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JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
Sixth Session, Geneva

REPORT OF THE FIFTH SESSION
OF THE
CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

Washington, D.C.
13-17 May 1968

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

FIFTH SESSION

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1. The Fifth Session of the Codex Committee on Processed Fruits and Vegetables was held from 13 to 17 May, 1968, at the PAHO/WHO Building, Washington, D. C., U.S.A., under the Chairmanship of the United States, with Mr. F. L. Southerland in the chair. Representatives and observers from 21 countries and observers from 2 international organizations attended the meeting. The list of participants appears as Appendix I. The Chairman welcomed the participants and commended the Committee for its past performance. The Committee adopted the provisional agenda.

Decisions of the Fifth Session of the Codex Alimentarius Commission Affecting this Committee

2. The FAO representative summarized the decisions of the Fifth Session of the Codex Alimentarius Commission with regard to (a) acceptance of Codex Standards; (b) the meaning of quality criteria in Codex Standards; (c) format of Codex Standards; (d) amendments to standards for processed fruits and vegetables adopted at Step 8; (e) standards moved forward to Step 6; (f) the use of artificial sweeteners in canned fruits; and (g) elaboration of standards for dried fruits.
3. The Committee noted that the Commission had agreed that this Committee should examine a proposal from the delegation of Austria which had requested that the standard for canned peaches should include a fourth color type, namely "green," the green peaches in question being ripe peaches. The Committee reconsidered the request, which it had discussed at its previous Session (Par. 26 of the Report of the Fourth Session), but was unable to reach any conclusion in the absence of any information from Austria on the extent of international trade in canned peaches of this kind. The Committee agreed that Austria should be asked to supply such information for consideration by the Committee at its next Session.

Matters Arising from the Report of the Fourth Session of the Codex Committee on Food Additives

4. The Committee took note of the following paragraphs of the Report of the Fourth Session of the Codex Committee on Food Additives: 15 to 22 (Step 8 Standards); 35 to 38 (earlier Step Standards); 64 to 65

(antimicrobials); 85 (antibiotics as food preservatives); 95 (toxic trace elements); and Appendix IV of the Report. The Committee came to the following conclusion with regard to the following paragraphs of the Report of the Fourth Session of the Codex Committee on Food Additives:

a) Par. 18 Nisin.

- 1) The Committee noted that its views on the question of Nisin were reflected in paragraph 7 of the Report of the Fourth Session of this Committee. This Committee in 1967 had referred the matter of the use of Nisin to the WHO Expert Committee on Food Hygiene (Food Microbiology) and no response had been received. The Committee also noted the comments of the Fourth Session of the Codex Committee on Food Additives covering the use of Nisin in canned green beans and canned wax beans at a level of 100 Reading units/g. The Committee further noted that the Codex Committee on Food Additives had, in view of the fact that no firm agreement had been reached by the Codex Committee on Processed Fruits and Vegetables on the technological need for this antibiotic and in the absence of technological evaluation, not endorsed the proposal and had referred Nisin to the Joint FAO/WHO Expert Committee on Food Additives for consideration. The Committee also took note of the statement of the FAO representative that Nisin had been deleted by the Commission at its Fifth Session from the standard for canned green beans and canned wax beans, which had been adopted by the Commission at Step 8, because the use of Nisin had not been endorsed by the Codex Committee on Food Additives.
- ii) After a full discussion, the Committee decided to refer the matter of Nisin to the Codex Committee on Food Hygiene, together with a revised paper on the use of Nisin, to be prepared by the United Kingdom. The Committee agreed that the Codex Committee on Food Hygiene should be asked to express their views on the use of Nisin in canned vegetables.

- b) Par. 19 Use of Colors in Canned Green Beans and Canned Wax Beans and Canned Apple Sauce. The Committee noted that the Codex Alimentarius Commission at its Fifth Session had deleted the coloring substances which were listed in the standards for canned green beans and canned wax beans, and canned apple sauce, on the understanding that the coloring substances in question had not been endorsed by the Codex Committee on Food Additives, as reflected in paragraph 19 of the Report of the Fourth Session of the Codex Committee on Food Additives. However, the Committee noted that in the Appendix to the Report (Appendix IV) the coloring substances as set forth in the two standards mentioned had, in fact, been temporarily endorsed. The Committee expressed the

strong view that the Executive Committee, at its next Session should examine this matter with a view to reinstating these coloring substances in these two standards before their circulation to Governments for acceptance.

- c) Par. 36 Modified Starch. The Committee noted that modified starch had been deleted from the list of additives appearing in the standards for canned green beans and wax beans and canned sweet corn, because this additive had not been endorsed by the Codex Committee on Food Additives. The Committee also noted that the Codex Committee on Food Additives had asked this Committee to define clearly which modified starches were meant. The Committee agreed that the modified starches intended to be used are set forth in Appendix XII of this Report. The delegation of the U.S.A. expressed the view that it would be undesirable to circulate these two standards to governments for acceptance until such time as they contained provisions for modified starch.
- d) The Committee agreed that it was not necessary to provide for the use of Yellow 2 G (Color Index (1956) Number 18965) in the draft standard for canned green garden peas.
- e) Par. 37 Stannous Chloride. The Committee agreed that it was not aware of any suitable alternative to stannous chloride as an additive in asparagus packed in glass, and asked that the Codex Committee on Food Additives reconsider the use of this additive in asparagus packed in glass.
- f) Par. 38 Coloring Substances in Canned Mushrooms. The Committee accepted the view of a number of delegations that it was technologically desirable to provide for the use of Brilliant Black BN (Color Index (1956) Number 28440) in the draft standard for canned mushrooms and requested endorsement from the Codex Committee on Food Additives for this coloring substance at the level set forth in the draft standard.
- g) Par. 65 Antimicrobials. The Committee agreed to deal with the levels of each of the antimicrobials mentioned (benzoic acid and its salts, sulphur dioxide, sorbic acid and its salts) when it would be considering standards for commodities in which these substances would be used.

Use of Coloring Substances in Processed Fruits and Vegetables

- 5. The Committee noted that although it could be claimed that the use of coloring substances in processed fruits and vegetables and many

other classes of foods was unnecessary in a strict technological sense, their use was required to satisfy long established consumer demand in some countries. The Committee decided, therefore, that provision should be made for the use of approved safe colors in standards for those products where an established consumer demand could be demonstrated. It was agreed that the attention of the Codex Committee on Food Additives should be drawn to this decision and the considerations on which it was based.

Matters Arising from the Report of the Fifth Session of the Codex Committee on Food Additives

6. The Committee was informed by the FAO representative that the Codex Committee on Food Additives at its Fifth Session had decided that monosodium glutamate should be treated as a food additive and that it had requested the Joint FAO/WHO Expert Committee on Food Additives to draw up specifications of identity and purity for this substance. The Committee was also informed that the Codex Committee on Food Additives had decided to send the list of food colors appearing under Category A of Appendix XI of the Report of the Fourth Session of the Codex Committee on Food Additives to the Codex Alimentarius Commission with the recommendation that Steps 6, 7, and 8 of the Procedure for the Elaboration of Standards be omitted.

Matters Arising from the Report of the Third Session of the Codex Committee on Methods of Analysis and Sampling

7. The Committee took note of the following paragraphs of the above Report: 12, 12(a), 12(b), 12(c), 13, 14, 15, as well as the relevant paragraphs of the section of the report entitled "Methods of Analysis for Preservatives" and "Methods of Analysis for Antioxidants". The Committee commented on the following paragraphs of the Report of the Third Session of the Codex Committee on Methods of Analysis and Sampling:
- a) Par. 12 (b) The Codex Committee on Processed Fruits and Vegetables had before it a procedure for the testing of tough strings in canned green and wax beans. The Committee agreed that certain modifications and additions relating to weights and measures should be made in the procedure for testing and that the Chairman of the Committee should transmit the procedure as amended to the Head of the U.S. delegation to the Codex Committee on Methods of Analysis and Sampling.
 - b) Par. 12 (c) The Committee noted the decision of the Fourth Session of the Codex Alimentarius Commission that weights and measures should be shown in the metric system with reasonably rounded off equivalents in other systems. With respect to the drained weight method, the Committee agreed that the delegation of the U.S.A. should consult with the Federal Republic of Germany with a view to proposing to the Committee, in due course, sieve measurements in different systems which would be acceptable internationally.

c) In response to the request of the Codex Committee on Methods of Analysis and Sampling as set forth in paragraphs 23 and 25 of its Third Session Report, the Committee examined the documents prepared by the Netherlands' delegation dealing with methodology for preservatives and antioxidants and concluded that the only two tests that would be of immediate concern in connection with processed fruits and vegetables would be the test procedures for sulfur dioxide and benzoic acid. The Committee's comments are as follows:

i) Sulfur Dioxide. Fruit pulp and dried fruit (a) Method I, 2.b. and (b) I, 2.a., are acceptable. The modification as prescribed by Zonneveld appears to improve the usefulness and versatility of the method and would undoubtedly be acceptable. However, it is recommended that the modification be subjected to a collaborative study by the Codex Committee on Methods of Analysis and Sampling, such as is used in the development of AOAC procedures.

ii) Benzoic Acid
Qualitative - for nonalcoholic and alcoholic liquids, solids and semisolids the method of choice would be Method IV, 1.a. Reference to AOAC 10th edition, should be included.
Quantitative - Method IV, 2.b., is acceptable for analysis of tomato products, jams, jellies, beverages, soft drinks and fruit juices. Reference to AOAC, 10th edition, should be included.

Methods of Sampling and Analysis

8. As regards referee methods of sampling and analysis, the Committee noted that the provisions of the draft standards provided for specific referee methods and also any other standardized methods which gave equivalent results. As the Committee was not in a position to indicate at this time what these other standardized methods might be, and noting that the Codex Committee on Methods of Analysis and Sampling would require to have this information before it could decide on whether to endorse them, the Committee agreed to delete the reference to other standardized methods from the standards. The delegate of France regretted this decision. It was noted that this would not preclude the Codex Committee on Processed Fruits and Vegetables from proposing for inclusion in the standards methods additional to those already in the draft standards when the Committee would be in a position to propose such additional methods.

9. The Committee decided that end product specifications developed by the Codex Committee on Food Hygiene, suitably adapted to fit individual standards, should be included in those standards as mandatory requirements.

General Standard for Labeling of Prepackaged Foods (Alinorm 68/22/GS)

10. The Committee reviewed the statement appearing in this document which reads "Foods packed in liquid normally discarded before consumption should carry a declaration of the drained weight of the food," and noted that it would be up to the Committee to decide in respect of each commodity whether there should be a declaration of drained weight.

Comments of the Federal Republic of Germany on the Standards for Canned Fruits and Vegetables

11. The Committee was informed by the representative of the Federal Republic of Germany of the views of the Federal German Government with regard to the standards being elaborated for canned fruits and vegetables. The following is a summary of these views:
- a) The international standards being elaborated should not provide for the use of additives (excluding packing media, sugar or salt). Furthermore, products which may contain flavoring substances to meet national tastes should come within the scope of national regulations and should not be the concern of international standards.
 - b) On the subject of additives, Nisin, artificial antioxidants or flavoring substances, which have an emulsifying or antibiotic effect should not be allowed; neither should coloring substances be permitted in canned vegetables but these may be allowed in certain kinds of canned fruits; the addition of tin-salts to canned products should be prohibited; preservatives should not be allowed in canned products.
 - c) The drained weight requirements are generally too low and the allowances for defects are mostly too high.
 - d) The standards should provide for a range of quality levels.
 - e) Unless the requirements of the standards are set high the Federal Republic of Germany may not be in a position to accept these standards.
12. The Committee noted that the above points had already been the subject of careful consideration both within the Committee and within the Commission. As regards a) above, it was pointed out that the Committee had agreed that the use of flavorings enhanced the palatability of the product and made it more acceptable to the consumer. It was pointed out that these products were

important in international trade. As regards b), it was explained that no additive would be approved for use by the Commission, unless a technological justification, or a good case for its use, had been established and the additive had been toxicologically cleared by the Codex Committee on Food Additives. With regard to c), it was indicated that the aim of the standards was to arrive at reasonable minimum requirements, based on what could be achieved under good preparation, processing and packing practices. With regard to d), attention was directed to the decision of the Commission that standards should not at this stage provide for different quality classes. In view of the control exercised over the need for and the safety in use of food additives, and having regard to the explanation given by the Committee as set out in this paragraph, the Committee was of the opinion that the position of the Federal Republic of Germany, and the position on these matters as explained by the Committee, were not substantially divergent.

Standards Considered at Step 4

13. In the light of Government comments on the standards for canned green garden peas, canned mushrooms, canned strawberries, canned plums, canned raspberries, canned fruit cocktail, and processed raisins at Step 4 of the Procedure for the Elaboration of Worldwide Codex Standards, the Committee amended these standards and recast them in the Codex format. They appear as Appendix II through Appendix VII and Appendix XI of the Report.

Standard No. PFV 68/5-14 Canned Green Garden Peas (Appendix II)

14. The following points were made:
- a) In regard to a method for distinguishing between the wrinkle seeded type and the smooth seeded type, the Committee agreed that such method was needed. The Netherlands' delegation indicated there was a microscopic method for this determination and the Committee agreed to insert this method in the standard.
 - b) The Polish delegation reserved its position with regard to inclusion in this standard of peas packed with other vegetable ingredients. It took the view that there should be separate standards. One standard should cover canned peas alone, and the other standard should cover peas packed with garnishes, composed of one or more vegetables.
 - c) The French delegation reserved its position on the matter of percent of other vegetable ingredients permitted as garnishes. Instead of the maximum amount of 15 percent

of the total drained vegetable ingredients permitted in the standard, the French delegation expressed a preference for a lower percentage of permitted vegetable garnishes.

- d) As regards coloring matters, the Committee deleted Yellow 2 G colors index (1956)-18965 from the standard. Nisin was also deleted from the standard.
- e) The Polish delegation opposed the addition of coloring matter and reserved its position on this point. The delegation of France also opposed the adding of coloring matter to this product. Governments should be asked whether coloring matter should be allowed to be added to peas.
- f) It was agreed to permit cupric sulfate in the standard at the request of the Japanese delegation. It was decided to set the maximum level figure of 100 p.p.m. at this stage as suggested by the Japanese delegation. The Japanese delegation agreed to provide toxicological data in support of the level proposed.
- g) As regards the maximum figure of 21 percent agreed upon for alcohol insoluble solids content, which would apply to all varieties including hybrids, Governments should be asked to give their comments on this figure.
- h) The Committee agreed to provide for optional size grading in the standard. It was agreed that Governments should be asked to comment on the optional sizes.
- i) The delegations of Denmark, France and Morocco stated that the drained weight should be declared on the label.

Standard No. PFV 68/5-18 Canned Mushrooms (Appendix III)

15. The following points were made:

- a) It was noted that the name of the product covered by the standard should read "Champignons de Couche" in French.
- b) In regard to the provision on "Designations in accordance with Size" the delegation of the Netherlands did not think that this provision was entirely suitable.
- c) The delegation of Poland reserved its position on the provision allowing for the use of alginates.
- d) At the request of the delegation of the U.S.A., the Committee agreed to provide for the use of calcium disodium ethylenediaminetetraacetate (EDTA) at a level of not exceeding 200 p.p.m. The Committee noted that the purpose in using this additive was to stabilize the color of the product.

- e) The Committee agreed to accept the recommended method for determining drained weight of canned mushrooms in sauce as proposed by the Australian delegation.

Standard No. PFV 68/5-7 Canned Strawberries (Appendix IV)

16. The following points were made:

- a) There was a difference in views as to what the drained weight of strawberries should be. The Committee decided, however, that at this stage 35 percent should be stipulated. The Australian delegation expressed the view that the drained weight requirement should not be higher than 33 percent. It was explained by the U. S. delegation that the drained weight of canned strawberries was lower when packed in heavy syrup than when packed in light syrup. Governments should be asked to comment on the 35 percent drained weight figure. They should also be asked to express their views with regard to drained weight figures in relation to syrup density.
- b) It was agreed that the delegate of the Netherlands would collaborate with the delegation of the United Kingdom on a method of sampling and preparation with respect to determination of mineral impurities. The data supplied would be submitted to the Chairman of this Committee for forwarding to the Codex Committee on Methods of Analysis and Sampling.

Standard No. PFV 68/5-8 Canned Plums (Appendix V)

17. The following points were made:

- a) Although the draft standard provided for the declaration on the label of either the color of the plum or the varietal name, the delegation of Morocco expressed the view that the standard should specifically prohibit the mixing of varieties. It was the general view of the Committee that it would serve no good purpose to include the Moroccan suggestion since plums were generally labelled and sold according to the categories set forth in the standard.
- b) With regard to packing media, the delegation of France reserved its position on the syrup density figures as set forth in the draft standard. It was agreed that Government comments should be sought on the syrup densities as set out in the draft standard.
- c) As regards the provisions on minimum drained weight, the delegation of Australia suggested a figure of 45 percent. It was agreed that Governments should be asked to comment on this provision in relation to syrup strengths and style.

Standard No. PFV 68/5-9 Canned Raspberries (Appendix VI)

18. The following point was made:
In regard to packing media, it was agreed that Governments should be asked to give their comments on the syrup densities as set out in the draft standard.

Standard No. PFV 68/5-10 Canned Fruit Cocktail (Appendix VII)

19. The following points were made:
The Committee noted that the name of this product in French was "Cocktail de Fruits." In reviewing the draft standard the Committee noted that it was the decision of the Commission that weights and measures should be set forth in the metric system with reasonably rounded-off equivalents in other systems. This applies to all Codex Standards. The Committee made the adjustment in this draft standard as well as in the others. In regard to minimum drained weight, the delegation of Canada reserved its position on the figure of 65 percent. It took the position that it would be difficult for Canada to meet this requirement, since it used only Freestone type peaches in packing this product. The flesh of Freestone peaches is softer than the Clingstone type. Consequently, drained weights comparable to that of Clingstone peaches are more difficult to achieve.

Standards Considered at Step 4 and Advanced to Step 5

20. The Committee agreed that the standards for canned green garden peas, canned mushrooms, canned strawberries, canned plums, canned raspberries, and canned fruit cocktail, as amended, should be submitted through the Secretariat to the Commission with a view to their adoption as draft provisional standards at Step 5 of the Commission's Procedure for the Elaboration of Standards.

Standards Considered at Step 2

21. In the light of Government comments on the standards for canned pears, canned mandarin oranges, and processed tomato concentrates at Step 2 of the Procedure for the Elaboration of Worldwide Codex Standards, the Committee amended the standards and recast them in the Codex Format. They appear as Appendices VIII, IX, and X of this Report.

Standard No. PFV 68/3-17 Canned Pears (Appendix VIII)

22. The following points were made:
- a) It was agreed to provide for the inclusion of Pyrus Sinensis in the product description, which is an Oriental type of pear.
 - b) With regard to the "Whole" style, the Polish delegation objected to the inclusion of "Unpeeled" pears and reserved their position on this type.

- c) In reviewing this standard, the Committee agreed to a provision for the addition of the colors as set out in the amended draft. The delegations of France and Poland objected to adding color to this product. The Committee noted that some countries allowed the addition of coloring substances to this product in limited amounts in response to consumer wishes. (See paragraph 5.) It was also explained that the use of coloring substances in this product was subject to appropriate labelling enabling the consumer to see that the product was artificially colored.

Standard PFV 68/3-19 Canned Mandarin Oranges (Appendix IX)

23. The following points were made:

- a) In amending this standard, a new style, Pieces, was added at the request of the Republic of China delegation. The delegation of Japan considered that this style should not appear in the standard.
- b) The delegation of Poland objected to the use of methyl cellulose as an anticlouding agent.
- c) In regard to the minimum drained weight, the delegation of the Republic of China preferred that the figure be not less than 55 percent instead of 59 percent. It was agreed that the figure should be left at 59 percent, that the delegations of the Republic of China and Japan should try to reach agreement on a figure for the next Session and that the comments of other member countries should be invited.
- d) As regards code marking, the Committee deleted this section from the standard, since in accordance with a previous decision of the Committee, it was not considered necessary to include a mandatory code marking provision in international Codex Standards. It was agreed, however, that code marking on a national basis would be desirable.

Standard PFV 68/3-16 Processed Tomato Concentrates (Appendix X)

24. The following points were made:

- a) The attention of the Committee was drawn to the fact that a number of countries accept a minimum soluble solids content of 11 percent for this product.
- b) The delegations of France, Morocco, and Poland were opposed to the use of additives in tomato puree.
- c) A number of countries considered that sugar should be permitted to be added to the product, subject to label declaration. Countries

objecting to the addition of sugar pointed out that it would not be possible to determine in the final product how much of the total soluble solids was due to the addition of sugar and consequently the consumer could be misled.

- d) As regards mold count, a number of countries indicated that it would be most difficult for them to pack a product to comply with a 40 percent positive fields limitation, based on the Howard mold count method, and consequently a figure of 50 percent was agreed upon. The delegation of Morocco requested a figure of 60 percent but indicated that on the basis of 11 percent or under tomato solids, it would accept a maximum figure of 50 percent of positive fields. The delegation of the U.S.A. pointed out that the method for mold counts was based on dilution of 9 percent solids and that consequently it preferred the 40 percent level.
- e) It was agreed to place the figure of 300 mg/kg in respect of mineral impurities in square brackets, since sufficient information was not available to the Committee to come to a firm decision. Member countries were asked to comment specifically on this figure. The delegation of Morocco considered that the figure of 1,000 mg/kg would be suitable and preferred to have it expressed as 0.1 percent.
- f) It was pointed out that it would be impracticable to require the declaration of the pH regulating agents on the label, because in some instances these agents would not be used in the course of packing, and it would be an unnecessary economic burden to have to utilize two types of labels.

Standards Considered at Step 2 and Advanced to Step 3

- 25. The Committee agreed that the standards for canned pears, canned mandarin oranges and processed tomato concentrates, as amended, should be submitted through the Secretariat to Governments for comment at Step 3.

Standard PFV 68/3-12 Processed Raisins (Appendix XI)

- 26. The following points were made:
 - a) The Committee revised the standard in regard to a number of provisions and Governments were asked to study the revised version and submit their comments to the Chairman of the Committee so that all views could be considered at the next meeting of the Committee.
 - b) Following a full discussion on the subject of sizing it was generally agreed to set out in the draft standard alternative size classification systems, but to request Governments

to comment on the alternative systems. The Turkish delegation strongly urged that raisins should be sized on the basis of color and their number per 100 grams. The delegation of the U.S.A. stated that size classification should be on the basis of round hole perforations through which the raisins will or will not pass. The delegation of Iran preferred the Turkish proposal but agreed to the inclusion of both systems in the draft standard for Government consideration. The delegation of Australia was in agreement with the approach of the U.S.A. delegation to sizing, but was not in agreement with some of the size measurements for certain size designations.

- c) As regards the section of the draft standard dealing with minimum quality requirements, the delegation of Turkey reserved its position on the entire section, in particular the part of the section relative to allowances for defects. In the paragraph dealing with allowances for defects, a number of countries proposed that the allowance for pieces of stem in seedless and nonseedless raisins should be 2 per kg and 3 per kg, respectively. It was agreed, however, to leave the figures of 1 per kg and 2 per kg in the draft standard and to invite Government comments on this point. As regards the tolerance for cap-stems, the delegations of Turkey and Iran argued strongly in favor of 8 percent by numerical count. The delegation of the U.S.A. was strongly in favor of calculating the amount of cap-stems present in a consignment on the basis of units for a specified sample weight because of the time factor in examining raisins.
- d) As regards additives, the delegations of France, Morocco and Poland were opposed to the use of mineral oil. The Committee agreed that specifications for mineral oil were required. The Committee generally agreed on the maximum level proposed for sulphur dioxide as a color preservative. The delegation of Poland, however, expressed the view that the level of sulphur dioxide should not exceed 500 p.p.m. The Committee noted that New Zealand had proposed the use of Sorbitol, Glycerol and Sorbic Acid. The Committee requested New Zealand to indicate the reason for their use and to propose levels with regard to those substances. The Committee noted that in Codex Standards containing a contaminants section, the standards should include, by reference, any levels that had been laid down by the Codex Committee on Pesticide Residues. The Codex Committee on Processed Fruits and Vegetables proposed to include Methyl Bromide (maximum 125 mg/kg - calculated as Br), Methyl (or Ethyl) Formate (maximum 250 mg/kg - calculated as formic acid) and Malathion (maximum 8 p.p.m.). The Committee agreed to bring to the attention of the Codex Committee on Pesticide Residues that it would wish to insert a provision in the draft standard for pesticide residues, as above.

- e) The Committee noted that raisins entering international trade may be either prepacked fruit ready for sale to the consumer or bulk fruit. Bulk fruit may be either repacked or reprocessed for retail sale in the importing country or used directly in the preparation of other foods such as bakery products. It was recognized that there may be justification for special consideration of bulk packs intended for reprocessing or repacking and that the attention of Governments should be drawn to this point.

Standards for Processed Raisins Considered at Step 4 but Returned to Step 3

27. The Committee decided that this standard was not yet ready for submission to the Commission at Step 5 and agreed to return it to Step 3 for further Government comments.

Report on the Status of Draft Standards for (a) Table Olives and (b) Preserves, Jams and Jellies

28. a) The delegation of the U.S.A. indicated the present position with regard to the status of the draft standard for table olives. Following the Committee's decision on the subject of table olives at its Fourth Session, the U.S. delegation had redrafted its original text, taking into account as far as possible the provisions of the standard for table olives which had been adopted by the International Olive Oil Council. This revised draft which, in the main conformed to the Codex format, had been forwarded to the IOOC. Subsequently, the IOOC redrafted its own standard in the Codex format. There were still some differences between the provisions of the U.S.A. draft and the IOOC standard. These differences mainly related to defect classifications, sizing, and to the fact that the IOOC standard provided for different quality grades. It was noted that an IOOC meeting on table olives would be held at the end of May 1968 and that the two texts would be discussed at the meeting. The possibility of a further IOOC meeting in November 1968 to settle any outstanding differences, should this be necessary, was noted. The U.S.A. delegation indicated that the areas of disagreement between the two texts had been considerably lessened, and expressed its appreciation for the excellent cooperation and collaboration given by the IOOC with a view to arriving at an agreed draft standard for table olives which could be placed before this Committee for consideration.

b) Jams, Jellies and Marmalade

The delegation of the U.S.A. reported on the progress of the work on a standard for the above commodities. The U.S.A. delegation indicated that it had drawn up a draft general standard; that comments on it had been received from the United Kingdom, France, and Sweden. The U.S.A. delegation

also indicated that it would draw up a further draft which would include the views of the countries mentioned above, and this would be sent to members of the Committee for comments by the Chairman of the Committee. The draft would be considered by the Committee at its next Session at Step 2.

Sampling Plans for Processed Fruits and Vegetables

29. a) The Committee discussed the Proposed Sampling Plans for processed fruits and vegetables including frozen foods (SP 10/70-SP July 1966), noting also the comments on the Sampling Plan made by the Codex Committee on Methods of Analysis and Sampling at its Third Session. (Paragraphs 14 and 15 and Appendix VI of the Report of the Third Session of that Committee). The Committee agreed that the plans would not apply to enforcement at the retail level. Thus, Inspection Level I, as set out in the last page of the Plans would be deleted. Inspection Level II, with a small amendment would apply for normal trading purposes, and Inspection Level III would apply as an international referee method in the event of dispute.
- b) In considering the observations of the Codex Committee on Methods of Analysis and Sampling, the Committee agreed that the Plans did not refer to quality matters only, since they applied also to fill of containers which was not regarded as a quality criterion. For this reason, the Committee did not favor altering the title in the way suggested by the Codex Committee on Methods of Analysis and Sampling.
- c) The Committee also noted that, in Appendix VI to the Report of the Codex Committee on Methods of Analysis and Sampling the Committee had deleted the sections containing the foreword and introduction to the plans. The Committee considered that these sections were important for a proper understanding of the Plans and agreed that they should remain a part of the document. This section should be redrafted to become the Scope Section of the Plans and should further be redrafted to take account of the change in the applicability of the Plans, as referred to above. The redrafting will be done by the delegation of the U.S.A.
- d) The Committee expressed the view that these Plans, which were statistical plans, could be applied to other processed foods.
- e) The Committee noted the statement of the FAO representative regarding the problem of the step at which these plans could now be considered, and agreed that they were being considered at the present Session at Step 4 and should be submitted to the next Session of the Commission at Step 5.

Consideration of Late Arriving Government Comments on the Draft Standards Reviewed

30. Comments from a number of countries arrived too late to be distributed in advance of the meeting, and some comments arrived during the course of the meeting. Such comments were taken into account as far as the circumstances allowed. It was noted that the comments received on the draft standards which were not discussed would be taken into account by the Committee at its next meeting.

Program of Future Work

31. The Committee agreed that at its next Session it would consider the standards being sent out at Step 3 for comments from the current Session, the standards for canned asparagus and canned pineapple on which the Commission had directed at its Fifth Session that Government comments be sought, the Step 2 Standards mentioned in paragraph 7 of the agenda for the current meeting, the standards for preserves, jams and jellies and the standard for table olives. It was noted that the Committee would not be dealing, at its next Session with the standards now being advanced to Step 5, because of the time factor in relation to the Rules for the Elaboration of Codex Standards, because it considered it desirable to allow Governments ample time to consider the standards after having been passed by the Commission at Step 5 and, finally, because of the existing workload.
32. The following work assignments were made:
- a) First draft for dried apricots to be elaborated by Iran in collaboration with Australia.
 - b) First draft for dates to be elaborated by Iran in collaboration with the U.S.A.
 - c) First draft for processed cucumber pickles to be elaborated by Poland in collaboration with the U.S.A.
 - d) Draft standard for pistachios to be elaborated by Iran.
33. It was agreed that the Chairman of the Committee should communicate with the appropriate Turkish authorities inquiring whether Turkey would be willing to prepare an initial draft standard for dried figs. It was also agreed that the Chairman should ask the Turkish authorities whether they would be willing, in addition, to collaborate with Iran in the elaboration of a first draft for pistachios.
34. All of the above drafts should be prepared in Codex format.

35. The Committee noted that the Economic Commission for Europe had developed drafts for walnuts and almonds which were at an advanced stage. The Committee expressed the desire to have these drafts before it at its next Session in connection with the question of elaborating Codex Standards for these commodities. The Committee also noted that the Economic Commission for Europe had recently decided to draw up European Standards for dried figs, dried apricots, dates and pistachios. The Committee expressed the view that it would be desirable for the ECE to consider the minimum requirements which will be established in the Codex Standards to be elaborated for these products.

Date and Place of the Next Session of this Committee

36. While noting that the date and place of its next Session would be fixed at the Sixth Session of the Commission, the Committee expressed the wish that its next Session should be held at or about the same time in 1969.

List of Appendices to This Report

37. Appendix I	List of Participants	
Appendix II	Canned Green Garden Peas,	PFV 68/5-14 May 1968
Appendix III	Canned Mushrooms,	PFV 68/5-18, May 1968
Appendix IV	Canned Strawberries	PFV 68/5-7, May 1968
Appendix V	Canned Plums	PFV 68/5-8, May 1968
Appendix VI	Canned Raspberries	PFV 68/5-9, May 1968
Appendix VII	Canned Fruit Cocktail	PFV 68/5-10, May 1968
Appendix VIII	Canned Pears,	PFV 68/3-17, May 1968
Appendix IX	Canned Mandarin Oranges	PFV 68/3-19, May 1968
Appendix X	Processed Tomato Concentrates	PFV 68/3-16, May 1968
Appendix XI	Processed Raisins	PFV 68/3-12, May 1968
Appendix XII	Modified Starches	May 1968

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
FIFTH SESSION
COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

Washington, D. C.
13-17 May, 1968

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JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables
Standard No. PFV 68/5-14

CANNED GREEN GARDEN PEAS -- STEP 5

to be submitted to the Sixth Session of the
Codex Alimentarius Commission

for adoption as a

Draft Provisional Standard

1. DESCRIPTION

1.1 Product Definition

Canned green (or garden) peas is the product:

- (a) prepared from clean, substantially sound, whole, shelled (green) immature seeds of garden pea varieties (cultivars) conforming with the characteristics of the species Pisum sativum L. but excludes the subspecies macrocarpum;
- (b) packed with water or other suitable liquid medium, nutritive sweeteners, seasoning, and other ingredients, appropriate to the product.
- (c) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Varietal types

Canned peas may be of any suitable variety (cultivar) within these categories:

- (a) Wrinkled-seeded;
- (b) Round-seeded or smooth-seeded;
- (c) Other types (crosses or hybrids of the types in (a) and (b)).

1.3 Size Classes

If size grading is applied, canned peas shall conform to one of the two following systems of specifications for the size names:

- (a) Small ----- up to 8.75 mm
- Medium ----- up to 10.2 mm
- Large ----- over 10.2 mm

or

- (b) Extra Small ----- up to 7.5 mm
- Very Small ----- up to 8.2 mm
- Small ----- up to 8.75 mm
- Medium ----- up to 10.2 mm
- Large ----- over 10.2 mm .

1.3.1 Tolerances for size classes

If size graded, not more than 15% by count or weight belonging to the adjacent larger size group and not more than 5% of the second larger size group are permitted.

1.4 Types of Pack

- (a) "Liquid Pack" when a liquid medium is used; or

- (b) "Vacuum pack" or "vacuum packed" if the liquid packing medium does not exceed 20 percent of the total net weight of the product and the container is closed under conditions creating a high vacuum in the container.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Other Ingredients

- (a) Water; salt; sucrose, invert sugar, dextrose, glucose sirup, dried glucose sirup;
- (b) Aromatic herbs and spices; stock or juice of vegetables and aromatic herbs (lettuce, onions, carrots, etc.) garnishes composed of one or more vegetables (lettuce, onions, carrots, pieces of green or red peppers, or mixtures of both) up to a maximum of 15% of the total drained vegetable ingredient; mint essence;
- (c) Butter: if added, it must amount to not less than 3% , by weight, of the final product;
- (d) Starch, only when used with butter (see 3 (b)).

2.2 Quality Criteria

2.2.1 Definitions

- (a) Blemished pea means a pea which is slightly stained or spotted.
- (b) Seriously blemished pea means peas which are spotted, discoloured, or otherwise blemished to an extent that the appearance or eating quality is seriously affected. These shall include worm eaten peas.
- (c) Pea fragments mean portions of peas: separated or individual cotyledons; crushed, partial, or broken cotyledons; and loose skins; but does not include entire intact peas with skins detached.
- (d) Extraneous Plant Material means any vine or leaf or pod material from the pea plant, or other vegetable material such as poppyheads and thistle.

2.2.2 Colour

Except for artificially coloured canned peas, the drained peas shall have normal colour characteristics for canned peas and typical of the variety used. Canned peas containing other permitted ingredients or additives shall be considered of characteristic colour when there is no abnormal discoloration for the respective substances used.

2.2.3 Packing Medium

The packing medium shall not be so viscous that the liquid will not separate from the peas at 20° C. It shall not have a colour nor an appearance which is foreign to the product.

2.2.4 Flavour

Canned peas shall have a normal flavour and odour free from flavours or odours foreign to the product and canned peas with special ingredients shall have a flavour characteristic of that imparted by the substances used.

2.2.5 Texture and Maturity

The peas shall be reasonably tender and reasonably uniform in texture and maturity.

The alcohol insoluble solids content shall not exceed 21% in all types.

2.2.6 Allowances for Defects

Canned Peas may contain a slight amount of sediment and shall be reasonably free from other common defects as defined and within these limits:

- (a) Peas with skins detached 10% by weight; and
(entire peas with 2 cotyledons intact)
- (b) Other defects Total 12% by
weight of the
drained peas,
but within the
following limits:
- Blemished peas 5% by weight
Seriously blemished peas 1% by weight
Pea fragments 10% by weight
Extraneous plant material 0.5% by weight.

2.2.7 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.2.2 through 2.2.6 shall be considered a "defective".

2.2.8 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.2.7 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Proposed Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section of the Codex Alimentarius are subject to endorsement or have been endorsed or temporarily endorsed by the Codex Committee on Food Additives, as indicated below:

Maximum level of use

(a) Monosodium Glutamate	Not limited	(Endorsed)
(b) Modified starch, vegetable gums, alginates, propylene glycol alginate -- to be used only when butter is an ingredient.	Not more than 1.0% by weight of the product	(Temporarily endorsed pending toxicological evaluation, <u>excluding modified starch</u> which is not yet endorsed)
(c) <u>Colouring matter</u>		
Green S - Colour Index (1956)-44090	Individually or in combination -- maximum 100 mg/kg	(temporarily endorsed)
Tartrazine - Colour Index (1956)-19140		(temporarily endorsed 1/)
(d) <u>Firming Agents</u>		
Calcium chloride or other calcium salts	The calcium derived from such calcium salts shall not exceed 0.01% of the final product.	(Subject to endorsement)
(e) Cupric sulfate --	[100 p.p.m as cuprous ion]	(Subject to endorsement)

1/ See also Appendix VII of the Report of the 5th Session of the Codex Committee on Food Additives (ALINORM 69/12)

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.
- 4.4 The product shall have received a processing treatment sufficient to destroy all spores of Clostridium botulinum.

5. WEIGHTS AND MEASURES

5.1 Fill of Container

5.1.1 Minimum Fill

The container shall be well filled with peas; and, except for "vacuum pack" peas, the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

5.1.2 Minimum Drained Weight

5.1.2.1 The drained weight of the product shall be not less than 60% of the weight of distilled water at 20° C which the sealed container will hold.

5.1.2.2 The requirements for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

5.1.4 Acceptance

A lot will be considered as meeting the requirement of 5.1.1 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

- 6.1 The provisions of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.
- 6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:
- 6.2.1 The name of product shall include:
- (a) the designation: "peas", "green peas", "garden peas", "green garden peas", as appropriate; and
 - (b) a declaration of characteristic flavouring or seasoning, e.g. "with X", when appropriate.
- 6.2.2 The name of the product may include the type of peas: "round seeded", "smooth seeded", or "wrinkled seeded", as appropriate.
- 6.2.3 The size name may be stated on the label, and if the size names in 1.3 are used, the product shall comply with the specifications of (a) or (b) and tolerances of 1.3.1.
- 6.2.4 If canned peas are "vacuum pack", this fact shall be stated on the label so as to be easily discernible.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the
Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test Procedures

7.1.2.1 Alcohol Insoluble Solids

In accordance with the applicable Alcohol Insoluble Solids Method for Processed Fruit or Vegetable Products in the "Methods of Analysis of the Association of Official Analytical Chemists".

7.1.2.2 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists".

7.1.3 Method for distinguishing type of peas

(a) Equipment and Reagents

Microscope, Compound - 100 to 250 magnifications
- Phase Contrast

Ethanol - 95%

Glycerol

Microscope Slide and Cover Glass

Spatula

(b) Preparing Mount

- (1) Remove a small portion of the endosperm and place on glass slide;
- (2) Using a spatula grind the material with 95% ethanol;
- (3) Add a drop of glycerol, place cover glass on material and examine under microscope.

(c) Identification

Starch granules of the wrinkled types (Garden peas, Sweets) show up as clear cut, well defined, generally spherical particles.

Starch granules of the smooth-seeded types (round, Earlys, Continental) show up as an amorphous mass with no well defined geometric shape.

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Standard No. PFV 68/5-18

CANNED MUSHROOMS -- STEP 5

to be submitted to the Sixth Session of the
Codex Alimentarius Commission

for adoption as a

Draft Provisional Standard

1. DESCRIPTION

1.1 Product

Canned mushrooms is the product:

- (a) prepared from fresh mushrooms conforming with the characteristics of cultivated varieties (cultivars) of the genus Agaricus (Psalliota). The mushrooms shall be in good condition and after cleaning and trimming shall be sound.
- (b) packed with water and/or juice exuding from the mushrooms, or other suitable liquid medium, seasonings, and other ingredients; and
- (c) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Varietal Type

Any suitable variety (cultivar) of the genus Agaricus (Psalliota) may be used.

1.3 Colour Type

- (a) White or cream.
- (b) Brown.

1.4 Styles

- (a) Buttons - Whole mushrooms, with attached stems not exceeding 5 mm. in length, measured from the bottom of the veil.
- (b) Sliced Buttons - Buttons cut into slices 2 mm to 5 mm thick, of which not less than 50% are cut parallel to the axis of the mushroom.
- (c) Whole - Whole mushrooms, with attached stems cut to a length not exceeding the diameter of the cap, measured from the bottom of the veil.

- (d) Sliced or Sliced Whole - Mushrooms cut into slices 2 mm to 8 mm thick, of which not less than 50% are cut parallel to the axis of the mushroom.
- (e) Random Sliced or Random Sliced Whole - Mushrooms cut into slices of varying thickness and in which the slices may deviate materially from cuts approximately parallel to the axis of the mushroom.
- (f) Quarters - Mushrooms cut into four approximately even parts.
- (g) Stems and Pieces - Pieces of caps and stems of irregular sizes and shapes and in which no more than 20% of the drained weight of the mushrooms shall be caps or portions of caps.

1.5 Designations in Accordance with Size -- If a term designating size is used in the style of "buttons" or "whole", it must be supported by an exact graphic representation of the size of the mushroom caps or by a statement of the maximum diameter of mushroom caps in millimeters.

1.6 Types of Pack

- (a) Regular or natural pack -- in water, brine, and/or juice exuding from the mushrooms.
- (b) In butter or butter sauce.
- (c) In cream sauce.
- (d) In sauce other than a butter or cream sauce.
- (e) In vinegar.
- (f) In oil.
- (g) In wine.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Other ingredients

As appropriate for the respective type of pack:

- (a) Water, salt, spices, seasonings, vinegar, citric acid, wine, ascorbic acid;
- (b) Sucrose, invert sugar, dextrose, glucose sirup, dried glucose sirup;
- (c) Butter, refined vegetable oil, refined animal fat, milk, milk powder, or cream;
- (d) Starch or other thickener.

2.2 Quality Criteria

2.2.1 Colour

- (a) The mushroom portion of the product shall have normal colour characteristics of the variety of the canned mushrooms. Canned mushrooms of special types and containing special permitted ingredients shall be considered of characteristic colour when there is no abnormal discoloration for the respective ingredients used.
- (b) The liquid medium in "regular or natural pack" shall be either clear or slightly opalescent and yellow to light brown in colour.

2.2.2 Flavour

The mushrooms shall have a normal flavour and odour free from flavours or odours foreign to the product and canned mushrooms with special ingredients or sauces shall have a flavour characteristic of that imparted by the substances used.

2.2.3 Texture and Character

The mushrooms in the "Regular or natural pack" shall be firm and substantially intact.

In the styles of "Buttons" and "Whole" mushrooms, not more than 10% by count of the mushrooms may have caps which show breakage of the veil.

2.2.4 Defects

The canned mushrooms:

- (a) may contain no more than a trace of soil, sand, grit, or any other extraneous matter, whether of mineral or organic origin; and
- (b) shall be reasonably free from spotted or otherwise damaged mushrooms.

2.2.5 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.2.1 through 2.2.4 shall be considered a "defective".

2.2.6 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.2.5 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section of the Codex Alimentarius are subject to endorsement or have been endorsed or temporarily endorsed by the Codex Committee on Food Additives, as indicated below:

	<u>Maximum level of use</u>	
(a) Monosodium Glutamate	Not limited	(Endorsed)
(b) Vegetable gums, alginates, propylene glycol alginate -- to be used only when butter is an ingredient.	Not more than 1.0% by weight of the product.	(temporarily endorsed pending toxicological evaluation)
(c) <u>Colouring matter</u>		
Brilliant Black (Colour Index 1956 - 28440)	100 mg/kg	(Subject to endorsement)
Caramel	Not limited	(Subject to endorsement)
(d) Calcium disodium EDTA (Calcium disodium ethylenediaminetetraacetate)	200 parts per million	(Subject to endorsement)

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.
- 4.4 The product shall have received a processing treatment sufficient to destroy all spores of Clostridium botulinum.

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5. WEIGHTS AND MEASURES

5.1 Fill of Container

5.1.1 Minimum Fill

The container shall be well filled with mushrooms and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

5.1.2 Minimum Drained Weight

(a) Regular packs, vinegar, wine packs

The drained weight of the product shall be not less than the following percentages, calculated on the basis of the weight of distilled water at 20° C which the sealed container will hold:

Container size

0.5 Liter or less - - - - 50%
More than 0.5 Liter - - - 53%

(b) Sauce or oil packs

The drained mushroom portion, after washing off the sauce or liquid, shall weigh not less than 33-1/3% of the total product weight.

5.1.2.1 The requirements for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

5.1.4 Acceptance

A lot will be considered as meeting the requirement of 5.1.1 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

6.1 The provisions of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.

6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

6.2.1 The name of product shall include the designation "mushrooms".

6.2.2 A declaration of characteristic sauce and/or seasoning, e.g. "With X" or "In X", when appropriate, shall be included in part of the name or in close proximity to the name.

6.2.3 The style shall be stated on the label as:

"Buttons", "Sliced Buttons", "Whole", "Sliced",
"Sliced Whole", "Random Sliced", "Random Sliced Whole",
"Quarters", "Stems and Pieces", as appropriate.

6.2.4 Size Representations

If a term designating size in the style of "Buttons" or "Whole" is used it must be supported by an exact graphic representation of the size of mushroom caps or by a statement of the maximum diameter of mushroom caps in millimeters.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the
Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test Procedures

7.1.2.1 Drained Weights -- Regular Packs, In Vinegar;
In Wine

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists".

7.1.2.2 Washed Drained Weight -- Sauce Packs; In Oil

- a) Weigh the unopened can.
- b) Open the can and wash the contents on to a tared fine mesh sieve No. 50, 8 inch diameter.
- c) Wash the contents of the sieve under the running cold water and then wash with running hot water until free of soluble substances.
- d) Spread the mushrooms after washing over the bottom of the sieve and drain for 5 minutes and then weigh.
- e) Weigh the empty dried can and determine the net contents (or total product weight).
- f) Calculate the percent drained weight on the net contents (or total product weight).

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Standard No. PFV 68/5-7

CANNED STRAWBERRIES -- STEP 5

to be submitted to the Sixth Session of the
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for adoption as a

Draft Provisional Standard

1. DESCRIPTION

1.1 Product Definition

Canned strawberries is the product:

- (a) prepared from strawberry varieties (cultivars) conforming to the characteristics of the Genus Fragaria;
- (b) prepared from such strawberries which are whole, clean, reasonably sound, of proper maturity, and from which extraneous matter including calices and stems have been removed;
- (c) packed with water or other suitable liquid packing medium which includes nutritive sweeteners;
- (d) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Varietal type

Canned strawberries may be of any suitable variety (cultivar) of cultivated strawberry.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing Media

The packing medium may consist of:

- (a) Water -- in which water or any mixture of water and strawberry juice is the sole liquid packing medium; or
- (b) Syrup -- in which water is combined with sucrose, invert sugar, dextrose, dried glucose syrup, and/or glucose syrup and classified on the basis of cut-out strength as:

Light Syrup -- not less than 18° Brix.

Heavy Syrup -- not less than 22° Brix.

2.1.1 Cut-out strength to be determined on average, but no container may have a Brix value lower than that of the minimum of the next category below.

2.2 Quality Criteria

2.2.1 Colour

The colour of the product shall be normal, taking into consideration any added artificial color.

2.2.2 Flavour

Canned strawberries shall have a normal flavour and odour free from flavours or odours foreign to the product.

2.2.3 Texture

The strawberries shall have a reasonably uniform texture and shall not be excessively firm nor unreasonably soft.

2.2.4 Defects and Allowances

The product shall be reasonably free from:

- (a) extraneous material (such as insects);
- (b) extraneous vegetable material (such as parts of calices, stems, and leaves);
- (c) blemished berries (fruits with spots caused by mould damage or bird pecks more than 5 mm in diameter);
- (d) broken berries (where the major part is broken or entirely disintegrated).

Certain common defects shall not be present in amounts greater than the following limitations:

	<u>Maximum</u>
Fruits with (parts of) calices	15% by count
Blemished berries	5% by count
Broken berries	20% by count
<u>Total</u> -- Not more than- - - - -	25% by count
Extraneous vegetable material ---	1 piece per 100 grams drained weight

2.2.5 Mineral Impurities

Not more than 200 mg/kg.

2.2.6 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.2.1 through 2.2.5 shall be considered a "defective".

2.2.7 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.2.6 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

Maximum level of use

Acidifying agents

Citric acid
Malic acid
Tartaric acid
Lactic acid

} Not limited

Colouring matters

Ponceau 4 R (C.I. 1956) - 16255 }
Erythrosine (C.I. 1956) - 45430 }
Singly, or in
combination --
300 mg/kg

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.

5. WEIGHTS AND MEASURES

5.1 Fill of Container

5.1.1 Minimum Fill

The container shall be well filled with strawberries, and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

5.1.2 Minimum Drained Weight

5.1.2.1 The drained weight of the product shall be not less than 35% of the weight of distilled water at 20° C which the sealed container will hold.

5.1.2.2 The requirement for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5.1.4 Acceptance

A lot will be considered as meeting the requirements of 5.1.3 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

- 6.1 The provisions of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.
- 6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:
- 6.2.1 The name of the product shall be designated as "strawberries".
- 6.2.2 The designation of the packing medium as "Water", "Light Syrup", or "Heavy Syrup" shall be included as part of the name or in close proximity to the name.

7. METHODS OF ANALYSIS AND SAMPLING

- 7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test Procedures

7.1.2.1 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists."

7.1.2.2 Syrup Measurements

Syrup measurements of "Cut-out" Brix shall be determined on the finished canned product in accordance with standardized methods by hydrometer or by refractometer, standardized at 20° C.

7.1.3 Method for Determination of Mineral Impurities.

-- to be supplied --

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Standard No. PFV 68/5-8

CANNED PLUMS -- STEP 5

to be submitted to the Sixth Session of the
Codex Alimentarius Commission

for adoption as a

Draft Provisional Standard

1. DESCRIPTION

1.1 Product Definition

Canned plums is the product:

- (a) prepared from clean, substantially sound, whole or halved fruit of plum varieties (cultivars) conforming to the characteristics of Prunus domestica L., greengage varieties (cultivars) conforming to the characteristics of Prunus italica L., mirabelle or damson varieties (cultivars) conforming to the characteristics of Prunus institia L., or cherry plum varieties (cultivars) conforming to the characteristics of Prunus cerasifera Ehrh.
- (b) prepared from such plums which have extraneous matter, including stalks, removed;
- (c) packed with a suitable liquid packing medium, nutritive sweeteners, and seasoning or flavouring ingredients appropriate to the product;
- (d) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Varietal Type

Plums of distinct varietal type will be designated:

- (a) Yellow Plums
- (b) Red Plums
- (c) Purple Plums
- (d) Greengages
- (e) Damsons
- (f) Cherry Plums
- (g) Mirabelles

1.3 Styles

- (a) Whole (pitted) - pitted plums that are substantially whole.
- (b) Whole (unpitted) - unpitted whole plums.
- (c) Halves - pitted and cut into two approximately equal parts.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing Media

The packing medium may consist of:

- (a) Water -- in which water or any mixture of water and plum juice is the sole liquid packing medium; or
- (b) Syrup -- in which water is combined with sucrose, invert sugar, dextrose, dried glucose syrup, and/or glucose syrup and classified on the basis of cut-out strength as:

Light Syrup ----- not less than 11° Brix.

Heavy Syrup ----- not less than 18° Brix.

Extra Heavy Syrup -- not less than 22° Brix.

2.1.1 Cut-out strength to be determined on average, but no container may have a Brix value lower than that of the minimum of the next category below.

2.2 Other Ingredients

Flavourings other than artificial flavourings.

2.3 Quality Criteria

2.3.1 Definitions

- (a) Blemished Fruit - plums damaged by insects, friction or disease, or affected by stone gum to any extent that the appearance or eating quality is materially affected.
- (b) Crushed or Broken Fruit - plums which are deformed or broken to an extent that the normal shape of the fruit is seriously affected.

- (c) Extraneous Plant Material - any stalk or leaf from the plum tree or any other vegetable material.
- (d) Pitting Defects - plums containing any pits in "Whole Pitted" or "Halved" style or any loose pits in "Whole" style.

2.3.2 Colour

The colour of the product shall be normal, taking into consideration any added artificial color.

2.3.3 Flavour

Canned plums shall have a normal flavour and odour free from flavours or odours foreign to the product.

2.3.4 Texture

The plums shall have a reasonably uniform texture and shall not be excessively firm nor unreasonably soft.

2.3.5 Defect Allowances

The product shall be substantially free from defects and within the limits set herein for common defects as defined:

- | | <u>Maximum</u> |
|---------------------------------|---------------------------------|
| (a) Blemished fruit - | 30% by weight of drained plums |
| (b) Crushed or broken fruit - | 25% by weight of drained plums |
| (c) Extraneous plant material - | 0.5% by weight of drained plums |

Total defects - 30% by weight of the drained (a), (b), (c) plums;

and

(d) Loose pits in "Whole" style -- 3 per 1,000 grams of total contents.

(e) Pits in "Whole Pitted" and "Halved" styles ----- 1 per 1,000 grams of total contents.

2.3.6 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.3.2 through 2.3.5 shall be considered a "defective".

2.3.7 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.3.6 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

Maximum level of use

Colouring matter

In "Red" or "Purple" Plums only --

Ponceau 4 R - Colour Index (1956) --	} singly, or in combination --
16255	
Erythrosine - Colour Index (1956) --	} 150 mg/kg
45430	

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.

5. WEIGHTS AND MEASURES

5.1 Fill of Container

5.1.1 Minimum Fill

The container shall be well filled with plums and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

5.1.2 Minimum Drained Weight

5.1.2.1 The drained weight of the product shall be not less than 50% of the weight of distilled water at 20° C which the sealed container will hold.

5.1.2.2 The requirements for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) 5.1.1 shall be considered a "defective".

5.2 Acceptance

A lot will be considered as meeting the requirement of 5.1.1 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

- 6.1 The provision of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.
- 6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:
- 6.2.1 The name of the product shall include:
- (a) the designation "Plums", or "Greengages" or "Damsons", or "Mirabelles", or "Cherry Plums", as appropriate;
 - (b) a declaration of characteristic seasoning or flavouring e.g. "With X", when appropriate.
- 6.2.2 The following shall be included as part of the name or in close proximity to the name:
- (a) either the colour of the plums: "Yellow", "Red", or "Purple", or the varietal name, as appropriate;
 - (b) the packing medium: "Water", "Light Syrup", "Heavy Syrup", or "Extra Heavy Syrup", as appropriate.
 - (c) the style "Whole (Pitted)", "Whole", or "Halved", as appropriate.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the
Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test Procedures

7.1.2.1 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists."

7.1.2.2 Syrup Measurements

Syrup measurements of "Cut-out" Brix shall be determined on the finished canned product in accordance with standardized methods by hydrometer or by refractometer, standardized at 20° C.

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables
Standard No. PFV 68/5-9

CANNED RASPBERRIES -- STEP 5

to be submitted to the Sixth Session of the
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for adoption as a

Draft Provisional Standard.

1. DESCRIPTION

1.1 Product definition

Canned raspberries is the product:

- (a) prepared from raspberry varieties conforming to the characteristics of the Genus Rubus;
- (b) prepared from such raspberries which are reasonably whole, reasonably sound ripe fruit, and from which extraneous matter including calices and stems have been removed;
- (c) packed with water or other suitable liquid packing medium which includes nutritive sweeteners;
- (d) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Varietal type

Any suitable variety of raspberry may be used.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing Media

The packing medium may consist of:

- (a) Water -- in which water or any mixture of water and raspberry juice is the sole liquid packing medium; or
- (b) Syrup -- in which water is combined with sucrose, invert sugar, dextrose, dried glucose syrup and/or glucose syrup and classified on the basis of cut-out strength as:

Light Syrup - not less than 11° Brix.

Heavy Syrup - not less than 18° Brix.

Extra Heavy Syrup - not less than 22° Brix.

2.1.1 Cut-out strength to be determined on average, but no container may have a Brix value lower than that of the minimum of the next category below.

2.2 Quality criteria

2.2.1 Definitions

- (a) Blemished fruit - a berry which is affected by windrub, insects, disease, or faulty fertilization to an extent that the appearance or eating quality is materially affected.
- (b) Crushed or broken fruit - fruit in which more than 50% of the drupelets are crushed, broken, detached or otherwise damaged to an extent that the original conformation is destroyed.
- (c) Extraneous plant material - leaves, stems, calices, or portion of any of these and other vegetable material.

2.2.2 Colour

The colour of the product shall be normal for the varietal type, taking into consideration any added artificial colour.

2.2.3 Flavour

Canned raspberries shall have a normal flavour and odour free from flavours or odours foreign to the product.

2.2.4 Texture

The raspberries shall have a reasonably uniform texture and shall not be excessively firm nor unreasonably soft.

2.2.5 Defect allowances

The product shall be substantially free from defects and within the limits set herein for common defects as defined:

Maximum

- (a) Blemished fruit ---- 12% by weight of drained raspberries
 - (b) Crushed or broken
fruit ----- 25% by weight of drained raspberries
 - (c) Extraneous plant
material ---- 0.5% by weight of drained raspberries
- Total defects ----- 25% by weight of drained raspberries
(a), (b), (c)

2.2.6 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.2.2 through 2.2.5 shall be considered a "defective".

2.2.7 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.2.6 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

Maximum level of use

Acidifying agents

Citric acid	
Malic acid	
Tartaric acid	Not limited
Lactic acid	

Colouring matters

Ponceau 4 R (C.I. 1956) - 16255 150 mg/kg

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.

5. WEIGHTS AND MEASURES

5.1 Fill of container

5.1.1 Minimum fill

The container shall be well filled with raspberries and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

5.1.2 Minimum drained weight

5.1.2.1 The drained weight of the product shall be not less than 40% of the weight of distilled water at 20° C which the sealed container will hold.

5.1.2.2 The requirement for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5.1.4 Acceptance

A lot will be considered as meeting the requirements of 5.1.3 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

- 6.1 The provisions of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.
- 6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:
- 6.2.1 The name of the product shall be designated as "raspberries".
- 6.2.2 The following shall be included as part of the name or in close proximity to the name:
- (a) in the case of raspberries other than red raspberries, the colour of the fruit;
 - (b) the packing medium: "Water", "Light Syrup", "Heavy Syrup", or "Extra Heavy Syrup".

METHODS OF ANALYSIS AND SAMPLING

- 7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test procedures

7.1.2.1 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists."

7.1.2.2 Syrup Measurements

Syrup measurements of "Cut-out" Brix shall be determined on the finished, canned product in accordance with standardized methods by hydrometer or by refractometer, standardized at 20° C.

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables
Standard No. PFV 68/5-10

CANNED FRUIT COCKTAIL -- STEP 5

to be submitted to the Sixth Session of the
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for adoption as a

Draft Provisional Standard

1. DESCRIPTION

1.1 Product Definition

1.1.1 Canned Fruit Cocktail is the product:

- (a) prepared from a mixture of small fruits and small pieces of fruits (as further described in this standard) and is prepared from fresh or frozen or canned fruits;
- (b) packed with a suitable liquid packing medium, nutritive sweeteners, and seasoning or flavouring ingredients appropriate for the product; and
- (c) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.1.2 The fruits are of the following kinds and forms (styles):

Peaches ---- Any firm yellow variety; peeled; pitted; diced.

Pears ----- Any variety; peeled; cored; diced.

Pineapple -- Any variety; peeled; cored; sectors or diced.

Grapes ---- Any seedless variety; whole.

Cherries --- Approximate halves or whole pitted or unpitted cherries --

- (a) any light, sweet variety; or
- (b) artificially coloured red; or
- (c) artificially coloured red and flavoured, whether natural or artificial.

1.2 Product Designation

1.2.1 5 Fruits -- Fruit Cocktail

A mixture of the five fruits of the kinds and forms (styles) described in this standard.

1.2.2 4 Fruits -- Fruit Cocktail

A mixture of the same kinds and forms (styles) described in this standard, except that:

- (a) Cherries may be omitted;
- or
- (b) Grapes may be omitted.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Proportion of Fruits

Fruits shall be in the following proportions, based on the individual drained fruit weights in relation to the drained weights of all the fruits:

	5 Fruits Fruit Cocktail	4 Fruits Fruit Cocktail
Peaches	30% to 50%	30% to 50%
Pears	25% to 45%	25% to 45%
Pineapple	6% to 16%	6% to 25%
Grapes	6% to 20%	6% to 20%
Cherries	2% to 6%	-- or -- 2% to 15%

2.1.1 A lot will be considered as meeting the requirements for Proportions of Fruits when:

- (1) the average of the individual fruit proportions from all containers in the sample is within the range required for the individual fruits; and
- (2) the individual containers which are not within the range for any one or more fruits do not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

2.2 Packing Media

Canned fruit cocktail is packed in any one of the following:

- (a) Water ----- in which water, or any mixture of water and fruit juice(s), is the sole liquid packing medium.
- (b) Fruit Juice - fresh, canned, or reconstituted fruit juices which may be strained or filtered.
- (c) Syrup ----- in which water is combined with sucrose, invert sugar, dextrose, dried glucose syrup, and/or glucose syrup and classified on the basis of cut-out strength as:

Extra Light syrup - not less than 10° Brix.
Light syrup ----- not less than 14° Brix.
Heavy syrup ----- not less than 18° Brix.
Extra Heavy syrup - not less than 22° Brix.

2.2.1 Cut-out strength to be determined on average, but no container may have a Brix value lower than that of the minimum of the next category below.

2.3 Other ingredients

Spices, artificial flavouring (in cherries), natural fruit essences, and mint.

2.4 Sizes and Shapes of Fruits

2.4.1 Diced peaches, pears, or pineapple --

80% or more of all such drained fruits are of approximate cube-shapes which:

- (a) are not over 20 mm in greatest edge dimension; and
- (b) will not pass through square meshes of 8 mm.

2.4.2 Sectors of pineapple --

80% or more of all drained pineapple portion approximates wedge-shapes of these dimensions:

- (a) outside arc ----- 10 mm to 25 mm; and
- (b) thickness ----- 10 mm to 15 mm; and
- (c) radius (from inside to outside arc) -- 20 mm to 40 mm.

2.4.3 Whole grapes or cherries --

90% or more by count of whole grapes, or of whole cherries, approximate normal shape except for proper preparation (such as removing pits or stems) and:

- (a) are not broken into two or more parts;
- (b) are not seriously crushed, mutilated, or torn.

2.4.4 Halved cherries --

80% or more by count of the cherry units are approximate halves which are not broken into two or more parts.

2.5 Quality criteria

2.5.1 Definitions

- (a) Blemished fruit pieces -- dark surface areas, spots penetrating the fruit, and other abnormalities.
- (b) Peel -- considered a defect only when occurring on, or from, those fruits which are peeled.
- (c) Pit material -- pieces of pit or of fruit stones and hard and sharp pit points. Very small pit fragments of less than 5 mm in greatest dimension which do not have sharp points or edges are disregarded.
- (d) Small stems -- such as capstems from grapes.
- (e) Large stems -- such as from peaches, pears, or cherries.

2.5.2 Colour and Flavour

The product shall have normal colour and normal flavour characteristics for each fruit and for the entire mixture.

2.5.3 Texture

The fruit ingredients shall not be excessively firm nor excessively soft, as is appropriate for the respective fruit.

2.5.4 Defect allowances

The product shall be substantially free from defects such as extraneous plant material, pit (stone) material, peel, blemished fruit pieces, and stems. Certain common defects shall not be present in amounts greater than the following limitations:

<u>Blemished fruit pieces</u>	---	<u>Total</u> of all fruit units so affected -- 20% of drained fruit.
<u>Peel</u> ----	(Average)	15 cm ² (15 sq. cm) aggregate area per kg of total contents.
<u>Pit material</u> ----	(Average)	1 piece, of any size, per 3 kg of total contents.
<u>Small stems</u> ----	(Average)	10 small stems per 3 kg of total contents.
<u>Large stems</u> ----	(Average)	2 large stems, or pieces thereof, per 3 kg of total contents.

2.5.5 Classification of "Defectives"

A container that fails to meet the applicable requirements as set out in paragraphs 2.4.1 through 2.5.4 shall be considered a "defective".

2.5.6 Acceptance

A lot will be considered as meeting the requirements of 2.4.1 through 2.5.4 when:

- (a) for those requirements which are not based on averages -- the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plan for Processed Fruits and Vegetables.

and

- (b) for those requirements which are based on averages -- the averages are met.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives.

Maximum level of use

Colouring matter

To colour cherries only
when artificially coloured
cherries are used --

Erythrosine -- Colour Index (1956) No. 45430	Not limited
---	----------------

4. HYGIENE ^{1/}

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.

5. WEIGHTS AND MEASURES

5.1 Fill of container

5.1.1 Minimum fill

The container shall be well filled with fruit and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5.1.2 Minimum drained weight

5.1.2.1 The drained weight of the fruit material shall be not less than 65% of the weight of distilled water at 20° C which the sealed container will hold.

5.1.2.2 The requirement for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

5.1.4 Acceptance

A lot will be considered as meeting the requirements of 5.1.3 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

- 6.1 The provisions of section 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.
- 6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:
- 6.2.1 The name of the product shall include the designation: "Fruit Cocktail".
- 6.2.2 The following, as applicable, shall be included as part of the name or in close proximity to the name:
- (a) "5 Fruits" or "With Five Fruits";
OR
"4 Fruits" or "With Four Fruits".
- (b) The packing medium "Water", "Fruit Juice", "Extra Light Syrup", "Light Syrup", "Heavy Syrup", or "Extra Heavy Syrup", as appropriate.
- (c) A declaration of characteristic seasoning; e.g. "with X" when appropriate.
- 6.2.3 When cherries are artificially coloured and/or artificially flavoured, the following declarations are permitted in the list of ingredients or elsewhere in lieu of naming the additive:
- "Cherries artificially coloured red";
OR
"Cherries artificially coloured red and artificially flavoured."

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the
Sampling Plans for Processed Fruits and Vegetables.

7.1.1.1 Size of Sample Units

- (a) For ascertaining proportions of fruits and fill of container (including drained weight) the entire container shall be the sample unit.
- (b) For ascertaining compliance with percentage requirements for Sizes and Shapes of fruits and Defects, the sample unit shall be:
 - (1) the entire container when it holds 1 Liter or less; or
 - (2) 500 grams of drained fruit (of a representative mixture) when the container holds more than 1 Liter.
- (c) For ascertaining compliance with requirements based on total contents, the sample unit shall be:
 - (1) the entire container when it holds 1 Liter or less; or
 - (2) 850 grams of fruit and liquid (of a representative and proportionate mixture) when the container holds more than 1 Liter.

7.1.2 Test Procedures

7.1.2.1 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists".

7.1.2.2 Sirup Measurements

Sirup measurements of "Cut-out" Brix shall be determined on the finished canned product in accordance with standardized methods by hydrometer or by refractometer, standardized at 20° C.

7.1.2.3 Ascertaining Proportions of Fruit

- (a) Determine drained weight and keep liquid and fruit separate;
- (b) Separate individual fruit ingredients, removing those fruits present in lesser amounts (such as cherries, pineapple, grapes);
- (c) Weigh the individual fruit ingredients to the nearest gram;
- (d) Record each fruit's weight and add all of these weights; and
- (e) Calculate the percentage of fruit proportions:

$$* \frac{\text{Each fruit's weight}}{\text{Sum of all fruit weights}} \times 100 = \% \text{ of the fruit weight}$$

* (Do not use the original drained weight of the product before separation of the fruits)

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Proposed Draft Provisional Standards

for

CANNED PEARS -- STEP 3

Standard No. PFV 68/3-17

1. DESCRIPTION

1.1 Product Definition

Canned pears is the product:

- (a) prepared from mature pears of commercial canning varieties conforming to the characteristics of *Pyrus communis* or *Pyrus sinensis*;
- (b) peeled, cored, and stemmed for all styles except for the appropriate kinds in whole style;
- (c) packed with a suitable liquid packing medium, nutritive sweeteners, and seasoning or flavouring ingredients appropriate to the product;
- (d) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Varietal Type

Any suitable variety of cultivated pears may be used.

1.3 Styles

- (a) Whole - peeled or unpeeled and with or without stems removed.
- (b) Halves - cut into two approximately equal parts.
- (c) Quarters - cut into four approximately equal parts.
- (d) Sliced - cut into wedge-shaped sectors.
- (e) Diced - cut into cube-like parts.
- (f) Pieces - (or irregular pieces) - comprising irregular shapes and sizes.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing Media

The packing medium may consist of:

- (a) Water -- in which water or any mixture of water and pear juice is the sole liquid packing medium; or
- (b) Syrup -- in which water is combined with sucrose, invert sugar, dextrose, dried glucose syrup and/or glucose syrup and classified on the basis of cut-out strength as:

Extra Light Syrup -- not less than 10° Brix.

Light Syrup - not less than 14° Brix.

Heavy Syrup - not less than 18° Brix.

Extra Heavy Syrup - not less than 22° Brix.

2.1.1 Cut-out strength to be determined on average, but no container may have a Brix value lower than that of the minimum of the next category below.

2.2 Other Ingredients

Spices, spice oils, natural fruit essences, mint, or other natural flavourings; and artificial flavourings in artificially coloured pears.

2.3 Quality Criteria

2.3.1 Definitions

- (a) Blemishes - surface discolouration and spots that definitely contrast with the over-all colour and which may penetrate into the flesh. Examples include bruises, scab, and dark discolouration.
- (b) Broken - is considered a defect only in whole, halves and quartered styles in a liquid medium pack. A unit severed into two or more parts; two or more broken pieces shall be considered one unit when aggregated to the approximate size and shape of an average unit in the container.
- (c) Core Material - means the seed cell, whether loose or attached, with or without seeds. Such material aggregating approximately one-half of a core is considered one unit in applying the allowance hereafter.
- (d) Peel - that which adheres to pear flesh or is found loose in the container.

- (e) Seed - any one pear seed or the equivalent in pieces of one seed not included in core material.
- (f) Stems - external or internal stems.
- (g) Trim - means units that have deep gouges (whether due to physical trimming or other means) and which definitely detract from the appearance. Trim is considered a defect only in whole, halved, and quartered styles.

2.3.2 Colour

The colour of the product shall be normal for the varietal type, taking into consideration any added artificial colour. Canned pears containing other permitted ingredients shall be considered of characteristic colour when there is no abnormal discolouration for the respective ingredient used.

2.3.3 Flavour

Canned pears shall have a normal flavour and odour free from flavours and odours foreign to the product and canned pears with special ingredients shall have a flavour characteristic of that imparted by the substances used.

2.3.4 Texture

The pears may be variable in tenderness but shall neither be mushy nor excessively firm.

2.3.5 Uniformity of Size

Whole, Halves, Quarters - in 95 percent by count of units that are most uniform in size, the weight of the largest unit shall be no more than twice the weight of the smallest unit, provided that, if there are less than 20 units, one unit may be disregarded. Where a unit has broken in the container, the broken pieces may be considered as a single unit.

2.3.6 Defect Allowances

The product shall be substantially free from defects such as harmless extraneous material, peel (in peeled styles), core material, blemished units, and broken units. Certain common defects shall not be present in amounts greater than the following limitations:

<u>Defects</u>	<u>Maximum</u>
Blemish and Trim -----	Total 30% by count, but no more than 20% by count may be blemished.
Broken (whole, halves, ---- quarters)	5% by count or 1 unit per can in Halves or Quarters styles.
Core Material ----- (Except whole style)	2 units per kg of total contents.
Peel (<u>Average</u>) -----	15 cm ² (15 sq. cm) aggregate area per kg of total contents.

All styles, except "Whole":

Harmless plant material and seeds -----	0.2% by weight of total contents;
Seeds (<u>Average</u>) -----	8 per kg of total contents.

2.3.7 Classification of "Defectives"

Except for those requirements based on averages in 2.3.2 through 2.3.6, a container that fails to meet the applicable quality requirements shall be considered a "defective".

2.3.8 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.3.7 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

Maximum level of use

Acidifying agents

Citric acid	
Malic acid	
Tartaric acid	Not limited
Lactic acid	

Colouring matters

Erythrosine	Not limited
Amaranth	Not limited
Fast Green FCF	Not limited

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.

5. WEIGHTS AND MEASURES

5.1 Fill of container

5.1.1 Minimum fill

The container shall be well filled with fruit and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold.

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms.

5.1.2 Minimum drained weight

5.1.2.1 The drained weight of the product, based on the weight of distilled water at 20° C which the sealed container will hold, shall be as follows, except that the requirements do not apply to "Whole Style":

Halves, Quarters, Slices, Pieces ----- 55%

Diced ----- 63%

5.1.2.2 The requirement for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

5.1.4 Acceptance

A lot will be considered as meeting the requirements of 5.1.3 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

6.1 The provisions of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.

6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

- 6.2.1 The name of the product shall include:
- (a) the designation "Pears";
 - (b) a declaration of characteristic seasoning; e.g. "with X" when appropriate;
 - (c) a declaration of "Artificially Coloured" and "Artificially Flavoured", as the case may be.
- 6.2.2 The following shall be included as part of the name or in close proximity to the name:
- (a) the packing medium: "Water", "Extra Light Syrup", "Light Syrup", "Heavy Syrup", or "Extra Heavy Syrup", where appropriate.
 - (b) the style: "Whole", "Whole Unpeeled", "Halves", "Quartered", "Sliced", "Diced", "Pieces" (or "Irregular Pieces"), as appropriate.
- 6.2.3 The name of the product may include the varietal type or designation of "Dessert" type.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test procedures

7.1.2.1 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists."

7.1.2.2 Syrup Measurements

Syrup measurements of "Cut-out" Brix shall be determined on the finished canned product in accordance with standardized methods by hydrometer or by refractometer, standardized at 20° C.

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Proposed Draft Provisional Standards

for

CANNED MANDARIN ORANGES -- STEP 3

Standard No. PFV 68/3-19

1. DESCRIPTION

1.1 Product Definition

Canned mandarin oranges is the product:

- (a) prepared from sound, ripe mandarin oranges conforming to the characteristics of Citrus reticulata Blanco (including such varieties as Citrus unshiu Marcovitch or Citrus tankan Hayata). Before processing, the fruit is properly washed and peeled and the membrane, fiber strands originating from albedo or core, and seeds (if any) are substantially removed from the segments;
- (b) packed with a suitable liquid packing medium which may include nutritive sweeteners;
- (c) processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage.

1.2 Style or Form

Canned mandarin oranges may be packed as:

- (a) Whole Segments; or
- (b) Broken Segments; or
- (c) Pieces.

1.3 Sizes in Whole Segment Style

1.3.1 Single Sizes

Canned mandarin oranges shall be reasonably uniform in size and may be designated as to the size classifications that follow:

- Large -- 20 or less segments per 100 grams of drained fruit.
- Medium -- 21 to 35 segments per 100 grams of drained fruit.
- Small -- 36 or more segments per 100 grams of drained fruit.

1.3.2 Mixed Sizes

Canned oranges may also be designated as a mixture of any two adjacent sizes as:

Medium-Large
(or)
Small-Medium

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing Media

The packing medium may consist of:

- (a) Water -- in which water or a mixture of water and mandarin orange juice is the liquid packing medium; or
- (b) Syrup -- in which water and sucrose, invert sugar, dextrose, glucose syrup, and/or dried glucose syrup are combined as a liquid packing medium with a cut-out strength of not less than 16° Brix.

2.1.1 Cut-out strength is determined on the average, but no single container may be unreasonably low in Brix measurement.

2.2 Quality Criteria

2.2.1 Definitions

- (a) Whole segment -- a practically intact segment which retains its original form but may be split just slightly.
- (b) Slightly broken segment -- a fairly intact segment which is split or may show slight disintegration.
- (c) Broken segment -- a portion of a segment which retains at least one half of the apparent original segment size and is neither a "whole segment" or a "slightly broken segment".
- (d) Pieces --- irregular and broken pieces of segments which do not meet the definition for "Broken segment".
- (e) Developed seed -- a seed that measures more than 4.0 mm in any dimension. (Small, undeveloped, embryonic seeds are not considered as defects).

2.2.2 Colour

The colour of the segments must be a rich, yellow to orange, typical colour of properly prepared and properly processed fruit, free from any brown tinge; and the liquid packing medium shall be reasonably clear.

2.2.3 Flavour

Canned Mandarin Oranges shall have a normal flavour and odour free from flavours or odours foreign to the product.

2.2.4 Texture

The texture shall be reasonably firm and characteristic for the canned product and reasonably free from dry cells or fibrous portions affecting the appearance or edibility of the product.

2.2.5 Wholeness

- (a) Whole Segment style -- As defined in 3.1, not less than 85% by count of the units shall be "whole segments", and the remainder may be "slightly broken segments" and "broken segments", provided not more than 5% by count of all the segments are "broken segments".
- (b) Broken Segment style -- Canned mandarin oranges which do not meet the requirements of "wholeness" for Whole Segment style.
- (c) Pieces style -- Canned mandarin oranges which do not meet the requirements for Broken style and consist substantially of pieces.

2.2.6 Defects

The finished product shall be prepared from such materials and under such practices that it shall be reasonably free from extraneous fruit matter such as membrane, developed seeds, and fiber strands originating from albedo or core, and shall not contain parts of peel nor contain other excessive defects whether specifically mentioned in this standard or not. Certain common defects shall not be present in amounts greater than the following limitations in all styles:

- (a) Membrane -- aggregate area of not more than 7 cm² (7 sq. cm) per 100 grams of drained fruit.
- (b) Fiber strands -- aggregate length of not more than 5 cm per 100 grams of drained fruit.
- (c) Developed seeds -- Not more than 1 seed per 100 grams of drained fruit.

2.2.7 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.2.2 through 2.2.6 shall be considered a "defective".

2.2.8 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.2.7 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

5.1.2 Minimum Drained Weight

5.1.2.1 The drained weight of the product shall be not less than 59% of the weight of distilled water at 20° C which the sealed container will hold.

5.1.2.2 The requirements for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

5.1.3 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) 5.1.1 shall be considered a "defective".

5.2 Acceptance

A lot will be considered as meeting the requirement of 5.1.1 when the number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

6. LABELLING

6.1 The provision of sections 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.

6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

6.2.1 The name of the product shall include the designation "Mandarin Oranges".

6.2.2 The following shall be included as part of the name or in close proximity to the name:

(a) the style: "Whole Segments" or "Broken Segments" or "Pieces", as appropriate;

(b) the packing medium: "Water", or "Syrup", as appropriate.

6.2.3 A size classification for Whole Segment style may be stated on the label if the pack complies with the appropriate requirements set out in paragraph 1.3.1 or 1.3.2 of this standard.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test Procedures

7.1.2.1 Drained Weights

In accordance with the applicable Drained Weight Method for Processed Fruit and Vegetable Products of the "Methods of Analysis of the Association of Official Analytical Chemists."

7.1.2.2 Syrup Measurements

Syrup measurements of "Cut-out" Brix shall be determined on the finished canned product in accordance with standardized methods by hydrometer or by refractometer, standardized at 20° C.

APPENDIX X
May 1968

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Proposed Draft Provisional Standard

for

PROCESSED TOMATO CONCENTRATES -- STEP 3

Standard No. PFV 68/3-16

1. DESCRIPTION

1.1 Product Definition

- (a) Processed tomato concentrate is the food prepared by concentrating the liquid obtained from substantially sound, mature red tomatoes (*Lycopersicum esculentum*). Such liquid is strained or otherwise prepared to exclude skins, seeds, and other coarse or hard substances in the finished product.
- (b) Suitable seasoning ingredients may be added.
- (c) The product is preserved by physical means with or without the addition of preservatives.
- (d) The concentration shall be 9 percent salt-free soluble solids or more but not dehydrated to a dry powder or flake form.

1.2 Product Designation

Tomato concentrate may be considered "Tomato Puree" or "Tomato Paste" when the concentrate meets these requirements:

- (a) Tomato Puree -- Tomato concentrate that contains not less than 9 percent, but less than 25 percent, of salt-free soluble solids.
- (b) Tomato Paste -- Tomato concentrate that contains 25 percent or more of salt-free soluble solids.

1.2.1 Acceptance -- For Salt-Free Soluble Solids

A lot will be considered as meeting the applicable minimum salt-free soluble solids requirement: Provided, That

- (1) The average of the values of all containers or sub-samples tested meets at least the minimum requirement; and
- (2) No individual test value is more than 1 percent soluble solids below the minimum requirement.

Example: If samples average at least 9% ranging slightly below and above, no single sample may be less than 8%.7

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Other ingredients

2.1.1 Seasoning or Flavourings --

Salt, spices, natural vegetable products (basil leaf, onions, etc.) but not sugars or other sweeteners.

[-- Levels to be supplied --]

2.1.2 pH regulating agents

Sodium bicarbonate -- only in such amounts as to not raise the pH level above 4.3.

2.2 Quality Criteria

2.2.1 Colour and Flavour

The product when diluted with water to reach approximately 9 percent soluble solids shall have a fairly good red colour and shall have normal flavour characteristics.

2.2.2 Defects

Processed Tomato Concentrates shall be prepared from such materials and under such practices that the product is substantially free from extraneous plant materials or similar objectionable substances and shall not contain excessive defects (whether or not specifically mentioned in this standard.)

Certain common defects -- when so large or numerous or of such contrasting colour or nature as to seriously affect the appearance or useability of the product -- include:

- (a) Dark specks or scale-like particles;
- (b) Seeds or objectionable particles of seeds;
- (c) Objectionable tomato peel because of colour and/or size;

- (d) Harmless vegetable materials other than those used as seasonings;
- (e) Mineral impurities -- maximum 300 p.p.m.; and
- (f) Other similar and objectionable defects.

2.2.3 Classification of "Defectives"

A container that fails to meet the applicable quality requirements as set out in paragraphs 2.2.1 and 2.2.2 shall be considered a "defective".

2.2.4 Acceptance

A lot will be considered as meeting the requirements for those characteristics specified in paragraph 2.2.3 when the number of "defectives" within each classification does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Sampling Plans for Processed Fruits and Vegetables.

3. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

Maximum level of use

Preservatives

In glass packs of Puree,
not over 15% solids:

Sodium Benzoate or
Benzoic Acid ----- 1,000 p.p.m.

Sorbic acid ----- 1,000 p.p.m.

Acidifying agents (pH regulating agents to maintain
a pH level of not more than 4.3)

Citric acid	
Malic acid	
Tartaric acid	Not limited
Lactic acid	

4. HYGIENE 1/

- 4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Code of Hygienic Practice for Canned Fruit and Vegetable Products.
- 4.2 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.
- 4.3 The product shall not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.
- 4.4 The diluted product (at approximately 9% soluble solids) may have not more than 50% positive fields when determined in accordance with the Howard Mold Count Method.

5. WEIGHTS AND MEASURES

5.1 Fill of container

5.1.1 Minimum fill

Containers shall be filled as full as commercially practicable for the concentration and the product shall occupy not less than 90% of the water capacity of the container. The water capacity is the volume of distilled water at 20° C which the sealed container will hold.

5.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of 5.1.1 shall be considered a "defective".

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Canned Fruit and Vegetable Products and para. 9(a) of the Report of the Fifth Session of the Codex Committee on Food Hygiene concerning the wording of the end-product specification relating to pathogenic microorganisms. The provision of 4.4 above is additional to the provisions appearing in the end-product specifications of the Code of Hygienic Practice for Canned Fruit and Vegetable Products and, therefore, clearly requires to be endorsed by the Codex Committee on Food Hygiene.

6. LABELLING

6.1 The provision of sections 1, 2.1, 2.3 to 2.9, 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply; and the provisions of section 2.2 except that pH regulating agents when used as specified in 2.1.2 and section 3 of this standard need not be declared in the list of ingredients. (Subject to endorsement by the Codex Committee on Food Labelling).

6.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

6.2.1 The name of the product shall include:

- (a) the designation "Tomato Concentrate"; and
- (b) when the respective criterion for soluble solids is met, the name of the product may be shown additionally or alternatively as "Tomato Puree" or "Tomato Paste", whichever is applicable.

6.2.2 The following shall be included as part of the name or in close proximity to the name:

- (a) The minimum % (percentage), or a range within 2%, of salt-free soluble solids.
- (b) a declaration of characteristic seasoning; e.g. "with X" when appropriate.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1.1 Sampling

Sampling shall be in accordance with the Sampling Plans for Processed Fruits and Vegetables.

7.1.2 Test Procedures

7.1.2.1 Soluble Solids

For the purpose of this standard, the percentage of "salt-free soluble solids" is determined by the Refractometric Method by:

- (1) ascertaining the Refractive Index of the product, corrected for temperature;
- (2) converting the resultant index to "% Sucrose" in accordance with the International Scale of Refractive Indices of Sucrose at 20° C; and
- (3) deducting the percentage of salt whether natural occurring in, or added to, the product.

7.1.2.2 Salt (Na Cl) -- shall be determined in accordance with --

- (1) Visual indicator method as outlined in the Official Methods of Analysis of the Association of Official Analytical Chemists; or
- (2) Potentiometer (pH meter) method.

7.1.2.3 Mold Count Method

Determined in accordance with the method for "Tomato Products (not Dehydrated)" in the Official Methods of Analysis of the Association of Official Analytical Chemists (U.S.A.) or comparable document wherein this method appears.

JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
Committee on Processed Fruits and Vegetables

Proposed Draft Provisional Standard

for

PROCESSED RAISINS -- STEP 3

Standard No. PFV 68/3-12

1. SCOPE

Processed raisins are prepared from properly matured grapes that are dried either naturally (sun-dried) or by artificial dehydration.

They may be prepared from either seedless or seed-bearing type grapes and depend upon low moisture to assure preservation over relatively long periods of time under normal dry storage conditions.

In some countries "Seedless" raisins are called Sultanas.

This standard does not include a similar dried vine fruit known as Dried Currants.

2. DESCRIPTION

2.1 Product Definition

Processed raisins is the product prepared from substantially sound dried grapes of varieties conforming to the characteristics of Vitis vinifera L. (but excluding currant types) which are suitable for preparation into a form of marketable raisins. The dried grapes are properly cleaned (including washing with water), stemmed, and cap-stemmed except for styles (or forms) of cluster raisins and are reduced in moisture to a level that will assure preservation of the product.

2.2 Designation

2.2.1 Type Groups

Seedless ----- prepared from grapes that are naturally seedless or almost seedless.

Seed-bearing -- prepared from grapes that possess seeds, which may or may not be removed in processing.

2.2.2 Sub-types

Natural ----- not treated nor processed to change materially the colour of the dried grapes (or raisins).

Bleached ----- raisins subjected to bleach treatment by chemical means and further processed by drying.

2.2.3 Styles

Non-Seeded -- with seeds not removed in non-seedless
(or Unseeded) types

Seeded ----- with seeds removed in non-seedless types.

Clusters ---- with main bunch stem attached.

2.3 Size Classifications

Processed raisins may be designated as to size names in accordance with either of the two systems that follow:

2.3.1 Sizes by "count per unit weight"

	<u>Number of raisins per 100 grams</u>
Very large - - - - -	up to 260
Large - - - - -	260 to 320
Medium - - - - -	320 to 380
Small - - - - -	380 to 400
Very Small - - - - -	Over 400

2.3.2 Sizes by "Diameter Measurement"

The size dimensions which follow are the diameters of round holes through which the raisins will, or will not, pass depending upon whether it refers to the maximum diameter or minimum diameter. (For example, "7 mm - 9 mm" means that the raisins will pass through a hole of 9 mm but will be retained by a hole 7 mm in diameter).

	<u>SEEDLESS</u>	<u>NON-SEEDLESS</u>
Very Small (or tiny) -----	7 mm and smaller	8 mm and smaller
Small -----	7 mm - 9 mm	8 mm - 10 mm
Medium -----	- - - -	10 mm - 15 mm
Large -----	9 mm - 13 mm	15 mm - 18 mm
Extra Large -----	Over 13 mm	Over 18 mm

Mixed Sizes
 or "Blends" of
 sizes



Raisins which have been subjected to some grading for size but do not conform to the foregoing specifications for single sizes.

Unsize (or
 ungraded for
 size)



Raisins which have not been subjected to any size grading.

2.3.2.1 In determining conformance with the size designations in 2.3.2, a tolerance of 10 percent by weight will be allowed for raisins that do not conform to the specified requirements for the respective size designation.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Other Ingredients

Raisin oil, edible vegetable oil such as to permit free-flowing raisins, sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey, and other edible substances as may be appropriate to the product.

3.2 Quality Criteria

3.2.1 Definitions of Defects

(a) Piece of stem -- portion of the branch or main stem.

(b) Cap-stem ----- small woody stems exceeding 3mm in length which attaches the grape to the branch of the bunch and whether or not attached to

(In considering allowances for cap-stems on a "percentage by count" basis, cap-stems that are loose are counted as being on a raisin.)

(c) Undeveloped

Raisins ----- refers to raisins that:

- a) are extremely light-weight berries, lacking in sugary tissue indicating incomplete development
- b) are completely shriveled with practically no flesh and
- c) may be hard.

(d) Damaged

Raisins ----- raisins affected by sunburn, scars, mechanical injury, or other similar means which seriously affect the appearance, edibility, keeping quality, or shipping quality.

In Seeded forms, mechanical injury resulting from normal seeding operations is not damage.

In "Seedless" type, mechanical injury resulting from removal of small stems is not considered "damage".

(e) Sugared

Raisins ----- external or internal sugar crystals which are readily apparent and seriously affect the appearance of the raisin.

(f) Seeds (in

seeded forms)-- substantially whole, fully developed seeds which have not been successfully removed during processing of seeded forms.

3.2.2 Maturity Characteristics

Processed raisins shall show development characteristics of raisins prepared from fairly well-matured grapes, as indicated by proper colour and texture for the type, and such raisins shall include a substantial portion of berries that are fleshy and of high sugar content.

No more than a total of 8% of the raisins may be indicative of very immature grapes, including no more than the allowances (2% or 3% for the respective type) permitted for undeveloped raisins (see 3.2.4).

3.2.3 Minimum Quality Requirements

Processed raisins shall be prepared from such materials and under such practices that the finished product shall possess normal colour, flavour, and maturity characteristics for the respective type and in addition comply with the following requirements:

- (a) Moisture Content --- not in excess of 18 percent, except for non-seedless seeded raisins the maximum is 19 percent.
- (b) Mineral impurities - may not be present to the extent that the eating quality or usability is materially affected.
[-- level to be supplied --]
- (c) Other Defects ---- substantially free from stems, extraneous plant material and damage.

Certain common defects as defined in paragraph 3.2.1 may not exceed the limitations specified in paragraph 3.2.4.

3.2.4 Allowances for Defects

Processed raisins shall not contain excessive defects (whether or not specifically defined or as allowed in this standard).

Certain common defects shall not be present in amounts greater than the limitations which follow.

DEFECTS	SEEDLESS	NON-SEEDLESS
	----- Maximum -----	
Pieces of stem (in stemmed forms)	1 per kg	2 per kg
Capstems	7% by count, but no more than 60 per 500 grams -- in sizes of 9 mm or less; (or) 40 per 500 grams -- in sizes larger than 9 mm or in "Mixed" sizes.	7% by count, but no more than 30 per 500 grams -- in sizes of 10 mm or less; (or) 20 per 500 grams -- in sizes larger than 10 mm or in "Mixed" sizes.
Undeveloped	3% by weight	2% by weight
Damaged	5% by weight	5% by weight
Sugared	15% by weight	15% by weight
Seeds (in seeded forms)	---	20 per 500 grams

4. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section . . . of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives.

	<u>Maximum Level of Use</u>
<u>Sulphur Dioxide</u>	2,000 mg/kg
<u>Mineral Oil</u> (See attachment 1 of this Appendix for specifications)	0.5% by weight

5. CONTAMINANTS

	<u>Maximum Level</u>
<u>Pesticide Residues</u>	
Malathion	Not in excess of 8 p.p.m.
Methyl Bromide	125 mg/kg (calculated as Br.)
Methyl (or Ethyl) Formate	250 mg/kg (calculated as formic acid)

To be considered
by the Codex
Committee on
Pesticide
Residues

6. HYGIENE ^{1/}

6.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Codex Alimentarius Draft Provisional Hygienic Code of Practice for Dried Fruits.

6.2 To the extent possible in good manufacturing practice the product should be free from objectionable matter.

1/ Secretariat Note

See end-product specifications set out in the Code of Hygienic Practice for Dried Fruits (Step 5).

- 6.3 The product should not contain any pathogenic microorganisms or any toxic substance originating from microorganisms.
- 6.4 The product shall comply with the requirements set forth by the Codex Committees on Pesticide Residues and Food Additives as referenced in this standard.

7. WEIGHTS AND MEASURES

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

8. LABELLING

8.1 The provisions of section 1 to 2.9 and 2.11 to 2.12 of the General Standard for the Labelling of Prepackaged Foods shall apply.

8.2 The following specific provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

8.2.1 The name of the product which is "Raisins" or other recognized product name (countries to specify), together with the following designations, if applicable:

- (a) as to type groups: "Seedless", "Non-seedless";
- (b) as to sub-types: "Bleached";
- (c) as to styles: "Non-seeded" (or "Unseeded"), "Seeded", (or "Seeds" removed), "Clusters";
- (d) as to size: [to be developed--optional]

9. METHODS OF ANALYSIS AND SAMPLING

9.1 The methods of analysis and sampling described hereunder are international referee methods, which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

9.1.1 Analysis

9.1.1.1 Moisture Test

Determination of moisture in processed raisins may be made using a dried fruit electronic moisture tester, or the AOAC method described in the Official Methods of Analysis of the Association of Official Analytical Chemists (10th Edition).

9.1.1.2 Sand Test

[To be developed.]

9.1.2 Sampling

9.1.2.1 Gross Sample

From each portion of 5,000 kg, or fraction thereof, select not less than 300 grams from each of 10 cases to make a combined sample of approximately 3,000 grams.

9.1.2.2 Sub-samples for Quality Criteria

From each combined sample select the following amounts for each sample or sub-sample needed to ascertain compliance with the requirements of this standard:

Pieces of Stems - - - - Use entire composite
of 3,000 grams.

Other Defects)
Colour) - - - - Use a well-mixed sub-sample of
Maturity) 500 grams from composite.

Moisture- - - - - - - - Use a sufficient well-mixed sample
from composite for appropriate
test--approximately 500 grams.

PROPOSED

Specifications for Liquid, Semi-Liquid and Solid Mineral Hydrocarbons**1. Liquid mineral hydrocarbon—**

- (a) shall be a transparent, almost colourless and tasteless mixture of liquid mineral hydrocarbons;
- (b) shall have an ultra-violet extinction (otherwise called absorbance) over the range 240-280 millimicrons not greater than 0.04 for a 1 centimetre layer of a solution in iso-octane containing 1 gram per litre, that is to say, $E_{\frac{0.1\%}{1\text{ cm.}}}$ shall not be greater than 0.04 where $E = \log_{10} \frac{I_0}{I}$ and I_0 and I are the intensities of the incident radiation and of the transmitted radiation respectively; and
- (c) shall comply with the tests for acidity or alkalinity, carbonisable substances, solid paraffins, and sulphur compounds given in the monograph for Liquid Paraffin in the British Pharmacopoeia 1963.

*Specification for semi-liquid mineral hydrocarbon***2. Semi-liquid mineral hydrocarbon—**

- (a) shall be a white translucent unctuous mixture, barely fluorescent in daylight, of semi-liquid mineral hydrocarbons;
- (b) shall contain not more than 0.1 per cent. by weight of sulphated ash;
- (c) shall have an ultra-violet extinction (otherwise called absorbance) at 290 millimicrons not greater than 1.0 for a 1 centimetre layer of a solution in iso-octane containing 1 gram per litre, that is to say, $E_{\frac{0.1\%}{1\text{ cm.}}}$ shall not be greater than 1.0 where $E = \log_{10} \frac{I_0}{I}$ and I_0 and I are the intensities of the incident radiation and of the transmitted radiation respectively; and
- (d) shall comply with the tests for acidity or alkalinity and sulphur compounds given in the monograph for Liquid Paraffin in the British Pharmacopoeia 1963.

*Specification for solid mineral hydrocarbon other than any solid mineral hydrocarbon used or intended for use in chewing compounds***3. Solid mineral hydrocarbon other than any solid mineral hydrocarbon used or intended for use in any chewing compound—**

- (a) shall be an almost odourless and tasteless mixture of solid mineral hydrocarbons;
- (b) shall contain not more than 0.1 per cent. by weight of sulphated ash;
- (c) shall comply with the test for acidity or alkalinity given in the monograph for Liquid Paraffin in the British Pharmacopoeia 1963;
- (d) shall comply with the test for sulphur compounds given in the monograph referred to in the preceding sub-paragraph of this Schedule: Provided that such test shall be carried out at 70°C., or at 5°C. above the congealing point, of the solid mineral hydrocarbon, whichever is the higher;
- (e) shall comply with the requirements specified in one of the following sub-paragraphs, namely—
- (i) shall have been tested, before being used in the composition or preparation of any food, for the presence of polycyclic hydrocarbon by the method described in Part II of this Schedule with the result described in paragraph 6 of the said Part II, and if such solid mineral hydrocarbon is tested subsequently by the said method, shall give the said result; or
- (ii) have a viscosity at 99°C. not greater than 7.0 centistokes and an ultra-violet extinction (otherwise called absorbance) at 290 millimicrons not greater than 0.04 for a 1 centimetre layer of a solution in iso-octane containing 1 gram per litre, that is to say, $E_{\frac{0.1\%}{1\text{ cm.}}}$ shall not be greater than 0.04 where $E = \log_{10} \frac{I_0}{I}$ and I_0 and I are the intensities of the incident radiation and of the transmitted radiation respectively; or
- (iii) have a viscosity at 99°C. not less than 10.0 centistokes and an ultra-violet extinction (otherwise called absorbance) at 290 millimicrons not greater than 1.0 for a 1 centimetre layer of a solution in iso-octane containing 1 gram per litre, that is to say, $E_{\frac{0.1\%}{1\text{ cm.}}}$ shall not be greater than 1.0 where $E = \log_{10} \frac{I_0}{I}$ and I_0 and I are the intensities of the incident radiation and of the transmitted radiation respectively.

MODIFIED FOOD STARCHES

Definition

Modified food starches are starches of which one or more of their original characteristics have been modified, in accordance with good manufacturing practice, by physical and/or enzymatic and/or chemical treatment.

- a) Modification by physical means is any treatment of starches by heat, and/or pressure and/or mechanical action in dry or wet state including fractionation.
- b) Modification by enzymatic means is any treatment of starches in dry or wet state and in the presence of small amounts of enzymes to obtain solubilized and/or partly hydrolyzed products.
- c) Modification by chemical means is any treatment of starches in dry or wet state and in the presence of one or more of the chemical compounds listed in the Annex and subject to conditions mentioned therein.

Denomination

For the purpose of compositional requirements in Processed Fruit and Vegetable products starch modified solely by physical or enzymatic means shall be considered as native or natural starches and consequently treated as Ingredients; whereas starch modified by chemical means shall be considered as Modified Starches and subject to approval by the Codex Food Additive Committee.

With respect to chemically modified starches treatment may be by any of the methods prescribed in the attached Annex - Items 1 through 6.

Modification may also be accomplished by 2 and/or 3 and any one of the treatments 4, 5 and 6.

Norms

- a) Starches modified in the presence of one or more of the processing substances listed in the Annex may contain residual amounts of these substances in quantities relevant to the max. ingoing quantities or as specified.
- b) Moisture 15% maximum for cereal starch, 21% for potato starch, 18% for sago starch and tapioca starch.
- c) SO₂ maximum 80 mg. per kg.
- d) Ash maximum 2%.
- e) Flavour and taste must be normal.
- f) Protein maximum 0,5% (coefficient 6,25).
- g) Fat maximum 0,15% (Carbon tetrachloride CCl₄ Extraction).

Food starches modified by chemical means

Modification	Maximum amount of substance reasonably required to accomplish the intended physical or technical effect	Limitation and maximum residual traces in the finished product
1. Roasted starch with addition of acid.	0,15% acid, calculated as hydrochloric acid anhydrous (100%) and based on dry starch	Final pH 2,5 to 7,0
2. Acid modified slurry treatment with acid	7% hydrochloric acid or 2,0% sulfuric acid	Final pH 4,8 to 7,0
3. Oxidized by treatment with	Potassium permanganate not to exceed 0,2 percent Chlorine, as sodium hypochlorite, not to exceed 5,0% of chlorine, based on dry starch	50 ppm residual manganese (calculated as Mn) 0,5% sodium chloride
4. Esterified by treatment with	Acetic anhydride Adipic anhydride, not to exceed 0,12 percent Succinic anhydride, not to exceed 4 percent Phosphorus oxychloride, not to exceed 0,1 percent Sodium tripolyphosphate and/or sodium trimetaphosphate and/or orthophosphoric acid and/or sodium or potassium salts thereof	Acetyl groups, not to exceed 2,5%
5. Etherified by treatment with	Propylene oxide, not to exceed 5% Epichlorohydrin, not to exceed 0,3 percent	Residual phosphate not to exceed 0,4 percent, calculated as phosphorus
6. Alkaline treatment with	Sodium or potassium hydroxide, not to exceed 1,0 percent	Final pH 5,0 to 7,5

July 19, 1968

PROPOSED AMENDMENT TO THE ANNEX TO APPENDIX XII

1/

7. Combination Treatment

Modification may be accomplished by 2 and/or 3 and any one of the Treatments 4, 5 and 6; and, in addition may also be accomplished by any of the following:

- a. Epichlorohydrin, not to exceed 0.3 percent and acetic anhydride with limitations of acetyl groups not to exceed 2.5 percent.
- b. Epichlorohydrin, not to exceed 0.3 percent, and succinic anhydride, not to exceed 4 percent.
- c. Phosphorous oxychloride, not to exceed 0.1 percent, and propylene oxide, not to exceed 10 percent.
- d. Adipic anhydride, not to exceed 0.12 percent and acetic anhydride with limitations on acetyl groups not to exceed 2.5 percent.

1/ Note by the FAO Secretariat

The above proposed amendment to the Annex to Appendix XII was not placed before the Committee for adoption, and has been added to the Report at the request of the Chairman of the Committee for referral, in conjunction with Appendix XII, to the Codex Committee on Food Additives. The Chairman of the Committee has pointed out that the adopted Appendix XII, which was drafted rather hurriedly, contains some omissions which unduly restrict combination treatments, and has stressed the importance of the above proposed amendment, which fully explains the combination treatments that are permitted.