# codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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

Washington, D.C., 10-14 March 1986

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## INTRODUCTION

1. The Codex Committee on Processed Fruits and Vegetables held its Eighteenth Session in Washington, D.C., from 10 to 14 March 1986, by courtesy of the Government of the United States of America. Mr. G. Parlet (USA) was in the chair. The Session was attended by Government Delegations from 22 countries and 2 international organizations. A list of the participants, including the Secretariat, is given in Appendix I to this report.

2. The meeting was opened by Mr. E.F. Kimbrell, Chairman of the Codex Alimentarius Commission. Mr. Kimbrell traced the history of the Committee and complimented the Committee on its ability to work out disagreements and to reach compromises on many issues aimed at improving the food system throughout the world. He pointed to the considerable output of the Committee over the years. He expressed the view that the time had come to examine the question of whether the Committee had now completed its work assignments and whether it should be adjourned, so that available resources could be channeled to new areas. Mr. Kimbrell paid tribute to the Organizations sponsoring the sessions of the Committee and to the Secretariat. He also acknowledged the early founders of the Committee and wished the Committee a successful session.

3. The Chairman of the Committee, Mr. G. Parlet expressed the view that the Committee had completed its current work and that it could be adjourned sine die. He paid tribute to Mr. F. Dunn and Mr. L. Beacham (USA) who had attended the first session of the Committee. He also expressed his and the Committee's appreciation of the efforts of the previous chairmen, Mr. F.L. Southerland, Mr. F.F. Hedlund, Mr. E.F. Kimbrell and Dr. R.M. Schaffner. He proposed that the report of the Session should include a list of standards, codes of practice, and methods of analysis as well as other material representing the output of the Committee.

## ADOPTION OF THE AGENDA

4. The Committee adopted the provisional agenda (CX/PFV 86/1) and agreed that the question of the revision of the labelling sections of Codex standards for processed fruits and vegetables be discussed as a new item 6.2 (CX/PFV 86/7). The amendment of the Codex standard for canned pineapple would be item 6.1.

## REVIEW OF MATTERS ARISING FROM CODEX SESSIONS

5. The Committee received a verbal report from the Secretariat on matters of interest arising from the last session of the Commission and from various Codex Sessions. In order to assist the Committee, the Secretariat had distributed a conference room document containing the relevant paragraphs of the Codex sessions (CRD 1).

6. The Committee noted the various matters of interest and decided to discuss certain of these on which action by the Committee was required.

Labelling

7. On the suggestion of the Chairman, the Committee agreed to set up a small working group under the chairmanship of Dr. Melvin Johnston (USA) to examine all available material, including document CX/PFV 86/7, on the question of labelling and to advise the Committee on what action to take concerning the revision of Codex standards. The working group would consist of the Chairman of the Group and delegates from USA, Canada, and Australia and the United Kingdom, attending in part, assisted by the Secretariat.

Sulphur Dioxide in Raisins

8. The Committee discussed a request of the Codex Committee on Food Additives that the Committee look into the technological justification of the use of sulphur dioxide in the preparation of bleached raisins. The request arose from the Ad Hoc Working Group on Food Additive Intake of the Codex Committee on Food Additives (paragraph 39, ALINORM 87/12).

9. Following an exchange of views concerning the use of sulphur dioxide in raisins the Committee agreed that the maximum level of 1,500 mg/kg of sulphur dioxide referred only to golden bleached raisins and applied at the time of treatment. It was noted that the intake of golden bleached raisins was quite small and that the amount of sulphur dioxide remaining in the product as consumed would be significantly less than the maximum level included in the standard. The delegation of Switzerland pointed out that this type of product was often consumed by children; it would be appropriate to make all effort to lower the levels of $SO_2$. The Committee accepted the offer of the US delegation to prepare a statement on the technological and other aspects of the use of sulphur dioxide for submission to the Codex Committee on Food Additivies. It was agreed that an explanatory note be added to the Codex standard on raisins indicating that the maximum level of 1,500 mg/kg was applicable immediately following treatment (see also para 95 of this report).

10. Further to the discussions referred to in the paragraphs 8-9 above, the Committee had before it for consideration a technological justification for the use of $SO_2$ (sulphur dioxide) to maintain the colour of bleached, golden or golden bleached raisins at a level of 1,500 mg/kg at the time of treatment. The justification statement as adopted by the Committee, is contained in Appendix III of this report.

Sodium Metabisulphite

11. The Committee was informed that the Codex Committee on Food Additives had endorsed the provision for sodium metabisulphite in canned palmito, but had considered this substance to be a food additive rather than a processing aid. The Committee did not object to this decision.

**Contaminants**

12. The Committee noted that the Codex Committee on Food Additives had not endorsed the maximum levels established by the Committee for lead and tin in processed fruits and vegetables. One of the reasons for this was that the Committee thought that individual rather than general maximum levels should be established for these contaminants. Furthermore, the Joint FAO/WHO Expert Committee on Food Additives was expected to re-evaluate lead and tin during 1986.

13. Following discussion the Committee agreed that all efforts should be made to reduce food contamination as far as possible, especially where this was technologically feasible. It also noted that the level of contamination depended on a variety of factors including environmental contamination and the nature of the packaging material.

14. The Committee wished to bring to the attention of the Codex Committee on Food Additives that it had made all efforts to set maximum levels for contaminants which were the lowest possible figure consistent with the results of the Australian survey carried out some years ago. In fact, a small proportion of the results in the survey which appeared to be too high had been excluded in setting the maximum levels. In the absence of further data on contaminants in processed fruits and vegetables the Committee did not consider itself to be in a position to review the maximum levels set for lead and tin at the previous session. It also wished to point out that it had not attempted to set general levels for contaminants in processed fruits and vegetables but that the results of the Australian survey had led to the setting of one level with only one deviation from that level for processed tomato concentrate.

15. In order to comply with the request of the Codex Committee on Food Additives it would be necessary to carry out a new and much more detailed survey. The Committee was not convinced that such a new effort was justified. The Committee therefore confirmed its previous recommendations for maximum levels for lead and tin. A number of delegations repeated their reservations concerning the maximum levels set for contaminants.

**REVIEW OF PROGRESS CONCERNING ACCEPTANCES OF CODEX STANDARDS FOR PROCESSED FRUITS AND VEGETABLES**

16. The Secretariat drew the Committee's attention to the Summary of Acceptances of Codex Standards (CAC/Acceptances, Part I - Rev. 3) which showed, in detail, the position concerning acceptances as at 3 December 1984. The Secretariat also referred to the additional information concerning acceptances contained in document ALINORM 85/2. Not many responses concerning acceptances had been received since the 16th Session of the Commission. However, the Secretariat had issued a further circular letter on this subject, which, it was hoped, would elicit further replies from Governments.

17. The Committee was informed that the Commission, at its 16th Session, had noted that there was increased use of Codex standards by Member Countries of the CAC in trade, regulatory activities and food control systems. The Committee was also informed that the Commission had decided to place on record the desire of developing countries that developed countries should do more to accept the Codex standards, in order to help the trade of developing countries.

18. The Secretariat indicated that, although there was steady progress being made so far as acceptance of the standards was concerned, there was, as had been pointed out by the Executive Committee, a need for far greater efforts by Member Countries and economic groupings to do more to implement the standards if the aims of the work of the CAC were to be realized. The Committee noted that this subject would be one of the main topics for consideration at the next Session of the Codex Committee on General Principles, to be held in Paris from 24 to 28 November 1986, when the matter would be discussed in depth.

19. The delegation of Switzerland informed the Committee that the Codex Coordinating Committee for Europe would, at its next Session in June 1986, be examining difficulties experienced by Member Governments in giving acceptance to three particular Codex standards, which had been selected by the Coordinating Committee for the purpose of the exercise.

20. The delegation of Mexico stated that it was important to encourage greater acceptance of the Codex standards and proposed that a study should be undertaken concerning the impact of the standards. The Secretariat indicated that a study on the economic impact of Codex standards in two countries - one a developing country and the other a developed country - had recently been commenced and would be brought to the attention of the next Session of the Commission.

21. The delegation of Denmark expressed appreciation of the way the work of this Committee and Codex work in general had developed and matured over the years since its inception.

## CONSIDERATION OF THE DRAFT INTERNATIONAL STANDARD FOR HONEY

22. The Committee considered the above draft standard (Appendix IX, ALINORM 85/20) in the light of government comments (CX/PFV 86/2, 86/2(1), 86/2(2) and 86/2(3)). The Committee discussed the standard in detail and agreed to the changes referred to in the following paragraphs and given in the revised version of the standard (see Appendix IV).

### Section 1 - SCOPE

23. The delegation of Australia, supported by some delegations, proposed the inclusion of manufacturing (bakers) honey in the standard, since, in its opinion, such honeys were wholesome products

even though they did not conform with the provisions for HMF and diastase activity. Furthermore, there was significant trade in such honeys. It was noted that the inclusion of such honeys would require a significant modification of the standard. The Committee decided not to include manufacturing honey in the standard.

Section 2.1 - Definition of Honey

24. The definition was modified to indicate that excretions of plant sucking insects on living parts of plants were also used by honeybees in the production of honey. Furthermore, a change was made to indicate that honey was left in the comb to ripen and mature.

Section 2.3.1.2 - Honeydew Honey

25. A similar change was made to this definition as in Section 2.1 above.

Section 2.3.3 - Styles

26. The Committee discussed the proposal whether to delete reference to honey being presented as a mixture of honey in liquid and crystalline state. It was agreed that the presence of crystals in liquid honey did not detract from its quality. No change was made in paragraph (a).

27. The Committee accepted the proposal of the EEC to indicate in paragraph (d) that crystallized or granulated honey resulted from a natural process, in order to prevent the addition of foreign sugars for this purpose.

28. On the suggestion of the delegations of Mexico and France the Committee amended paragraph (e) to indicate that fine crystalline structure may result from either a physical process or may be a natural property of the honey. Whipping was not considered to be an appropriate physical process. The designation "whipped" was replaced by "creamy".

Section 3 - Essential Composition and Quality Factors

29. The delegations of Japan and Australia were of the opinion that it would be useful to include in the standard a colour classification according to the Pfund Scale, since several methods of colour classification of honey existed in trade. The Committee decided not to include such a classification.

Section 3.1

30. On the proposal of the EEC, supported by other delegations, the Committee decided to include a requirement that the honey shall not have begun to ferment or effervesce. The text as proposed in the EEC comments was adopted.

Section 3.2

31. The Delegations of France and The Netherlands proposed that reference to heating should be changed by a reference to temperature rise in order to include temperature effects during storage. The Committee decided to rediscuss Section 3.2 when discussing the Sections dealing with diastase and HMF (see para 40)

Section 3.3 - Apparent Reducing Sugar Content

32. It was agreed that paragraphs (b) to (f) should be combined since the same minimum percent of apparent reducing sugar content applied. In paragraph (a) of this section blossom honey was replaced by the words "honeys not listed below".

Section 3.4 - Moisture Content

33. The Committee considered a proposal of the EEC that clover honey should be subject to a limit for moisture content of not more than 23 percent. The opinion was expressed that, before such a change should be made, information should be made available to the Committee in support of the proposal. Noting that the moisture limit proposed by the EEC was based on regulations existing in some countries in Europe, the Committee decided that a limit of 23 percent should apply to clover honey. The delegation of Canada objected strongly to the limit of 23% for clover honey.

34. Several delegations were of the opinion that a moisture content not exceeding 20 percent should apply generally with the exception of clover and heather honeys. Other delegations were of the opinion that the present limit of 21 percent was more appropriate. Noting that the standard now required that honey should not have begun to ferment or effervesce, the Committee decided to leave the moisture content provision at 21 percent. The delegations of Canada and Switzerland reserved their position on the limit of 21 percent since, in their opinion, a limit of 20 percent was more appropriate.

Section 3.5 - Apparent Sucrose Content

35. The delegation of Australia was of the opinion that paragraph 3.5(c) was discriminatory since it required the varieties of honey listed in that paragraph to be labelled with an appropriate designation indicating the origin of the honey as well as with the words "apparent sucrose content not more than 15 percent." The Committee recalled that these labelling requirements represented a compromise solution to allow certain honeys to have a higher apparent sucrose content. Since Section 6.1.5 was closely related to Section 3.5(c) the Committee decided to discuss them together.

36. The point was made that, without a declaration of the nature of the honey, it would be impossible to know which of the analytical criteria included in Sections 3.3, 3.4 and 3.5 to apply. The Committee agreed to change Section 6.1.5 to require that honey complying with Sections 3.3(b) and (c), 3.4(b) and 3.5(b)(c) be

adequately identified on the label using the botanical or common name of the floral source or sources. As a consequence, the words "when labelled as such" were deleted from Section 3.5(c) (see also para 48).

37. The Delegations of France and The Netherlands were not in agreement with the provisions of Section 3.5(c) since a maximum apparent sucrose content of 10 percent was considered to be more appropriate.

Section 3.6 - Water-Insoluble Solids Content

38. The delegation of Australia was of the opinion that this provision would be difficult to apply since one could not distinguish between pressed honey and extracted honey with reference to the finished product. For this reason a limit of 0.5 percent for honeys other than comb or chunk honeys should be established. As the Australian proposal did not receive support the Committee decided to leave the text unchanged.

Section 3.7 - Mineral Content (Ash)

39. Several delegations were of the opinion that a general limit of 1 percent was too high for certain types of honey. The Committee adopted the proposal of the Federal Republic of Germany to reduce the general limit to 0.6 percent, except for honeydew honey and blends of honeydew honey and blossom honey, for which a limit of 1 percent would remain. The delegation of Japan was in favour of 0.4 percent limit for all honeys.

Section 3.9 - Diastase Activity and 3.10 - HMF Content

40. Several delegations were of the opinion that diastase activity and HMF content were not appropriate to describe the quality of honey since no evidence existed that the organoleptic properties of honey were related to these criteria. Furthermore, the Committee was informed that honeys traded internationally frequently had diastase content and HMF content which did not comply with the requirements of the European standard for honey. This was due to the effects of storage during transport and distribution of the product as well as to the natural property of the honey. In view of the above, there was a possibility that strict provisions for HMF value and diastase activity would represent a technical barrier to trade. As International Codex standards were meant to remove such technical barriers while protecting the consumer, all efforts should be made in order to ensure that the Codex standard for honey would be an acceptable compromise to all concerned. The delegations which held the above views were of the opinion that either Section 3.9 or 3.10 should be left unchanged or that they be deleted from the standard.

41. The delegation of Switzerland was of the opinion that it was not the objective of Codex to accept al honeys whatever their quality. A study of honeys in that country revealed that HMF content of 40 mg/kg and diastase activity of 8 would be appropriate. The delegation

of the Federal Republic of Germany informed the Committee that the results of analysis of up to 100,000 samples of honey revealed a rate of non-compliance of only approximately 5 percent. In the opinion of that delegation this non-compliance was due not to climatic effects but to bad storage and handling practices. Several delegations supported these views and were of the opinion that HMF content and diastase activity were valid indicators of the quality of honey. These delegations considered that countries producing honey would be well advised to improve the quality of honey in order to secure markets for their products.

42. The Committee realized that, in view of the diverging opinions, it could either adopt a compromise solution such as represented by Sections 3.9 and 3.10 in the present draft or to delete any reference to HMF content and diastase activity in the standard. It opted for the compromise solution and decided to remove the square brackets in the draft standard. It also agreed to delete reference to the Gothe Scale in Section 3.9 since the precise determination of diastase activity and the units to be used was given in the section on methods of analysis. It was decided to leave Section 3.2 unaltered.

43. The delegations of the Federal Republic of Germany, France, The Netherlands, Japan and Switzerland entered reservations concerning the above decision of the Committee. The delegation of The Netherlands also stated that it had been requested to enter a reservation on behalf of several EEC Member Countries.

Section 5 - Hygiene

44. The delegation of the Federal Republic of Germany was of the opinion that honey should be practically free from mould at all stages in the distribution chain and not only when the product was offered for sale in retail trade as required in Section 5.2.

45. On the recommendation of the Delegation of the Federal Republic of Germany the Committee agreed to require in Section 5.3 that honey shall not contain any toxic substances arising from plants, which may constitute a hazard to health.

Section 6 - Labelling

46. Subject to such editorial changes as might be necessary following consideration of the report of the Working Group referred to in paragraph 7 of this report, the Committee decided as follows:

Section 6.1 - Name of the Food

47. The Committee made no changes in Sections 6.1.1, 6.1.2 and 6.1.3.

48. Concerning Section 6.1.4, it was agreed that the reference to the "organoleptic, physico-chemical and microscopic properties corresponding with the origin" meant not just one of these properties but all of them.

49. Following the Committee's decision to delete the specific labelling requirement in Section 3.5(c) on the grounds that it was discriminatory and having noted that the way that particular labelling requirement had been drafted (i.e., "when labelled as such") would require the honey to be labelled with both the common and scientific names, which was neither general international practice nor of particular use to consumers, the Committee agreed to amend 6.1.5 in the way indicated in the revised version of the standard (see also paragraph 35).

Section 6.2 - Net Contents and 6.3 - Name and Address

50. The Committee made no changes in these Sections.

Section 6.4 - Country of Origin

51. The Committee noted the comments of Argentina that in Argentina the declaration of the country of origin was mandatory.

52. The attention of the Committee was drawn to the provision in the standards for processed fruits and vegetables relating to the declaration of country of origin when the product undergoes processing in a second country. The Committee agreed that this provision was not applicable to honey.

Section 6.5 - Date Marking and Storage Instructions

53. After a very full discussion, the Committee decided that there was no need for a date marking provision in the case of honey. The justification for this decision was that the product was shelf stable and that it would be extremely difficult to determine a minimum durability date for this product as so much depended on storage conditions.

54. The delegation of the Cote d'Ivoire and Japan reserved their position concerning the above decision from a consumer point of view.

55. The delegation of Thailand wished to have it recorded that in Thailand the date of manufacture was required.

Section 6.6 - Lot Identification

56. The Committee made no substantive change in Section 6.6.

Section 6.7 - Non-Retail (Bulk) Containers

57. It was agreed that the Working Group referred to in paragraph 7 should look into this matter and report back to the Committee (see paragraph 18, Appendix VII to this Report).

Section 7 - Methods of Analysis and Sampling

58. The Committee noted that it would be necessary to indicate whether the methods of analysis included in this section were "defining" or "reference" methods. It requested the Secretariat to deal with this matter with the assistance of the delegation of France and others conversant with methods of analysis for honey. The Committee also noted that several written comments had been received on the Section on Methods of Analysis but agreed that these comments could not be discussed in detail at the present session. The Secretariat was requested to refer the comments to the Codex Committee on Methods of Analysis and Sampling.

59. The delegation of The Netherlands was of the opinion that some of the reagents used in the determination of HMF content were too dangerous to work with and expressed a preference for the method of White (JAOAC 62, No. 2, p. 509-514, 1979). The delegation was also of the opinion that, since the standard referred to the botanical origin of a number of honeys, the methods of analysis should be completed by the inclusion of an appropriate microscopical method.

Status of the Draft International Standard for Honey

60. The Committee decided to advance the above draft standard to step 8 of the Codex Procedure. The delegation of Switzerland reserved its position on this decision. The delegation of The Netherlands indicated that the joint position of the EEC meant that the EEC had to reserve its position on this matter.

CONSIDERATION OF THE DRAFT STANDARD FOR CANNED MANGOES

61. The Committee considered the above draft standard (document CX/PFV 86/4, Appendix I) in the light of government comments. The Committee discussed the standard and agreed to the changes referred to in the following paragraphs and given in the revised version of the standard (see Appendix V).

Section 1.1 - Product Definition

62. The Committee thought that the word "sound" was a more appropriate word in English than "wholesome" and made this change in the product definition. It was noted that the term "sain" in French would remain unaltered.

63. The Committee confirmed that the standard also covered mature green mangoes, the important consideration being that the mangoes be mature, irrespective of their colour.

Section 1.3 - Styles

64. On the proposal of the delegation of the Philippines, the Committee agreed to amend the texts of the provisions for "Halves" and "Slices" and to introduce a new style "Diced".

Sub-Section 2.1 - Packing Media

65. It was agreed that footnote 1/ to 2.1.1(d) Fruit Nectar, which contained a definition of mango nectar, would need to be brought into line with the most recent definition of mango nectar developed by the UNECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices. It was also agreed that this section would have to be editorially rearranged to be in conformity with the labelling format for packing media appearing in the most recently adopted standards for processed fruits.

Sub-Section 2.1.2 - Classification of Packing Media When Sugars are Added

66. It was agreed that this section should be brought into line with the new format. The following Brix figures were agreed upon:

| | | |
|---|---|---|
| Extra Light Syrup | - | Not less than 10% Brix but less than 14% |
| Light Syrup | - | Not less than 14% Brix but less than 18% |
| Heavy Syrup | - | Not less than 18% Brix but less than 24% |
| Extra Heavy Syrup | - | Not less than 24% but not more than 35% |

Sub-Section 2.3.6 - Definition of Defects

67. It was agreed that 2.3.6(b) "crushing and breakage" should read "crushed or mashed". The definition was amended to make it clear that crushed and mashed products were considered a defect, but not solely in halved canned mango in liquid pack media.

Sub-Section 2.3.7 - Allowances for Defects

68. It was agreed that the defect "broken (slices)" should be replaced by "crushed or mashed". It was also agreed that the limitation of 5% by count should be changed to 5% by weight, which was more in accord with normal practice.

Section 3 - Food Additives

69. It was agreed that there was no need for the use of flavours in this product and section 3.1 was, therefore, deleted.

70. It was agreed to provide for the use of beta-carotene at the maximum level in the final product of 100 mg/kg. As beta-carotene is not a natural colour, the word "natural" was deleted from the title of this sub-section.

71. It was agreed that there was no need to provide for the use of malic acid and fumaric acid and these two additivies were deleted from this section. Concerning ascorbic acid, it was agreed that its use in this product was as an anti-oxidant and, therefore, this additive should be classified accordingly in the standard and not as an acidifying agent. A maximum level of 200 mg/kg for ascorbic acid was agreed upon. It was agreed that citric acid was properly listed

as an acidifying agent. It was also agreed that it would be difficult to fix a figure for maximum level in the final product, because it is used for the purpose of correcting acidity.

Section 4 - Contaminants

72. The delegation of the Federal Republic of Germany and The Netherlands indicated that they were not in agreement with the maximum limits for lead and tin provided for in the standard. The delegation of the Federal Republic of Germany suggested maximum limits of 0.4 mg/kg for lead and 100 mg/kg for tin. The delegation of The Netherlands suggested 0.5 mg/kg for lead and 150 mg/kg for tin. The Committee took note of these two proposals, but did not change the existing provisions.

Section 6.2 Minimum Drained Weight

73. It was agreed that the figure of 50% should be changed to 55% as being closer to reality in terms of the product moving in international trade.

Section 7 - Labelling

74. The Committee agreed that it would be necessary to provide in the labelling section for the new style "Diced" which had been introduced into the standard. In addition, the labelling section would need to be editorially brought into line with the labelling format agreed upon at the last session of the Committee and adopted by the Commission at its 16th Session. Also, the recommendation of the Working Group referred to in paragraph 7 would need to be taken into account.

75. The delegation of Canada stated that in Canada the net contents of canned fruits had to be declared by volume.

Status of the Draft Standard for Canned Mangoes

76. The Committee agreed to advance the draft standard for Canned Mangoes to Step 8 of the Procedure.

CONSIDERATION OF THE DRAFT STANDARD FOR MANGO CHUTNEY

77. The Committee considered the above draft standard (document CX/PFV 86/5) in the light of Government comments. The Committee discussed the standard and agreed to the changes referred to in the following paragraphs and given in the revised version of the standard (See Appendix VI).

Section 1.1 - Product Definition

78. The delegation of Canada offered a revised product definition to take into account the various methods of reducing the size of the

ingoing fruit and the various basic ingredients appropriate to the product. The Committee adopted the revised version proposed by Canada and also made a correction to the Latin name of mangoes.

Section 2.1 - Minimum Content of Fruit Ingredients

79. Following discussion, the Committee agreed that the minimum percentage requirement for fruit ingredients referred only to mangoes.

Section 2.2 - Basic Ingredients

80. The Committee revised this section taking into account the various basic ingredients which may be used in the preparation of mango chutney.

Sections 2.4.1 - Colour and 2.4.2 - Flavour

81. The delegation of the Cote d'Ivoire was of the opinion that the variability of the composition of mango chutney made it difficult to require that the product have normal colour or characteristic flavour. The Committee noted that the purpose of this general requirement was to ensure that the product would not have objectionable colour or flavour due to contaminating materials or due to spoilage and would also reflect the characterizing ingredients.

Section 2.4.3 - Consistency

82. The Committee noted that it would be impossible to require the product to have a consistency defined more precisely than in general terms.

Section 2.4.5 - Defects

83. The Committee agreed with the recommendation of the delegation of the United Kingdom that reference to the product being defective was not appropriate without a definition of what defective meant. The Section was redrafted accordingly.

Section 3 - Food Additives

Section 3.1 - Acidifying Agents

84. A number of delegations questioned whether the use of citric and acetic acids was justified in view of the fact that vinegar was already a basic ingredient. It was noted that the use of these acids was not only for acidification but also for flavour development and were used instead of vinegar for economic reasons.

85. The delegation of the USA recommended that where the product had been pasteurized, the addition of acids should be required to maintain the pH not above 4.6 in order to prevent the outgrowth of Clostridium botulinum under anaerobic conditions. The Committee adopted the text proposed by the US delegation. The delegations of

Canada and France reserved their position regarding the use of acetic acid. The delegation of Switzerland reserved its position regarding the use of acids.

Section 3.2 - Preservatives

86. The Committee noted the reservations of the delegations of France, the Federal Republic of Germany and Canada concerning the list of preservatives. These reservations related mainly to the number of preservatives provided for and the presentation of the list, not to the need for preservatives to prevent spoilage following the opening of the container.

Section 4 - Contaminants

87. The delegation of the Federal Republic of Germany reserved its position concerning the maximum limits for lead and tin provided for in the standard. The delegation suggested maximum limits of 0.4 mg/kg for lead and 100 mg/kg for tin.

Section 6 - Labelling

88. The Committee decided to await the report of the Working Group on labelling which had been set up at the beginning of the session (see also paragraph 7 and 101).

Section 7 - Methods of Analysis and Sampling

89. The delegation of France referred to sub-section 7.4 "Determination of Ash (Type I Method)" and suggested that reference be made in this sub-section to an appropriate ISO method - Number 763-1982, Fruit and Vegetable Products - determination of ash-insoluble in hydrochloric acid. The Secretariat indicated that this would be done and that reference would also be made to other equivalent methods. The methods would be referred to the Codex Committee on Methods of Analysis and Sampling for endorsement.

Status of the Draft Standard for Mango Chutney

90. The Committee decided to advance the draft Standard for Chutney to Step 8 of the Procedure.

PROPOSED AMENDMENT OF THE CODEX STANDARD FOR CANNED PINEAPPLE

91. The Committee had before it proposed amendments to the Codex standard for Canned Pineapple put forward by Thailand in Document CX/PFV 86/6. The delegation of Thailand indicated that it wished to proceed with only one of the amendments, namely that relating to the allowance in sub-section 2.2.4 for "core material". The delegation of Thailand explained that even though Thailand had been able to be in conformity with the provision for drained weight and the limit for core material in the Codex standard it suffered heavy losses every

year in terms of productivity; the reason being that there were varieties of pineapple grown in Thailand which had core material which was soft and edible and of conical form. Using present coring methods, it was difficult for Thailand to be in conformity with both provisions of the Codex standard without losses. Thailand had proposed, therefore, in its comments that the specification regarding content of core material be deleted from the standard. However, in presenting this problem (i.e., the maximum limit of 7 percent for "core material") the delegation of Thailand suggested that possibly a footnote explaining what is meant by core material would helpt to resolve the problem.

92. The delegation of the USA stated that, on the basis of figures concerning international trade in Thai canned pineapple, Thailand did appear to be able to produce canned pineapple in conformity with the Codex standard. The delegation stated that core material is objectionable to consumers and that most producing countries appear to find the Codex standard satisfactory. The delegation of the USA saw no reason, therefore, to change the standard. The delegation of France was in agreement with the point of view of the USA.

93. The point was made that an agreed definition of "core material" would be very desirable from an enforcement point of view. Following further discussions and comment by the delegation of the Cote d'Ivoire, broad agreement emerged in favour of a definition of "core material" which could be included as an explanatory footnote in sub-section 2.2.4 of the standard.

94. The Committee agreed that the footnote should define "core material" as "the hard fibrous centre portion of the fruit".

95. The Committee viewed the proposed footnote as an explanatory note rather than a substantive amendment which would help to clarify the meaning of sub-section 2.2.4 of the standard and would also facilitate enforcement. The Committee requested the Commission to adopt the proposed footnote.

## CONSIDERATION AT STEP 7 OF THE DRAFT INTERNATIONAL CODEX STANDARD FOR CASHEW KERNELS

96. The Committee had before it a draft international Codex standard for Cashew Kernels (ALINORM 85/20 - Add.1) for consideration in the light of government comments, almost all of which were from the USA which is a significant importer of this product. The first draft of the text had been drawn up by Kenya, an important producer of cashew nuts and put into the Codex format by the Secretariat.

97. The delegation of Switzerland enquired whether the United Nations Economic Commission for Europe (UNECE) was elaborating a European standard for this product. The Secretariat indicated that, as far as it was aware, the UNECE was not working on a standard for

cashew kernels. The Committee was informed by the delegation of Canada that the International Organization for Standardization (ISO) was developing specifications for this commodity. The delegation of France suggested that, if it were decided that the draft standard could not be finalized at the present session of the Committee in the absence of the major producing countries, then perhaps ISO would be able to continue the task and to make a standard available for consideration within the Codex system in due course.

98. The Committee decided to attempt a detailed discussion of the draft standard for cashew kernels in the light of the comments received. However, it soon became apparent that expertise in the production of cashew kernels was not available during the session, in the absence of representation from the major producing countries. Under the circumstances, it was recognized that it would be impossible to reconcile any conflicting views concerning the technical description of this product. For this reason, any revised standard developed by the Committee would, in all likelihood, not be suitable for adoption by the Commission as an international Codex Standard.

99. The delegation of the Cote d'Ivoire suggested that, as several countries in Africa produced cashew kernels, the conclusions of this Committee should be brought to the attention of the Coordinating Committee for Africa. The Committee agreed with this suggestion.

100. The Committee agreed that the Commission be informed of its decision to abandon consideration of the proposed draft standard for cashew kernels contained in ALINORM 85/20-Add.1 because of the situation outlined in the above paragraphs. It recommended that the proposed draft standard, together with all available comments and redrafts prepared during the Session, as well as any additional comments to be supplied by the USA be referred to the ISO or to another appropriate body for review. At a future stage, the question of standardization by Codex of cashew kernels could be reconsidered.

## REVIEW OF THE PROVISIONS FOR LABELLING IN CODEX STANDARDS

101. The Committee had before it a report of the Ad Hoc Working Group on Labelling set up during the session (paragraph 7), document CX/PFV 86/7 and a Conference Room Document containing three redrafted sections on labelling prepared by the Secretariat. The report of the Working Group was introduced by its Chairman, Dr. Johnston (USA) and Mrs. Dix (FAO).

102. The Committee had detailed discussions on the report of the Working Group. It adopted the report of the Working Group given in Appendix VII to this Report. The following represents a summary of the discussions and comments made by delegations.

The Name of the Food

103. The delegation of France was of the opinion that labelling provisions relating to the name of the food should not be a matter for choice by the manufacturer but should take into account existing regulations of the importing country. The Committee agreed with the recommendations of the Working Group that certain optional descriptive terms included in the various standards need not be made mandatory. However, the Committee also agreed that the text would be clearer if it deleted reference to choice by the manufacturer in paragraph 8 of the Report of the Working Group and simply used the term 'optional'.

Drained Weight

104. The Committee had detailed discussions on this matter. In the discussions, the Committee distinguished between the question of declaring drained weight on the label as a matter of consumer information and the question of providing for a minimum drained weight as a matter of quality description. The Committee also discussed ways of checking compliance with both the above provisions relating to drained weight.

105. The Chairman of the Working Group informed the Committee that the Working Group had not been able to make recommendations concerning the need for a label declaration of drained weight. The Working Group had agreed, however, that it would be practically impossible, for various technological reasons as stated in paragraph 12 of the report of the Working Group to make such a declaration. The delegation of the United Kingdom was not in agreement with this conclusion since, in its opinion, it was possible to declare drained weight, although this was accompanied by certain difficulties. The delegation of Switzerland was of a similar opinion and indicated that a declaration of drained weight was necessary in order to inform the consumer. The delegations of Mexico and Norway supported the views of Switzerland. The delegation of France indicated that this mention was made obligatory by its regulation on labelling originating from the EEC.

106. The delegation of the USA informed the Committee that there was much information to show that drained weight declaration was not feasible since drained weight depended on too many variables and that fill of container was more appropriate. With certain products, such as mushrooms, a drained weight requirement could lead to overpacking which in turn could lead to underprocessing with possible public health consequences. The delegation of Canada supported the views expressed by the USA.

107. The Committee also discussed the basis for accepting a consignment as complying with declared drained weight on the label. It noted that net contents were judged on the basis of the average net weight of the samples and that the minimum drained weight provision included in the various Codex standards was also based on average.

The Committee, therefore, agreed that declared drained weight should be checked for compliance on the basis of the average of the samples. It was noted that appropriate sampling plans would have to be developed for both net contents and drained weight. It was noted that footnote 1/ in Section 4.3.1 of the General Standard for the Labelling of Prepackaged Foods only applied to net contents.

108. The question was raised as to how drained weight should be declared on the label. It was noted that Section 4.3.3 did not specify how the drained weight should be declared. However, it could be assumed that drained weight would be declared using the same units of measurement as those used for net contents. The delegation of Australia suggested that declaration of drained weight should be based on the particular provisions on drained weight included in the Standards.

109. The Committee agreed that drained weight should be declared on the label of processed fruits and vegetables, where appropriate. It requested the Codex Committee on Food Labelling to clarify footnote 1/ referred to in paragraph 107 above, i.e., whether it applied also to drained weight. In this respect, it wished to bring to the attention of that Committee that, in its view, drained weight should be subject to compliance on the basis of the average.

## OTHER BUSINESS

110. Following a brief discussion, the Committee agreed that it had completed its work assignment and that it should adjourn sine die. The Chairman of the Committee indicated that the US authorities would be in agreement with this conclusion.

111. The Committee also agreed that it would be necessary to reconvene at some future date to review the standards and other texts elaborated by the Committee in an attempt to bring them up to date, in the light of technological developments and changes in marketing practices. It would also be necessary to reconsider them in the light of the recommendations of the Commission that Codex standards be periodically examined in order to see whether they could be simplified.

## VALEDICTION

112. The Committee expressed its appreciation to the Government of the United States for the excellent hosting facilities over the years and to all the staff provided by the USA in enabling the Committee to carry out its work. It also expressed its appreciation to Mr. G. Parlet, for his able chairmanship during the present session.

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ALINORM 87/20
APPENDIX I

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APPENDIX II

## LIST OF CODEX STANDARDS FOR PROCESSED FRUITS AND VEGETABLES

### PROCESSED FRUITS AND VEGETABLES

| | |
|---|---|
| Canned Tomatoes | CODEX STAN. 13-1981 |
| Canned Peaches | CODEX STAN. 14-1981 |
| Canned Grapefruit | CODEX STAN. 15-1981 |
| Canned Green Beans and Wax Beans | CODEX STAN. 16-1981 |
| Canned Applesauce | CODEX STAN. 17-1981 |
| Canned Sweet Corn | CODEX STAN. 18-1981 |
| General Standard for Edible Fungi and Fungus Products | CODEX STAN. 38-1981 |
| Dried Edible Fungi | CODEX STAN. 39-1981 |
| Fresh Fungus "Chanterelle" | CODEX STAN. 40-1981 |
| Canned Pineapple | CODEX STAN. 42-1981 |
| Canned Mushrooms | CODEX STAN. 55-1981 |
| Canned Asparagus | CODEX STAN. 56-1981 |
| Processed Tomato Concentrates | CODEX STAN. 57-1981 |
| Canned Green Peas | CODEX STAN. 58-1981 |
| Canned Plums | CODEX STAN. 59-1981 |
| Canned Raspberries | CODEX STAN. 60-1981 |
| Canned Pears | CODEX STAN. 61-1981 |
| Canned Strawberries | CODEX STAN. 62-1981 |
| Table Olives | CODEX STAN. 66-1981 |
| Raisins | CODEX STAN. 67-1981 |
| Canned Mandarin Oranges | CODEX STAN. 68-1981 |
| Canned Fruit Cocktail | CODEX STAN. 78-1981 |
| Jams (Fruit Preserves) and Jellies | CODEX STAN. 79-1981 |
| Citrus Marmalade | CODEX STAN. 80-1981 |
| Canned Mature Processed Peas | CODEX STAN. 81-1981 |
| Canned Tropical Fruit Salad | CODEX STAN. 99-1981 |
| Pickled Cucumbers | CODEX STAN. 115-1981 |
| Canned Carrots | CODEX STAN. 116-1981 |
| Canned Apricots | CODEX STAN. 129-1981 |
| Dried Apricots | CODEX STAN. 130-1981 |
| Unshelled Pistachio Nuts | CODEX STAN. 131-1981 |
| Dates | CODEX STAN. 146-1985 |
| Canned Palmito | CODEX STAN. 147-1985 |
| Chestnut and Chestnut puree | CODEX STAN. 148-1985 |
| Honey (Step 8) | APPENDIX IV |
| Mango Chutney (Step 8) | APPENDIX V |
| Canned Mangoes (Step 8) | APPENDIX VI |

## LIST OF RECOMMENDED CODES OF HYGIENIC AND/OR TECHNOLOGICAL PRACTICE

| | | |
|---|---|---|
| CAC/RCP | 2-1969 | - Code of Hygienic Practice for Canned Fruit and Vegetable Products |
| CAC/RCP | 3-1969 | - Code of Hygienic Practice for Dried Fruits |
| CAC/RCP | 4/5-1971 | - Code of Hygienic Practice for Desiccated Coconut and Dehydrated Fruits and Vegetables including Edible Fungi |

## METHODS OF ANALYSIS AND SAMPLING

| Subject | Reference No. |
|---|---|
| Determination of Drained Weight | |
| - Method I | - CAC/RM 36-1970. |
| - Method II | - CAC/RM 37-1970. |
| Determination of Calcium in Canned Vegetables | - CAC/RM 38-1970. |
| Tough String Test | - CAC/RM 39-1970. |
| Determination of Washed Drained Weight | - CAC/RM 44-1972. |
| Determination of Proper Fill in Lieu of Drained Weight | - CAC/RM 45-1972. |
| Determination of Water Capacity of Containers | - CAC/RM 46-1972. |
| Determination of Alcohol Insoluble Solids | - CAC/RM 47-1972. |
| Method for Distinguishing Type of Peas | - CAC/RM 48-1972. |
| Determination of Mineral Impurities | - CAC/RM 49-1972. |
| Determination of Moisture in Raisins | - CAC/RM 50-1974. |
| Determination of Mineral Impurities in Raisins | - CAC/RM 51-1974. |
| Determination of Mineral Oil in Raisins | - CAC/RM 52-1974. |
| Determination of Sorbitol in Raisins and Other Foods | - CAC/RM 53-1974. |

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APPENDIX III

## TECHNOLOGICAL JUSTIFICATION FOR THE USE OF $SO_2$ (SULPHUR DIOXIDE) TO MAINTAIN THE COLOUR OF BLEACHED, GOLDEN OR GOLDEN BLEACHED RAISINS AT A LEVEL OF 1500 MG/KG AT THE TIME OF TREATMENT

1. Golden raisins cannot be produced without $SO_2$ to maintain colour.

2. There is no substitute for $SO_2$ for this purpose.

3. The use of $SO_2$ in treating golden raisins is without question a widely accepted good commercial practice.

4. The 1500 mg/kg level is the minimum level required and having already been reduced from 2500 mg/kg at previous sessions cannot be reduced further.

5. The residue of $SO_2$ rapidly decreases after treatment therefore the level at retail is much lower depending on time since treatment, and storage and handling conditions.

6. The annual worldwide per capita consumption of all raisins is less than one(1) pound. Golden raisins comprise less than 20 percent of total raisin production thereby indicating the annual per capita consumption of goldens is less than 100 grams.

7. A large percentage of the very small per capita consumption is consumed in bakery goods, the processing and cooking of which further reduces the small residues that still exist.

8. The contribution to the total $SO_2$ load from the minimal levels in the small amount of raisins consumed is an insignificant part of the ADI.

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APPENDIX IV

# DRAFT INTERNATIONAL STANDARD FOR HONEY
(Advanced to Step 8 of the Procedure)

## 1. SCOPE

1.1 This standard applies to all honeys produced by honey bees and covers all styles of honey presentation which are offered for direct consumption.

1.2 The standard also covers honey which is packed in non-retail (bulk) containers and is intended for re-packing into retail packs.

## 2. DESCRIPTION

### 2.1 Definition of Honey

Honey is the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants, which honey bees collect, transform and combine with specific substances of their own, store and leave in the honey comb to ripen and mature.

### 2.2 Description

Honey consists essentially of different sugars, predominantly glucose and fructose. The colour of honey varies from nearly colourless to dark brown. The consistency can be fluid, viscous or partly to entirely crystallized. The flavour and aroma vary, but usually derive from the plant origin.

### 2.3 Subsidiary Definitions and Designations

#### 2.3.1 Origin

2.3.1.1. Blossom Honey or Nectar Honey is the honey which comes from nectaries of flowers.

2.3.1.2 Honeydew Honey is the honey which comes mainly from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants. Its colour varies from very light brown or greenish to dark brown.

#### 2.3.2 Methods of Processing

2.3.2.1 Extracted Honey is honey obtained by centrifuging decapped broodless combs.

2.3.2.2 Pressed Honey is honey obtained by pressing broodless combs with or without the application of moderate heat.

2.3.2.3 Drained Honey is honey obtained by draining decapped broodless combs.

2.3.3 Styles - Honey which meets all the compositional and quality criteria of Section 3 of this standard may be presented as follows:

(a) Honey which is honey in liquid or crystalline state or a mixture of the two;

(b) Comb Honey which is honey stored by bees in the cells of freshly built broodless combs and which is sold in sealed whole combs or sections of such combs;

(c) Chunk Honey which is honey containing one or more pieces of comb honey;

(d) Crystallized or Granulated Honey which is honey that has undergone a natural process of solidification as a result of glucose crystallization;

(e) Creamed (or creamy or set) Honey is honey which has a fine crystalline structure and which may have undergone a physical process to give it that structure and to make it easy to spread.

3. Essential Composition and Quality Factors

3.1 Honey shall not have any objectionable flavour, aroma, or taint absorbed from foreign matter during its processing and storage. The honey shall not have begun to ferment or effervesce.

3.2 Honey shall not be heated to such an extent that its essential composition and quality is impaired.

3.3 Apparent reducing sugar content, calculated as invert sugar:

| | | |
|---|---|---|
| (a) | Honeys not listed below | - not less than 65 percent |
| (b) | Honeydew honey | - not less than 60 percent |
| (c) | Blackboy (Xanthorrhea preissi) | - not less than 53 percent |

3.4 Moisture Content

| | | |
|---|---|---|
| (a) | Honeys not listed below | - not more than 21 percent |
| (b) | Heather honey (Calluna) | - not more than 23 percent |
| (c) | Clover honey (Trifolium) | - not more than 23 percent |

3.5 Apparent Sucrose Content

| | | |
|---|---|---|
| (a) | Honeys not listed below | - not more than 5 percent |
| (b) | Honeydew honey, blends of honeydew honey and blossom honey, Robinia, Lavender, Citrus, Alfalfa, Sweet-Clover, Red Gum (Eucalyptus camaldulensis), Acacia, Leatherwood (Eucryphia Lucinda), Menzies Banksia (Banksia menziesii) | - not more than 10 percent |
| (c) | Red Bell (Calothamnus sanguineus), White stringy-bark (Eucalyptus scabra), Grand Banksia (Banksia grandis), Blackboy (Xanthorrhoea preissii) | - not more than 15 percent |

3.6 Water Insoluble solids Content:

| | | |
|---|---|---|
| (a) | For honeys other than pressed honey | - not more than 0.1 percent |
| (b) | Pressed honey | - not more than 0.5 percent |

3.7 Mineral Content (ash)

| | | |
|---|---|---|
| (a) | Honeys not listed below | - not more than 0.6 percent |
| (b) | Honeydew honey or a mixture of honeydew honey and blossom honey | - not more than 1.0 percent |

3.8 Acidity - not more than 40 milli-equivalents acid per 1000 grammes

3.9 Diastase Activity

Determined after processing and blending in accordance with Section 7.7 - not less than 3

3.10 Hydroxymethylfurfural Content - not more than 80 mg/kg

4. FOOD ADDITIVES

4.1 Non permitted

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969, Rev. 1).

5.2 Honey should be free from visible mould and as far as practicable, be free from inorganic or organic matters foreign to its composition, such as, insects, insect debris, brood or grains of sand, when the honey appears in retail trade or is used in any product for human consumption.

5.3 Honey shall not contain toxic substances arising from microorganisms or plants in an amount which may constitute a hazard to health.

6. LABELLING

In addition to Sections 2,3,7 and 8 of the General Standard for the Labelling of Prepackaged Foods (Codex STAN 1-1985) 1/ the following specific provisions apply:

6.1 The Name of the Food

6.1.1 Subject to the provisions of 6.1.4 products conforming to the standard shall be designated "honey".

6.1.2 No honey may be designated by any of the designations in section 2.3 unless it conforms to the appropriate description contained therein. The Styles in 2.3.3 (b), (c), (d) and (e) shall be declared.

6.1.3 Honey may be designated by the name of the geographical or topographical region if the honey was produced exclusively within the area referred to in the designation.

6.1.4 Honey may be designated according to floral or plant source if it comes wholly or mainly from that particular source and has the organolepetic, physicochemical and microscopic properties corresponding with that origin.

6.1.5 Honey complying with Sections 3.3(b) and (c), 3.4(b) and 3.5(b) and (c) shall have in close proximity to the word "honey" the common name or the botanical name of the floral source or sources.

6.2 Net Contents

The net contents shall be declared by weight in metric units ("Systeme Internationale"), in accordance with sections 4.3.1 and 4.3.2 of the general standard.

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1/ Hereafter referred to as "The General Standard".

6.3 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

6.4 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

6.5 Lot Identification

Lot identification shall be declared in accordance with Section 4.6 of the General Standard.

6.6 Instructions for Use

In accordance with Section 4.8 of the General Standard.

6.7 Exemptions from Mandatory Labelling Requirements

In accordance with Section 6 of the General Standard.

6.8 Labelling of Non-Retail Containers

In addition to Sections 2, 3 and 5.2 of the General Standard the following specific provision applies:

6.8.1 Information on labelling as specified in Sections 6.1 - 6.6 shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer shall appear on the container.

6.8.2 Lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

6.8.3 Outer containers holding prepackaged foods in small units (see Section 6 of the General Standard) shall be fully labelled.

7. METHODS OF ANALYSIS AND SAMPLING 1/

7.1 Determination of reducing sugar content (Defining Method)

7.1.1 Principle of method

The method is a modification of the Lane and Eynon (1923) procedure involving the reduction of Soxhlet's modification of Fehling's solution by titration at boiling point against a solution of reducing sugars in honey using methylene blue as an internal indicator.

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1/ Already endorsed by the Codex Committee on Methods of Analysis and Sampling. The methods 7.1 to 7.9 have been identified as "defining methods" or "reference methods" by the Secretariat.

The maximum accuracy for this type of determination is attained by ensuring that the reduction of the Fehling's solution during the standardization step and in the determination of the reducing sugars in the honey solution are carried out at constant volume. A preliminary titration is, therefore, essential to determine the volume of water to be added before the determinations are carried out to satisfy this requirement.

7.1.2 Reagents

7.1.2.1 Soxhlet's Modification of Fehling's Solution

Solution A: Dissolve 69.28g copper sulphate pentahydrate ($CuSo_4.5H_2O$; MW = 249.71) with distilled water to 1 litre. Keep one day before titration.

Solution B: Dissolve 346g sodium potassium tartrate ($C_4H_4K$ NA $O_6.4$ $H_2O$; MW = 282.23) and 100g sodium hydroxide (NaOH) with distilled water to 1 litre. Filter through prepared asbestos.

7.1.2.2 Standard Invert Sugar Solution (10g/1.aq.)

Weigh accurately 9.5g pure sucrose, add 5 ml hydrochloric acid (ca.36.5 percent w/w pure HCI) and dilute with water to about 100 ml, store this acidified solution for several days at room temerature (ca. 7 days at 12° to 15°C, or 3 days at 20° to 25°C), and then dilute to 1 litre. (N.B. Acidified 1.0 percent invert sugar remains stable for several months). Neutralize a suitable volume of this solution with 1N sodium hydroxide solution (40g/1) immediately before use and dilute to the required concentration (2g/1) for the standardization.

7.1.2.3 Methylene Blue Solution

Dissolve 2g in distilled water and dilute to 1 litre.

7.1.2.4 Alumina Cream

Prepare cold saturated solution of alum ($K_2SO_4Al_2(SO_4)_3.24H_2O$) in water. Add ammonium hydroxide with constant stirring until solution is alkaline to litmus, let precipitate settle and wash by decantation with water until wash-water gives only slight test for sulfate with barium chloride solution. Pour off excess water and store residual cream in stoppered bottle.

7.1.3 Sampling

7.1.3.1 Liquid or Strained Honey

If sample is free from granulation, mix thoroughly by stirring or shaking; if granulated, place closed container in water-bath without submerging,and heat 30 min. at 60o C; then if necessary heat at 65°C until until liquefied. Occasional shaking is essential. Mix thoroughly and cool rapidly as soon as sample liquefies. Do not heat honey intended for Hydroxymethylfurfural or diastatic determination. If foreign

matter, such as wax, sticks, bees, particles of comb, etc., is present, heat sample to 40°C in water-bath and strain through cheesecloth in hot-water-funnel before sampling.

7.1.3.2 Comb Honey

Cut across top of comb, if sealed, and separate completely from comb by straining through a sieve the meshes of which are made by so weaving wire as to form square opening of 0.500 mm by 0.500 mm.[1,2] When portions of comb or wax pass through sieve, heat sample as in 6.1.3.1 and strain through cheesecloth. If honey is granulated in comb, heat until wax is liquefied; stir, cool and remove wax.

7.1.4 Procedure

7.1.4.1 Preparation of Test Sample - First Procedure
(applicable to honeys which may contain sediment)

(a) Transfer an accurately weighed sample of approximately 25g ($W_1$) from the homogenized honey to 100 ml volumetric flask, add 5 ml alumina cream (6.1.2.4) dilute to volume with water at 20°C and filter.

(b) Dilute 10 ml of this solution to 500 ml with distilled water (diluted honey solution).

OR

7.1.4.2 Preparation of Test Sample - Second Procedure

(a) Weigh accurately a representative quantity of about 2g ($W_2$) of the homogeneous honey sample, dissolve in distilled water and dilute to 200 ml in a calibrated flask (honey solution).

(b) Dilute 50 ml of the honey solution to 100 ml using distilled water (diluted honey solution).

7.1.4.3 Standardization of the Modified Fehling's Solution

Standardize the modified Fehling's solution A so that exactly 5 ml (pipette), when mixed with approximately 5 ml of Fehling's solution B, will react completely with 0.050g invert sugar added as 25 ml dilute invert sugar solution(2g/l).

7.1.4.4 Preliminary Titration

The total volume of the added reactants at the completion of the reduction titration must be 35 ml. This is made up by the addition of a suitable volume of water before the titration commences. Since the compositional criteria of the honey standard specify that there should

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1 Ref. ISO Recommendation R 565

2 Such sieve could be replaced by U.S. sieve with No. 40 Standard screen (size of opening 0.420 mm)

be more than 60 percent reducing sugars (calculated as invert sugar) a preliminary titration is necessary to establish the volume of water to be added to a given sample to ensure the reduction is carried out at constant volume. This volume of water to be added is calculated by subtracting the volume of diluted honey solution consumed in the preliminary titration (x ml) from 25 ml.

Pipette 5 ml Fehling's solution A into a 250 ml Erlenmeyer flask and add approximately 5 ml Fehling's solution B. Add 7 ml distilled water, a little powdered pumice or other suitable antibumping agent, followed by about 15 ml diluted honey solution from a burette. Heat the cold mixture to boiling over a wire gauze, and maintain moderate ebullition for 2 min. Add 1 ml 0.2 percent aqueous methylene blue solution whilst still boiling and complete the titration within a total boiling time of 3 minutes, by repeated small additions of diluted honey solution until the indicator is decolourixed. It is the colour of the supernatant liquid that must be observed. Note the total volume of diluted honey solution used (x ml).

7.1.4.5 Determination

Calculate the amount of added water necessary to bring the total volume of the reactants at the completion of the titration to 35 ml by subtracting the preliminary titration (x ml) from 25 ml.

Pipette 5 ml Fehling's solution A into a 250 ml Erlenmeyer flask and add approximately 5 ml Fehling's solution B.

Add (25-x) ml distilled water, a little powdered pumice or other suitable anitbumping agent and, from a burette, all but 1.5 ml of the diluted honey solution volume determined in the preliminary titration. Heat the cold mixture to boiling over a wire gauze and maintain moderate ebullition for 2 min. Add 1.0 ml 0.2 percent methylene blue solution whilst still boiling and complete the titration within a total boiling time of 3 min. by repeated small additions of diluted honey solution until the indicator is decolourized. Note the total volume of diluted honey solution (y ml). Duplicate titrations should agree within 0.1 ml.

7.1.5 Calculation and Expression of Results

Where the First Procedure (6.1.4.1) has been used:

$$\underline{C} = \frac{25}{\underline{W}_1} \times \frac{1000}{\underline{Y}_1}$$

Where the Second Procedure (6.1.4.2) has been used:

$$\underline{C} = \frac{2}{\underline{W}_2} \times \frac{1000}{\underline{Y}_2}$$

Where $\underline{C}$ = g invert sugar per 100g honey

$\underline{W}_1$ = weight (g) of honey sample taken according to sub-section 6.1.4.1

$W_2$ = weight (g) of honey sample taken according to sub-section 6.1.4.2
$Y_1$ = volume (ml) of diluted honey solution consumed in the determination carried out according to the First Procedure (6.1.4.1)
$Y_2$ = volume (ml) of diluted honey solution consumed in the determination carried out according to the Second Procedure (6.1.4.2)

7.1.6 Notes on the Procedure

It is essential to the accuracy and repeatability of the determination that the volume of water necessary to bring the reactant mixture to a total volume of 35 ml be determined for each individual sample; the following table gives typical volumes which may be encountered at the preliminary titration stage for the incremental contents of invert sugar shown, assuming the test sample (6.1.4.1) weighs about 25g or test sample (6.1.4.2) weighs about 2g.

| Invert Sugar Content % | Volume of Distilled Water to be Added ml |
|---|---|
| 60 | 8.3 |
| 65 | 9.6 |
| 70 | 10.7 |
| 75 | 11.6 |

7.2 Determination of Apparent Sucrose Content (Defining Method)

7.2.1 Principle of the Method

Based on the Walker (1917) inversion method.

7.2.2 Reagents

7.2.2.1 Soxhlet modification of Fehling's solution (7.1.2.1)

7.2.2.2 Standard invert sugar solution (7.1.2.2)

7.2.2.3 Hydrochloric acid (6.34 N aqueous)

7.2.2.4 Sodium hydroxide solution (5 N aqueous)

7.2.2.5 Methylene blue solution 2g/1 litre (7.1.2.3)

7.2.3 Sampling

The honey is prepared for sampling as in 7.1.3

7.2.4 Procedure

7.2.4.1 Preparation of test sample

Prepare the honey sample as in 7.1.4.1(a). Dilute 10 ml of this solution to 250 ml with distilled water: honey solution (for sucrose determination) OR prepare the honey solution as in 7.1.4.2(a).

7.2.4.2 Hydrolysis of the test sample

The honey solution (50 ml) is placed in a 100 ml graduated flask, together with 25 ml distilled water; heat the test sample to 65°C over a boiling water-flask. The flask is then removed from the water-bath and 10 ml of 6.34 N hydrochloric acid added. The solution is allowed to cool naturally for 15 minutes, and then brought to 20°C and neutralizing with 5 N sodium hydroxide, using litmus paper as indicator, cooled again, and the volume adjusted to 100 ml (diluted honey solution).

7.2.4.3 Titration

As in 7.1.4.4 and 7.1.4.5

7.2.5 Calculation and expression of results

Calculate percent invert sugar (g invert sugar per 100 g honey) after inversion using the appropriate formula as for percent invert sugar before inversion in 7.1.5.

Apparent sucrose content = (invert sugar content after inversion minus invert sugar content before inversion) X 0.95

The result is expressed as g apparent sucrose/100 g honey

7.3 Determination of Moisture Content (Defining Method)

7.3.1 Principle of Method

Based on the refractometric method of Chataway (1932), revised by Wedmore (1955).

7.3.2 Apparatus

Refractometer

7.3.3 Sampling

The honey is prepared for sampling as in 7.1.3

7.3.4 Procedure

7.3.4.1 Determination of the Refractive Index

Determine the refractive index of the test sample using a refractometer at a constant temperature near 20°C. Convert the reading to moisture content (percent m/m) using the table given below. If the determination is made at a temperature other than 20°C, convert the reading to standard temperature of 20°C, according to the temperature corrections quoted. The method used is to be noted in the test report.

TABLE FOR THE ESTIMATION OF MOISTURE CONTENT

| Refractive Index (20°C) | Moisture Content (percent) | Refractive Index (20°C) | Moisture Content (percent) | Refractive Index (20°C) | Moisture Content (percent) |
|---|---|---|---|---|---|
| 1.5044 | 13.0 | 1.4935 | 17.2 | 1.4830 | 21.4 |
| 1.5038 | 13.2 | 1.4930 | 17.4 | 1.4825 | 21.6 |
| 1.5033 | 13.4 | 1.4925 | 17.6 | 1.4820 | 21.8 |
| 1.5028 | 13.6 | 1.4920 | 17.8 | 1.4815 | 22.0 |
| 1.5023 | 13.8 | 1.4915 | 18.0 | 1.4810 | 22.2 |
| 1.5018 | 14.0 | 1.4910 | 18.2 | 1.4805 | 22.4 |
| 1.5012 | 14.2 | 1.4905 | 18.4 | 1.4800 | 22.6 |
| 1.5007 | 14.4 | 1.4900 | 18.6 | 1.4795 | 22.8 |
| 1.5002 | 14.6 | 1.4895 | 18.8 | 1.4790 | 23.0 |
| 1.4997 | 14.8 | 1.4890 | 19.0 | 1.4785 | 23.2 |
| 1.4992 | 15.0 | 1.4885 | 19.2 | 1.4780 | 23.4 |
| 1.4987 | 15.2 | 1.4880 | 19.4 | 1.4775 | 23.6 |
| 1.4982 | 15.4 | 1.4875 | 19.6 | 1.4770 | 23.8 |
| 1.4976 | 15.6 | 1.4870 | 19.8 | 1.4765 | 24.0 |
| 1.4971 | 15.8 | 1.4865 | 20.0 | 1.4760 | 24.2 |
| 1.4966 | 16.0 | 1.4860 | 20.2 | 1.4755 | 24.4 |
| 1.4961 | 16.2 | 1.4855 | 20.4 | 1.4750 | 24.6 |
| 1.4956 | 16.4 | 1.4850 | 20.6 | 1.4745 | 24.8 |
| 1.4951 | 16.6 | 1.4845 | 20.8 | 1.4740 | 25.0 |
| 1.4946 | 16.8 | 1.4840 | 21.0 | | |
| 1.4940 | 17.0 | 1.4835 | 21.2 | | |

7.3.4.2 Temperature Corrections - Refractive Index:

Temperatures above 20°C - Add 0.00023 per °C
Temperatures below 20°C - Subtract 0.00023 per °C

7.4 Gravimetric Determination of Water-insoluble Solids Content (Reference Method)

7.4.1 Sampling

The honey is prepared for sampling as in 7.1.3.

7.4.2 Procedure

7.4.2.1 Preparation of Test Sample

Honey (20g) is weighed to the nearest centigram (10 mg) and dissolved in a suitable quantity of distilled water at 80°C amd mixed well.

7.4.2.2 Gravimetric Determination

The test sample is filtered through a previously dried and weighed fine sintered glass crucible (pore size 15.40 microns) and

washed thoroughly with hot water (80°C) until free from sugars (Mohr test). The crucible is dried for one hour at 135°C, cooled and weighed to 0.1 mg.

7.4.3 Expression of Results

The result is expressed as percent water-insoluble solids (m/m).

7.5 Determination of Mineral Content (ash)
(Defining Method)

7.5.1 Sampling

Honey is prepared for sampling as in 7.1.3.

7.5.2 Procedure

7.5.2.1 Ignition of the Honey

Honey (5-10g) is weighed accurately into an ignited and pre-weighed platinum or silica dish and gently heated in a muffle furnace until the sample is black and dry and there is no danger of loss by foaming and overflowing. An infra-red lamp may also be used to char the sample before inserting into the furnace. If necessary, a few drops of olive oil may be added to prevent frothing. The sample is then ignited at 600°C to constant weight. The sample is cooled before weighing.

7.5.3 Expression of Results

The result is expressed as percent ash (m/m)

7.6 Determination of Acidity
(Reference Method)

7.6.1 Sampling

The honey is prepared for sampling as in 7.1.3.

7.6.2 Reagents

7.6.2.1 Sodium hydroxide 0.1N (carbonate-free)

7.6.2.2 Phenolphtalein indicator 1 percent (m/v) in ethanol, neutralized.

7.6.2.3 Distilled Water made carbon dioxide free by boiling and subsequent cooling.

7.6.3 Procedure

7.6.3.1 Preparation of Test Sample

Honey (10.0g) is weighed accurately and dissolved in 75 ml distilled water (7.6.2.3).

7.6.3.2 Titration

The test sample is titrated against carbonate-free 0.1N sodium hydroxide solution using 4-5 drops of neutralized phenolphthalein indicator. The end-point colour should persist for 10 seconds. For darkly coloured samples, a smaller weight should be taken. As an alternative, a pH meter may be used and the sample titrated to pH 8.3.

7.6.4 Calculation and Expression of Results

The result is expressed as millival (milliequivalents) acid/kg honey and is calculated as follows:

Acidity = 10v

where v = the number of ml 0.1N NaOH used in the neutralization of 10g honey.

7.7 Determination of Diastase Activity (Defining Method)

7.7.1 Principle of the Method

Based on the method of Schade et al. (1985) modified by White et al. (1959) and Hadorn (1961).

7.7.2 Reagents

7.7.2.1 Iodine Stock Solution:

Dissolve 8.8g of iodine analytical grade, in 30-40 ml water containing 22g potassium iodine, analytical grade, and dilute to 1 litre with water.

7.7.2.2 Iodine solution 0.0007 N:

Dissolve 20g potassium iodine, analytical grade, in 30-40 ml water in a 500-ml volumetric flask. Add 5.0 ml iodine stock solution and make up to volume. Make up a fresh solution every second day.

7.7.2.3 Acetate Buffer - pH 5.3(1.59M):

Dissolve 87g sodium acetate. $3H_2O$ in 400 ml water, add about 10.5 ml glacial acetic acid in a little water and make up to 500 ml. Adjust the pH to 5.3 with sodium acetate or acetic acid as necessary, using a pH meter.

7.7.2.4 Sodium Chloride Solution 0.5 M:

Dissolve 14.5g sodium chloride, analytical grade, in boiled-out distilled water and make up to 500 ml. The keeping time is limited by mould growth.

7.7.2.5 Starch Solution:

(a) Preparation of soluble starch

In a conical flask immersed in a water-bath and fitted with a reflux condenser, boil 20 g of potato starch for one hour in the presence of a mixture of 100 ml of 95 percent ethanol and 7 ml of 1 N hydrochloric acid. Cool, filter through a filtering crucible (pore size 90 - 150 microns) and wash with water until the wash/water ceases to give any chloride reaction. Drain thoroughly and dry the starch in air at 35°C. The soluble starch must be stored in a well stoppered flask.

(b) Determination of moisture content of soluble starch

Accurately weigh a quantity of approximately 2 g of soluble starch and spread in a thin layer over the bottom of a weighing bottle (diameter 5 cm). Dry for one and a half hours at 130°C. Allow to cool in a dessicator and re-weigh. The weight loss with respect to 100 g represents the moisture content. The moisture content of such starch should be 7-8% m/m depending on the humidity of the air in which the sample has been dried.

(c) Preparation of starch solution

Use a starch with a blue value between 0.5 - 0.55 using a 1 cm cell, as determined by the method below. Weigh out that amount of starch which is equivalent to 2.0 g anhydrous starch. Mix with 90 ml of water in a 250-ml conical flask. Bring rapidly to the boil, swirling the solution as much as possible, heating over a thick wire gauze preferably with an asbestos centre. Boil gently for 3 min., cover and allow to cool spontaneously to room temperature. Transfer to a 100-ml volumetric flask, place in a water bath at 40°C to attain this temperature and make up to volume at 40°C.

Method for determining blue value of starch

The amount of starch equivalent to 1 g anhydrous starch is dissolved by the above method, cooled and 2.5 ml acetate buffer added before making up to 100 ml in a volumetric flask.

To a 100-ml volumetric flask add 75 ml water, 1 ml N hydrochloric acid and 1.5 ml of 0.02 N iodine solution. Then add 0.5 ml of the starch solution and make up to volume with water. Allow to stand for one hour in the dark and read in 1 cm cell using a spectrophotometer at 660 nm against a blank containing all the ingredients except the starch solution. Reading on the absorbance scale = Blue value.

7.7.3 Apparatus

7.7.3.1 Water-bath at 40 ± 0.2°C.

7.7.3.2 Spectrophometer to read at 660 nm.

7.7.4 Sampling

The honey sample is prepared as in 7.1.3 without any heating.

7.7.5 Procedure

7.7.5.1 Preparation of test samples

Honey solution: 10.0 g honey is weighed into a 50-ml beaker and 5.0 ml acetate buffer solution is added, together with 20 ml water to dissolve the sample. The sample is completely dissolved by stirring the cold solution. 3.0 ml sodium chloride solution as added to a 50-ml volumetric flask and the dissolved honey sample is transferred to this and the volume adjusted to 50 ml.
N.B. It is essential that the honey should be buffered before coming into contact with sodium chloride.

Standardization of the starch solution

The starch solution is warmed to 40°C and 5 ml pipetted into 10 ml of water at 40°C and mixed well. 1 ml of this solution is pipetted into 10 ml 0.0007 N iodine solution, diluted with 35 ml of water and mixed well. The colour is read at 660 nm against a water blank using a 1 cm cell.

The absorbance should be 0.760 ± 0.020. If necessary the volume of added water is adjusted to obtain the correct absorbance.

7.7.5.2 Absorbance determination

Pipette 10 ml honey solution into 50 ml graduated cylinder and place in 40° ± 2°C water bath with flask containing starch solution. After 15 minutes, pipette 5 ml starch solution into the honey solution, mix, and start stop-watch. At 5 minute intervals remove 1 ml aliquots and add to 10.00 ml 0.0007 N iodine solution. Mix and dilute to standard volume (see 6.7.5.1). Determine absorbance at 660 nm in spectrophotometer immediately using 1 cm cell. Continue taking 1 ml aliquots at intervals until absorbance of less than 0.235 is reached.

7.7.6 Calculation and expression of results

The absorbance is plotted against time (min) on a rectilinear paper. A straight line is drawn through at least the last three points on the graph to determine the time when the reaction mixture reaches an absorbance of 0.235. Divide 300 by the time in minutes to obtain the

diastase number (DN). This number expresses the diastase activity as ml 1 percent starch solution hydrolysed by the enzyme in 1 g of honey in 1 h at 40°C. This diastase number corresponds with the Gothe-scale number.
Diastase activity = DN = ml starch solution (1 percent)/g honey/h at 40°C.

7.8 Photometric determination of hydroxymethylfurfural (H.M.F.) content 1/ (Reference Method)

7.8.1 Principle of the Method

Based on the method of Winkler (1955).

7.8.2 Reagents

7.8.2.1 Barbituric acid solution:

Weigh out 500 mg barbituric acid and transfer to a 100-ml graduated flask using 70 ml water. Place in a hot water bath until dissolved, cool and make up to volume.

7.8.2.2 p-toluidine solution:

Weigh out 10.0 g p-toluidine, analytical grade, and dissolve in about 50 ml isopropanol by gentle warming on a water bath. Transfer to a 100-ml graduated flask with isopropanol and add 10 ml glacial acetic acid. Cool and make up to volume with isopropanol. Keep the solution in the dark. Do not use for at least 24 hours.

7.8.2.3 Distilled water (oxygen free)

Nitrogen gas is passed through boiling distilled water. The water is then cooled.

7.8.3 Apparatus

7.8.3.1 Spectrophotometer to read at 550 nm

7.8.4 Sampling

The honey is prepared as in 7.1.3 without any heating.

7.8.5 Procedure

7.8.5.1 Preparation of test sample

10 g of honey sample is weighed and dissolved without heating in 20 ml oxygen-free distilled water (7.8.2.3). This is transferred to a 50-ml graduated flask and made up to volume (honey solution). The sample should be tested after preparation without delay.

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1/ This method may be replaced at sometime in the future by a spectrophotometric method.

7.8.5.2 Photometric determinations

2.0 ml of honey solution is pipetted into each of two test tubes and 5.0 ml p-toluidine solution is added to each. Into one test tube 1 ml water is pipetted and into the other 1 ml barbituric acid solution and both mixtures are shaken. The one with added water serves as the water blank. The addition of the reagents should be done without pause and should be finished in about 1-2 minutes.

The extinction of the sample is read against the blank at 550 nm using a 1-cm cell immediately the maximum value is reached.

7.8.6 Calculation and expression of results

The method may be calibrated by using a standard solution of hydroxymethylfurfuraldehyde (H.M.F.) standardized by dissolving commercial or laboratory prepared HMF and assaying spectrophotometrically where E = 16,830 (J.H. Turner 1984) at 284 nm; using 0-300 ug standards. An equation is given by which results may be roughly worked out:

$$\text{mg/100g HMF} = \frac{\text{Absorbance}}{\text{Thickness of layer}} \times 19.2$$

Results are expressed as mg HMF/kg honey.

7.9 Literature references

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APPENDIX V

# DRAFT STANDARD FOR CANNED MANGOES
(At Step 8 of the Procedure)

## 1. DESCRIPTION

### 1.1 Product Definition

"Canned mango" is the product: (a) prepared from stemmed, peeled, fresh, sound, clean and mature fruit of commercial varieties conforming to the characteristics of the fruit of Mangifera indica L.; (b) which may or may not be packed with a suitable liquid packing medium, nutritive sweeteners and other seasoning of flavouring ingredients appropriate to the product; and (c) processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors.

### 1.2 Types of varieties

Any cultivated variety or type suitable for Canned Mangoes may be used in the preparation.

### 1.3 Styles

The product shall be prepared from peeled fruit for all the following styles:

1.3.1 Halves - cut into two approximately equal parts along the stone from stem to apex and the flesh separated from the skin.

1.3.2 Slices - Long, slender pieces cut lengthwise or crosswise.

1.3.3 Pieces - (or mixed pieces or irregular pieces) - pitted and comprising irregular shapes and sixes.

1.3.4 Diced - flesh cut into cube-like parts with a dimension of at least 12 mm on the longest side.

1.3.5 Other Styles - Any other presentation of the product shall be permitted provided that the product:

(a) is sufficiently distinctive from other forms of presentation laid down in this standard;

(b) meets all relevant requirements of this standard, including requirements relating to limitations on defects, drained weight, and any other requirements in this standard which are applicable to that style in the standard which most closely resembles the style or styles intended to be provided for under this provision.

(c) is adequately described on the label to avoid confusing or misleading the consumer.

1.4 Types of Pack

1.4.1 Regular pack - with liquid packing medium

1.4.2 Solid pack - closely packed fruit prepared by packing without a liquid packing medium; a dry nutritive sweetener may be used.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Packing Media

2.1.1 Where a packing medium is used, it may consist of:

2.1.1.1 Water - in which water is the sole packing medium;

2.1.1.2 Fruit Juice [1/] - in which mango juice - or any other compatible fruit juice is the sole packing medium;

2.1.1.3 Mixed Fruit Juices [1/] - in which two or more compatible fruit juices which may include mango juice, are combined to form the packing medium;

2.1.1.4 Water and Fruit Juice(s) - in which water and mango juice, or water and any other single fruit juice or water and two or more fruit juices are combined in any proportion to form the packing medium.

2.1.2 Any of the foregoing packing media may have one or more of the following nutritive sweeteners as defined by the Codex Alimentarius Commission added: sucrose, invert sugar syrup, dextrose, dried glucose syrup, glucose syrup, fructose, fructose syrup, honey.

2.1.3 Dry nutritive sweeteners namely sucrose, invert sugar, dextrose and dried glucose syrup, may be added to solid packs without added liquid but with such slight amounts of steam, water or natural juice as occur in the normal canning of the product.

2.1.4 Classification of packing media when nutritive sweeteners are added.

2.1.4.1 When nutritive sweeteners are added to fruit juice(s) the packing media shall be not less than 11° Brix and shall be classified on the basis of the cut-out strength as follows:

Lightly sweetened fruit juice(s) - Not less than 11° Brix
Heavily sweetened fruit juice(s) - Not less than 15° Brix

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1/ Fruit juice may be pulpy, turbid or clear as stated in the Codex Standard for the juice involved.

2.1.4.2 When nutritive sweeteners are added to water or water and fruit juice(s) or water and nectar the liquid media shall be classified on the basis of the cut-out strength as follows:

| | |
|---|---|
| Slightly sweetened water )<br>Water slightly sweetened )<br>Extra light syrup | - Not less than $10^{o}$ Brix<br>but less than $14^{o}$ Brix |
| Light syrup | - Not less than $14^{o}$ Brix<br>but less than $18^{o}$ Brix |
| Heavy syrup | - Not less than $18^{o}$ Brix<br>but less than $24^{o}$ Brix |
| Extra heavy syrup | - Not less than $24^{o}$ Brix<br>but nor more than $35^{o}$ Brix |

2.1.4.3 When nutritive sweeteners are added to water and fruit juice(s) and the minimum fruit juice content of the packing medium is not less than 40% m/m, the packing medium may be classified as a nectar provided the cut-out strength is not less than $20^{o}$ Brix.

2.1.4.4 The cut-out strength for any packing medium shall be determined on average, but no container may have a Brix value lower than that of the next category below.

2.2 Other Ingredients

Nutritive sweeteners as defined by the Codex Alimentarius Commission.

2.3 Quality Criteria

2.3.1 Colour

The colour of the product shall be characteristic of the type or variety of mango. Canned mangoes containing special ingredients shall be considered to be of characteristic colour when there is no abnormal discolouration of the respective ingredient used.

2.3.2 Flavour

Canned mangoes shall have a flavour and odour characteristic of the variety or type used for canning and shall be free from odours or flavours foreign to the product; and canned mangoes with special ingredients shall have the characteristic flavour of the mangoes and the other substances used.

2.3.3 Texture

The mangoes shall be reasonably fleshy and have little fibre. They may be variable in tenderness but shall neither be mushy nor excessively firm in liquid media packs, and shall not be excessively firm in solid packs.

2.3.4 Uniformity of Size

2.3.4.1 Halves - 90% by count of the units shall be reasonably uniform in size. Where a unit has broken within the container, the combined broken pieces are considered as a single unit.

2.3.4.2 Other styles - (There are no requirements for size uniformity).

2.3.5 Symmetry - Not more than 20% by count of units shall be sliced in a direction other than parallel to the crease (as stated above) and of these not more than half may have been sliced horizontally.

2.3.6 Definition of defects

(a) Blemishes - surface discolouration and spots arising from physical, pathological, insect or other agents that definitely contrast with the overall colour, and which may penetrate into the flesh. Examples include bruises, scab and dark discolouration.

(b) Crushed or mashed - means a unit which has been crushed to the extent that it has lost its normal shape (not due to ripeness) or has been severed into definite parts. Partially disintegrated halves are not counted as broken. All portions that collectively equal the size of a full size unit are considered one unit in applying the allowance herein.

(c) Rind - considered as a defect. It refers to rind adhering to the pulp of the mango or found loose in the container.

(d) Pit (or stone) material - considered a defect in all styles.

(e) Harmless extraneous material - means any vegetable substance (such as, but not limited to a leaf or portion thereof or a stem or portion thereof) that is harmless but which tends to detract from the appearance of the product.

(f) Trim - considered a defect only in halved and sliced canned mangoes in liquid media packs. The trimming must be excessive and includes serious gouges (whether due to physical trimming or other means) on the surface of the units which definitely detract from the appearance.

2.3.7 Allowances for defects

The product shall be reasonably free from defects such as extraneous material, pit (stone) material, rind and spotted slices or chunks. Certain common defects shall not be present in amounts greater than the following limitations:

| Defects | Liquid media packs | Solid packs |
|---|---|---|
| Blemishes and trim | 30% by count | 3 units per 500 g |
| Crushed or mashed | 5% by weight | not applicable |
| Rind | not more than 6 $cm^2$ aggregate area per 500 g | not more than 12 $cm^2$ aggregate area per 500 g |
| Pit or pit material (average) | 1/8 stone or equivalent per 500 g | 1/8 stone or equivalent per 500 g |
| Harmless extraneous material | 2 pieces per 500 g | 3 pieces per 500 g |

The weight of the product referred to in the above table is the drained weight determined in accordance with section 8.2 of this standard.

2.4 Classification of "Defectives"

A container that fails to meet one or more of the applicable quality requirements as set out in sub-sections 2.3.1 to 2.3.7 (except for rinds and pit or pit material, which are based on averages), shall be considered a "defective".

2.5 Lot Acceptance

A lot shall be considered as meeting the applicable quality requirements referred to in sub-section 2.4 when:

(a) for those requirements which are not based on averages, the number of "defectives" as defined in sub-section 2.4 does not exceed the acceptance number (c) of the appropriate sampling plan (AQL 6.5) in the Sampling Plans for Prepackaged Foods (1969) (Ref. CAC/RM 42-1969) as amended 1/: and

(b) the requirements which are based on sample average are complied with.

2.6 Organoleptic Characteristics

The product shall have the colour, odour and flavour characteristics corresponding to the varieties or types of mango used in the preparation of the product.

3. FOOD ADDITIVES

| | | |
|---|---|---|
| 3.1 | Colour | Maximum level in the finished product |
| | beta-carotene | 100 mg/kg |
| 3.2 | Acidifying agent | |
| | Citric acid | Limited by GMP |

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1/ See Appendix IX to ALINORM 83/20

| | | |
|---|---|---|
| 3.3 | Antioxidant | |
| | Ascorbic acid | 200 mg/kg |
| 3.4 | Firming Agents | |
| 3.4.1 | Calcium chloride | 350 mg/kg, calculated as Ca in the finished product |
| 3.4.2 | Pectin and amidated pectin | Limited by GMP |

4. CONTAMINANTS

| | |
|---|---|
| Lead (Pb) | 1 mg/kg |
| Tin (Sn) | 250 mg/kg calculated as Sn |

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared in accordance with the International Code of Hygiene Practice for Canned Fruit and Vegetable Products recommended by the Codex Alimentarius (Ref. CAC/RCP 2-1969).

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

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

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

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

6. WEIGHTS AND MEASURES

6.1 Fill of Container

6.1.1 Minimum Fill

The container shall be well filled with mangoes 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 when completely filled.

6.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90% container capacity) of sub-section 6.1.1 shall be considered a "defective".

6.1.3 Lot Acceptance

A lot will be considered as meeting the requirements of sub-section 6.1.1 when the number of "defectives" as defined in sub-section 6.1.2 does not exceed the Acceptance Number (c) of the appropriate Sampling Plans (AQL 6.5) in the Sampling Plans for Pre-packaged Foods (1969) (Ref. CAC/RM 42-1969) as amended. 1/

6.2 Minimum Drained Weight

6.2.1 The drained weight of the product shall be not less than 55% of the distilled water at 20°C which the sealed container will hold when completely filled.

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

7. LABELLING

In addition to Sections 2,3,7 and 8 of the Codex General Standard for the Labelling of Prepackaged Foods (Ref. CODEX STAN 1-1985) 2/ the following specific provisions apply:

7.1 The Name of the Food

7.1.1 The name of the food to be declared on the label shall be "Mangoes".

7.1.2 The style, as appropriate, shall be declared as part of the name or in close proximity to the name:

"Halves", "Slices", "Diced", "Pieces" or "Mixed Pieces" or "Irregular Pieces".

If the product is produced in accordance with the other styles provision (sub-section 1.3.4), the label shall contain in close proximity to the name of the product such additional words or phrases that will avoid misleading or confusing the consumer.

7.1.3 The packing medium shall be declared as part of the name, or in close proximity to the name, as appropriate.

7.1.3.1 When the packing medium is composed of water, the packing medium shall be declared as:

"In water" or "Packed in water".

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1/ See Appendix IX, ALINORM 83/20
2/ Hereafter referred to as the "General Standard"

7.1.3.2 When the packing medium is composed of a single fruit juice, the packing medium shall be declared as:

"In juice" or "In Mango juice"
where mango juice has been used; or
"In (name of fruit) juice"
for all other fruit juices.

7.1.3.3 When the packing medium is composed of two or more fruit juices, which may include mango juice, it shall be declared as:

"In (name of fruits) juice", or
"In fruit juices", or
"In mixed fruit juices"

7.1.3.4 When nutritive sweeteners are added to mango juice, the packing medium shall be declared as:

"Lightly sweetened juice"; or
"Lightly sweetened mango juice"; or
"Heavily sweetened juice"; or
"Heavily sweetened mango juice"

as may be appropriate.

7.1.3.5 When nutritive sweeteners are added to a single fruit juice (not including mango juice) or mixtures of two or more fruit juices (which may include mango juice), the packing medium shall be declared as:

"Lightly sweetened (name of fruit) juice"; or
"Lightly sweetened (name of fruits) juices"; or
"Lightly sweetened fruit juices"; or
"Lightly sweetened mixed fruit juices"

as may be appropriate, or the same for

"Heavily sweetened" juice(s).

7.1.3.6 When nutritive sweeteners are added to water, or water and a single fruit juice (including mango juice) or water and two or more fruit juices, the packing medium shall be declared as:

"Slightly sweetened water"
"Water slightly sweetened"
"Extra light syrup"
"Light syrup"
"Heavy syrup"
"Extra heavy syrup"

7.1.3.7 When nutritive sweeteners, water and fruit juice(s) are combined to form a nectar, the packing medium shall be declared as:

"In nectar" or "In mango nectar"

where the juice component is solely mango, or

"In (name of fruit) nectar"
"In (name of fruits) nectar"
"In fruit nectars"' or
"In mixed fruit nectars"

for all other cases as may be appropriate.

7.1.3.8 When the packing medium contains water and mango juice or water and one or more fruit juice(s), the packing medium shall be designated to indicate the preponderance of water or such fruit juice as may be the case, for example:

"Mango juice and water"
"Water and (mango) juice"
"(name of fruit(s) juice(s)) and water"; or
"Water and (name of fruit(s)) juice(s)".

7.1.3.9 The fruit juice component of any packing medium shall not be declared in the name of the food if it comprises less than 10% m/m of the total packing medium but it shall be declared in the list of ingredients.

7.1.3.10 When the name of the fruits in a mixed fruit juice or mixed fruit nectar is listed individually in the packing medium, they shall be declared in descending order of proportion.

7.1.3.11 When the packing medium contains no added sweetening agents, the term "no added sugar" or other words of similar import may be used in association with, or in close proximity to the name of the food.

7.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

7.3 Net Contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Sections 4.3.1, 4.3.2 and 4.3.3 of the General Standard.

7.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

7.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

7.6 Lot Identification

Lot identification shall be declared in accordance with Section 4.6 of the General Standard.

7.7 Date Marking and Storage Instructions

The date of minimum durability and storage instructions shall be declared in accordance with Sections 4.7.1 and 4.7.2 of the General Standard.

7.8 Instructions for Use

In accordance with Section 4.8 of the General Standard.

7.9 Additional Mandatory Requirements

7.9.1 Quantative Labelling of Ingredients

In accordance with Section 5.1 of the General Standard.

7.9.2 Irradiated Foods

In accordance with Section 5.2 of the General Standard.

7.10 Exemptions from Mandatory Labelling Requirements

In accordance with Section 6 of the General Standard.

7.11 Labelling of Non-Retail Containers

In addition to Sections 2,3, and 5.2 of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provision applies:

7.11.1 Information on labelling as specified in Sections 7.1 - 7.9 shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer shall appear on the container.

7.11.2 Lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7.11.3 Outer containers holding prepackaged foods in small units (see Section 6 of the General Standard) shall be fully labelled.

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Sampling

8.1.1 Sampling for Visual Defects and Fill of Container

For those provisions referred to in Sections 2.3 and 6.1.3 of this standard sampling shall be carried out in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5) (Ref. No. CAC/RM 42-1969), as amended. 1/

8.1.2 Sampling for Net Weight

(Sampling Plan to be elaborated).

8.1.3 Sampling for Analytical Requirements (Sampling Plans to be elaborated).

8.1.4 Size of Sample Unit

8.1.4.1 For ascertaining fill of container and drained weight the sample unit shall be the entire container.

8.1.4.2 For ascertaining compliance with the requirements for styles and defects the sample unit shall be:

(a) the entire container when it holds 1 litre or less; or

(b) 500 g of drained fruit (of a representative mixture) when the container holds more than 1 litre.

8.2 ANALYSIS

8.2.1 Determination of Drained Weight (Type 1 Method)

According to the Codex method, CAC/RM 36-1970, Determination of Drained Weight - Method 1 (Codex Alimentarius, Vol. 11, Part 11, Ref. CAC/VOL 11-ED.1). Results are expressed as % m/m calculated on the basis of the mass of distilled water at 20°C which the sealed container will hold when completely filled.

8.2.2 Syrup Measurements (Type 1 Method)

According to the AOAC Method (Official Methods of Analysis of the AOAC 1980, 13th Ed., 31-011 Solids by means of refractometer or ISO Method 2173 (Fruit and Vegetable Products - Determination of soluble solids content - Refractometer method.

Results are expressed as % m/m of sucrose ("degrees Brix"), with correction for temperature to the equivalent at 20°C.

8.2.3 Determination of the Water Capacity of Containers (Type 1 Method)

According to the Codex Method CAC/RM 46-1972 (Codex Alimentarius, Vol. II Part II, Ref. CAC/VOL, Ed. 1.).

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1/ See Appendix IX to ALINORM 83/20 (adopted by the Commission).

# DRAFT STANDARD FOR MANGO CHUTNEY
(At Step 8 of the Procedure)

## 1. DESCRIPTION

### 1.1 Product Definition

Mango Chutney is the product prepared from washed, clean, sound mango fruits (Mangifera indica L.) which have been peeled and are sliced, chopped, shredded or comminuted, then heat processed with basic ingredients before or after being sealed in containers so as to prevent spoilage.

### 1.2 Varietal Types

Any suitable variety of the fruit Mangifera indica L., may be used.

## 2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 2.1 Minimum Content of Fruit Ingredients

The product shall contain not less than 40% m/m of mango fruit ingredient in the finished product.

### 2.2 Basic Ingredients

Nutritive sweeteners, honey, other fruits and vegetables, salt (sodium chloride), spices and condiments (such as vinegar, onion, garlic and ginger) and other suitable food ingredients.

### 2.3 Minimum Percentage of Total Soluble Solids

The total soluble solids content shall be not less than 50% m/m of the finished product.

### 2.4 Quality Criteria

2.4.1 Colour: The product shall have a normal colour characteristic of mango chutney.

2.4.2 Flavour: The product shall have characteristic flavour and odour of mango chutney free from flavour or odour foreign to the product.

2.4.3 Consistency: The product shall possess good consistency and be reasonably free from fibrous matter. The fruit pieces shall possess a reasonably tender tissue.

2.4.4 Ash: The total ash and ash insoluble in hydrochloric acid shall not exceed 5% m/m and 0.5% m/m respectively.

2.4.5 Defects: The number, size and presence of defects such as seed or particles thereof, peels, or any other extraneous matter shall not seriously affect the appearance or the eating quality of the product.

3. FOOD ADDITIVES

| | | |
|---|---|---|
| 3.1 | Acidifying Agents | Maximum level in the finished product |
| 3.1.1 | Citric acid | To maintain the pH at a level not above 4.6 if the product is heat pasteurized or limited by GMP if the product is heat sterilized. |
| 3.1.2 | Acetic acid | |
| 3.2 | Preservatives | |
| 3.2.1 | Sodium metabisulphite | )100 mg/kg singly or in any combination expressed as $SO_2$. |
| 3.2.2 | Potassium metabisulphite | ) |
| 3.2.3 | Sodium and potassium benzoates | )250 mg/kg singly or in any combination expressed as the acid. |
| 3.2.4 | Methyl, ethyl and propyl parahydroxy benzoates | ) |
| 3.2.5 | Sorbic acid | 1000 mg/kg |

4. CONTAMINANTS

| | | |
|---|---|---|
| 4.1 | Lead (Pb) | 1 mg/kg |
| 4.2 | Tin (Sn) | 250 mg/kg |

5. HYGIENE

5.1 It is recommended that the product covered by the provision of this standard be prepared in accordance with the International Code of Hygienic Practice for Canned Fruit and Vegetable Products as recommended by the Codex Alimentarius (Ref. CAC/RCP 2-1969).

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

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

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

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

## 6. LABELLING

In addition to Sections 2,3,7 and 8 of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) 1/ the following specific provisions apply:

### 6.1 Name of the Food

The name of the food to be declared on the label shall be "mango chutney".

### 6.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

### 6.3 Net contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Sections 4.3.1 and 4.3.2 of the General Standard.

### 6.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

### 6.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

### 6.6 Lot Identification

Lot identification shall be declared in accordance with Section 4.6 of the General Standard.

### 6.7 Date Marking and Storage Instructions

The date of minimum durability and storage instructions shall be declared in accordance with Sections 4.7.1 and 4.7.2 of the General Standard.

### 6.8 Instructions for Use

In accordance with Section 4.8 of the General Standard.

### 6.9 Additional Mandatory Requirements

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1/ Hereafter referred to as "the General Standard".

6.9.1 Quantitive Labelling of Ingredients

In accordance with Section 5.1 of the General Standard.

6.9.2 Irradiated Foods

In accordance with Section 5.2 of the General Standard.

6.10 Exemptions from Mandatory Labelling Requirements

In accordance with Section 6 of the General Standard.

6.11 Labelling of Non-Retail Containers

In addition to Sections 2,3 and 5.2 of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provision applies:

6.11.1 Information on labelling as specified in Sections 6.1 - 6.9 shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer shall appear on the container.

6.11.2 Lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

6.11.3 Outer containers holding prepackaged foods in small units (see Section 6 of the General Standard) shall be fully labelled.

7. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

7.1 Sampling

7.1.1 Sampling for Visual Defects

For those provisions referred to in sections 2.4.5 of this standard sampling shall be carried out in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5) (Ref. No. CAC/RM 42-1969), as amended. 1/

7.1.2 Sampling for Net Contents

(Sampling Plan to be developed).

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1/ See Appendix IX to ALINORM 83/20 (amendment adopted by the Commission at its 16th Session.

7.1.3 Sampling for Analytical Requirements

(Sampling Plans to be elaborated).

7.2 Analysis

7.2.1 Total Soluble Solids (Type 1 Method)

According the the AOAC method (Official Methods of Analysis of the AOAC 1980, 13th Ed., 31.011 Solids by means of refractometer or IOS 2173 Determination of Soluble Solids content - Refractometer Method) or ISO Method 2173 (Fruit and Vegetable Products - Determination of Soluble Solids Content - Refractometer Method).

Results are expressed as % m/m of sucrose ("degrees Brix"), with correction for temperature to the equivalent at 20°C.

7.2.2 Determination of the Water Capacity of Containers (Type 1 Method)

According to the Codex Method CAC/RM 46-1972 (Codex Alimentarius, Vol.II, Part II. Ref. CAC/VOL. II, Ed.1).

7.2.3 Determination of Ash insoluble in Hydrochloric Acid (Type 1 Method)

According to ISO Method 763-1982 (Fruit and Vegetable Products - Determination of Ash Insoluble in Hydrochloric Acid).

7.2.4 Determination of Total Ash (Type 1 Method)

(To be developed).

ALINORM 87/20
APPENDIX VII

# REPORT OF THE AD HOC WORKING GROUP ON THE REVIEW OF LABELLING PROVISIONS IN CODEX STANDARDS FOR PROCESSED FRUITS AND VEGETABLES

1. The 16th Session of the Commission has adopted the revised text of the General Standard for the Labelling of Prepackaged Foods and Guidelines on Labelling Provisions in Codex Standard and instructed Codex Committees to review and revise the labelling provisions, where necessary, to align them with the above two texts as contained in the Appendixes IV and V to ALINORM 85/22A.

2. For this purpose the Committee established an ad hoc Working Group consisting of delegates from the following countries: Australia, Canada, United Kingdom, and the United States, and of members of the Secretariat. The WG was chaired by Mr. M.R. Johnston (U.S.A).

3. The WG examined the Codex Standards for processed fruits and vegetables (volume II of the Codex Alimentarius) and reports of previous sessions of CCPFV and selected three standards which seemed to be representative. (Canned Apricots, Canned Mushrooms and Jams and Jellies). The WG reviewed these standards in the light of a working paper (CX/PFV 86/7) and a Conference Room Document containing proposals for amendments and explanatory notes.

4. The WG considered whether the relevant provisions of the General Standards were applicable to the standards elaborated by CCPFV as such or whether modifications were required. The WG did not consider any proposal for amendment which was not related to the revised General Standard.

The WG made recommendations to the Committee on the following matters:

(a) proposals for amendments
(b) classification of type of amendments (editorial, consequential, substantive)
(c) procedure for follow-up, assuming that the Committee is adjourned sine die.

## Preamble

5. The WG was of the opinion that the revised preamble contained in the guidelines was applicable to all standards for processed fruits and vegetables as a consequential amendment to (a) the adoption of the General Standard and (b) its inclusion in present Step 8 standards.

The provision reads as follows: "In addition to Sections 2,3,7 and 8 of the Codex General Standard for the Labelling of Prepackaged Foods (Ref. No. CODEX STAN 1-1985) 1/ the following specific provisions apply:"

The Name of the Food

6. The WG recommended that the first sentence of "the name of the food" in standards for processed fruits and vegetables be editorially amended to follow the pattern below:

> "7.1.1 - The Name of the Food to be declared on the label shall be "apricots".

7. The WG recommended not to amend any mandatory provisions concerning descriptive terms which were in accordance with Section 4.1.2 of the General Standard.

8. The WG further recommended to retain certain optional provisions concerning descriptive terms for the following reasons: the information given provided useful guidance to the consumer concerning e.g. the variety of the food, regional specialities, local preferences. However, this information was not strictly necessary for all markets and could, therefore, be left optional.

9. Noting that in the earlier standards (i.e. Jams and Jellies) the format could be improved, the WG recommended that those provisions be carefully reviewed, clarified, and editorially amended.

List of Ingredients

10. The WG noted that Section 4.2 of the revised General Standard was more extensive than in the previous version of the Standard and examined in detail whether the revised section as a whole was applicable to the standards elaborated by CCPFV. The WG concluded that the following text was suitable for inclusion in all standards:

> A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

The WG also recommended that specific provisions, such as the declaration of ascorbic acid used for technological purposes, be retained in addition to the above generally applicable text.

Net Contents

11. The WG noted that the relevant provisions in the General Standards (Sections 4.3.1 and 4.3.2) made the declaration mandatory in metric units and did not refer any more to the declaration in the avoirdupois system. The WG recommended that net contents should be included by reference to Sections 4.3.1 and 4.3.2 of the General Standard.

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1/ Thereafter referred to as "General Standard".

Drained Weight

12. The WG examined whether Section 4.3.3 of the General Standard was applicable to Canned Fruits and Vegetables which have a liquid packing medium. The WG enumerated several technological problems which made such a declaration practically impossible, e.g.: fruit and packing medium have a tendency to attain equilibrium of the water and soluble solids, compositional differences due to climatic conditions, state of maturity, variety and growing conditions. Tests were not available which took into account the above variable. Furthermore, Section 4.3.3 of the General Standard did not provide any indication as to the precision of the number placed on the label of an individual can (e.g. specific for that can, average for the lot, or minimum requirement).

Name and Address

13. The WG recommended an editorial amendment to this provision in all standards requiring conformity with Section 4.4 of the General Standard.

Country of Origin

14. The WG noted that Section 4.5 of the General Standard consisted of two sub-sections, the latter referring to processing in a second country. It also noted that most of the standards for processed fruits and vegetables countained the two above sub-sections in extenso, and recommended that the section on the country of origin be included by reference to section 4.5 of the General Standards iniformly in all standards elaborated by the Committee.

Lot Identification

15. The WG recommended to include this provision by reference to Section 4.6 of the General Standards in all standards elaborated by the Committee.

Date Marking and Storage Instructions

16. The WG recalled that the 17th Session of CCPFV had decided to include provisions for the declaration of the date of minimum durability and storage instructions in all its standards for processed fruits and vegetables. This had been approved by the 16th Session of the Commission. The WG recommended to include the above provisions by reference to Section 4.7 of the General Standard.

Other Labelling Provisions

17. The WG recommended that the following provisions be included in all standards for processed fruits and vegetables by reference to the relevant sections of the General Standards:

(a) Instructions for use (Section 4.8)

(b) Quantitative labelling of ingredients (Section 5.1)

(c) Irradiated foods (Section 5.2)

(d) Exemptions from mandatory labelling requirements (Section 6)

The WG also recommended that a separate provision be established for each of the above items.

Labelling of Non-Retail Containers

18. The WG was informed that the 16th Session of the Commission had adopted a definition for non-retail containers which was now being published in the procedural manual (6th Edition). The WG noted that the Commission had also agreed that Codex Committees should consider the inclusion of a provision for non-retail container in its standards, provided the scope did not exclude this type of containers.

The Guidelines on Labelling Provisions in Codex Standards contained a model wording for such a section (Appendix V to ALINORM 85/22A). The WG was of the opinion that this model was suitable for inclusion in the standards for processed fruits and vegetables provided that the blank be filled with reference to all labelling provisions appearing in the standards concerned. Furthermore the WG was of the opinion that an additional provision be included requiring that outer containers holding prepacked foods in small units (Section 6 of the General Standard) be fully labelled.

The WG identified a problem which might arise in requiring that clear shrink-wraps holding more than one package carry a label despite the fact that the labels of the individual packages are clearly legible and recommended that guidance be requested on this matter from CCFL.

Conclusion

19. The WG recognized that it was paramount to review in detail not only the labelling provisions of all the standards for processed fruits and vegetables but to look at the standards as a whole and to determine on an individual basis whether the above proposed amendments are suitable in every case and/or whether additional amendments might be needed. The WG, therefore, recommended that CCPFV should request the services of a consultant to prepare a detailed paper setting forth the wording of the amendments for each standard.

20. The WG noted the intention of the Committee to adjourn sine die after the session and recommended that further elaboration of the amendments should follow the procedure adopted by the 15th Session of the Commission, according to which the two Secretariats would act on behalf of the Committee. The WG also recommended that the Committee authorize the Secretariat to function on its behalf with regard to the further action necessary on the consultant paper, in view of the fact that the Committee had agreed to the principles of the revision as set out in this report.