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AGRI/402

AGRI/WP.1/429

ALINORM 66/14

18 March 1966

JOINT FAO/WHO PROGRAM OF FOOD STANDARDS

CODEX ALIMENTARIUS COMMISSION

Fourth Session, Rome, 7-14 November 1966

REPORT OF THE THIRD 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 third session in Geneva from 21 to 25 February 1966.
2. Experts from the following countries participated in the meeting: Austria, Belgium, Denmark, Federal Republic of Germany, Finland, France, Israel, Italy, Netherlands, Poland, Republic of China, Roumania, Spain, Sweden, Switzerland, United Kingdom and United States of America.
3. Also present were observers from the European Economic Community, the Organization for Economic Co-operation and Development, the European Free Trade Association, the International Federation of Fruit Juice Producers and the International Wine Office.
4. Mr. R. Mory (Switzerland) was re-elected Chairman and Mr. W. Orłowski (Poland) was elected Vice-Chairman. The Secretariat was composed of representatives of ECE and FAO.
5. Working Documents
See Appendix I.
6. Tolerances for tin content of fruit juices

The Group of Experts had before it document AGRI/WP.1/405, which was submitted by the delegation of the U.S.A. at the request of the Group of Experts, as well as documents AGRI/WP.1/346 and 416. The delegation of the U.S.A. had proposed a maximum tolerance of 250 mg/kg for the tin content of fruit juices. After a full consideration of this proposal, a majority of the experts concluded that there should be a maximum tolerance of 5 mg/kg for fruit juices in general with the exception that in the case of fruit juices in tinned containers the maximum tolerance should be 250 mg/kg. These figures would be subject to review in the light of the results of further studies to be carried out. The delegations of Italy and Spain reserved the positions of their

governments, because in their opinion more research on the hygienic, toxicological and technological aspects was required before a definite tolerance figure could be proposed for tin in fruit juices. The delegations of the Netherlands and Sweden reserved the position of their governments because they considered that 5 mg/kg was too low as a tolerance for the tin content of fruit juices in glass containers as compared with the tolerance proposed for fruit juice in tinned containers. The delegation of Poland reserved the position of its Government in respect of both tolerances and indicated that a more realistic tolerance figure for fruit juices sold in glass containers would be 50 mg/kg and 200 mg/kg for fruit juices in tinned containers. The delegate of Finland informed the Group of Experts that his Government would not wish to see a tolerance for tin in fruit juices in tinned containers to exceed 100 mg/kg. It was agreed that the proposed tolerances be referred for examination to the Codex Committee on Food additives, which, in turn, would transmit its findings to the joint FAO/WHO Expert Committee on Food Additives for a toxicological evaluation. The Group of Experts was informed that tin has a beneficial technological effect on fruit juice as a reducing agent, and that certain juices would turn dark in colour in its absence.

7. Filtration Enzymes

The Group of Experts had before it documents AGRI/WP.1/335 and 416. The first mentioned document had been before the Group at its previous session. The rapporteur (Mr. H. Mollenhauer, Federal Republic of Germany) reported orally to the Group of Experts on the progress of work concerning filtration enzymes. He stated that there was not enough information available at present to propose a standard and that the matter would be discussed further at the next meeting of the Codex Committee on Food Additives. The Group of Experts decided, in the light of this information, to postpone further consideration of the matter until next year. In the meantime delegations were requested to forward to the rapporteur as much information as possible on the subject. The International Wine Office informed the Group of Experts that it would make available to the rapporteur the results of the organisation's work in this field.

8. Methods of Analysis

The Group of Experts had before it document AGRI/WP.1/412. It was informed that the International Federation of Fruit Juice Producers and the International Wine Office were currently working together to secure agreement on standardized methods of analysis for fruit juices. The representatives of both organisations indicated that good progress had been made to-date. The Group of Experts was informed that the Codex Committee on Methods of Analysis and Sampling was preparing a bibliography of existing methods of analysis and would eventually be recommending international referee methods. It was proposed that such methods would, as far as possible, follow the presentational form of ISO document R 78. The Group of Experts recommended that the Codex Committee on Methods of Analysis should, as far as possible, utilise the methods already elaborated by the International Federation of Fruit Juice Producers since the membership of the Federation comprised the competent experts in this field.

9. Nature of the standards for fruit juices

Prior to a detailed examination of the draft standard for grape juice, the delegation of the Netherlands stated, as a matter of principle, that standards should be based on the compositional requirements for the final product and should not be a prescription of the methods of manufacture. In illustration of this principle attention was drawn to sub-paragraph 11.2 of Annex IV of AGRI/WP.1/362, specifying the clarifying agents which may be used but which would not necessarily be detectable in the final

product by the importers. The Netherlands delegation indicated that if it was considered necessary to prescribe manufacturing procedures, these should be set out as a recommendation in an annex to the standard, but should not form part of the standard. The Group of Experts after a full discussion of this viewpoint and having regard to its decisions at earlier meetings, decided to continue to elaborate standards for fruit juices on the basis of the drafts agreed upon at its previous sessions. The delegation of the Netherlands reserved the position of its Government as to the possibility of applying such standards on fruit juices imported within the Netherlands.

10. DRAFT STANDARD FOR GRAPE JUICE, READY FOR CONSUMPTION AND PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

(a) Definition

The Group of Experts examined Annex IV of document AGRI/WP.1/362, containing the draft standard for grape juice. The Group of Experts considered, at the request of the Netherlands delegation, whether it was necessary to make any change in the definition, such as the deletion of the sentence "the juice may be turbid or clear", and also whether the sentence "it should have the characteristic smell and taste of grape juice" be located elsewhere in the text. After a full discussion of these proposals, the Group of Experts concluded that the text of the definition should remain unchanged.

(b) Labelling

(i) The Codex Committee on Food Labelling at its first meeting held in Ottawa in June 1965 had dealt with the general labelling requirements applicable to all foods. The Codex Committee had requested that in connection with fruit juices, the Group of Experts should indicate what additional specific requirements would be necessary. The Group concluded that any specific requirements would need to be considered separately for each juice. The only specific declaration considered necessary to require in addition to the technical description "grape juice" was the term "carbonated" for grape juice containing more than 2 gr/kg of carbon dioxide.

(ii) The delegation of the Federal Republic of Germany queried, as a general principle, whether fruit juices packed in tinned containers should be required to be date marked. The Group of Experts after being informed of the Views expressed by the Codex Committee on Food Labelling as contained in the report of the Codex Committee's first meeting concluded that there were no special reasons in the case of fruit juices to require a departure from those views which were as follows:-

"We have considered whether the date of manufacture, packaging or despatch should be indicated on all pre-packed foodstuffs. This is an attractive proposition which would, it is claimed, enable both retailers and consumers to determine quickly and easily whether foodstuffs are fresh or likely to be fit to eat. In our view, however, such a requirement is not practical, since so much depends not on the date the product was made but on the quality and freshness of the food from which it was prepared or on the conditions under which it is transported or stored. In certain cases a date stamp might give purchasers a sense of security which is not justified by

the conditions under which the food has been kept since manufacture."

The Group of Experts was informed that the comments of all Member Governments of FAO and WHO had been sought on the recommendations contained in the report of the first meeting of the Codex Committee. The delegation of the Federal Republic of Germany considered, therefore, that the subject of date-marking for fruit juices should remain open to discussion until the matter had been further considered by the Codex Committee on Food Labelling in the light of government comments.

(c) Micro-Organisms

The Group of Experts agreed that item 6 in the draft standard should be changed to read as follows:

"6. Micro-organisms capable of developing under normal storage conditions : None"

The delegation of the Federal Republic of Germany reserved the position of its Government, because the introduction of the phrase "under normal storage conditions" and the omission of any specific reference to the absence of pathogenic or toxigenic organisms in its opinion rendered this section of the standard less satisfactory than the original draft. The Swiss delegation reserved the position of its Government in respect of the introduction of the phrase "under normal storage conditions" and the delegation of Italy reserved the position of its Government owing to the omission of specific reference to the absence of pathogenic and toxigenic organisms,

(d) Mould

The Group of Experts agreed that item 7 in the draft standard should be changed to read as follows:

"7. Mould Filaments : technologically unavoidable traces
Maximum percentage of positive fields to be specified later, using the Howard method."

Since the draft standard would be sent to all delegations for comment, information would also be sought from them as to a figure for this mould count. The technical committee of the International Federation of Fruit Juice Producers was also requested to examine this problem for clear and turbid grape juice and to suggest, for the next meeting, maximum limits,

(e) Traces of Arsenic and Lead

In accordance with footnote (a) to the draft standard, the delegation of France, after consultation with experts of the International Wine Office, proposed that the original limit for arsenic be reduced after 5 years to 0.2 mg/kg. and that the original limit for lead be reduced after 10 years to 0.3 mg/kg (see AGRI/WP.1/413). The Group of Experts was informed that the periods of 5 and 10 years would commence when the final standard was published for acceptance by governments. These proposals of the French delegation were accepted by the Group of Experts. The delegations of the United Kingdom, Switzerland and Spain however reserved the positions of their governments pending confirmation of the technical feasibility of achieving the lower limits.

(f) Other Metals

The Group of Experts agreed that the maximum level for iron in grape juice should be reduced to 12 mg/kg (this proposal was contained in AGRI/WP.1/413).

The delegation of France proposed that, as also suggested in AGRI/WP.1/413, it might be desirable to supplement the list of other metals by including Aluminium at not more than 10 mg/kg and Cadmium at not more than 0.5 mg/kg. It was decided to review this proposal at the next session of the Group of Experts. Delegations were invited to submit information based on analytical findings of the maximum levels which might be considered for Aluminium and Cadmium.

(g) Anti-Oxidants

(i) L-Ascorbic acid

The Group of Experts agreed that the revised draft standard should read as follows:-

"L-Ascorbic acid: Addition permitted
All reference on the container to L-ascorbic acid content or Vitamin C is prohibited.¹"

¹ "This does not refer to vitaminized juices intended for special purposes."

(ii) Sulphur dioxide

A majority agreed that the text should remain unchanged including the footnote indicating that after an interval of 3 years the figure will be reduced from 50 to 20 mg/kg. The delegations of Finland, Federal Republic of Germany, Poland, Sweden and the United Kingdom reserved the positions of their governments on this point, all wishing for an immediate reduction of the figure of 50 mg/kg. The delegations of the Federal Republic of Germany and of Poland sought to have the figure reduced to 40 mg/kg and 20 rag/kg respectively.

11. DRAFT STANDARD FOR TOMATO JUICE, READY FOR CONSUMPTION AND PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

The Group of Experts had before it AGRI/WP.1/Conf. Room Doc. No. 91, containing joint Italian and US proposals. It was agreed that the Secretariat should bring the presentation of the draft standard into conformity with the format of the draft standards for apple, orange and grape juice. The following amendments of substance were agreed to by the Group of Experts:

(1) Definition

1.1 Between "extracted" and "from" insert "by mechanical means". A proposal to mention only tomatoes of red or reddish colour in the definition was not accepted. The Polish and Spanish delegations reserved the positions of their governments on this point. It was agreed to delete the third sentence of the draft definition.

1.2 "The salt-free soluble solids (determined by refractometer) of the finished tomato juice, ready for consumption must not be less than 4.5%."

(2) Ingredients and Additives

It was agreed that the text should be revised to read as follows:-

2.1 Food grade salt (NaCl) is allowed, but must be declared on the label.

2.2 Spices are allowed, but must be declared on the label.

The delegation of Roumania proposed that the addition of sugar should be permitted, subject to declaration on the label. The proposal failed to be adopted by a narrow margin. The delegation of Roumania reserved the position of its Government on this issue.

(3) Hygienic requirements

The Group of Experts discussed what limitation should be placed on mould count in tomato juice. It was agreed to leave the text of the draft unchanged but the delegation of the United Kingdom considered that the limit might be lowered in the future. The delegation of Poland reserved the position of its Government on the proposed limit as its Government had not had an opportunity to fully examine this proposal.

(4) Metal and Mineral Content

The Group of Experts amended the text under this heading to read as follows:- "Limits to be set at a later date". The delegations were requested to supply to the Secretariat information concerning limits they would wish to propose for the metal and mineral content of tomato juice sold in tinned containers or otherwise. This information should reach the Secretariat by 1 May 1966 so that it can be transmitted to the delegations of the United States of America and Italy for consideration in their joint revision of this part of the standard.

(5) Pesticide Residues: The text in the draft standard was unchanged.

(6) Preservation

After a full discussion the Group of Experts decided to revise the text under this heading to read as follows:- "Preservation by appropriate physical means ensuring the quality of the product under normal conditions of packing and storage". The Group of Experts further agreed to insert this new text into the draft standards for apple, orange and grape juices. The delegation of Switzerland reserved the position of its Government regarding the proposed changes in the text of the draft standards for apple, orange and grape juices, as it considered the new text would permit methods of preserving fruit juices which would not give any guarantee to the consumer or distributor that the juices would not ferment above a certain storage temperature. In this connection, the Swiss delegation went on to say that it would be necessary, where fruit juices which are not fully preserved are concerned, to declare on the label the fact that they are not fully preserved.

(7) Labelling

The Group of Experts after a full discussion decided that the text should be revised as follows:-

"7. Labelling

There shall appear on the label the following:-

7.1. Technical description: "tomato juice"

7.2.1 Declaration of salt, when added

7.2.2 Declaration of spices, when added

7.3 If pictures of fruits are to be represented, only tomatoes may so be represented."

Items 7.4 and 7.5 in the draft standard were deleted as these matters were already under consideration by the Codex Committee on Food Labelling. The Group of Experts discussed in general terms the need to provide instructions as to how these products should be handled during distribution to ensure their safety or maintenance of quality prior to consumption. The Group of Experts was advised that the Codex Committee on Food Labelling had these matters under consideration and would be taking fully into account any specific recommendations from experts concerned with the standardization of various commodities. The Swiss delegation reserved the position of its Government regarding the proposed new text for 7.2.1 above, taking the view that the addition of salt should not be required to be declared on the label.

(8) Mineral impurities

The Group of Experts decided that this item should be revised to read as follows:- "(insoluble mineral impurities in water) not more than 25 mg/kg."

(9) Other Characteristics

The delegation of the Netherlands suggested that the rapporteurs (U.S.A and Italy) might agree to consider including the organoleptical characteristics in the proposed revised standard for submission to the next session of the Group of Experts. The delegation of Switzerland proposed that fluidity-should be one of the characteristics to be in the standard. This proposal was not however supported by the meeting.

12. DRAFT STANDARD FOR APRICOT, PEACH AND PEAS PULPY-TYPE NECTARS

The Group of Experts considered document AGRI/WP.1/Conf.Room Doc.No.90 submitted jointly by the delegations of the USA and Italy.

(a) Definition

The Group of Experts re-affirmed its earlier decision that the draft standard should be presented in the format agreed for other products which had been considered by the Group of Experts. It was agreed that the definition should be redrafted to make it quite clear that the nectars were of the pulpy type and the words "pulpy-type nectars" should be consistently used throughout the text, including the title of the standard. Regarding the references to fruit concentrate in the draft definition there was a divergence of opinion among the experts as to whether this should be permitted. It was agreed that the views of delegations should be submitted to the Secretariat by 1 May 1966 for transmission to the rapporteurs (USA and Italy). The Group of Experts concluded that the revised draft standard for Apricot, Peach and Pear Pulpy-Type Nectars should serve as a model for subsequent standards for other pulpy-type fruit nectars.

The Group of Experts discussed what should be the minimum amount of fruit, expressed as a percentage by weight of the product, to be specified in the standard. Some delegations recommended a figure of 40%, other delegations favoured a higher level and the delegation of France strongly recommended 50% was therefore decided that delegations should submit their views on this matter

by 1 May 1966 to the Secretariat for transmission to the rapporteurs (USA and Italy).

(b) Fluidity

The Group of Experts were unable to reach any agreement as to whether provision should be included in the standard in respect of fluidity. Delegations were requested to submit their views to the Secretariat by 1 May 1966 for transmission to the rapporteurs (USA and Italy).

(c) Ingredients and Additives

(i) Sugars

The Group of Experts agreed that this section of the standard should read as follows:- "Sucrose, dextrose and glucose syrup as defined by the Codex Committee on Sugars would be allowed". The delegation of Italy reserved the position of its Government as in its opinion it considered that there should be some limitation on the amount of glucose syrup which could be substituted for sucrose.

(ii) Honey

The Group of Experts agreed that this section of the standard should be revised to read as follows:- "Honey as defined by the Codex Alimentarius Commission may be used as a sweetening ingredient but when so used it is to be the sole sweetening ingredient. The Swiss delegation reserved the position of its Government regarding the use of honey as a sweetening agent.

(iii) Acidifying agents

The Group of Experts agreed that citric acid, malic acid and lemon juice might be used as acidifying agents in Apricot, Peach and Pear Pulpy-Type Nectars. The delegation of Roumania proposed that tartaric acid should be added to the list of permitted acidifying agents but this proposal was not accepted by the Group of Experts. The delegation of Roumania reserved the position of its Government as regards the use of tartaric acid. The delegations of the Federal Republic of Germany, France and Finland reserved the position of their governments as in their opinion only citrus juices should be permitted as acidifying agents in this standard. It was agreed to obtain the views of the Codex Committee on Food Additives regarding the possible use of fumaric acid and in the light of any further information to reconsider the matter at the next session.

(iv) Ascorbic Acid

The Group of Experts decided that the text should be revised to read as proposed in the draft standard for Grape Juice (see paragraph 10(g)(i) above).

(v) Pectin

The delegation of Roumania proposed that a section 3.5 should be added to the draft standard and that this should include a statement to permit the use of pectin in pulpy-type nectars. It was considered to be especially necessary in the case of Pear Pulpy-type Nectar. The Group of Experts did not accept this proposal and the delegation of Roumania reserved the position of its Government regarding the use of pectin as a stabiliser in these products.

(vi) General

Because of insufficient time being left the Group of Experts was unable to complete its detailed review of the draft standard for Apricot, Peach and Pear Pulpy-type Nectars and therefore requested delegations to send their comments to the Secretariat by 1 May 1966 so that the rapporteurs (USA and Italy) could complete technical revision of the draft standard. The Secretariat was requested to present the draft standard in the format agreed for Apple, Orange and Grape Juices. Similarly the Group of Experts was unable to complete its review of the draft standard for Grape Juice.

13. Recommended change in working procedures

The Group of Experts was informed that the Codex Alimentarius Commission had carefully considered the request for more frequent meetings. Copies of the Report of the Third Session of the Codex Alimentarius Commission (document No. ALINORM 65/30) were distributed to the Group of Experts. The attention of the Group of Experts was drawn to paragraphs 9 and 65 of the Report which contained the recommendations of the Codex Alimentarius Commission. The Commission had concluded that the issue of draft standards to governments for comment would be likely to ensure more satisfactory progress in the work of elaborating standards for fruit juices than the existing arrangements which had been drawn up for fresh fruits and vegetables or more frequent meetings. The Commission was of the opinion that government comments on draft standards at appropriate stages would enable the Secretariat to prepare analytical papers well in advance of each session in order to enable the experts to know prior to the commencement of the session the views of other countries. After a discussion of the merits of the existing working arrangements and the proposals of the Codex Alimentarius Commission, it was proposed to try the new working arrangements during the course of the next year. In the meantime, the Secretariat would take action as indicated above and would also try to ensure that delegations which had accepted responsibility for the revision of draft standards presented the new text in sufficient time for their distribution to the Group of Experts well in advance of the next session. It was agreed that the FAO Secretariat should proceed with the preparation of draft standards for other fruit juices in accordance with the format laid down for Apple, Orange and Grape Juices.

14. Program of Work for the next session

The following program was agreed to:

1. Completion of consideration of Apricot, Peach and Pear Pulpy-type Nectars.
2. Completion of consideration of draft standard for physically preserved Tomato Juice.
3. Completion of draft standards for physically preserved Apple, Orange and Grape Juices.
4. Consideration of draft standards for chemically preserved Apple, Orange and Grape Juices.
5. Consideration of minimum requirements for concentrated Apple, Orange, Grape and Tomato Juice preserved by physical means.
6. Consideration of possible draft standard for filtration enzymes.

7. Consideration of draft standards for other fruit juices (to be prepared by FAO).
15. Appendices

Attached to this report are the following appendices:

 - Appendix I References to working documents.
 - Appendix I Revised draft minimum requirements for Apple Juice, ready for consumption and preserved exclusively by physical means.
 - Appendix III Revised draft minimum requirements for Orange Juice, ready for consumption and preserved exclusively by physical means.
 - Appendix IV Revised draft minimum requirements for Grape Juice, ready for consumption and preserved exclusively by physical means.
 - Appendix V Revised draft minimum requirements for Tomato Juice, ready for consumption and preserved exclusively by physical means.
 - Appendix VI Revised draft minimum requirements for Apricot, Peach, and Pear Pulp-type Nectars, ready for consumption and preserved exclusively by physical means.

WORKING DOCUMENTS

The working documents referred to throughout this report were as follows:

- (i) AGRI/WP.1/405. Proposals of the delegation of the U.S.A. as to a maximum tolerance for tin in fruit juices;
- (ii) AGRI/WP.1/346. Comments of the delegation of Israel on document AGRI/221; AGRI/WP.1/292, Annex 2, containing draft minimum requirements for orange juice, ready for consumption and preserved exclusively by physical means (Para. 10 of AGRI/WP.1/346 proposed a maximum figure for the tin content of orange juice);
- (iii) AGRI/WP.1/416. Comments of the delegation of Israel on various working documents which were before the Group of Experts (para. 5 of AGRI/WP.1/416 contained a comment on AGRI/WP.1/405 above and para. 6 contained comments on AGRI/WP.1/335 below);
- (iv) AGRI/WP.1/335. Paper on filtration enzymes prepared by the delegation of the Federal Republic of Germany;
- (v) AGRI/I-JP.1/412. Note sent to the Secretariat by the French delegation concerning a preliminary joint examination of the problem of methods of analysis by exports of the International Wine Office and the International Federation of Fruit Juice Producers;
- (vi) AGRI/WP.1/362. Report on second session of the Joint Group of Experts. Annexes II, III and IV of AGRI/WP.1/362 contained minimum requirements for apple juice, orange juice and grape juice, ready for consumption and preserved exclusively by physical means, as revised by the Group of Experts at its second session;
- (vii) AGRI/WP.1/413. Proposals emerging from discussions between experts of the International Wine Office and the French delegation as to limits for traces of arsenic and lead and for other metals;
- (viii) AGRI/WP.1/Conf.Room Doc. No. 91. Joint proposals of the delegations of Italy and the United States of America as to minimum requirements for tomato juice, ready for consumption and preserved exclusively "ay physical means;
- (ix) AGRI/WP.1/Conf.Room Doc. 1 No.90. Joint proposals of the delegations of Italy and the United States of America as to minimum requirements for apricot, peach and pear pulpy-type nectars, ready for consumption and preserved exclusively by physical means.

The following working documents had also boon submitted to the Group of Experts:-

- (i) AGRI/WP.1/348. Proposals of the delegation of the United States of America as to minimum requirements for concentrated apple juice, orange juice, grape juice and tomato juice, preserved by physical means;

- (ii) AGRI/WP.1/414. Proposals of the Swiss delegation as to minimum requirements for concentrated apple juice preserved by physical means;
- (iii) AGRI/WP.1/415. Proposals of the Swiss delegation as to minimum requirements for concentrated grape juice preserved by physical means;
- (iv) AGRI/WP. 1/345. Proposals of the delegation of the United Kingdom as to minimum requirements for apple juice, orange juice and grape juice, ready for consumption and preserved by chemical means.

APPLE JUICE1966- REVISED DRAFT MINIMUM REQUIREMENTS FOR APPLE JUICE
READY FOR CONSUMPTION, PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

1. Definition : Unfermented but fermentable juice, ready for direct consumption, obtained by mechanical extraction from sound, ripe apples, preserved exclusively by physical means. The juice may be turbid or clear. It should have the characteristic smell and taste of apple juice.
2. Technical description
(Must be declared) : 'Apple juice'
3. Labelling
 - 3.1 Obligatory declarations
 - Technical description : 'Apple juice'
 - Other declarations which might be thought necessary :
 - 3.2 Carbonated juice : 'Carbonated' to be declared on the container for Apple juice containing more than 2 gr/kg of carbon dioxide.
 - 3.3 Representation of fruit and fruit juices : Only apples and apple juice may be represented on the container.
4. Ethanol content : Not more than 5 gr/kg.
5. Volatile acids : Not more than 0.4 gr/kg expressed as acetic acid.
6. Micro-organisms capable of development under normal conditions of storage : None
7. Mould filaments : Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Method.
8. Traces of arsenic and lead^a
 - Arsenic (As) : Not more than 0.4 mg/kg
 - Lead (Pb) : Not more than 0.5 mg/kg

9. Other metals^b
- 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 5 mg/kg for juices in other than tinned containers. Not more than 250 mg/kg for juices in tinned containers.
- Total metal content, precipitable by potassium ferro-cyanide : Not more than 12 mg/kg, expressed as Fe
10. Mineral impurities insoluble in juice : Not more than 20 mg/kg
11. Permitted treatment aids
- Substances -permitted
- 11.1 Anti-oxidants
- 1-ascorbic acid : Addition of 1-ascorbic acid permitted; all reference on the container to 1-ascorbic acid content or vitamin C is prohibited^c
 - sulphur dioxide or potassium metabisulphite^d : m Maximum limit in the final product 50 mg/kg total SO₂
- 11.2 Clarifying agents^f
- pectolytic or proteolytic enzymes, in conformity with a standard which will be established later, combined or not combined with a strictly essential quantity of edible carriers or with substance permitted in this appendix without preservatives
 - gelatine without foreign smell
 - tannin^g
 - bentonite, with low soluble iron content
 - colloidal solution of silica (silica sol)
 - filtration aids (asbestos, diatomite, cellulose)
- 11.3 Others
- pure vegetable and animal carbon
 - pure carbon dioxide. If CO₂ is in excess of 2 gr/kg, the term 'carbonated' must be declared on the container.
12. Addition of flavourings : The addition of apple juice flavouring to apple juice from which the flavour has been removed is allowed.
13. Addition of concentrate : Only the addition of concentrated apple juice or reconstituted apple juice is allowed.
14. Addition of clouding or stabilizing agents : None
15. Preservation^h : By appropriate physical means ensuring the quality of the product under normal conditions of packing and storage.
16. Other additions : None

a It was proposed that these limits should be reduced in the case of arsenic to 0.2 mg/kg five years after
publication of the final draft for acceptance by governments, and in the case of lead to 0.3 mg/kg after 10 years.
b The experts agreed to accept a maximum limit of 15 mg/kg for iron and 17 mg/kg for total metal content for a
period of 3 years from the time of the publication of the final draft standard for acceptance by governments.
c This does not refer to vitaminized juices intended for special purposes.
d Hunt conform to the specifications for identity and purity of food additives established by the Joint FAO/WHO
Export Committee on Food Additives.
e After an interval of 3 years from the date of publication of standard for acceptance by governments, this figure
will be reduced to 20 mg/kg.
f Must conform to the technical and purity requirements fixed by the International Wine Office, where such exist.
g The use of tannins is to be reviewed before the end of 1967.
h 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.

ORANGE JUICE1966 - REVISED DRAFT MINIMUM REQUIREMENTS FOR ORANGE JUICE
READY FOR CONSUMPTION, PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

1. Definition : Unfermented but fermentable juice, ready for direct consumption, obtained by mechanical extraction from the edible part (endocarp) of ripe, sound oranges (Citrus inensis Swingle), preserved exclusively by physical means. It should have the characteristic smell and taste of orange juice.
2. Technical description : 'Orange juice'
(Must be declared)
 - 2.1 Supplementary technical description : Where sugar has been added the designation must be 'sweetened orange juice' or 'orange juice with added sugar'
3. Labelling
 - 3.1 Obligatory declarations
 - Technical description or supplementary technical description
 - Other declarations which might be thought necessary
 - 3.2 Representation of fruit and fruit juices : Only oranges and orange juice may be represented on the container.
4. Ethanol content : Not more than 3 gr/kg.
5. Volatile acids : Traces
6. Recoverable essential oils : Not more than 0.5 gr/kg. (Clevenger method of analysis)
7. Micro-organisms capable of development under normal conditions of storage : None
8. Mould filaments : Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Method.
9. Traces of arsenic and lead ^a
 - Arsenic (As) : Not more than 0.4 mg/kg
 - Lead (Pb) : Not more than 0.5 mg/kg
10. Other metals
 - Copper (Cu) : Not more than 5 mg/kg
 - Zinc (Zu) : Not more than 5 mg/kg
 - Iron (Fe) : Not more than 15 mg/kg
 - Tin (Sn) : Not more than 5 mg/kg for juices in other than tinned containers. Not more than 250 mg/kg for juices in tinned containers.

- Total metal content, precipitable by potassium ferrocyanide : Not more than 20 mg/kg, expressed as Fe
11. Addition of flavourings : The addition of orange juice flavouring to orange juice from which the flavour has been removed is allowed
12. Addition of clouding or stabilizing agents : None
13. Addition of sugar : The addition of sucrose, dextrose and dried glucose syrup as defined by the Codex Committee on Sugars is allowed. The quantity added must not exceed 50 gr/kg.
14. Addition of juices other than of Citrus sinensis Swingle : None
15. Addition of concentrate : Only the addition of concentrated orange juice (Citrus sinensis Swingle) is allowed
16. Addition of colouring substances : None
17. Preservation^b : By appropriate physical means ensuring the quality of the product under normal conditions of packing and storage
18. Other additions : None

^a It was proposed that these limits should be reduced in the case of arsenic to 0.2 mg/kg five years after publication of the final draft standard for acceptance by governments, and in the case of lead to 0.3 mg/kg after ten years.

^b 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.

GRAPE JUICE1966 - REVISED DRAFT MINIMUM REQUIREMENTS FOR GRAPE JUICE READY FOR CONSUMPTION, PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

1. Definition : Unfermented but fermentable juice, ready for direct consumption, obtained by mechanical extraction from sound, ripe grapes, preserved exclusively by physical means. The juice may be turbid or clear. It should have the characteristic smell and taste of grape juice.
2. Technical description : 'Grape juice'
(Must be declared)
3. Labelling
 - 3.1 Obligatory declarations
 - Technical description : 'Grape juice'
 - Other declarations which might be thought necessary
 - 3.2 Carbonated juice : 'Carbonated' to be declared on the container for Grape juice containing more than 2 gr/kg of carbon dioxide.
 - 3.3 Representation of fruit and fruit juices : Only grapes and grape juice may be represented on the container.
4. Ethanol content : Not more than 5 gr/kg.
5. Volatile acids : Not more than 0.4 gr/kg expressed as acetic acid.
6. Micro-organisms capable of developing under normal storage conditions : None
7. Mould filaments : Technologically unavoidable traces. Maximum percentage of positive fields to be specified later, using the Howard Method.
8. Traces of arsenic and lead ^a
 - Arsenic (As) : Not more than 0.4 mg/kg
 - Lead (Pb) : Not more than 0.5 mg/kg
9. Other metals
 - Copper (Cu) : Not more than 5 mg/kg.
 - Zinc (Zn) : Not more than 5 mg/kg.
 - Iron (Fe) : Not more than 12 mg/kg.
 - Tin (Sn) : Not more than 5 mg/kg for juices in other than tinned containers. Not more than 250 mg/kg for juices in tinned containers.

- Total metal content, precipitable by potassium ferro-cyanide : Not more than 17 mg/kg, expressed as Fe.
10. Mineral impurities insoluble in juice : Not more than 20 mg/kg.
11. Permitted treatment aids
 Substances permitted
- 11.1 Anti-oxidants
- 1-ascorbic acid : Addition of 1-ascorbic acid permitted. All reference on the container to 1-ascorbic acid content or vitamin C is prohibited, ^b
- Sulphur dioxide or potassium metabisulphite ^c : Maximum limit in the final product 50 mg/kg total SO₂ ^d
- 11.2 Clairifying agents ^a
- pectolytic or proteolytic enzymes, in conformity with a standard which will be established later, combined or not combined with a strictly essential quantity of edible carriers or with substance permitted in this appendix, without preservatives.
 - gelatine without foreign smell.
 - tannin ^f
 - bentonite, with low soluble iron content.
 - colloidal solution of silica (silica sol).
 - filtration aids (asbestos, diatomite, cellulose),
- 11.3 Others
- pure vegetable and animal carbon
- pure carbon dioxide. If CO₂ is in excess of 2 gr/kg, the term 'carbonated' must be declared on the container.
12. Addition of flavourings : The addition of grape juice flavouring to grape juice from which the flavour has been removed is allowed.
13. Addition of concentrate : To be examined later.
14. Addition of clouding or stabilizing agents : None
15. Preservation ^g : By appropriate physical means ensuring the quality of the product under normal conditions of packing and storage.
16. Other additions : None

- ^a It was agreed that these limits should be reduced in the case of arsenic to 0.2 mg/kg five years after publication of the final draft for acceptance by governments, and in the case of lead to 0.3 mg/kg after 10 years.
- ^b This does not refer to vitaminized juices intended for special purposes.
- ^c Hunt conform to the specifications for identity and purity of food additives established by the joint FAO/WHO Committee on Food Additives,
- ^d After an interval of 3 years from date of publication of standard for acceptance by governments, this figure will be reduced to 20 mg/kg.
- ^e Must conform to the technical and purity requirements fixed by the International Wine Office, where such exist.
- ^f The use of tannins in to be reviewed before the end of 1967.
- ^g The Group 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.

TOMATO JUICE1966 - REVISED DRAFT MINIMUM REQUIREMENTS FOR TOMATO JUICE
READY FOR CONSUMPTION, PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

1. Definition : Unfermented, unconcentrated, undiluted, but fermentable juice, ready for direct consumption, obtained by mechanical extraction from sound and ripe 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 smell and taste of tomato juice.
2. Technical description : 'Tomato juice'
(Must be declared)
3. Labelling
 - 3.1 Obligatory declarations on label
 - Technical description : 'Tomato juice'
 - Declaration of salt, when added : Salt
 - Declaration of spices, when added : Spices (name of characterising spice)
 - Other declarations which might be thought necessary
 - 3.2 Representation of fruit and fruit juices : Only tomatoes and tomato juice may be represented on the container.
4. Salt free soluble solids : Not less than 4.5% of the finished tomato juice, ready for consumption (determined by refractometer)
5. Micro-organisms capable of development under normal storage conditions : None
6. Mould filaments : Positive fields - not more than 30% of the field examined by the Howard Method
7. Traces of arsenic and lead
 - Arsenic (As) : Limit still to be determined
 - Lead (Pb) : " " " "

8. Other metals :
- Copper (Cu) : " " " "
 - Zinc (Zn) : " " " "
 - Iron (Fe) : " " " "
 - Tin (Sn) : Not more than 5 mg/kg for juices in other than tinned containers. Not more than 250 mg/kg for juices in tinned containers.
- Total metal content, precipitable by potassium ferrocyanide : Limit still to be determined
9. Mineral impurities : (insoluble mineral impurities in water) not more than 25 mg/kg
10. Permitted treatment aids
Substances Permitted :
11. Addition of flavourings : Salt, spices may be used provided they are declared as required under section 3.1 above
12. Addition of concentrate : Tomato juice may be prepared from tomato concentrate provided final product complies with 1. Definition and must be labelled 'reconstituted'.
13. Preservation : By appropriate physical means ensuring the quality of the product under normal conditions of packing and storage
14. Pesticide residues : The product shall comply with the requirements to be specified by the Codex Alimentarius
15. Other additions : None

APRICOT, PEACH AND PEAR PULPY-TYPE NECTARS1966 - REVISED DRAFT MINIMUM REQUIREMENTS FOR APRICOT,
PEACH AND PEAR PULPY-TYPE NECTARS, READY FOR CONSUMPTION,
PRESERVED EXCLUSIVELY BY PHYSICAL MEANS

1. Definition : Unfermented but fermentable pulpy-type nectar ready for direct consumption, obtained from the total edible part of sound ripe apricot, peach or pear, sieved, with water and permitted sugars added, preserved exclusively by physical means. The product must contain not less than ... % by weight of fruit ingredient. (The percentage of fruit is to be determined later). It should have the characteristic smell and taste of apricot, peach or pear pulpy-type nectar.
2. Technical description
(Must be declared) : 'Apricot, Peach or Pear Pulpy-type Nectar'
3. Labelling
 - 3.1 Obligatory declarations
 - Technical description : 'Apricot, Peach or Pear Pulpy-type Nectar'
 - Other declarations which might be thought necessary
 - 3.2 Representation of fruit and fruit juices : Only apricots, peaches or pears and their nectars may be represented on the container
4. Fluidity : To be decided later, whether fluidity should be criterion of the standard
5. Micro-organisms capable of development under normal conditions of storage : None
6. Mould filaments : Positive field - not more than 20% of the field examined by the Howard Method
7. Traces of arsenic and lead
 - Arsenic (As) : Limit still to be determined
 - Lead (Pb) : " " " "
8. Other metals
 - Copper (Cu) : Limit still to be determined
 - Zinc (Zn) : " " " "
 - Iron (Fe) : " " " "
 - Tin (Sn) : Not more than 5"mg/kg for juices in other than tinned containers. Not more than 250 mg/kg for juices in tinned containers

- Total metal content, precipitable by potassium ferrocyanide : To be determined later
9. Mineral impurities : To be determined later
10. Permitted treatment aids
- Substances permitted
- 10.1 Anti-oxidants
- 1-ascorbic acid : Addition of 1-ascorbic acid permitted. All reference on the container to 1-ascorbic acid content or vitamin C is prohibited. ^a
- 10.2 Acidifying agents : Citric acid, malic acid and lemon juice permitted
11. Addition of flavourings : None
12. Addition of concentrate : To be decided whether the use of concentrates will be permitted.
13. Addition of clouding or stabilizing agents : None
14. Preservation : By appropriate physical means ensuring the quality of the product under normal conditions of packing and storage.
15. Pesticide residues : The product shall comply with the requirements to be specified by the Codex Alimentarius
16. Permitted sugars : Sucrose, dextrose and glucose syrup as defined by the Codex Committee on Sugars.
Honey, as defined by the Codex Alimentarius Commission, may be used as a sweetening ingredient but when so used it is to be the sole sweetening ingredient.

^a This does not refer to vitaminized juices intended for special purposes.