



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET  
L'AGRICULTURE  
ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y  
LA ALIMENTACION  
Rome, Viale delle Terme di Caracalla. Cables: FOODAGRI, Rome. Tel. 5797



WORLD HEALTH ORGANIZATION  
ORGANISATION MONDIALE DE LA SANTÉ  
Genève, Avenue Appia. Cables: UNISANTÉ, Genève. Tél. 33 10 00

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JOINT FAO/WHO FOOD STANDARDS PROGRAM  
CODEX ALIMENTARIUS COMMISSION  
Fifth Session

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

1. The joint ECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices held its fourth session in Geneva from 10 to 14 April 1967.
2. Experts from the following countries participated in the meeting: Argentina, Austria, Belgium, Bulgaria, Denmark, the Federal Republic of Germany, Finland, France, Israel, Italy, Japan, the Netherlands, Poland, Romania, Spain, Sweden, Switzerland, the United Kingdom, the United States of America and Yugoslavia.
3. Also present were observers from the European Economic Community, the International Federation of Fruit Juice Producers and the Liaison Committee of Mediterranean Citrus Culture.
4. Mr. H.P. Mollenhauer (Federal Republic of Germany) was elected Chairman and Mr. W. Orłowski (Poland) was re-elected Vice-Chairman.
5. Tribute to previous Chairman of the Joint Group of Experts

The Group of Experts learned with regret that it was no longer possible for Mr. R. Mory (Switzerland), who had been Chairman of the Group of Experts since 1962, to continue to participate in the work of the Group. The Group expressed its appreciation of the knowledge, guidance and skill which Mr. Mory brought to bear on the many complex problems involved in standardizing fruit juices, during his period of office, particularly in the early stages of the work when the problems to be resolved were particularly difficult. The Group expressed the view that the considerable progress achieved to date was due in large measure to Mr. Mory's qualities as Chairman and addressed to him a letter of appreciation and thanks.

6. Tolerance for tin in fruit juice

The Group of Experts had before it documents AGRI/WP.1/475 (CL.1967-33) and AGRI/WP.1/498 (CL.1967-13). The latter document quoted the Report of the Tenth Session of the Joint FAO/WHO Expert Committee on Food Additives which indicated that the usual amounts of tin present in food do not appear to pose any toxicological

problem. Thus the Group agreed that the decision on the level of tin should be based on technological effects, and the majority agreed to a maximum limit of 250 mg/kg in fruit juices generally, with lesser figures to be stipulated in individual standards, where necessary. The delegations of Poland and the Federal Republic of Germany indicated that in their opinion this general figure should be 200 mg/kg for juices in tinned containers since organoleptic changes were noticeable at this level. The delegation of Finland suggested that this figure should be 150 mg/kg. The Swiss and Romanian delegations favoured only one figure for tin. As a compromise they proposed 150 mg/kg for clear and turbid juices in bottles or tins. The Spanish delegation drew the attention of the meeting to the importance of taking samples for tin content from freshly opened containers. Some delegations proposed maintaining a distinction between juices kept in tinned containers and juices in bottles. The delegation of Israel proposed that collaborative studies be undertaken to see if the limit need be as high as 250 mg/kg. All these comments apply to tin in all standards.

7. Heavy metals: The Group of Experts had before them a report of the work of the Joint FAO/WHO Expert Committee on Food Additives which established tentative maximum daily loads for the toxic trace elements, arsenic, lead and copper.

The following approach for the toxic trace elements was accepted by the Group of Experts as satisfactory for dealing with this problem in fruit juices:

"For example, the maximum acceptable load of arsenic was tentatively placed at 0.05-mg/kg body weight/day. This converts, using the usual factors, to 1 mg/kg in the total diet. This can be applied in the following way:

If the total diet contained this concentration of arsenic, it would still be acceptable. There is, however, evidence that the average total diet contains much less than this concentration of arsenic, thus permitting a certain limited number of exceptions to cover the cases where the food naturally contains larger amounts (e.g. shellfish) or where technologically it may be impossible to remove the last traces.

Therefore, it is only when individual food products may be expected to contain more than this concentration of arsenic (i.e. more than 1 mg/kg) that a limiting figure needs to be entered in the standards pertaining to them.

Similarly for lead, it is only when the specific food may contain an amount of lead which will contribute more than 0.005 mg/kg body weight/day (which converts to 0.1 mg/kg in the food) that a specific limit should appear in the standard for the food.

Likewise for copper, it is only when the specific food may contain an amount of (sic) (copper) which will contribute more than 0.5 mg/kg body weight/day (which corresponds to 10 mg/kg in the food) that a specific limit should appear in the standard for the food.

The general approach outlined above is one which appears in the legislation of a number of countries on this matter.

On this basis, then, the existing figures in the draft standards for fruit juices contribute less than the maximum acceptable load for arsenic and copper. Thus, it is only in the case of lead that the exception need be stated."

Suitable phraseology to cover this point will appear in each of the draft standards. However the Group was of the opinion that where sufficient information was

available to stipulate lower values for individual substances, these should be incorporated in the standards following the principle that additives and contaminants should always be kept as low as is technologically possible. This approach will be extended to other toxic trace elements, and the delegate of Israel suggested that the toxicology of cadmium and chromium should be evaluated. It was agreed that this matter should be referred to the Codex Committee on Food Additives.

Concerning non-toxic contaminants, it was decided that these need only be mentioned in the individual standards if they adversely affect the product at levels usually encountered in practice. The Italian delegation reserved its position as to figures for metals where specified in the draft standards.

8. Antimicrobials

The Group of Experts had before it document AGRI/WP.1/498 (Item 5) (CL.1967-18), Antimicrobials. The Group of Experts discussed the addition of ascorbic acid and sulphur dioxide to fruit juices. The Group considered the addition of sulphur dioxide to be the addition of a chemical preservative, even if intended for use as an antioxidant. Ascorbic acid was considered to be an anti-oxidant and not a chemical preservative.

9. Labelling of Fruit Juices

The Group of Experts had before it document AGRI/WP. 1/498 (CL.1967-18) in which was recorded under Item 7 the question of date marking for fruit juices as raised by the delegation of the Federal Republic of Germany at the last session of the Joint Group of Experts. After some discussion on the merits of open date marking of foods in general, the Group was of the opinion that such a provision should not be inserted in standards for fruit juices. On the subject of code-marking the Group was generally opposed to compulsory coded/date-marking. However they noted the remarks made in the report of the second session of the Codex Committee on Food Labelling which stated "that the marking of food containers in code to indicate the date and place of manufacture or packing is considered to be a desirable commercial practice to permit proper stock control and to facilitate the rapid recall of foods from the markets should this become necessary".

10. Consideration of possible draft standard for filtration enzymes

The Group of Experts considered the Codex Committee on Food Additives to be the appropriate body to deal in a general way with the subject of enzymes, and did not consider it necessary to provide for a section on filtration enzymes in fruit juice standards. The Group accepted with thanks a paper from the International Wine Office on the subject of enzymes and this paper will be forwarded to the Federal Republic of Germany and the USA as rapporteurs for this subject in the Codex Committee on Food Additives.

11. Draft Standards for apricot, peach and pear pulpy-type nectars, ready for consumption and preserved by physical means

The Group had before it document AGRI/WP.1/490 (CL.1967-13) containing two draft standards for nectars, one for European style and one for American style, and a comparison and summary of the main points of difference between the two texts. The majority of delegations favoured the adoption, as a basis for discussion, of the American document, which referred to nectars only and not to "succo e pulpa". The delegation of the Federal Republic of Germany, declared that they could not accept a nectar-type product with less than 50 per cent for peaches or pears or 40 per cent for apricots. The

French and Italian delegations agreed with this and added that they could also not accept the use of concentrates. The Polish delegation proposed that there should be only one standard and suggested a compromise of 45 per cent fruit content.

The American document was examined in detail by the Group and amended. The amended version appears in Annex I to this Report. The Group agreed that the amended version should be sent out to Governments for comment, along with a presentation of the points of difference between this version and the Italian document, containing a proposed draft standard for succo e polpa. This presentation appears in Annex II to this Report. The Group agreed that the following points of a general nature should be brought to the attention of Governments, in addition to the specific points covered in square brackets in the text of Annex I :-

- (a) Should there be one single standard or two standards.
- (b) if one standard is favoured Governments should consider:-
  - (i) the alternative figures in respect of fruit ingredients in the revised American and the Italian proposals
  - (ii) the question of whether the use of concentrate should be allowed, and
  - (iii) the question concerning the way in which the fruit may be represented on the label, dealt with later in the Report under the heading "Labelling".
- (c) if two separate standards are favoured, should the products covered by the two standards bear the same designation 'Nectar', or should there be two different designations, so. that the consumer can readily distinguish between the two products.

The Group agreed that the following remarks concerning various sections of the text set out in Annex I should be recorded.

#### Labelling

The group noted that the provision relating to representation of fruit on the label was similar to that included in the draft minimum requirements for fruit juices although the drafting had been clarified to meet the point raised in paragraph 53 of the Report of the Second Meeting of the Codex Committee on Food Labelling. It was suggested that consumers unfamiliar with nectars might be misled if the whole fruit was displayed on two fruit juice products one of which contained only 40 per cent of fruit. It was pointed out that whether a pictorial device was misleading or not would depend on what it showed. A picture of a whole fruit being squeezed could be misleading on a nectar label. Pictures of fruit could appear to show which particular fruits had been used.

Some delegations considered that the description 'nectar', together with a declaration of all ingredients and additives would be sufficiently informative for the consumer to distinguish nectars from fruit juices, particularly as water would probably appear at the head of the list of ingredients. Other delegations thought that a declaration of fruit content would be preferable.

The attention of the group was drawn to the relevant provisions in the draft General Standard for Food Labelling dealing with added water and pictorial devices, which are as follows:-

#### "Water (Par. 5(b) (iv))

Added water shall be declared in the list of ingredients if such a declaration would result in a better understanding by the consumer of the products composition, except when the water forms part of an ingredient such as brine, syrup or broth used in a compound food.

#### Optional Labelling (Par. 14(r) )

Any additional information or pictorial device may be displayed on the container provided that it is not in conflict with the mandatory requirements nor would mislead or deceive the consumer in relation to the food."

#### Micro-organisms capable of development under normal storage conditions

Although the Group decided to retain the above terminology in the amended text, it took note of the following useful alternative terminology which was proposed:

- (i) The product should not contain any pathogenic or toxigenic organisms.
- (ii) The statement used by the Codex Committee on Food Hygiene in the Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products, namely "The products should be free from any pathogen infectious to man and from any toxic substance originating from bacteria or fungi"

The Group agreed to refer this matter to the Codex Committee on Food Hygiene.

#### Mold. Filaments

The Group agreed that the Codex Committee on Methods of Analysis and Sampling should be asked for its opinion on the Howard method, and the entire problem should be referred to the Codex Committee on Food Hygiene.

#### Traces of Arsenic and Lead

The Group took note of the extract from the Report of the Tenth Session of the Joint FAO/WHO Codex Committee on Food Additives, set out in Annex I to document AGRI/WP.1/498 (CL.1967-18), and containing a toxicological evaluation of certain trace elements occurring in foods, together with tentative figures in respect of maximum acceptable loads for arsenic and lead. The Group also noted the proposals of the Secretariat as to how those tentative-figures could be applied to the draft Standards for fruit juices, as indicated in AGRI/WP. 1/498 (Item 4) (CL.1967-18). The Group agreed on the figures for arsenic and lead as set out in Annex I. The delegations of Bulgaria, Spain and Yugoslavia reserved their positions on the figures for arsenic and lead, and requested that the original figures of 0.4 mg/kg for arsenic and 0.5 mg/kg for lead would be preferable

#### Other Metals

The Polish delegation requested a maximum figure of 2 mg/kg for Copper. The Italian delegation proposed that no figures should be inserted until next year when the results of the Italian research would be made known. The Group agreed to postpone this question until the next meeting. As regards the question of tin the position of the Group has already been set out in paragraph 6 of this report. In order to cover the position with regard to contaminants not yet detailed in the standard, the following statement should appear at the head of this section. "Other contaminants may be present only at the lowest possible levels technologically feasible.

12. Draft standards for apple, orange, grape and tomato juices, ready for consumption, preserved exclusively by physical means

(a) The Group of Experts had before it the following documents:

- (i) AGRI/WP.1/429, containing the 1966 revised draft standards for the juices mentioned above,
- (ii) AGRI/WP.1/482 (CL.1967-3) and AGRI/WP.1/492 (CL 1967-15) containing the comments of Governments on the above draft standards,
- (iii) AGRI/WP.1/Conf. Room Doc. No.115 (in English only) containing the comments of the Federal Republic of Germany on the draft standards, and
- (iv) AGRI/WP.1/Conf. Room Doc. No.118 containing the comments of the International Wine Office on the draft standard for grape juice.

The draft standards as revised by the Group are set out in the Annexes III, IV, V and VI to this report.

(b) The delegation of the Netherlands reiterated its previously stated view that minimum requirements for fruit juices should:

- (i) refer to the identity of the final product
- (ii) not deal with the manufacturing process and the substances used during manufacture, unless these can be analysed in the final product.
- (iii) and should, in any event, present as a result of the application of the two foregoing points, a clear outline of those criteria characteristic for each juice. The delegation of the Netherlands proposed that the question of entering further product characteristics in the draft standard should be investigated, and this view was supported by the delegations of France and the U.S.A.

(c) Definition

Orange juice

The delegation of the Federal Republic of Germany proposed that a minimum amount for Vitamin C should be stipulated and suggested a figure of 200 mg/kg. The Group agreed that Governments should be asked to comment on this proposal.

In reply to a query posed by Japan, it was pointed out that the draft standard did not apply to other species including satsumas.

(d) Technical description

Orange juice

The delegation of the Federal Republic of Germany reserved its position regarding the addition of sugar.

(e) Volatile acids

Apple juice

The delegation of Poland suggested a volatile acid figure of 0.5 gm/kg. and this was supported by the delegation of Bulgaria.

(f) Micro-organisms capable of development under normal storage conditions

Apple, orange, grape and tomato juices

See corresponding text under para. 11 relating to nectars.

(g) Mould filaments

Apple, orange, grape and tomato juices

See corresponding text under para. 11. relating to nectars,

(h) Traces of arsenic and Lead

Tomato juice

The delegation of Spain reserved its position regarding the maximum limits adopted by the Group of Experts for arsenic (0.2 mg/kg) and lead (0.3 mg/kg).

(i) Other metals

Apple, orange, grape and tomato juices

The delegation of the Federal Republic of Germany proposed the following for apple, orange, grape and tomato juices:

Copper	-	not more than 2.5 mg/kg.
Zinc	-	not more than 2.5 mg/kg.
Iron	-	not more than 10.0 mg/kg.
Total Metal Content	-	not more than 12.0 mg/kg

As regards apple and grape juices, the delegation of Poland reserved its position regarding the maximum limit adopted by the Group of Experts for copper, and proposed a figure of 2 mg/kg.

A number of delegations, including the two mentioned above, felt that the limits adopted for copper, zinc and iron could be lowered with good manufacturing practice and that this was a matter which should be explored.

As regards tomato juice, the Italian delegation proposed that no figures should be inserted until next year when the results of Italian research on the subject would be made known. The Group of Experts agreed with this proposal,

(j) [Contaminants]

It was pointed out that in fixing limits for contaminants, the Group should bear in mind the fact that the standards were intended for world-wide acceptance, including acceptance by countries which, at present, have less advanced technologies.

As regards apple juice and grape juice, a considerable number of delegations were of the opinion that any content of sulphur dioxide should be declared on the label. Delegations expressed the opinion that the higher level of sulphur dioxide was warranted in grape juice for technological reasons.

(k) Permitted treatment aids

The delegation of the U.S.A. expressed the view in regard to apple juice that Iso-ascorbic acid should be allowed as well as 1-ascorbic acid,

(l) Clarifying agents

As regards apple juice and grape juice, the Group of Experts agreed that Governments should be asked for their comments as to the maximum amounts to be found in the final product. The Group of Experts was informed that the matter would also be referred to the Codex Committee on Food Additives, which would lay down purity requirements.

The delegation of the Federal Republic of Germany reserved their position in order to investigate whether blue fining should be permitted as a cellar aid when the amount of iron is as high as 15 mg/kg.

(m) Flavourings

It was agreed that this provision should be redrafted to make it clear that the temporary removal of volatiles would be permitted.

(n) Use of concentrates

The majority of delegations were in favour of the use of concentrates for technical reasons, but the delegations of France and Italy reserved their positions regarding the use of concentrates in all juices.

As regards apple juice, some delegations expressed the view that if water was removed and the juice restored to single strength by the addition of concentrate, this fact should be declared on the label, irrespective of whether volatiles were also replaced, while others did not take this view. A number of delegations expressed the view that if concentrate was added to a juice the label should show "with added concentrate". Other delegations did not take this view.

As regards tomato juice, some delegations expressed the view that it was impossible at present to produce, by the reconstitution of a concentrate, a product similar to tomato juice obtained directly from tomatoes as can be done in the case of apple juice.

The delegation of the U.S.A. reserved its position regarding the use of concentrate to produce tomato juice,

(o) Pesticide residues

The Polish delegation expressed the view that tomato juice should be free from pesticide residues. The subject of pesticide residues should be referred to the Codex Committee on Pesticide Residues.

(p) Other additions

As regards apple and grape juices, Austria, Denmark, the Federal Republic of Germany, France and Switzerland, reserved their positions on the provision permitting the addition of sugar.

In the case of orange juice, only the Federal Republic of Germany reserved its position on the addition of sugar.

As regards tomato juice, a majority of the Group of Experts was in favour of the Romanian proposal to permit the addition of sugar where necessary, and its declaration on the label. Some delegations were of the opinion that the quantity should be stipulated on the label in view of its effect on the determination of soluble solids. The delegations of Italy and the U.S.A. reserved their positions on the use of sugars in tomato juice.

The Group took note of the comments of the Government of Cuba regarding the addition of acidifying agents as set out in AGRI/WP.1/482 (CL.1967-3).

13. Use of chemical preservatives in fruit juices intended for direct consumption

The Group of Experts had before it document AGRI/WP.1/488 (CL.1967-12), containing a summary of comments, assembled by the United Kingdom, on draft standards for apple, orange and grape juices, ready for consumption and preserved by physical and chemical means, which had been drawn up by the delegation of the United Kingdom at the request of the Group of Experts, for a previous session. The delegation of the United Kingdom stated that it did not consider document AGRI/WP.1/488 (CL.1967-12) to be a suitable basis for the advancement of a discussion on the use of chemical preservatives in fruit juice intended for direct consumption. Remarking that it had no special interest in a standard for a product preserved in this way, the delegation of the United Kingdom pointed out that the use of limited amounts of chemical preservatives allied with a mild physical preservation treatment could produce a fruit juice which would have undergone less change organoleptically than a fruit juice which had been physically preserved using higher temperature and longer times. Some delegations expressed themselves as being opposed to the use of chemical preservatives in fruit juices intended for direct consumption. The representative of the Commission of the European Economic Community indicated that work was in progress in that Commission on standards for physically preserved fruit juices for direct consumption, but it had not seen any technological need for the addition of chemical preservatives in such juices.

The Group of Experts accepted the offer of the United Kingdom to prepare a technical paper on this question, which would be submitted to the Secretariat for transmission to governments for comments, and which, together with the comments would be before the Group of Experts at its next session.

14. Methods of Analysis for fruit juices

The Group had before it document AGRI/WP.1/Conf. Room Doc. No. 114 containing a Synopsis of Methods of Analysis for fruit juices as prepared by the delegation of the Federal Republic of Germany. The Group decided that the Secretariat should send this document to governments for comments.

15. Draft Standards for pineapple, grapefruit and lemon juices, ready for consumption and preserved by physical means

(a) The Group had before it the following documents :-

- (i) AGRI/WP.1/476 (CL.1967-32), containing first draft standards for the above mentioned juices, elaborated by FAO,
- (ii) GRI/WP.1/493 (CL.1967-16), containing the comments of Governments on the above draft standards,
- (iii) AGRI/WP.1/493/Add.1 (CL.1967-20), containing the comments of Japan on the draft standards mentioned above.

The draft standards as revised by the Group are set out in Annexes VII, and VIII to this Report.

(b) Lemon and Grapefruit Juices

(i) Acidity and Soluble Solids

The Group could not reach agreement as to the need for these two provisions in the draft standards. After some discussion the Group agreed that the provisions could remain in the draft standards but in square brackets, thus indicating that no final decisions had been taken.

(ii) Essential Oils

Some delegations felt that this figure should be reduced to 0.3 ml/kg particularly for grapefruit juice.

(iii) Traces of Arsenic and Lead

The Spanish delegation reserved its position regarding the figures adopted, being in favour of 0.4- mg/kg for Arsenic and 0.5 mg/kg for Lead.

(iv) Other Metals

The same reservations which were made for orange juice were expressed for these two juices.

(v) Use of Concentrate (Lemon Juice)

The delegation of the United States of America indicated that if concentrate was added it should be declared on the label and that if concentrate and water were added, the product should be described as reconstituted lemon juice.

(vi) Other Additions (Grapefruit Juice)

The delegation of the Federal Republic of Germany reserved their position regarding the addition of sugars.

(c) Pineapple Juice

There not being sufficient time available for a discussion on this draft standard, it was decided that comments should be sought on the text on the basis of which the Secretariat would prepare a revised draft.

16. Draft standards for concentrated apple orange and grape juices preserved by physical means

The Group had before it document AGRI/WP. 1/491 (CL.1967-14) containing the proposals of the United States and Swiss delegations as to draft minimum requirements for the above juices. It was agreed that the orange juice standard should be brought into line with the other two draft standards with regard to the wording in the second paragraph of the definition. It was also agreed that the dilution ratio should appear on consumer size packages. Both the Spanish and Israeli delegations agreed that a figure of 11 °Brix (uncorrected) would be preferable for diluted orange juice concentrate. The delegations of the United Kingdom and Spain considered that the concentration indicated by 20 °Brix was too low, and it was pointed out that this figure could be met by a single strength grape juice. The United States and Swiss delegations agreed that 20 °Brix was a low figure and indicated that they would not oppose a higher figure. A number of delegations indicated that "refractometer reading" would be preferable to °Brix. The °Brix is uncorrected.

17. Future Action and Work

The Group of Experts agreed to the following:-

- (i) Apricot. Peach and Pear Nectars. The draft standard for apricot, peach and pear nectars (Annex I) together with the summary (Annex II) of the main points of difference between that text and the text of the Italian proposals for a draft standard for succo e polpa will be sent to Governments for a first round of comments.

(Final date for receipt of comments 30 September 1967)

- (ii) Apple. Orange. Grape and Tomato Juices. The draft standards for these juices (Annexes III, IV, V and VI) will be sent to Governments for a second round of comments, and the draft standards plus the comments will be referred to the two parent bodies.

(Final date for receipt of comments 30 September 1967)

- (iii) Lemon and Grapefruit Juices. The draft standards for these juices (Annexes VII and VIII) will be sent to Governments for a first round of comments.

(Final date for receipt of comments 30 September 1967)

- (iv) Pineapple Juice. The proposed draft standard for pineapple juice (AGRI/WP.1/476 Appendix 3 (CL.1967-32), which was not examined by the Group, will be sent to the participants at the session for their comments as experts, on the basis of which the Secretariat will prepare a revised draft to be put before the Group at its next session.

(Final date for receipt of comments 30 September 1967)

- (v) Concentrated Apple. Orange and Grape Juices. The draft standards for these concentrates (AGRI/WP.1/491, CL.1967-14) will be sent to Governments for a first round of comments.

(Final date for receipt of comments 30 September 1967)

- (vi) Use of chemical preservatives in fruit juices intended for direct consumption. The United Kingdom will prepare a technical paper on the above subject.

(Final date for receipt of paper 30 September 1967)

- (vii) Methods of Analysis. The Secretariat will distribute the paper (AGRI/WP.1/Conf. Room Doc. No.114) presented at the session by the Federal Republic of Germany, containing a synopsis of methods of analysis for fruit juices. Comments will be invited from the participants at the session as experts, and the comments received will be put before the Codex Committee on Methods of Analysis at its next session. The recommendations of that Committee will subsequently be placed before the Group,

(Final date for receipt of comments 30 June 1967)

- (viii) Proposed Now Format for Standards. The Group had before it a proposed tentative lay-out of standards for fruit juices, drawn up by the Secretariat (AGRI/WP.1/ Conf. Room Doc. No.113). The Group was

informed by the Secretariat that the suggested new format, which was in line with the new format being proposed by the Secretariat for Codex standards, was put before it to keep it informed of developments. The Group was informed however that the proposed new format was only tentative at this stage, and was subject to alteration by the Codex Alimentarius Commission. The Secretariat indicated that it would relate any new format agreed upon by the Commission to the draft standards for fruit juices.

- (ix) New Work. The Group was asked to consider whether new work should be undertaken along the lines of developing standards for other forms of presentation of those juices for which standards are now being developed, or whether standards for other fruit juices, not yet being dealt with by the Group, should be developed. In this latter connexion, the Group was referred to par. 13 (h) of the Report of the 1963 session (AGRI/WP.1/241), setting out a list of fruit juices to be standardized. The Group agreed that Governments should be asked to communicate their views on this matter to the Secretariat, and to indicate what other fruit juices might be standardized, bearing in mind their significance in international trade.

## ANNEX I

DRAFT MINIMUM REQUIREMENTS FOR APRICOT, PEACH OR PEAR NECTARS,  
READY FOR CONSUMPTION, PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

- |    |                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <u>Definition</u>                                                                                                                                                                                        | Unfermented but fermentable nectar ready for direct consumption, obtained by blending the total edible sieved part of sound and ripe apricots, peaches or pears, concentrated or unconcentrated, with water and sugars. The product must contain not less than 40% in the case of peaches and pears, and 35% in the case of apricots, by weight of single-strength fruit ingredient or the equivalent derived from any concentrated fruit ingredient; and is preserved exclusively by physical means. It should have the characteristic aroma and flavour of the fruit from which it is made. |
| 2. | <u>Technical Description</u>                                                                                                                                                                             | Apricot, Peach or Pear Nectar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3. | <u>Labelling</u>                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|    | 3.1 <u>Obligatory Declarations</u>                                                                                                                                                                       | As given in 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|    | <ul style="list-style-type: none"> <li>- Technical Description</li> <li>- [All ingredients and additives]</li> <li>- All other information required by the Codex Committee on Food Labelling.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|    | 3.2 <u>Representation of Fruit and Fruit Nectar on the Label</u>                                                                                                                                         | Only the species of fruit present or the Nectar there from may be represented. [Representation or declaration of percentage of fruit.]                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4. | <u>Fluidity</u>                                                                                                                                                                                          | A flow-time of not less than 30 seconds by method of Lamb and Lewis. (J.A.O.A.C., Vol. 42, No. 2, p.411 1959).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5. | <u>Soluble Solids</u>                                                                                                                                                                                    | Not less than 13% as determined by refractometer at 20 C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6. | <u>Ingredients and Additives</u>                                                                                                                                                                         | Sucrose, dextrose and glucose syrup as defined by the Codex Committee on Sugars. The maximum quantity of sucrose which may be replaced by glucose syrup is limited to 25%.                                                                                                                                                                                                                                                                                                                                                                                                                    |
|    | 6.1 Sugars                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|    | 6.2 Honey                                                                                                                                                                                                | Honey, as defined by the Codex Alimentarius Commission when used as the sole added sweetening ingredient.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|    | 6.3 Acidifying Agents                                                                                                                                                                                    | Citric Acid, lemon juice, [and malic acid.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

6.4	Anti-Oxidants	The presence of 1-Ascorbic acid to be declared on the label as an additive. The term Vitamin C should not appear on the label. <sup>1</sup>
7.	<u>Ethanol Content</u>	Not more than 3 g/kg.
8.	<u>Hygienic Requirements</u>	The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits and Vegetables and Related Products.
8.1	Micro-organisms capable of Developing Under Normal Storage Conditions	None
8.2	Mold Filaments	Positive Fields (by Howard Method) not more than 20% of fields examined.
9.	<u>Traces of Arsenic and Lead</u>	
	- Arsenic (AS)	Not more than 0.2 mg/kg.
	- Lead (Pb)	Not more than 0.3 mg/kg.
10.	<u>Other Metals</u>	
	- Copper (Cu)	Limit still to be determined.
	- Zinc (Zn)	Limit still to be determined.
	- Iron (Fe)	Limit still to be determined.
	- Cadmium (Cd)	Limit still to be determined.
	- Tin (Sn)	Limit still to be determined.
	Total metal content precipitable by potassium hexacyanoferrate (II)	Not more than 250 mg/kg for juices in tinned containers. Not more than 20 mg/kg expressed as Fe.
11.	<u>Pesticide Residues</u>	Product shall comply with the requirements specific by the Codex Committee on Pesticide Residues.
12.	<u>Oxymethyl Furfurale</u>	Not more than 10 mg/kg.

<sup>1</sup> This does not refer to vitaminized juices intended for special purposes.

## ANNEX II

SUMMARY OF MAIN POINTS OF DIFFERENCE BETWEEN THE TWO TEXTS  
(AMERICAN AND ITALIAN)

1. Percentage fruit in product:

	<u>USA</u>	<u>Italy</u>
Peaches and pears	40%	50%
Apricots	35%	40%
2. Use of concentrates permitted in U.S.A. text and not permitted in Italian text.
3. Fluidity: The U.S.A. text permits a flow time of 30 seconds whereas the Italian text permits a flow time of 50 seconds.

## ANNEX III

Apple JuiceDraft Minimum Requirements for Apple Juice, Ready for,  
Consumption preserved Exclusively by Physical Means<sup>a</sup>

- |    |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                  |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <u>Definition</u>                                                                                                                                                 | Unfermented but fermentable juice., ready for direct, consumption obtained by a mechanical process from sound, ripe apples, preserved exclusively by physical means. The juice may be turbid or clear. It should have the characteristic organoleptic properties of apple juice. |
| 2. | <u>Labelling</u>                                                                                                                                                  | 'Apple juice'                                                                                                                                                                                                                                                                    |
|    | 2.1 <u>Obligatory declarations</u>                                                                                                                                |                                                                                                                                                                                                                                                                                  |
|    | 2.1.1 Technical description                                                                                                                                       |                                                                                                                                                                                                                                                                                  |
|    | 2.1.2 [The fact of reconstitution must be declared on the label.]                                                                                                 |                                                                                                                                                                                                                                                                                  |
|    | 2.1.3. Declaration of added sugar.                                                                                                                                |                                                                                                                                                                                                                                                                                  |
|    | 2.1.4. 'Carbonated' or an equivalent expression in other languages to be declared on the container for apple juice containing more than 2 g/kg of carbon dioxide. |                                                                                                                                                                                                                                                                                  |
|    | 2.2 <u>Representation of fruit and fruit juices</u>                                                                                                               | Only apples and apple juice may be represented on the container                                                                                                                                                                                                                  |
| 3. | <u>Ethanol content</u>                                                                                                                                            | Not more than 5 g/kg.                                                                                                                                                                                                                                                            |
| 4. | <u>Volatile acids</u>                                                                                                                                             | Not more than 0.4 g/kg expressed as acetic acid.                                                                                                                                                                                                                                 |
| 5. | <u>Hygienic Requirements</u>                                                                                                                                      | The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products.                                                                                                                                                |
|    | 5.1 <u>Micro-organisms capable of development under normal conditions of storage</u>                                                                              | None.                                                                                                                                                                                                                                                                            |

5.2 Mould filaments Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Mould Count Method.

6. Contaminants

6.1 Arsenic and lead

Arsenic (AS) Not more than 0.2 mg/kg.  
Lead (Pb) Not more than 0.3 mg/kg.

6.2 Other Metals

Copper (Cu) Not more than 5 mg/kg.  
Zinc (Zn) Not more than 5 mg/kg.  
Iron (Fe) Not more than 10 mg/kg.  
Tin (Sn) Not more than 250 mg/kg.  
Total metal content precipitable by potassium hexacyanoferrate (II) Not more than 12 mg/kg., expressed as Fe.

6.3 Sulphur Dioxide <sup>a</sup> Maximum limit in the final product, 20 mg/kg total SO<sub>2</sub> <sup>b</sup>

6.4 Mineral Impurities Insoluble in 10% hydrochloric acid Not more than 20 mg/kg.

6.5 Other cotaminants may be present only at the lowest possible levels technologically feasible

<sup>a</sup> The Group of Experts does not take preservation by physical means to include ionizing radiation. This matter is being examined by other international bodies, including FAO/IAEA and will be re-examined by the group of Experts when advice becomes available.

<sup>a</sup> Sources of sulphur dioxide must conform to the specifications for identity and purity of food additives established by the Joint FAO/WHO Expert Committee on Food Additives,

<sup>b</sup> After an interval of 3 years from the date of publication of this standard for acceptance by governments, this figure will be reduced to 10 mg/kg.

7. Permitted Treatment Aids

Substances Permitted

7.1 Anti-oxidants

1 - ascorbic acid The addition of 1 - ascorbic acid to be declared on the label as an additive. The term vitamin C should not appear on the label.<sup>a</sup>

7.2 Clarifying Agents <sup>b</sup>

<sup>a</sup> This does not refer to vitaminized juices intended for special purposes.

<sup>b</sup> Must conform to the technical and purity requirements fixed by the International wine Office, where such exist, and must be examined by the Codex Committee on Food Additives.

– pectolytic and/or proteolytic enzymes according to the recommendations of the Codex Committee on Food Additives, without preservatives.



## ANNEX IV

Orange JuiceDraft Minimum Requirements for Orange Juice, Ready for consumption, preserved Exclusively by Physical Means<sup>a</sup>

- <sup>a</sup> The Group of Experts does not take preservation by physical means to include ionizing radiation. This matter is being examined by other international bodies, including FAO/IAEA and will be re-examined by the Group of Experts when advice becomes available.
1. Definition Unfermented but fermentable juice, ready for direct consumption, obtained by a mechanical process from the endocarp of sound, ripe oranges (Citrus sinensis (L) Osbeck) preserved exclusively by physical means. It should have the characteristic organoleptic properties of orange juice.
  2. Labelling 'Orange juice'
    - 2.1 Obligatory declarations
      - 2.1.1 Technical description
      - 2.1.2 [The fact of reconstitution must be declared on the labels.]
      - 2.1.3 Declaration of added sugar, naming the sugar
    - 2.2 Representation of fruit and fruit juices Only oranges and orange juice may be represented on the container.
  3. Ethanol content Not more than 3 g/kg.
  4. Volatile acids Traces
  5. Essential Oils Not more than 0.5 ml/kg.
  6. Hygienic Requirements The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products.
    - 6.1 Micro-organisms capable of development under normal conditions of storage None
    - 6.2 Mould Filaments Technologically unavoidable traces. Maximum percentage of positive fields to specified later, using the Howard Mould Count Method.
  7. Contaminants
    - 7.1 Arsenic and lead

Arsenic (As)	Not more than 0.2 mg/kg.
Lead (Pb)	Not more than 0.3 rag/kg.

- 7.2 Other Metals
- |                                                                      |                                           |
|----------------------------------------------------------------------|-------------------------------------------|
| Copper (Cu)                                                          | Not more than 5 mg/kg.                    |
| Zinc (Zn)                                                            | Not more than 5 mg/kg.                    |
| Iron (Fe)                                                            | Not more than 15 mg/kg.                   |
| Tin (Sn)                                                             | Not more than 250 mg/kg.                  |
| Total metal content, precipitable by potassium hexacyanoferrate (II) | Not more than 20 mg/kg., expressed as Fe. |
- 7.3 Other Contaminants
- May be present only at the lowest possible levels technologically feasible.
8. Flavourings
- The restitution of orange juice flavouring to orange juice from which the flavouring has been removed is allowed.
9. Use of Concentrate
- [9.1 The temporary removal of water is permitted.]
- [9.2 The addition of concentrate to juice is permitted.]
- [9.3 Only concentrate from Citrus sinensis (L) Osbeck may be used]
10. Addition of juices other than that of Citrus sinensis (L) Osbeck
- None
11. Additions of Sugars
- Sugars (sucrose, dextrose and dried glucose syrup as defined by the Codex Committee on Sugars. The quantity added must not exceed 50 g/kg.

## ANNEX V

Grape JuiceDraft Minimum Requirements for Grape Juice, Ready for Consumption. Preserved Exclusively by Physical Means<sup>a</sup>

- <sup>a</sup> The Group of Experts do not take preservation by physical means to include ionizing radiation. This matter is being examined by other international bodies, including FAO/IAEA and will be re-examined by the Group of Experts when advice becomes available.
- 1 Definition Unfermented but fermentable juice, ready for direct consumption, obtained by a mechanical process from sound, ripe grapes, preserved exclusively by physical means. The juice may be turbid or clear. It should have the characteristic organoleptic properties of grape juice.
  2. Labelling
    - 2.1: Obligatory declarations Grape juice
      - 2.1.1 Technical description
      - 2.1.2 [The fact of reconstitution must be declared on the label.]
      - 2.1.3 "Carbonated" or an equivalent expression in other languages to be declared on the container for grape juice containing more than 2 g/kg of carbon dioxide.
    - 2.2 Representation of Fruit and Fruit juices : Only grape and grape juice may be represented on the container.
  3. Ethanol content: Not more than 5 g/kg.
  4. Volatile acids: Not more than 0.4 g/kg. expressed as acetic acid.
  5. Hygienic Requirements : The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products.
    - 5.1 Microrganisms capable of development under normal, conditions of storage None
    - 5.2 Mould Filaments Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Mould Count Method.

6. Contaminants
- 6.1 Arsenic and lead
- |               |                          |
|---------------|--------------------------|
| Arsenic (As): | Not more than 0.2 mg/kg. |
| Lead (Pb):    | Not more than 0.3 mg/kg. |
- 6.2 Other Metals
- |                                                                      |                                              |
|----------------------------------------------------------------------|----------------------------------------------|
| Copper (Cu)                                                          | Not more than 5 mg./kg.                      |
| Zinc (Zn)                                                            | Not more than 5 mg./kg.                      |
| Iron (Fe)                                                            | Not more than 15 mg/kg.                      |
| Tin (Sn)                                                             | Not more than 250 mg/kg.                     |
| Total metal content, precipitable by potassium hexacyanoferrate (II) | (II) Not more than 17 mg/kg, expressed as Fe |
- 6.3 Sulphur Dioxide<sup>a</sup> Maximum limit in the final product, 50 mg/kg. total SO<sub>2</sub><sup>a</sup>
- 6.4 Mineral Impurities insoluble in 10/6 hydrochloric acid Not more than 20 mg/kg.
- 6.5 Other contaminants May be present only at the lowest possible levels technologically feasible.
7. Permitted Treatment Aids
- 7.1 Anti-oxidants
- |                   |                                                                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1 - ascorbic acid | The addition of 1-ascorbic acid to be declared on the label as an additive. The term vitamin C should not appear on the label. <sup>c</sup> |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
- 7.2 Clarifying Agents<sup>d</sup>
- |  |                                                                                                                                          |
|--|------------------------------------------------------------------------------------------------------------------------------------------|
|  | Pectolytic and/or proteolytic enzymes according to the recommendations of the Codex. Committee on Food Additives, without preservatives. |
|  | - edible gelatine                                                                                                                        |
|  | - tannin                                                                                                                                 |
|  | - bentonite, with low soluble iron content                                                                                               |
|  | - colloidal solution of silica (silica sol)                                                                                              |
|  | - filtration aids (asbestos, diatomite, cellulose)                                                                                       |
- 7.3 Others
- |  |                                    |
|--|------------------------------------|
|  | - pure vegetable and animal carbon |
|  | - pure carbon dioxide              |
8. Flavourings
- The restitution of grape juice flavouring to grape juice from which the flavouring has been removed is allowed.
9. Use of Concentrate
- [9.1 The temporary removal of water is permitted.]

[9.2 The addition of concentrate to juice  
is permitted.]

- <sup>a</sup> Sources of sulphur dioxide must conform to the specifications for identity and purity of food additives established by the Joint FAO/WHO Expert Committee on Food Additives.
- <sup>b</sup> After an interval of 3 years from the date of publication of this standard for acceptance by governments, this figure will be reduced to 10 mg/kg.
- <sup>c</sup> This does not refer to vitaminized juices intended for special purposes.
- <sup>d</sup> Must conform to the technical and purity requirements fixed by the International Wine Office, where such exist, and must be examined by the Codex Committee on Food Additives.

## ANNEX VI

Tomato JuiceDraft Minimum Requirements for Tomato Juice. Ready for Consumption, preserved Exclusively by Physical Means<sup>a</sup>

- |    |                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <u>Definition</u>                                                                    | Unfermented but fermentable juice, ready for direct consumption, obtained by a, mechanical process from sound, ripe red or reddish tomatoes, preserved exclusively by physical means, the juice being strained free from skins, seeds and other coarse parts of tomatoes, and from other hard substances and impurities. It should have the characteristic organoleptic properties of tomato juice. |
| 2. | <u>Labelling</u>                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                     |
|    | 2.1 <u>Obligatory declarations</u>                                                   |                                                                                                                                                                                                                                                                                                                                                                                                     |
|    | 2.1.1 Technical description                                                          | 'Tomato juice'                                                                                                                                                                                                                                                                                                                                                                                      |
|    | 2.1.2 The fact of reconstitution must be declared on the label                       |                                                                                                                                                                                                                                                                                                                                                                                                     |
|    | 2.1.3 [Declaration of added sugars, naming the sugar.]                               |                                                                                                                                                                                                                                                                                                                                                                                                     |
|    | 2.1.4 Declaration of salt, when added                                                | 'Salt added'                                                                                                                                                                                                                                                                                                                                                                                        |
|    | 2.1.5 Declaration of spices when added                                               | 'Spices added'                                                                                                                                                                                                                                                                                                                                                                                      |
|    | 2.2 <u>Representation of fruit and fruit juices</u>                                  | Only tomatoes and tomato juice may be represented on the container.                                                                                                                                                                                                                                                                                                                                 |
| 3. | <u>Salt and sugar free soluble solids</u>                                            | Not less than 4.5% of the finished tomato juice, ready for consumption (determined by refractometer)                                                                                                                                                                                                                                                                                                |
| 4. | <u>Hygienic Requirements</u>                                                         | The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products.                                                                                                                                                                                                                                                                   |
|    | 4.1 <u>Micro-organisms capable of development under normal conditions of storage</u> | None                                                                                                                                                                                                                                                                                                                                                                                                |
|    | 4.2 <u>Mould Filaments</u>                                                           | Maximum percentage of positive fields not more than 30%, using the Howard Mould Count Method.                                                                                                                                                                                                                                                                                                       |

5. Contaminants
- 5.1 Arsenic and Lead
- |              |                          |
|--------------|--------------------------|
| Arsenic (As) | Not more than 0.2 mg/kg. |
| Lead (Pb)    | Not more than 0.3 mg/kg. |
- 5.2 Other Metals
- |                                                                      |                               |
|----------------------------------------------------------------------|-------------------------------|
| Copper (Cu)                                                          | Limits still to be determined |
| Zinc (Zn)                                                            | Limits still to be determined |
| Iron (Fe)                                                            | Limits still to be determined |
| Tin (Sn)                                                             | Not more than 250 mg/kg       |
| Total metal content, precipitable by potassium hexacyanoferrate (II) | Limits still to be determined |
- 5.3 Mineral Impurities insoluble in 10% hydrochloric acid [Not more than 25 mg/kg]
6. Use of Concentrates
- Tomato juice may be prepared from tomato concentrate, provided the final product complies with 1. Definition and is labelled 'reconstituted' (see 2.1.2)
7. Additions Permitted
- 7.1 Sugars
- Sugars (sucrose, dextrose and dried glucose syrup) as defined by the Codex Committee on Sugars.
- 7.2 Condiments
- Salt and spices, provided they are declared as required under sections 2.1.4 and 2.1.5.

<sup>a</sup> The Group of Experts does not take preservation by physical means to include ionizing radiation. This matter is being examined by other international bodies, including FAO/IAEA and will be re-examined by the Group of Experts when advice becomes available.

ANNEX VIILemon JuiceDraft Minimum Requirements for Lemon Juice, Ready for Consumption, Preserved Exclusively by Physical Means<sup>a</sup>

- |     |                                                                                      |                                                                                                                                                                                                                                                                                        |
|-----|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | <u>Definition</u>                                                                    | Unfermented but fermentable juice, ready for direct consumption, obtained by a mechanical process from the endocarp of sound, ripe lemons ( <i>Citrus limonum</i> ) preserved exclusively by physical means. It should have the characteristic organoleptic properties of lemon juice. |
| 2.  | <u>Labelling</u>                                                                     |                                                                                                                                                                                                                                                                                        |
|     | 2.1 Obligatory declarations                                                          | 'Lemon juice'                                                                                                                                                                                                                                                                          |
|     | 2.1.1 Technical description                                                          |                                                                                                                                                                                                                                                                                        |
|     | 2.1.2 [The fact of reconstitution must be declared on the label]                     |                                                                                                                                                                                                                                                                                        |
|     | 2.2 Representation of fruit and fruit juices                                         | Only lemons and lemon juice may be represented on the container.                                                                                                                                                                                                                       |
| 3.  | <u>Ethanol content</u>                                                               | Not more than 3 g/kg                                                                                                                                                                                                                                                                   |
| [4. | Acidity                                                                              | Between (4.5 and 7.5) <sup>b</sup> g/100 ml. juice]                                                                                                                                                                                                                                    |
| /5. | Soluble Solids                                                                       | Not less than (7.5%) <sup>b</sup> as sucrose; (°Brix uncorrected)]                                                                                                                                                                                                                     |
| 6.  | <u>Essential oils</u>                                                                | Not more than 0.5 ml/kg                                                                                                                                                                                                                                                                |
| 7.  | <u>Hygienic Requirements</u>                                                         | The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products                                                                                                                                                       |
|     | 7.1 <u>Micro-organisms capable of development under normal conditions of storage</u> | None                                                                                                                                                                                                                                                                                   |
|     | 7.2 <u>Mould Filaments</u>                                                           | Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Mould Count Method.                                                                                                                                                  |
| 8.  | <u>Contaminants</u>                                                                  |                                                                                                                                                                                                                                                                                        |
|     | 8.1 <u>Arsenic and lead</u>                                                          |                                                                                                                                                                                                                                                                                        |
|     | Arsenic (As)                                                                         | Not more than 0.2 mg/kg.                                                                                                                                                                                                                                                               |
|     | Lead (Pb)                                                                            | Not more than 0.3 mg/kg.                                                                                                                                                                                                                                                               |
|     | 8.2 <u>Other metals</u>                                                              |                                                                                                                                                                                                                                                                                        |
|     | Copper (Cu)                                                                          | Not more than 5 mg/kg.                                                                                                                                                                                                                                                                 |
|     | Zinc (Zn)                                                                            | Not more than 5 mg/kg.                                                                                                                                                                                                                                                                 |

- |     |                                                                      |                                                                                                                  |
|-----|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|     | Iron (Fe)                                                            | Not more than 15 mg/kg.                                                                                          |
|     | Tin (Sn)                                                             | Not more than 250 mg/kg.                                                                                         |
|     | Total metal content, precipitable by potassium hexacyanoferrate (II) | Not more than 20 mg/kg expressed as Fe.                                                                          |
| 8.3 | <u>Other Contaminants</u>                                            | May be present only at the lowest possible level technologically feasible.                                       |
| 9.  | <u>Flavourings</u>                                                   | The restitution of lemon juice flavouring to lemon juice from which the flavouring, has been removed is allowed. |
| 10  | <u>Use of concentrate</u>                                            |                                                                                                                  |
|     | [10.1 The temporary removal of water is permitted]                   |                                                                                                                  |
|     | [10.2 The addition of concentrate to juice is permitted]             |                                                                                                                  |
|     | [10.3 Only concentrate from <u>Citrus Limonum</u> may be used]       |                                                                                                                  |
| 11. | Addition of clouding or stabilising agents; not permitted.           |                                                                                                                  |
- <sup>a</sup> The Group of Experts does not take preservation by physical means to include ionizing radiation. This matter is being examined by other international bodies including FAO/IAEA and will be reexamined by the Group of Experts when advice becomes available.
- <sup>b</sup> The figures appearing here have not been discussed by the Group of Experts and if it is decided that these sections in square brackets should be retained, figures for these product characteristics should be revised in the light of further information to be supplied by producing countries

## ANNEX VIII

Grapefruit JuiceDraft Minimum Requirements for Grapefruit Juice, Ready for Consumption. Preserved Exclusively by Physical Means<sup>a</sup>

- |    |                                                                                      |                                                                                                                                                                                                                                                                                                   |
|----|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <u>Definition</u>                                                                    | Unfermented but fermentable juice, ready for direct consumption, obtained by a mechanical process from the endocarp of sound, ripe grapefruit ( <u>Citrus paradisi</u> ), preserved exclusively by physical means. It should have the characteristic organoleptic properties of grapefruit juice. |
| 2. | <u>Labelling</u>                                                                     |                                                                                                                                                                                                                                                                                                   |
|    | 2.1 <u>Obligatory declarations</u>                                                   |                                                                                                                                                                                                                                                                                                   |
|    | 2.1.1 Technical description                                                          | 'Grapefruit juice'                                                                                                                                                                                                                                                                                |
|    | 2.1.2 [The fact of reconstitution must be declared on the label]                     |                                                                                                                                                                                                                                                                                                   |
|    | 2.1.3 Declaration of added sugar, naming the sugar                                   |                                                                                                                                                                                                                                                                                                   |
|    | 2.2 <u>Representation of fruit and fruit juices</u>                                  | Only grapefruit and grapefruit juice may be represented on the container.                                                                                                                                                                                                                         |
| 3. | <u>Ethanol content</u>                                                               | Not more than 3 g/kg.                                                                                                                                                                                                                                                                             |
| [4 | Acidity <sup>b</sup>                                                                 | Between (0.75 or 0.9 and 2.0) g/100 ml. juice (expressed as anhydrous citric acid)]                                                                                                                                                                                                               |
| [5 | Soluble solids <sup>b</sup>                                                          | Not less than 9.0% as sucrose (°Brix uncorrected)]                                                                                                                                                                                                                                                |
| 6  | Essential oils                                                                       | Not more than 0.5 ml/kg.                                                                                                                                                                                                                                                                          |
| 7. | <u>Hygienic Requirements</u>                                                         | The product shall conform to the Codex Alimentarius Code of Hygienic Practice for Canned Fruits, Vegetables and Related Products.                                                                                                                                                                 |
|    | 7.1 <u>Micro-organisms capable of development under normal conditions of storage</u> | None                                                                                                                                                                                                                                                                                              |
|    | 7.2 <u>Mould Filaments</u>                                                           | Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Mould Count Method.                                                                                                                                                             |
| 8. | <u>Contaminants</u>                                                                  |                                                                                                                                                                                                                                                                                                   |
|    | 8.1 <u>Arsenic and lead</u>                                                          |                                                                                                                                                                                                                                                                                                   |
|    | Arsenic (AS)                                                                         | Not more than 0.2 mg/kg.                                                                                                                                                                                                                                                                          |

- |              |                                                                                                                                                                                                                                                                                                   |                                                                                                                                             |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|              | Lead (Pb)                                                                                                                                                                                                                                                                                         | Not more than 0.3 mg/kg.                                                                                                                    |
| 8.2          | <u>Other Metals</u>                                                                                                                                                                                                                                                                               |                                                                                                                                             |
|              | Copper (Cu)                                                                                                                                                                                                                                                                                       | Not more than 5 mg/kg.                                                                                                                      |
|              | Zinc (Zn)                                                                                                                                                                                                                                                                                         | Not more than 5 mg/kg.                                                                                                                      |
|              | Iron (Fe)                                                                                                                                                                                                                                                                                         | Not more than 15 mg/kg.                                                                                                                     |
|              | Tin (Sn)                                                                                                                                                                                                                                                                                          | Not more than 250 mg/kg.                                                                                                                    |
|              | Total metal content, precipitable by potassium hexacyanoferrate (II)                                                                                                                                                                                                                              | Not more than 20 mg/kg expressed as Fe.                                                                                                     |
| 8.3          | <u>Other Contaminants</u>                                                                                                                                                                                                                                                                         | May be present only at the lowest possible level technologically feasible.                                                                  |
| 9.           | <u>Flavourings</u>                                                                                                                                                                                                                                                                                | The restitution of grapefruit juice flavouring to grapefruit juice from which the flavouring has been removed is allowed.                   |
| 10.          | <u>Use of Concentrates</u>                                                                                                                                                                                                                                                                        |                                                                                                                                             |
|              | [10.1 The temporary removal of water is permitted]                                                                                                                                                                                                                                                |                                                                                                                                             |
|              | [10.2 The addition of concentrate to juice is permitted]                                                                                                                                                                                                                                          |                                                                                                                                             |
|              | [10.3 Only concentrate from <u>Citrus paradisi</u> ]                                                                                                                                                                                                                                              |                                                                                                                                             |
| 11.          | <u>Addition of Sugars</u>                                                                                                                                                                                                                                                                         | Sugars (sucrose, dextrose and dried glucose syrup) as defined by the Codex Committee on Sugars. The quantity added must not exceed 50 g/kg. |
| 12.          | The addition of clouding or stabilizing agents is not permitted.                                                                                                                                                                                                                                  |                                                                                                                                             |
| <sup>a</sup> | The Group of Experts does not take preservation by physical means to include ionizing radiation. This matter is being examined by other international bodies, including FAO/IAEA and will be re-examined by the Group of Experts when advice becomes available.                                   |                                                                                                                                             |
| <sup>b</sup> | The figures appearing here have not been discussed by the Group of Experts and if it is decided that these sections in square brackets should be retained, figures for these product characteristics should be revised in the light of further information to be supplied by producing countries. |                                                                                                                                             |

Annex IXList of Delegates

	Chairman:	Mr. H.P. MDLLENIAUER, Federal Ministry of Health, Moltkestrasse 54, Bad Godesberg. (Federal Republic of Germany)
	Vice-Chairman:	Mr. W. Orłowski, Central Board of Standardization Ministry of Foreign Trade 9, Stepinska, Warsaw.(Poland)
<u>Argentina</u>	Mr. L.M. LAUHBLLI	Mission Permanente de la République Argentine, 93 rue de la Servette, Geneva
<u>Austria</u>	Mr. H. WOIDICH	National Austrian Codex Alimentarius Committee, Blasstrasse, Klosterneuburg.
	Mr. J. WEISS	Höhere Bundeslehranstalt, 74, Wienertrasse, Klosterneuburg
<u>Belgium</u>	Mr. L. DECRAEMER	Inspecteur Principal au Ministère des Affaires Economique Division Denrées Alimentaires, 23 Square de Meeus, Bruxelles
	Mr. J.L. VERLINDEN	Ingénieur principal, Ministère de l'agriculture, 10, rue du Méridien, Bruxelles
<u>Bulgaria</u>	Mr. S. PACHOV	Ministère du Commerce Extérieur, Sofia
<u>Denmark</u>	Mr. H. HEILMANN	Danish Cannery Association (Fruit and Vegetables), Copenhagen
	Mr. H. HERGET	Danish Cannery Association (Fruit and Vegetables), Copenhagen
<u>Federal Republic of Germany</u>	Mr. J.B. MENNICKEN	Federal Ministry of Health, 532 Bad Godesberg, Deutschherrenstr.87
	Mr. H.P. MOLLENHAUER	Bundesgesundheits Ministerium, Moltkestrasse 54, Bad Godesberg
	Mr. G. WINKLER	Member of the board of the Federation of the German Fruit Juice Industry, Bad Godesberg, Moltkestr. 40
<u>Finland</u>	Mr. T. RAUTAVAARA	Inspector of Horticulture, Administration of Agriculture Maataloushallitus, Helsinki

<u>France</u>	Mr. C. GROSS	Inspecteur général de la repression des fraudes, Ministère de l'Agriculture, 42bis rue de Bourgogne, Paris VIIe
	Mr. R. KIEFFER	Direction des industries agricoles, Ministère de l'Agriculture 3, rue Barbet de Jouy, Paris 7e
	Mr. P. DUPAIGNE.	Directeur, Laboratoire, Technologie, Institut de Recherches Fruitières, CERDIA, Massy
<u>Israel</u>	Mr. E. ROSENSTEIN	Head, Department of Food Industries, Ministry of Commerce and Industry, Jerusalem
	Mr. U.R. POLLAK	Director-Coordinating, Committee on Citrus Products Board, Givat Hayim-Ichud, Hadera
<u>Italy</u>	Mr. A. PAJELLA .	Ministère de l'Agriculture et des Forêts, Via XX Settembre, Rome
	Mr. F. COTTA-RAMUSINO	Ricercatore dell Istituto Superiore di Sanità, Viale Regina Elena, 299, Rome
	Mr. U. CASOLI	Stazione, Sperimentale per l'Industria delle Conserve Alimentari, Viale Tanera 33, Parma
	Mr. H. REINTJES	Directeur, Technique Société Star SPA, Milano
<u>Japan</u>	Mr. N. KOIWA	Official, Ministry of Agriculture and Forestry, Horticultural Bureau, M.A.H., Kasumigaseki, Chiyoda-ku, Tokyo
<u>Netherlands</u>	Mr. J. BÜRO	Ministry of Agriculture, The Hague
	Mr. P.J. MEEREBOHR	Ministry of Agriculture, The Hague
	Mr. L.J. SCHUDEBOOM	Officer of Health, Ministry of Social Affairs and Public Health, Dokter Reyersstraat, 10, Leidschendam
	Mr. J. van WAARDENBERG	Produktschap voor Groenten en Fruit, Bezuidenhoutse Fog. 153, The Hague
	Mr. T. van HIELE	Director, Institute for Research on Storage and Processing of Horticultural Product, Haagsteeg 6, Wageningen
<u>Poland</u>	Mr. W. ORLOWSKI	Central Board of Standardization, Ministry of Foreign Trade, Stepinska 9, Warsaw
<u>Romania</u>	Mr. ACATINCAT	Engineer, Foreign Trade Ministry, Bucarest

	Mr. S. OEMS	Chef de laboratoire de Recherches à l'Institut des Recherches Alimentaires, Bucarest
<u>Spain</u>	Mr. L. ESTEBAN	Ministry of Commerce, Huesca 23, Madrid
	Mr. J. ROYO-IRANZO	Scientific Adviser of the "Sindicato de Frutos", Research Chemist of the Superior Scientific Research Council, Alvaro de Bazan 3, Valencia
	Mr. J. CARBALLO	Expert dans la Sous-Commission du Codex alimentaire espagnol, Francisco Livelva 69, Madrid, 6
<u>Sweden</u>	Mr. J. TEAR	Research Manager, Ab Bjare, Kristianstad
<u>Switzerland</u>	Mr. H.U. PFISTER	Adjoint à la Régie Fédéral des Alcool, Berne
	Mr. A.L. DOSWALD	Vice-Director, Fruit Union Suisse, Zoug
	Mr. L.KREIENBUHL	Conserves Hero, Lenzbourg
	Mr. H.A. RENTSCHLER	Adjoint à la Station Fédérale d'Essais de Wändeswil, Waedenswil
<u>United Kingdom</u>	Mr. L.G. HANSON	Chief Executive Officer, Food Standard Division, Ministry of Agriculture, Fisheries and Food, Horseferry Road, London, S.W.1
	Mr. I.C. REDFERN	Food Standards Division, Ministry of Agriculture, Fisheries and Food, London, S.W.1
	Mr. V.L.S. CHARLEY	Director, Product Development, Beecham Group, Great West Road, Brentford, Middlesex
<u>United States</u>	Mr. L.M. BEACHAM	Director, Division of Food Standards and Additives, Food and Drug Administration, Washington D.C.
	Mr. I.I. SOMERS	Director, Research Laboratories, National Cannery Association, 1133 20th St. N.W., Washington D.C.
	Mr. B. FILICE	Director, Field Operations, California Cannery and Growers, 1200 St. 10th St., Richmond, California
	Mr. D.R. THOMPSON	European Representative, California-Arizona Citrus Industry, Brussels

	Mr. J.J. MESSENS	Director, Overseas Department, National Canners Association, 52 Vooruitgangstraat, Bruxelles, Belgium
	Mr. W.W. SOLOMON	Cannery Manager, Calpak Sp. A., San Felice sul Panaro, Modena, Italy
<u>Yugoslavia</u>	Mr. M. TODOROVIC	Expert of Institute for Food Industry, Novi Sad, Rumenacka ul. 103

#### OBSERVERS

Mr. G. d'EAUBONNE Secrétaire Général, Fédération Internationale des  
Producteurs de jus de fruits, 10, rue de Liège, Paris IX

Mr. F. RIBES PLA, Liaison Committee of Mediterranean Citrus Culture, Castellon  
de la Plana, Spain

Mr. E. GAERNER, Commission de la Communauté Economique Européenne,  
Brussels

#### JOINT SECRETARIAT

Dr. D.M. Smith  
Technical Advisor  
Food Science and Technology Branch  
Nutrition Division, FAO, Rome

Mr. H. McNally  
Liaison Officer  
Food Standards Branch, FAO, Rome

Mr. L. Jacobson  
ECE/FAO Agriculture Division  
Economic Commission for Europe  
Palais des Nations, Geneva