

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

JOINT OFFICE: Via delle Terme di Caracalla 00100 ROME Tel.: 52251 Telex: 625852-625853 FAO I Cables: Foodagri Rome Facsimile: (6)522.54593

ALINORM 95/35

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

*Twenty-first Session
Rome, 3-8 July 1995*

Report of the Fifth Session of the CODEX COMMITTEE ON TROPICAL FRESH FRUITS AND VEGETABLES *Mexico City, 5-9 September 1994*

Note: This report incorporates Codex Circular Letter CL 1994/27-TFFV.

W/V4101

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CX 5/95.2

CL 1994/27-TFFV
October 1994

TO:

- Codex Contact Points
- Interested International Organizations
- Participants at the Fifth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables

FROM: Chief, Joint FAO/WHO Food Standards Programme, FAO,
Via delle Terme di Caracalla, 00100 Rome, Italy

SUBJECT: Distribution of the Report of the Fifth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables (ALINORM 95/35)

The report of the Fifth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables (CCTFFV) is attached. It will be considered by the Twenty-first Session of the Codex Alimentarius Commission to be held in Rome from 3-8 July 1995.

PART A: MATTERS FOR ADOPTION BY THE CODEX ALIMENTARIUS COMMISSION

The following matters will be brought to the attention of the 21st Session of the Codex Alimentarius Commission for adoption:

1. **Draft Codex Standard for Litchi at Step 8;** paras. 14-38 and Appendix II, ALINORM 95/35.
2. **Draft Codex Standard for Avocado at Step 8;** paras. 44-51 and Appendix III, ALINORM 95/35.
3. **Draft Codex Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables at Step 8;** paras. 81-91 and Appendix VII, ALINORM 95/35.

Governments wishing to propose amendments or to comment on the above matters should do so in writing in conformity with the Guide to the Consideration of Standards at Step 8 of the Procedure for the Elaboration of Codex Standards Including Consideration of Any Statements Relating to Economic Impact (*Codex Alimentarius Procedural Manual*, Eighth Edition, pp. 33-35) to the Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy, **not later than 30 April 1995.**

4. **Proposed Draft Codex Standard for Mangosteen at Step 5;** paras. 63-71 and Appendix V, ALINORM 95/35).

Governments wishing to submit comments regarding the implications which the proposed draft Standard for Mangosteen or any provisions thereof may have for their economic interest should do so in writing in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (at Step 5) (*Codex Alimentarius Procedural Manual*, Eighth Edition,

pp. 27-29) to the Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy, **not later than 30 April 1995**.

PART B: REQUEST FOR COMMENTS

1. **Draft Codex Standard for Limes**; paras. 56-62 and Appendix IV, ALINORM 95/35.

The Committee decided to return the proposed draft Codex Standard for Limes to Step 3 for additional government comments, especially in regard to those provisions concerning colour and juice content.

2. **Proposed Draft Codex Standard for Pummelo**; paras. 77-80 and Appendix VI, ALINORM 95/35.

The Committee decided to return the proposed draft Codex Standard for Pummelo to Step 3 for additional government comments.

3. **Proposed Draft Codex Code of Practice for the Quality Inspection and Certification of Fresh Fruits and Vegetables**; paras. 96-105 and Appendix VIII, ALINORM 95/35.

The Committee decided to return the proposed draft Codex Code of Practice for the Control and Inspection of Tropical Fresh Fruits and Vegetables to Step 3 for additional government comments.

Governments and interested International Organizations wishing to submit comments on the above subject matter are invited to do so **not later than 30 September 1995** to the Chairman of the Committee at the following address:

Lic. Luis Guillermo Ibarra Ponce de Leon
Director General de Normas
Secretaria de Comercio y Fomento Industrial
Av. Puente de Tecamachalco No. 6
Sección Fuentes
Naucalpan de Juarez
Edo. de México
C.P. 53950 México

In addition, please forward a copy of the comments to: Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy.

SUMMARY AND CONCLUSIONS

The Fifth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables reached the following conclusions during its deliberations:

MATTERS FOR CONSIDERATION BY THE EXECUTIVE COMMITTEE AND/OR COMMISSION:

- Agreed to advance draft **Codex Standards for Litchi and Avocado** to the Commission for adoption at Step 8 (paras. 38 and 51, respectively);
- Agreed to advance the proposed draft **Codex Standard for Mangosteen** to the Commission for adoption at Step 5 (para. 71);
- Agreed to advance the draft **Codex Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables** to the Commission for adoption at Step 8 (para. 91);
- Recommended to discontinue the consideration of the draft **Codex Glossary of Scientific and Common Names for Fresh Fruits and Vegetables** and the proposed draft **Codex Glossary of Terms and Definitions for Fresh Fruits and Vegetables** through the Executive Committee (paras. 95 and 108, respectively);
- Agreed on the revised **Priority List for Standardization of Tropical Fresh Fruits and Vegetables**, and in the interest of cooperation and harmonization, agreed not to include Melon, Strawberry and Tomato on the revised list (paras. 111-112); and,
- Agreed on the **Current Status of Work** for forwarding to the Executive Committee for approval (Annex 1).

OTHER MATTERS OF INTEREST TO THE COMMISSION:

- Noted that intersecretariat discussions concerning the **relationship between Codex and the UNECE** continued and that it was expected that proposals would be available for consideration by the 21st Session of the Commission (paras. 9-13);
- Agreed that a discussion paper concerning the use of **objective indices of maturity in commercial transactions of fruits and vegetables** be prepared for consideration at its next Session (para. 21);
- Agreed that a interpretive document concerning the **application of quality tolerances at import** be prepared for consideration at its next Session (para. 28);
- Agreed to return the draft **Codex Standard for Banana** for further government comments at Step 6 (para. 41);

SUMMARY AND CONCLUSIONS (Cont'd)

- Requested the Mexican and Codex Secretariats to revise the draft **Codex Standard for Oranges**, based on the appropriate sections of the UNECE Standard for Citrus Fruits, for circulation and government comment at Step 3 (paras. 54-55);
- Agreed to return the proposed draft **Codex Standards for Limes and Pummelo** for further government comments at Step 3 (paras. 61 and 80, respectively);
- Decided not to advance the proposed draft **Codex Standard for Tropical Asparagus** pending its review by the UNECE (para. 76); and,
- Agreed to return the proposed draft **Codex Code of Practice for the Quality Inspection and Certification of Fresh Fruits and Vegetables** for further government comments at Step 3 (para. 105).

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1. The Fifth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables was held in Mexico City, Mexico, from 5 to 9 September 1994 at the kind invitation of the Government of Mexico. The Session was attended by delegates from Argentina; Australia; Brazil; Canada; Costa Rica; Cuba; Egypt; France; Guatemala; India; Malaysia; Mexico; Philippines; Spain; South Africa; Thailand; United States of America; and Vietnam. Observers from the United Nations Economic Commission for Europe (UNECE) and the International Banana Association were present. The list of participants and members of the Secretariat is attached to this report as Appendix I.

OPENING OF THE SESSION (Agenda Item 1)

2. The Chairman of the Committee, Lic. Luis Guillermo Ibarra, welcomed delegates and stated that it was of vital importance that the work of the Committee served to facilitate trade transactions by defining the characteristics of tropical agricultural produce. He noted that the work of the Committee was, in many respects, difficult, and wished the Committee every success in undertaking the work with which it was entrusted.

3. Lic. Santiago Funes González addressed the Committee on behalf of the Director-General of the Food and Agriculture Organization of the United Nations (FAO), Dr. Jacques Diouf. He noted the interest of Codex member governments in the Committee's work as reflected in the active participation of the many delegations present at the session. This participation highlighted one of the main aspects of Codex work; namely, the facilitation of international trade in food through the development of Codex standards and other texts based on sound principles of consumer protection. Lic. Funes stated that the Codex worldwide approach to standardization was also consistent with the recently concluded GATT Agreement on Technical Barriers to Trade, which stressed that quality standards and technical regulations should be based on international standards. The international Codex approach was also consistent in so far as sanitary and phytosanitary measures and barriers were concerned under the GATT Agreement on Sanitary and Phytosanitary Measures. Mr. Funes noted the work of FAO which directly supported developing countries in being able to meet the new international trading environment through activities on food control, standardization, inspection and certification, both for import and export control. International trade in food and agricultural products, with clear and equitable rules for food safety, quality and consumer protection, was necessary for sustainable agriculture and human development.

4. Ing. Eduardo Méndez Rubello, Former Chairman of the Codex Alimentarius Commission, stated that the work of the Committee had always been followed with great interest by the 150 nations that were presently involved in the Joint FAO/WHO Food Standards Programme. He pointed out three important factors contributing to the Committee's success: the increasing number of countries interested in participating in the preparation of standards; the increasing number of standards adopted by the Member Governments of the Commission; and the highly constructive discussions which took place at the Twentieth Session of the Codex Alimentarius Commission where the majority of countries speaking supported the idea of expanding the Committee's activities.

5. Lic. Ernesto Enriquez Rubio, Under-Secretary for Agriculture, stated that it was an honour for Mexico to host the Fifth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables and stressed the very important work being undertaken by the Commission worldwide. He pointed out the importance that Mexico placed on fruit and vegetable production, stating that at the present time there was more than one million hectares dedicated to these crops. He wished the Committee a fruitful and productive session with benefits for all of the countries attending.

ADOPTION OF THE AGENDA (Agenda Item 1)¹

6. The Committee adopted the Provisional Agenda without change. It was agreed to discuss proposals for possible amendment to the Codex Standard for Pineapple (CODEX STAN 182-1993) under Item 17, "Other Business", as proposed by the Representative of the UNECE (see para. 113).

MATTERS OF INTEREST TO THE COMMITTEE (Agenda Item 3)

a) Matters arising from the Codex Alimentarius Commission and other Codex Committees²

7. The Committee noted that the 20th Session of the Codex Alimentarius Commission (July 1993) had adopted as final Codex Standards the following draft standards submitted by the Committee: Pineapple; Papaya; Mango; Nopal; Prickly Pear; Carambola; and Baby Corn. These standards had been published as Codex Standards 182 to 188 respectively in Volume 5B of the *Codex Alimentarius*.

8. The Proposed Draft Standards for Litchi, Banana and Avocado were advanced to Step 6 of the Codex Procedure together with the Proposed Draft Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables and the Proposed Draft Glossary of Scientific and Common Names for Fresh Fruits and Vegetables. The Committee noted that the Delegation of China had proposed (see para. 109) the standardization of Longan (*Euphyoia longan* S., and related species).

b) Matters arising from the United Nations Economic Commission for Europe (UNECE)³

c) Matters arising from the Organization for Economic Cooperation and Development (OECD)⁴

9. The Committee agreed to discuss together all matters relating to the relationships between the Codex Alimentarius Commission, the UNECE and the OECD.

10. The Secretariat informed the Committee that the 20th Session of the CAC had considered the proposal of the Committee's Fourth Session to expand its Terms of Reference to cover all fresh fruits and vegetables and to amend the name of the Committee. Although the proposal had received support from the majority of Delegations speaking at the CAC Session, the CAC agreed to maintain the Committee's Terms of Reference as currently drafted pending the outcome of consultations between the CAC through the Executive Committee and the Codex, UNECE and FAO Secretariats.⁵ It was reported that the discussions between the Secretariats continued and that it

¹ CX/TFFV 94/1

² CX/TFFV 94/2

³ CX/TFFV 94/3 (Conference Room Document No. 1)

⁴ CX/TFFV 94/3-Add.1

⁵ Report of the 20th Session of the Codex Alimentarius Commission, ALINORM 93/40, paras. 332-339.

was expected that proposals would be available for consideration by the 21st Session of the CAC in July 1995. The Secretariat further informed the Committee that the 41st Session of the Executive Committee had been informed of the status of the inter-Secretariat discussions.⁶

11. The representative of the UNECE informed the Committee of the discussions which had taken place in the Economic Commission for Europe and its subsidiary bodies concerning the working relationship between the CAC and UNECE and the proposal of the CCTFFV at its fourth session to expand its Terms of Reference to include standardization of all fresh fruits and vegetables rather than those produced exclusively in tropical zones. It was emphasized that at all levels of the UNECE discussions willingness had been expressed to collaborate closely with CCTFFV, however, strong objections had been expressed to any duplication of existing UNECE standards. Attention was drawn to the fact that the present terms of reference of CCTFFV had not been changed by the 20th Session of the CAC and yet work was underway or being initiated on asparagus, oranges, strawberries and avocados; products already covered by UNECE standards. It was felt by the UNECE that the present mandate of CCTFFV should be carefully maintained and that duplication must be avoided. Discussions concerning a possible joint UNECE/Codex Committee had emphasized that certain established procedural aspects of UNECE and Codex should be taken into account in harmonizing the work on commercial quality standards for fresh fruits and vegetables. It had also been felt that certain procedural difficulties could arise in a joint activity that could impede work and negatively impact on the work of other international organizations working on the basis of the UNECE standards.

12. As concerned the objections raised by the Fourth Session of the CCTFFV to wording in the titles of the UNECE standards stating that they were applicable "in international trade", the Committee was informed that the UNECE Working Party on Standardization of Perishable Produce and Quality Development had amended the titles of the UNECE standards to more closely align them with the Geneva Protocol and had replaced the above wording with "moving in international trade between and to UNECE member countries". This approach took into account the fact that membership of the UNECE included all of Europe, the United States of America, Canada, Israel and several emerging countries of Central Asia. It was noted that all 26 countries in transition from centrally planned to market oriented economies were members of the UNECE. The successful integration of these countries into market oriented trade was a priority activity mandated by the General Assembly of the United Nations. UNECE commercial quality standards were being incorporated into their national legislation for the purpose of trade facilitation. It was the view of the UNECE that duplication of existing international standards would confuse trade and must be carefully avoided.

13. The Delegation of Mexico, supported by Cuba, expressed the view that the present situation was in need of closer coordination as it was a matter of duplication of effort rather than duplication of standards. It was of the view that Codex could take the regional standards of the UNECE, which it considered to be of very good quality, and give them a worldwide Codex scope which would be of benefit to countries that were not members of the UNECE.

⁶ Report of the 41st Session of the Executive Committee of the Codex Alimentarius Commission, ALINORM 95/3, paras. 41-43.

CONSIDERATION OF THE DRAFT CODEX STANDARD FOR LITCHI AT STEP 7 (Agenda Item 4)

14. The Draft Codex Standard for Litchi (Appendix II, ALINORM 93/35A) was adopted by the 20th Session of the Codex Alimentarius Commission at Step 5, with the understanding that comments concerning the Brix to Acid Ratio and the inclusion of a specific limit for sulphur dioxide treatments (see paras. 36-37) would be taken into account.⁷ Government comments at Step 6, requested under CL 1993/30-TFFV, were received from Costa Rica, Germany, Spain and Thailand⁸.

15. The Committee reviewed the draft standard point by point and agreed to the following revisions:

Section 1 - Definition of Produce

16. This section was revised to include the name of the *Sapindaceae* family of which *Litchi chinensis* Sonn. is a member.

Section 2.1 - Minimum Requirements

17. The Committee agreed to modify the minimum requirement "free from pest damage" to read as "practically free from damage caused by pests" for consistency with other Codex standards elaborated for tropical fresh produce.

18. The Committee added the minimum requirement of "practically free from pests" as it was noted that such a requirement applied to both quarantine and quality control situations. For sake of consistency, it was also agreed that this provision would be applied to all standards under current consideration by the Committee.

19. The Committee decided to add a provision concerning the colouring of litchis as a minimum requirement in view of its applicability to all classes of litchis (see para. 23).

20. The Committee was informed that litchis did not ripen further once harvested, and considered therefore that a quantitative index of maturity should be included in the Standard. However, insufficient information was available to establish a provision for "Total Soluble Solids to Acid Ratio" (i.e., Brix to Acid Ratio).

21. In view of the growing importance of objective indices of maturity in commercial transactions of fruits and vegetables, the Committee agreed that a paper on this subject should be prepared for consideration at its next session (see para. 48). The incorporation of quantitative indices in individual standards would probably then need to be considered.

⁷ Report of the 20th Session of the Codex Alimentarius Commission, ALINORM 93/40, para. 322.

⁸ CX/TFFV 94/4; CX/TFFV 94/4 - Add.1 (Conference Room Document).

Section 2.2.1 - Extra Class

22. The Committee agreed to further specify that certain characteristics apply to "the variety or varietal type" throughout the standard (i.e., Sections 2.2.1, 2.2.2, 5.1 and 6.1.1) in order to take account of other commercial varieties of produce.

23. As a result of the Committee's previous decision to include maturity characteristics as a minimum requirement applicable to all classes (see para. 19), the reference to colouring characteristics under the "Extra" class were removed.

Section 2.2.2 - Class I

24. The Committee agreed to correct the text concerning skin defects from 25 cm² to 0.25 cm².

Section 3 - Provisions Concerning Sizing

25. The Committee agreed to include minimum sizes of 33 mm for Extra Class and 20 mm for Classes I and II for purposes of specificity and completeness.

Section 4.1 - Quality Tolerances

26. Although the Committee was informed that the provision concerning quality tolerances was extracted directly from current UNECE standards, there was considerable discussion as to the meaning of this provision as related to a quality tolerance based on the import of fresh perishable produce. The Committee noted that the ten percent quality tolerance normally applied to produce at export, and that if such a value were applied to produce at import serious problems could arise.

27. While the Committee noted that current Codex standards for fresh produce included a footnote indicating that governments should indicate which provisions of the standard apply at the import or export control stages, the importance of establishing specific and separate quality tolerances for produce shipped over long distances at the import control stage was emphasized.

28. In view of the above discussion, the Committee agreed that an interpretive document concerning the application of quality tolerances at import be developed under the direction of the Codex Secretariat for consideration by the Committee at its Sixth Session (see para. 32). It was further agreed that the document would apply to all standards elaborated by the Committee and that for the time being, the current text of this section would be maintained.

Section 4.2 - Size Tolerances

29. The Committee agreed to specify that size tolerances should include a provision specifying a diameter of not less than 15 mm in all classes, and/or the maximum size range of 10 mm, for clarity. As a result of this decision, the second paragraph of this section concerning size differences within a package was removed.

Section 5.1 - Uniformity

30. As decided above (see para. 22), the Committee added "or varietal type" to clarify the first paragraph of this section.

31. The Committee also agreed to reword the second paragraph of this section to read as "The visible part of the contents of the package must be representative of the entire contents" for clarity.

Section 5.2 - Packaging

32. In consideration of the Committee's previous discussions concerning the application of quality tolerances at the point of import (see para. 28), the Committee decided to include the consideration of the presence of a limited number of fresh leaves for litchis presented in bunches in the working paper to be prepared under the direction of the Secretariat.

33. The Committee also agreed to add a footnote to this section to clarify that the term "new" included "recycled material of food grade quality" in relation to the use of packaging materials.

Section 5.3.1 - Individually

34. The Committee agreed to change the provision concerning the maximum length of the pedicel to "not extend more than 2 mm beyond the top of the fruit", as it was felt that a length of 5 mm was excessive and that pedicels of this length could damage other fruit in the package.

Section 5.3.2 - In Bunches

35. The Committee agreed to amend this section to indicate that fruit presented in bunches must include more than three (i.e., as opposed to one) attached and well-formed litchis.

Establishment of a Maximum Limit for Sulphur Dioxide

36. The Committee recalled its previous discussions concerning this issue, whereby the Commission had requested the consideration of the establishment of a specific limit for the treatment of litchis with sulphur dioxide (see para. 14).

37. The Committee was informed that national legislation varied between levels of 10 to 20 mg/kg in the fruit pulp. However, as the Committee noted that the establishment of such limits was the responsibility of the Codex Committee on Pesticide Residues (CCPR), it was decided to refer this issue to the CCPR for consideration.

Status of the Draft Codex Standard for Litchi

38. The Committee agreed to advance the Draft Codex Standard for Litchi to the 21st Session of the Codex Alimentarius Commission for adoption at Step 8. The Draft Standard is attached to this report as Appendix II.

CONSIDERATION OF THE DRAFT CODEX STANDARD FOR BANANA AT STEP 7 (Agenda Item 5)

39. The Draft Codex Standard for Banana (Appendix IV, ALINORM 93/35A) was adopted by the 20th Session of the Codex Alimentarius Commission at Step 5, with the understanding that comments concerning defects of the skin, size tolerances and hail damage would be taken into

account.⁹ Government comments at Step 6, requested under CL 1993/30-TFFV, had been received from Costa Rica, Spain, Thailand, the UK and the United States of America.¹⁰

40. The Committee noted the extensive comments on the Draft Standard, many of which had been received just prior to, or at, the present session. Several Delegations expressed the opinion that it was premature to discuss the Draft Standard without having the opportunity to analyze the comments in detail at the national level. These Delegations also noted that the European Community was in the final stages of preparation of its standard for bananas, the implications of which would need to be discussed in the world-wide Codex context.

Status of the Draft Codex Standard for Banana

41. The Committee agreed to return the Draft Codex Standard for Banana to Step 6 for further government comments and consideration at its next session.

42. The Delegation of Costa Rica expressed strong disagreement with the decision of the Committee to postpone the revision of the proposed draft Codex Standard for Banana pending the finalization of the EEC standard. It was felt that this decision did not comply with the Codex Alimentarius Procedural Manual section concerning the consideration of Codex Standards at Step 6, whereby the EEC, as a regional body, did not submit written comments to the Committee on the proposed draft. It was also noted that if the standard was advanced for Commission adoption at Step 8, additional comments could still be submitted by interested parties prior to the standards consideration.

43. The Delegation of Costa Rica noted that the decision of the Committee would delay the elaboration of a standard which could facilitate international trade under principles established in the GATT Uruguay Round, whereby it was agreed that Codex standards would form the basis for international trade in agricultural products. It also requested the Committee to undertake to ensure that comments on the draft standard from member countries and interested international organizations were submitted in a timely manner well before the next session of the Committee.

CONSIDERATION OF THE DRAFT CODEX STANDARD FOR AVOCADO AT STEP 7 (Agenda Item 6)

44. The proposed draft Codex Standard for Avocado (Appendix V, ALINORM 93/35A) was adopted by the 20th Session of the Codex Alimentarius Commission at Step 5, with the understanding that comments concerning the alignment of provisions regarding sizing with the UNECE Standard for Avocado would be taken into account.¹¹ Government comments at Step 6, requested under CL 1993/30-TFFV, were received from Costa Rica, Germany, Mexico, Spain and Thailand¹².

45. The Committee reviewed the draft standard point by point and agreed to the following revisions:

⁹ Report of the 20th Session of the Codex Alimentarius Commission, ALINORM 93/40, para. 326.

¹⁰ CX/TFFV 94/5; CX/TFFV 94/5-Add.1 (Conference Room Document)

¹¹ Report of the 20th Session of the Codex Alimentarius Commission, ALINORM 93/40, para. 326.

¹² CX/TFFV 94/6 and CX/TFFV 94/6 - Add. 1 (Conference Room Document)

Section 1 - Definition of Produce

46. This section was revised to include the name of the *Lauraceae* family of which *Persea americana* Mill. was a member. The Delegation of Mexico proposed the inclusion of the *Persia gratissima* variety which would be consistent with the sizing provisions of Section 3. The Committee, however, did not accept this proposal (see para. 49).

Section 2.1 - Minimum Requirements

47. The Committee agreed to modify the minimum requirement "free from pest damage" to read as "practically free from damage caused by pests" for consistency with other Codex standards. The statement "practically free from pests" was also added to this Section (see para. 18).

48. In view of the importance of the inclusion of a quantitative value for maturity (e.g., oil content), the Committee decided to examine this issue in the light of its consideration of quantitative indices of maturity as part of its future work (see para. 21).

Section 3 - Provisions Concerning Sizing

49. As the Codex provisions concerning sizing had already been aligned with similar UNECE provisions, this Section remained unchanged. The Delegation of Mexico requested that the larger size codes be deleted as avocados of this size were normally of the species *Persea gratissima* (see para. 46). However, the Committee did not accept this proposal.

Section 6.2 - Non Retail Containers

50. The Committee agreed to add the sentence "For products transported in bulk, these particulars must appear on a document accompanying the goods" for consistency with other Codex standards.

Status of the Draft Codex Standard for Avocado

51. The Committee agreed to advance the draft Codex Standard for Avocado to the 21st Session of the Codex Alimentarius Commission for adoption at Step 8. The subject standard is attached to this report as Appendix III.

CONSIDERATION OF THE PROPOSED DRAFT CODEX STANDARD FOR ORANGES AT STEP 4 (Agenda Item 7)¹³

52. The Fourth Session of the Committee had proposed the elaboration of a world-wide standard for Oranges based on the appropriate provisions of the UNECE Standard for Citrus Fruit, subject to approval by the Executive Committee and the Commission (ALINORM 93/35A, paras. 118-119). Although the 20th Session of the Commission had not discussed this matter explicitly, the 41st Session of the Executive Committee had endorsed the Commission's detailed Programme of Work in which this item had been included (ALINORM 95/3, para. 27). Government comments

¹³ CX/TFFV 94/7.

at Step 3 were received from Argentina, Costa Rica, Germany, Malaysia, Spain, Thailand and the United States of America.¹⁴

53. The Delegations of France, South Africa, Spain, the United States of America and the representative of the UNECE questioned whether the Committee was competent to consider the development of such a standard in view of its Terms of Reference limiting it to consideration of produce grown exclusively in tropical zones. Other Delegations noted that there were important volumes of production in and trade from tropical areas, and that the Codex definition of "tropical fruits and vegetables" included those cultivated in the tropics and/or in areas with similar natural climatic conditions. The Committee agreed to review the Proposed Draft Standard from a technical point of view and to consider the future development of the standard within the context of the inter-Secretariat discussions on working relations between Codex and the UNECE.

54. In view of the complex and comprehensive nature of the comments made on the Proposed Draft Standard, and the fact that many of the comments had been received very late, the Committee was unable to undertake a complete review of the text. It therefore asked the Mexican and Codex Secretariats to revise the standard in light of all of the comments received. The Committee stressed the following points:

- the revision should be based on the appropriate sections of the UNECE Standard for Citrus Fruit;
- the proposals received in relation to colour depending on variety and seasonality of the fruit should be included in the draft as alternative proposals for consideration by governments;
- if necessary, an appendix would be prepared to indicate the relationship between varieties and seasons (i.e., early and mid-season);
- a provision on juice content as determined by hand press would be included;
- specific comments should be requested from tropical producers on colour requirements;
- the possible inclusion of an additional class ("Class I Bright") as proposed by the United States of America to take into account tropical production should be considered as an alternative to the traditional classification into three classes only;
- all of the sizing provisions proposed in the various comments should be included as alternative proposals for study and further consideration.

Status of the Proposed Draft Codex Standard for Oranges

55. The revised proposed draft standard will be circulated for comments at Step 3 of the Procedure.

¹⁴ CX/TFFV 94/7-Add. 1 and CX/TFFV 94/7-Add. 2 (Conference Room Document)

CONSIDERATION OF THE PROPOSED DRAFT CODEX STANDARD FOR PERSIAN LIMES AT STEP 4 (Agenda Item 8)¹⁵

56. The Fourth Session of the Committee had proposed the elaboration of a worldwide standard for Persian Limes under the direction of Mexico for circulation and government comment at Step 3 (ALINORM 93/35A, para. 119). Written comments on the proposed draft standard had been received from Argentina, Brazil, Germany, Malaysia, Thailand and the United States of America¹⁶.

57. In view of the divergent opinions expressed on various aspects of the Standard, the Committee agreed to form a Drafting Group consisting of Brazil, France, Mexico and the United States of America to revise the proposed draft Standard based on written comments submitted and the following general discussions:

Definition and Name of Produce

58. The Committee noted that a footnote to the standard would be added to indicate that the Standard applied to acid limes (*Citrus latifolia* Tan.) having large fruits which were also called Bearss, Persian and Tahiti depending on the country of production. It was noted that the standard did not apply to green lemons (*Citrus limon* L. Burmf). In this regard, in the French text the term "limes" would be used as well as the commonly-used term "citron vert". It was also noted that the Spanish text should use both terms "Lima" and "Limon Persa" for consistency and correct translation throughout the text.

Colour

59. The Committee discussed the question of colour. It was generally agreed that the main commercial trade in limes was in the green fruit with a high degree of acidity and juice content. For this market, the development of yellow colour indicated a reduction in acidity which was not desirable to consumers. However, the Committee was informed that there was trade in Asian and Middle East countries in yellow coloured limes although the size of this trade was not known.

60. Noting that requirements concerning size, colour (i.e., adequate ripeness and colour variations) and juice content had not been adequately addressed in the standard, the Committee agreed that appropriate provisions would need to be developed.

Status of the Proposed Draft Codex Standard for Limes

61. The Revised Proposed Draft Standard for Limes, as prepared by the Drafting Group, was returned for additional government comments at Step 3. The Committee especially encouraged comments on the colour and juice content provisions. The revised proposed draft Standard for Limes is attached to this report as Appendix IV.

62. The Committee also thanked the Drafting Group for its efforts, while noting that such collaboration and cooperation between interested members of the Committee provided an excellent example for the conduct of future Codex meetings.

¹⁵ CX/TFFV 94/8

¹⁶ CX/TFFV 94/8-Add. 1 and CX/TFFV 94/8-Add. 2 (Conference Room Document)

CONSIDERATION OF THE PROPOSED DRAFT CODEX STANDARD FOR MANGOSTEEN AT STEP 4 (Agenda Item 9)¹⁷

63. The proposed draft Codex Standard for Mangosteen was prepared by Thailand, as decided by the Committee at its previous session (ALINORM 93/35A, para. 119). Government comments at Step 3 were received from Argentina, Costa Rica, Germany, Malaysia, Mexico, Thailand and the United States of America¹⁸.

64. The Committee reviewed the draft standard point by point and in addition to a number of editorial changes, agreed to the following revisions:

Section 2.1 - Minimum Requirements

65. The Committee modified the minimum requirement "whole" to read as "whole, with the calyx and stalk intact". The Committee also decided to add the phrase "have a shape, colour and taste characteristic of the species" after the phrase "fresh in appearance".

66. The Committee agreed to modify the minimum requirement "free from pest damage" to read as "practically free from damage caused by pests" for consistency with other Codex standards. In taking this decision, the Committee also agreed to delete the phrase "except netted superficial scars caused by thrips" (see para. 68).

67. The Committee deleted the minimum requirement "sufficiently developed and display satisfactory ripeness" as this was covered elsewhere. The Committee also decided to revise completely for clarity the last paragraph of this Section concerning the development and condition of the mangosteen.

Section 2.2.2 - Class I

68. In view of the Committee's previous discussions (see para. 66), it was decided to remove "except netted superficial scars caused by thrips" from the second indent of this section.

Section 3 - Provisions Concerning Sizing

69. The table in this section was completely revised based on written comments provided by Malaysia.

Section 8 - Hygiene

70. In response to a suggestion that the terms "product" and "good manufacturing practice" should be changed throughout this section to "produce" and "good packaging and handling practices", respectively, the Committee agreed to forward this proposed amendment to the Codex Committee on Food Hygiene for consideration and application to all Codex standards for fresh produce.

¹⁷ CX/TFFV 94/9.

¹⁸ CX/TFFV 94/9 - Add. 1 and CX/TFFV 94/9 - Add. 2 (Conference Room Document)

Status of the Proposed Draft Codex Standard for Mangosteen

71. The Committee agreed to advance the proposed draft Codex Standard for Mangosteen to the 21st Session of the Codex Alimentarius Commission for adoption at Step 5. The Standard is attached to this report as Appendix V.

CONSIDERATION OF THE PROPOSED DRAFT CODEX STANDARD FOR TROPICAL ASPARAGUS AT STEP 4 (Agenda Item 10)¹⁹

72. The Fourth Session of the Committee had proposed the elaboration of a world-wide standard for Tropical Asparagus, subject to approval by the Executive Committee and the Commission. It had been agreed that the Delegation of Thailand would prepare a draft for government comment and consideration at the present session of the Committee (ALINORM 93/35A, para. 119). Government comments submitted at Step 3 were received from Germany, Malaysia, Mexico and the United States of America.²⁰

73. In introducing the Proposed Draft Standard, the Delegation of Thailand pointed out that there was considerable production of asparagus in tropical countries and significant international trade in this product. The Delegation pointed out that although the product was of the same species as asparagus grown in other climates, tropically-grown asparagus differed in several respects, such as tenderness, taste and lack of marked woodiness. The main difference, however, was in the diameter of the stem. The Delegation stated that although the other properties were covered by the quality provisions of the UNECE Standard, the provisions concerning diameter of stem in the UNECE Standard were inadequate to cover tropically-produced asparagus.

74. There was agreement that common asparagus (*Asparagus officinalis*) was produced in all regions of the world and was traded widely from one region to another. Consumers were used to purchasing asparagus from various parts of the world, and for the most part could not distinguish between asparagus from different regions. On this basis it was stated that a common or joint UNECE/Codex world-wide standard for trade in asparagus was required.

75. Noting that the UNECE had developed a Standard for Asparagus moving in trade between and to UNECE member countries, and in the interest of avoiding overlap and duplication of work, the Committee requested the UNECE to consider the provisions set out in the Proposed Draft Standard, especially those relating to diameter of the stem, with a view to amending the UNECE Standard to take into account tropically-produced asparagus. It was requested that an evaluation of economic and technical aspects of asparagus in the tropics be provided for submission to the UNECE. It asked the UNECE to provide a progress report on this review at the Committee's next session. The question of how a common world-wide standard could be prepared would form part of the UNECE and Codex inter-secretariat discussions on cooperation in this area.

Status of the Proposed Draft Standard for Tropical Asparagus

76. In view of the on-going discussions between the Secretariats on cooperation between Codex and the UNECE, the Committee decided not to advance the current text. It expressed the view that a revised UNECE Standard which took into account the needs of the tropical exporting countries

¹⁹ CX/TFFV 94/10.

²⁰ CX/TFFV 94/10-Add. 1 and CX/TFFV 94/10-Add. 2 (Conference Room Document).

could possibly, in future, be considered either as a Joint Codex/UNECE Standard, or as a Codex world-wide standard with identical quality and sizing provisions.

CONSIDERATION OF THE PROPOSED DRAFT CODEX STANDARD FOR PUMMELO AT STEP 4 (Agenda Item 11)²¹

77. The Fourth Session of the Committee had proposed the elaboration of a worldwide Codex Standard for Pummelo under the direction of Thailand for circulation and government comment at Step 3 (para. 119, ALINORM 93/35A). Comments on the standard (CX/TFFV 94/11) had been received from Germany, Malaysia and the United States of America²².

78. In introducing the standard, the Delegation of Thailand noted that *Citrus grandis* was not covered by the UNECE Standard for Citrus Fruits (FFV-14), which covered the species *Citrus paradisi*. Furthermore, as the Delegation noted that pummelo was primarily a tropical product extensively produced and exported by Asian countries, it was well within the responsibility of the Committee to elaborate a worldwide standard.

79. In general discussions of the Standard, the Committee noted that careful consideration would need to be given to the translation of the common name "pummelo" into French and Spanish. The Delegation of Spain provided a list of scientific and common Spanish names for pummelo. It was also decided that the Standard would be subject to editorial changes previously agreed to by the Committee.

Status of the Proposed Draft Codex Standard for Pummelo

80. In view of the delayed circulation of the Standard immediately prior to the Session, the Committee agreed to return the proposed draft Codex Standard for Pummelo to Step 3 for an additional round of government comments. The subject Standard is attached to this report as Appendix VI.

CONSIDERATION OF THE DRAFT CODE OF PRACTICE FOR THE PACKAGING AND TRANSPORT OF TROPICAL FRESH FRUITS AND VEGETABLES AT STEP 7 (Agenda Item 12)²³

81. The draft Codex Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables was adopted by the 20th Session of the Codex Alimentarius at Step 5 (para. 328, ALINORM 93/40). Government comments submitted at Step 6 in response to CL 1993/30-TFFV were received from Costa Rica, Mexico and Thailand²⁴.

82. In discussing the draft Code of Practice point by point, the Committee agreed to the following changes:

²¹ CX/TFFV 94/11.

²² CX/TFFV 94/11 - Add. 1 and CX/TFFV 94/11 - Add.2 (Conference Room Document)

²³ ALINORM 93/35A, Appendix VI.

²⁴ CX/TFFV 94/12 and CX/TFFV 94/12 - Add. 1 (Conference Room Document).

83. In the section addressing storage facilities at airports to ensure product quality (Section 2.5), the Committee decided to indicate that "temperature controlled" storage was needed, to allow for the use of other than cold storage facilities under certain climatic conditions.

84. The Committee decided to indicate that desirable features in refrigerated trailers under section 2.7.1 be presented as examples only, as opposed to mandatory requirements. This same decision was applied in relation to the cleaning of transportation equipment under the first indent of Section 2.9.1, as well as in Section 3.3 in regard to shipping container styles.

85. In relation to the measurement of produce temperatures by an "electronic probe thermometer" in section 2.13, the Committee decided to change this provision to read "with an appropriate thermometer" in order to allow for alternative instruments used for the measurement of temperature.

86. In regard to the sealing of cartons to prevent inadequate air circulation in produce loads (Section 2.16), the Committee decided to allow for the use of adequately designed packages, as well as taping or gluing, for this purpose. The Committee also agreed to allow for the use of paperboard for the purpose of securing loads as well as for packaging materials used for produce in Sections 2.18 and 3.2, respectively.

87. The Committee agreed to indicate that bananas, strawberries, tomatoes and citrus fruits were examples of produce packed in containers with plastic film liners or bags under Section 3.4.2, and that the shipping container sizes listed in Section 3.6 were provided as examples only. This decision was subsequently applied to the listing of unit loads in Section 3.7.2. The Committee also decided to state that the precooling of produce in shipping containers under conditions of shed packing be in accordance with the "nature of the produce" in the second indent of Section 3.5.

88. In relation to the types of packs stipulated in Section 3.5.1, the Committee deleted the requirement concerning the wrapping of place packs, and indicated that only "authorized or approved" fungicides or other chemicals could be used in film or shrink wraps.

89. In regard to the stipulation of specific standardized container sizes in Section 3.6.1, the Committee decided to indicate that the containers should not overhang the maximum surface area of the pallet and agreed to delete the references to sizes. Section 3.8 was revised to indicate that "wood pallets must be strong enough to allow storage under load" rather than indicating a specific number of racks.

90. Section 4.5 was revised to indicate that precooling was not used in all cases. It was also indicated that, while for most produce harvesting was done in early morning hours, some produce was harvested later in the day for optimal quality. The use of a hypochlorite solution for the sanitation of precooling equipment (Section 4.9) was also listed as an example only.

Status of the Draft Codex Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables

91. The Committee decided to forward the draft Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables to the 21st Session of the Codex Alimentarius Commission for adoption at Step 8. The draft Code is attached to this report as Appendix VII.

CONSIDERATION OF THE DRAFT GLOSSARY OF SCIENTIFIC AND COMMON NAMES FOR FRESH FRUITS AND VEGETABLES AT STEP 7 (Agenda Item 13)²⁵

92. The proposed draft Glossary of Scientific and Common Names for Fresh Fruits and Vegetables was adopted by the 20th Session of the Codex Alimentarius Commission at Step 5, with the understanding that similar names used by the UNECE and translation of English terms into French would be carefully considered (para. 330, ALINORM 93/40). Government comments at Step 6, requested under CL 1993/30-TFFV, were received from Germany and Thailand²⁶.

93. The Committee noted that the development of a detailed glossary of botanical and common names for fresh fruits and vegetables was a very difficult exercise, especially in view of historical expert debate on the details of scientific and common terms. The variety, use and translation of common names based on regional, national and international preferences was also seen as an impediment to developing the Glossary on a global scale.

94. The Committee, while questioning the usefulness of such a document, also noted that the elaboration of the Glossary was more than likely beyond the Committee's terms of reference. In this regard, the nomenclature lists for fruits and vegetables published by the International Organization for Standardization (ISO 1990/1/2 and ISO 1991/1/2, respectively) were highlighted.

Status of the Draft Glossary of Scientific and Common Names for Fresh Fruits and Vegetables

95. In view of the above discussions, the Committee recommended to discontinue the development of the Glossary, especially in view of the importance of focusing its efforts on the development of international Standards and Codes for fresh tropical produce. It was decided to forward this recommendation to the Executive Committee for approval.

CONSIDERATION OF THE PROPOSED DRAFT CODE OF PRACTICE FOR THE CONTROL AND INSPECTION OF TROPICAL FRESH FRUITS AND VEGETABLES AT STEP 4 (Agenda Item 14)²⁷

96. The Proposed Draft Code of Practice had been prepared for consideration by the Fourth Session of the Committee, but a comprehensive review of its provisions had not been possible at that time. The Committee had decided to circulate the text for comments at Step 3 (ALINORM 93/35A, para. 105). Government comments submitted in response to CL 1993/2-TFFV were received from Mexico and Thailand.²⁸

Title of the Code

97. The Committee recognized that the Code was intended for use only in the application of the quality provisions of Codex Standards for tropical fresh fruits and vegetables. In this regard, issues such as phytosanitary controls or controls in relation to pesticide residues were excluded from the Code. It was furthermore agreed that the Code should extend to certification of quality as well as

²⁵ Appendix VIII, ALINORM 93/35

²⁶ CX/TFFV 94/13

²⁷ ALINORM 93/35A, Appendix VII.

²⁸ CX/TFFV 94/14 and CX/TFFV 94/14-Add. 1 (Conference Room Document).

inspection. The Committee agreed to amend the Title to read *Proposed Draft Code of Practice for Quality Inspection and Certification of Fresh Tropical Fruits and Vegetables*. Consequential changes were made throughout the text.

98. It was also noted that since the preparation of the original text of the Proposed Draft Code, the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS) had begun work on General Principles for Food Import and Export Inspection and Certification. The General Principles were at an advanced stage of elaboration in the Codex Procedure. In order to be consistent with the General Principles, the Committee agreed, where appropriate, to include provisions for the auditing, under government control, of inspection and certification systems operated by other parties. Furthermore, the Committee agreed to delete certain provisions of a general nature (Sanctions; Inspection of Means of Transport; Inspection in the Country of Destination or Origin) which were covered by the General Principles or by other internationally agreed general agreements.

SECTION 1 - GENERAL RULES

99. The text was amended to place responsibilities on both the importer and the exporter, as appropriate, to complete and submit an **Inspection Request** (Section 1.5). It was agreed that there should not be a specific time limit in advance of the inspection for submitting the request.

100. In Section 1.6 **Certification and Acknowledgement of Inspection**, it was agreed that the Inspection Service may issue a Certificate of Non-Conformity if neither a control certificate nor an Acknowledgement of Notification is issued.

101. The Committee discussed at length a proposal under Section 1.8 **Laboratory Analysis** to allow the completion of laboratory tests for quality parameters after the shipment of the consignment, but before the consignment was sold in the country of destination. It was stated that this was required for products which would deteriorate while testing was being carried out, especially in those countries whose infrastructure did not permit immediate laboratory analysis. Several Delegations opposed this provision, stating that laboratory analyses for quality provisions were, in general, simple and rapid and that export of the produce without a complete control certificate could lead to significant problems and losses. The Committee agreed to include the proposed text in square brackets and to request specific comments on the proposal.

102. Amendments were made to Section 1.10 **Refusal of Produce** to indicate that produce rejected for failing to meet quality requirements was not necessarily unfit for consumption. However, a special paragraph was included to cover produce which was, indeed, unfit for consumption. The Committee also made extensive amendments to the Section dealing with **Clearance of the Produce** (Section 1.11) to allow greater flexibility in the situation where reconditioning of the produce was allowed.

SECTION 2 - INSPECTION PROCEDURE

103. In the case of inspection procedures in production, preservation and/or distribution centres (Section 2.1), the Committee noted that the provision of advice to importers and/or exporters was not part of the formal inspection process and reference to this was therefore deleted. Recognizing, however, that inspection in these facilities could facilitate the inspection and certification process. In regard to pre-inspection, the Committee acknowledged the reservations of some Delegations as to the relevance of this practice to the formal inspection process, and agreed to include the phrase in square brackets and to seek specific comments.

104. The Committee noted that current management practices did not require the use of sealed means of transport in all cases and amended Section 2.2 **Inspection in Stations of Origin and Transport** accordingly.

Status of the Proposed Draft Code of Practice for the Quality Inspection and Certification of Fresh Fruits and Vegetables

105. In view of time constraints the Committee was unable to review the Annexes to the Proposed Draft Code. It therefore agreed to return the Proposed Draft Code to Step 3 for further comments from governments and interested international organizations. It was noted that the text would also be subject to review by CCFICS. The subject Code is attached to this report as Appendix VIII.

CONSIDERATION OF THE PROPOSED DRAFT GLOSSARY OF TERMS AND DEFINITIONS FOR FRESH FRUITS AND VEGETABLES AT STEP 4 (Agenda Item 15)²⁹

106. At its last session, the Committee decided to return the proposed draft Glossary of Terms and Definitions for Fresh Fruits and Vegetables for additional government comments at Step 3 (para. 111, ALINORM 93/35A). Government comments submitted in response to CL 1993/2-TFFV were received from Mexico and Thailand³⁰.

107. The Committee, while noting the difficulties in developing a glossary of terms and definitions for fresh fruits and vegetables, was informed of the current elaboration of a Glossary by the International Organization for Standardization (ISO/DP 7563).

Status of the Proposed Draft Glossary of Terms and Definitions for Fresh Fruits and Vegetables

108. In view of the development of a similar text by the International Organization for Standardization, and in consideration of the importance of focusing the Committee's efforts on the development of international Standards and Codes for fresh tropical produce, the Committee recommended that the development of the Glossary be discontinued. It was decided to forward this recommendation to the Executive Committee for approval.

PROPOSALS FOR ADDITIONS TO THE PRIORITY LIST OF TROPICAL FRESH FRUITS AND VEGETABLES (Agenda Item 16)³¹

109. No government comments had been received in response to the request (CL 1993/2-TFFV) for proposals for additions to the Priority List. The Committee agreed to add **Chayote**, proposed by Costa Rica at the current session, and **Longan** (see para. 8) to the Priority List.

110. The Delegations of Costa Rica and Mexico proposed the addition of **Melon** and **Tomato**, respectively, to the List in view of extensive international trade from tropical zones in these commodities. Several Delegations expressed strong disagreement with these proposals and with the inclusion of **Strawberries** on the List at the Committee's previous session. These Delegations

²⁹ Appendix VIII, ALINORM 93/35A

³⁰ CX/TFFV 94/15.

³¹ ALINORM 95/35A, Appendix IX.

were of the opinion that consideration of these commodities fell outside the Committee's Terms of Reference, and they noted that these commodities were covered by existing UNECE Standards.

111. The Committee considered that in view of the globalization of trade in agricultural produce, a compromise had to be reached between the need of the tropical exporting countries to be able to participate equitably in the elaboration of standards for traditionally temperate zone produce also produced commercially in tropical zones and the interests of the importing countries. It also noted the ongoing negotiations between the Codex and UNECE Secretariats (see paras. 9-13). The Committee, in the interest of cooperation and harmonization, agreed not to include Melon, Tomato and Strawberry on the revised Priority List. It stated that consideration of these commodities would be taken up in the future in the framework of Codex/UNECE cooperation.

112. The Revised Priority List is attached to the present report as Appendix IX. The Committee accepted the offer of the Delegations of Mexico, assisted by India, to prepare a first draft standard for **Guava**; India to prepare a first draft standard for **Fresh Coconut**; and Costa Rica, assisted by France, to prepare a first draft standard for **Chayote**.

OTHER BUSINESS (Agenda Item 17)

113. The Committee was informed of a possible proposal (see para. 6) to amend the Worldwide Codex Standard for Pineapple³². The Committee noted that such a proposal could be considered under the Codex Procedures for the Elaboration of Codex Standards and Related Texts and that if appropriate, the accelerated procedure could be applied³³.

MEDIUM-TERM OBJECTIVES AND FUTURE PROGRAMME OF WORK (Agenda Item 18)

114. The Committee agreed on its Current Status of Work (Annex 1) for forwarding to the Executive Committee for approval.

DATE AND PLACE OF NEXT SESSION (Agenda Item 19)

115. The Committee was informed that the Sixth Session of the Codex Committee on Tropical Fresh Fruits and Vegetables was tentatively scheduled to be held in about eighteen months time in Mexico City, with the understanding that the final dates would be determined by the Codex and Mexican Secretariats.

³² CODEX STAN. 182-1993

³³ Section C, Codex Alimentarius Procedural Manual, Eighth Edition

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Annex 1

CODEX COMMITTEE ON TROPICAL FRESH FRUITS AND VEGETABLES

CURRENT STATUS OF WORK

SUBJECT	STEP	FOR ACTION BY	DOCUMENT
Litchi	8	21st CAC	Appendix II
Avocado	8	21st CAC	Appendix III
Packaging/Transport of Tropical Fresh Fruit and Vegetables	8	21st CAC	Appendix VII
Banana	6	Governments	Para. 41
Mangosteen	5	21st CAC	Appendix V
Oranges	3	Codex/Mexico Governments	Para. 55
Limes	3	Governments	Appendix IV
Pummelo	3	Governments	Appendix VI
Asparagus	3	UNECE	Para. 76
Quality Inspection and Certification of Fresh Fruit and Vegetables	3	Governments	Appendix VIII
Guava	1	Mexico, India	Para. 112
Chayote	1	Costa Rica, France	Para. 112
Fresh Coconut	1	India	Para. 112
Objective Indices of Maturity	1	Secretariat	Para. 21
Quality Tolerances at Import	1	Secretariat	Para. 28
Scientific and Common Names; Glossary	Discontinued	42nd Executive	Para. 95
Terms and Definitions; Glossary	Discontinued	42nd Executive	Para. 108

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APENDICE I

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**DRAFT CODEX STANDARD FOR LITCHI
(At Step 8)**

1. DEFINITION OF PRODUCE

This standard applies to commercial litchi varieties (cultivars) grown from *Litchi chinensis* Sonn. of the *Sapindaceae* family, to be supplied fresh to the consumer after preparation and packaging. Litchis for industrial processing are excluded.¹

2. PROVISIONS CONCERNING QUALITY

2.1 Minimum Requirements

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

- whole;
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free from visible foreign matter;
- practically free from pests;
- practically free from damage caused by pests;
- free from damage and abrasion;
- practically free from brown markings;
- free from abnormal external moisture, except for condensation following removal from cold storage;
- free of foreign smell and/or taste².

The litchis must have been carefully picked and must be sufficiently developed and mature. The development and condition of the litchis must be such that they can withstand transportation and handling and arrive at their destination in satisfactory condition.

The colouring of litchis may vary from pink to red in the case of untreated litchis; from pale yellow to pink for litchis that have been fumigated with sulphur dioxide.

2.2 Classification

Litchis are classified into three classes:

¹ Governments, when indicating the acceptance of the Codex Standard for Litchi, should notify the Commission which provisions of the Standard would be accepted for application at the point of import, and which provisions would be accepted for application at the point of export.

² This provision allows for smell caused by a conservation agent used in compliance with corresponding regulations.

2.2.1 **Extra Class**

Litchis in this class must be of superior quality. They must have the shape, development and colouring that are typical of the variety or varietal type.

They must be free of defects, with the exception of very slight superficial defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

2.2.2 **Class I**

Litchis in this class must be of good quality and characteristic of the variety or varietal type. However, the following slight defects are admissible provided they do not affect the general appearance of the produce, its quality, the keeping quality or presentation in the package:

- slight misshaping;
- a slight colour defect;
- slight skin defects provided these do not exceed a total area of 0.25 cm².

2.2.3 **Class II**

This class includes litchis which do not qualify for the higher classes but satisfy the minimum requirements listed below.

The following defects are admissible provided the litchis retain their essential characteristics as regards quality, conservation and presentation:

- defects in shape;
- defects in colour;
- skin blemishes on condition that their total area does not exceed 0.5 cm².

3. **PROVISIONS CONCERNING SIZING**

Size is determined by the maximum equatorial diameter.

The minimum size for Extra Class is 33 mm.

The minimum size for Classes I and II is 20 mm.

A maximum size range of 10 mm between fruit in each package is permitted.

4. **PROVISIONS CONCERNING TOLERANCES**

Quality and size tolerances are allowed in each package for produce not satisfying the requirements of the class indicated.

4.1 **Quality Tolerances**

4.1.1 **Extra Class**

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

4.1.2 **Class I**

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

4.1.3 **Class II**

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

4.2 **Size Tolerances**

In all classes: 10% by number or weight of litchis not conforming to the minimum size, provided, however, that the diameter is not less than 15 mm in all classes, and/or the maximum size range of 10 mm.

5. **PROVISIONS CONCERNING PRESENTATION**

5.1 **Uniformity**

The contents of each package must be uniform and only contain litchis of the same origin, variety or varietal type, quality, size and colour.

The visible part of the contents of the package must be representative of the entire contents.

5.2 **Packaging**

Litchis must be packed in such a way as to protect the produce properly.

The material used inside the packages must be new³, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed provided the printing or labelling has been done with non-toxic ink or glue.

Litchis shall be packed in each container in compliance with the Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables. However, the presence of a limited number of fresh leaves is permitted where litchis are presented in bunches.

5.2.1 **Description of Containers**

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the litchi. Packages (or lot if the produce is presented in bulk) must be free of all foreign matter and smell.

³ For the purpose of this standard, this includes recycled material of food-grade quality.

5.3 **Presentation**

The litchis must be presented under one of the following forms:

5.3.1 **Individually**

In this case the pedicel must be cut at the first knot and the maximum length of the stalk must not extend more than 2 mm beyond the top of the fruit.

Extra Class litchis must be presented individually.

5.3.2 **In bunches**

In this case, the bunch must include more than three attached and well-formed litchis. The branch must not exceed 15 cm in length.

6. **MARKING AND LABELLING**

6.1 **Containers destined for the final consumer**

In addition to the requirements of the Codex General Standard for the Labelling of Pre-packaged Foods (CODEX STAN 1-1985), the following specific provisions apply.

6.1.1 **Nature of the produce**

If the produce is not visible, each package must bear a label with the name of the produce and, optionally, that of the variety or varietal type.

6.2 **Non-Retail Containers**

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked and visible from the outside or on accompanying documents.⁴

For products transported in bulk these particulars must appear on a document accompanying the goods.

6.2.1 **Identification**

Exporter, packer and/or dispatcher.

6.2.2 **Nature of the Produce**

Name of produce if the contents are not visible from the outside; name of variety or commercial type (if applicable). "Bunch" specification, when applicable.

⁴ When accepting this Codex Standard, governments should notify the Commission which of these provisions applies.

6.2.3 **Origin of Produce**

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

6.2.4 **Commercial Identification**

- Class;
- Net weight (optional).

6.2.5 **Official Inspection Mark (optional)**

7. **CONTAMINANTS**

7.1 **Heavy Metals**

Litchi shall be free from heavy metals in amounts which may represent a hazard to human health.

7.2 **Pesticide Residues**

Litchi shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this Commodity.

8. **HYGIENE**

8.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

8.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

8.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

**DRAFT CODEX STANDARD FOR AVOCADO
(At Step 8)**

1. DEFINITION OF PRODUCE

This standard applies to avocado of varieties (cultivars) grown from *Persea americana* Mill. of the *Lauraceae* family, to be supplied fresh to the consumer, parthenocarpic fruit and avocado for industrial processing being excluded.¹

2. PROVISIONS CONCERNING QUALITY

2.1 Minimum requirements

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

- whole;
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter;
- practically free from pests;
- practically free from damage caused by pests;
- free of damage caused by low temperature;
- having a stalk not more than 10 mm in length which must be cut off cleanly. However, its absence is not considered a defect providing that the place of the stalk attachment is dry and whole;
- free of abnormal external moisture, except for condensation following removal from cold storage;
- free of any foreign smell and/or taste.

Avocado must be carefully picked. Their development should have reached a physiological stage which will ensure a continuation of the maturation process to completion. The mature fruit should be free from bitterness.

The development and condition of the avocado must be such as to enable them to withstand transport and handling, and to arrive in satisfactory condition at the place of destination.

2.2 Classification

Avocado are classified into three classes defined below:

¹ Governments, when indicating the acceptance of the Codex standard for avocado, should notify the Commission which provisions of the standard would be accepted for application at the point of import, and which provisions would be accepted for application at the point of export.

2.2.1 "Extra" Class

Avocado in this class must be of superior quality. In shape and colouring they must be characteristic of the variety.

They must be free from defects, with the exception of very slight superficial defects of the skin provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package. If present, the stalk must be intact.

2.2.2 Class I

Avocado in this class must be of good quality and show the typical colour and shape of the variety. The following slight defects, however, may be allowed provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

- slight defects of shape and colour;
- slight skin defects (corkiness, healed lenticels) and sunburn; the maximum total area should not exceed 4 cm².

In no case may the defects affect the fruit flesh.

The stalk, if present, may be slightly damaged.

2.2.3 Class II

This class includes avocado which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above.

The following defects may be allowed provided that the avocado retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape and colouring;
- skin defects (corkiness, healed lenticels) and sunburn; maximum total area should not exceed 6 cm².

In no case may the defects affect the fruit flesh.

The stalk, if present, may be damaged.

3. PROVISIONS CONCERNING SIZING

Size is determined by the weight of the fruit; the size scale is as follows²:

² Nevertheless, no account should be taken for a given fruit of a deviation of more or less than 2 per cent with regard to the code number indicated.

Weight scale (grammes)	Code size
> 1220	2
781 to 1 220	4
576 to 780	6
461 to 575	8
366 to 460	10
306 to 365	12
266 to 305	14
236 to 265	16
211 to 235	18
191 to 210	20
171 to 190	22
156 to 170	24
146 to 155	26
136 to 145	28
125 to 135	30

The minimum weight of avocado must not be less than 125 g.

4. PROVISIONS CONCERNING TOLERANCES

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

4.1 Quality tolerances

4.1.1 "Extra" Class

5 per cent by number or weight of avocado not satisfying the requirements of the class but meeting those of Class I or, exceptionally, coming within the tolerances of that class.

4.1.2 Class I

10 per cent by number or weight of avocado not satisfying the requirements of the class but meeting those of Class II or, exceptionally, coming within the tolerances of that class.

4.1.3 Class II

10 per cent by number or weight of avocado not meeting the requirements of the class nor the minimum requirements, with the exception of fruit affected by rotting, marked bruising or any other deterioration rendering it unfit for consumption.

4.2 Size tolerances

For all classes: 10 per cent, by number or weight of avocado corresponding to the size immediately above or below those indicated in Section 3.

5. PROVISIONS CONCERNING PRESENTATION

5.1 Uniformity

The contents of each package must be uniform and contain only avocado of the same origin, variety, quality and size. The visible part of the contents of the package must be representative of the entire contents.

5.2 Packaging

Avocado must be packed in such a way so as to protect the produce properly.

The materials used inside the package must be new³, clean and of a quality such as to avoid causing any external or internal damage to the fruit. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed provided that the printing or labelling has been done with a non-toxic ink or glue.

Avocado shall be packed in each container in compliance with the Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables.

5.2.1 Description of Containers

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

6. MARKING OR LABELLING

6.1 Containers destined for the final consumer

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

6.1.1 Nature of the Produce

If the product is not visible, each package shall be labelled as to the name of the food and may be labelled as to the name of the variety.

6.2 Non Retail Containers

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked and visible from the outside, or in the documents accompanying the shipment.⁴

³ For the purpose of this standard, this includes recycled material of food-grade quality.

⁴ Governments, when indicating their acceptance of this Codex Standard, should notify the Commission as to which provisions of this section apply.

For products transported in bulk these particulars must appear on a document accompanying the goods.

6.2.1 Identification

Exporter, Packer and/or dispatcher.

6.2.2 Nature of the produce

Name of produce if the contents are not visible from the outside. Name of variety or commercial type (if applicable).

6.2.3 Origin of produce

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

6.2.4 Commercial Identification

- Class;
- Size expressed in minimum and maximum weight;
- Code number of the size scale and number of fruits when it is different from reference number;
- Net weight (optional).

6.2.5 Official Inspection Mark (optional)

7. CONTAMINANTS

7.1 Heavy Metals

Avocado shall be free from heavy metals in amounts which may represent a hazard to human health.

7.2 Pesticide Residues

Avocado shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

8. HYGIENE

8.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

8.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

8.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

PROPOSED DRAFT CODEX STANDARD FOR LIMES
(At Step 3 of the Procedure)

1. DEFINITION OF PRODUCE

This standard applies to commercial varieties of limes grown from *Citrus latifolia* Tan.¹ of the *Rutaceae* family, to be supplied fresh to the consumer. After preparation and packaging. Limes for industrial processing are excluded².

2. QUALITY PROVISIONS

2.1 Minimum requirements

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

- intact;
- firm;
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter;
- practically free of bruising;
- practically free of damage caused by pests;
- free of damage caused by low temperature;
- free of abnormal external moisture, excluding condensation following withdrawal from cold storage;
- free of any foreign smell and/or taste;

2.1.1 The limes must have been carefully picked, allowing for the specific criteria of the variety and area in which they are grown, the development and state of ripeness must be such as to enable them:

- to withstand transport and handling, and
- to arrive in satisfactory condition at the place of destination.

2.1.2 Minimum juice content and colouring

The minimum content is calculated in relation to the total weight of the fruit; the extraction being done by a manual press.

¹ It is an acid lime having large fruits called also, depending upon the country, Bearss, Persian, Tahiti.

² Governments, when indicating the acceptance of the Codex Standard for Limes, should notify the Commission which provisions of the Standard would be accepted for application at the point of import, and which provisions would be accepted for application at the point of export.

Minimum juice content: 42%

Colouring: must be normal for the varietal type and production area.

2.2 **Classification**

Limes are classified in the three classes as defined below:

2.2.1 **"Extra" Class**

Limes in this class must be of a superior quality. They must be characteristic of the variety.

They must be free from defects, with the exception of very slight superficial defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

2.2.2 **Class I**

Limes in this class must be of good quality. They must be characteristic of the variety.

Limes in this class can have the following slight defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight defects in shape;
- slight defects in colour should not exceed a total of 1/4 of the fruit surface;
- slight skin defects not to exceed more than 1 cm².

The defects must not affect the pulp of the fruit.

2.2.3 **Class II**

This class includes limes which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements in Section 2.1 above.

The following defects may be allowed, provided that the limes retains their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape;
- defects in colour should not exceed a total of 1/2 of the fruit surface.
- skin defects not to exceed more than 2 cm².

The defects must not affect the pulp of the fruit.

3. **PROVISIONS CONCERNING SIZING**

Size is determined by the maximum diameter of the equatorial section.

Size	Diameter (mm)
1	58 - 67
2	53 - 62
3	48 - 57
4	46 - 52

4. **PROVISIONS CONCERNING TOLERANCES**

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

4.1 **Quality Tolerances**

4.1.1 **Extra Class**

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

4.1.2 **Class I**

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

4.1.3 **Class II**

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

4.2 **Size tolerances**

For all classes, ten percent by number or weight of limes corresponding to the size immediately below or above those indicated in Section 3.

5. **PROVISIONS CONCERNING PRESENTATION**

5.1 **Uniformity**

The contents of each package (or lot for produce presented in bulk) must be uniform and contain only limes of the same origin, variety, quality and size. The visible part of the contents of the package (or lot for produce presented in bulk) must be representative of the entire contents.

5.2 **Packaging**

Limes must be packed in such a way as to protect the produce properly.

The material used inside the packages must be new³, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed providing the printing or labelling has been done with non-toxic ink or glue.

Limes shall be packed in each container in compliance with the Code of Practice for Packaging and Transport of Tropical Fresh Fruit and Vegetables.

5.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the limes. Packages (or lot if the produce is presented in bulk) must be free of all foreign matter and smell.

6. MARKING AND LABELLING

6.1 Containers Destined for the Final Consumer

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Codex Alimentarius Volume 1 - General Requirements), the following specific provisions should apply.

6.1.1 Nature of the Produce

If the product is not visible, each package shall be labelled as to the name of the food and may be labelled as to the name of the variety.

6.2 Non-Retail Containers

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked and visible from the outside, or in the documents accompanying the shipment.⁴

For products transported in bulk, these particulars must appear on a document accompanying the goods.

6.2.1 Identification

Exporter, packer and/or dispatcher.

6.2.2 Nature of the produce

Name of the produce if the contents are not visible from the outside. Name of variety or commercial type (if applicable).

³ For the purpose of this standard, this includes recycled material of food-grade quality.

⁴ Governments, when indicating their acceptance of this Codex standard, should notify the Commission as to which provisions of this section apply.

6.2.3 **Product origin**

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

6.2.4 **Commercial Identification**

- class;
- net weight (optional).
- size (code size)

6.2.5 **Official Inspection Mark (optional).**

7. **CONTAMINANTS**

7.1 **Heavy Metals**

Limes must be free of heavy metals in amounts which may represent a hazard to human health.

7.2 **Pesticide Residues**

Limes shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

8. **HYGIENE**

8.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

8.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

8.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amount which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health;
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

PROPOSED DRAFT CODEX STANDARD FOR MANGOSTEEN
(At Step 5 of the Procedure)

1. DEFINITION OF PRODUCE

This standard applies to commercial varieties of mangosteen grown from *Garcinia mangostana* L. of the *Guttiferae* family to be supplied fresh to the consumer, after preparation and packaging. Mangosteen for industrial processing is excluded.¹

2. PROVISIONS CONCERNING QUALITY

2.1 Minimum Requirements

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

- whole, with the calyx and stalk intact;
- fresh in appearance, have a shape, colour and taste characteristic of the species;
- healthy and free from decay or deterioration such as to make it unfit for consumption;
- clean and practically free from latex and visible foreign matter;
- practically free from pests;
- practically free from damage caused by pests;
- free from abnormal external moisture, excluding condensation following withdrawal from cold storage;
- free from any foreign smell and/or taste;
- free from pronounced blemishes.

The development and condition of the mangosteen must be such as to enable them to ensure a continuation of the ripening process until they reach the appropriate degree of ripeness; to withstand transport and handling; and to arrive in a satisfactory condition at the place of destination.

2.2 Classification

Mangosteen, is classified in the two classes defined below:

¹ Governments, when indicating the acceptance of the Codex Standard for Mangosteen, should notify the Commission which provisions of the Standard would be accepted for application at the point of import, and which provisions would be accepted for application at the point of export.

2.2.1 "Extra Class"

Mangosteen in this class must be of superior quality. They must be characteristic of the variety and/or commercial type.

They must be free from defects, with the exception of very slight superficial defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

2.2.2 Class I

Mangosteen in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

Mangosteen in this class can have the following slight defects, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- slight defects in shape;
- slight defects on the peel and calyx such as bruising, scratches or other mechanical damage. The total area affected shall not exceed ten percent.

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

3. PROVISIONS CONCERNING SIZING

Size is determined by weight of the fruit in grammes, in accordance with the following table:

Reference Letter	Weight in Grammes
A	30 - 50
B	51 - 75
C	76 - 100
D	> 100

4. PROVISIONS CONCERNING TOLERANCES

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

4.1 Quality Tolerances

4.1.1 "Extra" Class

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

4.1.2 **Class I**

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

4.2 **Size Tolerances**

For all classes, ten percent by number or weight of mangosteens corresponding to the size immediately below or above those indicated in Section 3.

5. **PROVISIONS CONCERNING PRESENTATION**

5.1 **Uniformity**

The contents of each package (or lot for produce presented in bulk) must be uniform and contain only mangosteen of the same origin, quality and size. The visible part of the contents of the package (or lot for produce presented in bulk) must be representative of the entire contents.

5.2 **Packaging**

Mangosteen must be packed in such a way as to protect the produce properly.

The material used inside the packages must be new², clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed providing the printing or labelling has been done with non-toxic ink or glue.

Mangosteen shall be packed in each container in compliance with the Code of Practice for Packaging and Transport of Tropical Fresh Fruit and Vegetables.

5.2.1 **Description of Containers**

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the mangosteen. Packages (or lot if the produce is presented in bulk) must be free of all foreign matter and smell.

6. **MARKING OR LABELLING**

6.1 **Containers destined for the Final Consumer**

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

² For the purpose of this standard, this includes recycled material of food-grade quality.

6.1.1 **Nature of the Produce**

If the produce is not visible to the consumer, each package shall be labelled as to the name of the fruit and may be labelled as to the name of the variety.

6.2 **Non-Retail Containers**

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked and visible from the outside, or in the documents accompanying the shipment.³

For products transported in bulk, these particulars must appear on a document accompanying the goods.

6.2.1 **Identification**

Exporter, packer and/or dispatcher.

6.2.2 **Nature of produce**

Name of produce if the contents are not visible from the outside. Name of variety or commercial type (if applicable).

6.2.3 **Origin of produce**

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

6.2.4 **Commercial Description**

- Class;
- Size (Reference letter or weight range);
- Net weight (optional)

6.2.5 **Official Inspection Mark (optional)**

7. **CONTAMINANTS**

7.1 **Heavy Metals**

Mangosteen shall be free from heavy metals in amounts which may represent a hazard to human health.

7.2 **Pesticide Residues**

Mangosteen shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

³

Governments, when indicating their acceptance of this Codex standard, should notify the Commission as to which provisions of this section apply.

8. **HYGIENE**

8.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

8.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

8.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amount which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health;
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

PROPOSED DRAFT CODEX STANDARD FOR PUMMELO
(At Step 3)

1. DEFINITION OF PRODUCE

This standard applies to pummelo grown from *Citrus grandis* (L.) Osbeck (syn. *C. maxima* Merr.) of the *Rutaceae* family to be supplied fresh to consumers, after preparation and packaging. Pummelos for industrial processing are excluded.¹

2. PROVISIONS CONCERNING QUALITY

2.1 Minimum Requirements

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

- whole;
- healthy and free from decay or deterioration such as to make it unfit for consumption;
- clean and practically free from abnormal external moisture, excluding condensation following withdrawal from cold storage;
- practically free from pests;
- practically free from damage caused by pests;
- free from any foreign smell and/or taste;
- free from pronounced blemishes;
- free from damage caused by low temperature;
- a shape, flavour and odour characteristic of the variety.

2.1.1 The development and condition of the pummelo must be such as to enable them to withstand transport and handling and to arrive in satisfactory condition at the place of destination.

2.2 Classification

Pummelos are classified into three classes as defined below:

2.2.1 "Extra Class"

Pummelos in this class must be of superior quality. They must be characteristic of the variety and/or commercial type. They must be free from defects with the exception of very slight superficial defects, provided that these do not affect the general appearance of the product, the quality, the keeping quality and presentation in the package.

¹ Governments, when indicating the acceptance of the Codex Standard for pummelos should notify the Commission which provisions of the Standard would be accepted for application at the point of import, and which provisions would be accepted for application at the point of export.

2.2.2 Class I

Pummelos in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

The following slight defects, however, may be allowed, provided that these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

- slight defects in shape;
- slight defects on the skin.

The total area affected shall not exceed ten percent. The defects must not, in any case, affect the pulp of the fruit.

2.2.3 Class II

This class includes pummelos which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified in Section 2.1 above.

The following defects may be allowed provided that the pummelo retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape;
- defects on skin.

3. PROVISIONS CONCERNING SIZING

Size is determined by the weight of the fruit. Pummelos are sized in accordance with the following table:

Reference Letter	Weight (gm)
A	< 700
B	700 - < 900
C	900 - < 1100
D	1100 - < 1300
E	1300 - < 1500
F	1500 - < 1700
G	≥ 1700

4. PROVISIONS CONCERNING TOLERANCES

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

4.1. Quality Tolerances

4.1.1 Extra Class

Five percent by number or weight of pummelos not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerance of the class.

4.1.2 Class I

Ten percent by number or weight of pummelos not satisfying the requirements of the class, but conforming to those of Class II, or exceptionally, coming within the tolerances of the class.

4.1.3 Class II

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

4.2 Size Tolerances

For all classes, ten percent by number or weight of pummelos corresponding to the size immediately above or below those indicated in Section 3.

5. PROVISIONS CONCERNING PRESENTATION

5.1 Uniformity

The contents of each package must be uniform and contain only pummelo of the same variety, origin, quality, colour and size. The visible part of the contents of the package must be representative of the entire contents.

5.2 Packaging

Pummelos shall be packed in each container in compliance with the Code of Practice for the Packaging and Transport of Tropical Fresh Fruits and Vegetables.

6. MARKING OR LABELLING

6.1 Containers Destined for the Final Consumer

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985; Codex Alimentarius Volume 1 - General Requirements), the following specific provisions should apply:

6.1.1 Nature of the Produce

If the produce is not visible to the consumer, the contents of each package (or lot presented in bulk) should be labelled as to the name of the produce and optionally that of the variety.

6.2 **Non-Retail Containers**

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked and visible from the outside or on accompanying documents.²

For produce transported in bulk, these particulars must appear on a document accompanying the goods.

6.2.1 **Identification**

Exporter, packer and/or dispatcher.

6.2.2 **Nature of Produce**

Name of produce if the contents are not visible from the outside; name of variety or commercial type (if applicable).

6.2.3 **Origin of Produce**

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

6.2.4 **Commercial Description**

- class;
- size;
- net weight (optional).

6.2.5 **Official Inspection Mark (optional).**

7. **CONTAMINANTS**

7.1 **Pesticide Residues**

Pummelos shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

8. **HYGIENE**

8.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this produce.

8.2 To the extent possible in good manufacturing practice, the produce shall be free from objectionable matter.

² Governments, when indicating their acceptance of this Codex standard, should notify the Commission as to which provisions of this Section apply.

8.3 When tested by appropriate methods of sampling and examination, the produce:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

**DRAFT CODE OF PRACTICE FOR THE PACKAGING AND TRANSPORT OF
TROPICAL FRESH FRUIT AND VEGETABLES
(At Step 8 of the Procedure)**

SECTION I

Scope

1.1 This code recommends proper packaging and transport of tropical fresh fruit and vegetables in order to maintain produce quality during transportation and marketing.

SECTION II

Design, Condition and Loading Method of Transport Equipment

2.1 Mode of transportation and type of equipment

2.1.1 *Factors include:*

- destination;
- value of the produce;
- degree of produce perishability;
- amount of produce to be transported;
- recommended storage temperature and relative humidity;
- outside temperature conditions at origin and destination points;
- time in transit to reach destination by air, land, or ocean transport;
- freight rates negotiated with the carriers;
- quality of transportation service.

2.2 *Reliability and quality of transportation service provided by different carriers must be carefully considered along with the rates charged.* Services and schedules are established or modified weekly. Sometimes service is abruptly withdrawn. Shippers should contact air and ocean port authorities at their origin and destination locations to receive the most current information on available services. Local trade publications also are excellent sources of information, as many carriers and their agents advertise their schedules and destinations.

2.3 *When available refrigerated trailers and van containers are recommended for most high volume produce with transit and storage lives of a week or more.* After transit, there must be enough remaining produce life for marketing. Carriers utilizing trailers and containers can offer a door-to-door service. This reduces handling, exposure, damage, and theft of the produce.

2.4 *Air cargo containers also can be used to provide a door-to-door service.* Produce transported by air is generally high-value and highly perishable. Freight costs are higher by air. Transit times, however, are in terms of hours instead of days.

2.5 *Many produce is shipped in unrefrigerated air containers or on air cargo pallets.* This requires close coordination at the origin and destination airports to protect the produce when

flights are delayed. Temperature-controlled storage facilities at airports are needed to ensure produce quality. Refrigerated air containers are available and should be used when possible. Use of insulated thermal blankets is an option.

2.6 *Produce which can be shipped in refrigerated trailers and van containers are sometimes shipped by air to take advantage of brief market opportunities, such as the beginning of a season when prices are high and supply is limited.* A robust and accurate system for monitoring or displaying temperature and relative humidity during transport in integral containers needs to be considered.

2.7 *Long distance transportation through tropical and frigid climates requires rugged well-designed equipment to withstand the transit environment and protect the produce.* Desirable features in refrigerated trailers up to 14.6 m (48 ft) long and van containers up to 12 m (40 ft) long include for example:

2.7.1 42,000 kJ/h (40,000 BTU/h) refrigeration capacity at 38°C (100°F) ambient, 2°C (36°F) return air temperature.

a continuously operating high capacity evaporator blower for more even produce temperatures and higher relative humidities;

a solid return air bulkhead at the front of the trailer to ensure air circulation throughout the load;

vertical ribs on the rear door to assist in air circulation;

adequate insulation and provisions for heating, when used in regions where weather conditions so demand due to the nature of the produce;

deep floor grooves or channels, from 50 to 75 mm (2 to 3 in) in depth to provide an adequate cross-sectional area for air circulation under loads placed directly on the floor;

supply-air temperature sensing of the operation of the refrigeration unit to reduce produce chilling and freezing injury;

provisions for ventilation to prevent ethylene or carbon dioxide buildup;

air-ride suspension to reduce the amount of shock and vibration transferred to the shipping containers and the produce inside.

modern containers in which cold air leaves the front part of the container, but the air flow circulates from below (close to the floor) toward the back, then rising to the upper part of the container.

2.8 *Most carriers check their transport equipment before presenting it to the shipper for loading.* The condition of the equipment is critical to maintaining the quality of the produce. Therefore, the shipper also should check the equipment to ensure it is in good working order and meets the needs of the produce. Carriers provide guidance on checking and operating the refrigeration systems.

2.9 All transportation equipment should be checked for:

- 2.9.1 - cleanliness--the load compartment should be regularly cleaned for example by steam cleaning;
- damage to walls, floors, doors, ceilings should be in good condition;
- temperature control--refrigerated units should be recently calibrated and supply continuous air circulation for uniform produce temperatures.

2.10 Shippers should insist on clean equipment. A load of produce can be ruined by:

- 2.10.1 - smell from previous deliveries or incompatible loads;
- toxic chemical residues;
- insects nesting in the equipment;
- decaying remains of agricultural produce;
- debris blocking drain openings or air circulation channels along the floor.

2.11 Shippers should insist on well maintained equipment and check for the following:

- 2.11.1 - damage to walls, ceilings, or floors which can let in the outside heat, cold, moisture, dirt, and insects;
- operation and condition of doors, ventilation openings, and seals;
- provisions for load locking and bracing.

2.12 For refrigerated trailers and van containers, the following additional checks are important:

- 2.12.1 - with the doors closed, have someone inside the cargo area check for light--door gaskets must seal. A smoke generator also can be used to detect leaks;
- the refrigeration unit should cycle from high to low speed when the desired temperature is reached and then back to high speed;
- determine the location of the sensing element which controls the discharge air temperature. If it measures return air temperature, the thermostat may have to be set- higher to avoid chilling injury or freezing injury of the produce;
- a solid return air bulkhead should be installed at the front of the trailer;
- a heating device should be available for transportation in areas with extreme cold weather;
- equipment with a top air delivery system should have a fabric air chute or metal ceiling duct in good condition.

2.13 *Produce requiring refrigeration should be thoroughly precooled, if necessary, prior to loading into transportation equipment.* Produce temperatures should be taken with an appropriate thermometer and recorded on the bill of lading for future reference. The load

compartment in the equipment also should be precooled to the recommended transport or storage temperature for the produce. It is advisable that the loading area should be enclosed and if available, the loading dock doorway area should be equipped with doorway air seals.

2.14 ***Proper loading practices are critical to maintaining temperature and relative humidity, protecting the produce from impact and vibration forces in transit, and preventing insects from entering the load.*** Special care must be taken when shipping mixed loads. The produce must be compatible.

2.15 Basic loading methods include:

- 2.15.1
- bulk loading, by machine or hand, of unpackaged commodities;
 - hand loading individual shipping containers, with or without pallets;
 - unit loading of palletized or slipsheet loads of containers with pallet jacks or forklifts.

2.16 ***Inadequate provisions for air circulation will ruin a load, even in well designed transportation equipment.*** When possible, shipping containers should be kept off shallow floors and away from flat sidewalls by using pallets, racks, and dunnage. Adequate head space between the upper row of cartons and the top of the container should be allowed; this may be done by taping or gluing the upper row of cartons or by using appropriately designed packages for this purpose. Room for air circulation must be provided under, around and through the load to protect the produce from:

- heat gain from the outside air during hot weather;
- heat generated by the produce through respiration;
- accumulation of ethylene from ripening of the produce;
- heat loss to the outside air during extreme cold weather;
- chilling injury or freezing injury during operation of the refrigeration unit.

2.17 ***Shippers using refrigerated transport equipment should follow the carrier's recommendations on loading of the equipment's load compartment to avoid chilling injury or freezing injury to the produce.*** Discharge air may be colder than the set-point temperature if the refrigeration system operates on return air temperature sensing.

2.18 Loads should be secured with one or more of the following materials to prevent the effects of vibrations and impact damage in transport and handling:

- aluminum or wood load locks;
- paperboard or fibreboard honeycomb fillers;
- wood blocking and nailing strips;
- inflatable kraft paper air bags;
- cargo nets and straps;
- wood load gates constructed of 25 mm x 100 mm (1 x 4 in) material.

2.19 ***If available all loads should have a small air temperature recorder placed between packages in the area where the warmest temperatures occur.*** Recorder companies recommend placement on top of the load, near a side wall, one-third of the way in from the rear doors, away from any direct discharge of refrigerated air. Rail cars should have two or three recorders. In

loads with top-ice or humidity above 95 percent, the recorders should be waterproof or enclosed in a plastic bag.

2.19.1 Shippers and receivers must follow the temperature recorder companies instructions on documenting the load, starting the recorder, reading the results, and returning it for calibration and certification if necessary. These steps are essential for settling claims over temperature management during transportation.

2.20 *Similar sized shipping containers should be loaded together in mixed loads for increased stability.* Heavier shipping containers of produce should be loaded first, distributed evenly across the floor of the trailer or container. Lighter shipping containers can then be placed against or on top of the heavier produce. Load lock and secure stacks of different sized shipping containers. To facilitate inspection of mixed loads at ports of entry, a representative sample of each commodity should be available near the door. This can minimize the unloading of cargo for examination.

2.21 *Never load fruit, vegetables, or other food products with cargoes that provide any risk of contamination through transfer of odour or toxic chemical residues.* The longer the transit time, the higher the risks in transporting mixed loads of agricultural produce. Therefore it is essential that guidelines be followed as much as possible to maintain quality in distant markets.

2.22 *Modified atmospheres of reduced oxygen and elevated carbon dioxide and nitrogen are provided to trailers and containers after loading is completed.* The trailers and containers must be equipped with channels at the doorway for a plastic film curtain and gas ports for the application of the treatment.

2.23 *The refrigeration unit, walls, ceiling, floor, and doors must adequately seal the inside of the cargo area from outside air.* Otherwise the modified atmosphere will quickly dissipate. Warning labels must be applied to the equipment to warn that the atmosphere is not life supporting and that the cargo area must be properly ventilated before personnel enter to unload the cargo.

SECTION III

Packaging to Maintain Produce Quality During Transportation and Marketing

3.1 Packaging must withstand:

- rough handling during loading and unloading;
- compression from the overhead weight of other containers;
- impact and vibration during transportation;
- high humidity during precooling, transit, and storage.

3.2 *Packaging materials are chosen on the basis of needs of the produce, packing method, precooling method, strength, cost, availability, buyer specifications, and freight rates.* Importers, buyers, and packaging manufacturers provide valuable recommendations. Materials used include:

- paperboard or fibreboard bins, boxes (glued, stapled, interlocking), lugs, trays, flats, dividers or partitions, and slipsheets;
- wood bins, crates (wirebound, nailed), baskets, trays, lugs, pallets;

- paper bags, sleeves, wraps, liners, pads, excelsior, and labels;
- plastic bins, boxes, trays, bags (mesh, solid), containers, sleeves, film wraps, liners, dividers, and slipsheets;
- foam boxes, trays, lugs, sleeves, liners, dividers, and pads.

3.3 ***Bins, boxes, crates, trays, lugs, baskets, and bags are considered shipping containers.*** Baskets, however, are difficult to handle in mixed loads of rectangular boxes. Bags provide limited produce protection. The fibreboard type box is a widely used container. Styles include for example:

- one-piece slotted box with glued, stapled, or self-locking flaps;
- two-piece half slotted box with a cover;
- two-piece half slotted box with a full telescoping cover, providing strong walls and corners;
- three-piece Bliss-style box featuring stapled or glued ends providing strong corners;
- one-piece box with full telescoping cover;
- two-piece, die-cut style box with full telescoping cover;
- one-piece box with wire or fibreboard tabs or hardboard end inserts and plastic end caps, providing stacking strength and alignment.

3.3.1 ***Fibreboard boxes for produce which are packed wet or with ice must be wax-impregnated or coated with water resistant material.*** The compression strength of untreated fibreboard can be reduced more than one half in conditions of 90 percent relative humidity. In addition to maintaining box strength, wax helps to reduce the loss of moisture from the produce to the fibreboard. All glued boxes should be made with a water resistant adhesive.

3.3.2 The majority of fibreboard boxes and wood crates are designed to be stacked top to bottom. Compression strength and produce protection are sacrificed when boxes or crates are stacked on their ends or sides. Misaligned boxes can lose up to 50 percent of their top to bottom compression strength.

3.4 ***Various materials are added to shipping containers to provide additional strength and produce protection.*** Dividers or partitions and double or triple thickness sides and ends in fibreboard boxes provide additional compression strength and reduce produce damage.

3.4.1 Pads, wraps, and sleeves and excelsior also reduce bruising. Pads also are used to provide moisture as with asparagus; provide chemical treatment to reduce decay as with sulphur dioxide pads for grapes; and absorb ethylene as with potassium permanganate pads in boxes of bananas and flowers.

3.4.2 Plastic film liners or bags are used to retain moisture. Perforated plastic is used for most produce to allow exchange of gases and avoid excessive humidity. Solid plastic is used to seal

the produce and provide for modified atmosphere by reducing the amount of oxygen available for respiration and ripening. For example, this is done for bananas, strawberries, tomatoes and citrus fruits.

3.5 Packing methods include:

- field packing - produce is placed in fibreboard boxes, plastic crates or wood crates during harvesting. Some produce is wrapped. The filled containers are then taken to a precooling facility to have the field heat removed where possible;
- shed packing - produce is processed or packed indoors or under cover at a central location. The produce is brought from the field to the packing shed in bulk in field crates, bins, or trucks. If available, the produce should be pre-cooled either before or after they are placed in shipping containers according to the nature of the produce;
- repacking - produce is taken out of one container, regraded, and placed in another. This is often done to make smaller containers for the retailer or consumer packages.

3.5.1 Types of packs include:

- volume fill - produce is placed by hand or machine into the container until the desired capacity, weight, or count is reached;
- tray or cell pack - produce is placed in moulded trays or cells which provide separation and reduced bruising;
- place pack - produce is carefully placed in the container. This provides reduced bruising and a pleasing appearance;
- consumer pack or prepack - relatively small amounts of produce are packaged, weighted, and labelled for retail sale;
- film or shrink wrap - each fruit or vegetable is individually wrapped and sealed in film to reduce moisture loss and decay. The film may be treated with authorized or approved fungicides or other chemicals;
- modified atmosphere - individual consumer packs, shipping containers, or pallet loads of containers are sealed with plastic film or bags. The oxygen level is reduced and the carbon dioxide level is increased. This reduces produce respiration and slows the ripening process.

3.6 ***Shipping containers must be sized and filled correctly.*** Containers which are very wide and weigh more than 23 kg (50 lb), for example, encourage rougher handling, produce damage, and container failure. Overfilling causes produce bruising and excessive bulging of the sides of the container, which leads to decreased compression strength and container failure. Under-filling also causes produce damage. The produce is bruised as it moves around inside the shipping container during transport and handling.

3.6.1 Due to large number of different container sizes in use, box standards are desirable.

Standardized containers:

- utilize, with other containers, the maximum surface of the pallet with no overhang and little underhang;
- provide unit loads and stable mixed pallet loads;
- reduce transportation and marketing costs.

3.7 *A large number of shippers have switched from handling individual shipping containers to unit loads on pallets.* Most distribution centres are set up to store palletized loads in three tier racks.

3.7.1 Unit loads provide for:

- reduced handling of individual shipping containers;
- less damage to the containers and the produce inside;
- faster loading and unloading of transportation equipment;
- more efficient distribution centre operations.

3.7.2 Unit loads may include, for example, some of the following features:

- standard wood pallets or slipsheets such as; 1200 x 1000 mm (48 x 40in), 800 x 1000 mm, 800 x 1200 mm, 1000 x 1200 mm;
- fibreboard, plastic or wire vertical interlocking tabs between boxes;
- boxes with holes for air circulation, which align when the boxes are stacked squarely on top of one another, corner to corner;
- glue between boxes to resist horizontal slipping;
- plastic netting around the pallet load of boxes;
- fibreboard, plastic, or metal cornerboards;
- plastic or metal strapping around the cornerboards and boxes.

3.8 *Wood pallets must be strong enough to allow storage under load.* Provisions for forklift and pallet jack handling are necessary. The design of the bottom of the pallet should not block air circulation.

3.8.1 Pallets must have an adequate number of top deck boards to support fibreboard boxes. Otherwise the boxes may collapse between deck boards from the overhead weight of the other containers, crush the produce, and cause the entire load to lean or fall off the pallet. A sheet of fibreboard with holes for air circulation can be used to distribute air across the pallet.

3.8.2 Boxes must not overhang the edges of the pallets. Overhang can reduce the strength of fibreboard boxes by one-third. This condition also can lead to collapse of the entire load, crushing of the produce, and make loading, unloading, and storage in racks difficult. On the other

hand, boxes which utilize less than 90 percent of the pallet surface and do not align with the pallet edge can shift in transit.

3.8.3 Pallet loads of shipping containers which are not strapped or netted should have at least the top three layers of containers cross-stacked to provide stability. Some shippers use film wrap, tape, or glue on the top layers in addition to cross-stacking. The containers must be strong enough to be cross-stacked without collapsing. Film wrap should not be used on shipping containers of produce that need ventilation.

3.9 *Slipsheets are used by some shippers because they cost less than pallets.* They also eliminate the cost of transporting and returning pallets. A special forklift is needed to transfer slipsheet loads to and from the pallets at the shipper's and receiver's distribution centre. If a receiver does not have the proper handling equipment, the packages are unloaded by hand onto pallets for placement in storage. Shipping containers on slipsheets are cross-stacked, film wrapped, or otherwise unitized with cornerboards and strapping.

3.9.1 Slipsheets made of fibreboard or plastic must be strong enough to be clamped and pulled onto the forklift tines or plate for lifting while fully loaded. Fibreboard slipsheets should be wax impregnated when used in wet conditions. Slipsheets used in transportation equipment should have holes for air circulation under the load. The use of slipsheets in refrigerated transportation equipment with shallow floor channels is not recommended due to the need for adequate air circulation under the load.

SECTION IV

Precooling Practices

4.1 If available, the removal of field heat by the process of precooling to a recommended storage temperature and relative humidity is suggested to maintain the quality of fruits, and vegetables. The quality of most produce will rapidly deteriorate if field heat is not removed before loading into transportation equipment.

4.2 Refrigerated transportation equipment is designed to maintain temperature and should not be used to remove field heat from produce packed in shipping containers. The refrigeration units also are not capable of raising or controlling the relative humidity.

4.3 Precooling extends produce life by reducing:

- field heat;
- the rate of respiration and heat generated by the produce;
- the rate of ripening;
- the loss of moisture (shrivelling and wilting);
- the production of ethylene (ripening gas generated by the produce);
- the spread of decay.

4.4 The success of precooling is dependent on:

- time between harvest and precooling;
- type of shipping container if produce is packed beforehand;
- initial produce temperature;
- velocity or amount of cold air, water, or ice provided;

- final produce temperature;
- sanitation of the precooling air or water to reduce decay organisms.
- maintenance of the recommended temperature after precooling.

4.5 Preecooling, where it is used, should occur as soon as possible after harvest. For most produce, harvesting should be done in early morning hours to minimize field heat and the refrigeration load on precooling equipment. Harvested produce should be protected from the sun with covering until they are placed in the precooling facility.

4.6 Many products are field or shed packed and then precooled. Wirebound wood or nailed crates or wax impregnated fibreboard boxes are used for packed produce that are precooled with water or ice after packing. Precooling of produce packed in shipping containers and stacked in unitized pallet loads is especially important as air circulation around and through the packaging may be limited during transportation and storage.

4.7 The choice of precooling method depends on the nature, value, and quality of the produce as well as the cost of labour, equipment, and materials. Precooling methods include:

- room cooling--stacking containers of produce in a refrigerated room. Some produce is misted or sprayed with water during room cooling;
- forced air cooling or wet pressure cooling--drawing air through stacks of containers of produce in a refrigerated room. For some produce, water is added to the air;
- hydrocooling--flushing produce in bulk tanks, bins, or shipping containers with a large quantity of ice water;
- vacuum cooling--removing heat from produce packed in shipping containers by drawing a vacuum in a chamber;
- hydrovacuum cooling--adding moisture to produce packed in shipping containers before or during the vacuum process, to speed the removal of heat;
- package-icing--injecting slush or crushed ice into each shipping container of produce. Some operations use bulk containers.

4.8 Since most tropical produce is sensitive to chilling injury, care must be taken not to precool or store the produce below the recommended temperature. Often the visible effects of chilling injury are delayed until the produce is offered for retail sale. These effects include failure to ripen properly, pitting, decay, watery breakdown, and discoloration in fruits and vegetables.

4.9 All produce is sensitive to decay. Precooling equipment and water should be sanitized continuously, for example, with a hypochlorite solution to eliminate decay producing organisms. Care also must be taken not to allow produce to warm up after precooling. Condensation on cool produce surfaces at higher air temperatures also spreads decay.

4.10 The method of transportation, condition of the transport equipment, loading method, and transit and storage practices affect the success of precooling. If the recommended temperature and relative humidity are not maintained after precooling, produce quality will deteriorate.

**PROPOSED DRAFT CODE OF PRACTICE FOR QUALITY INSPECTION
AND CERTIFICATION OF TROPICAL FRESH FRUITS AND VEGETABLES
(At Step 3)**

1. GENERAL RULES

1.1 Designation

The national services for the quality inspection and certification of export/import produce are responsible for ensuring any quality certificates issued by them are reliable and accurately reflect the requirements of the Codex standard for that produce, whose quality standard has been accepted by the Government in question, in line with the acceptance procedure of the Codex Procedural Manual. The Government may partially or temporarily delegate this authority.

1.2 Produce Affected

Without prejudice to subsequent extensions or restrictions, the inspection will apply to CCTFFV standardized produce exported from, or imported into, the country in question whose quality standard has been accepted by its Government.

1.3 Quality Standards for External Trade

The standards applicable for export and import inspection and certification shall be those presently or subsequently drawn up by the CCTFFV and accepted by the Government in question, together with those determined and approved by other international standardization bodies which have been expressly accepted and adopted by the Codex Commission.

The inspection and certification of export and import quality shall not take place until the produce has a Codex standard which has been accepted and, where appropriate, officially promulgated by the country in question.

1.4 Control and Implementation of Inspection

For exports or imports, the inspection and certification of the quality and condition of the product may be conducted:

1.4.1 At the point of origin of the product: This may be the packinghouse or other location as long as a suitable facility is available to conduct the inspection; or,

1.4.2 At the destination or receiving point: The inspections may be conducted at terminals, airports, railway stations, ports, border facilities or other locations where adequate facilities are available to conduct the inspection. If such facilities are not available, the product must be taken to the nearest possible place where the inspection can be made without interference.

1.5 **Inspection Request**

The exporter and/or importer shall be obliged, directly or through representatives, to request the Service to inspect the produce by completing a copy of the appropriate official document. This should include as much data as is needed to facilitate identification of the produce. In addition, the exporter and/or importer should contact the Inspection Service of the importing country prior to the arrival of the product so that adequate arrangements can be made for import inspection.

1.6 **Certification and Acknowledgement of Notification**

The Service shall issue an official quality certificate declaring that the produce is fit for export only when the produce has been physically inspected according to the provisions laid down in the following paragraphs of this Code.

Otherwise, and whatever the reasons for which the Service fails to issue certification, it will issue an Acknowledgement of Notification or a Certificate of Non-Conformity.

The format of both documents will be that officially authorized by Codex for international use.

Customs clearance at import shall not be effected without the prior submission of one or other document duly processed by the national service.

In the case of imports, the Certificate of Control or the Acknowledgement of Notification issued by the Service in the exporting country should be presented so that its operational status may be recognized by the Service of the importing country.

1.7 **Sampling**

The inspection will be based on random samples representing the whole consignment, in the form and within the limits established to this effect by the Guide for the Quality Control of Fresh Fruit and Vegetables adopted by Codex.

1.8 **Laboratory Analysis**

In cases where the quality control of the produce involves a laboratory analysis requiring a certain period of time, the produce should be submitted for inspection sufficiently in advance to avoid possible delays in clearance. [In some cases, shipment may be effected while awaiting laboratory results and the results be forwarded afterwards, but in time before sale in the importing country.]

1.9 **Appeal Inspection**

If the produce is rejected from either import or export, the interested party or his representative may request an appeal inspection in writing which will be effected within the following 24 hours and, wherever possible, before the departure of the means of transport.

In the case of companies using quality assurance systems the company must be able to demonstrate to the national service how the product has been re-sorted, repacked or otherwise reconditioned to allow the national service to issue certification.

1.10 **Refusal of Produce**

Produce declared unfit for consumption shall be removed from the inspection site as soon as possible.

Produce rejected from import or export shall be held for twenty-four hours in the place of inspection, unless there is some form of guarantee that it will not be improperly cleared from customs.

Produce rejected from import or export shall be subject, as appropriate, to declassification, relabelling or reclassification in the preparation and packaging plant to eliminate the grounds for rejection, where possible.

Results of appeal inspections shall be considered the final determination unless the produce is re-sorted, repacked or otherwise re-conditioned. In such a case, the applicant may ask for another inspection, which will not be considered an appeal inspection.

In the case of companies using quality assurance systems the company must be able to demonstrate to the national service the system used by the company to isolate or reject failed product and detail how the company will assure the national service that this product will not be exported unless relabelled or reclassified in accordance with paragraph 3 of this clause.

1.11 **Clearance of the Produce**

The inspection shall not be considered complete until final clearance. In the case that reconditioning is allowed, the applicant should be allowed sufficient time to recondition the product for final clearance, bearing in mind the perishability of the produce.

2. **INSPECTION PROCEDURE**

2.1 **Inspection in Production, Preservation and Distribution Centres**

The technical staff of the inspection service may conduct [pre-inspections], inspections or audits in the production, preservation and distribution centres as appropriate, to facilitate the inspection and certification process.

2.2 **Inspection in Stations of Origin and Transit**

The inspection and/or mandatory control of the produce shall take place in the stations of origin and transit within the national territory, both for the complete consignments and during the loading and unloading operations.

Wagons, containers, trucks or other means of transport shall be sealed following authorization to export, or other means of identification of the inspected lot shall be applied. .

A further inspection may be conducted when the Service considers that the lapse of time between inspection and departure of the means of transport is such that the quality or condition of the produce may have deteriorated.

2.3 **Inspection at Ports, Airports and Borders**

Produce arriving without having been controlled will be subject to the treatment described in the previous paragraph.

Produce accompanied by a control certificate for quality shall normally only be subject to further inspection in one of the following circumstances:

- Breakage of the seal
- Transshipment: the consignment shall be identified and sealed in the relaying means of transport.
- Exceptional circumstances suggesting modifications to the initial characteristics of the produce.

ANNEX I

CODEX COMMITTEE ON TROPICAL FRESH FRUITS AND VEGETABLES

GUIDE FOR THE QUALITY CONTROL OF TROPICAL FRESH FRUITS AND VEGETABLES

1. DEFINITIONS

1.1 Quality control of fresh fruits and vegetables:

Inspection carried out by national quality control services to check the conformity of fresh fruit and vegetables with the quality standards.

1.2 Quality inspector:

Authorized person of an official or officially authorized quality control service who has appropriate and regular training enabling him/her to undertake quality inspection.

1.3 Consignment:

Quantity of produce from one dispatcher found at the time of inspection and defined by a document. The consignment may consist of one or several types of produce; it may contain one or several lots of fresh fruits and vegetables.

1.4 Lot:

Quantity of produce which, at the time of inspection at one place, has similar characteristics with regard to:

- packer and/or dispatcher
- country of origin
- nature of produce
- class of produce
- size (if the produce is graded according to size)
- variety or commercial type (according to the relevant provisions of the standard)
- type of packaging and presentation.

However, if during the inspection of consignments (see 1.3) it is not possible to distinguish between the different lots and/or the presentation individual lots is not possible, all lots of a specific consignment may be treated as one lot if they are similar in regard to type of produce, dispatcher, country of origin, quality class and, variety or commercial type, if this is provided for in the standard.

1.5 Sampling:

Collective sample taken temporarily from a lot during quality control.

1.6 Primary sample:

Package taken from the lot or, in the case of bulk produce, a quantity taken from a point in the lot.

1.7 Bulk sample:

Several representative individual samples taken from the lot whose quantity is sufficient to allow the assessment of the lot with regard to all criteria.

1.8 Reduced sample:

Representative quantity of produce taken from the bulk sample whose size is sufficient to allow the assessment of certain individual criteria. Several reduced samples may be taken from a bulk sample.

2. IMPLEMENTATION OF QUALITY CONTROL

2.1 General remarks:

Quality control shall take place by assessing bulk samples taken at random from the lots to be inspected. It is based on the principle of presumption that the quality of the conforms to the quality of the bulk sample.

2.2 Place of control:

Quality control may be carried out at the point of dispatch or during transport.

2.3 Presentation of produce:

The exporter or his representative shall inform the Quality Control Service whenever a consignment is to be exported.

The quality inspector decides which lots are to be inspected. The presentation shall be made by the person authorized to do so or his representative. The procedure shall include a presentation of the bulk sample (see 2.5.3) as well as the supply of all information necessary for the identification of the consignment or lots.

If reduced samples are required, these are identified by the quality inspector himself from the bulk sample.

2.4 Identification of lots and/or getting a general impression of the consignment

The identification of lots shall be carried out on the basis of their marking or other criteria. In the case of consignments which are made up of several lots, it is necessary for the quality inspector to get a general impression of the consignment with the aid of accompanying documents or declarations concerning the consignments. He then determines how far the lots presented comply with the information in these documents.

If the produce is to be or has been loaded onto a means of transport, the registration number of the latter shall be used for identification of the consignment.

2.5 Verification of the lot

2.5.1 Assessment of packaging and presentation on the basis of primary samples:

The packaging, including the material used within the package shall be tested for suitability and cleanliness according to the provisions of the quality standards. If only certain types of packaging are permitted, the quality inspector checks whether these are being used. If the individual standard includes provisions concerning presentation, their conformity is also checked.

2.5.2 Verification of marking on the basis of primary samples:

First, it is ascertained whether the produce is marked according to the quality standards. During inspection a check is made on the accuracy of the marking and/or the extent of amendment required.

2.5.3 Sampling:¹

The quality inspector shall determine the size of the bulk sample in such a way as to be able to assess the lots. He shall at random select the packages to be inspected or, in the case of bulk produce, the points of the lot from which individual samples shall be taken.

The bulk sample shall comprise of the following minimum quantities whenever a consignment is to be declared unsatisfactory:²

Packaged produce

Number of packages in the lot	Number of packages to be taken (primary samples)
Up to 100	5
101 - 300	7
301 - 500	9
501 - 1,000	10
over 1,000	15 (minimum)

Produce in bulk

Quantity of lot in kg or number of bundles in the lot	Quantity of primary samples to be taken in kg or number of bundles ³
Up to 200	10
201 - 500	20
501 - 1,000	30
1,001 - 5,000	60
over 5,000	100 (minimum)

¹ Damaged packages will not be used as part of the bulk sample. They should be set-aside, and examined and reported separately if necessary.

² However, a participating country may experiment with another sampling method than that provided for in paragraph 2.5.3 if it has previously notified its intention to the Inspectorate concerned.

³ In the case of bulky fresh fruits and vegetables (over 2 kg per unit) the primary samples should be made up of at least five units.

If the quality inspector discovers after an inspection that a decision cannot be reached, he may carry out another inspection and express the overall results as an average of the two checks.

Certain criteria, such as the presence or absence of internal defects, may be checked on the basis of reduced samples; this applies in particular to control which destroys the trade value of the produce. The size of the reduced samples shall be restricted to the minimum quantity absolutely necessary for the assessment of the lot; if, however, defects are ascertained or suspected the size of the reduced sample shall not exceed 10 percent of the size of the bulk sample initially taken for the inspection.

2.6 Control of produce:

The produce has to be removed entirely from its packaging for the control; the quality inspector may only dispense with this if the type of packaging and form of presentation allow an inspection of the contents without unpacking the produce. The inspection of uniformity, minimum requirements, quality classes and size shall be carried out on the basis of the bulk sample. In the case when defects are detected, the quality inspector shall ascertain the respective percentage of the produce not in conformity with the standard by number or weight. The results of each single sample examined shall be recorded on an official notesheet that will be attached to a copy of the inspection certificate and kept on file at an office of the officially authorized quality control body.

2.7 Report of control results:

According to the respective legal provisions of the individual countries and depending on the results of control, a report on the findings may be made in the form of a statement, a control certificate, a complaint, etc... For the report on the results of control, in cases of nonconformity, several lots may be taken together if these are uniform in regard to type of produce, sender, country of origin, quality class and variety or commercial type, if this is provided for in the standard.

If defects are found, the authorized person or his representative must be informed about the reasons of complaint. This information shall be made according to the legal provisions of the individual countries. If the compliance of produce with the standard is possible by a change in marking, the person authorized to sell it or his representative must be informed about it.

If defects are found in a product, the percentage found not to be in conformity with the standard may be indicated. This is not necessary if it is possible to achieve compliance with the standard by a change in the marking of the product.

The control services should develop and maintain a system of recording their inspection results as an official certificate should be completed for each inspection performed.

2.8 Non-conforming produce:

The authorized person, or his representative should ensure that there is no shipment of the non-conforming produce.

2.9 Decline in value by quality control:

After the control, the bulk sample is put at the disposal of the authorized person or his representative.

Unless legal provisions so specify, the Control Service is not bound to hand back the elements of the bulk sample destroyed during the control.

When quality control has been limited to the minimum required, no compensation (unless legal provisions so specify) can be claimed from the Control Service concerned if the commercial value of the produce has suffered a loss.

ANNEX II

INSPECTION SITE REQUISITES
(To be prepared)

ANNEX III

**DRAFT CERTIFICATE OF QUALITY
FOR TROPICAL FRESH FRUITS AND VEGETABLES**

1. Dispatcher	QUALITY CONTROL CERTIFICATE No. This certificate is for the exclusive use of the inspection service		
2. Packer indicated on the package (if other than dispatcher)	3. Inspection service	5. Country of Destination	
		4. Country of Origin ¹	
6. Identification of means of transport	7. Space for national provisions ²		
8. Number (and type of packages)	9. Nature of produce (variety, if required in the standard)	10. Quality class	11. Total gross/net ³ weight in kg
12. The above-mentioned inspection service certifies, on the basis of a sample control, that this produce complies, at the time of inspection, with the Codex quality standards.			
Outgoing customs point Date and place of dispatch Validity period ⁴ (days) Inspector (name and surname in print) Signature: Inspection service stamp			
13. Remarks			

¹ For re-exported produce, indicate its origin after the nature of the produce.

² Optional.

³ Delete as appropriate.

⁴ Valid up to the point of departure from the country (including the day of inspection).

ANNEX IV

**DRAFT CERTIFICATE OF ACKNOWLEDGEMENT OF NOTIFICATION FOR TROPICAL
FRESH FRUITS AND VEGETABLES**

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTIFICATION

Country

Inspection Service/Office

.....

.....

Certificate No.

The above inspection office certifies that (name and address of company)

.....

.....

has notified it of the following consignment, prior to dispatch:

Nature of produce and, where appropriate, variety	Quality class	No. of packages	Total gross/net ¹ weight in kg
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.....
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Destination.....

Means of transport

Expected date of dispatch

Date

Inspector
(name and surname in print)

Signature

Stamp of inspection service

¹ Delete as appropriate.

**PRIORITY LIST FOR STANDARDIZATION
OF TROPICAL FRESH FRUITS AND VEGETABLES**

Passion Fruit	Chili pepper
Fresh Coconut ¹	Yam
Guava ²	Ginger
Longan	Cassava
	Chayote ³

1. Draft assigned to India.
2. Draft assigned to Mexico in cooperation with India.
3. Draft assigned to Costa Rica in cooperation with France.