procedures-strategies/strategic-planning/en/>

⁵ The 22nd Edition of the Procedural Manual of the Codex Alimentarius Commission is available for downloading on the Codex website at: <http://www.codexalimentarius.org/procedures-strategies/procedural-manual/en/>

Activity 3.1.5 - To the extent possible promote the use of the official languages of the Commission in committees and working groups

10. The Committee noted that use of official languages in working groups was promoted as far as possible depending on the availability of resources. For electronic working groups, English was the most used, while for physical working groups, for the last five sessions, the Committee always used English, French and Spanish.

Activity 3.2.3 - Where practical the use of Codex meetings as a forum to effectively conduct educational and technical capacity building activities

11. The Committee noted that technical capacity building activities in the margins of the Committee were important and were organised when and if needed.

Activity 4.1.4 - Ensure timely distribution of all Codex working documents in the working languages of the Committee

12. The Committee noted that mechanisms were in place through the Secretariat who set deadlines and schedules for submission of working documents, but that challenges remained in this regard which the Committee will strive to overcome through the commitment from those responsible for the development of documents to submit them within specified deadlines.

Activity 4.1.5 - Increase the scheduling of working group meetings in conjunction with committee meetings

13. The Committee always hosts working group meetings in conjunction with Committee meetings as a way to facilitate discussions and progress on work in plenary. This method has been effective to progress work, especially on technical items.

Activity 4.2.1 - Improve the understanding of Codex Members and delegates of the importance of and approach to consensus building of Codex work

14. The Committee noted achieving consensus was not always easy, but that the Committee employed several tools to overcome the obstacles and find consensus including providing information to delegates so all have information needed for a decision; allowing time for informal discussion outside the plenary structure; and encouraging delegations to keep in mind the objective of the Committee to develop international standards which can meet the needs of worldwide users.

General

15. The Committee noted that the Secretariat would be in a position to provide more detailed information on activities where quantitative information was needed.

DRAFT STANDARD FOR CERTAIN CANNED FRUITS (revision of remaining individual standards for canned fruits) (general provisions applying to all canned fruits and specific provisions for canned mangoes) (Agenda Item 3a)⁶

16. The Committee noted that the general provisions for canned fruits were thoroughly discussed at the 26th CCPFV and therefore made only some adjustments for better correspondence with the specific provisions in the annexes.

GENERAL PROVISIONS FOR CANNED FRUITS

General Agreements

17. The Committee agreed to:
- replace “other permitted ingredients” with “optional ingredients” for clarity as to the discretionary nature of this provision and to apply this change to all annexes;
 - delete “seasonings or other flavouring ingredients” from the list of optional ingredients and to refer to the optional ingredients in the annexes for flexibility since optional ingredients were not limited to them;
 - introduce a section on “uniformity of size” for consistency with the annexes; and
 - include methods of analysis as presented in CRD 11, which excluded methods of analysis for the determination of lead and tin as these were covered by the *General Standard for Contaminants and Toxins in Food and Feed* (GSCTFF) (CODEX STAN 193-1995)⁷.

⁶ [REP13/PFV, Appendix III](#); [CX/PFV 14/27/3](#) (Comments of Colombia, EU, Thailand); [CRD 11](#) (Proposals by USA); [CRD 12](#) (Comments of Malaysia).

⁷ Codex standards and related texts (e.g. guidelines, codes of practice, etc.) are available for downloading on the Codex website at: <http://www.codexalimentarius.org/standards/en/>

Section 9 – Methods of Analysis and Sampling

18. The Committee noted that for fill of container (glass containers) CAC/RM 46-1972 would be retained as no other method could be identified to replace the Codex method. It was agreed to request the Committee on Methods of Analysis and Sampling (CCMAS) to identify an appropriate internationally validated method for this provision.

SPECIFIC PROVISIONS FOR CANNED MANGOES

19. The Committee noted that this Annex was extensively discussed at the 26th CCPFV therefore, the discussion focused on remaining issues from the 26th Session and issues raised in the comments submitted at this Session. The following discussion and agreements were taken by the Committee:

General Agreements

20. The Committee agreed to refer to “regular packs” for consistency with the terminology used in the *Guidelines for Packing Media for Canned Fruits* (CAC/GL 51-2003).

Sections 2.2.4 (Uniformity of Size) and 2.2.5 (Symmetry – for halves and slices styles -)

21. The Committee noted that it might be difficult to apply uniformity of size for certain (large) varieties of mangoes traded in the “halves” style as fruits varied in size and therefore, it would not be possible to comply with the symmetry requirements in Section 2.2.5.
22. The Committee however noted that tolerances for symmetry should be retained to allow inspection of the product. It was then agreed to revise Sections 2.2.4 and 2.2.5 to allow for flexibility in the application of uniformity and symmetry requirements and the need for tolerances to allow inspection for compliance with these requirements.

Section 2.2.7 – Allowances for Defects

23. The Committee agreed that “spotted slices” should not be considered a defect as they rarely happened during the production of canned mangoes and therefore, allowances were not normally required in current trading practices.

Section 3 – Food Additives

24. The Committee noted divergent views as to the technological need for the use of colours and whether a general reference to the *General Standard for Food Additives* (GSFA) (CODEX STAN 192-1995) as opposed to a limited list of colours should be allowed. One point of view was that if a list were developed, it should only cover those colours used to restore the original colour of the ripe fruit that might have been lost or reduced due to the canning process. This was consistent with provisions that the fruit should have reached an appropriate maturity for processing and that the canned fruit should have normal colour corresponding to the type of fruit.
25. Countries favouring a general reference to the GSFA noted that:
- colours were needed to attain uniformity in colour due to seasonal variations or different geo-climatic conditions across regions that might lead the same variety to present different shades of the colour expected for the mature fruit;
 - a list of colours limited to those restoring the original colour of the fruit would be trade restrictive;
 - food additives in the GSFA had been assessed by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) as being safe for use in foods;
 - technological justification for exemptions for the use of food additives in functional classes from the GSFA for the food category corresponding to the product(s) covered by a commodity standard should be provided rather than the opposite;
 - a single reference to the GSFA would keep the standard up to date, provide flexibility for industry innovation and address consumers’ preferences in different countries and regions; and
 - the *General Standard for the Labelling of Pre-packaged Foods* (GSLPF) (CODEX STAN 1-1985) applied mandatory labelling declaration of food additives hence consumers could make an informed choice as to the type of product they buy.
26. Countries favouring the development of a limited list of colours noted that:
- commodity committees were responsible for the identification of functional classes and corresponding food additives needed to perform a technological function in the manufacture of the product;
 - there was no technological justification for use of colours in canned mangoes;

- if colours were allowed, they should be limited to those restoring the original colour of the ripe fruit hence a direct reference to the GSFA for the corresponding food category could not be made;
 - countries interested in the use of colours other than those restoring the original colour of the ripe fruit should present technological justification for their use in canned mangoes;
 - use of colours other than those to restore the original colour of the ripe fruit could mask poor quality of the raw material or industry practices; and
 - declaration of colours on the label will not avoid misleading consumers as to the quality and safety of the product.
27. Based on the above discussion, the Committee agreed on a compromise solution by allowing a limited list of colours to restore the original colour of mangoes, namely: carotenoids (INS 160a(i), a(iii), e, f; carotenes beta vegetable (INS 160a (ii); and carmines (INS 120)). The Committee noted that the inclusion of carmines was technologically justified for use in red / reddish flesh varieties of mangoes.

Conclusion

28. The Committee noted that no outstanding issues existed for the general provisions applying to canned fruits and specific provisions for canned mangoes and therefore they could be progressed in the Step process.

STATUS OF THE DRAFT STANDARD FOR CANNED FRUITS (GENERAL PROVISIONS) AND ANNEX ON CANNED MANGOES

29. The Committee agreed to forward the draft Standard and Annex to the Codex Alimentarius Commission for adoption at Step 8 (Appendix II). The Annex for Mangoes will supersede the *Standard for Mangoes* (CODEX STAN 159-1987).

PROPOSED DRAFT ANNEXES ON SPECIFIC CANNED FRUITS (Draft Standard for Certain Canned Fruits) (Agenda Item 3b)⁸

CANNED PEARS

30. The Committee noted that the *Standard for Pears* (CODEX STAN 61-1981) was revised in 2001 and that the current revision mainly focused on the identification of specific provisions to remain in an Annex to the Standard for Certain Canned Fruits. The Committee further noted that discussion on this Annex should be limited to the extent necessary to update certain provisions as appropriate.

General Agreements

31. The Committee agreed to:
- remove the reference to “flavour” and “texture” as covered by the general provisions in the body of the Standard;
 - delete the reference to “seeds” as a defect for harmless plant material (d) as covered by the defects for seeds (f);
 - introduce revised provisions for minimum drained weight to include percentages for smaller containers for the different styles covered by the Annex.

Section 3 – Food Additives

32. The Committee recalled that, when finalizing the revision of the *Standard for Canned Pears*, the 20th CCPFV (2000) agreed⁹ to use certain colours for special holiday packs in view of the international trade in canned pears for specialty markets which was endorsed¹⁰ by the 33rd Session of the Committee on Food Additives (CCFA) (2001).
33. The Committee noted opposing views as to:
- the technological need for the use of colours in canned pears; the establishment of a limited list of colours, (i.e. for use in special holidays packs, as currently stated in the *Standard for Canned Pears*);
 - the possibility to make a general reference to the GSFA but to restrict the use of colours to special holiday packs; or

⁸ [CX/PFV 14/27/4](#); [CX/PFV 14/27/4-Add.1](#) (Comments of Costa Rica, Egypt, EU, Iran, Kenya, Republic of Korea, Thailand); [CRD 3](#) (Comments of Ghana, Philippines); [CRD 12](#) (Comments of Malaysia).

⁹ [ALINORM 01/27, para 33.](#)

¹⁰ [ALINORM 01/12A, para 42.](#)

- the possibility to make a single reference to the GSFA for the use of colours in canned pears in general.
34. It was noted that three food additives currently listed in the *Standard for Canned Pears* i.e. tartrazine (INS 102), amaranth (INS 123) and allura red (INS 129) are not listed in Food Category 04.1.2.4 (Canned or bottled (pasteurized) fruit) therefore, countries interested in retaining these additives in canned pears for special holiday packs should provide technological justification to CCFA for their inclusion in Food Category 04.1.2.4.
35. Views were expressed that use of colours should not be restricted to these special preparations, as by having a single reference to the GSFA countries could choose those additives that best fit their industry practices, geo-climatic conditions and consumers' preferences and that technological justification should be presented to confirm why colours listed in the GSFA for the relevant food category should be limited to special holidays packs only. Other views did not support use of colours in canned pears in general as not technologically necessary but could compromise on a single reference to the GSFA limited to canned pears for special holiday packs.
36. In view of the above considerations, the Committee agreed to refer to the GSFA for the use of colours but limited to canned pears for special holiday packs.

CANNED PINEAPPLES

37. The Committee agreed to expand the scope to cover both "cored" and "uncored" pineapples to acknowledge the potential international market for "uncored" pineapples.
38. The Committee noted the following:
- the inclusion of "uncored" pineapples would entail consequential amendments to other sections of the Annex in particular the styles and allowances for defects;
 - the provisions for minimum net weight needed to be adjusted to accommodate different styles according to the size of pack used to trade canned pineapples;
 - the section on food additives needed further consideration as to the general reference to the GSFA and the inclusion of two additional functional classes i.e. firming agents and sweeteners as pertinent for the products covered by the Annex and the Standard for Certain Canned Fruits in general.
39. The Committee therefore agreed to establish an in-session Working Group led by the European Union to consider these and other revisions to the Annex, which reported on the following changes and adjustments:
- clarification was provided that all varieties of pineapples covered by the Annex, whether they were "cored" or "uncored", had edible cores but differed from each other as to the fibrous texture of the core. A footnote was therefore included in the scope to indicate that "uncored" pineapples (usually small size varieties) only applied to pineapples with non-fibrous core and provide for a defect definition (i.e. woody) under Section 2.2.3;
 - the sections on styles and allowances for defects were revised to address "cored" and "uncored" pineapples separately;
 - the provisions for flavour were deleted as covered by the general provisions for canned fruits;
 - the provisions for texture were adjusted for better clarity and to specify that the 7% by weight of "core material" applied to "cored" pineapples only;
 - the provisions for "woody" were included as a defect since "uncored" pineapples referred to pineapples with non-fibrous core;
 - the provisions for minimum drained weight were revised to better reflect this provision according to the different styles in the different packs (i.e. regular, heavy and solid packs); and
 - proposals for additional functional classes on "firming agents" and "sweeteners" were included in the food additives section.
40. The Committee noted that the in-session WG made substantial changes that would not be possible to consider fully at this Session and therefore, it agreed to establish an electronic working group chaired by Thailand and co-chaired by the European Union, working in English only, to further examine the Annex in order to prepare a revised proposal for consideration by the 28th CCPFV.

Conclusion

41. The Committee noted that no outstanding issues existed for pears and therefore the Annex could be progressed in the Step process.

STATUS OF THE PROPOSED DRAFT ANNEXES ON SPECIFIC CANNED FRUITS - PEARS AND PINEAPPLES (draft Standard for Certain Canned Fruits)

42. The Committee agreed to forward the proposed draft Annex on Pears to the Commission for adoption at Step 5/8 (Appendix II). The Annex will supersede the *Standard for Canned Pears* (CODEX STAN 61-1981).
43. The Committee agreed to return the proposed draft Annex on Pineapples to Step 3 for further comments and consideration at its 28th Session (Appendix II).

DRAFT STANDARD FOR CERTAIN QUICK FROZEN VEGETABLES (revision of individual standards for quick frozen vegetables) (general provisions applying to all quick frozen vegetables) (Agenda Item 4a)¹¹

PROPOSED DRAFT ANNEXES ON SPECIFIC QUICK FROZEN VEGETABLES (Agenda Item 4b)¹²

44. The Delegation of the United States of America (USA), as Chair of the Physical Working Group on Quick Frozen Vegetables, presented a summary of the work of the PWG and informed the Committee that the PWG had considered the general provisions and the annexes on leeks, carrots, corn-on-the-cob, whole kernel corn and quick frozen French fried potatoes.

GENERAL DISCUSSION

45. The Committee considered the Standard (general provisions) and its annexes (specific provisions) as revised by PWG. The Committee endorsed the changes proposed and in addition to editorial changes, made the following comments and decisions:
46. A key point of discussion was the scope of the Standard, i.e. whether it was limited to raw ingredients or pre-cooked or cooked ingredients (e.g. vegetables); and whether in this framework the Annex on Quick Frozen French Fried Potatoes should be included or be developed as a stand-alone standard as this product was very different from the other products covered by the Standard, i.e. requiring pre-frying and the use of optional ingredients, e.g. batters, with associated food additives that did not apply to other annexes. In view of the discussion on the scope, the Standard had been renamed to Standard for Quick Frozen Vegetables in order not to limit the scope to only those annexes currently under discussion.
47. In relation to the annexes, agreement was reached that: processing aids would not be listed, instead, a general reference to *Guidelines on Substances used as Processing Aids* (CAC/GL 75-2010) would be used so that for those products to be covered in further annexes that may require processing aids, the general provisions would apply, and to refer to “optional ingredients” rather than “other permitted ingredients” to emphasize that such ingredients were not required, but optional.

GENERAL PROVISIONS

48. The Committee agreed to include the provision for processing aids as mentioned above (paragraph 47).
49. The Committee noted the proposal for methods of analysis, in particular proposals to replace recommended Codex methods (CRD 11), but due to time constraints, agreed to refer consideration of the proposals to the EWG (paragraph 74).

SPECIFIC PROVISIONS

Annex VIII - Leek

50. The Committee agreed to all changes proposed by PWG and made only further editorial corrections to the optional ingredients and section on quality factors.

Annex III – Carrots

Section 1.2 - Presentation

51. The Committee agreed to delete Section 1.2.1 which provided for long and round types of whole carrots since adequate coverage of the shapes of whole style carrots is provided in Section 1.2.2 on Styles.

¹¹ [REP13/PFV, Appendix V](#); [CX/PFV 14/27/5](#) (Comments of Chile, Colombia, Costa Rica); [CRD 2](#) (Report of the Physical Working Group on Quick Frozen Vegetables); [CRD 9](#) (Comments of Thailand, IFFA); and [CRD 11](#) (Proposals by USA).

¹² [CX/PFV 14/27/6](#); [CX/PFV 14/27/6-Add.1](#) (Comments of Ghana, South Africa, IFFA, IGTC); [CRD 9](#) (Comments of Thailand, IFFA); and [CRD 12](#) (Comments of Malaysia).

Section 1.2.2 - Styles

52. The Committee agreed to remove references to cultivars for whole style since these were no longer necessarily associated with carrot shape. In line with this, the Committee also removed related references to cultivars in other sections of the Annex.

Section 2.1.2 - Optional ingredients

53. The Committee agreed to include salt in the list of optional ingredients.
54. The Committee discussed whether it was necessary to:
- stipulate that garnishes as optional ingredients should be raw, as addition of cooked garnishes would result in use of additional food additives and change the nature of the product;
 - delete the reference to garnishes; or
 - not to list any optional ingredients.
55. It was noted that the list reflected current trade practices, the wording was from the current *Standard for Quick Frozen Carrots* (CODEX STAN 140-1983) and had not caused any concern or impediment to trade. The Committee therefore agreed to retain the current wording. It was further emphasised that addition of optional ingredients should be declared in terms of the labelling requirements (Section 8.2.3 of the general provisions).

Section 2.2.1 - General Requirements

56. The Committee agreed to add a footnote to Section 2.2.1 (e) to indicate that the optional ingredients allowed in Section 2.1.2 should not be considered extraneous vegetable material.

Section 2.2.4 - Standard Sample Unit

57. The Committee agreed to refer to “minimum sample unit” rather than “standard sample unit” as more reflective of practical inspection activities and to apply this to all the annexes. For the “whole, finger, halved, and quartered” styles, the Committee agreed to change the standard sample size of 100 units to a minimum sample size of 25 units, recognizing that the sample size could be increased by a user of the standard if necessary.

Section 2.2.5 - Defects and Allowances

58. The Committee agreed to include a tolerance for “woody” defect in “whole, finger, halved and quartered” styles (Table 1) and in ring cut, sliced lengthwise, diced, double diced, shoestring and pieces styles (Table 2) of 1% in line with current trade practice and noted that the occurrence of woody carrots after processing was low as most of these carrots are removed during processing.
59. The Committee agreed to replace Tables 1 and 2 with revisions which were seen to be improved and simpler.

Annex V - Corn-on-the Cob

Section 1.1 - Product Definition

60. The Committee agreed to add definitions for two types of sweet corn varieties from which corn-on-the-cob is made, “super sweet” varieties and “sweet” varieties.

Section 1.2.1 - Styles

61. The Committee agreed to delete minimum length and diameter of the corn from style of product to provide flexibility in trade.

Section 2.1.2 - Optional Ingredients

62. Concerns were raised and the observation was made that the inclusion of sugar as an optional ingredient was not needed since the Annex covered varieties high in sugar/sweetness, and in view of the need to reduce sugars for health purposes. However, the Committee agreed to retain sugar in the list since it was an optional ingredient, could be used in cases where certain corn was grown under conditions that did not allow the natural sweetness to develop, and its addition would be addressed through labelling. It was also agreed to retain the reference to other appropriate vegetables to allow for future developments and innovation in the market.

Section 2.2.1 - General Requirements

63. The Committee modified 2.2.1 (b) to read “reasonably tender and sufficiently developed” to provide more detail with respect to product requirements. The Committee also applied this change to the Annex on Whole Kernel Corn (Annex XI).

64. The Committee agreed to delete the section on analytical requirements (2.2.2) as not applicable and to also apply this change to the Annex on Whole Kernel Corn (Annex XI).

Annex XI - Whole Kernel Corn

65. The Committee agreed to align the product definition and styles with the Annex on Corn-on-the-Cob. In the section on defects, the defect for blemishes was differentiated into “major”, “minor” and “serious”, similar to the current *Standard for Quick Frozen Whole Kernel Corn* (CODEX STAN 132 – 1981).

Section 1.2.1 - Colour

66. The Committee agreed to add “Other” as a third colour designation and to include a definition which provided flexibility with respect to colour.

Section 2.2.5 - Defects and Allowances

67. The Committee agreed to replace Table 1 with a revised table to facilitate the application of the provisions contained therein.

Annex VI - French Fried Potatoes

Scope

68. In response to a concern raised on the inclusion of a sweet potato variety for use in this product, it was clarified that sweet potatoes were used to produce French fried potatoes in certain parts of the world; that the same styles applied; and that labelling addressed the need to indicate the use of sweet potato to avoid misleading the consumer.

Section 1.2.1.2 - Dimensions of the Cross Section and Length

69. A second table was added to this section to provide product designations based on unit length.

Section 2.1.2 - Optional Ingredients

70. Questions were raised on the inclusion of batter as its use would result in a completely different product; however, batter was retained.

Section 2.2.2.1 - Analytical Requirements

71. The Committee agreed to modify the requirements for free fatty acid content to bring the requirement in line with current practices.

Section 2.6 - Lot Acceptance for Analytical Requirements

72. The Committee identified a need to develop criteria for lot acceptance, which would also include sample size for testing.

Section 4 - Food additives

73. The Committee noted that additional food additive functional classes were proposed and needed further discussion.

Conclusion

74. The Committee noted that several provisions in the Annex on Quick Frozen French Fried Potatoes still required considerable review and that the Annex was not ready for advancement in the Step process.
75. The Committee agreed to establish an electronic working group chaired by United States of America, and co-chaired by France, working in English only, to redraft the Annex on French Fried Potatoes and all the other remaining quick frozen vegetable annexes not discussed at the Session including the section on methods of analysis, taking into account the proposals in CRD 11.

STATUS OF THE DRAFT STANDARD FOR QUICK FROZEN VEGETABLES (GENERAL PROVISIONS APPLYING TO ALL QUICK FROZEN VEGETABLES) AND THE PROPOSED DRAFT ANNEXES ON SPECIFIC QUICK FROZEN VEGETABLES

76. The Committee agreed to forward the draft Standard for Quick Frozen Vegetables (general provisions) to Step 8 for adoption, and the proposed draft annexes on, carrots, corn-on-the-cob, leeks and whole kernel corn to Step 5/8 for adoption, with omission of Steps 6 and 7, by the Codex Alimentarius Commission (Appendix III). The Annexes will supersede the corresponding *Standards for Carrots* (CODEX STAN 140-1983), *Corn-on-the-Cob* (CODEX STAN 133-1981), *Leeks* (CODEX STAN 104-1981) and *Whole Kernel Corn* (CODEX STAN 132-1981).
77. The Committee agreed to return the remaining annexes, including the Annex on French Fried Potatoes, to Steps 2/3 for redrafting by the aforementioned EWG, circulation for comments and consideration by the next Session of the Committee.

PROPOSED DRAFT STANDARD FOR GINSENG PRODUCTS (conversion of the Regional Standard for Ginseng Products to a worldwide standard) (Agenda Item 5)¹³

78. The Delegation of the Republic of Korea, as Chair of the Electronic Working Group on Ginseng Products, introduced the report of the EWG and highlighted the key issues addressed in the conversion of the *Regional Standard for Ginseng Products* (295R-2009) to a worldwide standard i.e. the introduction of a product definition consistent with the approach of other standards for processed fruits and vegetables, a section on food additives, and more concrete and detailed description of methods of analysis and sampling plans.
79. The Committee considered the Standard and, in addition to editorial corrections and improved formatting, reached the following agreements:

Scope

80. Discussion focused on whether to retain the wording of the scope from the current *Regional Standard for Ginseng Products*, in relation to the stipulation that ginseng is regulated as medicine and not regarded as food in some countries.
81. Delegations for the retention of the scope as per the Regional Standard emphasised the need to indicate that in some countries, ginseng was regulated as a medicine, and could only be consumed as food, if consumed at certain low levels, e.g. 2 g based on daily consumption. It was observed that there was a lack of evidence about ginseng safety as food, and was not recommended for children or for women who are pregnant or breastfeeding.
82. Delegations in support of the new revised scope, were of the view that it was not necessary to stipulate the issue of use or regulation as medicine as it was clear that the Standard applied to ginseng used as food and that it was up to governments to decide how they wished to regulate ginseng; and that the wording of the Regional Standard was not appropriate for a Codex worldwide standard.
83. The Delegation of Brazil while recognizing the effort of CCPFV to develop a worldwide standard for ginseng products, reasserted their reservation from the 26th CCPFV for the need for a safety assessment of ginsenosides prior to approval by Codex. Ginseng and its derivatives are considered in Brazil as medicines and, therefore it was necessary for a safety assessment to be done by the national health authority before marketing this type of foodstuff in the country.
84. Noting the unique nature of ginseng, that it was considered a medicine in some countries and the need to progress the Standard, the Committee agreed to insert a footnote to indicate that some countries also considered ginseng as a medicine, instead of making any reference to the fact that the Standard would only apply in those jurisdictions where ginseng was regulated as foods as originally stated in the Regional Standard.

Other general decisions

85. The Committee:
- introduced a section on styles and made consequential introduction of provisions for styles in the section on labelling;
 - retained only the qualitative identification of Rb1 as sufficient for ginseng products and in view of concerns expressed about the expense of analysis if both Rb1 and Rg1 were required;
 - included a footnote to indicate the content of water-saturated n-butanol extracts indicates the content of crude saponin;
 - retained the provisions for country of origin labelling rather than country of cultivation, noting that this was in line with GSLPF and already endorsed as such by the Committee on Food Labelling (CCFL);
 - retained the renamed optional labelling to re-enforce the provisions in the scope that ginseng covered by the Standard is for use as food and to provide further reassurance to countries where ginseng is regulated as medicine; also noting that this aspect was not sufficiently covered in Section 4.1.3 of the GSLPF and had previously been endorsed by CCFL. It was furthermore noted that not all countries had legislation governing the use of ginseng either as food or medicine and therefore the provision needed to be “optional”;
 - noted that the labelling provisions would be submitted to CCFL for endorsement;

¹³ [CX/PFV 14/27/7](#); [CX/PFV 14/27/7-Add.1](#) (Comments of Brazil, Costa Rica, Kenya, Thailand); [CRD 4](#) (Comments of EU, Philippines); [CRD 10](#) (Comments of India).

- agreed to the sampling plans as proposed and deleted the reference to the *Guidelines for Sampling* (CAC/GL 50-2003); and
- agreed that the methods of analysis should be Type IV as previously endorsed by CCMAS and noted that the Republic of Korea was planning to conduct an inter-laboratory validation test on the methods of analysis for water-insoluble solids, water-saturated n-butanol extracts and identification of ginsenoside Rb1.

Conclusion

86. The Committee noted that no outstanding issues existed and the proposed draft Standard could be progressed in the Step process.

STATUS OF THE PROPOSED DRAFT STANDARD FOR GINSENG PRODUCTS

87. The Committee agreed to forward the draft Standard to the Codex Alimentarius Commission for adoption at Step 5/8 (Appendix IV).

METHODS OF ANALYSIS FOR CANNED FRUITS AND QUICK FROZEN VEGETABLES (Agenda Item 6)¹⁴

88. The Committee noted that methods of analysis had been dealt with under the relevant agenda items. The Delegation of the United States of America, as Chair of the Electronic Working Group on Methods of Analysis presented a summary of methods of analysis under discussion at the Session as contained in CRD 11 which were considered under Agenda Items 3, 4 and 5.

FOOD ADDITIVE PROVISIONS IN CERTAIN STANDARDS FOR PROCESSED FRUITS AND VEGETABLES (Agenda Item 7)¹⁵

MATTERS FROM CCFA TO CCPFV

Standard for Canned Chestnuts and Canned Chestnut Puree (CODEX STAN 145-1985)

89. The Committee agreed to the proposal of CCFA to revoke the provisions for aluminium potassium sulphate (INS 522). The Committee noted that with this decision, the Standard would have no entry for firming agents and that consideration should be given for a reference to the GSFA or to identify applicable firming agents to be listed in the Standard, but that it was not in a position to take a decision at this time.

Canned Bamboo Shoots (CODEX STAN 241-2003)

90. The Committee agreed to the use of all tartrates, measured as tartaric acid as listed in the GSFA for Food Category 04.2.2.4.

Standard for Certain Canned Vegetables (Mushrooms) (CODEX STAN 297-2009)

91. The Committee agreed to a general reference to the GSFA for the flavour enhancers and to extend the list of colours to all other caramels listed in the GSFA for Food Category 04.2.2.4 as technological justified for use in canned mushrooms.

OTHER CONSIDERATIONS

Standard for Pickled Fruits and Vegetables (CODEX STAN 260-2007)

92. The Committee recalled the history of discussion on the food additives for the *Standard for Pickled Fruits and Vegetables* and the need to reach a conclusion on this work. The Committee further noted that commodity committees should strive towards a general reference to the GSFA in line with the section on food additives in the *Relations between Commodity Committees and General Subject Committees* of the Procedural Manual, noting that the Committee should provide justification should it consider that a general reference would not serve its purpose.

93. The Committee also noted that for the products covered under the *Standard for Pickled Fruits and Vegetables*, several food categories in the GSFA would apply.

94. There were diverse views on whether to have a general reference to the GSFA for all the functional classes identified for use in pickled fruits and vegetables or whether to maintain a limited list of food additives.

¹⁴ [CX/PFV 14/27/8](#); [CRD 8](#) (Comments of EU); and [CRD 11](#) (Proposals by USA).

¹⁵ [CX/PFV 14/27/2](#); [CL 2014/17-PFV](#); [CX/PFV 14/27/9](#) (Comments of Brazil, Costa Rica, Thailand, USA); [CRD 5](#) (Comments of EU, Japan); [CRD 10](#) (Comments of India); [CRD 12](#) (Comments of Malaysia).

95. Those in support of a general reference to the GSFA maintained that this was in line with the recommendation of the Commission; that the nature of the products covered by the Standard made it difficult to identify and maintain a list (a reference would avoid constant updating of the list as indicated by the discussion on canned chestnuts and chestnut puree following the revocation of aluminium potassium sulphate); the Committee should not prescribe every single additive to industry; and this issue had taken more than four years and needs conclusion. The GSFA provided the food additives approved as safe for use from which industry could choose for the manufacture of pickled fruits and vegetables.
96. The Delegation of the European Union, supported by their member states, was in favour of the retention of a list and indicated that this reflected the needs and characteristics of the standardised products; a general reference was only possible when there was a one to one correspondence with the food categories of the GSFA, which was not the case for pickled fruits and vegetables, the products covered by the Standard fell under four different food categories in the GSFA and a general reference would result in an acceptance of many food additives for which no technological need had been identified; and extensive use of food additives should be avoided as it could pose a health risk if the toxicological reference values were exceeded and in the case of colours for example, extensive use could mask poor quality.
97. The Committee also noted a proposal for an additional functional class, colour retention agent limited to aluminium ammonium sulphate and to include this food additive also as a firming agent as well as propylene glycol alginate in the functional class of stabilizer.
98. However, in the spirit of compromise and in view of the considerable time already spent on this matter, the Committee agreed to a general reference that would limit the food additives in the agreed functional classes to the food categories in which the individual pickled fruits or vegetables fall into.
99. The Delegation of the European Union, while agreeing to the compromise, expressed its reservation to the general reference because of the concerns outlined above and in their comments in CRD 5.
100. Noting that further work needed to be done to take into account the proposal of Japan for inclusion of aluminium ammonium sulphate as a colour retention agent and propylene glycol alginate as stabilizer in the *Standard for Pickled Fruits and Vegetables* (paragraph 97) as well as the need to identify firming agents in the *Standard for Canned Chestnuts and Chestnut Puree* (paragraph 89), the Committee agreed to request the Secretariat to issue a Circular Letter calling for comments on the aforementioned.

Conclusion

101. The Committee agreed to inform CCFA of the decisions on the standards for canned chestnuts and chestnut puree, bamboo shoots, certain canned vegetables (mushrooms) and pickled fruits and vegetables; and to send the amendments to the *Standard for Canned Chestnuts and Chestnut Puree*; *Standard for Canned Bamboo Shoots*, *Standard for Certain Canned Vegetables* (Mushrooms) (Appendix V) and *Standard for Pickled Fruits and Vegetables* (Appendix VI) for adoption by the Codex Alimentarius Commission.

PACKING MEDIA FOR PICKLED VEGETABLES (Agenda Item 8)¹⁶

102. The Committee noted that provisions for packing media for pickled vegetables in the *Standard for Pickled Fruits and Vegetables* currently refers to the “Guidelines for Packing Media for Canned Vegetables” which were discontinued following the introduction of packing media provisions in the *Standard for Certain Canned Vegetables*. It was therefore necessary for CCPFV to identify packing media provisions for pickled vegetables that could be included in the section on packing media in the *Standard for Pickled Fruits and Vegetables*.
103. The Committee noted that optional ingredients could be added to the product itself or to the packing media and therefore it would be better to keep two separate entries to allow for such ingredients to be added in the appropriate way. Following this approach, the Committee supported provisions for packing media for pickled vegetables as contained in Annex II of CL 2014/18-PFV with some amendments to identify cereals grains, dried fruits, nuts and pulses as part of those optional ingredients which are not added to the packing media.

Conclusion

104. The Committee agreed to forward provisions for packing media for pickled vegetables to the Codex Alimentarius Commission as consequential amendments to the *Standard for Pickled Fruits and Vegetables* due to the discontinuation of work on guidelines for packing media for canned vegetables (Appendix VI).

¹⁶ [CL 2014/18-PFV](#); [CX/PFV 14/27/10](#) (Comments of Brazil, Costa Rica, Egypt, EU, Thailand).

DISCUSSION PAPER ON THE STANDARDISATION OF DRY AND DRIED PRODUCE (Agenda Item 9)¹⁷

105. The Committee noted that the conclusions and recommendations concerning the approach that could be taken for the standardisation of dry and dried produce in CCPFV should be considered in the framework of the discussion of status of work on the review of remaining individual Codex standards for processed fruits and vegetables for future prioritisation of work areas (Agenda Item 10). The Committee recalled that the Terms of Reference of CCPFV refers to the development of worldwide standards for processed fruits and vegetables which include dry and dried produce.
106. The Delegation of Brazil introduced the document and recalled that, in considering the status of the review / revision of Codex standards for processed fruits and vegetables, the 26th CCPFV noted that the Delegation of Brazil had offered to prepare a discussion paper on ways to deal with the standardisation of dry and dried produce including the possibility to have general standards for these products.¹⁸
107. The Delegation highlighted the key points addressed in the document:
- the need to review the individual Codex standards for dry and dried produce in order to determine the need for their revision;
 - the different types of dry and dried products presently on the market;
 - the identification of major dry and dried produce currently being marketed in international trade that could serve as the basis for future work in relation to the review of standards and the possible up-take of new revision work e.g. pistachios, raisins, apricots, etc.;
 - the identification of possible product groupings that could be prioritised in relation to their importance in international trade i.e. nuts, dried fruits and dried vegetables;
 - the approaches that could be taken in the standardisation of dry and dried produce as presented in paragraph 25 of the discussion paper.
108. The Committee noted that the conclusions and recommendations in the paper were not intended to initiate a comprehensive new work on dry and dried produce but to provide options on how the review of the existing standards for dry and dried produce and possible up-take of new revision work on these products could proceed in the future depending on the priorities identified in terms of continuation of the review process and proposals for new work in general.
109. The Representative of the United Nations Economic Commission for Europe (UNECE) gave a presentation on the work carried out by the UNECE Specialised Section on Dry and Dried Produce in this area.
110. Delegations having concerns with the standardisation of dry and dried produce in CCPFV indicated that work of Codex/CCPFV should not duplicate but rather complement work of other organisations working in related fields; CCPFV should focus its work on other products / groups of products having relevance for international trade e.g. quick frozen fruits, canned berry fruits, mixed fruit salads, etc. in particular taking into account the extensive work already done in the dry and dried produce area by UNECE in order to make the best use of the resources available; and no quality or safety problems had been identified in international trade due the provisions in the existing standards that would justify their review.
111. However, it was noted that if work is to proceed the scope of the review should identify whether it would apply to dry and dried produce with or without further processing; the review should take account of the mandate of CCPFV to identify the products to be considered vis-à-vis other standards that could be included in the review e.g. *Standard for Peanuts* (CODEX STAN 201-1995), that might not necessarily be within the purview of CCPFV; the review of existing standards for dry and dried produce should be examined in the framework of the overall work on the review of remaining standards for processed fruits and vegetables before making a final decision on the need for their review.
112. Other delegations supported further elaboration of the discussion paper in relation to the need for review of the standards for dry and dried produce and ways forward to proceed with their revision if necessary, noting the importance of these products to developing countries in particular. This work would not envisage prioritisation of dry and dried over other groups of products pending review by CCPFV nor would the work preclude any decision of the Committee on its work plan for the future. These delegations supported the proposal of the Delegation of Brazil to establish an electronic working group to that effect.

¹⁷ [CX/PFV 14/27/11](#); [CRD 6](#) (Comments of Kenya, Nigeria, USA).

¹⁸ [REP13/PFV, paras 153-154](#).

113. It was noted that UNECE standards work well in international trade but when it comes to trade concerns or dispute case settlements Codex standards were the reference point for international trade in the World Trade Organisation (WTO). In this regard, it was noted that quality standards such as those developed by CCPFV and UNECE fall within the remit of the WTO/TBT¹⁹ Agreement which does not recognize any particular international organisation as reference point as opposed to the WTO/SPS²⁰ Agreement that clearly recognizes Codex safety standards as benchmark standards for international trade.

Conclusion

114. Based on the above considerations, the Committee agreed to establish an electronic working group, chaired by Brazil and working in English only, to reassess conclusions of the discussion paper and evaluate provisions of remaining dry and dried products standards that might need revision. The conclusions and recommendations of the discussion paper would provide information to the Committee to assist in future decisions on work priorities.

STATUS OF WORK ON THE REVIEW OF CODEX STANDARDS FOR PROCESSED FRUITS AND VEGETABLES (Agenda Item 10)²¹

115. The Codex Secretariat introduced the paper presenting background information on the status of work on the review and revision of Codex standards for processed fruits and vegetables since the re-establishment of the Committee in 1998 when CCPFV was tasked by the Commission to proceed with the review of all existing individual standards for processed fruits and vegetables in order to determine the need for their revision and if so to proceed with their updating and simplification and when possible, to group similar products into more horizontal standards in line with the recommendation of the Commission. The paper aimed at assisting the Committee to plan its future work as regards the review of the remaining standards for processed fruits and vegetables and up-take of work on new standards.

116. The Secretariat informed the Committee that following the extensive work on the revision of single standards for canned fruits and vegetables and quick frozen vegetables, amongst others indicated in the Annex of CX/PFV 14/27/12, there is still some remaining work to do on certain individual standards and groups of products as indicated in the table on pending work in CX/PFV 14/27/12. In addition, the 26th CCPFV had identified certain possible groupings that could be the subject of future work such as quick frozen fruits, canned berry fruits and canned mixed fruits.

117. The Committee considered its work plan for future sessions with a view to completion of the review / revision of existing Codex standards for processed fruits and vegetables vis-à-vis pending work on the review and pending work on finalisation of the annex for canned pineapple and a number of annexes on quick frozen vegetables at its 28th Session.

118. The Chair of the Committee reminded delegates of the two-pronged approach to continue the review process and to take on new work based on proposals from Codex members that would utilize the Committees capability to elaborate standards for new commodities and facilitate trade within the goals of Codex to protect consumers' health and ensure fair practices in the food trade. He invited delegates to convey this message to the relevant official bodies in their countries / regions.

Conclusion

119. In view of time constraints, the Committee agreed that the Codex Secretariat will proceed with the editorial amendment of the 17 standards listed in the table on pending work in CX/PFV 14/27/12 in particular as to the horizontal provisions applying across commodity standards, e.g. hygiene, contaminants, food additives, etc. The section on food additives will be updated in line with the template laid down in the Procedural Manual, including a proposal for a general reference to the GSFA for consideration by the 28th CCPFV.

120. The above would allow the Committee to focus its discussion on the technical provisions of the products subject to review and to make an assessment on the need for their total or partial revision. The editorial amendments will be circulated for comments by means of a circular letter that will also request comments on prioritisation of work based on the *Criteria for the Establishment of Work Priorities applicable to Commodity Committees*. Examples of possible merging of existing standards would also be presented to facilitate discussion on work prioritisation.

¹⁹ Agreement on Technical Barriers to Trade.

²⁰ Agreement on the Application of Sanitary and Phytosanitary Measures.

²¹ [CX/PFV 14/27/12](#).

OTHER BUSINESS AND FUTURE WORK**DISCUSSION PAPER ON STANDARDS FOR DRIED CHILLIES, DRIED GARLIC AND DRIED GINGER (Agenda Item 11a)²²**

121. The Committee considered a discussion paper developed by India to determine whether the scope of these standards fitted better within the mandate of the Committee on Processed Fruits and Vegetables (CCPFV) or the Committee on Spices and Culinary Herbs (CCSCH). The Committee also considered the request from CCSCH as to whether paprika was in the work scope of CCPFV (paragraph 5).
122. The Committee noted comments in support of these products to be standardised in the CCSCH as ISO and spice trade associations identified some of these products as spices. It was noted that the relevant parameter to differentiate spices from dry/dried produce was the content of essential oils giving the predominant flavour of these products which should be taken into account in the development of Codex standards for spices. It was further noted that whether the dry/dried item was whole, grated, ground, etc. these could be considered different forms of presentation (styles) and did not affect the nature of the product with respect to its consideration as a spice.
123. The Committee further noted that there might be instances when most styles for a product fall under the purview of one committee, and a lesser number of styles fall under another committee, e.g. ground, powdered, or crushed styles of a dried product could be under CCSCH while whole or sliced styles of a dried product could be under CCPFV. In such instances, the Committee noted that it would be appropriate for the committee handling the product to cover all related styles, and seek support/input from the other committee if/when needed.
124. The Committee recognised that for some products that could fall both in the remit of CCPFV or CCSCH, the final decision as to which committee should handle a product could take into consideration the workload, work plan and work prioritisation, and expert knowledge base of both committees in order to make the best use of the limited resources available. The Committee welcomed continuous coordination with CCSCH for the best planning of standardisation of products considered to fall on the border between the activities of the two committees.

Conclusion

125. In view of the above considerations, the Committee agreed that paprika, dried chilli peppers, dried garlic and dried ginger could be considered for new work in CCSCH rather than for CCPFV.

ADDITIONAL BUSINESS

126. The Committee noted that there were no further matters to discuss under this Agenda Item.

DATE AND PLACE OF NEXT SESSION (Agenda Item 12)

127. The Committee was informed that the 28th Session of the Committee was tentatively scheduled to be held in approximately two years' time. The exact date and venue would be decided between the United States of America and the Codex Secretariat.
128. The Committee noted that there might be a possibility to convene physical working group(s) immediately prior to the next Session, to facilitate discussion in plenary.

²² [CX/PFV 14/27/13](#); [CRD 7](#) (Comments of Brazil, Nigeria).

ANNEX

SUMMARY STATUS OF WORK

SUBJECT MATTER	STEP	ACTION BY:	DOCUMENT REFERENCE (REP15/PFV)
Draft Standard for Certain Canned Fruits (general provisions)	8	Members and Observers 38 th CAC	para 29, Appendix II
Draft Annex on Canned Mangoes (draft Standard for Certain Canned Fruits)	8		para 29, Appendix II
Draft Standard for Quick Frozen Vegetables (general provisions)	8		para 76, Appendix III
Proposed draft Annex on Canned Pears (draft Standard for Certain Canned Fruits)	5/8		para 42, Appendix II
Proposed draft Annexes for Certain Quick Frozen Vegetables: Leeks, Carrots, Corn-on-the-Cob, Whole Kernel Corn (draft Standard for Quick Frozen Vegetables)	5/8		para 76, Appendix III
Proposed draft Standard for Ginseng Products	5/8		para 87, Appendix IV
Proposed draft Annex on Canned Pineapples	3/2/3	Members and Observers EWG (Thailand and EU) Members and Observers 28 th CCPFV	para 43, Appendix II
Proposed draft Annexes on Quick Frozen Vegetables (including methods of analysis for quick frozen vegetables)	2/3	EWG (USA and France) Members and Observers 28 th CCPFV	para 77
Amendments to food additive provisions in the standards for canned chestnuts and canned chestnut puree, canned bamboo shoots, canned mushrooms (certain canned vegetables), and pickled fruits and vegetables	---	47 th CCFA 38 th CAC	para 101, Appendix V
Amendments to food additive and packing media provisions in Standard for Pickled Fruits and Vegetables	---	47 th CCFA 38 th CAC	paras 101 and 104, Appendix VI
Status of work on the review / revision of Codex standards for processed fruits and vegetables	----	Codex Secretariat 28 th CCPFV	para 119
Discussion paper on standardisation of dry and dried produce	---	EWG (Brazil) 28 th CCPFV	para 114

APPENDIX I**LIST OF PARTICIPANTS - LISTE DES PARTICIPANTS - LISTA DE PARTICIPANTES****CHAIR - PRÉSIDENT - PRESIDENTE****Mr RICHARD BOYD**

Chief
 Contract Services Branch
 Specialty Crops Inspection Division,
 Fruit and Vegetable Program, AMS, USDA
 20250 Washington
 UNITED STATES OF AMERICA
 Tel: 202 690 1201
 Fax: 202 690 1527
 E-mail: richard.boyd@ams.usda.gov

MEMBER COUNTRIES - ÉTATS MEMBRES - ESTADOS MIEMBROS**ALGERIA - ALGÉRIE – ARGELIA****Mr MALEK DJAOU**

Economic Counselor
 Embassy of Algeria to the United States of America
 2118 Kalorama Rd. N.W.
 Washington D.C. 20008
 UNITED STATES OF AMERICA
 Tel: +1 202 2654 2800 Ext.154
 Cell: +1 202 304 5084; Fax: +1 202 986 5189
 E-mail: djaoudmalek@yahoo.fr

AUSTRALIA – AUSTRALIE**Mr John POWER**

Director
 Wine and International Food Policy
 Department of Agriculture
 18 Marcus Clarke Street
 2601 Canberra
 AUSTRALIA
 Tel: +61262724118
 E-mail: john.power@agriculture.gov.au

BELGIUM - BELGIQUE – BÉLGICA**Mr Luc OGIERS**

Director
 FPS Economy, S.M.E's., Self employed and Energy
 City Atrium C- Vooruitgangstraat 50
 1210 Brussels
 BELGIUM
 Tel: +32 2 277 71 81
 E-mail: Luc.ogiers@economie.fgov.be

BRAZIL - BRÉSIL – BRASIL**Mr André Bispo OLIVEIRA**

Official Inspector
 Ministry of Agriculture Livestock and Food Supply of
 Brazil
 Esplanada dos Ministérios Bloco D
 Brasília-DF
 BRAZIL
 Tel: 55 61 3218-2363
 E-mail: andre.oliveira@agricultura.gov.br

BURUNDI**Mr Ntibakivayo PIERRE-CLAVER**

Technical Advisor
 Ministry of Agriculture and Livestock
 P.O. Box 1850 - 257 Bujumbura
 BURUNDI
 Tel: +257 79 601 217 or 257 22 22 5
 Fax: +257 22 22 2873
 E-mail: Mufozi2009@yahoo.fr

CAMEROON - CAMEROUN – CAMERÚN**Mr Ebai Takang STEPHEN**

Ministère de l'Agriculture et du Développement Rural
 Minader, Yaoundé
 CAMEROON
 Tel: +237 77 48 2112
 E-mail: Stephen.ebai@yahoo.com

Mr Zoo MARTIN PAUL

Secrétaire Technique CNC
 Comite National du Codex
 Minmiot, Yaoundé
 CAMEROON
 Tel: +237 99 96 4623
 E-mail: martinpaulzoo@yahoo.com

CANADA – CANADÁ**Mr Kevin SMITH**

National Manager, Standards of Identity, Composition
 and Grades
 Canadian Food Inspection Agency
 1400 Merivale Rd, Tower 2, Floor 6
 K1A 0Y9 Ottawa
 CANADA
 Tel: 613-773-6225; Fax: 613-773-5603
 E-mail: kevin.smith@inspection.gc.ca

Ms Danielle WALSH

National Processed Products Specialist -- Standards of Identity, Composition and Grades
Canadian Food Inspection Agency
1400 Merival Road, Tower 2, Floor 6
K1A 0Y9 Ottawa
CANADA
Tel: 613-773-5623
Fax: 613-773-6282
E-mail: Danielle.Walsh@inspection.gc.ca

CHILE – CHILI

Mr Eduardo AYLWIN

Asesor
Agencia Chilena para la Inocuidad Alimentaria
Nueva York 17 Piso 4
Santiago
CHILE
Tel: 56227979900
E-mail: eduardo.aylwin@achipia.gob.cl

CHINA – CHINE

Mr Xuewen HE

Senior Engineer/Director
Shanxi Entry-Exit Inspection and Quarantine Bureau of P.R.C
No.10 North Part Of Hanguang Road
710068 Xi'an
CHINA
Tel: 86+13891889568
Fax: 86+29-85407110
E-mail: hexw@snciq.gov.cn

Ms Han LIU

Engineer/Inspector
Jiangsu Entry-Exit Inspection and Quarantine Bureau of the People's Republic China
1804, No.99 Zhonghua Road, Nanjing 210001
CHINA
Tel: 86+25-52345193
Fax: 86+25-52345180
E-mail: Liuhan_jsciq@aliyun.com

ECUADOR - ÉQUATEUR

Ms María Augusta GARCÉS PICO

Analista Zona de Vigilancia y Control de Establecimientos Sujetos a BP y productos
Agencia Nacional de Regulación, Control y vigilancia Sanitaria.- ARCSA
Unidad de Vigilancia y Control Posterior de la ARCSA
Sector La Gasca; calle Arturo Meneses y Av. La Gasca
170519 Quito
ECUADOR
Tel: (593) 2229865/ (593) 2224757
E-mail: maria.garces@controlsanitario.gob.ec

Ms Mónica Alexandra QUINATO A OSEJOS

Analista de la Dirección Nacional de Control Sanitario
Ministerio de Salud Pública
Dirección Nacional de Control Sanitario
Av. República de El Salvador 36-64 y Suecia
170515 Quito
ECUADOR
Tel: 593 3814400
E-mail: monica.quinatoa@misp.gob.ec

EUROPEAN UNION - UNION EUROPÉENNE - UNIÓN EUROPEA

Mr Risto HOLMA

Administrator Responsible for Codex Issues
European Commission
DG for Health and Consumers
Rue Froissart 101
1049 Brussels
BELGIUM
Tel: +322 2998683
Fax: +322 2998566
E-mail: risto.holma@ec.europa.eu

FRANCE – FRANCIA

Ms Dr. Brigitte POUYET

Chargée de mission
DGCCRF- Ministère de l'Economie,
59 Boulevard Vincent Auriol
75013 Paris
FRANCE
Tel: (33) 44973152
E-mail: brigitte.pouyet@dgccrf.finances.gouv.fr

GERMANY - ALLEMAGNE – ALEMANIA

Mr Walther QUASIGROCH

Administrator
Federal Ministry of Food and Agriculture
Rochusstrasse 1
53123 Bonn
GERMANY
Tel: +49 228 529 4362
Fax: +49 228 529 4965
E-mail: walther.quasigroch@bmel.bund.de

GUINEA – GUINÉE

Ms Cisse MINTE

Directrice générale
Institut guinéen de normalisation et de métrologie (IGNM) - ISO
Quartier Almamy, Rue KA 003
1639 Conakry
GUINEA
Tel: +00 224 622 57 23 08
E-mail: hmcisse@gmail.com

INDONESIA – INDONÉSIE

Mr Aslam HASAN

Deputy Director of Horticulture Products, Soft Drinks Industry and Director of Beverages and Tobacco Industry
Ministry of Industry
Jl. Jenderal Gatot Subroto, kav 52-53, 17th Floor
12950 JAKARTA
INDONESIA
Tel: +62 21 5252236
Fax: +62 21 5252236
E-mail: aslamhas@yahoo.com

ITALY - ITALIE – ITALIA

Mr **Ciro IMPAGNATIELLO**

Italian Codex Contact Point
 Ministry of Agricultural, Food and Forestry Policies
 Via XX Settembre, 20
 00187 Rome
 ITALY
 Tel: +39 0646654058
 E-mail: c.impagnatiello@mpaaf.gov.it

Mr **Domenico MONTELEONE**

Chief Medical Officer
 Ministry of Health
 Directorate General of Hygiene And Food Safety
 and Nutrition
 Via Ribotta 5
 00144 Rome
 ITALY
 Tel: +390659946567
 Fax: +390659943598
 E-mail: d.monteleone@sanita.it

JAPAN - JAPON – JAPÓN

Mr **Makoto SAKASHITA**

Associate Director
 Ministry of Agriculture, Forestry and Fisheries,
 Government of Japan
 International Affairs, Food Safety and Consumer Policy
 Division, Food Safety and Consumer Affairs Bureau
 1-2-1 Kasumigaseki, Chiyoda-ku
 100-8950 Tokyo
 JAPAN
 Tel: +81-3-3502-8732
 Fax: +81-3-3507-4232
 E-mail: makoto_sakashita@nm.maff.go.jp

Ms **Hitomi KIMURA**

Section Chief
 Ministry of Agriculture, Forestry and Fisheries
 Food Safety and Consumer Policy Division, Food Safety
 and Consumer Affairs Bureau
 1-2-1 Kasumigaseki, Chiyoda-ku
 100-8950 Tokyo
 JAPAN
 Tel: +81-3-3502-8732
 Fax: +81-3-3507-4232
 E-mail: hitomi_kimura@nm.maff.go.jp

KENYA

Ms **Victoria MUTUNGWA**

Manager-Quality Control
 Delmonte Kenya LTD
 Quality department
 Box 147, Oloitiptip Road
 01000 Thika
 KENYA
 Tel: +254 202141600
 E-mail: vmutungwa@freshdelmonte.com

Ms **Josephine SIMIYU**

Senior Horticulture officer
 Directorate of Horticulture
 42601
 00100 Nairobi
 Kenya
 E-mail: jnatecho@yahoo.com

Mr **Benson MUREITHI**

Assistant Director of Agriculture
 Ministry of Agriculture, Livestock and Fisheries
 30028
 00100 GPO Nairobi
 KENYA
 E-mail: mureithibk@yahoo.com

MOROCCO - MAROC – MARRUECOS

Mr **Najib LAYACHI**

Expert
 FICOPAM
 Ain Sebaâ Center, Esc B, 2ème étage, N° 35,
 Route de Rabat
 Casablanca 20 250
 MOROCCO
 Tel: +212 522351081
 Fax: +212 618532248
 E-mail: playachi@gmail.com

NIGERIA – NIGÉRIA

Ms **Ogochukwu Nkolika MAINASARA**

Director
 National Agency for Food and Drug Administration and
 Control (NAFDAC)
 445, Herbert Macaulay Way, Yaba
 Lagos
 NIGERIA
 Tel: +234-8033217430
 E-mail: mainasara.o@nafdac.gov.ng

Mr **Fubara Amadi CHUKU**

Deputy Director
 Federal Ministry Of Health
 Food And Drug Services
 Federal Secretariat Phase III
 Abuja
 NIGERIA
 Tel: +234-8082449090
 E-mail: fubarachuku@yahoo.com

Ms **Amalachukwu Nwamaka, Bethel UFONDU**

Principal Regulatory Officer
 National Agency for Food and Drug Administration and
 Control (NAFDAC)
 445, Herbert Macaulay Way, Yaba
 Lagos
 NIGERIA
 Tel: +2348033217430, +234703481044
 E-mail: mainasara.o@nafdac.gov.ng

PHILIPPINES – FILIPINAS

Ms **Maria Theresa CERBOLLES**

Food Drug Regulation Officer III and Chairperson for
 SCPFV
 National Codex Organization (NCO)
 Food and Drug Administration (FDA),
 Department of Health
 Civic Drive, Filinvest Corporate City
 1770 Alabang
 PHILIPPINES
 Tel: 63 2 8072843
 Fax: 63 2 8072843
 E-mail:
tessacodex@yahoo.com:mtccerbolles@fda.gov.ph

Ms Maria Leonora LOTIS FRANCISCO

Department Head, Department of Food Science and Nutrition (DFSN)– CHE
 University of the Philippines Diliman (UPD)
 Department of Food Science and Nutrition,
 College of Home Economics
 Elliptical Road, Diliman
 1101 Quezon City
 PHILIPPINES
 E-mail: lotis_francisco@yahoo.com

Ms Rowena Grace RUMBAOA

Assistant Professor, DFSN-CHE, UPD Member, NCO
 SC on Processed Fruits and Vegetables (SCPFV)
 University of the Philippines
 Department of Food Science and Nutrition,
 College of Home Economics
 Elliptical Road, Diliman 1101 Quezon City
 PHILIPPINES
 E-mail: rowena@up.edu.ph; rorumbaoa@yahoo.com

Ms Sheryl SANCHEZ

Member, SCPFV-NCO
 Philippine Chamber of Food Manufacturers, Del Monte Phil. Inc.
 Unit 1216 Cityland 10 Tower 2 6817 Ayala Avenue cor H.V. dela Costa Street Salcedo Villa
 Makati City
 PHILIPPINES
 E-mail: sanchezsl@delmonte-phil.com

REPUBLIC OF KOREA - RÉPUBLIQUE DE CORÉE -
 REPÚBLICA DE COREA

Mr IN HO BAEG

DIRECTOR
 korea ginseng Corporation
 30, Gajeong-ro, Yuseong-gu, Daejeon
 305-805
 E-mail: ginsengking@kgc.co.kr

Mr Kyujai HAN

Principal Research Scientist
 Korea Food Research Institute
 Food Certification Center
 #1201-62, Anyangpangkyo-ro, Bundang-gu
 463-746 Seongnam-si, Gyeonggi-do,
 REPUBLIC OF KOREA
 Tel: +82-31-780-9120
 Fax: +82-31-780-9154
 E-mail: kjhan@kfri.re.kr

Ms JUNGOCK LEE

Research Scientist
 Korea Food Research Institute
 Food Certification Center
 #1201-62, Anyangpangkyo-ro, Bundang-gu
 463-746 Seongnam-si, Gyeonggi-do
 REPUBLIC OF KOREA
 Tel: 82-31-780-9049
 Fax: 82-31-780-9154
 E-mail: lee.jung-ock@kfri.re.kr

Mr Seuugeel LEE

Ministry of Agriculture, Food and Rural Affairs (MAFRA)
 94 Dasom 2-RO
 339-012 Sejong Special Self-Governing City
 REPUBLIC OF KOREA
 Tel: 82-44-201-2118
 Fax: 82-42-868-7907
 E-mail: lee7ell@korea.kr

Ms JEONGHAE RHO

Professor
 Woosong University
 17-2 Jayang-Dong, Dong-gu, Daejeon
 463-746 Seongnam
 REPUBLIC OF KOREA
 Tel: 82-42-629-6288
 E-mail: drno@kfri.re.kr

RWANDA

Mr Ernest UZARIBARA

Food Standards Officer
 Rwanda Bureau of Standards
 P.O. Box 7099
 Kigali
 RWANDA
 Tel: +250 78868190 / +250 722481090
 E-mail: ernestu2002@yahoo.com

SENEGAL - SÉNÉGAL

Mr Khoule MOR

Observer
 Aéroport international Léopold-Sédar-Senghor
 BP 2005, Dakar
 SENEGAL
 Tel: +221 274367333
 E-mail: khoulmor@yahoo.fr

SOUTH AFRICA - AFRIQUE DU SUD – SUDÁFRICA

Mr Theo VAN RENSBURG

Chief Food Safety and Quality Assurance Officer
 Department of Agriculture, Forestry and Fisheries
 Directorate Food Safety and Quality Assurance
 Private Bag X343
 0001 Pretoria
 SOUTH AFRICA
 Tel: +27 12 319 6020
 Fax: +27 12 319 6055
 E-mail: theo@daff.gov.za
 THAILAND - THAÏLANDE – TAILANDIA

Ms Oratai SILAPANAPORN

Advisor
 National Bureau of Agricultural Commodity and Food Standards
 50 Phaholyothin Road, Chatuchak
 10900 Bangkok
 THAILAND
 Tel: +662 561 2277
 Fax: +662 561 3357
 E-mail: oratai_si@hotmail.com

Ms Jiraporn BANCHUEN

Standards Officer
National Bureau of Agricultural Commodity and Food
Standards
50 Phaholyothin Road, Chatuchak
10900 Bangkok
THAILAND
Tel: +662 561 2277 ext. 1417
Fax: +662 561 3357
E-mail: jiraporn@acfs.go.th

Ms Huai-Hui LEE

Director
Thai Food Processors' Association
170/21-22 9th Floor Ocean Tower 1 Bldg. Klongtoey
10110 Bangkok
THAILAND
Tel: +662 261 2684-6
Fax: +662 261 2996-7
E-mail: thaifood@th-food.org

Ms Nalinthip PEANEE

Standard Officer
National Bureau of Agricultural Commodity and Food
Standards
50 Paholyothin Road, Chatuchak
10900 Bangkok
THAILAND
Tel: +662 561 2277 ext.1412
Fax: +662 561 3357
E-mail: nalinthip@acfs.go.th

Ms Torporn SATTABUS

Standards Officer
National Bureau of Agricultural Commodity and Food
Standards
50 Paholyothin Road, Chatuchak
10900 Bangkok
THAILAND
Tel: +662 561 2277 ext.1416
Fax: +662 561 3357
E-mail: cartoon_cmu@hotmail.com

Ms Sasithon SIMPARSERT

Trade and Technical Officer
Thai Food Processors's Association (Thailand)
170/21-22 9th floor Ocean Tower 1 Bldg, Klongtoey
10110 Bangkok
THAILAND
Tel: +662 261 2684-6
Fax: +662 261 2996
E-mail: thaifood@thaifood.org

Ms Krissana SUKHUMPANICH

Consul (Agriculture)
Agriculture Section-Los Angeles, Thailand
Ministry of Agriculture and Cooperative
611 N.Larchmont Blvd., 3rd Fl., Los Angeles
90004 CA
UNITED STATES OF AMERICA
Tel: +1323 468 8034
Fax: +1323 468 8041
E-mail: moac.la@thaiconsulatela.org

UGANDA - OUGANDA

Mr Hakim MUFUMBIRO

Ag. Head, Food and Agriculture Standards Division
Uganda National Bureau of Standards
Plot M217, Nakawa/90 Kanjokya Street
P.O. Box 6329, Kampala
UGANDA
Tel: +256-414-534357
Fax: +256-414-286123
E-mail: hakim.mufumbiro@unbs.go.ug

UNITED KINGDOM - ROYAUME-UNI - REINO UNIDO

Mr Paul RICHES

Policy Advisor
Department for Environment, Food and Rural Affairs
Area 3A, Nobel House, 17 Smith Square
SW1P 3JR London
UNITED KINGDOM
Tel: 020 7238 5354
E-mail: paul.riches@defra.gsi.gov.uk

UNITED STATES OF AMERICA
ÉTATS-UNIS D'AMÉRIQUE
ESTADOS UNIDOS DE AMÉRICA

Ms DOREEN CHEN-MOULEC

Analyst
U.S. Codex Office
U.S. Department of Agriculture
1400 Independence Avenue SW Room 4851,
South Building
20250 Washington DC
UNITED STATES OF AMERICA
Tel: 202 205 7760
Fax: 202 720 3157
E-mail: doreen.chen-moulec@fsis.usda.gov

Ms Joy JOHANSON

Consumer Safety Officer
US Food and Drug Administration
Office of Food Safety
5100 Paint Branch Parkway; HFS-317
20740 College Park, MD
UNITED STATES OF AMERICA
Tel: 240.402.1909
E-mail: joy.johanson@fda.hhs.gov

Mr Dorian LAFOND

International Standards Coordinator
USDA/AMS Fruit and Vegetable Program
1400 Independence Ave SW, Stop 0247
20250 Washington, D.C.
UNITED STATES OF AMERICA
Tel: +1(202)-690-4944
Fax: +1(202)-720-0016
E-mail: dorian.lafond@ams.usda.gov

Ms Mary Frances LOWE

U.S. Codex Manager/U.S. Codex Office
U.S. Department of Agriculture
1400 Independence Avenue, SW, South Building,
Room 4861
20250 Washington, DC
UNITED STATES OF AMERICA
Tel: +1.202.205.7760
Fax: +1.202.720.3157
E-mail: maryfrances.lowe@fsis.usda.gov

Ms Dr. Yinqing MA

U.S. Alternate Delegate
 U.S. Food and Drug Administration
 Center for Food Safety and Applied Nutrition
 5100 Paint Branch Parkway
 20740 College Park
 UNITED STATES OF AMERICA
 Tel: 240-402-2479
 E-mail: Yinqing.Ma@FDA.HHS.Gov

Mr Richard PETERSON

Agricultural Marketing Specialist
 U.S. Department of Agriculture
 1400 Independence Avenue, So. Bldg, Room 0721,
 Stop 0249
 20250 Washington, DC
 UNITED STATES OF AMERICA
 Tel: 202-260-8158
 Fax: 202-690-1527
 E-mail: richard.peterson@ams.usda.gov

**UN OBSERVERS – OBSERVATEURS DES NATIONS
 UNIES – OBSERVADORES DE LAS NACIONES
 UNIDAS**

UNITED NATIONS ECONOMIC COMMISSION FOR
 EUROPE (UNECE)
 COMMISSION ÉCONOMIQUE DES NATIONS UNIES
 POUR L'EUROPE (CEE-ONU)
 COMISIÓN ECONÓMICA DE LAS NACIONES UNIDAS
 PARA EUROPA (CEPE)

Ms Liliana ANNOVAZZI-JAKAB

UNECE Economic Cooperation, Trade, and Land
 Management Division
 Trade Policy and Governmental Cooperation Section
 Palais des Nations, 1211 Geneva, Office 432
 10 Geneva
 SWITZERLAND
 Tel: +41-22-917 1176
 Fax: +41-22-917 0629
 E-mail: liliana.annovazzi-jakab@unece.org

**INTERNATIONAL NON-GOVERNMENTAL
 ORGANISATIONS
 ORGANISATIONS NON-GOUVERNEMENTALES
 INTERNATIONALES
 ORGANIZACIONES INTERNACIONALES NO
 GUBERNAMENTALES**

International Council of Grocery Manufacturers
 Associations

Ms Fatemeh ATA EI

Manager, Science Program Management
 Grocery Manufacturers Association
 1350 I Street, NW
 20005 Washington, DC
 UNITED STATES OF AMERICA
 Tel: 202 639 5977
 E-mail: fataei@gmaonline.org

International Frozen Foods Association

Ms Maia JACK

Director, Regulatory and International Affairs
 International Frozen Food Association
 Regulatory and Technical Affairs
 2000 Corporate Ridge Boulevard, Suite 1000
 22102 McLean
 UNITED STATES OF AMERICA
 Tel: 703-821-0770
 E-mail: mjack@affi.com

SECRETARIAT – SECRÉTARIAT - SECRETARÍA

CODEX SECRETARIAT
 SECRÉTARIAT DU CODEX
 SECRETARÍA DEL CODEX

Ms Gracia BRISCO

Food Standards Officer
 Joint FAO/WHO Food Standards Programme
 Viale delle Terme di Caracalla
 00153 Rome
 ITALY
 Tel: +39065 7052700
 Fax: +39065 7054593
 E-mail: gracia.brisco@fao.org

Ms Verna CAROLISSEN-MACKAY

Food Standards Officer
 FAO/WHO Food Standards Programme Head
 Viale delle Terme di Caracalla
 00153 Rome
 ITALY
 Tel: +39065 7055629
 Fax: +39065 7054593
 E-mail: verna.carolissen@fao.org

HOST GOVERNMENT SECRETARIAT
 SECRÉTARIAT DU GOUVERNEMENT HÔTE
 SECRETARÍA DEL GOBIERNO ANFITRIÓN

Ms Shanelle BASTA

Intern
 Food safety and Inspection Service, U.S. Codex
 Department of Agriculture
 1400 Independence Avenue, SW.
 20250 Washington
 UNITED STATES OF AMERICA
 Tel: +1-202-205-7760
 Fax: +1-202-720-3157
 E-mail: shanelle.basta@fsis.usda.gov

Ms Jasmine CURTIS

Program Analyst
 U.S. Codex Office
 U.S. Department of Agriculture
 1400 Independence Avenue, SW, Room 4861
 20250 Washington, DC
 UNITED STATES OF AMERICA
 Tel: +1 202 690 1124
 Fax: +1 202 720 3157
 E-mail: jasmine.curtis@fsis.usda.gov

Ms Maria Teresa ESPINOZA

Secretary

USDA

FSIS

1400 Independence Ave

20250 Washington, D.C.

UNITED STATES OF AMERICA

Tel: (202) 205-7750

Fax: 2027203157

E-mail: mariateresa.espinoza@fsis.usda.gov

APPENDIX II**DRAFT CODEX STANDARD FOR CERTAIN CANNED FRUITS****(At Step 8)****1. SCOPE**

This Standard applies to certain canned fruits, as defined in Section 2 below and in the corresponding Annexes 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.

This Standard does not cover canned applesauce, canned berry fruits, canned citrus fruits, and canned stone fruits which are covered by other Codex standards.

2. DESCRIPTION**2.1 PRODUCT DEFINITION**

Canned fruits are the products:

- (1) prepared from substantially sound fruits, fresh, frozen, thermally processed, or processed by other physical methods, as defined in the corresponding Annexes, having reached appropriate maturity for processing. None of their essential characteristic elements are removed from them. They undergo operations such as washing, peeling, coring, stemming, grading, cutting, etc., depending on the type of product;
- (2) (a) packed with or without a suitable liquid packing medium including other optional ingredients as indicated in Section 3.1.2;
(b) vacuum packaged with packing medium that does not exceed 20% of the product's net weight and when the container is sealed in such conditions as to generate an internal pressure in accordance with good manufacturing practices¹; and
- (3) processed in an appropriate manner, before or after being hermetically sealed in a container, so as to prevent spoilage and to ensure product stability in normal storage conditions at ambient temperature.

2.2 STYLES

In addition to the styles defined in the corresponding Annexes, any other styles should be permitted as indicated in Section 2.2.1.

2.2.1 Other Styles

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

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

2.3 VARIETAL TYPE

Any commercially cultivated variety or type suitable for canning may be used.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**3.1 COMPOSITION****3.1.1 Basic Ingredients**

Fruits as defined in Section 2 and the corresponding Annexes and liquid packing medium appropriate to the product as per Section 3.1.3 below.

3.1.2 Optional Ingredients

In accordance with the relevant provisions in the corresponding Annexes.

¹ High vacuum products typically have an internal pressure of approximately 300 millibars or more below atmospheric pressure (depending on container size and other relevant factors).

3.1.3 Packing Media

In accordance with the *Guidelines for Packing Media for Canned Fruits* (CAC/GL 51-2003).

The cut-out strength for any syrup packing medium shall be determined on average, but no container may have a soluble solids (°Brix) value beyond the next category of the medium °Brix.

3.2 QUALITY CRITERIA

3.2.1 Colour, Flavour, Odour and Texture

Canned fruits shall have normal colour, flavour and odour of canned fruits, corresponding to the type of fruits, packing medium, and added optional ingredients used and shall possess texture characteristic of the product.

3.2.2 Uniformity of Size

In accordance with the relevant provisions in the corresponding Annexes.

3.2.3 Defects and Allowances

Canned fruits should be substantially free from defects. Certain common defects should not be present in amounts greater than the limitations fixed in the corresponding Annexes.

3.3 CLASSIFICATION OF “DEFECTIVES”

A container that fails to meet one or more of the applicable quality requirements, as set out in Section 3.2 (except those based on sample averages), should be considered as a “defective”.

3.4 LOT ACCEPTANCE

A lot should be considered as meeting the applicable quality requirements referred to in Section 3.1.3 and 3.2 when:

- (1) for those requirements which are not based on averages, the number of “defectives”, as defined in Section 3.3, does not exceed the acceptance number (c) of the appropriate sampling plan with an Acceptable Quality Level (AQL) of 6.5; and
- (2) the requirements of Sections 3.1.3 and 3.2, which are based on sample averages, are complied with.

4. FOOD ADDITIVES

4.1 Only those food additive classes listed below and in the corresponding Annexes are technologically justified and may be used in products covered by this Standard. Within each additive class only those food additives listed in the corresponding Annexes, or referred to, may be used and only for the functions, and within limits, specified.

4.2 Acidity regulators used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995) in food category 04.1.2.4 (Canned or bottled (pasteurized) fruit) or listed in Table 3 of the General Standard are acceptable for use in foods conforming to this Standard.

5. CONTAMINANTS

5.1 The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193-1995).

5.2 The products covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

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 *General Principles of Food Hygiene* (CAC/RCP 1-1969), *Code of Hygienic Practice for Canned Fruit and Vegetable Products* (CAC/RCP 2-1969), 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 and Guidelines for the Establishment and Application of Microbiological Criteria related to 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 (including packing medium) which should occupy not less than 90% (minus any necessary head space according to good manufacturing practices) 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 provisions does not apply to vacuum packaged fruits.

7.1.2 Classification of “Defectives”

A container that fails to meet the requirement for minimum fill of Section 7.1.1 should be considered as 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 with an AQL of 6.5.

7.1.4 Minimum Drained Weight

7.1.4.1 The drained weight of the product should be not less than the percentages indicated in the corresponding Annexes, calculated on the basis of the weight of distilled water at 20°C which the sealed container will hold when completely filled.²

7.1.4.2 Lot Acceptance

The requirements for minimum drained weight should 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 The products covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CODEX STAN 1-1985). In addition, the following specific provisions apply:

8.2 NAME OF THE PRODUCT

8.2.1 The names of the canned fruits shall be those defined in the corresponding Annexes.

8.2.2 When the fruits are sized, the size (or sizes when sizes are mixed), as defined in the corresponding Annexes, may be declared as part of the name or in close proximity to the name of the product.

8.2.3 The name of the product shall include the indication of the packing medium as set out in Section 2.1.2 (a). For canned fruits packaged in accordance with Section 2.1.2 (b) the words “vacuum packaged” shall be affixed to the commercial designation of the product or in close proximity.

8.2.4 The name of the product shall the include indication of the style as set out in Section 2.2.

8.2.5 **Other styles** - If the product is produced in accordance with the other styles provision (Section 2.2.1), the label should 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 If an added ingredient, as defined in Section 3.1.2, alters the flavour characteristic of the product, the name of the food shall be accompanied by the term “flavoured with X” or “X flavoured” as appropriate.

8.2.7 The name of the product may include the varietal type.

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 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 or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

² 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.

9. **METHODS OF ANALYSIS AND SAMPLING**

Provision	Method	Principle	Type
Drained weight	AOAC 968.30 (Codex general method for processed fruits and vegetables)	Sieving Gravimetry	I
Fill of containers	CAC/RM 46-1972 (for glass containers) (Codex general method for processed fruit and vegetables) and ISO 90.1:1999 (for metal containers) (Codex general method for processed fruit and vegetables)	Weighing	I
Soluble solids	ISO 2173:2003 (Codex general method for processed fruit and vegetables) AOAC 932.14C	Refractometry	I

**DETERMINATION OF WATER CAPACITY OF CONTAINERS
(CAC/RM 46-1972)**

1. **SCOPE**

This method applies to glass containers.

2. **DEFINITION**

The water capacity of a container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

3. **PROCEDURE**

3.1 Select a container which is undamaged in all respects.

3.2 Wash, dry and weigh the empty container.

3.3 Fill the container with distilled water at 20°C to the level of the top thereof, and weigh the container thus filled.

4. **CALCULATION AND EXPRESSION OF RESULTS**

Subtract the weight found in 3.2 from the weight found in 3.3. The difference shall be considered to be the weight of water required to fill the container. Results are expressed as ml of water.

Sampling Plans

The appropriate inspection level is selected as follows:

Inspection level I - Normal Sampling

Inspection level II - Disputes, (Codex referee purposes sample size), enforcement or need for better lot estimate

SAMPLING PLAN 1 (Inspection Level I, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
4,800 or less	6	1
4,801 - 24,000	13	2
24,001 - 48,000	21	3
48,001 - 84,000	29	4
84,001 - 144,000	38	5
144,001 - 240,000	48	6
more than 240,000	60	7
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
2,400 or less	6	1
2,401 - 15,000	13	2
15,001 - 24,000	21	3
24,001 - 42,000	29	4
42,001 - 72,000	38	5
72,001 - 120,000	48	6
more than 120,000	60	7
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
600 or less	6	1
601 - 2,000	13	2
2,001 - 7,200	21	3
7,201 - 15,000	29	4
15,001 - 24,000	38	5
24,001 - 42,000	48	6
more than 42,000	60	7

SAMPLING PLAN (Inspection Level II, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
4,800 or less	13	2
4,801 - 24,000	21	3
24,001 - 48,000	29	4
48,001 - 84,000	38	5
84,001 - 144,000	48	6
144,001 - 240,000	60	7
more than 240,000	72	8
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
2,400 or less	13	2
2,401 - 15,000	21	3
15,001 - 24,000	29	4
24,001 - 42,000	38	5
42,001 - 72,000	48	6
72,001 - 120,000	60	7
more than 120,000	72	8
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
600 or less	13	2
601 - 2,000	21	3
2,001 - 7,200	29	4
7,201 - 15,000	38	5
15,001 - 24,000	48	6
24,001 - 42,000	60	7
more than 42,000	72	8

ANNEX ON MANGOES

(At Step 8)

In addition to the general provisions applicable to canned fruits, the following specific provisions apply:

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Canned mango is the product conforming to the characteristics of the fruits of *Mangifera indica* L and from which peel has been removed.

1.2 STYLES

The product shall be prepared from peeled fruit for all the following styles:

1.2.1 **Whole** – whole fruit with or without stone.

1.2.2 **Halves** - cut into two approximately equal parts along the stone from stem to apex.

1.2.3 **Slices** - long, slender pieces cut lengthwise or crosswise.

1.2.4 **Pieces** - (or mixed pieces or irregular pieces) - pitted and comprising irregular shapes and sizes.

1.2.5 **Diced** - flesh cut into cube-like pieces.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Optional Ingredients

Spices and aromatic plants (in accordance with the relevant Codex standards for spices and culinary herbs), spice oils.

2.2 QUALITY CRITERIA

2.2.1 Colour

Canned mangoes containing optional ingredients shall be considered to be of characteristic colour when there is no abnormal discolouration of the respective ingredient used.

2.2.2 Flavour

Canned mangoes with optional ingredients shall have the characteristic flavour of the mangoes and the other substances used.

2.2.3 Texture

The mangoes shall have degree of fleshiness and fibre characteristic of the variety. They may be variable in tenderness but shall neither be mushy nor excessively firm in regular pack, and shall not be excessively firm in solid packs.

2.2.4 Uniformity of Size

2.2.4.1 **Halves styles** - Most of the units shall be reasonably uniform in size. Where a unit has broken within the container, the combined broken pieces are considered as a single unit.

Tolerances for uniformity of size for halves

	Regular packs	Solid packs
Non uniformity of size for halves	Less than 30% by count	Less than 30% by count

2.2.6 Definition of Defects

- (a) **Blemishes** - surface discolouration and spots arising from physical, pathological, insect or other agents that definitely contrast with the overall colour, and which may penetrate into the flesh. Examples include bruises, scab and dark discolouration.
- (b) **Crushed or mashed** - means a unit which has been crushed to the extent that it has lost its normal shape (not due to ripeness) or has been severed into definite parts. Partially disintegrated halves are not counted as broken. All portions that collectively equal the size of a full size unit are considered one unit in applying the allowance herein.

- (c) **Peel** - considered as a defect. It refers to peel adhering to the pulp of the mango or found loose in the container.
- (d) **Pit (or stone) material/fragment** - considered a defect in all styles except Whole. In Whole mangoes, the whole stone may be present inside the fruit but no loose or broken fragments shall be present beyond the allowances in the table under Section 2.2.7.
- (e) **Harmless extraneous material** - means any vegetable substance (such as, but not limited to a leaf or portion thereof or a stem or portion thereof) that is harmless but which tends to detract from the appearance of the product.
- (f) **Trim** - considered a defect only in halved and sliced canned mangoes in regular packs. The trimming must be excessive and includes serious gouges (whether due to physical trimming or other means) on the surface of the units which definitely detract from the appearance.

2.2.7 Allowances for Defects

The product shall be reasonably free from defects such as harmless extraneous material, pit (stone) material, blemished and trim, crushed or mashed, peel and spotted slices or chunks to the extent indicated below:

Defects	Regular packs	Solid packs
Blemishes and trim	30% by count	3 units per 500 g
Crushed or mashed	5% by weight	not applicable
Peel and or chunks	not more than 6 cm ² aggregate area per 500 g	not more than 12 cm ² aggregate area per 500 g
Pit or pit material (average) ¹	1/8 stone or equivalent per 500 g	1/8 stone or equivalent per 500 g
Harmless extraneous material	2 pieces per 500 g	3 pieces per 500 g

3. FOOD ADDITIVES

3.1 Antioxidants, and firming agents used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995) in Food Category 04.1.2.4 (Canned or bottled (pasteurized) fruit) or listed in Table 3 of the General Standard are acceptable for use for foods conforming to this Annex.

3.2 COLOURS

Only the colours listed below is permitted for use in canned mangoes.

INS No	Name of the Food Additive	Maximum Level
160a(i),a(iii),e, f	Carotenoids	200 mg/kg
160a(ii)	Carotene beta - vegetable	1,000 mg/kg
120	Carmines	200 mg/kg

4. WEIGHTS AND MEASURES

4.1 MINIMUM DRAINED WEIGHT

(a) Regular packs	50%
(b) Solid pack	70%

¹ Whole pit is not considered for defects.

ANNEX ON PEARS

(At Step 5/8)

In addition to the general provisions applicable to canned fruits, the following specific provisions apply:

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Canned pear is the product conforming to the characteristics of the fruit of *Pyrus communis* or *Pyrus sinensis*, which are peeled or unpeeled, cored, and stemmed, except that whole pears may not need to be peeled, cored, or stemmed and half pears may not need to be peeled.

1.2 STYLES

1.2.1 **Whole** - “peeled stemmed” or “unstemmed” or “unpeeled stemmed” or “unstemmed” with cores removed “cored” or left in “not cored”.

1.2.2 **Halves** - peeled or unpeeled, with stems and cores removed, and cut into two approximately equal parts.

1.2.3 **Quarters** - peeled or unpeeled and cut into four approximately equal parts.

1.2.4 **Sliced** - peeled and cut into wedge-shaped sectors.

1.2.5 **Diced** - peeled and cut into cube-like parts.

1.2.6 **Pieces or Irregular Pieces** - peeled and comprising irregular shapes and sizes.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Optional Ingredients

- (a) Lemon juice (single strength or concentrated) added as an acidulant or flavour enhancer; and
- (b) Spices and aromatic plants (in accordance with the relevant Codex standards for spices and culinary herbs), spice oils.

2.2 QUALITY CRITERIA

2.2.1 Colour

Canned pears shall have normal colour (except for coloured pears as listed in Section 4 of the Standard). A slight pink discoloration should not be regarded as a defective.

2.2.2 Uniformity of Size

“Whole”, “halves”, “quarters” - 95% by count of units that are most uniform in size, the weight of the largest unit should be no more than twice the weight of the smallest unit, but if there are less than 20 units, one unit may be disregarded. Where a unit has broken in the container, the broken pieces are reassembled to approximate a single unit of the appropriate style.

2.2.3 Definition of Defects

- (a) **Blemished and trimmed pear units** - blemished units with surface discoloration and spots that definitely contrast with the overall colour and which may penetrate into the flesh, such as bruises, scab, and dark discoloration. Trimmed units that have deep gouges, whether due to physical trimming or other means, and which definitely detract from the appearance; trimmed units are considered defects only in whole, halved, and quartered styles.
- (b) **Broken** - a unit severed in two or more parts should be considered as one unit when reassembled to the approximate size and shape of an average unit in the container.
- (c) **Core material** - consisting of the seed cell, whether loose or attached, with or without seeds. For the purposes of calculating the defects allowance, all pieces of a core in the sample should be aggregated and pieces totalling approximately one-half of a core should be counted as one unit.
- (d) **Harmless plant material** - stems or stalks and leaf (or similar vegetable material).
- (e) **Peel** - peel that adheres to pear flesh or is found loose in the container.

- (f) **Seeds** - any one pear seed or the equivalent in pieces of one seed that are not included in core material.

2.2.4 Allowances for Defects

The product should be substantially free from defects such as harmless plant material, peel (in peeled styles), core material, blemished and trimmed units, seeds and broken units to the extent indicated below:

Defects		Maximum Limits
(a) Blemished and trimmed pear units		(i) Total, 20% by count; or 3 units per container when count is less than 10; provided the sample average is no more than 20% - but limited to - (ii) 20% by count blemished; or 2 units per container when count is less than 10; provided the sample average is no more than 10% for blemished.
(b) Broken - in “whole”, “halves”, and “quartered” styles only.		20% by count; or 2 units per container when count is less than 10; provided the sample average is no more than 10%.
(c) Core material (average) - except in “whole-not-cored” styles.		2 units per kg of total contents.
(d) Harmless plant material	(i) Stems or stalks (in styles in which the stem is customarily removed)	3 pieces per 3 kg of total contents.
	(ii) Leaf (or similar vegetable material)	
(e) Peel (Average) - except in “unpeeled” styles.		10 cm ² (10 sq. cm.) aggregate area per kg of total contents.
(f) Seeds (average) - except in “whole-not-cored” styles.		8 per kg of total contents.

3. FOOD ADDITIVES

3.1 Colours (permitted only in special holiday packs) used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995) in Food Category 04.1.2.4 (Canned or bottled (pasteurized) fruit) or listed in Table 3 of the General Standard are acceptable for use for foods conforming to this Annex.

3.2 Flavourings used in products covered by this Annex should comply with the *Guidelines for the Use of Flavourings* (CAC/GL 66-2008).

4. WEIGHTS AND MEASURES

4.1 MINIMUM DRAINED WEIGHT

Style	Containers smaller than and/or equal to 425 ml	Containers greater than 425 ml
(a) Whole style	46%	50%
(b) Halves, quarters, slices, pieces	46%	53%
(c) Diced	50%	56%

ANNEX ON PINEAPPLES

(At Step 3)

In addition to the general provisions applicable to canned fruits,
the following specific provisions apply:

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Canned pineapple is the product, conforming to the characteristics of *Ananas comosus* (L) Merr. (*Ananas sativus* (L) Lindl.) and from which peel have been removed whether it is cored or uncored¹.

1.2 STYLES

Canned pineapple may be packed in the following cored and uncored styles:

1.2.1 Cored pineapples

1.2.1.1 **Whole** - cylindrical whole unit with the core removed

1.2.1.2 **Slices or spiral slices or whole slice or rings** - uniformly cut circular slices or rings cut across the axis of the peeled, cored pineapple cylinders.

1.2.1.3 **Half slices** - uniformly cut approximately semi-circular halves of slices.

1.2.1.4 **Quarter slices** - uniformly cut, one-fourth portions of slices of cored pineapples.

1.2.1.5 **Broken slices** - arc-shaped portions of cored pineapples which may not be uniform in size and/or shape.

1.2.1.6 **Spears or fingers** - long, slender pieces cut radially and lengthwise of the cored pineapple cylinder, predominantly 65 mm or longer.

1.2.1.7 **Tidbits** - reasonably uniform, wedge-shaped sectors cut from slices or portions thereof, predominantly from 8 mm to 13 mm thick.

1.2.1.8 **Chunks** - short, thick pieces cut from thick slices and/or from peeled cored pineapple and predominantly more than 12 mm in both thickness and width, and less than 38 mm in length.

1.2.1.9 **Diced or cubes** - reasonably uniform, cube-shaped pieces, predominantly 14 mm or less in the longest edge dimensions.

1.2.1.10 **Pieces** - irregular shapes and sizes not identifiable as a specific style and does not include “chunks” or “chips” styles.

1.2.1.11 **Chips** - small, irregular shapes and sizes of pineapple pieces similar to that left over after dicing of pineapple and which may be included in “crushed” style.

1.2.1.12 **Crushed or crisp cut** - finely cut or shredded or grated or diced pieces of pineapple and which may include chips in the crushed mass.

1.2.2 Uncored pineapples

1.2.2.1 **Whole slices** - uniformly cut circular slices across the axis of the cylindrical whole unit with the core intact.

1.2.2.2 **Half slices** - uniformly cut approximately semi-circular halves of slices with the core intact .

1.2.2.3 **Quarter slices** - uniformly cut, one-fourth portions of slices with the core intact.

1.2.2.4 **Spears or fingers** - long, slender pieces cut radially and lengthwise of the whole pineapple cylinder, predominantly 65 mm or longer.

1.3 TYPES OF PACK

Canned pineapple may be packed in the following types of pack:

1.3.1 **Regular pack:** with a liquid packing medium.

1.3.2 **Heavy pack:** “Chips” or “crushed” styles with or without sweetening ingredients and containing at least 73% drained fruits weight.

1 Only applies to pineapple with non-fibrous cores.

1.3.3 **Solid pack:** “Chips” or “crushed” styles with or without sweetening ingredients and containing at least 78% drained fruits weight.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Optional ingredients

Spices and aromatic plants (in accordance with the relevant Codex standards for spices and culinary herbs), spice oils.

2.2 QUALITY CRITERIA

2.2.1.1 Colour

White radiating streaks may be present. Canned pineapple containing optional ingredients shall be considered to be of characteristic colour when there is no abnormal discolouration for the respective ingredient used.

2.2.1.3 Texture

The canned pineapple shall have a reasonably good texture, shall be reasonably compact in structure, and the product shall be fairly free from porosity. The drained pineapple - of all styles - may contain no more than 7% by weight of “core material”² for the cored pineapple. In determining the percentage of core material, the areas which consist of core material are trimmed from the pineapple unit and weighed against the drained fruit ingredient in the container.

2.2.2 Uniformity of size and shape

These requirements do not apply to canned pineapple in the styles of: Whole, broken slices, pieces, chips or crushed.

2.2.2.1 **Slices or spiral slices or whole slices or rings** - the weight of the largest slice in a container shall not be more than 1.4 times the weight of the smallest.

2.2.2.2 **Half slices or quarter slices** - the weight of the largest unit in a container shall be not more than 1.75 times the weight of the smallest, except for an occasional broken piece due to splitting or an occasional whole slice not completely cut through.

2.2.2.3 **Spears or fingers** - the weight of the largest unbroken unit in a container shall be not more than 1.4 times the weight of the smallest unbroken unit.

2.2.2.4 **Tidbits** - not more than 15% of the drained weight of pineapple in the container may consist of tidbits, each of which shall weigh less than three-fourths of the average weight of the untrimmed tidbits.

2.2.2.5 **Chunks** - not more than 15% of the drained weight of pineapple in the container may consist of pieces which weigh less than 5 g each.

2.2.2.6 Cubes or diced

(a) not more than 10% of the drained weight of pineapple in the container may consist of units of such size that they will pass through a screen that has square openings of 8 mm;

(b) not more than 15% of the drained weight of pineapple in the container may consist of pieces which weigh more than 3 g each.

2.2.3 Definition of Defects

a) **Blemish** - surface areas and spots which contrast strongly in colour or texture with the normal pineapple tissue or which may penetrate into the flesh. Such blemishes are normally removed in preparation of pineapple for culinary use and include deep fruit eyes, pieces of shell, brown spots, bruised portions and other abnormalities.

b) **Broken** - (considered a defect only in sliced and spear styles). A unit severed into definite parts; all of such portions that equal the size of a full-size unit are considered to be one defect in applying the allowances herein.

² The hard fibrous centre portion of the fruit.

- c) **Excessive trim** - (considered a defect only in the styles of whole, slices including spiral slices, half slices, quarter slices and spears). A unit trimmed to the extent that its normal shape and conformation is destroyed and detracts from the appearance of such unit. Trim will be considered “excessive” if the portion trimmed away exceeds five percent of the apparent physical bulk of the perfectly formed unit and if such trimming destroys the normal circular shape of the outer or inner edge of the unit.
- d) **Woody** – tough and fibrous core

2.2.4 Allowances for Defects

Canned pineapple shall not contain excessive defects (whether or not specifically defined or as allowed in this Standard) to the extent indicated below:

Defects for Cored Pineapples

Styles	Units with Excessive Trim	Blemishes or Broken Units
Whole	10% by count of fruit units (cylinders) ³	3 blemishes per fruit unit (cylinder)
Slices or spiral slices or whole slices; Half slices; Quarter slices	1 unit if 10 or less per can; 2 units if over 10 but not over 27 per can; or 7.5% by count if over 27 per can	1 unit if 5 or less per can; 2 units if over 5 but not over 10 per can; 4 units if over 10 but not over 32 per can; or 12.5% by count if over 32 per can
Spears	15% by count of all units	Same as for Slices and Half Slices
Broken slices; tidbits; chunks; cubes; pieces	Not applicable	12.5% by count of all units
Chips; crushed	Not applicable	Not more than 1.5% by weight of the drained fruit

Defects for Uncored Pineapples

Styles	Units with excessive trim	Blemishes or broken units	Woody
Whole slices; Half slices; Quarter slices	1 unit if 10 or less per can; 2 units if over 10 but not over 27 per can; or 7.5% by count if over 27 per can	1 unit if 5 or less per can; 2 units if over 5 but not over 10 per can; 4 units if over 10 but not over 32 per can; or 12.5% by count if over 32 per can	5% by weight
Spears	15% by count of all units	Same as for Slices and Half Slices	5% by count of all unit

³ Based on average from all containers in the sample.

3. FOOD ADDITIVES

3.1 Antifoaming agents, [firming agents and sweeteners] used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995) in Food Category 04.1.2.4 (Canned or bottled (pasteurized) fruit) or listed in Table 3 of the General Standard are acceptable for use for foods conforming to this Annex.

3.2 Flavourings used in products covered by this Annex shall comply with the *Guidelines for the Use of Flavourings* (CAC/GL 66-2008).

4. WEIGHTS AND MEASURES

4.1 MINIMUM DRAINED WEIGHT

Types of pack	Styles	% Minimum drained weight
1. Regular pack	1.1 All styles other than “whole” or “crushed” or “chips” styles	58%
	1.2 “Crushed” or “chips” styles	63%
2. Heavy pack	1.1 All styles other than “whole” or “crushed” or “chips” styles	58%
	1.2 “Crushed” or “chips” styles	73%
3. Solid pack	1.1 All styles other than “whole” or “crushed” or “chips” styles	58%
	1.2 “Crushed” or “chips” styles	78%

APPENDIX III**DRAFT STANDARD FOR QUICK FROZEN VEGETABLES
(At Step 8)****1. SCOPE**

This Standard shall apply to quick frozen vegetables as defined in Section 2 below and in the corresponding Annexes and offered for direct consumption including for catering purposes without further processing, except for size-grading or re-packing if required. It does not apply to the product when indicated as intended for further processing, or for other industrial purposes.

2. DESCRIPTION**2.1 PRODUCT DEFINITION**

Quick frozen vegetables are the products:

- (1) prepared from substantially sound, fresh (barring mature processed peas) or frozen vegetables, as defined in the corresponding Annexes, having reached appropriate maturity for processing. None of their essential characteristic 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, blanching/deactivation of enzyme activity, etc., depending on the type of product.
- (2) made from vegetables which were subjected to a quick freezing process¹, and maintained at -18°C or colder at all points in the cold chain, subject to permitted temperature tolerances.

2.2 PROCESS DEFINITION

Quick frozen vegetable is the product subject to a freezing process in appropriate equipment and complying with the conditions laid down hereafter and in the corresponding Annexes. This freezing operation shall be carried out in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C at the thermal centre after thermal stabilization. The recognized practice of repacking quick frozen products under temperature controlled conditions is permitted.

2.3 HANDLING PRACTICE

The product shall be handled under such conditions as will maintain the quality during transportation, storage and distribution up to and including the time of final sale. It is recommended that during storage, transportation, distribution and retail, the product be handled in accordance with the provisions of the *Code of Practice for the Processing and Handling of Quick Frozen Foods (CAC/RCP 8-1976)*.

2.4 STYLES

In addition to the styles defined in the corresponding Annexes, any other styles should be permitted as indicated in Section 2.4.1.

Note: Quick Frozen vegetables may be “free flowing” i.e. in which the individual units (Individual Quick Frozen- IQF) are not stuck to one another, stuck together or in blocks to an extent that they cannot easily be separated in a frozen state.

2.4.1 OTHER STYLES

Any other style in addition to those described in the various Annexes should be permitted provided that the product:

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

¹ A process, which is carried out in such a way, that the range of temperature of maximum ice crystallization is passed as quickly as possible (CAC/RCP 8-1976).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

3.1.1 Basic Ingredients

Vegetables as defined in Section 2. Specific provisions are provided for in the corresponding Annexes.

3.1.2 Optional Ingredients

In accordance with the relevant provisions in the corresponding Annexes.

3.2 QUALITY CRITERIA (FACTORS)

3.2.1 General Requirements

In addition to the provisions provided for in the corresponding Annexes, quick frozen vegetables shall:

- have a reasonably uniform colour characteristic of the variety;
- be sound, clean, practically free from sand, grit and other foreign material;
- be practically free from pests and damage caused by them; and
- have a normal flavour and odour/smell, taking into consideration any added ingredients as indicated in Section 3.1.

3.2.1.1 **Sample Size:** See individual Annexes for sample size for each product.

3.2.2 Analytical Characteristics

Analytical characteristics should be in accordance with the provisions provided for in the corresponding Annexes.

3.2.3 Definition of Defects

In accordance with the relevant provisions in the corresponding Annexes.

3.2.4 Defects and Allowances

Quick frozen vegetables should be substantially free from defects. Certain common defects should not be present in amounts greater than the limitations provided for in the corresponding Annexes.

3.3 CLASSIFICATION OF DEFECTIVES

A container that fails to meet one or more of the applicable quality requirements, as set out in Section 3.2 and in the corresponding Annexes (except those based on sample averages), should be considered as a “defective”.

3.4 LOT ACCEPTANCE

A lot will be considered acceptable when the number of “defectives” as defined in Section 3.3 and in the corresponding Annexes does not exceed the acceptance number (c) of the appropriate sampling plan with an AQL of 6.5.

For factors evaluated on a sample average, a lot will be considered acceptable if the average meets the specified tolerance, and no individual sample is excessively out of tolerance.

4. FOOD ADDITIVES

Only those food additive classes listed in the corresponding Annexes are technologically justified and may be used in products covered by this Standard. Within each additive class only those food additives listed in the corresponding Annexes, or referred to, may be used and only for the functions, and within limits, specified.

5. PROCESSING AIDS

The processing aids used for products covered by this Standard shall comply with the *Guidelines on Substances Used as Processing Aids* (CAC/GL 75-2010).

6. CONTAMINANTS

6.1 The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Foods and Feed* (CODEX STAN 193-1995).

6.2 The products covered by this Standard shall comply with the maximum residue limits for pesticides and/or veterinary drugs established by the Codex Alimentarius Commission.

7. HYGIENE

7.1 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 *General Principles of Food Hygiene* (CAC/RCP 1-1969), the *Code of Practice for the Processing and Handling of Quick Frozen Foods* (CAC/RCP 8-1976), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CAC/RCP 53/2003) and other relevant Codex texts such as codes of hygienic practice and codes of practice.

7.2 The products should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria related to Foods* (CAC/GL 21-1997).

8. WEIGHTS AND MEASURES

8.1 NET WEIGHT

The weight of the products covered by the provisions of this Standard shall be indicated in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CODEX STAN 1-1985).

When the vegetables are glazed, in conformity with a specific Annex, the declaration of net content of the foods shall be exclusive of the glaze.²

8.1.1 Classification of “Defectives”

A container that fails to meet the net weight declared on the label should be considered as a “defective”.

8.1.2 Lot Acceptance

A lot should be considered as meeting the requirement of Section 7.1 when the number of “defectives”, as defined in Section 7.1.1, does not exceed the acceptance number (c) of the appropriate sampling plan with an AQL of 6.5.

9. LABELLING

9.1 The products covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CODEX STAN 1-1995). In addition, the following specific provisions apply:

9.2 NAME OF THE PRODUCT

9.2.1 The name of the product shall be as defined in the corresponding Annexes.

9.2.2 The words “quick frozen” shall also appear on the label, except that the term “frozen”³ may be applied in countries where this term is customarily used for describing the product processed in accordance with Section 2.2 of the Standard. The type of quick freezing process may be included on the label.

9.2.3 When any ingredient, has been added which impart(s) a distinctive flavour to the food, the name of the product shall be accompanied by the term “with X”, as appropriate.

9.2.4 Styles

9.2.4.1 **Styles** – There shall appear on the label in conjunction with, or in close proximity to the name of the product, the style (cut/description/presentation), as defined in the corresponding Annexes.

9.2.4.2 **Other styles** – If the product is produced in accordance with the other styles provision (Section 2.4.1), the label shall contain in conjunction with, or in close proximity to the name of the product, such additional words or phrases that will avoid misleading or confusing the consumer.

9.2.5 When the vegetables are sized, the size, as defined in the corresponding Annexes, may be declared in conjunction with, or in close proximity to the name of the product.

² **Glazing** The application of a protective layer of ice formed at the surface of a frozen product by spraying it -with, or dipping it into potable water or potable water with approved ingredients and additives, as appropriate. If glazed, the water used for glazing or preparing glazing solutions shall be of potable quality. Potable water is fresh-water fit for human consumption. Standards of potability shall not be less than those contained in the *WHO Guidelines for Drinking Water Quality*.

³ The term “frozen” is used as an alternative to “quick frozen” in some English speaking countries.

9.3 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 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 or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

10. PACKAGING

Packaging used for quick frozen vegetables shall be in accordance with the relevant provisions of the *Code of Practice for the Processing and Handling of Quick Frozen Foods* (CAC/RCP 8-1976).

11. METHODS OF ANALYSIS AND SAMPLING (To be developed)

<u>Sampling Plans</u>	
The appropriate inspection level is selected as follows:	
Inspection level I	- Normal Sampling
Inspection level II	- Disputes, (Codex referee purposes sample size), enforcement or need for better lot estimate

**SAMPLING PLAN 1
(Inspection Level I, AQL = 6.5)**

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
4,800 or less	6	1
4,801 - 24,000	13	2
24,001 - 48,000	21	3
48,001 - 84,000	29	4
84,001 - 144,000	38	5
144,001 - 240,000	48	6
more than 240,000	60	7
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
2,400 or less	6	1
2,401 - 15,000	13	2
15,001 - 24,000	21	3
24,001 - 42,000	29	4
42,001 - 72,000	38	5
72,001 - 120,000	48	6
more than 120,000	60	7
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
600 or less	6	1
601 - 2,000	13	2
2,001 - 7,200	21	3
7,201 - 15,000	29	4
15,001 - 24,000	38	5
24,001 - 42,000	48	6
more than 42,000	60	7

SAMPLING PLAN 2
(Inspection Level II, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
4,800 or less	13	2
4,801 - 24,000	21	3
24,001 - 48,000	29	4
48,001 - 84,000	38	5
84,001 - 144,000	48	6
144,001 - 240,000	60	7
more than 240,000	72	8
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
2,400 or less	13	2
2,401 - 15,000	21	3
15,001 - 24,000	29	4
24,001 - 42,000	38	5
42,001 - 72,000	48	6
72,001 - 120,000	60	7
more than 120,000	72	8
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
600 or less	13	2
601 - 2,000	21	3
2,001 - 7,200	29	4
7,201 - 15,000	38	5
15,001 - 24,000	48	6
24,001 - 42,000	60	7
more than 42,000	72	8

ANNEX ON CARROTS

In addition to the general provisions applicable to quick frozen vegetables, the following specific provisions apply:

(At Step 5/8)

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Quick frozen carrots are the product prepared from fresh, clean, sound, roots of carrot varieties (cultivars) conforming with the characteristics of the species *Daucus carota* L. from which the leaves, green tops, peel and secondary roots have been removed and which have been washed and may or may not be blanched.

1.2 PRESENTATION

1.2.2 Styles:

(a) **Whole:**

- (i) **Conical and cylindrical:** Consist of carrots which, after processing, retain the approximate conformation of a whole carrot. The largest diameter at the greatest circumference measured at right angles to the longitudinal axis shall not exceed 50 mm. The variation in diameter between the largest and smallest carrot shall not exceed 4:1.
- (ii) **Spherical:** Consist of fully mature carrots of a roundish shape of which the largest diameter in any direction shall not exceed 45 mm.

(b) **Finger:** Carrots of the cylindrical type, including sections obtained thereof by transverse cutting, being not less than 30 mm long (apart from arising end pieces).

(c) **Halved:** Carrots cut longitudinally into two approximately equal halves.

(d) **Quartered:** Carrots cut longitudinally into four approximately equal sections.

(e) **Sliced length-wise:** Carrots sliced approximately longitudinally, either smooth or corrugated into four or more units of approximately equal size. Not less than 20 mm long and not less than 5 mm in width measured at the maximum width.

(f) **Shoestring or Julienne:** Carrots cut longitudinally, either smooth or corrugated, into strips. The cross section shall not exceed 9.5 mm (measured at the longest side of the cross section).

(g) **Sliced or ring cut or roundels:** Carrots cut, either smooth or corrugated at right angles to the longitudinal axis into rings, having a minimum thickness of 2 mm, a maximum thickness of 10 mm and a maximum diameter of 50 mm.

(h) **Pieces:** Carrots cut cross-wise into sections having a thickness greater than 10 mm but less than 30 mm or whole carrots which are halved and then cut cross-wise into sections or sections of carrots that may be irregular in shape and size and which are larger than ring cut or double diced.

(i) **Diced:** Carrots cut into cubes with edges not exceeding 12.5 mm.

(j) **Double dice:** Carrots cut into uniformly shaped units having a cross section that is square and of which the longest dimension is approximately twice that of the shortest dimension - the shortest dimension not exceeding 12.5 mm.

1.2.3 Sizing

(a) Quick frozen carrots of the styles whole and finger may be presented sized or unsized.

(b) If presented as size-graded the styles in Section 1.2.2 (a), shall conform to one of the three following systems of specification for the size names.

(c) The diameter shall be measured at the point of largest transverse cross-section of the unit in accordance with the following table. However, when other sizes and size designations are used they should be indicated on the sales package.

Table 1 - Sizing

Size Designation	Diameter
Specification for cylindrical carrots	
(a) Small	6 – 23 mm
(b) Medium	23 – 27 mm
(c) Large	Greater than 27 mm
Specification for conical carrots	
(a) Small	10 – 30 mm
(b) Medium	30 - 36 mm
(c) Large	Greater than 36 mm
Specification for spherical carrots	
(a) Very small	Less than 18 mm
(b) Small	18 - 22 mm
(c) Medium	22 - 27 mm
(d) Large	27 - 35 mm
(e) Extra large	Over 35 mm

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Basic Ingredients

Carrots as described in Section 1.

2.1.2 Optional Ingredients

- (a) Salt (sodium chloride) as defined in the *Standard for Food Grade Salt* (CODEX STAN 150-1985);
- (b) Sugars as defined in the *Standard for Sugars* (CODEX STAN 212-1999);
- (c) Aromatic herbs and spices as defined in the Codex standards for spices and culinary herbs; stock or juice of vegetables and aromatic herbs; garnishes composed of one or more vegetables (e.g. lettuce, onions; pieces of green or red peppers, or mixtures of both) up to a maximum of 10% m/m of the total drained vegetable ingredient.

2.2 QUALITY FACTORS

2.2.1 General Requirements

Quick frozen carrots shall be free from objectionable tough parts; and with respect to visual defects subject to a tolerance shall be:

- (a) not misshapen (this regards whole and finger carrot style only);
- (b) reasonably free from blemishes;
- (c) reasonably free from mechanical damage this regards whole and finger carrot style only);
- (d) reasonably free from green tops;

- (e) reasonably free from extraneous vegetable materials (E.V.M.)¹;
- (f) reasonably free from unpeeled areas.

2.2.2 Analytical Characteristics

Mineral impurities measured on a whole product basis not more than 0.1% m/m.

2.2.3 Definition of Visual Defects

Defect	Definition
(a) Extraneous Vegetable Material	Harmless vegetable material which does not consist of mature carrot roots.
(b) Misshapen	Units showing branching, twisting, or other forms of distortion which detract seriously from the appearance of the product (Styles: Whole and Finger). Units (other than small pieces) not possessing the configuration of the defined style.
(c) Major blemishes	Units with one or more black, dark brown and other intensely discoloured areas due to disease, insect damage, inadequate topping or physiological factors covering an area or aggregate area greater than that of a circle 6 mm in diameter, which detract in a major way from the appearance of the product.
(d) Blemishes	<ul style="list-style-type: none"> - Units with one or more black, dark brown or other intensely discoloured areas due to disease, insect damage, inadequate topping or physiological factors covering an area or aggregate area greater than that of a circle 3 mm in diameter but less than 6 mm in diameter. - Other types of discolouration which detract noticeably but not in a major way from the appearance of the product.
(e) Unpeeled	Units showing noticeable unpeeled areas larger than a circle of 6 mm diameter.
(f) Damaged	Units which are crushed or broken.
(g) Cracked	Cracks greater than 3 mm wide or other splits which detract materially from the appearance of the product (Styles: "whole", "finger" and "sliced")
(h) Greening	<ul style="list-style-type: none"> - Units showing green colouration extending down the shoulder or green ring at the top (whole and finger styles). - Units showing green colouration (other styles).
(i) Small pieces	<ul style="list-style-type: none"> - Units less than 25 mm long for the styles "whole, conical and cylindrical", "finger", "halved", "quartered" and "shoestring or julienne". - Units less than one third the volume of the standard product for the other styles.
(j) Woody	The core of the carrot is not tender, but has tough, woody texture; it separates very easily from the outer flesh

¹ Excluding those in Section 2.1.2.

2.2.4 Minimum Sample Unit

The minimum sample unit for style, sizing and other visual defects should be as follows:

(a) E.V.M. and small pieces	1,000 g
(b) Whole, finger, halved, quartered	25 units
(c) Diced, double dice, Shoestring or Julienne, sliced or ring cut, sliced lengthwise, pieces styles	400 g

2.2.5 Defects and Allowances

A tolerance of 10% by weight of non-conforming units applies to the whole style and 20% for all other styles. If presented size graded the product shall contain not less than 80% by mass of carrots of the declared size.

When the product is presented as “free flowing” a tolerance of 10% (m/m) shall be allowed for pieces which are stuck together to such an extent that they cannot easily be separated in the frozen state.

For tolerances based on the minimum sample unit indicated in Section 2.2.4, visual defects will be scored in accordance with the appropriate tables in this Section.

Table 1 - Whole, finger, halved and quartered styles

Defects	Percentage by number	Percentage by weight
(a) Misshapen	3	-
(b) Major blemishes and unpeeled areas	4	-
(c) Blemishes	10	-
(d) Damaged and cracked	4	-
(e) Small pieces	-	15
(f) Greening	12	-
(g) E.V.M.: Not to exceed 2 pieces or 1 g / 1,000 g	-	-
(h) Woody	1	

TOTAL maximum allowance: 22% by number

Table 2 - Ring cut, sliced lengthwise, diced, double diced, Shoestring and pieces

Defects	Percentage by Weight	
	Ring cut, sliced lengthwise	Diced, double diced, Shoestring and pieces
(a) Misshapen	6	-
(b) Major blemishes and unpeeled areas	4	5
(c) Blemishes	10	12
(d) Damaged and cracked	4	10
(e) Small pieces	15	20
(f) Greening	12	-
(g) E.V.M.: Not to exceed 2 piece / 1,000 g	-	-
(h) Woody	1	1

Total maximum allowance: 20% by weight for diced, double diced, Shoestring and pieces, and 25% by weight for ring cut, sliced lengthwise.

2.3 CLASSIFICATION OF "DEFECTIVES"

Any minimum sample unit which fails to comply with the quality requirements, as set out in Sections 2.2.1 and 2.2.5 shall be regarded as a "defective".

2.4 LOT ACCEPTANCE

A lot will be considered acceptable when the number of "defectives" as defined in Section 2.3 does not exceed the acceptance number (c) for the appropriate sample plan with an AQL of 6.5.

In applying the acceptance procedure each "defective", as indicated in Section 2.3, is treated individually for the respective characteristics.

3. FOOD ADDITIVES

None permitted

4. LABELLING

4.1 NAME OF THE PRODUCT

4.1.1 The name of the product shall include the designation "Carrots".

4.1.2 As regard styles declaration, "whole" and "finger" carrots may be simply designated as "carrots" in countries where this is a customary practice.

4.1.3 As regard sizing declaration, carrots meeting the size requirements for "small" may be designated "baby" within countries where this practice is permitted.

4.1.4 When other sizes and size designations not included in this standard are used, they should be indicated on the sales package.

ANNEX ON CORN-ON-THE-COB

In addition to the general provisions applicable to quick frozen vegetables, the following specific provisions apply:

(At Step 5/8)

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Quick frozen corn-on-the-cob is the product prepared from fresh, clean, sound, properly matured whole or pieces of ears conforming to the characteristics of the sweet corn variety *Zea mays* L. convar *saccharata* Koern which are trimmed (except for the style "whole"), separated from husk and silk, sorted and washed and sufficiently blanched to ensure stability of colour and flavour during normal marketing cycles.

Corn-on-the-cob can be of the following types:

- (a) **Super Sweet varieties** - means kernels (or grains) of corn that provide higher naturally occurring sugar, and/or crisper texture (maybe yellow, white or combination of each) typical for the variety. These varieties may be slightly darker in colour, and some varieties have slightly tougher pericarp (kernel skin) than conventional sweet corn.
- (b) **Sweet varieties** - means kernels of sweet corn that convert sugars to starch by going through distinct stages of maturity - milk, cream, then dough stages.

1.2 PRESENTATION

1.2.1 Style

- (a) **Whole** - The whole, intact ear of corn to which a small part of the stalk may be attached.
- (b) **Trimmed whole** - The product obtainable from one whole ear after trimming of both ends.
- (c) **Cut cob** - Portions of the whole trimmed ear cut transversely into pieces.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Basic Ingredients

Corn as described in Section 1.

2.1.2 Optional Ingredients

- (a) Sugars as defined in the *Standard for Sugars* (CODEX STAN 212-1999);
- (b) Salt (sodium chloride) as defined in the *Standard for Food Grade Salt* (CODEX STAN 150-1985);
- (c) Spices, seasonings, butter, edible oils, named sauces, flavourings as defined in the relevant Codex standards;
- (d) Other appropriate vegetables.

2.2 QUALITY FACTORS

2.2.1 General Requirements

With respect to visual defects subject to a tolerance, quick frozen corn-on-the-cob shall be:

- (a) of reasonably uniform white, cream to yellow (golden) to darker yellow colour; except for mixed colour varieties;
- (b) reasonably tender and sufficiently developed;
- (c) reasonably uniform in size;
- (d) reasonably free from blemished or mechanically damaged areas;
- (e) reasonably free from poorly trimmed units (except for whole style);
- (f) reasonably free from extraneous vegetable matter (E.V.M.).

2.2.2 Definition of Visual Defects

- (a) **Uniform white, cream yellow (golden) to darker yellow colour** - means, that all kernels on one ear are of the same colour and that the different units in one sample unit are of the same colour.
- (i) Light variation - Some difference in colour exists, only slightly affecting the appearance.
 - (ii) Pronounced variation - Difference in colour between the different kernels and/or ears are noticeable and affecting the appearance.
- Uniformity of colour is not applied to mixed coloured varieties
- (b) **Uniform in size** - means that the length of the longest ear in the sample unit does not exceed the length of the shortest ear by more than 50 mm for whole and trimmed whole styles or by more than 20 mm for cut style, and that the largest diameter of the largest unit does not exceed the largest diameter of the smallest unit by more than 15 mm.
- (i) Minor - Outside one of the limits (length or diameter) by maximum 5 mm = 1 defect;
 - (ii) Major - Outside both limits by maximum 5 mm = 2 defects;
 - (iii) Major - Outside one or both of the limits by more than 5 mm = 4 defects.
- (c) **Well developed** - means that the kernels shall be positioned in a symmetrical pattern in distinct lines or rows which are not seriously affected by missing or shrunken kernels. The whole style may have some shrunken or under-developed parts.
- (i) Minor - Appearance materially affected by irregular pattern of kernels = 1 defect;
 - (ii) Major - More than 10% but less than 15% by count of the kernels missing or shrunken = 2 defects;
 - (iii) Serious - 15% or more by count of the kernels missing or shrunken = 4 defects.
- (d) **In "whole style"** - the length of the part of ear which is shrunken or underdeveloped shall be considered as follows:
- (i) Minor - More than 20 mm and up to 25 mm = 1 defect;
 - (ii) Major - More than 25 mm and up to 30 mm = 2 defects;
 - (iii) Serious - More than 30 mm = 4 defects.
- (e) **Blemished or mechanically damaged areas**
- (i) **Blemished** - A unit affected by pathological or insect injury with associated discolouration which affects the kernels.
 - (ii) **Mechanically damaged** - A unit affected by cuts or by crushing of the kernels. Kernels at the ends of the units which are damaged by cutting shall not be considered as damaged by mechanical injury.
 - Minor - More than 5% but less than 10% by count of the kernels are slightly affected but not more than 0.5% by count of all kernels are seriously blemished or damaged = 1 defect;
 - Major - 10% or more but less than 15% by count of the kernels are slightly affected but not more than 1% by count of all kernels are seriously blemished or damaged = 2 defects;
 - Serious - More than 15% by count of the kernels are slightly affected or more than 1% by count of the kernels are seriously affected = 4 defects.
- (f) **Poorly trimmed** means (i) ears or cut cobs where at the stem end a small part of stalk remains attached and also means (ii) that the top end of the ear or the cut cob is cut too high leaving under-developed kernels on the cob. For the style "whole" the top is untrimmed and a piece of the stalk of maximum 15 mm may remain attached, and not be considered a defect.
- Minor - at one end of unit less than 6 mm left = 1 defect;
 - Major - at one end of unit 6 – 12 mm left = 2 defects;
 - Serious - at one end of unit more than 12 mm left = 4 defects.

(g) **E.V.M. (Extraneous Vegetable Material)**

- (i) **Husk** - means the membranous outer covering and one of the constituent parts of an ear of corn that is removed during processing.
- (ii) **Silk** - means the coarse thread-like filaments that are one of the constituent parts of an ear of corn. Such silk is found beneath the husk and in immediate contact with the corn kernels (on-the-cob). Corn silk is normally removed during processing. Silk to the total length twice of that of the unit in question are considered normal and not a defect.
 - Minor - silk to a total length of 2-6 times the length of the units = 1 defect;
 - Minor - husks not more than 2 squares cm in total surface = 1 defect;
 - Major - silk to a total length greater than 6 times the length of the units or husks larger than 2 cm² square cm in total surface = 2 defects.

2.2.3 **Minimum Sample Unit¹**

The minimum sample unit for the respective styles shall be:

- (a) Whole and trimmed whole 4 ears
- (b) Cut cob 8 pieces of ears

2.2.4 **Defects and Allowances**

Based on the minimum sample unit defined in Section 2.2.4, visual defects shall be assigned points in accordance with Table 1 in this Section. The maximum number of defects permitted in the Total Allowable Points rating is indicated for the respective categories Minor, Major and Serious or the Combined Total of the foregoing categories.

Table 1 - Defects Allowances for All Styles

Defect	Unit of Measurement	Defect Categories			
		Minor	Major	Serious	Total
(a) Kernel colour variation for single colour varieties (i) Light (ii) Pronounced	One ear	1	2	-	-
(b) Colour variation (ears) (i) Light (ii) Pronounced	Minimum sample unit	1	2	-	-
(c) Difference in size outside given range (in minimum sample unit)		1	2 or 4	-	-
(d) Not well developed	Each ear	1	2	4	-
(e) Blemished or damaged	Each ear	1	2	4	-
(f) Poorly trimmed	Each ear	1	2	4	-
(g) Extraneous vegetable matter	Minimum sample unit	1	2	-	-
Total Allowable Points		21	6	4	21

¹ "Minimum Sample Unit": This term should not be confused with individual units of product i.e., whole ear, trimmed whole ear or cut cob.

2.6 CLASSIFICATION OF “DEFECTIVES”

Any minimum sample unit which fails to comply with the quality requirements, as set out in Sections 1.2.1, 2.1.1, 2.1.2, 2.2.1 and 2.2.4 shall be regarded as a “defective”.

2.7 LOT ACCEPTANCE

A lot will be considered acceptable when the number of “defectives” as defined in Section 2.6 does not exceed the acceptance number (c) for the appropriate sample plan with an AQL of 6.5.

In applying the acceptance procedure each “defective”, as indicated in Sections 2.1.1, 2.1.2, 2.2.1 and 2.2.4, is treated individually for the respective characteristics.

3. FOOD ADDITIVES

None permitted.

4. LABELLING**4.1 NAME OF THE PRODUCT**

4.1.1 The name of the product shall include “Corn-on-the-Cob”.

4.1.2 In addition, there shall for the styles “whole” and “trimmed whole” appear on the label, in conjunction with or in close proximity to the name a clear indication of the number of units included in the package.

ANNEX ON LEEK

In addition to the general provisions applicable to quick frozen vegetables, the following specific provisions apply:

(At Step 5/8)

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Quick frozen leek is the product prepared from fresh, clean, sound, edible parts of the leek plant conforming to the characteristics of the species *Allium porrum* L., and which have been trimmed, washed, possibly blanched to ensure adequate stability of colour and flavour during normal marketing cycles.

1.2 PRESENTATION

1.2.1 Styles

- (a) **Whole leek** - the leek plant with roots and non-tender leaves removed.
- (b) **Leek** - parts of the whole leek with a length, corresponding to the longest dimension of the package, but not less than 70 mm.
- (c) **Cut leek** - parts of the whole leek, cut perpendicularly to the longitudinal axis, minimum length 30 mm, maximum length 70 mm.
- (d) **Leek rings** - parts of the whole leek, cut perpendicularly to the longitudinal axis into slices, not thinner than 10 mm and not thicker than 30 mm.
- (e) **Chopped leek** - the whole leek chopped into pieces, such that the original structure is almost entirely lost, resulting in a "unit" generally smaller than 15 mm in size.

1.2.3 Colour

Leek may be presented as white; when not more 10% m/m shall be present of leaves or parts of leaves with a green colour.

1.2.4 Sizing

- (a) Whole leek and leek, may be presented as sized or unsized;
- (b) The minimum diameter of whole leek and leek, measured perpendicularly to the axis immediately above the swelling at the neck shall be not less than 10 mm;
- (c) When sized, the difference between the largest and smallest diameter of the leeks in the same package, measured perpendicularly to the axis immediately above the swelling at the neck, shall be not more than 10 mm.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Basic Ingredients

Leeks as described in Section 1.1.

2.1.2 Optional Ingredients

- (a) Salt (sodium chloride) as defined in the *Standard for Food Grade Salt* (CODEX STAN 150-1985);
- (b) Condiments such as spices and herbs as defined in relevant Codex standards for spices and culinary herbs.

2.2 QUALITY FACTORS

2.2.1 General Requirements

Quick frozen leek shall have similar varietal characteristics and be free from objectionable tough parts; and with respect to visual defects or other defects subject to a tolerance, shall be:

- (a) free from yellow and/or yellowish leaves;
- (b) reasonably free from damage such as staining, discolouration, or insect injury;
- (c) reasonably free from extraneous vegetable material (E.V.M.);

- (d) reasonably well trimmed;
- (e) practically free from loose or detached leaves (in whole style only);
- (f) practically free from hard parts as “seed heads”.

2.2.2 Analytical Characteristics

Mineral impurities - not more than 0.1% m/m, measured on the whole product basis.

2.2.3 Definition of Visual Defects

(a) Discolouration	- Discolouration of any kind on the product and which materially detracts from the appearance of the product.
(i) <u>Minor</u>	- Discolouration which is light in colour. Each area or combined area of 4 cm ² = 1 defect; or if the greatest dimension is less than 20 mm.
(ii) <u>Major</u>	- Discolouration which is dark in colour. Each area or combined area of 4 cm ² = 1 defect, or the greatest dimension is over 20 mm.
(b) Damaged	- Each leaf or part of leaf that is affected by blemishes, staining or insect injury.
(c) Extraneous Vegetable Material (E.V.M.)	- Each cm ² harmless vegetable material other than from the leek.
(d) Roots	- Each disk of roots attached to the leek or loose.
(e) Parts of roots	- Parts of roots attached to the leek or loose.
(f) Poorly trimmed	- The white or pale green portion is less than one-third of the total product.
	- For the presentation “white” (Section 1.2.3) not more than 10% m/m of green leaves is permitted. - Parts of the seed head.
(g) Loose leaves	- Leaf or part of it, which is detached from the shaft (in whole style only).

2.2.4 Minimum Sample Size

The minimum sample size for segregating and evaluating visual defects shall be as follows:

Style	Minimum Sample Size
(a) Whole leek	20 pieces
(b) Leek, cut leek	500 g
(c) Leek rings	300 g
(d) Chopped leek	300 g

2.2.5 Method of Examination

For separation and enumeration of visual defects the standard sample (see minimum sample size) is placed in water in a deep tray, and the shafts or leaf portions separated one by one.

2.2.6 Defects and Allowances

If size graded, the product shall contain not less than 80% by number of whole leek of the declared size.

For tolerances based on the minimum sample unit indicated in Section 2.2.4, visual defects shall be assigned points in accordance with the appropriate tables in this Section. The maximum number of defects permitted is the Total Allowable Points rating indicated for the respective defect categories Minor and Major or the Combined Total of the foregoing categories.

Table 1 - Whole Leek

Defect	Defect Categories		
	Minor	Major	Total
(a) Discolouration			
(i) Minor	2		
(ii) Major		2	
(b) Damaged		2	
(c) E.V.M.	1		
(d) Roots		2	
(e) Parts of roots	1		
(f) Poorly trimmed		2	
(g) Loose leaves	1		
Total Allowable Points	8	6	10

(Sample Size 20 pieces)

Table 2 - Leek, cut leek, leek rings and chopped leek

Defect	Defect Categories		
	Minor	Major	Total
(a) Discolouration			
- Minor	2		
- Major		2	
(b) Damaged		2	
(c) E.V.M.	1		
(d) Roots		2	
(e) Parts of roots	1		
(f) Poorly trimmed		2	

Minimum sample size 500 g (leek and cut leek)

Minimum sample size 300 g (leek rings and chopped leek)

Total Allowable Points	Minor	Major	Total
(a) Leek and cut leek	10	10	12
(b) Leek rings and chopped leek	5	6	6

2.2 CLASSIFICATION OF “DEFECTIVES”

Any minimum sample unit which fails to comply with the quality requirements, as set out in Sections 2.2.1, 2.2.2 and 2.2.6 shall be regarded as a “defective”.

2.3 LOT ACCEPTANCE

A lot will be considered acceptable when the number of “defectives” as defined in Section 2.2 does not exceed the acceptance number (c) for the appropriate sample plan with an AQL of 6.5.

In applying the acceptance procedure each “defective”, as indicated in Section 2.2, is treated individually for the respective characteristics.

3. FOOD ADDITIVES

None permitted.

4. LABELLING

4.1 NAME OF PRODUCT

4.1.1 The name of the product shall include the designation “Leek”.

4.1.2 Size Designation

If a term designating the size of whole leek is used, it shall:

- (a) be supported by a statement of the predominant range of the maximum diameter of the leek in millimeters, or fractions of an inch in those countries where the English system is in general use; and/or
- (b) conform to the customary method of declaring size in the country of retail sale.

ANNEX ON WHOLE KERNEL CORN

In addition to the general provisions applicable to quick frozen vegetables, the following specific provisions apply:

(At Step 5/8)

1. DESCRIPTION

1.1 PRODUCT DEFINITION

Quick frozen whole kernel corn is the product prepared from fresh, clean whole sound, succulent kernels of sweet corn species *Zea mays* L. convar. *saccharata* Koern of either the white or yellow varieties by removing husk and silk; by sorting, trimming and washing; and by sufficiently blanching before or after removal from the cob to ensure adequate stability of colour and flavour during normal marketing cycles.

Whole kernel corn can be of the following types:

- (a) **Super Sweet varieties** - means kernels (or grains) of corn that provide higher naturally occurring sugar, and/or crisper texture (maybe yellow, white or combination of each) typical for the variety. These varieties may be slightly darker in colour, and some varieties have slightly tougher pericarp (kernel skin) than conventional sweet corn.
- (b) **Sweet varieties** - means kernels of sweet corn that convert sugars to starch by going through distinct stages of maturity - milk, cream, then dough stages.

1.2 PRESENTATION

1.2.1 Colour

- (a) Yellow;
- (b) White;
- (c) "Other" - colour depends on characteristics of the variety.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 COMPOSITION

2.1.1 Basic Ingredients

Corn as described in Section 1.

2.1.2 Optional Ingredients

Garnishes, such as pieces of green peppers or red peppers, or mixture of both, either of which may be sweet or hot or may be dried. Other vegetables may be used as garnishes. A garnish may not exceed 5% m/m of the finished food.

2.2 QUALITY FACTORS

2.2.1 General Requirements

Quick frozen whole kernel corn shall be:

- (a) of similar varietal characteristics;
- (b) of a reasonably uniform colour which may be slightly dull;
- (c) before and after cooking, free from foreign flavour and odour, taking into consideration any added optional ingredients;
- (d) reasonably tender and sufficiently developed;
- (e) reasonably free from loose skins;

and with respect to visual defects subject to tolerances shall be:

- (f) reasonably free from ragged, crushed or broken kernels;
- (g) reasonably free from damaged or blemished kernels;
- (h) reasonably free from pieces of cob, husk or silk;
- (i) practically free from harmless extraneous vegetable material; and
- (j) reasonably free from pulled kernels.

2.2.2 Definitions of Visual Defects

- (a) **Damage or blemish** - means any kernel affected by insect injury or damaged by discolouration, pathological injury, mechanical injury, or by any other means to the extent that the appearance or eating quality is affected. This category of defect may be further classified as “minor”, “major” or “serious” depending upon the extent to which the appearance is affected.
- (i) **Minor** - means damage or blemish that affects the kernel to only a slight degree.
 - (ii) **Major** - means damage or blemish that is quite noticeable and materially affects the kernel.
- (b) **Serious** - means damage or blemish that is very noticeable and of such nature that it would customarily be discarded under normal culinary preparation.
- (c) **Cob** - means the very firm to hard cellulose-like material to which the kernels of corn are attached and from which the kernels are removed during processing.
- (d) **Husk** - means the membranous outer covering and one of the constituent parts of an ear of corn that is removed during processing.
- (e) **Silk** - means the coarse thread-like filaments that are one of the constituent parts of an ear of corn. Such silk is found beneath the husk and in immediate contact with the corn kernels. Corn silk is normally removed during processing.
- (f) **Harmless extraneous vegetable material** - means vegetable matter other than cob, husk, or silk which is harmless. Such material may include, but is not limited to, grass, weeds, leaves and portions of stalk. This category of defect may be further classified as “minor”, “major” or “serious”, depending upon the amount of severity of the material.
- (i) **Minor** - Only slightly noticeable and affects the product to only a slight degree.
 - (ii) **Major** - Readily noticeable and affects the product to a material degree.
 - (iii) **Serious** - Very noticeable and objectionable and would customarily be discarded under normal culinary preparation.
- (g) **Pulled kernels** - means kernels of corn that have been so cut or removed from the ear of corn that portions of cob or hard tissue remain. This category of defect may be further classified as “minor” or “major” depending upon the amount of adhering cob that is present.
- (i) **Minor** - Slight amount of cob material or hard tissue remains around the base of the kernel.
 - (ii) **Major** - Moderate to noticeable amount of adhering cob material. (If there is an excessive amount of cob material adhering, apply tolerance given in Table 1).

2.2.3 Minimum Sample Unit

The minimum sample unit shall be 250 g.

2.2.4 Defects and Allowances

For tolerances based on the minimum sample unit indicated in Section 2.2.3, visual defects shall be scored in accordance with Table 1 in this Section. The maximum percentage of defects permitted in the Total Allowable Percentages rating is indicated for the respective categories “minor”, “major”, “serious” and “pulled kernels” or the Combined Total of the foregoing categories.

- (a) Pieces of cob - maximum tolerance 0.6 cubic centimetres
- (b) Husk - maximum tolerance 4.4 square centimetres
- (c) Silk - maximum tolerance 160 cm
- (d) Ragged, crushed or broken kernels (60 pieces)

Table 1

Defects	% m/m
Damage or blemish (minor)	5
Damage or blemish (major)	3
Damage or blemish (serious)	1
Harmless E.V.M.	0.2
Pulled Kernels	
- Minor	7
- Major	2
Total Allowable Percentage	9

2.3 DEFINITION OF “DEFECTIVES”

Any minimum sample unit which fails to comply with the quality requirements, as set out in Sections 2.1.1, 2.2.1 and 2.2.4 shall be regarded as a “defective”.

2.4 LOT ACCEPTANCE

A lot will be considered acceptable when the number of “defectives” as defined in Section 2.3 does not exceed the acceptance number (c) for the appropriate sample plan with an AQL of 6.5.

In applying the acceptance procedure each defective, as indicated in Section 2.3, is treated individually for the respective characteristics.

3. FOOD ADDITIVES

None permitted.

4. LABELLING

4.1 NAME OF THE PRODUCT

4.1.1 The name of the food shall include the designation “Corn”.

4.1.2 In addition, there shall appear on the label in conjunction with or in close proximity to the word “corn”:

- (a) The words “whole kernel” except that the description “whole grain”, “cut”, “sweet” or “kernels” may be used if this is customary in the country of retail sale.
- (b) The colour for example; “yellow” or “white” except that the colour “golden” may be used in lieu of “yellow” if this is customary in the country of retail sale.

APPENDIX IV**PROPOSED DRAFT STANDARD FOR GINSENG PRODUCTS****(At Step 5/8)****1. SCOPE**

This Standard applies to the ginseng products as defined in Section 2 below and offered for direct consumption, including for catering purposes or for repacking, if required. This Standard applies to ginseng products used as a food or food ingredient and does not apply to products used for medicinal purposes¹.

2. DESCRIPTION**2.1 PRODUCT DEFINITION**

Ginseng product is the product:

- (a) prepared from all part of fresh and sound ginseng roots, derived from *Panax ginseng* C.A.Meyer or *P. quinquefolius* L., cultivated for commercial purposes and used for foods;
- (b) packaged in such a manner as to safeguard the safety and nutritional and quality characteristics of the products;
- (c) processed in an appropriate manner, undergoing operations such as drying, steaming, cutting, powdering, extraction and concentration in conformity with Section 2.2.

2.2 TYPES OF GINSENG PRODUCTS

Ginseng products covered by this Standard may be as follows:

2.2.1 Dried Ginseng

Dried Ginseng is manufactured when ginseng roots defined in Section 2.1 (a) are dried in an appropriate manner such as sun drying, hot air drying or other recognized drying methods. The product may be classified into one of such product types that have the main root and/or lateral roots or that are powdered or sliced.

2.2.2 Dried Steamed Ginseng

Dried Steamed Ginseng is manufactured when ginseng roots defined in Section 2.1 (a) are prepared using the steaming method and the drying method stated in Section 2.2.1. The product may be classified into one of such product types that have the main root and/or lateral roots or that are powdered or sliced.

2.2.3 Ginseng Extract

Ginseng Extract is manufactured when soluble components of ginseng roots defined in Section 2.1 (a) or *Dried Ginseng* defined in Section 2.2.1. are extracted by using water, ethanol or their mixture, filtered and concentrated. This product has a dark brown colour and a high viscosity. The product may be also presented as a powdered type through spray- or freeze-drying.

2.2.4 Steamed Ginseng Extract

Steamed Ginseng Extract is manufactured when soluble components of *Dried Steamed Ginseng* defined in Section 2.2.2 are extracted by using water, ethanol or their mixture, filtered and concentrated. This product has a dark brown colour and a high viscosity. The product may be also presented as a powdered type through spray- or freeze-drying.

2.3 STYLES

Styles should be permitted provided that the product meets all relevant requirements of the Standard and 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**

Ginseng roots as defined in Section 2.1 (a).

¹ Some countries also consider ginseng as a medicine.

3.2 QUALITY CRITERIA

3.2.1 Flavour, Colour, and Ginsenoside Pattern

Ginseng products shall have normal flavour, colour, taste and a ginsenoside pattern² unique to specific species of ginseng as well as be free from foreign matter.

3.2.2 Chemical and Physical Characteristics

3.2.2.1 Dried Ginseng and Dried Steamed Ginseng

- (a) Moisture: no more than 14.0% (Powdered type: no more than 9.0%).
- (b) Ash: no more than 6.0%.
- (c) Water-saturated n-butanol extracts: no less than 20 mg/g³.
- (d) Ginsenoside Rb1: qualitatively detected.

In addition, in the case of product is manufactured from *P. ginseng* C.A. Meyer, ginsenoside Rf should be also be qualitatively detected.

3.2.2.2 Ginseng Extract and Steamed Ginseng Extract

3.2.2.2.1 Ginseng Extract (liquid form)

- (a) Solids: no less than 60.0%.
- (b) Water-insoluble solids: no more than 3.0%.
- (c) Water-saturated n -butanol extracts: no less than 40 mg/g³.
- (d) Ginsenoside Rb1: qualitatively detected.

In addition, in case of the product manufactured from *P. ginseng* C.A. Meyer, ginsenoside Rf should be also be qualitatively detected.

3.2.2.2.2 Ginseng Extract (powdered form)

- (a) Moisture: no more than 8.0%.
- (b) Water-insoluble solids: no more than 3.0%.
- (c) Water-saturated n -butanol extracts: no less than 60 mg/g³.
- (d) Ginsenoside Rb1: qualitatively detected.

In addition, in case of the product manufactured from *P. ginseng* C.A. Meyer, ginsenoside Rf should be also be qualitatively detected.

3.3 DEFINITION OF DEFECTS

The following defects shall be applied to the dried ginseng and dried steamed ginseng.

- (a) **Insect-damaged ginseng**: Ginseng that is visibly damaged by insects or contains dead insects.
- (b) **Mouldy ginseng**: Ginseng that is visibly affected by mould.

3.4 CLASSIFICATION OF “DEFECTIVES”

A container that fails to meet one or more of the applicable quality requirements, set out in Sections 3.2 and 3.3, should be considered a “defective”.

3.5 LOT ACCEPTANCE

A lot should be considered as meeting the applicable quality requirements referred to in Sections 3.2 and 3.3, when the number of “defectives”, as defined in Section 3.4, does not exceed the acceptance number (c) of the appropriate sampling plan with an AQL of 6.5.

4 FOOD ADDITIVES

No additives are permitted in the products covered by this Standard.

² The unique constituents of ginseng are found to be a complex mixture of saponins often referred to as ginsenosides, and more than 30 ginsenosides are known. Ginsenoside Rb1 or ginsenoside Rf is one of the major ginsenosides. Ginsenoside Rb1 is identified in all ginseng species in quantities, while ginsenoside Rf is identified mainly in *Panax ginseng* C.A. Meyer.

³ Indicating the content of crude saponin

5. CONTAMINANTS

5.1 The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CODEX/STAN 193-1995).

5.2 The products covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

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 *General Principles of Food Hygiene* (CAC/RCP 1-1969), 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 and Guidelines for the Establishment and Application of Microbiological Criteria related to Foods* (CAC/GL 21-1997).

7. LABELLING

The products covered by this Standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CODEX STAN 1-1985). Any health claims should comply with the *Guidelines for Use of Nutrition and Health Claims* (CAC/GL 23-1997), if necessary.

In addition, the following specific provisions apply:

7.1 NAME OF THE PRODUCT

7.1.1 The name of the products defined in Sections 2.2.1, 2.2.2, 2.2.3 and 2.2.4 shall be *Dried Ginseng*, *Dried Steamed Ginseng*, *Ginseng Extract* and *Steamed Ginseng Extract*, respectively. In this case, the products manufactured with *P. ginseng* C.A. Meyer can be named *White Ginseng*, *Red Ginseng*, *White Ginseng Extract* and *Red Ginseng Extract*.

7.1.2 The style shall appear on the label in conjunction with, or in close proximity to the name of the product, to avoid misleading or confusing the consumer.

7.2 NAME OF THE GINSENG SPECIES

All ginseng products shall be labelled with the scientific or common name of the ginseng that is used as raw material. The common names of the ginseng species shall be declared in accordance with the law and custom of the country where the products is consumed, in a manner not to mislead the consumer.

7.3 COUNTRY OF ORIGIN

The country of origin of the product and/or raw material shall be declared if its omission is likely to mislead or deceive the consumer.

7.4 LABELLING OF NON-RETAIL CONTAINERS

Information about 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 shown in the accompanying documents.

7.5 OPTIONAL LABELLING

The products may have a clear marking to indicate that they are not intended for medicinal purposes, including other labeling requirements stipulated by the country where ginseng products are distributed.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 SAMPLING PLANS

Sampling shall be in accordance with sampling plans as indicated in Annexes I and II.

8.2 PREPARATION OF TEST SAMPLE

Dried ginseng is pulverized using a grinder to make approximately 3 mm-sized particles for the analysis. Ginseng extract is used in the analysis as is.

8.3 METHODS OF ANALYSIS

PROVISION	METHOD	PRINCIPLE	TYPE
Moisture	AOAC 925.45 B (Dried ginseng) Quantity of sample: 2 g AOAC 925.45 D (Ginseng extract) Quantity of sample: 1.5 g (mixing with 20 g of sea sand)	Gravimetry	IV
Solids	AOAC 925.45 B (Dried ginseng) - calculated by subtracting the content of moisture from 100% Quantity of sample: 2 g AOAC 925.45 D (Ginseng extract) - calculated by subtracting the content of moisture from 100% Quantity of sample: 1.5 g (mixing with 20 g of sea sand)	Calculation	IV
Ash	AOAC 923.03	Gravimetry	IV
Water-insoluble solids	described in Annex III	Gravimetry	IV
Water-saturated n-butanol extracts	described in Annex IV	Gravimetry	IV
Identification of ginsenosides Rb1, and Rf	described in Annex V	TLC or HPLC	IV

References

1. Standard Operation Procedure (SOP) for Determination of Moisture (*attached to the Standard*)
2. Standard Operation Procedure (SOP) for Determination of Ash (*attached to the Standard*)

ANNEX I

Sampling Plans

The appropriate inspection level is selected as follows:

Inspection level I - Normal Sampling

Inspection level II - Disputes, (Codex referee purposes sample size), enforcement or need for better lot estimate

SAMPLING PLAN 1

(Inspection Level I, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
4,800 or less	6	1
4,801 - 24,000	13	2
24,001 - 48,000	21	3
48,001 - 84,000	29	4
84,001 - 144,000	38	5
144,001 - 240,000	48	6
more than 240,000	60	7
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
2,400 or less	6	1
2,401 - 15,000	13	2
15,001 - 24,000	21	3
24,001 - 42,000	29	4
42,001 - 72,000	38	5
72,001 - 120,000	48	6
more than 120,000	60	7
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
600 or less	6	1
601 - 2,000	13	2
2,001 - 7,200	21	3
7,201 - 15,000	29	4
15,001 - 24,000	38	5
24,001 - 42,000	48	6
more than 42,000	60	7

ANNEX II
SAMPLING PLAN 2
(Inspection Level II, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
4,800 or less	13	2
4,801 - 24,000	21	3
24,001 - 48,000	29	4
48,001 - 84,000	38	5
84,001 - 144,000	48	6
144,001 - 240,000	60	7
more than 240,000	72	8
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
2,400 or less	13	2
2,401 - 15,000	21	3
15,001 - 24,000	29	4
24,001 - 42,000	38	5
42,001 - 72,000	48	6
72,001 - 120,000	60	7
more than 120,000	72	8
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	Sample Size (n)	Acceptance Number (c)
600 or less	13	2
601 - 2,000	21	3
2,001 - 7,200	29	4
7,201 - 15,000	38	5
15,001 - 24,000	48	6
24,001 - 42,000	60	7
more than 42,000	72	8

ANNEX III**Determination of water-insoluble solid content****1. Scope of application**

This method can be applied for the analysis of ginseng extract (liquid and powder form).

2. Principles

Samples are dissolved in distilled water and centrifuged. The supernatant is removed, and the remaining solid is precipitated and dried. Its weight is determined to be the water-insoluble solid content.

3. Equipment & Apparatus

- 3.1 Centrifuge (temperature controllable).
- 3.2 Centrifuge tubes for centrifugation.
- 3.3 Serum separation tube or micro-pipette.
- 3.4 Drying oven with a thermostat ($\pm 1^\circ\text{C}$ temperature control).
- 3.5 Electronic balance (measurable down to 0.1 mg).
- 3.6 Desiccator (silica gel).
- 3.7 Tongs.

4. Experimental procedures

- 4.1 Dry a centrifuge tube in a drying oven at 105°C for 3 hours. After drying, place the centrifuge tube in a desiccator, let it stand at room temperature for 30 minutes, and then record its weight.
- 4.2 Repeat procedure step 4.1 until a constant weight is obtained for the centrifuge tube. Note, however, that the drying time should be 1-2 hours.
- 4.3 Precisely weigh out approximately 1 g of sample and place it in the centrifuge tube with known constant weight⁴.
- 4.4 Add 15 ml of distilled water to the centrifuge tube containing the sample to dissolve the sample.
- 4.5 Centrifuge the tube at room temperature at $1,000\times g$ ⁵ for 15 minutes and then remove the supernatant immediately using a serum separation tube while trying not to touch the separated precipitate. The supernatant may not be able to be completely removed due to the necessity of leaving a small amount of the supernatant to prevent the loss of suspended solids.
- 4.6 Repeat procedural steps 4.4 and 4.5 two more times with the solid that remains in the centrifuge tube.
- 4.7 Dry the centrifuge tube with the remaining sample in a drying oven at 105°C for 5 hours.
- 4.8 After drying, place the centrifuge tube in a desiccator, let it stand at room temperature for 30 minutes, and then measure its weight.
- 4.9 Repeat procedures step 4.7 and 4.8 until a constant weight is obtained for the centrifuge tube containing the sample. Note, however, that the drying time should be 1-2 hours.
- 4.10 The water-insoluble solid content is calculated as follows:

$$\text{Water-insoluble solid content (\%)} = \frac{W_1 - W_0}{S} \times 100$$

W_0 : Weight of the centrifuge tube (g)

W_1 : Weight of the centrifuge tube with the solid residue after drying (g)

S: Weight of the sample (g)

⁴ The constant weight is the smaller value among weights measured successively when the weight difference between the current weight measurement and the previous weight measurement is less than 2 mg.

⁵ $g = G \frac{M}{R^2}$ (g: gravity acceleration, G: gravity constant, R: radius, M: mass)

ANNEX IV**Determination of water-saturated n-butanol extracts****1. Scope of application**

This method can be applied for the analysis of dried ginseng and ginseng extracts (liquid and powder forms).

2. Principles

Crude saponin is extracted from ginseng products using water-saturated n-butanol as the solvent after the removal of the nonpolar lipids and carbohydrates using diethyl ether and distilled water.

3. Equipment & Apparatus

- 3.1 Separatory funnel (250 ml).
- 3.2 Round flat flask (200-300 ml).
- 3.3 Erlenmeyer flask (200-300 ml).
- 3.4 Standard sieve (No. 80).
- 3.5 Filter paper (No. 2).
- 3.6 Glass funnel.
- 3.7 Funnel Shaker.
- 3.8 Rotary evaporator.
- 3.9 Constant-temperature water bath.
- 3.10 Electronic balance (measurable down to 0.1 mg).
- 3.11 Drying oven with a thermostat ($\pm 1^\circ\text{C}$ temperature control).
- 3.12 Desiccator (silica gel).
- 3.13 Grinder.
- 3.14 Tongs.

4. Reagents

- 4.1 n-butanol (over EP grade).
- 4.2 Diethyl ether (over EP grade).
- 4.3 Distilled water.

5. Preparation of the water-saturated n-butanol solution

- 5.1 Mix n-butanol and distilled water at a ratio of 70:30.
- 5.2 Shake the mixture sufficiently and let it stand so that the upper layer (water-saturated n-butanol layer) and the lower layer (water layer) separate completely.
- 5.3 After complete separation is achieved, the water-saturated n-butanol layer is stored in a container and capped until further use.

6. Pretreatment of samples

Dried ginseng samples are pulverized using a grinder and sifted through an 80-mesh sieve for experimental use. The ginseng extract is used in the experiment as is.

7. Experimental procedures for dried ginseng

- 7.1 Precisely weigh out approximately 5 g of sample and place it in a round flat flask (A). Then, add 50 ml of the water-saturated n-butanol solution. Perform reflux extraction in a constant-temperature water bath at 75-80°C for 1 hour and then let it stand for 30 minutes.
- 7.2 Transfer the solution obtained in step 7.1 into a separatory funnel after filtering it through filter paper.
- 7.3 Repeat procedures step 7.1 and 7.2 two more times for the solid remains in the round flat flask (A).
- 7.4 Add 50 ml of distilled water to the mixed solution obtained in step 7.2-7.3 and then shake the solution using a funnel shaker (approximately 15 minutes). Let it stand until the upper layer (water-saturated n-butanol layer) and the lower layer (water layer) are completely separated.

- 7.5 Transfer the upper layer (water-saturated n-butanol layer) into a previously weighed flat bottom flask (B) and vacuum-concentrate and dry (60°C) the sample until the liquid is completely removed.
- 7.6 Add 50 ml of diethyl ether to the round flat flask (B) containing the precipitates and reflux the sample again in a constant-temperature water bath at 46°C for 30 minutes.
- 7.7 Discard the diethyl ether in the flat bottom flask (B) by filtering the sample through filter paper and then collect the precipitates on the filter paper in a flat bottom flask (B) by dissolving them with methanol.
- 7.8 Concentrate the contents in the round flat flask (B) until the odors of diethyl ether and methanol disappear.
- 7.9 After drying the round flat flask (B) in a drying oven at 105°C for 1 hour, place it in a desiccator at room temperature, let it stand for 1 hour, and then measure its weight.
- 7.10 The water-saturated n-butanol content of dried ginseng is calculated as follows:

$$\text{Water-saturated n-butanol extract (mg/g)} = \frac{W_1 - W_0}{S}$$

W_0 : Weight of the flask (mg)

W_1 : Weight of the flask after concentration and drying (mg)

S: Weight of the sample (g)

8. Experimental procedures for ginseng extracts

- 8.1 Precisely weigh out approximately 2 g of sample in an Erlenmeyer flask, add 60 ml of distilled water to dissolve the sample, and then transfer it to a separatory funnel (A).
- 8.2 Add 60 ml of diethyl ether, shake the funnel several times, and then remove the gas by opening the cork. Repeat the above procedure step 8.2, 2-3 times.
- 8.3 Shake the separatory funnel sufficiently in a funnel shaker (approximately 15 minutes) and then let it stand until the upper layer (diethyl ether layer) and the lower layer (water layer) are completely separated.
- 8.4 Transfer the lower portion (water layer) to a different separatory funnel (B), add 60 ml of the water-saturated n-butanol solution, shake the funnel under the same conditions as described in step 8.3, and let it stand until the layers are completely separated. The supernatant (water-saturated n-butanol layer) is collected (collected from above of the boundary surface) and transferred to another flask.

* At this time, the lower layer (water layer) is considered the emulsion layer in the next two separation stages but not in the final separation stage.
- 8.5 Repeat procedure step 8.4 two more times on the lower layer (water layer) left in the separatory funnel (B). At the final separation stage, the supernatant including the emulsion is slowly removed, leaving only the upper layer, by opening the spout of the separatory funnel.
- 8.6 Collect the solution (supernatants from each separation stage) obtained from procedures step 8.4-8.6 into the separatory funnel (B), add 50 ml of distilled water, and shake the funnel under the same conditions as described in (c). Then, let it stand until the upper layer (n-butanol layer) and the lower layer (water layer) are completely separated.
- 8.7 Transfer the supernatant (n-butanol layer) into the previously weighed flat bottom flask and vacuum-concentrate (60°C) it until the liquid is completely removed.
- 8.8 Dry the flat-bottomed flask in a drying oven at 105°C for 1 hour and then place in a desiccator at room temperature. Let it stand for 1 hour and then measure its weight.
- 8.9 Calculate the water-saturated n-butanol content in the ginseng extract using the same method as described in step 7.10.

ANNEX V

Identification of ginsenosides Rb₁ and Rf

Ginsenosides in ginseng products can be identified by thin-layer chromatography (TLC) or high-performance liquid chromatography (HPLC).

1. Sample solution preparation

The dried 1-butanol extract obtained according to the method for the measurement of the water-saturated n-butanol extract in Annex IV is completely dissolved in 10 ml of methanol and then filtered through a 0.45- μ m membrane filter.

2. Standard solution preparation

Reference substances for ginsenoside Rb₁ and ginsenoside Rf are dissolved in methanol to concentrations of 0.2%, and then the solutions are filtered through a 0.45- μ m membrane filter.

3. Identification

3.1 Thin-Layer Chromatography (TLC)

3.1.1 Preparation of the developing solvent

- (a) Mix n-butanol: ethyl acetate:water at a ratio of 50:10:40 (A), or chloroform:methanol:water at a ratio of 65:35:10 (B) in a separatory funnel.
- (b) Shake the funnel sufficiently and let it stand until the solvent is completely separated.
- (c) Collect only the upper layer when using solvent (A) as the developing solvent and only the lower layer when using solvent (B) and store the layers for further use. Collect from above (A) or below (B) the boundary surface of the relevant solvent when each solvent is separated and stored to increase the purity of the developing solvent.

3.1.2 Developing chamber

- (a) Use a developing chamber with a cover (the developing chamber is completely sealed by applying glycerin, etc.).
- (b) Attach filter paper to the sides and back of the inside of the developing chamber and soak them with the developing solvent.
- (c) Place the developing solvent slowly into the developing chamber (approximately halfway up to the starting line of the TLC plate).
- (d) Place the cover on and let it stand until the inside of the developing chamber is sufficiently saturated (30 minutes).

3.1.3 TLC preparation

- (a) The TLC plate is cut into appropriate pieces over 10 cm in length and wide enough to accommodate the number of samples needed for identifying the ginsenosides.
- (b) Place the plate in a clean drying oven and dry it at 110°C for 10-15 minutes before use.
- (c) Draw a line (starting line) 1 cm from the bottom of the TLC plate and mark the spots for dropping the samples. Then, draw a line (ending line) at exactly 8 cm from the starting line.

3.1.4 TLC identification

- (a) Five-microliter samples of the ginsenoside references and the sample solutions prepared as described above are dropped while drying using a dryer. Each 5- μ l sample is dropped by dividing it into several drops carefully without scraping off the silica gel of the TLC plate and not by using one drop.
- (b) After the dropping is completed, dry the TLC plate with a dryer.
- (c) Place the TLC plate in the developing chamber with its starting line at the bottom and develop the samples.
- (d) When the developing solvent reaches the ending line, the TLC plate is taken out and dried with a dryer.
- (e) Spray a 10% sulfuric acid solution evenly on the TLC plate.
- (f) Place the plate in a dryer at 110°C for 5-10 minutes for the development of the colors.

- (g) Compare the R_f values and colors of the substances separated from the sample with those of the ginsenoside references to identify the relevant ginsenosides in the ginseng products.

$$R_f = \frac{\text{distance sample solution migrated}}{\text{distance developing solvent migrated}}$$

3.2 High-Performance Liquid Chromatography (HPLC)

The sample solution prepared according to the description above and the ginsenoside references are analyzed using HPLC under the conditions described below. Ginsenosides in the sample solutions can be identified by comparing their retention times with the peaks shown by the ginsenosides in the reference substances.

<Operating conditions>

(a) Column: ODS column

(b) Detector: UV (203 nm) or ELSD

(c) Eluent

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

- ELSD: acetonitrile:water:isopropanol (94.9:5.0:0.1, v/v/v)

(d) Flow rate: 1.0 ml/min~2.0 ml/min

- ※ The analytical conditions can be adjusted depending on the laboratory conditions, but the peaks of R_{b1} , and R_f in the chromatogram should NOT be located in the first 5 minutes NOR in the last 5 minutes of the retention time.

Reference 1

Standard Operation Procedure for Determination of Moisture

1. Scope of application

This method can be applied for the analysis of dried ginseng and ginseng extract.

2. Principles

It is assumed that the moisture is the only volatile component in food. When the pressure of the water vapor in food is increased by heating, that of the surroundings is reduced relative to that of the food. The moisture in a food sample can be completely evaporated during heating at 105°C without the occurrence of any chemical change.

3. Equipment & Apparatus

3.1 Weighing bottle with a lid.

3.2 Glass rod (It should protrude at least 1.5 cm from the surface of the sea sand when inserted at a 45° angle into a weighing bottle containing 20 g of sea sand.).

3.3 Drying oven with a thermostat ($\pm 1^\circ\text{C}$ temperature control).

3.4 Electronic balance (measurable down to 0.1 mg).

3.5 Sea sand (20-35 mesh).

3.6 Desiccator (silica gel).

3.7 Grinder.

3.8 Tongs.

4. Pre-treatment of samples

Dried ginseng samples are pulverized using a grinder to make approximately 3-mm-sized particles for the experiment. The ginseng extract is used in the experiment as is.

5. Experimental procedures - dried ginseng and ginseng extract (powder form)

5.1 Dry a weighing bottle and a lid separately in a drying oven at 105°C for 5 hours. Afterwards, place the weighing bottle capped tightly with the lid in a desiccator, let it stand at room temperature for 30 minutes, and then measure its weight.

5.2 Repeat procedure step 5.1 until a constant weight is obtained for the bottle and lid. Note, however, that the drying time should be 1-2 hours.

5.3 Precisely weigh out approximately 2 g of sample, and place it into the weighing bottle with known constant weight.

5.4 Dry the weighing bottle containing the sample in a drying oven at 105°C for 3 hours. The lid is placed slightly ajar to dry the sample in the weighing bottle.

5.5 Place the weighing bottle capped tightly with the lid in a desiccator, let it stand at room temperature for 30 minutes, and then measure its weight.

5.6 Repeat procedures 5.4 and 5.5 until a constant weight is obtained for the bottle containing the sample. Note, however, that the drying time should be 1-2 hours.

5.7 The moisture content is calculated as follows:

$$\text{Moisture content in the sample (\%)} = \frac{S - (W_1 - W_0)}{S} \times 100$$

W_0 : Weight of the weighing bottle (g)

W_1 : Weight of the weighing bottle with the sample after drying (g)

S: Weight of the sample (g)

6. Experimental procedures - ginseng extract (liquid form)

6.1 Dry the weighing bottle containing 20 g of sea sand and a glass rod in a drying oven at 105°C for 5 hours.

6.2 After drying, place the weighing bottle in a desiccator, let it stand at room temperature for 30 minutes, and then measure its weight.

- 6.3 Repeat procedures 6.1 and 6.2 until a constant weight is obtained for the bottle containing the sea salt and the glass rod. Note, however, that the drying time should be 1-2 hours.
- 6.4 Precisely weigh out approximately 1.5 g of sample and place it into the weighing bottle with a known constant weight. Then, mix the sample well with the sea sand and evenly spread the mixture on the surfaces of the weighing bottle walls using the glass rod.
- 6.5 The remaining analytical steps and calculations are the same as for step 5.4 and 5.5 of Section 5 above.

Reference 2**Standard Operation Procedure for Determination of Ash****1. Scope of application**

This method can be applied for the analysis of dried ginseng samples.

2. Principles

Samples are collected in a container (crucible) for ash analysis and burned at 525-600°C to remove the organic substances. The total mineral weight of the remaining sample is considered the ash content.

3. Equipment & Apparatus

3.1 Porcelain crucible with a lid.

3.2 Electric heating plate.

3.3 Electric furnace with a thermostat ($\pm 1^\circ\text{C}$ temperature control).

3.4 Electronic balance (measurable down to 0.1 mg).

3.5 Desiccator (silica gel).

3.6 Grinder.

3.7 Tongs.

4. Pretreatment of samples

Dried ginseng samples are pulverized using a grinder to make approximately 3-mm-sized particles for the experiment.

5. Experimental procedures

5.1 Heat a clean porcelain crucible in an electric furnace at 550°C for 3 hours. Let it stand at room temperature for 1 hour, and then measure its weight.

5.2 Repeat procedure step 5.1 until a constant weight is obtained. Note, however, that the ashing time should be 1-2 hours.

5.3 Precisely weigh out approximately 3 g of sample in the porcelain crucible with known constant weight.

5.4 Place the porcelain crucible containing the sample in an electric furnace at 550°C and ash the sample by heating the crucible with the lid on it until white or bright grayish white ash is formed.

5.5 After ashing is complete, place the porcelain crucible containing the sample in a desiccator, let it stand at room temperature for 1 hour, and then measure its weight.

5.6 Repeat procedures step 5.4 to 5.5 until a constant weight is obtained for the crucible containing the sample. Note, however, that the ashing time should be 1-2 hours.

5.7 The ash content is calculated as follows:

$$\text{Ash content in the sample (\%)} = \frac{W_2 - W_1}{S} \times 100$$

W_1 : Weight of the porcelain crucible before ashing (g)

W_2 : Weight of the porcelain crucible after ashing (g)

S: Weight of the sample (g)

APPENDIX V**AMENDMENTS TO FOOD ADDITIVE PROVISIONS IN CERTAIN STANDARDS
FOR PROCESSED FRUITS AND VEGETABLES****(For Adoption)****CANNED CHESTNUTS AND CANNED CHESTNUT PUREE
(CODEX STAN 145-1985)****3. FOOD ADDITIVES****3.2 FIRMING AGENT**~~3.2.1 Aluminium potassium sulphate — Limited by Good Manufacturing Practice~~**CANNED BAMBOO SHOOTS
(CODEX STAN 241-2003)****4 FOOD ADDITIVES****4.1 ACIDITY REGULATORS**

Acidity regulators used in accordance with Table 3 of the *General Standard for Food Additives* (CODEX STAN 192-1995) are acceptable for use in foods conforming to this Standard. In addition:

INS No.	Name of the Food Additive	Maximum Level
<u>INS 334; 335i,ii; 336i,ii; 337</u>	<u>Tartrates</u>	<u>1,300 mg/kg As tartaric acid</u>

**CERTAIN CANNED VEGETABLES
ANNEX ON MUSHROOMS
(CODEX STAN 297-2009)****3. FOOD ADDITIVES**

3.2 Only the colours listed below are permitted for use in canned mushroom in sauce.

INS No.	Name of the Food Additive	Maximum Level
<u>150a</u>	<u>Caramel I – plain caramel</u>	<u>GMP</u>
<u>150c</u>	<u>Caramel III – ammonia caramel</u>	<u>50,000 mg/kg</u>
<u>150d</u>	<u>Caramel IV - sulfite ammonia caramel</u>	<u>50,000 mg/kg</u>

3.3 Flavour enhancers used in accordance with Table 3 of the *General Standard for Food Additives* (CODEX STAN 192-1995) for Food Category 04.2.2.4 are acceptable for use in canned mushrooms.

APPENDIX VI**AMENDMENTS TO THE STANDARD FOR PICKLED FRUITS AND VEGETABLES
(CODEX STAN 260-2007)****(For Adoption)****PACKING MEDIA FOR PICKLED VEGETABLES****3 ESSENTIAL COMPOSITION AND QUALITY FACTORS****3.1.2 Packing Media**

3.1.2.1 For pickled fruits, in accordance with the *Guidelines on Packing Media for Canned Fruits* (CAC/GL 51-2003).

3.1.2.2 For pickled vegetables, in accordance with the following provisions:

(a) Basic Ingredients

Water, and if necessary salt or oil or acidic media such as vinegar.

(b) Optional Ingredients

Packing media for pickled vegetables may contain ingredients subject to labelling requirements of Section 8 and may include, but is not limited to:

- (1) foodstuff with sweetening properties such as sugars (including syrups) as defined in the *Standard for Sugars* (CODEX STAN 212-1999), honey as defined in the *Standard for Honey* (CODEX STAN 12-1981) or juices and/or nectars as defined in the *General Standard for Fruit Juices and Nectars* (CODEX STAN 247-2005) and;
- (2) aromatics plants, spices or extracts thereof, seasoning (in accordance with the relevant Codex standards for spices or culinary herbs);
- (3) vinegar;
- (4) oil (in accordance with the relevant Codex standards for vegetable oils);
- (5) tomato puree (in accordance with the *Standard for Processed Tomato Concentrates* (CODEX STAN 57-1981));
- (6) malt extract;
- (7) sauce (e.g., fish sauce);
- (8) soy sauce;
- (9) other ingredients as appropriate.

8. LABELLING

8.2.3 The name of the product shall include the indication of the packing medium as set out in Section 2.1(d).

FOOD ADDITIVES FOR PICKLED FRUITS AND VEGETABLES**4. FOOD ADDITIVES**

Acidity regulators, antifoaming agents, antioxidants, colours, firming agents, flavour enhancers, preservatives, sequestrants and sweeteners used in accordance with Tables 1 and 2 of the *General Standard of Food Additives* in the food category in which the individual pickled fruit or vegetable fall into (i.e., one of the following categories: 04.1.2.3, 04.1.2.10, 04.2.2.3, and 04.2.2.7) or listed in Table 3 of the General Standard are acceptable for use in foods conforming to this Standard.