

ECONOMIC COMMISSION FOR EUROPE JOINT FAO/WHO FOOD STANDARDS
COMMITTEE ON AGRICULTURAL PROGRAMME
PROBLEMS

Working Party on Standardization of
Perishable Produce

CODEX ALIMENTARIUS COMMISSION
Fourteenth Session

REPORT OF THE FOURTEENTH SESSION OF THE JOINT ECE/CODEX
ALIMENTARIUS GROUP OF EXPERTS ON STANDARDIZATION OF FRUIT JUICES

Geneva, 9-13 June 1980

INTRODUCTION

1. The Joint ECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices held its fourteenth session in the Palais des Nations, Geneva from 9 to 13 June 1980 under the Chairmanship of Professor Dr. W. Pilnik (Netherlands) with Mr. W. Orłowski (Poland) as Vice-chairman.
2. The session was attended by 44 participants including the delegations of Austria; Brazil; Djibouti; Finland; France; Germany, Federal Republic of; Japan; Kuwait; Netherlands; Norway; Poland; Saudi Arabia; Spain; Switzerland; Thailand; Turkey; United Kingdom and United States of America. Dr. T. N'Doye (Senegal) attended as Coordinator for Africa. Observers were present from South Africa; International Federation of Fruit Juice Producers (IFFJP); Association of Official Analytical Chemists (AOAC); and the European Economic Community (EEC).
3. The session was opened by Mr. E. Kalkkinen, Director of the FAO/ECE Agriculture and Timber Division, who, in welcoming the delegates referred to the increased emphasis in the work programme of the Group of Experts on juices and similar products of particular interest to developing countries. He referred to the increasing opportunities for worldwide trade in these products which would result from the successful elaboration of standards by the Group of Experts. This work, he said, was an excellent example of co-operation and integration of the work programmes of two organizations in the United Nations family in the achievement of their common aims.

ADOPTION OF THE AGENDA

4. The Group of Experts decided to discuss Items 9, 11 and possibly 13, which all dealt with aspects of the use of chemical preservatives, one after the other. Otherwise the Joint Group adopted for its agenda, the provisional agenda appearing in document CX/FJ 80/1 -AGRI/WP.1/GE.4/9.

MATTERS OF INTEREST ARISING FROM THE REPORTS OF THE CODEX
ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES

5. The Group of Experts had before it working paper CX/FJ 80/2 (AGRI/WP.1/GE.4/R.42) which outlined those matters arising from the Commission and

other committees on which action was expected to be taken by the Group of Experts. In addition, the Secretariat reported verbally on other matters which appeared to be of interest to the Group of Experts.

Codex Alimentarius Commission, Thirteenth Session, (ALINORM 79/38)

6. The Group of Experts was informed that the Commission had amended the procedure for the Elaboration of World-wide Codex Standards to provide for comments on the possible economic impact of Codex Standards as agreed to by its Twelfth Session. This type of amendments would also apply to Regional Codex Standards and to Codex Maximum Levels for Pesticide Residues. The Procedural Manual had been amended accordingly.
7. The Group of Experts was further informed that the Commission had given consideration to the inclusion of nutritional aspects in Codex Standards and had agreed to the following points: (a) as recommended by the twenty-sixth session of the Executive Committee, consideration of nutritional aspects would be a standing item on the Commission's agenda at each session and (b) that subsidiary bodies should look into the nutritional aspects in drawing up standards for foods, particularly those having a significant importance for developing countries.
8. The Group of Experts noted that the Commission had adopted at Step 8 the Recommended International Standards for Blackcurrant Juice, Concentrated Blackcurrant Juice and for Pulpy Nectars of Certain Small Fruits, as well as an amendment at Step 9 to Codex Standard for nectars to require the declaration of added water in the list of ingredients.
9. The Chairman drew attention of the Group of Experts to an amendment made by the Commission to Section 7.1.1 of the Standard for Blackcurrant Juice which required the term "sweetened blackcurrant juice" to be used if the product contained more than 15 g/kg of sugar or sugars.
10. The Secretariat indicated that it had been agreed to publish all Codex Standards for fruit juices, concentrated fruit juices and nectars in one compendium; editorial work in this respect had already been completed and it was expected to issue the compendium in the near future.
11. The Group of Experts was informed that the Commission had advanced the Proposed Draft Standard for Nectars of Certain Citrus Fruits to Step 6 of the Procedure and had agreed to the Group's future programme of work; and that in addition, the delegations of Benin and Senegal had offered their assistance in submitting data on cashew apple or anacarde juice; whereas the delegation of India wished to assist in the elaboration of a standard for guava nectar (see also paras 107-117).
12. The Group of Experts also noted the suggestion made by the delegation of Tanzania to publish the full text of the methods of analysis referred to in Codex Standards for fruit juices since some of these methods were difficult to obtain. The delegation of Poland supported the above suggestion and felt that there was a great advantage in having the text of all methods compiled in a simple compendium. It was explained that, for economic reasons, this might not be possible, however, the Working Group on Methods of Analysis might be able to select, for publication, methods which could not easily be obtained. The Chairman of the Working Group drew attention to the fact that the International Federation of Fruit Juice Producers did in fact publish and update a compendium of their methods in three languages (for the full address of IFFPJ see Appendix VII).

Codex Committee on Food Additives

13. The Twelfth and Thirteenth Sessions of that Committee had finalized and submitted to the Commission a definition on processing aids and proposals for action requested from Codex Committees with regard to provisions on carry-over food additives and processing aids. The Group of Experts noted that non-functional additives carried over into fruit juices and residues of processing aids needed not to be declared on the label and agreed that this decision was in keeping with the way the Group of Experts had so far handled the provisions concerning these substances.

14. The Group of Experts further agreed that the above matters and information related to contaminants in particular tin, would be further discussed in conjunction with the appropriate standards under elaboration.

Codex Committee on Food Labelling

15. The Group of Experts took note of the work of the Codex Committee on Food Labelling concerning the elaboration of Guidelines on the Labelling of Non-retail Containers and of a request by the Commission, that, in addition to government comments, valuable information for the further elaboration of such guidelines could be obtained from Commodity Committees. (See also para. 43).

16. The Secretariat gave a brief outline of the status of date marking provisions and conveyed to the meeting the view of the Labelling Committee that so far the data marking provisions elaborated by Codex Commodity Committees had shown little consistency. A questionnaire had been sent to governments to obtain their views on a revision of Sections 5 (Instructions to Codex Committees) and 3 (Definitions) of the Guidelines on Date Marking. The Group of Experts agreed that further details should be discussed under Item 4 of the agenda. (See paras 20-24).

Codex Committee on Methods of Analysis

17. The Group of Experts noted that the Commission at its Thirteenth Session had agreed to the classification of Methods of Analysis and appropriate guidelines proposed by the Committee on Methods of Analysis. It was agreed that the Working Group on Methods of Analysis would examine the matter accordingly and report back to the meeting. (See para. 43 and Appendix VII to this report).

Progress Report on Acceptances

18. The Group of Experts took cognizance of the request by the Commission to review at each session notifications on acceptances received from governments of Step 9 Standards; up to 1 June 1980 fourteen countries had communicated their acceptance of one or more of the twelve standards which had been elaborated by this Group of Experts once issued as Recommended International Standards to governments.

19. The Secretariat drew attention to considerations by the Commission to place more emphasis on the importance, in the interest of facilitating international trade, of permitting entry of products in conformity with Codex Standards in cases where acceptance could not be given. For this purpose the Secretariat had been instructed to revise the terminology on "non-acceptance" for classifying statements of governments related to the free distribution of products complying with Codex Standards.

CONSIDERATION OF DATE MARKING PROVISIONS IN CODEX STANDARDS FOR FRUIT JUICES

20. The Group of Experts recalled that it had discussed this problem in some depth at its previous session and had circulated to government for comments a proposed text for inclusion in its standards (paras 9-15 of ALINORM 79/14). The comments of governments as included in document CX/FJ 80/3 (AGRI/WP.1/GE.4/R.43) were before the Group of Experts for discussion.

21. Delegations discussed in detail the problems of assessing the probable shelf-life of fruit juices under different conditions of storage, especially considering that the international trade in these commodities required that the various climatic conditions of diverse regions might have to be taken into consideration. It was noted that the shelf-life varied according to the commodity concerned, its method of processing and storage (freezing, pasteurization, sterilization, etc.) and the types of packaging; but that the most important factor in the determination of shelf-life was the temperature of storage. The delegation of the Federal Republic of Germany noted that for the determination of the shelf-lives of high-quality produce in general organoleptic methods of assessment were appropriate. The Chairman noted that the problem of the time and temperature of storage was also important in considering maximum permitted levels of tin, and that this subject could not easily be separated from that of date-marking.

22. Referring to the document before the Group of Experts, a number of delegations expressed their preference in principle for the use of a date of minimum durability; the delegation of Poland was in favour of a date of manufacture as was the observer from South Africa. The delegation of Saudi Arabia believed that a date of manufacture should be declared. The delegation of Japan stated that both the date of manufacture and the date of minimum durability should be declared for products with a shelf-life less than three months; for products with a shelf-life exceeding three months only the date of manufacture was required. There was a consensus that in all cases precise storage instructions should be included on the label.

23. The Group of Experts came to the conclusion that it was as yet unable to agree on a final recommendation in response to the Guidelines on Date Marking elaborated by the Committee on Food Labelling. Nevertheless, it considered that the date of minimum durability, accompanied by appropriate and specific storage instructions would probably provide the most suitable information for the consumer. In view of the differing views on the matter, and of the possibility of further advice from the Committee on Food Labelling, the Group of Experts agreed to keep the subject under review. It was hoped that more data on shelf-life and storage behaviour would be generated.

24. Under these circumstances the following tentative common text for possible inclusion in the standards was submitted for the comments of governments:

"Date Marking and Storage Instructions

1. The date of minimum durability shall be declared in clear and in such a way as to include:

(a) for products with a shelf-life of not more than 18 months the declaration of the month and the year in accordance with Section 2 below;

(b) for products with a shelf-life of more than 18 months the declaration of the year in accordance with Section 2 below.

2. Instructions specifying the conditions of storage which are required in order to meet the expected shelf-life shall be declared on the label".

DEFINITION OF FRUIT JUICES

25. The Group of Experts had before it a working document (CX/FJ 80/4, AGRI/WP.1/GE.4/R.44) prepared by Professor H.J. Bielig, Chairman of the Scientific and Technical Commission of the International Federation of Fruit Juice Producers. The paper had been prepared following discussions by the expanded Commission in Bled, Yugoslavia in 1980, at the request of the previous session of the Group of Experts. In particular the paper addressed the problem of taking into consideration the recently introduced extraction process.

26. A number of delegations noted that the extracted product would not be equivalent to mechanically expressed single strength juices, and expressed concern that in the case of apples in the preparation of the raw material the possible extraction of the kernels of the fruit could lead to noticeably different resulting products. Professor Bielig said that the major problem was the condition of the raw fruit material, but agreed that even when this was controlled and there was no inclusion of extracts from the non-edible parts of the fruit, there still remained some small differences in the chemical make-up of the final extract when compared to mechanically expressed juice.

27. The delegation of France pointed out the differences which could occur between hot and cold extraction processes and proposed to restrict the considerations to the cold extraction process.

28. The delegation of the United States and the representative of the EEC both referred to the fact that the Group of Experts had never differentiated between single strength fruit juices directly prepared, and juices prepared by the reconstitution of concentrates. The delegation of the United States proposed that the Group of Experts should accept the principle that the extraction process would be suitable for the preparation of concentrates and reconstituted fruit juices, but not for single strength fruit juices. The Chairman warned that the Group must be careful not to equate "reconstituted" with a notion of lower quality; in several cases single strength juices from concentrates were superior to directly made single strength juices.

29. The delegation of the Netherlands accepted that the extraction process should be included in the section of process definitions in the standards, but pointed out the danger of redefining the process too widely and opposed the inclusion of ill defined physical processes. The delegation also stated that the extraction process should be as close as possible to mechanical process and be applied only to the edible flesh of fruits. The Chairman noted that it was possible to detect benzaldehyde in the volatile oils of juices extracted in the case where kernels had been crushed or cut.

30. The Chairman, considering an amendment proposed by the delegation of the United States of America, prepared the following text which could be included in the standards for concentrated juices in the section dealing with raw materials:

"The water extract of may also be used as raw material provided that this extract, on an equivalent soluble solids basis, has essentially the same organoleptic properties and essentially the same chemical composition as juice".

31. The delegation of the Federal Republic of Germany suggested the deletion of the word "essentially" in both cases where it appeared. The delegation of the United States pointed out, that the inclusion of this expression prevented the possibility of products prepared by extraction from being prohibited when the differences in composition were of the order of a few parts per billion (10). The Chairman also noted that the scientific

literature already showed substantial natural variations in the chemical composition of fruit juices from the same type of fruit.

32. The Group of Experts agreed to circulate the proposed text to Governments for their comments, and decided not to propose any amendments to existing Step 9 standards at this stage. The report of the Technical and Scientific Commission of the IFFJP, which was not available before the meeting, is included in this report as Appendix IX, and will provide governments with additional background when commenting on the above text.

Consideration of Draft Standard for Nectars of Certain Citrus Fruits Preserved Exclusively by Physical Means at Step 7 of the Procedure

33. The Group of Experts had before it the above draft standard as contained in Appendix VI to ALINORM 79/14 (AGRI/WP.1/GE.4/8) and government comments received thereto in documents CX/FJ 80/5; AGRI/WP.1/GE.4/R.45 (Australia, Finland and Sweden) and Conference Room Document No. 1 (Philippines).

34. In response to the written comments by Sweden to cover the minimum content of fruit ingredient (section 3.1.1) to 35 per cent it was pointed out that the original proposal had related to a product with a high fruit content. The figure of 50 per cent was left unchanged. The delegation of Japan enquired whether the provision which permitted the addition of 10 per cent mandarine fruit ingredient to orange nectars contained in section 3.1.2 would also justify the addition of 10 per cent orange fruit ingredient in the case of mandarine nectars. The Group of Experts decided that this was not the case, since the addition of mandarine fruit ingredient to orange nectar was intended for the purpose of improving the colour of the product.

35. Several delegations felt that the maximum level of 200 g/kg of sugar(s) was far too high and should be reduced. Attention was drawn to a similar discussion of the same matter at the previous session of the Group of Experts. It was further discussed whether the maximum level of sugar(s) should either be limited by the sentence in square brackets contained in section 3.2 or by setting an appropriate maximum level for soluble solids in section 3.4. The Group of Experts agreed to include the figure of maximal 200 g/kg into section 3.2.

36. The Group of Experts agreed to delete entirely the provision on volatile acids contained in Section 3.7 since the provision was not contained in other nectar standards and the product was sufficiently protected by the provisions on organoleptic requirements.

37. With regard to the maximum level of 0.4 ml/kg of essential oil indicated in section 3.8 the Group of Experts agreed with the proposal of the Chairman to delete the square brackets; a maximum was necessary since the terpenes in the essential oils produced an off-flavour if they were contained in excess in the juice.

38. In its written comments, Sweden had proposed to lower the maximum level for tin to 150 mg/kg. The delegations of Poland, the Federal Republic of Germany, Austria, Switzerland and the Netherlands supported this proposal. The Secretariat informed the meeting that the Codex Committee on Processed Fruits and Vegetables had discussed at its fifteenth session the matter of tin contamination of canned products based on a working paper which had also contained data on fruit juices. A Working Group had been established to continue the work; however, information available indicated that values for tin were within the range up to 250 mg/kg. The Group of Experts agreed to follow closely the work in the above Committee. The delegation of the Netherlands indicated that a

new study on tin would be submitted to the Committee on Food Additives and that it was expected that this would be the cause to re-open discussions of the Joint Expert Committee on Food Additives concerning tin.

39. The delegation of Switzerland informed the Group of Experts that in his country maximum levels for both Cadmium (0.05 mg/kg) and Mercury (0.01 mg/kg) had been introduced. The Group of Experts felt that it was useful to be aware of this decision since it might have to discuss the problem at a future session, and invited governments to consider the above figures.

40. Several delegations indicated that they could not agree with the provision concerning the name of the food (section 7.1.1). Especially it was felt that the use of concentrates should be declared in close proximity to the name where appropriate. The delegation of Japan stated that in Japan the denomination nectar was permitted only for products containing pulp and suggested that the name of the product could also be citrus beverage. The Group of Experts left section 7.1.1 unchanged, and was suggested that, in accepting the standard, the government of Japan could notify an appropriate deviation.

41. The delegation of Saudi Arabia proposed to include date marking provisions for the dates of manufacture and expiration. (See also views of the general discussions on date marking in paras 20-24). The Group of Experts decided not to include any date marking provisions into the standards at this time.

42. The Group of Experts accepted an editorial change in section 7.6.3 to clarify the meaning of that provision.

43. The Group of Experts noted the comments of Australia proposing a revision of the wording of section 7.8 on Bulk Packs taking into account the discussions of the Codex Committee on Food Labelling of Guidelines on the Labelling of Non-retail Containers. The Secretariat explained that the whole range of labelling - prepackaged foods for retail sale and food in non-retail containers - would be examined by the next session of the Labelling Committee. The delegation of Switzerland stated that the marketing of food had undergone many changes especially with regard to the type of containers which were normally sold direct to the consumer. The Group of Experts felt that the comment submitted by Australia were valuable, but decided to await the work of the Labelling Committee before making any amendments to the sections on bulk packs. Section 8.8 on the determination of volatile acids was deleted consequential to deletion of section 3.7. The report of the ad hoc Working Group on Methods of Analysis concerning the classification of methods for this and other standards elaborated by the Group of Experts is contained in Appendix VII to this report.

Status of the Draft Standard for Nectars of Certain Citrus Fruits Preserved Exclusively by Physical Means

44. The Group of Experts advanced the above standard to Step 8 of the Procedure and expressed its thanks to Doctor Royo Iranzo of Spain who had prepared the excellent working papers leading to the elaboration of the standard. The Draft Standard for Nectars of Certain Citrus Fruits Preserved Exclusively by Physical Means is contained in Appendix I to this report.

Consideration of the Proposed Draft Standard for Mango Juice Preserved Exclusively by Physical Means at Step 4

45. The Group of Experts had before it the above draft standard as contained in Annex 1 to Appendix VII to ALINORM 79/14 and government comments thereon contained in working papers CX/FJ 80/6 (Australia, Norway, Finland, Sweden and Switzerland) and CX/FJ 80/6 Add.1 (Poland). The Chairman pointed out that the majority of the comments received concerned the denomination of the product; i.e. whether it would be possible to call a product "mango juice" which consisted of not less than 50 per cent mango pulp and of sugars and added water. He drew attention to provision 7.1.3 in the Proposed Draft Standard for Mango Nectar which contained a similar provision on which government comments had also been received. The Group of Experts agreed to examine as a matter of principle whether a product containing fruit pulp, sugars and added water could be denominated juice or whether it would fall into the category of nectars, especially in a case such as mango products which were not palatable to the consumer if they contained 100 per cent of the fruit ingredient.

The name of the food

46. The Group of Experts noted that in their written comments Australia, Norway, Finland, Sweden and Switzerland had opposed the use of the term "mango juice" for a product which by its composition would be classified as a nectar. Their view was supported by the majority of delegations present at the session.

47. It was pointed out that the product should be called a nectar in accordance with the definitions for fruit juices, concentrated fruit juices and nectars elaborated by this Group and that the product for which the name mango juice had been proposed should be covered by the nectar standard.

48. The Chairman reminded the Group of Experts that the author country India had proposed the use of the name mango juice for a product containing at least 50 per cent mango pulp because there was a large production of this product which was traditionally known as mango juice and exported as such.

49. The Secretariat informed the Group of Experts that the Second Session of the Coordinating Committee for Asia had examined the problem and had supported the view of India that the product could be permitted to be called "mango juice"; however this should not set a precedent for other products (paras 13-15 of ALINORM 79/15).

50. The Group of Experts felt that the product should not be standardized as a fruit juice. However, the view was also expressed that specific provisions for the product containing at least 50 per cent mango pulp could be included in the standard for mango nectars and, whereas it would not be permitted generally to be called mango juice, a provision might be introduced which would permit the use of the name "mango juice" in those countries where the product was traditionally known as mango juice. However, at present section 7.1.3 of the standard for mango nectars would be deleted.

51. The Secretariat was instructed to inform the Coordinating Committee for Asia accordingly. Several delegations pointed out that mango juice and nectars were of interest also to countries in the regions of Latin America and Africa. It was agreed that information on mango juice and nectars should also be requested from the Coordinating Committees for Latin America and Africa.

Status of the Standard

52. In view of the above discussions the Group of Experts decided to hold the Proposed Draft Standard for Mango Juice Preserved Exclusively by Physical Means in abeyance until more information was forthcoming from the Coordinating Committees. It

was noted that the present discussion on mango juice would also form part of the matters of interest which would be presented to the next session of the Commission. The above standard is contained in Appendix II to this report.

Consideration of the Proposed Draft Standard for Pulpy Mango Nectar Preserved Exclusively by Physical Means at Step 4 of the Procedure

53. The Group of Experts had before it the above draft standard as contained in Appendix VII to ALINORM 79/14 and government comments thereon in working papers CX/FJ 80/6 (Australia, Finland, Norway and Sweden) and CX/FJ 80/6 Add. 1 (Poland).

54. The Group of Experts noted that a number of the comments received applied to section 7.1.3 concerning the provision to permit the name of the product to be mango juice. The Group was reminded of its decision taken earlier in the session to delete section 7.1.3 from the draft standard. The Group of Experts proceeded to review the other sections of the above draft standard.

Description

55. The Secretariat was requested to bring the text of the description (section 1.1) into conformity with other standards for pulpy nectars.

Essential Composition and Quality Factors

56. The Group of Experts decided to use the standard wording for the minimum content of fruit ingredient (section 2.1). Several delegations felt that the minimum fruit ingredient content should be raised to about 50 per cent which would be in keeping with the minimum fruit ingredient content of other products of similar consistency. Other delegations felt that it might be possible to permit two levels of minimum fruit ingredient (30 per cent and 50 per cent) in the standard in an attempt to merge the draft standards for mango juice and mango nectars. However, it was pointed out that the 50 per cent product in the mango juice standard did not make the addition of sugar mandatory so that as a consequence diluted mango pulp could then be sold as a nectar. The Group of Experts decided, in view of the absence of the author country India, not to make any changes on the figure of 30 per cent but to place it into square brackets and to request specifically comments on this matter.

57. It was decided to introduce the maximum limit for the addition of sugars at 200 g/kg into section 2.2. The delegations of Switzerland and Norway reiterated their view that the addition of 200 g/kg of sugar was too high and therefore unacceptable. It was agreed to place the figure of 200 g/kg into square brackets. Consequently the maximum limit for soluble solids content was deleted.

58. It was agreed to permit the addition of honey if used as the solely sweetening agent and therefore the square brackets were deleted from the relevant sections of the standard.

59. It was also agreed to permit the use of lemon juice as acidifying agent since this was in accordance with the provisions in other nectar standards.

60. The Group of Experts noted that the provision considering black specks contained in section 2.6 was a requirement on a technological matter which had not been included in other nectar standards where it would have been also applicable and decided to delete section 2.6.

Food Additives

61. Some delegations proposed to delete the section on food additives and several other delegations stated that especially fumaric acid was not permitted in their countries. However, it was pointed out that fumaric acid was a natural constituent of many fruits and vegetables. The Group of Experts decided to place the provision for fumaric acid into square brackets and to request proposals for a maximum level of fumaric acid, keeping in mind that an ADI of 0 to 6 mg/kg body weight had been established for this additive.

62. In response to the request to permit the use of artificial sweeteners in dietetic products which gained increasing importance on the market, it was pointed out that such products would fall within the responsibility of the Committee on Foods for Special Dietary Uses.

63. Attention was drawn to the provision for beta carotene for which a technological justification had been provided by the author country at the previous session. The Group of Experts placed the provision in square brackets to request more detailed comments on the need for this substance and to complete the technological justification.

Contaminants

64. The Group of Experts noted the comments by Poland to lower the maximum level for tin to 150 mg and the information supplied by the delegation of Saudi Arabia that national legislation in that country prescribed a maximum level for tin of 140 mg/kg.

Labelling

65. The delegation of Saudi Arabia stated that the fruit ingredient content of mango nectar should be at least 50 per cent in order to call the product "pulpy" mango nectar. The Group of Experts agreed to leave section 7.1 on the name of the food unchanged except for slight editorial amendments of section 7.1.2, being reminded that it had already agreed to delete section 7.1.3. With regard to date marking and bulk packs the Group of Experts confirmed its view, expressed in connexion with discussing the standard for citrus fruit nectars. (See paras 41-43).

Status of the Standard

66. The view was expressed that it might be more appropriate to await the comments of the Coordinating Committees on the matter of mango juice before submitting the Proposed Draft Standard for Pulpy Mango Nectar to the Commission. However, the Group of Experts agreed that the Commission would in any case be informed of those comments and that the progress on this standard should not be further delayed.

67. The Proposed Draft Standard for Pulpy Mango Nectar Preserved Exclusively by Physical Means was advanced to Step 5 of the Procedure and is contained in Appendix III to this report.

Consideration of the Proposed Draft Standard for Concentrated Pineapple Juice Preserved Exclusively by Physical Means at Step 4 of the Procedure

68. The Group of Experts had before it the above proposed draft standard as prepared by the delegations of Thailand and the United States and contained in document CX/FJ 80/7 -AGRI/WP.1/GE.4/R.47, together with government comments received in documents CX/FJ 80/7-Add.1 -AGRI/WP.1/GE.4/R.47/Add.1 (Denmark, Norway, Poland, South Africa), CX/FJ 80/7-Add.2 -AGRI/WP.1/GE.4/R.47/Add.2 (France, Ireland) and Conference Room Document No.2 (Thailand).

69. The Group of Experts decided to include in Section 1.2 Raw Materials, the proposed text contained in para. 30 which would allow the use of the extraction process in obtaining the raw material. Several delegations expressed concern at the inclusion of this provision, and the representative of the EEC pointed out that the generally satisfactory results which had been obtained in the extraction of apples could not readily be extrapolated to pineapple extracts. The Group of Experts, in view of the tentative nature of this proposal, decided to place the text in square brackets.

70. In response to a question from the delegation of France the Group of Experts was informed that the extraction of pineapple was generally confined to a cold rinsing of the fruit pulp remaining in the centrifuge after the separation of the juice; about 5 to 7 per cent of additional juice was recovered.

71. In Section 1.3 Process Definition, the Chairman questioned the use of refractometric readings corrected for acidity in view of the fact that the corrections provided for were established in the first place for orange juice and citric acid (as the acid source). He noted that the different sucrose/glucose ratios in pineapple juice and the permitted use of malic acid would render these values inaccurate. In reply the delegation of the United States pointed out that the corrected values were applied in world-wide trade, in developing countries as well as in developed regions. In view of this use in the trade, the Group of Experts decided to retain the use of the corrected readings for soluble solids.

Food Additives

72. The delegation of Poland re-affirmed its opposition to the use of dimethylpolysiloxane as an anti-foaming agent, and also proposed a maximum limit for the addition of L-ascorbic acid at 300 mg/kg. The Group of Experts noted that it had already accepted the use of dimethylpolysiloxane, in relation to pineapple juice where foaming was a severe problem during processing, and agreed to its inclusion in this standard. It also retained the level of "Good Manufacturing Practice" for L-ascorbic acid, although an ADI had been specified for this substance, since L-ascorbic acid was used as an antioxidant of which only very small amounts remained in the final product.

73. The delegation of the Federal Republic of Germany expressed its opposition to the use of acidifying agents in particular malic acid and of dimethylpolysiloxane. Nevertheless, the Group of Experts decided not to change this provision.

74. A number of delegations - Norway, Poland, Sweden (written comment) - and the observer of the EEC - expressed opposition to the inclusion of stannous chloride as a permitted food additive, particularly in regard to the problems with tin as a contaminant. It was pointed out that stannous chloride, even at levels as low as 8 mg/kg, was a particularly efficient anti-oxidant and did prevent the development of objectionable off-flavours in products packed in glass, paper or lacquered cans, where no leaching of tin from the container would be expected. The Group of Experts agreed to retain the provision for the addition of stannous chloride.

75. It was noted, however, that the use of L-ascorbic acid and stannous chloride was not permitted in the standard for pineapple juice and that therefore the reconstituted product, if it contained these additives, might not be able to be sold under the name "pineapple juice". The Group of Experts agreed to amend section 2.1 to avoid this difficulty.

Contaminants

76. A number of delegations were concerned that this section as it was written allowed for up to a four-fold increase or higher in the concentration of contaminants in the concentrated juice sold to the consumer. This meant that tin levels for example could be higher than 1,000 mg/kg. Several delegations stated that the maximum level for tin should be 250 mg/kg, since the source of this contaminant was still the tin-plate in which the final product was in contact. The delegations of Poland and the Netherlands expressed a preference for 150 mg/kg. The Chairman pointed out that the contaminants present as a result of agricultural conditions or initial processing of the juice would indeed be concentrated, and that this had to be provided for. While recognizing the problem of tin, and the fact that a maximum level on the order of 250 mg/kg might be appropriate, the Group of Experts also noted that the subject of tin as a contaminant was under review by JECFA, and finally decided not to amend this section.

77. The delegation of the Federal Republic of Germany drew the Group's attention to the fact that sulphur dioxide was not an "initial" contaminant and therefore should be considered separately in the final concentrated product.

78. The Group of Experts decided to re-discuss the entire question of contaminants in concentrated juices at a future session.

Weights and Measures

79. The Group of Experts noted that this section included a provision specifying the fill of the container when the food was sold in the frozen state. It was explained that the filling of a container to 90 per cent at 20 C, followed by freezing could lead to the bursting of the container as the ice expanded. The Chairman pointed out that frozen concentrates were still a liquid. The Group of Experts therefore decided to retain this provision, and to consider its application to other standards at a later session.

Labelling

80. The Group of Experts decided to amend Section 7.1 Name of the Food to bring it into line with similar provisions in the other standards for concentrated fruit juices, but agreed to delete the references to "prepackaged" in favour of "retail packages". It was considered that this amendment clarified the provision and strengthened the requirement to include instructions for dilution on retail packages, while still permitting the use of a statement of the soluble solids content (degrees Brix) on non-retail packages or containers. Section 7.8 Degree of Concentration was amended in consequence.

81. The Group of Experts noted that L-ascorbic acid should be listed in the List of Ingredients as an antioxidant, and that the reference to water should be deleted to bring this section into line with other standards.

82. The Group of Experts discussed in depth the proposal of the author countries to permit the declaration of Net Contents by volume or by weight in larger containers. It was pointed out that concentrated pineapple juice in large non-retail containers invariably traded by weight, and that for retail containers declaration by volume was not only required by law in many countries, but simply made more sense particularly in regard to the instructions for dilution, even for products in the frozen state. The Group of Experts agreed to make a distinction between the two methods of sale and decided to specify a declaration by volume on retail containers and to allow a statement of net weight on non-retail containers.

Status of the Proposed Draft Standard for Concentrated Pineapple Juice Preserved Exclusively by Physical Means

83. The Group of Experts agreed to advance the Proposed Draft Standard for Concentrated Pineapple Juice Preserved Exclusively by Physical Means' to Step 5 of the Procedure. The standard is contained in Appendix IV to this report.

Consideration of the Proposed Draft Standard for Concentrated Pineapple Juice with Preservatives, for Manufacturing, at Step 4 of the Procedure

84. The Group of Experts had for consideration the text of the above standard prepared by the delegations of Thailand and the United States and contained in document CX/FJ 80/8 (AGRI/WP.1/GE.4/R.48), together with government comments in the Addendum to this paper (Denmark, Norway, Poland, Sweden and Switzerland), Conference Room Paper No. 2 (Thailand, IFFJP) and LIM 3 (Federal Republic of Germany).

85. The Group of Experts discussed at length the need for the addition of preservatives to a normally stable concentrated product. The delegation of the Federal Republic of Germany said that in some instances, the hygienic conditions which were required during processing of chemically preserved products were more stringent than those where the final product was preserved by heat treatment or by freezing. It was pointed out in reply that these products were produced in tropical and semi-tropical regions where it was not always possible to guarantee adequate refrigeration during storage and transport, and where problems of spoilage due to osmophilic yeasts had been encountered. It was not possible to can and heat-treat the products as they were destined for further manufacture and the users were not in favour of opening many dozens of cans in order to use the product. In any case, because of the high acid content de-tinning of the cans was very rapid.

86. The Group of Experts firmly decided that concentrated fruit juices with preservatives would not be permitted in the preparation of fruit juices or fruit nectars intended for direct consumption. It was recognized that there was a significant world-wide trade in these commodities as ingredients in the manufacture of foods where the use of preservatives was permitted.

87. Under the circumstances a number of delegations opposed the development of the standard in principle, being of the opinion that trade between food manufacturers was beyond the normal purview of the Codex Alimentarius Commission. It was their opinion that the trade in such products was mainly based on the purchasing specifications of the buyer and the ability of producers to meet these specifications. These delegations considered that it would be sufficient to include a foot-note in the Proposed Draft Standard for Concentrated Pineapple Juice Preserved Exclusively by Physical Means to the effect that the standard did not restrict the trading of other similarly named products with chemical preservatives added, in order to elaborate provisions with respect to the trade of concentrates with chemical preservatives. As an other alternative it was suggested that appropriate guidelines might be elaborated for inclusion in the compendium of standards. However it was recognized that such guidelines would only provide advise as to how to set up national regulations and would not constitute a legal text in their own right. Attention was drawn to discussions currently under way in the Codex Committee on General Principles where an amendment has been proposed to the Acceptance Procedure which would permit the trade in such products provided that they were correctly described (ALINORM 79/35, para. 63).

88. The Group of Experts was informed by the delegations of Thailand and the United States of America that the Codex Criteria for Work Priorities allowed for the elaboration of standards where an international or regional market potential existed.

Furthermore, the Scope of the Codex Alimentarius provided for the elaboration of standards for "materials intended for further processing ... to the extent necessary to achieve the purposes of the Codex Alimentarius". In this case it was estimated that 33,000 tonnes of this product were produced annually, mainly from developing countries where the production of concentrated pineapple juice, chemically preserved, was economically important in the survival of many pineapple processing plants.

89. In accepting these arguments and not opposing to proceed with the elaboration of the standard at least at this stage, a large number of delegations reiterated their view that the standard appeared to be unnecessary. The delegations of Poland, Switzerland and the United Kingdom expressed their opposition to any further development. The Chairman stated that the further elaboration of the standard by this Group of Experts was preferable to having regional standards developed for what was, in fact, a world-wide commodity. The Codex Coordinator for Africa, Dr. T. N'Doye (Senegal) stated that the development of the standard would be of interest to a number of countries in that region.

90. The Group of Experts amended Section 1.1 Product Definition to reflect the decision reported in para. 86 above, to prohibit the use of this product as a basis for the manufacture of fruit juices and fruit nectars. The delegations of France and Switzerland were concerned at the possible use of the product in non-alcoholic beverages (soft drinks). The Chairman stated that these products were beyond the terms of reference of this Group of Experts, but noted that the Codex Committee on Food Additives had drawn up an Advisory List of Food Additives in Soft Drinks (CAC/FAL 5-1979, Part VI) and was keeping the matter constantly under review.

91. In Section 1.2 Raw Material, the Group of Experts decided to include the agreed text concerning the use of water extracts, but to place it into square brackets.

92. At the proposal of the delegation of the United Kingdom the Group of Experts deleted the minimum degree of concentration (27 degrees Brix) specified in Section 1. Process Definition, in order to allow free trade in a wider range of products. The delegation of the Federal Republic of Germany requested that an upper limit be placed on the degree of concentration at the stage when no addition of preservatives would be required. In view of the earlier statement on problems with osmophilic yeasts this suggestion was not adopted.

Essential Composition and Quality Factors

93. The Group of Experts agreed to amend this section in such a way as to remove all reference to the existing standard for pineapple juice, thus avoiding any conflict with the re-worded Product Definition. It was agreed to permit the use of lemon juice as an acidifying agent, and to indicate that the product should be free of off-flavours and discolouration.

Food Additives

94. On the advice of several delegations it was agreed to permit the use of both benzoic and sorbic acids and their sodium, potassium and calcium salts, singly or in combination, at a level of 1 g/kg calculated as the acids. The delegation of the United Kingdom noted that the use of sorbic acid and its salts was prohibited in that country, but requested the inclusion of sulphur dioxide and the salts of sulphurous acid at a maximum level of 500 mg/kg calculated as SO₂. The Group of Experts agreed to this latter proposal. The delegation of the Federal Republic of Germany was opposed to the use of sulphur dioxide.

95. The delegation of the United Kingdom also proposed the inclusion of the esters of parahydroxybenzoic acid, but several delegations pointed out that these were not as effective in acid foods as the preservatives already agreed to, and the proposal was not adopted.

Contaminants

96. The Group of Experts agreed to amend the introduction to this section to delete any reference to the standard for pineapple juice, and decided to include in the section the levels of contaminants mentioned in that standard.

Fill of Container

97. It was noted that this paragraph was intended for the protection of the consumer when purchasing retail products. As this particular product was not a retail product, and as normal commercial obligations seemed sufficient to prevent fraudulent practices, the Group of Experts decided to omit the section entirely.

Labelling

98. Upon the written proposal of the delegation of Norway, the Group of Experts decided to base this section on the Guidelines for the Labelling of Non-Retail Containers of Foods (ALINORM 79/22, Appendix IV) still under elaboration by the Codex Committee on Food Labelling. It was agreed that the provisions in these Guidelines should be applied to this food which was only traded in non-retail containers.

99. The delegations of the Netherlands and Norway proposed that the actual levels of added preservatives should be provided on the label, or in the accompanying documentation, so as to inform the user. The Group of Experts agreed to place this provision in square brackets, but did agree that the specific names of the preservatives used should be stated.

Status of the Proposed Draft Standard for Concentrated Pineapple Juice with Preservatives, for Manufacturing

100. The Chairman, noting that there was not an over-all agreement on the elaboration of this standard, asked the Group of Experts whether or not the text should be advanced to Step 5 so that the wider forum of the Commission could examine the draft and advise the Group of Experts on its future development.

101. The delegation of Switzerland, recalling its opposition to the standard, proposed that the standard be returned to Step 3 and further government comments obtained, in view of the lack of consensus in the Group of Experts.

102. The delegations of Austria, the Federal Republic of Germany, France, Netherlands, Norway, Poland and the United Kingdom were not in favour of advancing the proposed draft standard to Step 5, but agreed not to oppose the advancement particularly in view of the possibility of regional standards being established if the text were not advanced. The delegation of the Netherlands was of the opinion that the elements of the proposed draft standard would be more useful to the trade if they were re-written as guidelines to be used in conjunction with standards already developed for concentrated fruit juices preserved exclusively by physical means.

103. The Group of Experts considered all of the opinions expressed and advanced the Proposed Draft Standard for Concentrated Pineapple Juice with Preservatives to Step 5 of the Procedure. The standard is included as Appendix V to this report.

Consideration of a Proposed Draft General Standard for Concentrated Fruit Juices with Preservatives, for Manufacturing

104. The Group of Experts had before it the above standard prepared by the delegation of the Netherlands (CX/FJ 80/10 - AGRI/WP.1/GE.4/R.50) and the comments of Governments contained in Conference Room Papers 1 and 2 (Sweden and Australia respectively).

105. The Chairman asked the Group of Experts whether or not it was worthwhile to proceed with this standard in view of the problems encountered during the discussion on the Proposed Draft Standard for Concentrated Pineapple Juice with Preservatives, for Manufacturing.

106. A significant number of delegations were against continuing with work on the standard; only one delegation specifically indicated its support for the standard. In view of the opinion of such a large number of delegations the Group of Experts agreed not to discuss the proposed draft standard at the present time. The above draft standard is contained in Appendix VIII to this report for reference.

Consideration of the First Draft of a Proposed Draft Standard for Guava Nectars Preserved Exclusively by Physical Means

107. The Group of Experts had before it working paper CX/FJ 80/9 containing the first draft of a proposed Draft Standard for Guava Nectars which had been prepared by Mexico. The Group of Experts noted that the delegation of Mexico to the 13th Session of the Commission had stated that it intended to submit to this Group a working paper on guava nectars only and not on guava juice. No written government comments on the standard had yet been received.

108. The Group of Experts agreed that the Secretariat should editorially revise the draft standard to bring it in line with those other Codex standards for nectars which applied to one specific fruit only and decided to consider technical matters relating to the text.

109. It was felt that clarification was needed as to whether products could be prepared with either juice or pulp as indicated in section 2.1 (Description). The Group of Experts agreed that guava nectar was a pulpy product and that the standard wording for the description of pulpy nectars should be introduced. The delegation of Saudi Arabia drew attention to the fact that it was necessary to homogenize the fruit ingredient derived from guavas and the Group of Experts agreed that such a requirement should be included in the section of description.

110. It was proposed to raise the minimum content of fruit ingredient to 25 per cent m/m. However, it was also mentioned that in the case of guava nectar a good product could be obtained by using 20 per cent of the fruit ingredient. The Group of Experts retained the figure of 20 per cent and placed it in square brackets to request more information from governments on this matter. It was also questioned whether the figure given for soluble solids (13 per cent Brix) was appropriate. It was decided to request comments also on this provision.

111. It was decided to introduce into the draft standard the following provisions which produce also part of other nectar standards: in section 2.2 (new), a maximum level of 200 g/kg for the addition of sugars; section 2.3 (new) provision for addition of honey as sole sweetening agreed and consequential amendments to other sections of the standard; section 2.4 (new) on addition of lemon juice. The provisions concerning the

maximum level for sugars (2.2) (new) and lemon juice (2.4 new) were placed in square brackets.

112. The Group of Experts considered the need for a maximum limit for titrable acids as proposed in section 3.7 of the standard contained in the working paper. The delegation of Saudi Arabia pointed out that in view of the permitted use of acidifying agents the titrable acidity should not exceed 0.2 per cent expressed as citric acid since the flavour of the guava fruit would be lost if the acidity of the product was raised too much. The Group of Experts was further informed that the EEC Directive concerning fruit juices and similar products prescribed a minimum total acid content of 6 grams per litre of the finished product, expressed as tartaric acid. The Group of Experts agreed to include the figure proposed by Saudi Arabia in square brackets and to request more information on this matter (new section 2.8).

113. It was also agreed to delete section 3.8 (pH value) of the draft contained in the working paper.

114. The delegation of Japan enquired on the use of high fructose syrups (isomerase) in nectars. The Group of Experts agreed that the present provision on sugars would permit the use of these products which were covered by the Codex standard for glucose syrup.

115. The delegations of the Federal Republic of Germany and Poland reiterated their view that the acids included in section 4 on the food additives should not be permitted in nectars. It was also discussed whether there was a need for the addition of L-ascorbic acid in view of the natural vitamin C content of the guava fruit. However, the delegation of Saudi Arabia informed the Group that in a period of six months a loss of 30 per cent of the vitamin C content of guava nectar could be demonstrated. The Group of Experts retained the provisions for acids but added the qualification "as antioxidant" to L-ascorbic acid.

116. Several delegations expressed the view that a nectar prepared from guava had a very unattractive colour. Whereas it was recognized that many governments did not agree to the addition of colours to fruit juices or nectars it was decided that in this specific case there might be a need to add a red colour to make the product compatible at the market. It was decided to include into the section on food additives a provision for red colour (new section 3.4) and to request governments to propose one or more red colours which were permitted in the Codex list of approved food additives and to indicate a maximum level as appropriate which should be based on the ADI for the proposed colour. Consequential to this decision it was agreed to place the word "colour" in the requirements for organoleptic properties (new section 2.7) in square brackets, until a decision has been taken on the colouring matter. A footnote was added to the provision on tin in the section of contaminants (new section 4.6) indicating that the figure of 250 mg/kg remained under review. Section 7 (new) on labelling was brought in line with other nectar standards.

Status of the Standard

117. The Group of Experts decided to advance the Proposed Draft Standard for Guava Nectars Preserved Exclusively by Physical Means to Step 3 of the Procedure and to request government comments on it. The Group of Experts expressed its thanks to Mexico for having prepared the working paper on guava nectars. The standard is contained in Appendix VI to this report.

Consideration of a First Draft for a Proposed Draft General Standard (Guidelines) for Mixed Fruit Juices, Nectars, etc.

118. The Group of Experts had before it document CX/FJ 80/11 containing the text for the above standard (guidelines) which had been prepared by the delegation of the Netherlands following the discussions at the previous session of a background paper on the same subject. The Group of Experts thanked the delegation of the Netherlands for providing it with a detailed list of essential points which would form part of such a standard or guideline. Written comments on document CX/FJ 80/11 had been received from Australia (Lim 2).

119. It was pointed out that governments had had the opportunity to study the proposed text and that it would be appropriate to decide whether a general standard or a guideline should be elaborated. It was explained that a standard would be more restrictive and its elaboration would take more time, whereas a guideline was of advisory nature and could be used to assist governments in drawing up national regulations on the matter if they wished to do so. The Group of Experts concluded that it would be very useful to have such guidelines available and decided that they should be elaborated by the Group of Experts.

120. It was further decided that the title should read "Guidelines on Mixed Fruit Juices and Mixed Fruit Nectars" and that provisions for mixed concentrated fruit juices should not be included.

121. In order to determine which individual provisions should form part of the guidelines on mixed fruit juices and mixed fruit nectars, the Group of Experts decided to discuss the essential points related to compositional and labelling requirements in a more general way based on the views and provisions contained in the working paper. It was felt that this would help the author country to revise the present text before it was sent to governments for further comments.

Mixed Fruit Juices

122. The Group of Experts discussed the suitability of the denomination "Mixed Fruit Juices". The delegation of the Federal Republic of Germany drew attention to some difficulties in translating the term. Attention was further drawn to the fact that there was a need to clarify the meaning of the terms "blending" and "mixing". One delegation pointed out that blending was theoretically done with juices derived from different varieties of the same species, whereas mixing involved fruit juices of different species but agreed with other delegations which felt that both terms could be interchanged.

123. It was also discussed whether the term "cocktail" could be permitted. Several delegations were of the opinion that this term had normally some connotation to mixtures with alcohol; a tomato juice cocktail marketed in the United Kingdom contained tomato juice and Worcester sauce.

124. The view was also expressed that the essential composition of the product should be reflected in the name of the product. This led to a discussion on Section 3 (c) of the draft and in particular whether quantitative and organoleptic considerations should determine the ways in which the different juices would be expressed on the label. The Chairman drew attention to increasing interest of the consumer to being informed on the nutritional properties of the different fruit juices.

125. The Group of Experts felt that there were different ways in which a meaningful declaration of the name of the food could be achieved. One of them was to list the fruit

juices present in the mixture by their predominance either by weight or organoleptic properties, with the exception of juices in very small quantities which would be mentioned in close proximity to the name of the food. Figures of 5 per cent and 10 per cent were suggested to make the above distinction. The actual proportions could be included in the list of ingredients probably in order of predominance in weight.

126. Another proposal was to give the percentage of the actual juice content in conjunction with each of the juices. However, it was pointed out that the percentage may vary from season to season due to the availability of the juice component and this would impose unnecessary labelling difficulties.

127. Attention was drawn to certain products which contained a very large number of different juices, such as tropical fruit juice mixtures or vegetable juice mixtures. In these cases the listing of fruit juices would be impractical, especially on small containers. It was therefore suggested that the names of juices present in quantities of 5 per cent and 10 per cent might be separated from the name and declared en bloc.

128. The view was expressed that mixtures of relatively bland juices to which a small quantity of a strongly flavoured juice had been added might present a case where the consumer could be deceived as to the true nature of the product. Special attention should be paid to this matter in revising the draft. The same would apply to juices which were added to improve the colour of the final product.

129. The pictorial presentation should be in no way deceptive and should not include other juices or fruits than those contained in the product.

130. The Group of Experts decided that certain aspects relating to the composition would have to be part of the guidelines. Examples were: maximum number of juices permitted and minimum levels of addition. The Group felt that it would not be appropriate to limit the number of juices in a product, in order to allow for consumer preferences and economic considerations on the availability of the different juices. In view of the organoleptic properties of the juices and the different purpose of their addition it was felt that no minimum level of addition should be prescribed. In connexion with the organoleptic properties of the product, it was suggested that addition of volatiles which had been removed from the juice previously should not be mandatory. In this context it was also agreed that a component should not be required to impart on the product distinct sensory characteristics in all cases.

131. It was proposed that the question of lemon juice addition to fruit juices should not be considered as an admixture only; but also as an acidifying agent. The level of addition depended indeed on the amount of acid needed to raise the acidity of the product to the desired level. It was decided that the above consideration should at present not be applied to the standards already elaborated.

132. The Group of Experts agreed that the guidelines should contain a provision stating that the appropriate sections of individual fruit juice standards should also apply to mixed fruit juices.

Mixed Fruit Nectars

133. The Group of Experts agreed that the points raised above relating to the pictorial representation, to characterizing or functional properties and to the name of the product were also applicable to mixed fruit nectars. In addition thereto it was discussed whether the different nectars used in the mixture should have to comply with the requirements of individual standards with regard to fruit ingredient content and sugar content or whether

separate provisions should be elaborated for the mixed fruit nectar. Attention was drawn to the fact that no standards had been established for a large number of possible fruit nectars for which therefore no minimum fruit ingredient requirements were available. It was pointed out that the EEC had laid down relevant requirements for a large number of fruits. In addition it established a minimum level of 50 per cent for those fruits with juice edible in their natural state which had not been mentioned by name; and a minimum level of 25 per cent for fruits with highly acid juice inedible in their natural state not listed in the directive. It was agreed that consideration should be given to the EEC directive when drafting these provisions for the purpose of the guideline.

134. The Group of Experts agreed to propose a minimum level of 13 per cent m/m Brix for the soluble solid content of all mixed fruit nectars. It was also agreed to include a provision that the relevant sections of the individual nectar standards should apply to produces covered by that guideline.

Status of the Guidelines

135. The Group of Experts requested the delegation of the Netherlands to revise the text of the Guidelines on Mixed Fruit Juices and Mixed Fruit Nectars in the light of the above considerations and agreed that the revised guidelines should be sent out in good time prior to the next session to obtain government comments.

RESIDUES OF PRESERVATIVES USED IN JUICES AS INGREDIENTS

136. The Group of Experts had before it a Secretariat paper on this subject (CX/FJ 80/12; AGRI/WP.1/GE.4/R.52) which explained the application of the Carry-Over Principle as developed by the Codex Committee on Food Additives (ALINORM 76/12, Appendix III). The paper was based on the premise that preserved concentrated fruit juices might be used in the preparation of fruit juices and fruit nectars by reconstitution.

137. The Group of Experts restated its firmly held position that concentrated fruit juices with preservatives should not be used for the preparation of fruit juices or fruit nectars, and that therefore the problem originally foreseen when the Proposed Draft Standard for Concentrated Pineapple Juice with Preservatives was first proposed, in fact no longer existed. Nevertheless, the Group of Experts noted that where such products were used as ingredients in other foods, the food manufacturer should take the Carry-Over Principle into account.

ELECTION OF CHAIRMAN AND VICE-CHAIRMEN

138. The Group of Experts unanimously elected Professor Dr. W. Pilnik (Netherlands) as its Chairman, and Mr. W. Orłowski (Poland) and Professor A. Bhumiratana (Thailand) as its Vice-Chairmen to serve until the end of the fifteenth session.

OTHER BUSINESS

139. The Group of Experts re-examined its work programme and noted with satisfaction the considerable progress made since its last session. The current future work programme of the Group of Experts would include:

- (1) Nectars of Certain Citrus Fruits Preserved Exclusively by Physical Means, at Step 8.
- (2) Concentrated Pineapple Juice Preserved Exclusively by Physical Means, at Step 5.
- (3) Concentrated Pineapple Juice with Preservatives, for Manufacturing, at Step 5.

- (4) Pulpy Mango Nectar Preserved Exclusively by Physical Means, at Step 5.
- (5) Guava Nectar Preserved Exclusively by Physical Means, at Step 3.
- (6) Mango Juice Preserved Exclusively by Physical Means, at Step 4.
- (7) General Standard for Concentrated Fruit Juices Chemically Preserved, for Manufacturing (First Draft, in abeyance).
- (8) General Guidelines on Mixed Fruit Juices and Mixed Fruit Nectars.
- (9) Bulk Sampling and Sampling Plans for Prepackaged Products.
- (10) Contaminants (see also para. 78).
- (11) Date Marking.
- (12) Fill of containers (see also para. 79).

The Group of Experts noted that the response to its offer to study standard for tropical and semi-tropical products had been quite gratifying, and renewed its offer to continue with such work provided that the necessary basic documents and information were made available by the interested countries. The Codex Coordinator for Africa said that he would raise this subject at the next session of the Coordinating Committee for Africa.

DATE AND PLACE OF NEXT SESSION

140. The Group of Experts was informed that the next session would be held during the next biennium and additional information would be made available in due course.

LIST OF PARTICIPANTS*
LISTE DES PARTICIPANTS
LISTA DE PARTICIPATES

Chairman: Prof. Dr. W. Pilnik
Department of Food Science
Agricultural University
De Dreijen 12
Wageningen, The Netherlands

Vice-Chairman: Mr. W. Orlowski
Chief, Fruit and Vegetables Section
Quality Inspection Office
Ministry of Foreign Trade and Shipping
Zurawia 32/34
Warsaw, Poland

AUSTRIA
AUTRICHE

Mr. F. Lorenz
Ministry of Health and Environmental
Protection
c/o Marktamtsabteilung f.d. 10 Bezirk
V. Adler Platz 14
A-1100 Vienna, Austria

Mr. H. Woidich
Lebensmittelversuchsanstalt
Blaasstrasse 29
A-1190 Vienna, Austria

BRAZIL
BRESIL
BRASIL

Mr. M.A. Malafaia
Secrétaire de l'Inspection des végétaux
Ministère de l'agriculture
Ed. Venâncio 2000 - 3L. B/60
Sala 345
Brasilia, Brazil

FINLAND
FINLANDE
FINLANDIA

Mrs. T.K. Kuusi
Research Officer
Laboratory for Food Research and
Technology
Technical Research Centre of Finland
Biologinhuja 7
Espoo 15, Finland

Mr. M. Tuokko
Senior Inspector
The National Board of Trade and
Consumer
Interests
Box 9
00531 Helsinki 53, Finland

FRANCE
FRANCIA

Mr. D. Hulaud
Inspecteur principal
Direction de la qualité
Ministère de l'agriculture
44 Bd. de Grenelle
75015 Paris, France

GERMANY, Fed. Rep. of
ALLEMAGNE, Rép. Féd. d'
ALEMANIA, Rep. Fed. da

Mr. K. Evers
Regierungsdirektor, Bundesministerium
für Jugend, Familie und Gesundheit
Deutschherrenstr. 89
D-5300 Bonn 2,
Fed. Rep. of Germany

Mr. H.J. Bielig
Director,
Institute of Food Technology
Technische Universität
Konigin Luise Str. 22
1000 Berlin 33, Fed. Rep. of Germany

Mr. A. Korth
Federation of German Fruit Juices
Producers
Konstantinstr. 3
D-5300 Bonn 2 (Bad Godesberg),
Fed. Rep. of Germany

Mr. K. Trenkle
Bundesministerium für Ernährung
Landwirtschaft und Forsten
Postfach 14 02 70
D-5300 Bonn 1, Fed. Rep. of Germany

JAPAN
JAPON
JAPON

Mr. Y. Komura
Technical Advisor
Japan Fruit Juice Association
Nr. 1-12
Nihonbashi 2-Chome
Chuo-Ku
Tokio, Japan

Mr. F. Fukutomi
Technical Advisor
Japan Fruit Juice Association
Nr. 1-12
Nihonbashi 2-Chome
Chuo-Ku
Tokyo, Japan

Mr. O. Nozaki
First Secretary
Permanent Mission of Japan in Geneva
Geneva
Switzerland

KUWAIT
KOWETT

Mr. Y. Al-Moutawa
Head of Public Health Laboratory
Dept. of Health and Planning
Ministry of Health, Kuwait

NETHERLANDS
PAYS-BAS
PAISES BAJOS

Mr. W.G. Aldershoff
Ministry of Public Health and
Environmental Hygiene
P.O. Box 439
2260 AK Leidschendam, Netherlands

Mr. W. Pilnik
Dept. of Food Science
Agricultural University
De Dreijen 12
Wageningen, Netherlands

Miss V.J.H.M. ten Holder
Ministry of Agriculture and Fisheries
P.O. Box 20401
2500 EK The Hague, Netherlands

Mr. G.J.B. Koenen
Commodity Board for Fruit and
Vegetables
Bezuidenhoutseweg 153
2594 AG The Hague, Netherlands

NORWAY
NORVEGE
NORUEGA

Mr. T. Østmo
Head of Section
Food Inspection
Ministry of Agriculture
Gladengveien 3b
N-Oslo 6, Norway

POLAND
POLOGNE
POLONIA

Mr. W. Orłowski
Chief
Fruit and Vegetables Section
Quality Inspection Office
Ministry of Foreign Trade and Shipping
Zurawia 32/34
Warsaw, Poland

SAUDI ARABIA
ARABIE SAOUDITE
ARABIA SAUDITA

Mr. S. Massode
Director of Quality Control Laboratory
Saudi Arabia Standard Organization
P.O. Box 3437
Riyadh, Saudi Arabia

Mr. H. Rashad
Head of Section
Saudia Arabia Standard Organization
P.O. Box 3437
Riyadh, Saudi Arabia

Mr. Kamal E. Youssef
Professor of Food Science and
Technology
Saudia Arabia Standards Organization
P.O. Box 3437
Riyadh, Saudi Arabia

SENEGAL

Dr. T. N' Doye
Bureau d'alimentation et de nutrition
appliquée
Ministère de la santé et des Affaires
sociales
Dakar, Senegal

SPAIN
ESPAGNE
ESPAÑA

Mr. J. Royo-Iranzo
Instituto de Agroquímica y Tecnología
de Alimentos
Calle Alvaro de Bazán 3
Valencia 10, Spain

Mr. L. Esteban
Conseiller commercial
Mission permanente à Genève
(Geneva, CH)

SWITZERLAND
SUISSE
SUIZA

Mr. P. Rossier
Head of Codex Section
Federal Office of Public Health
Haslerstrasse 16
CH-3008 Berne, Switzerland

Mr. F. Ansermet
Régie fédérale des alcools
Langasstrasse 31
CH-3012 Berne, Switzerland

Mr. H.U. Daepf
Vice-Directeur de la Fruit Union Suisse
CH-3600 Zug 2, Switzerland

Mrs. I. Du Bois
Spécialiste de la législation alimentaire
c/o Nestec
Case postale 88
1814 La Tour de Peilz, Switzerland

Mr. E. Lauber
Chef de Section
Office fédéral de la santé publique
Haslerstrasse 16
CH-3008 Berne, Switzerland

Mr. U. Schobinger
Chef de la section de chimie et
biologie des boissons
Station fédérale de recherches en
arboriculture, viticulture et
horticulture
8820 Wädenswil, Switzerland

THAILAND
THAÏLANDE
TAILANDIA

Prof. A. Bhumiratana
Director
Institute of Food Research and
Product Development
Kasetsart University
P.O. Box 4-170
Bangkok 4, Thailand

TURKEY
TURQUIE
TURQUIA

Mr. I. Yargan
Conseiller commercial adjoint
Mission permanente de la Turquie
à Genève
Geneva
Switzerland

UNITED KINGDOM
ROYAUME-UNI
REINO UNIDO

Mr. R.L. Alderton
Higher Executive Officer
Ministry of Agriculture
Fisheries and Food
Great Westminster House
Horseferry Road
London SW1P 2 AE, United Kingdom

Mr. K.J. Dale
Senior Scientific Officer
Ministry of Agriculture
Fisheries and Food
Great Westminster House
Horseferry Road
London SW1P 2 AE, United Kingdom

Mr. W.T. Watkins
Citrus Projects Manager
Cadbury-Schweppes Ltd.
Grosvenor Road
St. Albans
Herts, United Kingdom

UNITED STATES OF AMERICA
ETATS-UNIS D'AMERIQUE
ESTADOS UNIDOS DE AMERICA

Dr. R.W. Weik
Assistant to the Director
Bureau of Foods (HFF-4)
Food and Drug Administration
200 C Street, S.W.
Washington, D.C. 20204, USA

Mr. L.M. Beacham
Advisor to the President
National Food Processors Association
1133 20th Street
N.W. Washington, D.C. 20036, USA

Mrs. Gloria E.S. Cox
Chief Executive Officer
Cox & Cox Investments
12006 Auth Lane
Silver Spring
MD 20902, USA

Mr. R. Mori
Director
Castle and Cooke Inc.
50 California Street
San Francisco, CA 94111, USA

OBSERVER COUNTRY
PAYS OBSERVATEUR
PAIS OBSERVADOR

SOUTH AFRICA
AFRIQUE DU SUD
SUDAFRICA

Mr. S. Luckhoff
Assistant to the Director
Ministry of Agriculture and Fisheries
Private Bag X258
Pretoria 0001, South Africa

INTERNATIONAL ORGANIZATIONS
ORGANIZATIONS INTERNATIONALES
ORGANIZACIONES
INTERNACIONALES

ASSOCIATION OF OFFICIAL
ANALYTICAL
CHEMISTS (AOAC)

Dr. R.W. Weik
Assistant to the Director
Bureau of Foods (HFF-4)
Food and Drug Administration
200 C Street
Washington D.C. 20204, USA

FEDERATION INTERNATIONALE DES
PRODUCTEURS
DE JUS DE FRUITS (FIJU)

Mr. P. Dardonville
Secrétaire général 10 rue de
Liège 75009 Paris, France

EUROPEAN ECONOMIC COMMUNITY
(EEC)

Mr. E. Gaerner
Administrateur principal
Commission des Communautés
européennes
200 rue de la Loi
B-1049 Bruxelles, Belgium

Mr. M. Graf
Administrateur principal
Secretariat général du Conseil des
Communautés européennes
170 rue de la Loi
B-1048 Bruxelles, Belgium

JOINT SECRETARIAT
SECRETARIAT MIXTE
SECRETARIA CONJUNTA

Mrs. B. Dix
Food Standards Officer
Joint FAO/WHO Food Standards
Programme
FAO, Via delle Terme di Caracalla
00100 Rome, Italy

Dr. A. Randell
FAO/ECE Agriculture and Timber
Division
Palais des Nations
1211 Geneva 10
Switzerland

- * The Heads of Delegations are listed first.
Les chefs de délégations figurent en tête.
Figuran en primer lugar los Jefes de las delegaciones.

DRAFT STANDARD FOR NECTARS OF CERTAIN CITRUS FRUITS
PRESERVED EXCLUSIVELY BY PHYSICAL MEANS
(advanced to step 8 of the procedure)

1. SCOPE

This standard applies individually to nectars made from the following species of citrus fruits:

Orange (Citrus sinensis L. Osbeck)
Mandarine, tangerine, etc. (Citrus reticulata)
Grapefruit (Citrus paradisi Macfadyen)

2. DESCRIPTION

2.1 Unfermented but fermentable product, intended for direct consumption, obtained by blending a juice, a reconstituted concentrated juice and/or the sieved or ground endocarp of a specified citrus fruit with water, sugars or honey, and preserved exclusively by physical means ¹.

¹ For the purpose of this standard preservation by physical means does not include ionizing radiation.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Minimum Content of Fruit Ingredient

3.1.1 The minimum content of single strength fruit ingredient or the equivalent derived from concentrated fruit ingredient shall not be less than 50% m/m.

3.1.2 The addition of 10% m/m mandarine fruit ingredient (*C. reticulata*), related to the orange fruit ingredient content, to the orange nectar is permitted.

3.2 Sugars

One or more of the sugars as defined by the Codex Alimentarius Commission shall be added. The total quantity of added sugars or honey, calculated as dry matter, shall not exceed 200g/kg of the final product.

3.3 Honey

Honey, as defined by the Codex Alimentarius Commission, may be used if it is the sole added sweetening ingredient.

3.4 Soluble Solids

The soluble solids content of these products shall be not less than 12.0% m/m as determined by refractometer at 20 c, uncorrected for acidity and read as Brix on the International Sucrose Scales.

3.5 Ethanol Content

The ethanol content shall not exceed 3 g/kg.

3.6 Lemon Juice

Lemon juice may be added as an acidifying agent.

3.7 Essential Oils

The essential oils content shall not exceed 0.4 ml/kg.

3.8 Organoleptic Properties

The product shall have the characteristic colour, aroma and flavour of the fruit from which it is made, taking into consideration the addition of honey in substitution for sugars. Natural volatile components of the specified fruit may be added.

4. CONTAMINANTS (subject to endorsement by the Codex Committee on Food Additives)

	<u>Maximum Level</u>
4.1 Arsenic (As)	0.2 mg/kg
4.2 Lead (Pb)	0.3 mg/kg
4.3 Copper (Cu)	5 mg/kg
4.4 Zinc (Zn)	5 mg/kg
4.5 Iron (Fe)	15 mg/kg
4.6 Tin (Sn)	250 mg/kg ¹
4.7 Sum of copper, zinc and iron	20 mg/kg
4.8 Sulphur dioxide	10 mg/kg

¹ Remains under review.

5. HYGIENE

5.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the General Principles of Food Hygiene (Ref. No. CAC/RCP "-- 1969) recommended by the Codex Alimentarius Commission.

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

- (a) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (b) shall not contain any substances originating from micro-organisms in amounts which may present a hazard to health.

6. WEIGHTS AND MEASURES

6.1 Fill of Container

6.1.1 Minimum Fill

The nectar shall occupy not less than 90% v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold when completely filled.

7. LABELLING (subject to endorsement by the Codex Committee on Food Labelling)

In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following provisions apply:

7.1 The Name of the Food

7.1.1 The name of the product shall be "X nectar" or "pulpy X nectar", or "nectar of X" or "pulpy nectar of X" where "X" represents the name of the citrus fruit used.

7.1.2 The words "Minimum fruit content X%" shall appear in close proximity to the name of the product where "X" is the actual minimum percentage of fruit ingredient in the final product.

7.2 List of Ingredients

A complete list of ingredients including added water shall be declared on the label in descending order of proportion.

7.3 Net Contents

The net contents shall be declared by volume in one or more of the following systems of measurement: Metric ("Système International"), US or British units, as required by the country in which the product is sold; for British units, units of capacity measurement shall be used.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter, or vendor of the product shall be declared.

7.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.6 Additional Requirements

The following additional specific provisions shall apply:

7.6.1 No fruit, fruit juice or fruit nectar may be represented pictorially on the label than that of the species of fruit from which the nectar is made.

7.6.2 When the product contains honey the declaration "contains honey" shall be in close proximity to the name of the product.

7.6.3 Where citrus fruit nectars are required to be kept under frozen or refrigerated conditions, there shall be information for keeping and if necessary thawing of the product.

7.7 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear, to identify the producing factory and the lot.

7.8 Bulk Packs

In the case of citrus fruit nectar in bulk, the information required in 7.1.1 to 7.7 shall be given on the container or in accompanying documents except that the name of the product and the name and address of the manufacturer should appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying document.

8. METHODS OF ANALYSIS AND SAMPLING²

The methods of analysis and sampling referred to hereunder are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

² For details on classification of methods of analysis see Appendix VII.

8.1 Taking of Sampling and Expression of Results as m/m

According to the IFJU method No. 1, 1968, Determination of relative density and the IFJU General Sheet, 1971, Conversion of analytical results from m/v (g/l, mg/l) to m/m (g/kg, mg/kg) and the reverse.

8.2 Test for Fermentability

According to the IFJU method No. 18, 1974, Fermentation Test. Results are expressed as "positive" or "negative".

8.3 Determination of Minimum Content of Fruit Ingredient

(To be elaborated)

8.4 Determination of Sugars

According to the IFJU method No. 4, 1968, Determination of sugar (Luft-School method). Results are expressed as % m/m.

8.5 Determination of Honey

(To be elaborated)

8.6 Determination of Soluble Solids

According to the IFJU method No. 8B, 1968), Estimation of soluble solids, indirect determination (see Official Methods of Analysis of the AOAC, 1975, 22.019, 31.009 and 52.010). Results are expressed as % m/m sucrose ("degrees Brix") with correction for temperature to the equivalent at 20 C.

8.7 Determination of Ethanol

According to the IFJU method No. 2, 1968, Determination of alcohol (Ethyl alcohol) ¹. Results are expressed as g ethanol/kg.

¹ To be amended by IFJU to take into account operating temperatures higher than 20°C.

8.8 Determination of Essential Oils

According to the AOAC (1970) method (Official Methods of Analysis of the AOAC, 1970, 22.096 - 22.097 and 19.117 Essential Oil (37) - Official First Action)). Results are expressed as ml essential oils/kg.

8.9 Determination of Arsenic

According to the IFJU method No. 47, 1973, Determination of arsenic (Method No. A.34/F of the "Office International de la Vigne et du Vin"). Results are expressed as mg arsenic/kg.

8.10 Determination of Lead

According to the IFJU method No. 14, 1964, Determination of lead (photometric method) ¹. Results are expressed as mg lead/kg.

¹ Temporarily endorsed pending Codex General Methods.

8.11 Determination of Copper

According to the IFJU method No. 13, 1964, Determination of copper (photometric method). Results are expressed as mg copper/kg.

8.12 Determination of Zinc

According to the AOAC (1975) method (Official Methods of Analysis of the AOAC, 1975, 25.136 - 25.142, Zinc-Official First Action, Colorimetric Method (26))². Results are expressed as mg zinc/kg.

² Temporarily endorsed pending consideration by IFJU Working Group of AAS method (AOAC 1975, 25.143 - 25.147) for general use in fruit juices.

8.13 Determination of Iron

According to the IFJU method No. 15, 1964, Determination of iron (photometric method). The determination shall be made after dry ashing as described in Section 5 - Remark (b). Results are expressed as mg iron/kg.

8.14 Determination of Tin

(To be elaborated)

8.15 Determination of Sulphur Dioxide

According to the IFJU method No. 7, 1968, Determination of total sulphur dioxide. Results are expressed as mg SO₂/kg.

8.16 Determination of Water Capacity and Fill of Containers

According to the method published in the Almanac of the Canning, Freezing, Preserving Industries, 55th Edition, 1970, p. 131-132, E.E. Judge and Sons, Westminster MD (USA)³.

³ Reproduced in ALINORM 71/23, Appendix V. Endorsement suspended pending review of Codex methods.

PROPOSED DRAFT STANDARD FOR MANGO JUICE
PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

(retained at Step 4)

1. DESCRIPTION

Unfermented but fermentable juice intended for direct consumption obtained by a mechanical process from sound, ripe mangoes (Mangifera Indica L.) preserved exclusively by physical means ¹ The juice may be prepared from fresh mango pulp or mango pulp preserved without any chemical preservative with the addition of water, natural sweeteners and other ingredients appropriate to the product, while maintaining the essential composition and quality factors of the juice.

¹ For the purposes of this standard preservation by physical means does not include ionizing radiation.

1.1 Varietal Types

Any commercial cultivated variety/varieties of mango suitable for manufacture of juice may be used.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Basic Ingredients

2.1.1 Minimum Content of Fruit Ingredients

The product shall contain not less than [50% m/m] of fruit pulp. The pulp shall be passed through a finisher with not more than 0.8 mm mesh sieve.

2.1.2 Sugars

One or more solid sugars, as defined by the Codex Alimentarius Commission may be added.

2.1.3 Total Soluble Solids

The total soluble solids in mango juice shall be not less than 15 as determined by refractometer at 20 C uncorrected for acidity and read as Brix on the International Sucrose Scales.

2.1.4 Ethanol content

The ethanol content shall not exceed 3 g/kg.

2.2 Quality Factors

2.2.1 The product, when packed, shall be free from burnt or objectionable taints and flavours and shall have a good consistency.

2.2.2 Fruit skin, stem residue, fibrous matter, larva, insect fragments or any other foreign matter shall not be present in the juice.

2.2.3 The product shall be practically free from black specks.

2.3 Organoleptic Properties

The product shall have the characteristic colour, aroma and flavour of the variety/varieties of mango used.

3. FOOD ADDITIVES (subject to endorsement by the Codex Committee on Food Additives)

3.1 Acidifying Agents

	<u>Maximum Level</u>
3.1.1 Citric acid	Limited by GMP
3.1.2 Malic acids	
3.1.3 Fumaric acid	
3.2 <u>Natural Colour</u>	Limited by GMP
Beta carotene	

4. CONTAMINANTS (subject to endorsement by the Codex Committee on Food Additives)

	<u>Contaminant</u>	<u>Maximum Level</u>
4.1	Arsenic (As)	0.2 mg/kg
4.2	Lead (Pb)	0.3 mg/kg
4.3	Copper (Cu)	5.0 mg/kg
4.4	Zinc (Zn)	5.0 mg/kg
4.5	Iron (Fe)	15 mg/kg
4.6	Tin (Sn)	250 mg/kg ¹
4.7	Sum of copper, zinc and iron	20 mg/kg
4.8	Sulphur dioxide	10 mg/kg

¹ Remains under review.

5. HYGIENE (subject to endorsement by the Codex Committee on Food Hygiene)

5.1 It is recommended that the product covered by the provisions of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1969) recommended by the Codex Alimentarius Commission.

5.2 When tested by appropriate methods of sampling and examination the product

(a) shall be free from micro-organisms capable of development under normal conditions of storage; and

(b) shall not contain any substances originating from micro-organisms in amounts which may represent a hazard to health.

6. WEIGHTS AND MEASURES

6.1 Fill of Container

6.1.1 Minimum Fill

The mango juice shall occupy not less than 90 per cent v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20 C which the sealed container will hold when completely filled.

7. LABELLING (subject to endorsement by the Codex Committee on Food Labelling)

In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969) the following provisions apply:

7.1 The Name of the Food

The name of the food shall be "Mango Juice".

7.2 List of Ingredients

A complete list of ingredients including added water shall be declared on the label in descending order of proportion.

7.3 Net Contents

The net contents shall be declared by volume in one or more of the following systems of measurement: Metric ("Système International"), United States or British units, as required by the country in which the product is sold; for British units, units of capacity measurement shall be used.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

The country of origin of the product shall be declared if the omission would mislead or deceive the consumer.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Additional Requirements

The following additional specific provisions shall apply:

7.7.1 No fruit or fruit juice may be represented pictorially on the label except mangoes or mango juice.

7.7.2 Where mango juice requires to be kept under conditions of refrigeration, there shall be information for keeping and, if necessary, thawing of the product.

7.8 Bulk Packs

In the case of mango juice in bulk, the information required by Sections 7.1 to 7.7.2 shall either be given on the container or in accompanying documents except that the name of the product and the name and address of the manufacturer or packer should appear on the container. However, the name and address of the manufacturer or - packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

(To be completed)

PROPOSED DRAFT STANDARD FOR PULPY MANGO NECTAR
PRESERVED EXCLUSIVELY BY PHYSICAL MEANS
(at Step 5 of the Procedure)

1. DESCRIPTION

1.1 Unfermented but fermentable pulpy product, intended for direct consumption, obtained by blending the total edible sieved or ground and homogenized product of sound, ripe mangoes (*Mangifera Indica L.*) as defined in Section 1.2 concentrated or unconcentrated with water and sugars or honey and preserved exclusively by physical means.¹

¹ For the purposes of this standard preservation by physical means does not include ionizing radiation.

1.2 Varietal Types

Any commercially cultivated variety or varieties of mango suitable for the manufacture of the nectar may be used.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Minimum Content of Fruit Ingredient

The minimum content of single strength fruit ingredient or the equivalent from concentrated fruit ingredient shall not be less than [30%] m/m.

2.2 Sugars

One or more of the sugars as defined by the Codex Alimentarius Commission shall be added. [the total quantity of added sugars or honey, calculated as dry matter, shall not exceed 200 g per kg of the final product].

2.3 Honey.

Honey, as defined by the Codex Alimentarius Commission, may be used if it is the sole added sweetening agent.

2.4 Lemon Juice

Lemon juice may be added as an acidifying agent.

2.5 Soluble Solids

The soluble solid content of the product shall be not less than 15% m/m as determined by refractometer at 20 C uncorrected for acidity and read as Brix on the International Sucrose Scales.

2.6 Ethanol Content

The ethanol content shall not exceed 3 g/kg.

2.7 Organoleptic Properties

The product shall have the characteristic colour, aroma and flavour of the variety or varieties of mango from which it is made, taking into consideration the addition of honey in substitution for sugars.

3. FOOD ADDITIVES (Subject to endorsement by the Codex Committee on Food Additives)

	<u>Maximum Level</u>
3.1 Citric acid	Limited by GMP
3.2 Malic acids	“ “ “
3.3 Fumaric acid	Mg/kg*
3.4 Beta carotene added in amounts to adjust and standardize the natural colour of the product)	Limited by GMP

* Figure to be supplied by the delegation of India.

4. CONTAMINANTS (subject to endorsement by the Codex Committee on Food Additives)

<u>Contaminant</u>	<u>Maximum Level</u>
4.1 Arsenic (As)	0.2 mg/kg
4.2 Lead (Pb) s	0.3 mg/kg
4.3 Copper (Cu)	5.0 mg/kg
4.4 Zinc (Zn)	5.0 mg/kg
4.5 Iron (Fe)	15.0 mg/kg
4.6 Tin (Sn)	250.0 mg/kg ¹
4.7 Sum of copper, zinc and iron	20.0 mg/kg
4.8 Sulphur dioxide	10.0 mg/kg

¹ Remains under review.

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1969) recommended by the Codex Alimentarius Commission.

- 5.2 When tested by appropriate methods of sampling and examination the product:
- (a) shall be free from micro-organisms capable of development under normal conditions of storage; and
 - (b) shall not contain any substance originating from micro-organisms in amounts which may represent a hazard to health.

6. WEIGHTS AND MEASURES

6.1 Fill of Container

6.1.1 Minimum Fill

The mango nectar shall occupy not less than 90 per cent v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water of 20° C which the sealed container will hold when completely filled.

7. LABELLING (subject to endorsement by the Codex Committee on Food Labelling)

In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969) the following provisions apply:

7.1 The Name of the Food

7.1.1 The name of the product shall be "mango nectar" or "pulpy mango nectar".

7.1.2 The words "minimum fruit content x%" shall appear in close proximity to the name of the product where "x" represents the actual minimum percentage of fruit ingredient in the final product.

7.2 List of Ingredients

A complete list of ingredients including added water shall be declared on the label in descending order of proportion.

7.3 Net contents

The net contents shall be declared by volume in one or more of the following systems of measurement: Metric ("Système International"), United States or British Units, as required by the country in which the product is sold; for British Units, units of capacity measurement shall be used.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Additional Requirements

The following additional specific provisions shall apply:

7.7.1 No fruit or fruit nectar may be represented pictorially on the label except mangoes or mango nectar.

7.7.2 When the product contains honey the declaration "contains honey" shall be in close proximity to the name of the product.

7.7.3 Where mango nectar is required to be kept under frozen or refrigerated conditions, there shall be information for keeping and, if necessary, thawing of the product.

7.8 Bulk Packs

In the case of mango nectar in bulk, the information required by Sections 7.1.1 to 7.7.3 shall either be given on the container or in accompanying documents except that the name of the product and the name and address of the manufacturer or packer should appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

(To be endorsed by the Codex Committee on Methods of Analysis)

8.1 Taking of Sample and Expression of Results as m/m

According to the IFJU method No. 1, 1968, Determination of relative density and the IFJU General Sheet, 1971, Conversion of analytical results from m/v (g/l, mg/l) to m/m (g/kg, mg/kg) and the reverse.

8.2 Test for Fermentability

According to the IFJU method No. 18, 1974, Fermentation Test. Results are expressed as "positive" or "negative".

8.3 Determination of Minimum Content of Fruit Ingredient

(To be elaborated)

8.4 Determination of Sugars

According to the IFJU method No. 4, 1968, Determination of sugar (Luft-Schoolr method). Results are expressed as % m/m.

8.5 Determination of Honey

(To be elaborated)

8.6 Determination of Soluble Solids

According to the IFJU method No. 8B, 1968, Estimation of soluble solids, indirect determination (see Official Methods of Analysis of the AOAC, 1975, 22.019, 31.009 and 52.010). Results are expressed as % m/m sucrose ("degrees Brix") with correction for temperature to the equivalent at 20 C.

8.7 Determination of Ethanol

According to the IFJU method No. 2, 1968, Determination of alcohol (Ethyl alcohol) ¹. Results are expressed as g ethanol/kg.

¹ To be amended by IFJU to take into account operating temperatures higher than 20 C.

8.8 Determination of Arsenic

According to the IFJU method No. 47, 1973, Determination of arsenic (Method No. A.34/F of the "Office International de la Vigne et du Vin"). Results are expressed as mg arsenic/kg.

8.9 Determination of Lead

According to the IFJU method No. 14, 1964, Determination of lead (photometric method) ². Results are expressed as mg lead/kg.

² Temporarily endorsed pending Codex General Methods.

8.10 Determination of Copper

According to the IFJU method No. 13, 1964, Determination of copper (photometric method). Results are expressed as mg copper/kg.

8.11 Determination of Zinc

According to the AOAC (1975) method (Official Methods of Analysis of the AOAC, 1975, 25.136 - 25.142, Zinc - Official First Action, Colorimetric Method (26) ³. Results are expressed as mg zinc/kg.

³ Temporarily endorsed pending consideration by IFJU Working Group of AAS method (AOAC 1975, 25.143-25.147) for general use in fruit juices.

8.12 Determination of Iron

According to the IFJU method No. 15, 1964, Determination of iron (photometric method). The determination shall be made after dry ashing as described in Section 5 - Remark (b). Results are expressed as mg iron/kg.

8.13 Determination of Tin

(To be elaborated)

8.14 Determination of Sulphur Dioxide

According to the IFJU method No. 7, 1968, Determination of total sulphur dioxide. Results are expressed as mg SO₂/kg.

8.15 Determination of Water Capacity and Fill of Containers

According to the method published in the Almanac of the Canning, Freezing, Preserving Industries, 55th Edition, 1970, p. 131-132, E.E. Judge and Sons, Westminster MD (USA) ¹.

¹ Reproduced in ALINORM 71/23, Appendix V. Endorsement suspended pending review of Codex methods.

PROPOSED DRAFT STANDARD FOR CONCENTRATED PINEAPPLE
JUICE PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

(At Step 5 of the Procedure)

1. DESCRIPTION

1.1 Product Definition

Concentrated Pineapple Juice (Pineapple Juice Concentrate) is the unfermented product, which is capable of fermentation after reconstitution, obtained from the raw material described in 1.2, through the process of concentration defined in 1.3, and preserved exclusively by physical means.¹

¹ For the purpose of this standard preservation by physical means does not include ionizing radiation.

1.2 Raw Material

1.2.1 The raw material from which this product is prepared is unfermented but fermentable pineapple juice obtained by a mechanical process, which may include centrifuging but not filtering, from the flesh or parts thereof, with or without core material, from sound ripe pineapple (*Ananas Comosus* L. Merrill = *Ananas sativus* L. Lindl).

1.2.2 [The water extract of pineapples may also be used as raw material provided that this extract on an equal soluble solids basis has essentially the same organoleptic properties and essentially the same chemical composition as pineapple juice.]

1.3 Process Definition

The process of concentration consists of the physical removal of water until the product has a soluble pineapple solids content of not less than 27% m/m as determined by refractometer at 20 C, corrected for acidity in accordance with method set forth in 8, and read as Brix on the International Sucrose Scales, and may include the addition of (1) juice or concentrate or water suitable for the purpose of maintaining the essential composition and quality factors of the concentrate, and (2) natural volatile pineapple juice components where these have been removed.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Requirements for the Juice after Reconstitution

The product obtained by reconstituting the concentrated pineapple juice in accordance with Section 7.8 shall comply with the provisions of the Recommended International Standard for Pineapple Juice Preserved Exclusively by Physical Means (Ref. No. CAC/RS 85-1976), except that it may contain L-ascorbic acid and stannous chloride as provided for in Section 3 of this standard.

3. FOOD ADDITIVES (Subject to the endorsement of the Codex Committee on Food Additives)

	<u>Maximum level in the reconstituted juice</u>
3.1 Dimethylpolysiloxane (as an antifoaming agent)	10 mg/kg
3.2 Citric acid	limited by GMP
3.3 Malic acids	“ “ “
3.4 L-Ascorbic acid (as an antioxidant)	“ “ “
3.5 Stannous chloride	8 mg/kg (in juice from frozen concentrate)

4. CONTAMINANTS

When pineapple juice concentrate is reconstituted in accordance with Section 7.8 of this standard the presence of contaminants shall not exceed those limits laid down in Section 4 of the Recommended International Standard for Pineapple Juice Preserved Exclusively by Physical Means (Ref. No. CAC/RS 85-1976).

5. HYGIENE (Subject to endorsement by the Codex Committee on Food Hygiene)

5.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the International Code of Practice – General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1969) as recommended by the Codex Alimentarius Commission.

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

- (a) shall be free from microorganisms capable of development under normal conditions of storage; and
- (b) shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. WEIGHTS AND MEASURES

6.1 Fill of Container

6.1.1 Minimum Fill (exclusive of bulk packs)

The concentrated pineapple juice shall occupy not less than 90% v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20 C which the sealed container will hold when completely filled. When the product is preserved by freezing the minimum fill requirement applies to the product in the frozen state.

7. LABELLING (Subject to endorsement by the Codex Committee on Food Labelling)

In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Pre-packaged Foods (Ref. No. CAC/RS 1-1969) the following provisions apply:

7.1 The Name of the Food

7.1.1 The name of the product shall be "Concentrated Pineapple Juice", "Pineapple Juice Concentrate", "Frozen Concentrated Pineapple Juice", or "Frozen Pineapple Juice Concentrate" as appropriate.

7.1.2 The name of the food may be accompanied by the term "X Brix" where "X" represents the percentage of soluble pineapple solids by weight as determined by refractometer at 20 C, corrected for acidity in accordance with method set forth in 8, and read as degrees Brix on the International Sucrose Scales.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion except that water added to adjust the Brix of the concentrate and the components identified in 1.3 need not be declared.

7.2.2 The addition of L-ascorbic acid shall be declared in the list of ingredients as:

- (a) "L-ascorbic acid or antioxidant" or
- (b) "antioxidant".

7.3 Net Contents

The net contents shall be declared by volume on packages intended for retail sale. On packages intended for non-retail sale, the net contents shall be declared by weight. The systems of measurement shall be: Metric (Système International), United States or British units as required by the country in which the product is sold.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked, in code or in clear, to identify the producing factory and the lot.

7.7 Additional Requirements

The following additional specific provisions shall apply:

7.7.1 No fruit or fruit juice may be represented pictorially on the label except pineapple or pineapple juice.

7.7.2 No claims shall be made in respect of "Vitamin C" nor shall the term "Vitamin C" appear on the label unless the product contains such quantity of "Vitamin C" as would be accepted by national authorities in the country in which the product is sold, as warranting such claim or the use of such term.

7.7.3 Where concentrated pineapple juice requires being kept under frozen or refrigerated conditions, there shall be information on the label for keeping and, if necessary, thawing of the product.

7.8 Degree of Concentration

Instructions for dilution shall be given on the container by stating the percentage of soluble pineapple solids, by weight, as determined by refractometer at 20 C, corrected for acidity in accordance with method set forth in 8, and read as Brix on the International Sucrose Scales or in the case of products intended for retail sale by stating the number of parts by volume of water which are required to be added to one part by volume of the concentrated juice to obtain juice which complies at least with the minimum requirements of the Recommended International Standard for Pineapple Juice Preserved Exclusively by Physical Means (Ref. No. CAC/RS 85-1976).

7.9 Bulk Packs

In the case of concentrated pineapple juice (at any degree Brix) the information required by Section 7.1 to 7.7.3 shall either be given on the container or in accompanying documents except that the name of the product and the name and address of the manufacturer or packer should appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING (Subject to endorsement by the Codex Committee on Methods of Analysis)

8.1 Taking of Sampling and Expression of Results as m/m

According to the IFJU method No. 1, 1968, Determination of relative density and the IFJU General Sheet, 1971, Conversion of analytical results from m/v (g/l, mg/l) to m/m (g/kg, mg/kg) and the reverse.

8.2 Test for Fermentability

According to the IFJU method No. 18, 1974, Fermentation Test. Results are expressed as "positive" or "negative".

8.3 Soluble Solids

Degree Brix in concentrated pineapple juice is the refractosucrose value determined in accordance with the "International Scale of Refractive Indices of Sucrose Solutions" and to which the applicable correction for acid is added (see Table I for corrections). The measurement of Brix value is determined on the concentrate in accordance with the refractometric method for sugars and sugar products, outlined in the "Official Methods of Analysis of the Association of Official Agricultural Chemists".

8.4 Acid

Acid means the per cent by weight of total acidity, calculated as anhydrous citric acid. Total acidity is determined by titration with standard sodium hydroxide solution, using phenolphthalein as indicator.

TABLE I¹
CORRECTIONS FOR OBTAINING BRIX VALUE

<u>Citric acid, anhydrous</u> <u>(% by weight)</u>	<u>Correction to be added to refractometer</u> <u>sucrose value to obtain Brix value</u>
2.0	0.39
2.2	.43
2.4	.47
2.6	.51
2.8	.54
3.0	.58
3.2	.62
3.4	0.66
3.6	.70
3.8	.74
4.0	.78
4.2	.81
4.4	.85
4.6	.89
4.8	.93
5.0	.97

¹ Source: "Refractometric Determination of Soluble Solids in Citrus Juices" by J.W. Stevens and W.B. Baier, from Analytical Edition of Industrial and Engineering Chemistry, Vol II, p. 447, 15 August 1939

8.5 Determination of Water Capacity and Fill of Containers

According to the method published in the Almanac of the Canning, Freezing, Preserving Industries, 55th Edition, 1970, p. 131-132, E.E. Judge and Sons, Westminster MD (USA). ¹

¹ Reproduced in ALINORM 71/23, Appendix V. Endorsement suspended pending review of Codex methods.

PROPOSED DRAFT STANDARD FOR CONCENTRATED PINEAPPLE
JUICE WITH PRESERVATIVES, FOR MANUFACTURING

(At Step 5 of the Procedure)

1. DESCRIPTION

1.1 Product Definition

Concentrated Pineapple Juice with Preservatives, for Manufacturing (Pineapple Juice Concentrate with Preservative, for Manufacturing) is the unfermented product obtained from the raw material described in 1.2, through the process of concentration defined in 1.3 and preserved exclusively by, or with the assistance of, chemical preservatives. It is not intended for direct consumption nor for the manufacture of fruit juices or nectars intended for direct consumption.

1.2 Raw Material

1.2.1 The raw material from which this product is prepared is unfermented but fermentable pineapple juice obtained by a mechanical process, which may include centrifuging but not filtering, from the flesh or parts thereof, with or without core material, from sound ripe pineapple (*Ananas Comosus* L. Merrill = *Ananas sativus* L. Lindl).

1.2.2 [The water extract of pineapples may also be used as a raw material provided that this extract, on an equivalent soluble solids basis, has essentially the same organoleptic properties and essentially the same chemical composition.]

1.3 Process Definition

The process of concentration consists of the physical removal of water and may include the addition of (1) juice or concentrate or water suitable for the purpose of maintaining the essential composition and quality factors of the concentrate, and (2) natural volatile pineapple juice components where these have been removed.

1.4 Means of Preservation

The concentrated product is preserved exclusively by, or with the assistance of, the preservatives listed in 3.5 or 3.6.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Organoleptic Properties

There shall be no off-flavours nor discolouration, taking into account the nature of the product.

2.2 Lemon Juice

Lemon juice may be added as an acidifying agent.

3. FOOD ADDITIVES (Subject to endorsement by the Codex Committee on Food Additives)

		<u>Maximum level</u>
3.1	Dimethylpolysiloxane (as an antifoaming agent)	10 mg/kg calculated on the basis of equivalent reconstituted pineapple juice
3.2	Citric acid	limited by GMP
3.3	Malic acids	“ “ “
3.4	L-Ascorbic acid (as an antioxidant)	“ “ “
3.5	Benzoic acid or its sodium, potassium or calcium salts	1000 mg/kg calculated as benzoic acid
3.6	Sorbic acid or its sodium, potassium or calcium salts	1000 mg/kg calculated as sorbic acid
3.7	Sulfur dioxide Sodium sulfite Potassium sulfite Sodium bisulfite Potassium bisulfite Calcium metabisulfite (Pyrosulfite)	500 mg/kg calculated as sulfur dioxide

The preservatives named in 3.5, 3.6 and 3.7 may be used in combination up to 1000 mg/kg.

4. CONTAMINANTS (Subject to endorsement by the Codex Committee on Food Additives)

The content of contaminants listed hereunder shall not exceed the maximum levels when the product is reconstituted to the strength (in terms of soluble solids) of the original raw material:

		<u>Maximum Level</u>
4.1	Arsenic (As)	0.2 mg/kg
4.2	Lead (Pb) s	0.3 mg/kg
4.3	Copper (Cu)	5.0 mg/kg
4.4	Zinc (Zn)	5.0 mg/kg
4.5	Iron (Fe)	15.0 mg/kg
4.6	Tin (Sn) (to be endorsed)	250.0 mg/kg ¹
4.7	Sum of copper, zinc and iron	20.0 mg/kg
4.8	Sulphur dioxide	10.0 mg/kg

¹ Remains under review.

5. HYGIENE (Subject to endorsement by the Codex Committee on Food Hygiene)

5.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the International Code of Practice - General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1969) as recommended by the Codex Alimentarius Commission.

- 5.2 When tested by appropriate methods of sampling and examination, the product:
- (a) shall be free from microorganisms capable of development under normal conditions of storage; and
 - (b) shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. LABELLING (Subject to endorsement by the Codex Committee on Food Labelling)

The product shall be labelled in accordance with the Guidelines for labelling of Non-retail Containers of Food. ² In addition to Sections 1, 2, 3, 4 and 6 of these Guidelines, the following special provisions shall apply:

² Under elaboration by the Codex Committee on Food Labelling.

The following information shall be given on the label.

6.1 The Name of the Food

6.1.1 The name of the product shall be "Concentrated Pineapple Juice with Preservative, for Manufacturing," or "Pineapple Juice Concentrate with Preservative, for Manufacturing".

6.1.2 The name of the food shall be accompanied by the term "X Brix" where "X" represents the percentage of soluble pineapple solids by weight as determined by refractometer at 20 C, corrected for acidity in accordance with method set forth in 8, and read as degrees Brix on the International Sucrose Scales.

6.2 List of Ingredients

6.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion by weight, except that the components identified in 1.3 need not be declared.

6.2.2 For the declaration of preservatives the specific name shall be used [and the actual amount present shall be declared as a percentage].

6.2.3 The addition of L-ascorbic acid shall be declared in the list of ingredients as:

- (a) "L-ascorbic acid or antioxidant" or
- (b) "antioxidant".

6.3 Net Contents

The net contents shall be expressed by weight, declared in either the Metric (Système International), or avoirdupois or both systems of measurement as required by the country in which the product is sold.

6.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

6.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the user.

6.6 Lot Identification

Each container shall be embossed or otherwise permanently marked, in code or in clear to identify the producing factory and the lot.

6.7 Exemptions

The information required by Sections 6.2 to 6.6 may be replaced by an identification mark, and given only in accompanying documents provided that such a mark is clearly identifiable with the accompanying documents.

7. METHODS OF ANALYSIS AND SAMPLING (Subject to endorsement by the Codex Committee on Methods of Analysis)

7.1 Taking of Sampling and Expression of Results as m/m

According to the IFJU method No. 1, 1968, Determination of relative density and the IFJU General Sheet, 1971, Conversion of analytical results from m/v (g/l, mg/l) to m/m (g/kg, mg/kg) and the reverse.

7.2 Test for Fermentability

According to the IFJU method No. 18, 1974, Fermentation Test. Results are expressed as "positive" or "negative".

7.3 Soluble Solids

Degree Brix in concentrated pineapple juice is the refracto-sucrose value determined in accordance with the "International Scale of Refractive Indices of Sucrose Solutions" and to which the applicable correction for acid is added (see Table I for corrections). The measurement of Brix value is determined on the concentrate in accordance with the refractometric method for sugars and sugar products, outlined in the "Official Methods of Analysis of the Association of Official Agricultural Chemists".

7.4 Acid

Acid means the per cent by weight of total acidity, calculated as anhydrous citric acid. Total acidity is determined by titration with standard sodium hydroxide solution, using phenolphthalein as indicator.

TABLE I¹

CORRECTIONS FOR OBTAINING BRUX VALUE

¹ Source: "Refractometric Determination of Soluble Solids in Citrus Juices" by J.W. Stevens and W.B. Baier, from Analytical Edition of Industrial and Engineering Chemistry, Vol. II, p. 447, 15 August 1939.

<u>Citric acid, anhydrous</u> <u>(% by weight)</u>	<u>Correction to be added to refractometer</u> <u>sucrose value to obtain Brix value</u>
2.0	0.39
2.2	.43
2.4	.47
2.6	.51
2.8	.54
3.0	.58
3.2	.62
3.4	.66
3.6	.70
3.8	.74
4.0	.78
4.2	.81
4.4	.85
4.6	.89
4.8	.93
5.0	.97

7.5 Determination of Water Capacity and Fill of Containers

According to the method published in the Almanac of the Canning, Freezing, Preserving Industries, 55th Edition, 1970, p. 131-132, E.E. Judge and Sons, Westminster MD (USA).²

² Reproduced in ALINORM 71/23, Appendix V. Endorsement suspended pending review of Codex methods.

PROPOSED DRAFT STANDARD FOR GUAVA NECTAR PRESERVED
EXCLUSIVELY BY PHYSICAL MEANS³

(At Step 3 of the Procedure)

1. DESCRIPTION

Unfermented but fermentable pulpy product, intended for direct consumption, obtained by blending the total edible sieved or ground and homogenized product of sound, ripe guavas (*Psidium Guajava*), concentrated or unconcentrated, with water and sugars or honey and preserved exclusively by physical means.³

³ For the purpose of this standard preservation by physical means does not include ionizing radiation.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Minimum Content of Fruit Ingredient

The minimum content of single strength fruit ingredient or the equivalent from concentrated fruit ingredient shall not be less than [20%] m/m.

2.2 Sugars

One or more of the sugars as defined by the Codex Alimentarius Commission shall be added. [The total quantity of added sugars or honey, calculated as dry matter, shall not exceed 200 g per kg of the final product.]

2.3 Honey

Honey, as defined by the Codex Alimentarius Commission may be used if it is the sole added sweetening agent.

2.4 Soluble Solids

The soluble solids content of the product shall not be less than [13.0%] m/m as determined by refractometer at 20 C, uncorrected for acidity and read as Brix on the International Sucrose Scales.

2.5 Ethanol Content

The ethanol content shall not exceed 3 g/kg.

[2.6 Lemon Juice

Lemon juice may be added as an acidifying agent.]

2.7 Organoleptic Properties

The product shall have the characteristic [colour], aroma and flavour of guavas, taking into consideration the addition of honey in substitution for sugars.

2.8 Titration Acidity

The titration acidity shall not exceed [0.2] per cent expressed as citric acid.

3. FOOD ADDITIVES (Subject to endorsement by the Codex Alimentarius Commission on Food Additives)

	<u>Maximum level</u>
3.1 Citric acid	limited by GMP
3.2 Malic acids	“ “ “
3.3 L-Ascorbic Acid or antioxidant	“ “ “
3.4 Red Colour	†

* Governments are requested to indicate which colours, approved by the Codex Alimentarius Commission, should be used and to propose related maximum levels as appropriate.

4. CONTAMINANTS (Subject to endorsement by the Codex Alimentarius Committee on Food Additives)

	<u>CONTAMINANT</u>	<u>MAXIMUM LEVEL</u>
4.1	Arsenic (As)	0.2 mg/kg
4.2	Lead (Pb) s	0.3 mg/kg
4.3	Copper (Cu)	5.0 mg/kg
4.4	Zinc (Zn)	5.0 mg/kg
4.5	Iron (Fe)	15.0 mg/kg
4.6	Tin (Sn) (to be endorsed)	250.0 mg/kg ¹
4.7	Sum of copper, zinc and iron	20.0 mg/kg

¹ Remains under review.

5. HYGIENE (Subject to endorsement by the Codex Alimentarius Committee on Food Hygiene)

5.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1962) recommended by the Codex Alimentarius Commission.

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

(a) shall be free from micro-organisms capable of development under normal conditions of storage;

(b) shall not contain any substances originating from micro-organisms in amounts which may represent a hazard to health.

6. WEIGHTS AND MEASURES

6.1 Fill of Container

6.1.1 Minimum Fill

The guava nectar shall occupy not less than 90% v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20% which the sealed container will hold when completely filled.

7. LABELLING (Subject to endorsement by the Codex Committee on Food Labelling)

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Pre-packaged Foods (Ref. No. CAC/RS 1-1969) the following provisions shall apply:

7.1 The Name of the Food

7.1.1 The name of the product shall be "Guava Nectar" or "Pulpy Guava Nectar".

7.1.2 The words "minimum fruit content X%" shall appear in close proximity to the name of the product where "X" is the actual minimum percentage of fruit ingredient in the final product.

7.2 List of Ingredients

7.2.1 A complete list of ingredients including added water shall be declared on the label in descending order of proportion.

7.2.2 The addition of L-Ascorbic acid shall be declared in the list of ingredients as:

(a) "L-Ascorbic acid as antioxidant" or

(b) " antioxidant".

7.3 Net Contents

The net contents shall be declared by volume in one or more of the following systems of measurement: Metric ("Système International"), United States or British units according to the needs of the country in which the product is sold. For British units, units of capacity measurement shall be used.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked, in code or in clear, to identify the producing factory and the lot.

7.7 Additional Requirements

The following additional specific provisions shall apply:

7.7.1 No fruit or fruit nectar may be represented pictorially on the label except guavas or guava nectar.

7.7.2 No claim shall be made in respect of "Vitamin C" nor shall the term "Vitamin C" appear on the label unless the product contains such quantities of "Vitamin C" as would be accepted by national authorities in the country in which the product is sold, as warranting such claim or the use of such term.

7.7.3 When the product contains honey, the declaration "contains honey" shall be in close proximity to the name of the product.

7.7.4 Where the guava nectar is required to be kept under frozen or refrigerated conditions there shall be information for keeping and, if necessary, thawing of the product.

7.8 Bulk Packs

In the case of guava nectar in bulk, the information required by sections 7.1.1 and 7.7.4 shall either be given on the container or in an accompanying document except that the name of the product and the name and address of the manufacturer or packer should appear on the container.

8. METHODS OF ANALYSIS AND SAMPLING (To be endorsed by the Codex Committee on Methods of Analysis)

8.1 Taking of Sample and Expression of Results as m/m

According to the IFJU method No. 1, 1968, Determination of Relative Density and the IFJU General Sheet, 1971. Conversion of analytical results from m/v (g/l, mg/l) to m/m (g/kg, mg/kg) and the reverse.

8.2 Test for Fermentability

According to the IFJU method No. 18, 1974, Fermentation Test. Results are expressed as "positive" or "negative".

8.3 Determination of Minimum Content of Fruit Ingredient

(To be elaborated).

8.4 Determination of Sugars

According to the IFJU method No. 4, 1968, Determination of Sugar (Luft-School Method). Results are expressed as % m/m.

8.5 Determination of Honey

(To be elaborated).

8.6 Determination of Soluble Solids

According to the IFJU method No. 8B, 1968, Estimation of soluble solids, indirect determination (see Official Methods of Analysis of the AOAC, 1975, 22.019, 31.009 and 52.010). Results are expressed as % m/m sucrose ("Brix") with correction for temperature to the equivalent at 20 C.

8.7 Determination of Ethanol

According to the IFJU method No. 2, 1968, Determination of alcohol (Ethyl alcohol). ¹ Results are expressed as g ethanol/kg.

¹ To be amended by IFJU to take into account operating temperatures higher than 20 C.

8.8 Determination of L-Ascorbic Acid

According to the IFJU method No. 17, 1964, Determination of L-Ascorbic acid, or microfluroimetric method of AOAC (Official Methods of Analysis of the AOAC 1975) 43.056-43.062. Results are expressed as mg L-Ascorbic acid/kg.

8.9 Determination of Arsenic

According to the IFJU method No. 47, 1973, Determination of Arsenic (Method No. A.34/F of the "Office International de la Vigne et du Vin"). Results are expressed as mg arsenic/kg.

8.10 Determination of Lead

According to the IFJU method No. 14, 1964, Determination of lead (photometric method).² Results are expressed as mg lead/kg.

² Temporarily endorsed pending Codex General Methods.

8.11 Determination of Copper

According to the IFJU method No. 13, 1964, Determination of copper (photometric method). Results are expressed as mg copper/kg.

8.12 Determination of Zinc

According to the AOAC (1975) method (Official Methods of Analysis of the AOAC, 1975, 25.136-25.142: Zinc - Official First Action, Colorimetric Method (26)).³

³ Temporarily endorsed pending consideration by the IFJU Working Group of AAS method (AOAC, 1975, 25.143-25.147) for general use in fruit juices.

8.13 Determination of Iron

According to the IFJU method No. 15, 1964, Determination of Iron (photometric method). The determination shall be made after dry ashing as described in Section 5 - Remark (b). Results are expressed as mg iron/kg.

8.14 Determination of Tin

(To be elaborated).

8.15 Determination of Sulphur Dioxide

According to the IFJU method No. 7, 1968, Determination of total sulphur dioxide. Results are expressed as mg SO₂/kg.

8.16 Determination of Water Capacity and Fill of Containers

According to the method published in the Almanac of the Canning, Freezing, Preserving Industries, 55th Edition, 1970, p. 131-132, E.E. Judge and Sons, Westminster MD (USA).¹

¹ Reproduced in ALINORM 71/23, Appendix V. Endorsement suspended pending review of Codex methods.

REPORT OF AN AD HOC WORKING GROUP ON METHODS
OF ANALYSIS AND SAMPLING

The Working Group met under the Chairmanship of Prof. H. Woidich (Austria) to discuss the methods included in the draft standard for Nectars of Certain Citrus Fruits, in particular in the light of the proposed amendments to the General Principles for the Establishment of Codex Methods of Analysis and Sampling (ALINORM 79/23, Appendix II) which provide for the classification of the methods into four "types" depending on the nature of the method.

Draft Standard for Nectars of Certain Citrus Fruit (ALINORM 79/14, Appendix VI)

Section 8 Methods of Analysis and Sampling

The Working Group agreed to delete the introductory sentence which states that the methods are "international referee methods".

8.1 Methods of Sampling and Calculation

This was considered to be only a procedure for calculations and conversions, and could not be classified as a method.

8.2 Fermentability

It was agreed that was a Type I test.

8.3 Minimum Fruit Content

No method currently exists.

8.4 Determination of Sugars

It was agreed that this highly empirical method was a Type I method.

8.5 Honey

No method yet established.

8.6 Soluble Solids

It was noted that the new edition of the AOAC Methods of Analysis (1980) may require a change in the reference numbers. The method was considered to be Type I.

8.7 Ethanol

In view of the current development of other methods (gas chromatographic, enzymatic) for very small quantities of ethanol, it was agreed to list this method as Type IV. Collaborative tests of the gas chromatographic method will soon be undertaken with a view to finding a suitable Type III method.

8.8 Volatile Acids

It was noted that this method was no longer required for this standard but that it was listed in others. It was a traditional empirical method and similar to the Reichert-Meissel and Polenske methods; therefore it was designated as a Type I method.

8.9 Essential Oils

It was agreed that this was a Type I method.

8.10 Arsenic; 8.11 Lead; 8.12 Copper; 8.14 Iron

These were considered to be Type III methods in view of the development of atomic absorption methods which were expected to provide Type II, or Reference methods for these metals. The present methods have been widely tested and therefore did not fall into the Type IV category.

8.13 Zinc

In view of the fact that this was an AOAC "Official First Action" method it was decided to list it as Type IV. It was agreed that the method could be listed as a Type III method when it was adopted at the "Official Final Action" stage by the AOAC.

8.15 Tin

No method has yet been proposed.

8.16 Sulphur Dioxide

This method according to Tanner was based on the Monier-Williams method and has been satisfactorily tested. It was agreed to include it as a Type III method.

8.17 Water Capacity and Fill of Containers

It was noted that this method may not be applicable to the wide range of containers currently in commercial use. The method appears only to be suitable for rigid glass and metal containers, for which it is a Type I method.

It was noted that the above classification would be valid for the equivalent methods of analysis in other standards elaborated by the Group of Experts. The methods of analysis indicated above were also applicable to the Proposed Draft Standards for Pulp Mango Nectar and Guava Nectar (except determination of essential oils).

Finally, the Working Group drew the attention of the Group of Experts, that in relation to several enquiries, a compendium of methods has been published:-

International Fruit Juice Union - Handbook on Methods of Analysis (for fruit juices).

Available in English, French and German from:

Schweizerischer Obstverband (Fruit Union Suisse)
Baarerstrasse, 88
CH-6300 Zug 2
Switzerland.

FIRST DRAFT OF A GENERAL STANDARD FOR CONCENTRATED FRUIT JUICES
WITH PRESERVATIVES FOR MANUFACTURING¹

¹ The Group of Experts decided not to discuss further the above standard at this time (see para. 106).

1. Scope

This standard applies to any fruit juice concentrate with chemical preservatives. The concentrates under this standard are intended for manufacturing purposes and not for direct consumption nor for further processing to a fruit juice or a nectar intended for direct consumption.

2. Description

2.1 Product Definition

Concentrated Fruit Juice with Preservatives, for Manufacturing (Fruit Juice Concentrate with Preservative, for Manufacturing) is the unfermented product obtained from the raw material described in 2.2., through the process of concentration defined in 2.3. and preserved exclusively by, or with the assistance of, chemical preservatives. The product may be pulpy, turbid or clear. It is intended, not for direct consumption, nor for the manufacturing of fruit juice or nectars intended for direct consumption, but for use in soft drinks, jellies, toppings or other products.

2.2 Raw Material

The raw material from which this product is prepared is unfermented but fermentable fruit juices obtained by a mechanical process from sound ripe fruits.

2.3 Process Definition

The process of concentration consists of the physical removal of water until the product has a soluble fruit solid content determined by refractometer at 20 C uncorrected for acidity and read as Brix on the International Sucrose Scales of at least twice that stipulated in the standard for the corresponding single strength fruit juice preserved by physical means. If no such standard exists the increase of the soluble fruit solid content shall be at least two fold.

The process may include the addition of (1) juice or concentrate of water suitable for the purpose of maintaining the essential composition and quality factors of the concentrate and (2) natural fruit juice volatiles where these have been removed. Natural volatile fruit juice components may only be restored to concentrated fruit juice of the same type of fruit from which such natural volatile fruit components have been removed.

2.4. Means of Preservation

The concentrated product is preserved by, or with the assistance of, the preservatives listed in 4.6, 4.7 and/or 4.8.

3. Essential Composition and Quality Factors

3.1 Sugars

One or more sugars as defined by the Codex Alimentarius Commission may be added for adjustment or for sweetening purpose.

3.2. Mixtures

Mixtures of products, obtained from different fruit shall be treated according to the [General Standard]* for Mixed fruit juices and mixed nectars.

* It has still be decided whether the relevant document will become a standard for a guideline.

3.3 Organoleptic Properties

3.3.1 Volatiles may have been removed from the product and not added back.

3.3.2 The product shall have no off-colour, taking into account the processing applied.

4. Food Additives

	<u>Maximum level</u>
4.1 Dimethylpolysiloxane (as an antifoaming agent)	10 mg/kg calculated on the reconstituted juice
4.2 Citric Acid	limited by GMP
4.3 Malic Acid	“ “ “
4.4 L-Ascorbic Acid	“ “ “
4.5 Carbonic Acid	
4.6 Sodium, potassium or calcium) Singly or in benzoate Combination	1500 mg/kg
4.7 Sodium, or potassium sorbate	
4.8 Sulphur dioxide	500 mg/kg (as sulphur dioxide)
Sodium sulphite	
Sodium bisulphite	
Sodium/potassium/ Calcium metabisulphite (pyrosulphite)	

The preservatives 4.6, 4.7 and 4.8 may together be present up to 1000 mg/kg.

4.9 Processing Aids

4.9.1 Clarifying and filtering agents as approved by the Codex Alimentarius Commission used in accordance with good manufacturing practice.

	<u>Maximum Level</u>
4.9.2 Vegetable carbon	Limited by GMP
4.9.3 Nitrogen	
4.9.4 Carbon dioxide	

5. Contaminants

The content of the contaminants mentioned hereunder of concentrated juice measured after reconstitution of the concentrated juice towards the strength of the original raw material shall not exceed the following limits:

			<u>Maximum Level</u>
5.1	Arsenic	(As)	0,2 mg/kg
5.2	Lead	(Pb)	0,3 “
5.3	Copper	(Cu)	5
5.4	Zinc	(Zn)	5
5.5	Iron	(Fe)	15 “
5.6	Tin	(Sn)	150 “
5.7	Sum of Copper, Zinc and Iron		20 “
5.8	Mineral impurities insoluble in 10% hydrochloric acid		20 “

6. Hygiene

6.1 It is recommended that the product covered by the provision of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Product (Ref. No. CAC/RCP 2-1969) and the General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1969) recommended by the Codex Alimentarius Commission.

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

- (a) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (b) shall not contain any substances originating from micro-organisms in amounts which may present a hazard to health.

7. Weight and Measures

Fill of container (not applicable to bulk pack). The concentrated product shall occupy not less than 90 per cent v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

8. Labelling

In addition to sections 1,2, 4 and 6 of the Recommended International Standard for the Labelling of Prepackaged (Ref. no. CAC/RS 1-1969) the following provisions apply:

8.1 The Name of the Product

8.1.1. The name of the product shall be "concentrated x juice with preservative" where x is the name of the fruit from which the concentrate is derived.

8.1.2. If a sugar or sugars are added the words "x g/kg y added" shall plainly and conspicuously accompany the name of the product where x is the amount of sugar or sugars added in grams to one kilogram of the product and y is the name of the sugar or sugars added.

8.2 List of Ingredients

8.2.1. A complete list of ingredients shall be declared on the label in descending order of proportion, except that the processing aids specified in section 4.9 and the components mentioned in section 2.3 need not be declared.

8.2.2 The addition of L. ascorbic acid shall be declared in the list of ingredient as:

- a) "L-Ascorbic acid as antioxidant" or
- b) "Antioxidant".

8.2.3 Preservatives must be listed by name in the list of ingredients and next to each name the quantity added must be given as mg/kg of the product.

8.3 Net Content

The net contents shall be declared by volume in one or more of the following systems of measurement: Metric ("Système International"), United States or British units, as required by the country in which the product is sold; for British units, units of capacity measurement shall be used.

8.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

8.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the buyer.

8.6 Lot Identification

Each container shall be embossed or otherwise permanently marked, in code or in clear, to identify the producing factory and the lot.

8.7 Additional Requirements

The following specific provisions shall apply:

8.7.1 No fruit or fruit juice may be represented pictorially on the label except of the fruit(s) or juice(s) mentioned under 8.1.

8.7.2 Where the concentrated product requires to be kept under special conditions, there shall be information for keeping and treating the product.

8.7.3 No claim shall be made in respect of "Vitamin C" nor shall the term "Vitamin C" appear on the label unless the product contains such quantity of Vitamin C as would be accepted by national authorities in the country in which the product is sold, as warranting such claim or the use of such term.

8.8 Instructions for use

8.8.1 Degree of concentration: Instructions for dilution shall be given on the container by stating the percentage by weight of soluble fruit juice solids (exclusive of added sugar) as determined by refractometer at 20 C, uncorrected for acidity and read as Brix on the International Sucrose Scales.

8.8.2 Bulk Packs

In the case of concentrated products with preservative in bulk, the information required in the sections 8.1 to 8.8.1 as far as applicable, shall either be given on the container or in accompanying documents except that the name of the product and the name and address of the manufacturer or packer should appear on the container. However the name and address of the manufacturer or packer may be

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

9. Methods of Analysis and Sampling

To be elaborated later.

ALINORM 81/14

APPENDIX IX

DISCUSSION ON DEFINITION OF FRUIT JUICES

(Paper prepared by the President of the Scientific and Technical Commission of the International Federation of Fruit Juice Producers)

FRUIT JUICE PRODUCTION BY EXTRACTION

INTRODUCTION

Fruit juice definition: Unfermented but fermentable juice, intended for direct consumption, obtained by a mechanical process from sound ripe fruit preserved exclusively by physical means. The juice may be turbid or clear. The juice may be clarified with the aid of the clarifying and filtering agents.

The juice may have been concentrated and later reconstituted with water which is suitable for the purpose of maintaining the essential composition and quality factors of the juice.

TECHNICAL STATEMENT OF EXTRACTION

As one can see from the description of the extraction-process, it is no longer a mechanical process to obtain fruit juice. It is defined as a physical separation of the solid from the liquid phase.

The liquid and soluble fruit constituents are supposed to be separated with water as solvent in order to get a fruit extract. For the method of solid extraction the following basic rules should be considered:

1. The water, which is used as solvent should not change the chemical and physical properties of the extract.
2. The amount of water, which is used as a solvent must be completely removable from the extract.
3. Only the desired solids should be dissolved and separated which is reached by the selectivity of the solvent and the process temperature.
4. The extract obtained should be concentrated.

Compared to the mechanical pressing, the extraction method might be of greater economical advantages since it yields a higher proportion of soluble solids, thus resulting in a higher over-all yield.

Furthermore, the extraction method offers a continuous production with a reduced number of personnel. For the evaluation of the yield only the soluble solids and not the liquid volume can be considered.

Yet it is most likely that those products will differ from fruit juices manufactured mechanically, especially in its polyphenol and other components because more and other types of substances are leaving the fruit if extracted. To clear this point, extensive analysis must still be carried out.

An additional problem can emerge by the fact that the grinding in Ratz grinders (pressing method) differs from the grinding in special dicers (extraction method). These

dicers are grinding the cores and kernels of the fruits and their aroma may influence the aroma of the juice in a negative way.

The drained-off extract contains components of the soluble dry matter, "juice" from the fruit and solvent components, e.g. minerals of a not-demineralized water. As already mentioned, according to the definition, the solvent is supposed to be completely removed from the extract. After the solvent is removed - thus after the evaporation of water - an extract is obtained and not a concentrated juice. As it becomes evident from the description of the extraction methods and the corresponding comments, it is essential to set up criteria for the application of these physical processes to satisfy the directives for fruit juices.

Therefore, the unalterable characteristics of a fruit juice, i.e. its essential constituents, are to be described.

Processes for fruit juice production are not allowed to change these essential constituents.

PART I : SPECIFICATION AND OBJECTIVE

It is intended to define the physical manufacturing processes for fruit juices and to establish rules for their compositional characteristics.

Manufacturing processes - partially practised already - shall be realized by specifications of the Codex Alimentarius, on the one hand, and on the other, by quality criteria.

It is intended to implement guidelines for fruit juice production, thus making future technologies applicable, for example, extraction method.

PART II: DEFINITION OF FRUIT JUICE OR RATHER ITS ESSENTIAL CONSTITUENTS

Fruit juice or its essential constituents are the soluble and suspended fruit components contained in the edible part of the fruit. Separated from insoluble substances, it must contain the original constituents of the liquid phase of the fruit, soluble solids and flavour substances.

PART III: CONDITIONS FOR MAINTAINING THE FRUIT JUICE QUALITY

All processes for fruit juice production may only be applied if they guarantee the preservation of the essential constituents of the fruit juices according to Part II. The natural composition of the constituents is not allowed to be essentially changed, neither in its content nor in its ration.

The analytical characteristics of fruit juices obtained from different types of processes must be equivalent to those obtained from traditional mechanical processes.

APPENDIX

Fruit juice:

1. The juice obtained from fruit by mechanical processes, fermentable but unfermented, having the characteristic colour, aroma and flavour expected from the edible part of the fruit from which it comes.
2. The definition "fruit juice" shall also cover the product obtained from concentrated fruit juice by:

- the addition of the proportion of water extracted from the juice when it was concentrated, the water which is added having the appropriate characteristics, particularly from the chemical, microbiological and organoleptic viewpoints, for guaranteeing the essential qualities of the juice; and
- the addition of aroma by means of the volatiles collected during the concentration of the same type of fruit juice.

This product has organoleptic and analytical characteristics equivalent to those of juice obtained from fruit of the same kind in accordance with the provisions of (appendix 1).

- A. If other processes than mechanical ones are applied, the resulting fruit juice is in accordance with the provisions of Part I if its chemical components and the structure of its constituents are not negatively modified during processing and those components being important from the nutritional point of view having at least the same characteristics as a juice coming from mechanical pressing.
- B. If those criteria are not ensured, the product does not correspond to a fruit juice and may be marketed only under a delcaration different from fruit juice.
- C. A mixing of products of various production processes is allowed only according to the definitions of Part A. Mixing of products according to Parts A and B is not allowed.
- D. If a concentration process during the manufacture was involved that has to be declared.