codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

JOINT OFFICE: Via delle Terme di Caracalla 00100 ROME Tel. 57971 Telex: 610181 FAO I Cable.: Foodagri

ALINORM 87/30

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REPORT OF THE FOURTH SESSION OF THE CODEX COMMITTEE ON VEGETABLE PROTEINS
Havana, Cuba, 2–6 February 1987

TABLE OF CONTENTS

APPENDICES

INTRODUCTION

1. The Fourth Session of the Codex Committee on Vegetable Proteins (CCVP) was held in Havana, Cuba from 2 to 6 February 1987 by courtesy of the Government of Canada and in cooperation with the Government of Cuba. Representatives and observers from 31countries and 4 international organizations attended the Session. (See Appendix I for the List of Participants).

2. Dr. Norman W. Tape, Director, Food Research Centre, Agriculture Canada, was the Chairman of the Session.

OPENING CEREMONY

3. The opening ceremony was attended by Dr. Antonio Rodriguez Maurell, Vice-President of the Council of Ministers of the Republic of Cuba; His Excellency Michael Kergin, Canadian Ambassador to Cuba; Mr. Jose Ramón Yarza, FAO Representative to

Cuba; Dr. HectorTerry Molinet, Cuban Vice-Minister of Public Health and Ing. Ramón Darlas Rodés, Minister-President of the Cuban State Committee of Standardization, Codex Coordinator for Latin America and the Caribbean and Chairman of the Coordinating Committee for Latin America and the Caribbean.

The Minister of Food, Dr. Alejandro Iglesias, welcomed delegates and observers on behalf of the Government of Cuba and expressed warm appreciation to the Government of Canada which normally hosted the Committee in Ottawa, for organizing the transfer of the Fourth Session to Cuba.

He also referred to the great importance that Cuba attached to the aims of the Codex Alimentarius Commission and of the value of the work of the CCVP to the developing world. The text of the Minister's speech is attached as Appendix II.

4. The Canadian Ambassador, M.F. Kergin, also extended a warm welcome to participants in a session which, he said, marked a milestone in international cooperation. This was the first time since the Codex Alimentarius was established in 1962 that a host country of a Codex Committee had agreed to relocate the venue of a meeting to a developing country and Ambassador Kergin hoped that this unprecedented decision would encourage host countries of other Codex Committees to consider similar arrangements in other parts of the world. The text of Ambassador Kergin's speech is attached as Appendix III.

5. The Chairman of the CCVP, Dr. Norman Tape, joined the previous speakers in welcoming delegates and observers. He thanked the Government of Cuba for their excellent cooperation in organizing the meeting and for the individual attention which had been given to delegates arriving in Havana. He also expressed satisfaction at the increased participation at the Session.

6. He noted that a number of delegations were attending a CCVP session for the first time and gave a review, with the aid of slides, of the aims of the Committee and the progress it had made in carrying out its work programme.

ADOPTION OF THE AGENDA

7. The delegation of Switzerland referred to the recent session of the Codex Committee on Foods for Special Dietary Uses (CCFSDU) which had taken place in Bonn in January this year. The CCFSDU had now completed Draft Guidelines for the Use of Codex Committees on the Inclusion of Provisions on Nutritional Quality in Food Standards and other Codex Texts and General Principles on the Addition of Nutrients to Foods. In addition, at the previous session of the CCFSDU, a Working Group had examined the Proposed Draft Guidelines for the Utilization of Vegetable Protein Products (VPP) in Foods and the Proposed Draft Guidelines for Testing Safety and Nutritional Quality of Vegetable Protein Products and had proposed amendments to certain provisions of the texts. (See CX/VP 87/2Add. 1).

8. The delegation proposed that a Working Group should meet during the Session to consider what changes were necessary to bring the VPP texts into line with the CCFSDU documents and to report their proposals for changes to the Committee for discussion later in the Session.

9. The Committee agreed to this course of action and noted that the Working Group would consist of representatives from Canada, Cuba, Netherlands, Switzerland and U.S.A.

10. The Committed adopted the agenda without further discussion.

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

11. The Secretariat briefly reviewed matters concerning the Committee which had been discussed by the Commission at its 16th Session and by other Codex Committees.

12. The Committee had advanced the following to Step 5 of the Procedure: -

- Draft International Standard for Vegetable Protein Products
- Draft International Standard for Soy Protein Products
- Draft International Standard for Wheat Gluten
- Draft General Guidelines for the Utilization of Vegetable Protein
- Products in Foods

13. The Committee noted that in addition to progress reports on protein quality measurement and quantitative methods for the differentiation of vegetable and animal proteins, the need for standards for potato proteins and soy-based beverages would also be reviewed.

14. The Commission had expressed its satisfaction on the progress made by the Committee.

OTHER CODEX COMMITTEES

CODEX COMMITTEE ON FOOD HYGIENE (CCFH), 20TH SESSION (ALINORM 85/13A)

- Draft Codex General Standard for Vegetable Protein Products
- Draft Codex Standard for Soy Protein Products
- Draft Codex Standard for Wheat Gluten

15. The Committee noted that CCFH had endorsed the following provisions for the above standards.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1).

6.2 To the extent possible in good manufacturing practice, the products shall be freefrom objectionable matter.

6.3 When tested by appropriate methods of sampling and examination, the products:

(a) shall be free of microorganisms which may present a hazard to health;

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

(c) shall not contain any other poisonous substances in amounts which may represent a hazard to health.

CODEX COMMITTEE ON FOOD LABELLING (CCFL), 18TH SESSION (ALINORM 85/22A)

16. The Committee noted the observations made by the CCFL and agreed to consider the min detail under the appropriate agenda items.

17. It also noted that the CCFL had pointed out that as presently drafted, both the General Standard on VPP and the specific Standard for Soy Protein Product covered soy proteins products, the difference being in the required protein content. Since this might also have a bearing on the name of the food, the CCFL felt that clarification should be sought on the relationship between the two standards.

18. The Secretariat reviewed the background to the development of the two standards.

19. At its first session held 3-7 November, 1980 in Ottawa, the Committee had agreed to develop three separate standards for vegetable protein flours, vegetable protein concentrates and vegetable protein isolates. Para. 96 of the report of the First Session noted that the delegation of Canada expressed the view that the three draft standards had many points in common and it might be better to classify the three types of products on the basis of protein content in a, common standard.

20. Following a round of comments, the Committee agreed at its second session, 1-5 March 1982 in Ottawa that there should be a general standard covering vegetable protein products from all sources, including soya beans. It was also agreed that the development of a single amalgamated standard for vegetable protein products derived from soya beans could also proceed on the understanding that provisions in the general standard, which were also applicable to soya protein products, would be incorporated in the standard together with those provisions that were specific or unique to soya protein products.(See also para. 125)

21. In taking this course of action the Committee had agreed that it would consider the development of specific standards for other vegetable protein products. As a result there was also agreement to elaborate a specific standard for wheat gluten.

CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING - Report of Ad-Hoc Working Group of Experts on Endorsement of Methods of Analysis and Sampling

22. The Committee noted that the above Working Group had examined the methods proposed by the Committee for the three standards in progress and agreed to examine the decisions and comments of the Working Group when considering the Standards under the appropriate agenda items.

23. The delegation of France pointed out that in some cases ISO methods were available and had not been proposed when the Committee had made its submissions to CCMAS.

24. The delegation informed the Committee that such ISO methods were now available and should be discussed with a view to including them in the standards.

25. The Committee noted that the CCMAS had already endorsed many of the methods proposed and that a detailed comparative study of proposed additional or alternative methods would be required before presenting proposals to the CCMAS for changes to methods already endorsed.

26. It also pointed out that a Consultative Group of representatives from the major analytical organizations had met in conjunction with the CCMAS to coordinate work on methods of analysis required by Codex Commodity Committees.

27. The Committee agreed that further information on ISO methods of analysis now made available should be considered by a Working Group which would report its findings to the Committee at a later stage in the session.

28. The delegations of Canada, Cuba, France (Chairman), Netherlands, United Kingdom and U.S.A. agreed to participate in the Working Group.

REPORT OF THE AD HOC WORKING GROUP ON THE NEED FOR AN UPDATE ON THE 1978 PAPER PREPARED BY DR. C. KAPSIOTIS RESPECTING VEGETABLE PROTEIN PRODUCTION AND UTILIZATION FOR HUMAN USE

29. The Committee had before it a document entitled as above which had been prepared by Dr. Walter J. Wolf (U.S.A.). The document was introduced by a member of the U.S. delegation, in the absence of Dr. Wolf. Several countries, including the observer from the European Vegetable Protein Federation (EUVEPRO), commented on the document.

30. The delegation of the Netherlands indicated that Sweden was the only European country which had participated in the Ad Hoc Working Group. The delegation indicated that the paper needed to be brought further up-to-date in certain respects. There had been developments in the EEC, especially in regard to wheat gluten, which would need to be covered in the document. Also, there had been workshops on vegetable protein in Amsterdam and more recently in Paris in 1986 where the European Soy Food Association had been established. There had been matters arising from the workshops which might be of interest to the Committee. Concerning Section IV, paragraph 13 of the document, relating to the regulatory position in the Netherlands, the delegation indicated that what was stated in that paragraph was no longer entirely correct and needed to be updated. The use of vegetable proteins in meat products would no longer be limited. The name of the product would be "product with x% meat and y% non meat protein product". A declaration of the ingredients in order of their relative predominance in the total food formulation and VPP should be provided on a hydrated basis. Concerning Section II, paragraph 3, Cottonseed, the delegation of the Netherlands stated that vegetable protein products from cottonseed were being manufactured in Israel and being used in the Netherlands.

31. The delegation of the United Kingdom, referring to what was stated in paragraph 18 of Section IV, indicated that the information given was now out of date, since new meat product regulations had been operative in the U.K. since 1984. The delegation of the U.K. offered to prepare a revised version of paragraph 18.

32. The delegation of France drew attention to the growing interest in pulses as a source of vegetable protein products, especially for some developing countries in Africa. The delegation also indicated that the use of vegetable protein products was allowed in France under certain conditions and that the present regulations controlled conditions of use and labelling requirements, especially in meat products, and added that the maximum level of vegetable protein permitted in processed meat products was 30%. The delegation offered to provide a text containing additional information in order to bring paragraph 7of Section IV of the document up-to-date.

33. The delegation of Japan, referring to Japanese standards, stated that manufacturers must respect the standards only when there is an emblem or seal on the container indicating that the products are in conformity with the standards.

34. The delegation of Argentina indicated that Argentine legislation had established a maximum of 20% for vegetable protein products in meat products.

35. The delegation of Brazil stated that there were regulations in Brazil concerning the use of vegetable protein.

36. The delegation of Denmark indicated that new regulations on the composition of meat products had come into force in 1985. Vegetable protein products were not permitted to be used in whole pieces of meat, but could be used in comminuted products up to a level of 1-5% according to product type.

37. The delegation of Canada, referring to paragraph 5 of Section IV, stated that the proposed regulatory changes had now been promulgated.

38. The observer from the European Vegetable Protein Federation (EUVEPRO) indicated that his Federation had carried out a survey of the legislation governing the use of vegetable protein products not just in meat products, but also in all other products. The survey would be ready for printing shortly.

39. The Committee agreed that an updated version of the document would be useful for information and reference purposes. The Committee requested the rapporteur country (U.S.A.) to undertake this task and requested those delegations which had spoken and which had offered to supply revised up-to-date material to do so. The observer from EUVEPRO and EWSA was also invited to supply information to the rapporteur country. The delegation of the U.S.A. accepted this assignment and it was agreed that the information should be sent to the Head of the U.S. delegation (Ms. E. Campbell - see List of Participants) not later than 31 October 1987, in order to allow for issue of the revised document to member governments well in advance of the next session of the Committee.

AD HOC WORKING GROUP ON PROTEIN QUALITY MEASUREMENT - PROGRESS REPORT

40. The Committee had available CX/VP 87/3 on the above subject.

41. The document was presented by Dr. Margaret Cheney (Canada) on behalf of Dr. G.Sarwar, Coordinator of the Working Group (Canada, U.S.A.).

42. Dr. Cheney drew attention to the summary and conclusions of the report which basically supported those of the previous report, namely that the amino acid score procedure, including correction for true digestibility of crude protein and/or bio-availability of essential amino acids is the preferred approach for evaluating protein quality of VPP and other food products. Amino acid scores may be based on the most limiting amino acid or 2, 3, 4 or 5 amino acids such as lyslne, methionlne, cystine, threonine and tryptophan.

43. Initial results from the USDA-organized cooperative study on protein quality assessment and other reports suggest that adjusting amino acid scores for true digestibility of crude protein would give sufficient correction for most purposes.

44. The conclusions also stated that the FAO/WHO/UNU (1985) suggested pattern of amino acid requirements for preschool children (2-5) which is in close agreement with the NRC (1980) scoring pattern should be used as the reference protein for calculating amino acid scores.

45. Promising in vitro methods for estimating protein digestibility had been developed and data available after the completion of current cooperative studies and a planned study - "In Vitro Protein Digestibility" should form the basis of a firm recommendation concerning the use of amino acid scores (corrected for crude protein digestibility) for evaluating protein quality of VPP.

46. As a backup procedure the RNPR, if corrected for the sulfur amino acids, was considered a useful bioassay method which should be further explored.

47. An official recommendation on methods for evaluating protein quality of VPP should be deferred until the next session of the Committee.

48. The delegation of France reported that experimental work in progress in France on animal feedstuffs showed that digestibility varied considerably with processing, storage and distribution in the final product. It was expected that some data could be provided soon on the influence of these factors on true dietary composition.

49. This data would be made available to the Working Group.

50. Dr. Bodwell (U.S.A.) agreed that the factors mentioned above greatly affected digestibility. He also indicated that the "In Vitro Collaborative Study on Digestibility" would be available in about two years' time when it was expected that a firm position could be taken on the method.

51. Referring to point 7 of the summary and conclusions of document CX/VP 87/3, the Netherlands distributed a document on the evaluation of protein quality measurement in which methods to determine the nutritive quality of food proteins were evaluated by comparing amino-acid scoring and "in vitro" digestion procedures with RNPR obtained by bio-assay with rats. This research document could contribute to the ongoing research in the field as stated in point 6 of the summary and conclusions of document CX/VP 87/3.

52. The Committee noted with great appreciation that the Working Group would continue to keep current work under review and would present a further progress report for the next session of the Committee.

REPORT ON CURRENT PROGRESS IN QUANTITATIVE METHODS FOR THE DIFFERENTIATION OF VEGETABLE AND ANIMAL PROTEINS

53. The Committee had before it document CX/VP 87/4, entitled as above, which had been prepared by the Netherlands. Having introduced the document, the delegation drew the Committee's attention to the conclusions set out in the document and, in particular, to the conclusion that "the most promising approach in methodology appears to be by immuno chemistry and in the near future in liquid chromatography".

54. It was agreed that It would be very useful to continue work In this field and the delegation of the Netherlands Indicated its willingness to do so and to prepare an updated paper for the next session of the Committee. The delegation of the Netherlands indicated that the task was a complicated one and that support from other interested countries was needed in carrying out this task. It was noted that the United Kingdom and the U.S.A. would continue to collaborate with the Netherlands. Other interested countries were also invited to collaborate. The Committee looked forward to receiving a further updated paper on this topic for its next session.

REPORT OF THE AD HOC WORKING GROUP ON FOOD ADDITIVES FOR INCLUSION IN THE GENERAL STANDARD FOR VEGETABLE PROTEIN PRODUCTS (VPP) AND SOY PROTEIN PRODUCTS

55. The Committee had before it document CX/VP 87/5, entitled as above, which had been prepared by the U.S.A. Introducing the document, the delegation of the U.S.A. indicated that it related to the proposed draft standard for soy protein products (SPP), but that many of the additives covered in the document could probably also be relevant for the proposed draft general standard for vegetable protein products (VPP). The

delegation pointed out that the document should be regarded as a draft and it did not purport to contain a complete list of chemical substances used in the preparation and processing of SPP.

56. The list of additives contained in the U.S. document was a rather lengthy one, which attempted to provide for most of SPP in commerce. In other words, a large number of additives was needed to enable the manufacturers of SPP (and VPP) to meet the specific requirements of the purchaser of the SPP (or VPP) whose needs varied widely, depending on the nature of the product in which the SPP or VPP was intended to be used. This gave rise to a discussion on a point of principle raised by the delegation of Norway, in which the delegations of Canada, Cuba, France, Italy, Japan, Netherlands, Norway, Switzerland, U.K. and U.S.A and the observer from EUVEPRO expressed their views. The delegation of Argentina stated that the document was presented too late to enable it to form an opinion.

57. The delegation of Norway raised the question whether it was appropriate for the General Standard for VPP or the Standard for SPP to cover, in the Food Additives sections, all possible treatments to which VPP and SPP could be subjected, in order to meet the different requirements of manufacturers of products using VPP or SPP. The delegation thought that this would be virtually a limitless task and that such a list of food additives, even If it could be drawn up comprehensively, would soon need to be added to, taking Into account new needs for new products.

58. Several delegations supported the viewpoint of the delegation of Norway. It was recalled that, at its last session, the Committee had removed the word "primary" before the words "vegetable protein products" in the Scope Section of the two draft standards, whilst at the same time the Scope section did contain the sentence "The VPP are intended for use in foods requiring further preparation and for use only by the food processing industry". This might have led to some confusion as to the Intent of the Scope section.

59. During the course of a lengthy debate in which many delegations and the observer from EUVEPRO took part, it gradually emerged that there were three options before the Committee for consideration.

i) To change the Scope Section by reinstating the word "primary" before VPP and SPP and then identify those additives needed in the preparation of the primary product.

ii) Maintain the Scope Section as it is and develop a long list of VPP for specific uses and consequently a long list of food additives.

iii) Maintain the Scope Section as it is and identify those additives needed in the preparation of the primary products, with the addition of a sentence would recognize that other additives may be needed where the VPP or SPP is required for a specific use, and that such uses should be governed by national legislation applicable to the final product.

60. As the discussion progressed, it emerged that besides the primary producer of VPP and SPP there were also "premixers" who supplied SPP and VPP to the precise requirements of the manufacturers of final products. The primary producer might also be a "pre-mixer".

61. Most delegations were in favour of the third option mentioned in paragraph 59 above, although some proposed modifications to that option.

62. The delegation of Switzerland considered that the third option was the most realistic of the three, but thought that in the additional sentence proposed, which recognized that other additives might be needed for specific purposes, it would be desirable to refer to other additives 'recognized as safe'.

63. The delegation of the Netherlands and the U.K. also supported the third option. The delegation of the U.K. thought however that the additional sentence proposed would require very careful wording in order not to make it too open ended.

64. The delegation of Italy thought that the third option was the best of the three, as long as the text made it clear that only necessary additives which expressed their function in the protein product could be used, but that other additives could also be used in VPP or SPP if these were authorized by Codex or national standards in the product for which the VPP or SPP was intended.

65. The delegation of France also favoured the third option and considered that other additives referred to in paragraph 59 above could be used provided their use was permitted in the products for which the VPP or SPP was intended.

66. The delegation of Norway considered that the use of other additives referred to above could be be accepted provided those other additives were permitted to be used in the final product. Also the premix should be labelled as intended for that particular purpose.

67. Reference was made to processing aids during the course of the discussions. The delegation of Switzerland drew the Committee's attention to the fact that there was a Working Group on Processing Aids in the Codex Committee on Food Additives (CCFA) and that a distinction had been drawn between processing aids and food additives in that the list of processing aids was not a positive list, but was open-ended.

68. The delegation of Switzerland, referring to the U.S. document, pointed out that hydrolyzed vegetable protein was regarded in Switzerland as an ingredient and not as an additive.

69. The delegation of Cuba, referring to the U.S. document, stated that it was necessary to provide for the use of sodium bicarbonate.

70. The delegation of Japan, referring to the U.S. document, considered that proteinase and dimethylpolysiloxane and certain other additives should be provided for.

71. In conclusion, the Committee agreed that governments and interested international organizations should be requested to indicate what additives needed to be provided for in the General Standard for VPP and the Standard for SPP, on the basis of the third option referred to above, that is to say, what additives were needed in the preparation of the primary products, with an indication of the technological reason for the use of the additive. Their views as to an appropriate form of words for the use of other additives were also Invited.

72. It was agreed that the deadline for the receipt of this information should be 31 May 1987, but countries represented at this session were urged to make the information available earlier, if possible. The information should be sent to Ms. E. Campbell, Head of the U.S. delegation (see List of Participants), who was charged by the Committee to head a Working Group, with assistance from the Netherlands and EUVEPRO. The U.S. would then prepare a paper on the basis of the information received relating to the use of additives in the General Standard for VPP and the Standard for SPP. The paper should be sent to the Codex Secretariat in Rome by 30 November 1987 and it should

then be sent out for comments early in 1988. The comments should be sent to the Canadian Secretariat by mid 1988. The Canadian Secretariat would then prepare a summary paper which would be sent to all Codex Contact Points in October 1988, in good time before the next session of the Committee early in 1989.

CONSIDERATION AT STEP 7 OF THE PROPOSED DRAFT GUIDELINES FOR THE UTILIZATION OF VEGETABLE PROTEIN PRODUCTS (VPP) IN FOODS

73. The Committee had before it the above document (ALINORM 85/30, Appendix II) and CX/VP 87/7 containing comments from the Federal Republic of Germany, France, Ireland, Thailand and EUVEPRO.

74. The Committee recalled that it had earlier formed a Working Group to consider there commendations made by a Working Group of CCFSDU at its penultimate session (CX/VP 85/2Add.1) and further recommendations arising from the CCFSDU session in January this year(see also paragraphs 7-9).

75. It was agreed that the conclusions and recommendations of the Working Group, which largely concerned the provisions in sections 3, 5, 6, 7 and 8 would be considered at a later stage.

6. USES OF VEGETABLE PROTEIN TO INCREASE CONTENT OF UTILIZABLE PROTEIN

Section 6.2 - Supplementation/Complementation

76. The Committee suggested that the square brackets should be removed from the proposed 20% level by which supplementation/complementation should increase utilizable protein.

Section 6.3

77. The delegation of the United Kingdom thought that the levels of lysine and methionine + cystine in the complementary proteins was applicable to soy proteins, but not necessarily to vegetable protein in general. The delegation of the U.S.A. noted that the values of 5.5% lysine and 3.5% methionine + cystine were apparently based on the 1973 FA0/WH0 Reference Amino Acid Pattern. The levels had been changed in the 1985 FA0/WH0/UNU Report to 5.8% and 2.5%, respectively, for the 2 to 5 year old child. It was agreed to adopt the values from the 1985 report and to remove the square brackets.

78. It was also noted that the study referred to the available amino acids and the text was amended to read as follows:

> "6.3 For a significant degree of complementation in protein quality of diets deficient in lysine or in methionine + cystine the complementary protein should contain at least 5.8% available lysine or 2.5% available methionine + cystine respectively."

Section 6.8

79. The Committee noted that this provision regarding the protein content of a food containing VPP proposed that the biological value should be assessed by RNPR and NPU. Since assessment methods for the purposes of this standard were still under review, the Committee preferred the more general wording proposed by EUVEPRO. It was also noted that the CCFSDU had completed its work on Guidelines on Nutrition Labelling and it was agreed to reference them in the provision. The square brackets in the text were removed.

The amended text reads as follows: -

"6.8 The protein content of a food containing VPP as a nutritional supplement should be declared in accordance with the Codex Guidelines on Nutrition Labelling. Where claims are made with respect to the biological value of the protein, the biological value should be assessed according to the established methods for protein quality measurement."

7. USES OF VPP IN PARTIAL OR COMPLETE SUBSTITUTION OF THE ANIMAL PROTEIN IN FOODS

Section 7.5

80. The Committee noted that the two versions of this provision, which dealt with the name of the product where part of the meat protein content had been substituted by VPP, had been placed in square brackets at the last session.

81. The two versions represented opposing points of view, one In which the established or common name could be used In conjunction with the term "vegetable protein product" and the other which excluded such a possibility when a name had been established for a food in a Codex Standard.

82. The question had been discussed by the Codex Committees on Processed Meat and Poultry Products, the Codex Committee on Food Labelling, the Executive Committee and finally by the Commission in an attempt to resolve these divergent views.

83. At the 16th Session of the Commission the matter was summarized as follows (ALINORM85/47, para. 547): -

"The only substantive matter to be resolved was the Guideline on Labelling of an animal food product in which part or all of the animal protein had been substituted by a vegetable protein product. This subject had received full discussion earlier in the Commission's session (see paras. 175-185) and, therefore, did not need to be re-discussed at this juncture. Dr. Tape informed the Commission that, with the objective of moving towards resolution of this issue, he had invited the United Kingdom and the U.S.A. to prepare a revised text for sections 7.5 and 7.6 of the Guidelines for consideration at the next session of the CCVP. Both delegations had accepted the invitation to draft a joint text. As a result, Dr. Tape was hopeful that the Committee would resolve this difficult issue at its next meeting."

84. At its present session the Committee had before it a revised text prepared jointly by the delegation of the United Kingdom and the U.S.A. which read as follows: -

"7.5 When VPP partially substitutes for the protein of an animal product, the following nomenclature criteria should apply:

i) The name of the VPP should appear in the name of the food.

ii) The name of the substituted product should describe the true nature of the product; it should not mislead the consumer; and It should enable the substituted product to be distinguished from products with which it could be confused.

iii) The portion of the food that bears the name in a Codex standard or equivalent national standard should comply with that standard.

iv) In cases where the substitution results in an amount of the animal protein product lower than that required by a Codex or national standard, the name of the standardized animal food should not be used as the name of the substituted product."

85. The delegation of the U.S.A. Informed the Committee that the two parties who had met to draft the revised provision had based their agreement on common concerns; that is, that the name should be descriptive of the product, that the consumer must not be misled, that standardized products in mixtures should comply with the provisions of the original standard, and that the name of a standardized component should not be used when the protein content fell below the compositional minimum.

86. The delegation of the United Kingdom informed the Committee that the provisions had been drafted to cover products where a standardized name could be used (provisions (i),(ii) and (iii)) and products where the use of a standardized name could not be permitted.

87. The ultimate purpose of the agreed text was to ensure that the products present in the final product were properly and accurately labelled.

88. The delegation of Denmark thought that the proposed provisions (i) and (ii) were satisfactory in explaining the nature of the product to the consumer, but that provision(iii) was not clear.

89. The delegation pointed out that in practice such a provision would be difficult to control, since the standardized product and the VPP formed a homogeneous mixture in which the two components would be difficult to analyse for compliance with the provision. Several delegations agreed with this point of view.

90. The delegation of Canada suggested that section (iii) could be deleted and that the intent of the provision could be accommodated by changing section (iv) to allow for the use of the name of the standardized food when suitably qualified.

91. The Committee agreed with this course of action: provision (iii) was deleted and section (iv) was amended to read as follows: -

"(iv) In cases where the substitution results in an amount of the animal product lower than that required by a Codex or national standard, the name of the standardized animal food should not be used as part of the name of the substituted product unless properly qualified."

92. The delegation of Denmark mentioned that certain existing Codex Standards and national compositional standards excluded, as a principle, the possibility of qualification of standardized names. Therefore, another provision should be added to emphasize that the scope of established standards should be respected when determining the name of a substituted product.

93. The Committee agreed to the following text: -

"The provisions of a Codex Standard or a national compositional standard should be taken into full account when determining the name of a food."

There was further discussion on the provisions of provision (i).

94. The delegation of the Netherlands proposed that the use of the term "Vegetable Protein Product" should be allowed without necessarily stating the specific source of the protein.

95. Several delegations were against this proposal, since the consumer might wish to avoid protein from a particular source for health reasons.

96. The delegations of Canada and the United Kingdom also pointed out that such a proposal was in conflict with section 4.1.1 of the General Standard for Food Labelling; even though the particular source of vegetable protein would figure in the list of ingredients.

97. The delegation of France was of the opinion that indication of the protein source need not necessarily appear in the name of the food and considered that it would be impracticable to mention all VPP names when several VPPs were used in one food product.

98. After some further discussion, the Committee agreed with a suggestion of the United Kingdom for provision (i) which reads as follows: -

> "(i) The presence of the Vegetable Protein Product should be indicated in the name of the food."

99. The delegations of Norway and France stated that they were opposed to the use of standardized names for products which had been substituted.

100. The Committee was satisfied that the joint proposal for provision 7.5 had been fully discussed and agreed to adopt the text as amended during the discussions.

The full text now reads as follows: -

"7.5 When VPP partially substitutes for the protein of an animal product, the following nomenclature criteria should apply:

i) The presence of the VPP should be indicated in the name of the food.

ii) The name of the substituted product should describe the true nature of the product; it should not mislead the consumer; and it should enable the substituted product to be distinguished from products with which it could be confused.

iii) In cases where the substitution results in an amount of the animal protein product lower than that required by a Codex or national standard, the name of the standardized animal food should not be used as part of the name of the substituted product unless properly qualified.

iv) The provisions of a Codex Standard or a national compositional standard should be taken into full account when determining the name of a food."

Section 7.6

101. The Committee agreed to remove the square brackets from the text which covered the name of the food when 100% of the protein in the food was from VPP.

ANNEX I - PROPOSED DRAFT GUIDELINES FOR TESTING SAFETY AND NUTRITIONAL QUALITY OF VEGETABLE PROTEIN PRODUCTS

102. The Committee noted that the reference to studies using human volunteers (4th paragraph of the introduction) was in square brackets. No government comments had been received on this point.

103. The Committee agreed with a proposal of the delegation of Denmark that the phrase should read "and where applicable, studies using human volunteers" and removed the square brackets.

104. The Committee having now resolved the question of the texts In square brackets, returned to consideration of other provisions in the Guidelines in the light of further comments from governments and international organizations.

4. BASIC PRINCIPLES

105. The delegation of France pointed to an inconsistency in the English and French texts of 4.1. The Committee noted that the French text should be changed to "ne devraient pas presenter de danger."

4.3(b) Source of Ingredient

106. The delegation of EUVEPR0 thought that since VPP was established a class of food product, it was unnecessary to require specification of the source or processed form where used for functional purposes and that an ingredient statement of the source should be optional. This opinion was shared by EWSA.

107. The delegation of Sweden pointed out that an ingredient statement was necessary for consumer protection, since less than one per cent of certain proteins could cause allergic reactions.

108. Several delegations agreed with Sweden; the delegation of Canada also pointed out that in the Standard for the Labelling of Pre-Packaged Food, VPP was not a class name.

109. The Committee made no change to 4.3(b)

6.6 Addition of Vitamins and Minerals

110. The delegation of Italy pointed out that the addition of vitamins and minerals to VPP should not be applied as a general rule, and that such additions should be considered on a case by case basis. The Committee agreed that this point would be considered by the Working Group which was examining the Guidelines.

SECTION 7 - FURTHER COMMENTS

7.1 Use of VPP to Substitute Animal Proteins in Foods

111. The delegation of the Federal Republic of Germany was of the opinion that this section should be complemented by the following sentences:

"a) In meat products animal protein must not be replaced by vegetable protein."

"b) In milk and milk products the milk protein must not be replaced by vegetable proteins."

for the following reasons:

a) The guidelines for vegetable proteins and the guidelines for meat and poultry products have to be described separately for systematic reasons. Different basic materials must not be confused with regard to the description of their use. The replacement of meat protein determining the biological value by vegetable protein has been prohibited in the Federal Republic of Germany and in many other countries for reasons of consumer protection. Therefore, adequate guidelines or recommendations should be furthermore reserved to national decisions.

b) The replacement of milk protein determining the biological value by vegetable protein has been prohibited in the Federal Republic of Germany and in many

other countries. Therefore, adequate provisions should be furthermore reserved to national decisions.

The above comments were not discussed by the Committee.

7.2(i) Nutritional Adequacy

112. The delegation of France was of the opinion that the equivalence of protein quality of vegetable protein based products to the protein quality of the original seemed unrealizable and suggested that 7.2(i) be deleted.

113. The delegations of the U.K., Denmark and Italy agreed with this point of view. The delegation of the U.K. suggested that the text proposed by EUVEPRO in its written comments which reads "The nutritional properties of any food containing VPP should be consistent with the intended use of that food", should be adopted. EUVEPRO confirmed the opinion expressed in its written comments.

114. Other delegations thought that the change would not give sufficient information on the provision.

115. The Committee decided not to change 7.2(i).

Report of the Working Group on the Draft Guidelines for the Utilization of Vegetable Protein Products (VPP) in Foods

116. The report of the Working Group established earlier in the session was presented by Dr. Margaret Cheney (Canada).

117. Dr. Cheney informed the Committee that the Working Group, which consisted of representatives from Canada, Cuba, the Netherlands, Switzerland and U.S.A. had reviewed the definitions and had made the necessary amendments. New or revised definitions for protein quality, reference amino acid pattern and supplementation and other terms had been added to Section III.

118. Other changes had been made to Section 6 to reflect the views of this Committee and the CCFSDU.

119. The Committee noted that there were now two versions of 6.6. - "Addition of Vitamins and Minerals", one based on the CCFSDU Guidelines and the other on an amended version of the existing text.

120. The delegation of Australia pointed out that the revised version of Section 6.7dealing with the use of VPP as a nutritional supplement to foods was widely divergent from the previous text.

121. The Chairman of the Working Group explained that the changes made were intended to cover the wide range of products to which VPP could be added.

122. After some further discussion the Committee decided that the definitions and amended provisions proposed by the Working Group should be incorporated in square brackets in the Guidelines and that the entire Guidelines be submitted to the CCFSDU for comments. The Guidelines would then be further considered at the next session in the light of government comments and comments from CCFSDU.

123. The Committee expressed its appreciation to the Working Group for its excellent work.

Status of the Guidelines for the Utilization of Vegetable Protein Products (VPP) in Foods

124. The Committee decided to return the Guidelines to Step 6 for a further round of comments and reconsideration at Step 7 at its next session.

CONSIDERATION AT STEP 7 OF PROPOSED DRAFT GENERAL STANDARD FOR VEGETABLE PROTEIN PRODUCTS (VPP)

TITLE OF THE STANDARD AND SCOPE

125. The Committee considered the above proposed draft general standard for VPP set out in ALINORM 85/30, Appendix IV, in the light of written comments contained in CX/VP 87/8and a Conference Room Document containing comments from the European Vegetable Protein Federation (EUVEPRO).

126. The delegation of Japan proposed that the title of the General Standard should be amended to read "Codex General Standard for Vegetable Protein Products Not Covered by Individual Standards". The delegation also proposed that a sentence be added to the Scope Section of the Standard to make it absolutely clear that the Codex General Standard did not apply to VPP to which a Codex individual standard applied and for which a specific name had been provided in the individual standard. The proposal of Japan was supported by the delegations of Italy, Norway and the U.K. The delegation of the U.K. added that the Codex Committee on Food Labelling, at its last session, had requested clarification of the relationship between the General Standard for VPP and the specific Standard for Soy Protein Products (SPP). The Secretariat drew attention to an analogous provision in the General Standard for Edible Fats and Oils Not Covered by Individual Standards and the Committee agreed to insert this text, editorially adjusted, in the General Standard for VPP. The agreed text reads as follows:

> "This Standard does not apply to any vegetable protein product which is the subject of a specific Codex Commodity Standard and is designated by a specific name laid down in such standards."

127. The delegations of France and the Netherlands reserved their position concerning this decision. The Committee did not change the title of the General Standard.

2. DESCRIPTION

128. Concerning 2.1, the delegation of France proposed that the minimum protein content be 50%. The Committee also had before it the comment of the Federal Republic of Germany proposing a minimum protein content of 50%, with an accompanying justification. The Chairman recalled that this topic had been discussed at great length at previous sessions of the Committee and that the existing figure of 40% was a compromise after much debate.The Committee agreed not to change the existing figure of 40% for minimum protein content. The delegations of the Netherlands and the U.K. wished to be recorded in the report as supporting the views of France and the Federal Republic of Germany.

3.2.1 Moisture

129. The delegation of France drew attention to the fact that in 3.2.1 there was no specific maximum limit laid down for moisture content. The delegation proposed a maximum moisture content of 10%, or possibly 10-12%. The proposal of France was supported by the delegation of Italy. The Chairman recalled that in an earlier version of the draft standard, there had been a figure in square brackets, but it had not proved possible to reach an agreement on the figure. For that reason it had been decided to withdraw the figure in square brackets and rely on a form of words. The Committee

agreed not to change the existing provisions and to record the reservations of France and Italy in the report.

3.3 Optional Ingredients

130. The observer from EUVEPRO proposed, in a Conference Room Document, a list of optional ingredients for inclusion in the standard (3.3). The list comprised (a) carbohydrates, including sugars, (b) edible fats and oils, (c) other protein products,(d) vitamins and minerals, (e) salt, (f) herbs and spices. This proposal was supported by the delegations of Canada, France, Italy and the U.K. However, the delegations of Italy and France reserved their position concerning vitamins and minerals. The proposal of EUVEPRO was adopted by the Committee.

3.4 Nutritional Factors

131. In the interest of more precision, the Committee agreed to add the word "anti-nutritional" before the word "factors" in the second line. The delegation of the United Kingdom thought this change was not an improvement, as some of the factors referred to in Section 3.4 were toxins and not simply anti-nutritional factors.

3.4.1 Protein Nutritive Value

132. Concerning 3.4.1., it was agreed that the wording should be amended to read "Minimum values for protein nutritive value for each VPP to be established."

4. FOOD ADDITIVES

133. It was agreed that this Section (Section 4) would be reviewed by the Committee at its next session in the light of the Report of the Working Group on Food Additives for inclusion in the General Standard for VPP and the Standard for SPP.

5. CONTAMINANTS

134. Concerning Contaminants, Section 5, the delegation of Norway thought that there was no need for maximum levels for contaminants unless there was a recognized problem. The first step therefore, would seem to be to carry out a survey. The delegation added that it might be more appropriate to fix maximum limits for contaminants in the final product.

135. The Chairman pointed out that at present no data in this area was available to the Committee. The delegation of the Netherlands indicated that in the Netherlands maximum levels of 0.1 mg/kg for cadmium, 0.5 mg/kg for lead and 0.05 mg/kg for mercury were proposed for Soy Protein Products. The observer from EUVEPRO recalled that in its written comments EUVEPRO was of the opinion that limits on contaminants in primary products was not a meaningful way of protecting the consumer, and that such requirements were more appropriate to the food products consumed. Concerning the matter of actual figures for maximum limits, the observer from EUVEPRO thought that levels such as 0.4 mg/kg for cadmium, 1.0 mg/kg for lead and 0.5 mg/kg for mercury would be more realistic. The delegations of France, Italy and the U.K. considered that it would be desirable to fix maximum limits for contaminants in products covered by the standard, but acknowledged that this could not be done at present in the absence of data. The delegation of Sweden suggested that advice might be obtained from GEMS (Global Environmental Monitoring System).

136. It was recalled that in the past Australia had carried out a contaminants survey in canned fruits and vegetables for the CCPFV and that Switzerland had undertaken similar work for the CCCPL.

137. In conclusion, the Committee agreed that the Codex Secretariat in Rome should send out a Circular Letter seeking information from governments on this topic. On the suggestion of the delegation of the Netherlands, it was agreed that the contaminants be confined to cadmium, lead and mercury. It was agreed that the information should be sent to the Head of the Netherlands delegation (Ir. W.J. de Koe - see List of Participants), who was designated by the Committee to lead a Working Group on this topic. The Working Group would include Italy, Switzerland, EUVEPRO and EWSA. It was further agreed that the report of the Working Group should be sent to the Canadian Secretariat not later than 31March 1988.

6. HYGIENE

138. The Committee agreed that, in accordance with the recommendations of the Codex Committee on Food Hygiene, subsection 6.3 should be amended as follows:-

6.3 (a) shall be free of [pathogenic][1/] microorganisms which may represent a hazard to health[1/]

6.3 (b) No change.

6.3 (c) Shall not contain any other poisonous [or deleterious] [1/] substances in amounts which may represent a hazard to health.

8. LABELLING

General

139. The Committee noted that it would be necessary to introduce a number of consequential amendments following adoption by the Commission of the Revised General Standard for Prepackaged Foods.

8.1 Name of the Food

140. The Committee noted that Ireland in its comments had expressed the view that the name should provide for products made from two or more named sources, e.g. to provide complementary amino acid profiles. The Committee did not take up this suggestion.

141. The Committee noted that the CCFL had expressed the view that in 8.1.2, the protein content should be declared on a dry weight basis. This suggestion was adopted by the Committee and 8.1.2 was amended accordingly.

8.2 Net Contents

142. In response to a query from the delegation of Cuba, the Secretariat indicated that the metric system meant the "Systéme international" units.

Country of Origin

143. The delegation of Argentina expressed the view that the declaration of country of origin should always be mandatory. This view was supported by the delegation of Cuba.

[1/] Words in [] deleted and words added.

8.9 Exemptions

144. The Committee was informed by the Secretariat concerning Section 5.3 of the Draft Guidelines on Labelling Provisions in Codex Standards (Appendix V of ALINORM 85/22A), relating to labelling provisions for non-retail containers. As the Committee did not have the revised text recommended by the CCFL before it in writing, it decided to

include it in the standard the revised text, with a small amendment, in square brackets in substitution for the existing text under 8.9 Exemptions.

9. METHODS OF ANALYSIS AND SAMPLING

9.2.6 Solvent Residues (Hexane)

145. The delegation of the Netherlands wondered why this provision covered only hexane since there were many other solvents. The delegation of Norway drew attention to the fact that there was no provision in the standard for hexane residues. The delegation of Italy considered that a limit should be fixed in the standard for extraction solvents. The delegation of Switzerland pointed out that hexane and solvents in general were processing aids. In view of the fact that there was no provision in the standard for hexane residues, it was agreed to delete 9.2.6. It was agreed that if there were processing aids which included solvents, they could be considered at a later session. The delegations of France and Switzerland indicated that a list of processing aids would be looked at by the Codex Committee on Food Additives (CCFA) at its March 1987 session.

9.2.7 Trypsin Inhibitor and Other Nutritional Factors

146. The delegation of the Netherlands drew attention to the link between 9.2.7 and 3.4(Nutritional Factors). The delegation of the U.K. thought that, as no specific levels for anti nutritional factors were provided for in the standard, the provision could perhaps be deleted. The delegations of Argentina, Cuba, Italy and the Netherlands were opposed to this suggestion. The delegation of Italy considered that maximum limits should be fixed as otherwise the standard would not be operable. The delegations of Argentina and the Netherlands supported the delegation of Italy.

The Committee agreed to delete Section 9.2.7.

147. The delegation of Switzerland did not think it would be feasible to provide maximum limits for all anti-nutritional factors in a general standard. The delegations thought that 3.4 should be retained as is, as advice. The delegation of Italy acknowledged that the task would not be easy, but considered that an ad hoc Working Group should be established to make concrete proposals for consideration by the Committee. The delegation of the U.K. stated that there was no general method presently available which could determine all anti-nutritional factors.

148. The Committee concluded by determining to rely on section 3.4, as it now stands, as a means of alerting manufacturers in this field.

Status of the General Standard for VPP

149. The revised version of the General Standard is contained in Appendix V. As there were still a number of provisions in the standard which needed further consideration, the Committee decided to return the Standard to Step 6 for re-examination at its session at Step 7.

DRAFT RECOMMENDED INTERNATIONAL STANDARD FOR SOY PROTEIN PRODUCTS (SPP) AT STEP 7

150. The Committee had before it the above Draft Standard and CX/VP 87/9 containing comments from the Federal Republic of Germany, France, Thailand and EUVEPRO .

The Committee considered the following provisions:

SECTION 2 - DESCRIPTION AND SECTION 3 - ESSENTIAL COMPOSITION AND QUALITY FACTORS

151. Several delegations and the representative of EUVEPRO pointed out that the Standard would better reflect the trade position of the minimum crude protein content of soy protein concentrate were changed from 70% to 65% in these sections.

The Committee agreed to make the necessary changes.

3.2.1 Moisture Content

152. The delegation of the Netherlands pointed out that the use of the steam extrusion process for SPP was increasing and required a slightly higher figure for moisture content.

The Committee agreed to increase the figure to 10%.

3.2.4 Fat

153. The delegation of Switzerland expressed a reservation on this section since no figure for fat was stated in the provision.

3.3 Optional Ingredients

154. The Committee agreed to adopt the revised text from the General Standard.

155. The delegation of Italy reiterated its view that the addition of vitamins and minerals to SPP should be considered on a case by case basis. He also informed the Committee that in Italy the absence of free lysino-alanine was required in such products, and that the combined lysino-alanine should not exceed 100 ppm.

SECTION 5 - CONTAMINANTS

156. The delegation of France was of the opinion that maximum levels should be developed for aflatoxins.

The Committee decided to consider the proposal further when more information on maximum levels was available.

SECTION 8 - LABELLING

157. The Committee agreed to make the consequential changes from the Revised General Standard for the Labelling of Pre-Packaged Foods and to change Section 8.9 – Exemptions in line with the decision already taken for the General Standard (see paragraph 144).

8.4 Country of Origin

158. The delegation of Argentina reiterated its observation that the declaration of the country of origin should be compulsory.

9.2.7 Trypsin Inhibitor

159. The delegation of the Netherlands informed the Committee that an analytical method and limits (5 mg/g protein) for trypsin inhibitor had been proposed in its country.

160. The Committee agreed that a between session Working Group should correspond to propose limits and methods of analysis for consideration of the Committee at its next session.

161. The delegations of the Netherlands, U.S.A. and the observer of EUVEPRO agreed to participate in this work.

Status of the Draft Standard for Soy Protein Products (SPP)

162. The revised version of the standard is contained in Appendix VI. The Committee decided to return the Standard to Step 6 for a further round of comments, and reconsideration at Step 7 at its next session.

DRAFT RECOMMENDED INTERNATIONAL STANDARD FOR WHEAT GLUTEN

163. The Committee had before it the standard contained in ALINORM 85/30, Appendix VI and government comments contained in CX/VP 87/10.

164. The Committee agreed to the removal of the square brackets around the figure of 80% in sections 2.1 and 3.2.2.

165. The delegation of Argentina indicated that in relation to Section 8.4 – Declaration of country of origin was mandatory in that country and should be so in the standard.

166. In response to a question from the delegation of Argentina, the Chairman confirmed that the Working Group on Contaminants would deal exclusively with lead, cadmium and mercury and would not extend its consideration to arsenic.

167. In that the standard did not contain a specification for extraneous matter, the Committee decided to delete Section 9.2.6 dealing with a method for determination of extraneous matter. The delegation of the Netherlands reserved its position with respect to the deletion of Section 9.2.6.

168. The delegation of the Netherlands suggested that a new section be included in the standard dealing with the issue of hypersensitivity or intolerance to gluten. Following some discussion in which, inter alia, it was noted that the Codex Committee on Foods for Special Dietary Uses had adopted a standard for Gluten Free Foods (CODEX STAN 118-1981),the Committee decided that such a provision would be inappropriate, in that gluten intolerance is only one of many hypersensitivity reactions involving food.

169. Following a discussion of Section 8.1.1 - "Name of the Food", the Committee agreed to delete the term "vital gluten" as one of the optional names for the food.

170. The delegation of Japan expressed the view that a new section dealing with optional ingredients should be introduced into the standard. It also suggested that provision should be made for food additives as powdered wheat gluten products produced in Japan contained colours, flavours, antioxidants and certain processing aids. The delegation of the Netherlands also indicated that there was research on modified gluten products in its country,

171. The delegation of Japan suggested that the conversion factor in Section 2.1 (N x 6.25) should be (N x 5.7) as 5.7 represented an internationally accepted factor. The Chairman recalled that this issue had received considerable discussion at the Committee's third session: it was decided not to include the proposed changes in the Standard.

Status of the Draft Standard for Wheat Gluten

172. The Committee decided to advance the Draft Codex Standard for Wheat Gluten, as contained in Appendix VII, to Step 8 of the Codex Procedure taking into account consequential amendments to the labelling section and to monitor technological developments. The Chairman suggested that new developments be reported to the Working Group on Utilization being coordinated by the United States so that such information can be incorporated into an updated paper for the next session of the Committee.

REVIEW OF DRAFT GUIDELINES FOR U SE OF VEGETABLE PROTEIN PRODDCTS (VPP)
AND MILK PROTEIN PRODUCTS (MPP) IN PROCESSED MEAT AND POULTRY PRODUCTS

173. The Committee had before it ALINORM 85/16, Appendix IV.

174. he Committee recommended that the CCPMPP review the draft utilization guidelines under elaboration by the CCVP to prevent the introduction of inconsistencies.

175. The delegation of Norway pointed out that the CCPMPP had only decided for the moment to restrict its discussion to utilization of VPP and MPP. The delegation informed the Committee that the Codex Committee on Fish and Fishery Products (CCFFP) had supplied information to the CCPMPP on possible fish protein sources which might subsequently be included in the Utilization Guidelines being developed by the CCPMPP for consideration by that Committee at its next session.

176. The delegation of the Federal Republic of Germany expressed the view that the utilization guidelines under elaboration by the CCPMPP were unnecessary.

177. In response to a suggestion that besides the guidelines being elaborated by this Committee, the CCPMPP should take account of guidelines drawn up by the CCFSDU for other Committees concerning nutritional considerations in Codex Standards, the delegation of Denmark drew the Committee's attention to para. 204 of the report of the last session of the CCPMPP (ALINORM 85/16) which explained why the CCPMPP had agreed not to make any reference to provisions for nutritional adequacy in the Guidelines being elaborated.

REPORT OF THE AD HOC WORKING GROUP ON PROTEIN FROM POTATOES

178. The Committee had before it the report of the Ad Hoc Working Group on Protein from Potatoes (CX/VP 87/6) prepared by the delegation of the Netherlands.

179. Following an introduction of the report, the delegation of the Netherlands expressed the view that protein from potatoes fell within the scope of the Draft Standard for Vegetable Protein Products and recommended that no further work be done in this area.

180. The Chairman thanked the delegation of the Netherlands for its report and the Committee accepted the recommendation that no further work be carried out.

REPORT OF THE AD HOC WORKING GROUP ON SOY BASED BEVERAGES

181. The Committee had before it the report of the Ad Hoc Working Group on Soy-Based Beverages and paras. 170-171 of ALINORM 85/30.

182. As the author of the report from the delegation of Belgium was unable to attend the session, the report was introduced by the observer of EUVEPRO.

183. It was pointed out during the introduction that there was currently very little international trade in these products.

184. The Chairman thanked the delegation of Belgium for its contribution in providing the report and the Committee accepted the report as useful information requiring no further action at this time.

REPORT OF THE WORKING GROUP ON METHODS OF ANALYSIS

185. A Working Group composed of the delegations of France, Canada, Cuba, the Netherlands, Sweden, the U.K. and the U.S.A. and the observer from the European Wheat Starch Association (EWSA) met during the session to review methods of analysis for vegetable protein products.

186. The delegation of France introduced the report which is attached as Appendix VII.

187. Considerable discussion then ensued about classification of methods of analysis within the Codex system. The Secretariat pointed out that Type I methods are inextricably linked to a parameter in the standard resulting in the applicability of only one method. When dealing with Type I methods, the question of establishing an equivalent method did not arise.

188. Several delegations expressed the view that further discussion of methods endorsed by the CCMAS did not seem to be warranted.

189. Several other delegations expressed the view that, because of a lack of sophisticated equipment in some countries, some of the methods endorsed by the CCMAS might not be appropriate and that consideration should be given to the introduction of alternative methods.

190. The delegation of Italy expressed the view that only one method of analysis should be provided in order to ensure that both manufacturing quality control and government compliance activities are carried out relative to the same point of reference.

191. The Secretariat noted that while methods of analysis endorsed by CCMAS had wide authority and standing, as methods which had been collaboratively tested, it was not possible to have an existing endorsed method reviewed. The decision on whether it was necessary or desirable to initiate such a review rested with the Commodity Committee concerned.

192. The Committee agreed that a Circular Letter should be issued requesting comments from governments on the report of the Working Group, as well as the following points:

- appropriateness of the endorsed methods
- need for alternative methods to those that have been endorsed
- development of methods for parameters in the standards where no methods have so far been proposed
- sampling plans for VPP, SPP and Wheat Gluten.

FUTURE PROGRAMME OF WORK

193. The Committee noted that at its next session it would have before it the following:

- Report of the Working Group respecting vegetable protein production and utilization for human use (U.S.A., EWSA, EUVEPRO).
- Report of the Working Group on Protein Quality Measurement (Canada, U.S.A.).
- Report of the Working Group on Quantitative Methods for Differentiation of Vegetable and Animal Protein (Netherlands, U.K., U.S.A.).
- Report of the Working Group on Food Additives for inclusion in the General Standard for VPP and the Standard for SPP (Netherlands, U.S.A., EUVEPRO).

- Report of the Working Group on Contaminants (Italy, Netherlands, Switzerland, EUVEPRO, EWSA).
- Working Group on Trypsin inhibitors and other anti nutritional factors(Netherlands, U.S.A., EUVEPRO).
- Draft Standard for Vegetable Protein Products (VPP) at Step 7.
- Draft Standard for Soy Protein Products (SPP) at Step 7.
- Draft Guidelines for the Utilization of Vegetable Protein Products (VPP) in Foodsat Step 7.

DATE AND PLACE OF NEXT SESSION

194. The Chairman indicated that the next session would take place in about two years and would likely be held in Ottawa, Canada.

OTHER BUSINESS

195. The delegations of the Netherlands and Cuba thought that Single Cell Proteins and traditional fermented foods such as Tofu should be considered by the Committee, since they had good potential application in developing countries. Although the Committee considered that they were not extensively traded internationally and were not therefore included in the agenda for this Session, the delegations thought that a summary of progress in production and trade of such products should be included in the charge accepted by the delegation of the U.S.A. in keeping the "Kapsiotis paper" up-to-date.

LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

Chairman: Dr. Norman Tape

Prêsident: Director

Presidente: Food Research Institute
Agriculture Canada
Ottawa, Ontario KIA 006
Canada

DELEGATES
DELEGUES
DELEGADOS

ALGERIA
ALGERIE
ARGELIA

Acheli Abdelhalim
Directeur du Laboratoire du Controle dela Qualité
Ministere du Commerce

Bouras M. Moun
Directeur Regional du Laboratoiredu Controle de la Qualité
Ministere du Commerce

ARGENTINA
ARGENTINE

Norberto Aguerre
Ministro Consejero
Embajada de Argentina
La Habana
Cuba

Angel M. Sánchez
Coordinador General del Codex Alimentarius en Argentina

AUSTRALIA
AUSTRALIE

Dr. Robert R. Biddle
Veterinary Counsellor
Embassy of Australia
Washington, D.C.

BRAZIL
BRESIL
BRASIL

Carlos A. Ferreira-Guimaraes
Subjefe, Departamento Organismos Internacionales
Ministerio Relaciones Exteriores
Brasilia 70.000

Francisco Bezerra da Silva
Ministerio da Agricultura
Secretaria Nacional de Defesa Agropecuaria (SNAD)
Edificio Anexo - A andar Sala 407
70.043 - Brasilia (DF)

Mario Sergio Cardoso
Ministerio Da Agricultura
Secretarla de Inspecáo de Producto Vegetal
Edificio Anexo - Sala 303
70.043 - Brasilia (DF)

Dra. Lucia Helena Bregagnolo
Ministerio da Saúde
Divisáo Nacional de Vigilancia Sanitaria de Alimentos
Esplanada dos Ministerios, Bloco 11, 2 andar
70.000 - Brasilia (DF)

Regina G.S. Langsdorff
Representante Técnico de la Confederación
Nacional da Industria (CNI)
CIA. Cervejarla Brahma

Rua Marqués de Sancai 200
20.215 - Rio de Janeiro - RJ

Joao Alberto Bordignon
Representante da Associacáo Brasileira
das Industrias de Alimentacáo (ABIA)
Nutrimental S.A.
C.P. 171
83.100 - Sáo José dos Pinhais – PR

BULGARIA
BULGARIE

Yovtcho Roussev
Presidente - Director General de la Empresa "Hranexport"

Luben Vasilev
Agregado Comercial
Embajada de Bulgaria
La Habana
Cuba

Tsvetana Tomova
Jefe de Departmento
”Hranexport”

CANADA

Dr. M.C. Cheney
Chief, Nutrition Evaluation Division
Health Protection Branch
Dept. of National Health and Welfare
Tunney's Pasture
Ottawa, Ontario K1A 0L2

Mr. R. McKay
Director, Consumer Products Branch
Dept. of Consumer and Corporate Affairs
Place du Portage
Phase 1
Hull, Quebec K1A 0C9

Mr. Jean Jacques Mathieu
Manager
Food Products Development
Ogilvie Mills
995 Mill Street
Montreal, Quebec H3C 1YS

CUBA

Ing. Alvaro García
Director
Instituto Investigaciones de la Industria Alimenticia
Ministerio de la Industria Alimenticia
La Habana

Dr. Manuel Hernández
Laboratorio de Metabolismo Proteico
Instituto de Nutrición e Higiene de los Alimentos
La Habana

Dr. Antonio Méndez
Vicedirector
Instituto de Investigaciones Fundamentales en Agricultura Tropical
Ministerio de la Agricultura
La Habana

Lic. Tania Serio
Especialista
Dirección de Normalización
Ministerio de la Industria Alimenticia
La Habana

Lic. Selma Muñiz
Especialista
Comité Estatal de Normalización
Egido 610, entre Gloria y Apodaca
La Habana

CZECHOSLOVAKIA
TCHECOSLOVAQUIE
CHECOSLOVAQUIA

Ing. Milan Kovac
Deputy Director
Research Institute of Food
Bratislava

Dr. Zdenek Gavenda
Primer Secretario de la Embajada de la
República Socialista de Checoslovaquia
en Cuba
La Habana

DENMARK
DANEMARK
DINAMARCA

Dr. Bente Staerk
Danish Meat Products Laboratory
Ministry of Agriculture
Howitzvej 13
2000 Fredericksberg

FRANCE
FRANCIA

Daniel Hulaud
Chef de Bureau
Direction Genérale de la Concurrence,
Consommation et Repression des Fraudes

Ministere de l'Economie des Finances et Privatisation
13, Rue St. Georges
75015 Paris

E. Nouat
AFNOR
Tour Europe - Cedex 7
92080 Paris - La Defense

GERMANY , FEDERAL REPUBLIC OF
ALLEMAGNE, REPUBLIQUE FED É RALE
ALEMANIA, REPUBLICA FEDERAL

Rainald Reoesh
Consejero de la Embajada de la Alemania en Cuba
La Habana

GHANA

Gladys Love Hanu
Regional Home Ext Training Officer
VORADEP

GUINEA
GUINEE

Youla Youssouf
Consejero
Embajada de la República de Guinea en Cuba
La Habana

GUYANA
GUYANE

Rajendra Mungol
Charge d'Affaires
Embajada de la República de Guyana en Cuba
La Habana

Alden Chesney
Medical Director
Central Medical Laboratory
Georgetown

HUNGARY
HONGRIE
HUNGRIA

Istvan Posta
Primer Secretario de la Embajada de Hungría en Cuba
La Habana

ITALY
ITALIE
ITALIA

Prof. Luigi Giannico
Direttore Generale

Igiene Alimenti e Nutrizione
Ministero della Sanitá
Piazza G. Marconi 25
00144 Roma

Guiseppe Porcelli
Dirigente Chimico
Ministero della Sanitá
Piazza G. Marconi 25
00144 Roma

JAPAN
JAPON

Koichi Mori
Chief of Planning Section
Consumers Economy Division
Food and Marketing Bureau
Ministry of Agriculture, Forestry and Fishery
1-2-1 Kasumigaseki
Chiyoda-Ku
Tokyo

Masami Ota
Technical Adviser
Nisshin Flour Milling Co. Ltd.
Japan Vegetable Protein Foods Association
19-12, Koami-Cho, Nihonbashi
Chu-O-Ku
Tokyo

Takashi Domae
Technical Adviser
Nagata Sangyo Co. Ltd.
Japan Vegetable Protein Food Association
244, Senbinya, Yamasaki-Cho
Siso-Gun, Hyogo

Mr. Masao Fujiwara
Technical Advisor
Fuji Oil Co. Ltd.
Japan Vegetable Protein Foods Association
1-Sumlyoshicho
Isumisanocity
Osaka

KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
COREE, REPUBLIQUE DEMOCRATIQUE POPULAIRE DE
COREA, REPÚBLICA DEMOCRATICA POPULAR DE

Che Ki Bok
Primer Secretario
Embajada de la Republica Democrática Popular de Corea
La Habana

NORWAY
NORVEGE
NORUEGA

John Race
Head of Codex Alimentarius Section
P.O. Box 8139 Dep
Oslo 1

Dr. Per. A. Rosness
Director
National Quality Control Authority for
Processed Fruits and Vegetables (SKVK)
Ministry of Agriculture
Cladengveien 3B
Oslo 6

NETHERLANDS
PAYS-BAS
PAISES BAJOS

Ir. W.J. de Koe
Ministry of Public Health
Postbus 5406
2280 HK-Ryswyk

Ir. B. Hamaker
Cargill BV
Coenhavenweg 2
1013 BL Amsterdam
Ir. O.C. Knotternerus
Central Commodity Board for Arable Products
P.O. Box 29739
2502 LS The Hague

PERU
PEROU

Marcela Ruiz
Consejero
Embajada del Perú en Cuba
La Habana

PHILIPPINES
FILIPINAS

Mrs. Erlinda F. Basilio
Minister-Counsellor and Consul General
Embassy of the Philippines
La Habana

PORTUGAL

José Fernando Baltazar
Consejero
Embajada de Portugal en Cuba
La Habana

SWEDEN
SUEDE
SUECIA

Prof. Bengt v. Hofsten
Swedish National Food Administration
P.O. Box 622
S-75126 Uppsala

SWITZERLAND
SUISSE
SUIZA

Mr. Pierre Rossier
Head of Codex Alimentarius Section
Haslerstrasse 16
CH-3008 Berne

UNITED KINGDOM
ROYAUME-UNI
REINO UNIDO

Charles Cockbill
Head of Standards Division
Ministry of Agriculture, Fisheries and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

Kenneth J. Dale
Principal Scientific Officer
Food Science Division
Ministry of Agriculture, Fisheries and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

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

Ms. Elizabeth J. Campbell
Division of Regulatory Guidance (HFF-312)
U.S. Food and Drug Administration
200 C Street, S.W.
Washington, D.C. 20204

Mr. Endre F. Sipos
Scientific Resources Director
Central Soya Co. Inc.
1300 Ft. Wayne Na'1 Bank Building
Fort Wayne, IN 46802

Dr. C.E. Bodwell
Beltsville Human Nutrition Research Center
U.S. Dept. of Agriculture

Building 308/Room 213
Beltsville, MD 20705

URUGUAY

Maria del Carmen de Dorelo
Consul y Primer Secretario
Embajada de Uruguay

U.S.S.R .
U.R.S.S.

Prof. Touzegueldy Sharmanov
Chairman of Nutrition,
Central Institute for Advanced Medical Studies
Ministry for Public Health

VENEZUELA

Alexis Curiel Quintero
Embajada de Venezuela

VIETNAM

Nguyen K. Hoa
Tercer Secretario
Embajada de Vietnam

INTERNATIONAL ORGANIZATIONS
ORGANIZATIONS INTERNATIONALES
ORGANIZACIONES INTERNACIONALES

EUVEPR0 (EUROPEAN VEGETABLE PROTEIN FEDERATION)

Mr. Arnold Van Hecke
Secretary-General
Leuvensestraat 29
B-1800 Vilvoorde
Belgium

E.C. WHEAT STARCH MANUFACTURERS' ASSOCIATION

Mr. W. Hees
Secretary General
P.O. Box 190 165
D-5300 Bonn
Federal Republic of Germany

INTERNATIONAL WHEAT GLUTEN ASSOCIATION

Jean-Jacques Mathieu
Ogilvie Mills
995 Mill Steet
Montreal QUE.
Canada H3C 1Y5

PANAMERICAN HEALTH ORGANIZATION (PAHO)

Dr. Alejandro Rojas
Asesor Temporero OPS

Buenos Aires
Argentina

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)

Sr. Henry Harman
Representante Residente Adjunto
Programa de las Naciones Unidas para el Desarrollo en Cuba
La Habana
Cuba

OBSERVERS
OBSERVATEURS
OBSERVADORES

Gerald Muschiolik
Department of Food Chemistry
Central Institute of Nutrition
Academy of Sciences of the GDR
1505 Bergholz-Rehbrucke
A. Scheunert-Allee
114-116 GDR

Yoja Gallardo
Escuela Nacional de Ciencias
Biológicas del Instituto Politécnico Nacional
México

JOINT FAO/WHO SECRETARIAT

J.M. Hutchinson
Food Standards Officer
FAO/WHO Food Standards Programme
FAO
Via delle Terme di Caracalla
00100 Rome

H.J. McNally
Senior Officer
FAO/WHO Food Standards Programme
FAO
Via delle Terme di Caracalla
00100 Rome

CANADIAN SECRETARIAT

Dr. Norman Tape*
Director
Food Research Institute
Agriculture Canada
Ottawa, Ontario K1A 0C6

Mr. Barry Smith
Chief
Food Regulatory Affairs Division
Food Directorate
Health Protection Branch

Health and Welfare Canada
Ottawa, Ontario K1A 0L2

Mr. John Mercer
Head
International and Interagency Liaison
Food Regulatory Affairs Division
Food Directorate
Health and Welfare Canada
Ottawa, Ontario K1A 0L2

*Chairman
Président
Presidente

APPENDIX II

SPEECH DELIVERED. BY THE MINISTER OF THE FOOD INDUSTRY OF THE REPUBLIC OF CUBA, ALEJANDRO ROCA IGLESIAS, AT THE OPENING OF THE FOURTH SESSION OF THE CODEX ALIMENTARIUS COMMITTEE ON VEGETABLE PROTEINS (February 2, 1987, Havana, Cuba)

The Right Honorable Michael Kergin, Extraordinary and Plenipotentiary Ambassador of Canada to Cuba

Antonio Rodriguez Maurell, Vice President of the Council of Ministers of 'the Republic of Cuba

Dr. Norman Tape, Chairman of the Codex Alimentarius. Committee on Vegetable Proteins

Mr. José Ramón Yarza, Ambassador and Permanent Representative of the United Nations Food and Agriculture Organization (FAO)

Mr. Harry McNally, FAO Assistant Secretary to the Codex Alimentarius Commission

Héctor Terry Molinet, Vice Minister of Public Health of Cuba

Ramón Darías Rodés, Minister-Chairman of the State Committee for Standardization of Cuba

Your Excellencies, the Ambassadors and Heads of Missions accredited to Cuba

Distinguished representatives of Member States and international organizations, and officials present here:

On behalf of the Government of the Republic of Cuba, we welcome you to our homeland and, at the same time, we express to you our satisfaction in sharing with you the holding of this Fourth Session of the Committee on Vegetable Proteins in Havana.

The Joint FAO/WHO Codex Alimentarius Commission of the United Nations System is the most important intergovernmental organization for food standardization, and is, indeed, carrying out the most significant work in this sphere. Therefore, as an international group with the required technical expertise to tackle and resolve matters related to food standards, it is called upon to promote food safety, consumer protection, good manufacturing practices and food trade internationally.

Participation in Codex work is of great benefit to all members, particularly the developing countries, since it offers them the possibility to participate in the elaboration

of standards recognized worldwide; exchange views and information with topranking institutions and scientists; gather updated data and make rational use of standards elaborated after long, complex, costly research.

Despite our recognition of these undeniable advantages, we in the developing countries have often been compelled to limit our active participation due, mainly, to economic constraints.

As of 1979, within the Codex Commission, the developing countries' request that the organization should make more concrete efforts in order to attain a greater participation of the developing countries in its activities became increasingly insistent, so much so, that the Codex agreed to shift its actions in that direction.

One of the main proposals in that sense submitted at the 13th Session by the socalled Third World Member States, was the need to hold meetings of the technical committees in the developing regions, thereby contributing in some measure to increasing their participation in the work of the Commission.

During the 14th Session of the Commission, Cuba stated its readiness to host meetings of the Codex Committees on particular products. Hence, once Canada made known its acceptance to transfer the venue of some of the Committees it hosted, talks to that end were initiated.

Bearing in mind the statements made by Canada and Cuba, as well as the interest that the tasks undertaken by the Vegetable Protein Committee pose for the developing countries, particularly those in Latin America and the Caribbean, and above all, the future impact of the Committee's activities on the economy and food situation of this group of countries, the examination of these possibilities proceeded and culminated in the Canadian authorities' agreement to hold this important event in Cuba.

The readiness displayed by the Canadian Government — customary host of this technical body of the Codex -- to transfer the venue of the Fourth Session of the Committee on Vegetable Proteins from Ottawa to Havana, is an unprecedented event in the Commission's twentythree years of life.

We highly appreciate this gesture of great understanding on the part of the Canadian Government and would like to convey to it our recognition on behalf of Cuba and the developing countries at large.

We are confident that this example will be duly considered by other countries that host Codex Committees.

Distinguished guests and delegates:

The Codex Alimentarius Commission is faced today with various significant tasks related to the economic, social and commercial activities that are taking place in the world, particularly in the developing regions.

In Fighting World Hunger, FAO states that it is difficult to establish accurately how many people are at present plagued by hunger, since their number depends on how this problem is defined and on the limits established for what is to be considered an adequate diet. It is estimated that some 20 million people die every year from hungerrelated causes. According to FAO estimates, there are 435 million severely undernourished people in the world today. Estimates that take poverty as an indicator suggest that 800 million people are temporarily or permanently threatened by hunger.

Seventy percent of the world's wealth is concentrated in the developed countries, where only one fourth of the world population lives, while the other three fourths of the world population, living in the Third World, have to share the remaining 30 percent.

For many years now the population of the developed countries has enjoyed a calorie intake far above the recommended levels for adequate nutrition.

As of 1978 and taking into consideration the economic crisis - - the food crisis being one of its sequels - -the Codex Alimentarius Commission decided to give priority to its work in favor of the developing countries, thus elaborating standards of interest to these countries and setting up the Committees for Cereals, Pulses and Legumes and for Vegetable Proteins, among other actions.

At a time when the world is giving up arable lands to urbanization and population growth reaches proportions unforseen in the preceding centuries, new sources of highly productive nutritional value per unit area must be sought.

According to some specialized publications, a hectare of land will produce annually proteins to feed 190, 583 and 9075 people if devoted to bovine cattle raising, to milk production and to the planting of soya beans, respectively.

Protein intake per inhabitant in the developing countries is of 58.5 g per day, most of it derived from cereals (corn, wheat, rice) with their wellknown deficiency in protein quality. Consequently, in coming years it will be necessary to increase production of other vegetable and singlecell proteins, which, besides offering greater yields, are a good complement to the proteins in cereals.

It is of vital importance for an accelerated development of all food selfsufficiency plans and attendant health programmes, to have highly skilled personnel for research purposes and for the ulterior introduction of new technological developments, as well as proper research institutions. In recent years our Government has devoted great efforts to that aim. Illustrative of this are the Food Industry Research Institute, the Center for Biotechnological and Genetic Engineering Research and the Institute of Nutrition and Food Hygiene, all of which, together with the network of universities and technological institutes, are Cuba's contribution to the training of specialists and to the development of research for the welfare of mankind.

For several years our researchers and technicians have worked on various means for the industrialization of soya based foods in line with in our specific conditions. The use of soya flour as a meat product extender has been an efficient means to promote the consumption of additional proteins of high nutritional quality in the form of products widely appreciated by the population, while the marketing of our initial small scale productions of soya milk have made for the dissemination of a totally new product for us, which can not only replace the milks of animal origin in lactose intolerant infant feeding but which also constitutes a highly nutritional occasional beverage.

As you are all aware, Cuba is an important sugar producer and therefore has substantial amounts of molasses which are partly used in the production of single cell protein for animal feed. For several years we have been doing research on the use of this protein for human consumption. This work should be completed within this five-year period.

Cuba expects to benefit from the work of this Committee and offers you the experience and research thus far accrued, as well as the modest achievements we may attain in the future.

We aspire to being a worthy venue for this significant event, not just because of our traditional hospitality which guarantees a climate of hearty welcome and security, essential factors for an activity of this nature, but also because of the fact that, in the context of the underdeveloped countries, Cuba is an exception in terms of the achievements related to the satisfaction of basic human needs.

Our health indicators can compare with those of the countries with much higher economic development. Suffice it to mention our infant mortality rate of 13.6 per one thousand live births.

We are confident and certain that this fourth session., through its analyses and debates, will make it possible to attain favorable results for human nutrition and that this work will contribute to making better and more extended use of vegetable and single cell proteins.

We wish to thank you all very sincerely for your presence here and to assure you that we will do our best to make you feel at home in Cuba. We wish you success in your work and a very pleasant stay in Havana.

Thank you very much.

February 2, 1987

OPENING SPEECH FOR AMBASSADOR M.F. KERGIN FROM CANADA TO THE CODEX COMMITTEE ON VEGETABLE PROTEINS, HAVANA , FEBRUARY 02/87

Mr. Chairman, Mr. Vice-President, Ministers of the Government of Cuba, distinguished delegates and observers:

It is an honour and a pleasure for me to participate in the opening ceremonies of the Fourth Session of the Codex Committee on Vegetable Proteins. On behalf of the Canadian Government, I extend a warm welcome to all delegates and observers to this meeting on food standards for vegetable protein products. This is the honour.

As your Chairman has mentioned, Ottawa has a chilly climate at this time of the year. Those of you who have attended previous meetings of this Committee will be aware that the hardships of a cold climate are also accompanied by certain pleasures. For example, I understand that delegates to the last meeting had the opportunity of participating in Ottawa's winter carnival. Nevertheless the Committee has wisely decided to escape the regions of winter and experience the warm and hospitable climate of Havana, Cuba. This is the pleasure.

Today, we are all involved in an historic event in international cooperation. This is the first time since the Codex Alimentarius Commission was established in 1962, to implement the Joint FAO/WHO Food Standards Programme, that a host country of a Codex Committee has agreed to move the venue of a meeting to a developing country. The Codex Alimentarius Commission and its member countries are to be congratulated on their foresight and willingness to arrange this meeting. I am sure that this unprecedented decision will encourage host countries of other Codex Committees to consider similar arrangements in other parts of the world.

Canada has a strong commitment to international cooperation in many fields. We were involved in the earliest stages of development of the FAO. In fact, the First FAO Conference which was attended by 44 countries, was held in Quebec City, Canada,

1945, and was chaired by a former Prime Minister, the Right Honourable Lester B. Pearson.

International Cooperation is even more important today and the work of the Codex Alimentarius Commission plays a significant role in developing uniform, international standards for foods through discussion and negotiation.

I should remind delegates that at the First Codex Alimentarius Commission meeting in 1963, some 30 countries attended. Today, the membership is 129, more than two thirds of which are developing countries. After more than two decades of work, the Codex Alimentarius Commission has adopted over 200 international food standards, some 2000 maximum pesticide limits for 85 major pesticides, 35 codes of hygienic and technological practice, and a code of ethics for international trade in foods.

Some of you may feel that there has been little impact from the 24 years of work, 16 Commission sessions and hundreds of Committee meetings. My view is that Codex has been building the foundation, along with GATT (General Agreement for Tariffs and Trade), for more open, freer international trade. Foundation building is a slow, tough job, particularly at the international level; it is not as visible as marketing and trading.

GATT and Codex are major international organizations which join forces to combat non-tariff barriers to trade. GATT establishes international rules and enforces them, while Codex attempts to avoid or prevent non-tariff barriers by developing food standards which will gain national acceptance. If all countries agree to the same standards, and apply them, then technical barriers to trade will be largely under control.

Application of Codex international standards is very important at this time. As you are all aware, another round of international trade negotiations has been initiated. Most governments agree that food and agriculture trade should be addressed in a substantive manner in the current round of negotiations. Universal adoption and use of Codex standards, codes of practice and maximum residue limits will go a long way to achieving freer, more open trade in the world.

Freer trade is not the only goal of Codex Alimentarius. Health protection, safer food, less spoilage and waste, are equally important contributions. Codex has developed useful practical codes of practice for the manufacture and handling of foods. Many countries including Canada have benefitted immensely from this work. The standards and codes are made available free of charge to everyone - a not insignificant contribution to today's world of high cost staff and consultancies.

Of fundamental importance is consumer confidence. When consumers have confidence in the quality and safety of their foods, markets and trading increase at all levels. Confidence brings greater demand for processed ingredients and foods, particularly as more people everywhere are living in towns and cities. Trade of the international level brings foreign exchange - an important element in economic development for all nations. Jobs are created; farmers, fishermen and processors find more outlets for their produce. Consumer diets become more varied and nutritious, leading to healthier populations and lower health care costs. In the terms of the modern management consultants, this can only be a "winwin" situation.

Food is an integral part of the cultural fabric of each country. Think of any of your national, religious, or family festivals and you will immediately think of certain foods or drinks associated with them. Delegates from the rich diversity of countries represented here are accustomed to diets which will be highly dissimilar. For our economic and social

well being nevertheless, we must all agree that our diets be adequate and safe. This is the common link which joins us all in our work today.

The Committee's efforts in developing worldwide standards for Vegetable Proteins and guidelines for their use are helping to reduce disparities and provide a basis for safe and adequate food supply.

The Committee is very young, less than seven years old. However, in that short span of time, considerable progress has been achieved. Yet, it is important that the work be finished as soon as possible. There is a fundamental need for accepted standardization of quality and use. Many countries are looking seriously at the production and application of vegetable proteins. As world demand increases for such commodities to augment, or even substitute, more costly protein sources, there will be a growing international trade in vegetable proteins. The Committee's endeavours are central to ensuring predictability in supply and safety in consumption. This is the challenge facing the Committee - one which I have every confidence it will succeed in surmounting.

There is a busy week ahead. Nevertheless, I am sure it will allow an opportunity to enjoy some of the many attractions of Havana and the surrounding area.

Mr. Chairman, I wish the Committee on Vegetable Proteins a productive and successful Fourth Session.

Thank you.

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APPENDIX IV

PROPOSED DRAFT GENERAL GUIDELINES FOR THE UTILIZATION OF VEGETABLE PROTEIN PRODUCTS (VPP) IN FOODS

1. PURPOSE

To provide guidance for the safe and suitable use of vegetable protein products (VPP) in foods by establishing:

(i) principles to ensure that the nutritional quality of the foods containing VPP is appropriate to their intended use; and

(ii) principles for the appropriate labelling of foods containing VPP.

2. SCOPE

These general guidelines are intended to apply to all situations in which proteins derived from vegetable sources other than Single Cell Protein are utilized in foods.

3. DEFINITIONS

Available Amino Acids: Anino acids from food proteins which are available, in a readily metabolizable form, for meeting human requirements for essential amino acids.

Amino Acid Score (formerly chemical score): (mg of the limiting amino acid in 1.0 g. of test protein)/(mg of the same amino acid in 1.0 g. of protein as defined by the reference amino acid pattern).

Bioavailability: the extent to which an amino acid or other essential nutrient is available for metabolism.

Complementation (of proteins): The increase in protein nutritional value achieved by mixing two proteins, which have different limiting amino acids, in those proportions which result in the protein quality of the mixture being higher than that of either of the component proteins. Occurs when the first protein has an excess of the amino acid which is limiting in the second protein and vice versa.

Limiting Amino Acid: The essential amino acid of a food protein present in the lowest proportion relative to the amount of that amino acid in the Reference Amino Acid Pattern.

Net Protein Ratio (NPR): (weight gain of test group of rats plus weight loss of nonprotein group)/(protein consumed by test group).

Protein Quality: The extent to which a protein source provides essential amino acids and indispensable nitrogen for meeting human requirements. Protein quality is primarily determined by the level, distribution and bioavailability of the essential amino acids in a protein source.

Reference Amino Acid Pattern: The levels and distributions of essential amino acids of an ideal protein specified by FAO/WHO/UNU (1985) for meeting the requirements of the 2-5 year old child when consumed at the level of the recommended daily protein intake.

Relative NPR (RNPR): NPR expressed relative to a standard protein.

Supplementation: The increase in protein nutritional value achieved by the addition of a moderate amount of a protein having a high content of an essential amino acid to another protein in which that amino acid is limiting.

Utilizable Protein: Protein which is metabolically available for meeting human requirements for essential amino acids and indispensable nitrogen. Calculated as the product of crude protein (N x 6.25) x protein quality .expressed as a fraction (maximum protein quality = 1.0).

Vegetable Protein Products (VPP): Vegetable products which have been processed in a manner which results in a significant increase in the protein content of the final product.

4. BASIC PRINCIPLES

4.1 VPP intended for human consumption should not represent a hazard to health.The annex to these guidelines, which is based on revised PAG/UNU Guideline No. 6,should be consulted for testing the safety and nutritional quality of VPP.

4.2 The nutritional quality of the VPP should be appropriate for its intendeduse.

4.3 The presence of VPP in foods should be clearly indicated on the label.

In this connection foods containing vegetable protein products should be labelled in accordance with the Codex General Standard for the Labelling of Prepackaged Foods, with the proviso that:

(a) A complete list of ingredients should be declared on the label indescending order of proportion except that, in the case of addedvitamins and minerals, these should be arranged, as separate groupsand in these groups the vitamins and minerals need not be listed indescending order of proportion.

(b) The ingredient statement should contain the source (e.g., pea, groundnut), and where appropriate product type and processed form(e.g., textured, spun) of each vegetable protein ingredient in the food product.

(c) Any nutrient labelling should be in accordance with the Codex Guidelines on Nutrition Labelling.

5. USES OF VPP FOR FUNCTIONAL AND OPTIONAL PURPOSES

5.1 When VPP are used at low relative levels for functional purposes, or as optional ingredients, their use should not result in any replacement of principal protein and associated nutrients in the food to which they are added.

5.2 For the purpose of defining VPP as a functional or optional ingredient in Codex Standards the level of VPP should be calculated on a dry weight basis in the final product. The actual level of use will vary according to the nature of the protein and of the product concerned.

5.3 The use of VPP as a functional or optional ingredient should be regulated in the same way as other functional or optional ingredients with no required change in the name of the product. However, a declaration of the presence of VPP should be given in connection with the name of the product if its omission would mislead the consumer.

6. USES OF VPP TO INCREASE CONTENT OF UTILIZABLE PROTEIN

6.1 VPP may be used to improve the protein nutriture of populations by increasing the content of utilizable protein in the diet. This can be done by increasing the protein content of the diet or increasing the protein quality of the proteins In the diet, or a combination of both. It should be noted that increasing the protein quantity and/or quality of a diet will be ineffective if energy requirements are not met.

6.2 In general, the minimum aim of supplementation and/or complementation should be to increase utilizable protein by 20%.

6.3 For a significant degree of complementation in protein quality of diets deficient in lysine or in methionine + cysteine, the complementary protein should contain at least 5.8% available lysine or 2.5% available methionine + cysteine, respectively.

6.4 Addition of amino acids should only be considered when protein complementation and supplementation have proved impracticable for economic and technological reasons. Only L forms of amino acids should be used.

6.5 Since a variety of VPP are available for use for this purpose, the choice of VPP should favour products which have been processed in such ways and to such extents as to optimize both the nutritional contributions and economic considerations.

6.6 The addition of vitamins and minerals should be in accordance with the Codex General Principles for the Addition of Essential Nutrients to Foods. The need for such addition should be considered on a case-by-case basis.

OR

6.6 The addition of vitamins and minerals should be in accordance with the Codex General Principles for the Addition of Essential Nutrients to Foods.

6.6.1 The need for fortification of VPP with vitamins and minerals should be considered in the following instances:

(i) when the VPP is a suitable vehicle for fortification in regions where there is a demonstrated need for increasing the intake of one or more vitamin(s) or mineral(s) in one or more population groups;

(ii) when the VPP contains anti-nutritional factors (e.g., phytate) which may interfere with the bioavailability or utilization of nutrients.

6.6.2 The need for nutritional equivalence of the VPP should be considered in those instances in which the VPP replaces staple ingredients which are higher in vitamins and minerals than the VPP.

6.7 When VPP is used in a food to increase the content of utilizable protein, its presence need not be indicated in the name of the food unless its omission wouldmislead the consumer.

6.8 The protein content of a food in which VPP has been added to increase the content of utilizable protein should be declared in accordance with the Codex Guidelines on Nutrition Labelling. Where claims are made with respect to the protein quality, the protein nutritional value should be assessed according to the established methods for protein quality measurement. (Changes underlined)

7. USES OF VPP IN PARTIAL OR COMPLETE SUBSTITUTION OF THE ANIMAL PROTEIN IN FOODS

7.1 The use of VPP to partially or completely substitute animal protein in foods should be permitted, provided that the final partially or completely substituted product is nutritionally adequate and provided that the presence of VPP is clearly indicated on the label.

7.2 The nutritional adequacy of a product can be defined in terms of protein quality and quantity and content of minerals and vitamins.

Such a product should be considered nutritionally adequate if:

(i) its protein quality is not less than that of the original product or is equivalent to that of casein; and

(ii) it contains the equivalent quantity of protein (N x 6.25) and those vitamins and minerals which are present in significant amounts in the original animal products.

7.3 The nutritional adequacy of a partially substituted animal product can beachieved by any of the following three methods:

(a) By using a VPP which meets the nutritional adequacy requirements ofprotein quantity and quality and levels of vitamins and minerals, or

(b) By using a VPP which is nutritionally adequate with respect to levelsof vitamins and minerals, but placing the requirements for proteinquantity and quality on the final product, or

(c) By the addition of the required nutrients to the partially substitutedproduct (i.e., by placing all the nutritional requirements on thepartially substituted product)•

The second approach is considered the most satisfactory because:

(i) The first method does not make allowance for the complementary effect of animal-VPP mixtures on protein quality. For example, according to its

amino acid score, wheat gluten (which would require the addition of several amino acids before it could meet the protein quality requirement for partial substitution) could be used to substitute meat protein up to 30% without any significant deleterious effect on adequacy of the final product in protein quality.

(ii) The third method would require that the vitamin and mineral content of the animal portion of the partially substituted product be known and accounted for in each instance. Moreover, the expertise and control facilities for ensuring proper addition of nutrients and stability of vitamins may not exist in places where VPP would be utilized in animal products such as retail outlets and meat packing plants.

7.4 In the case of completely substituted (simulated) animal products, all thenutritional adequacy requirements (i.e., protein quantity and quality as well asvitamins and minerals) should be placed on the final product.

7.5 When VPP partially substitutes for the protein of an animal product, thefollowing nomenclature criteria should apply:

(i) The presence of the VPP should be indicated in the name of the food.

(ii) The name of the substituted product should describe the true nature of the product; it should not mislead the consumer; and it should enable the substituted product to be distinguished from products with which it could be confused.

(iii) In cases where the substitution results in an amount of the animal protein product lower than that required by a Codex or national standard, the name of the standardized animal food should not be used as part of the name of the substituted product unless properly qualified.

(iv) The provisions of a Codex Standard or a national compositional standard should be taken into full account when determining the name of a food.

7.6 In the case of a simulated animal product in which 100% of the protein is from VPP, the established or common name of the food should be the name of the VPP with appropriate flavour designation or other descriptive phrasing.

8. USES OF VPP AS SOLE PROTEIN SOURCE IN PRODUCTS WITH NEW IDENTITIES

There is an expanding group of foods made with VPP that are not intended to supplement utilizable protein or to replace traditional protein foods. Each of these foods will develop an identity of its own and will have its own nutrient composition. There need not be specific nutrient requirements for these foods. As with any other foods, these VPP foods should be safe, should be produced in accordance with good manufacturing practices and should be labelled in accordance with the Codex Standard for the Labelling of Prepackaged Foods.

APPENDIX IV
ANNEX I

PROPOSED DRAFT GUIDELINES FOR TESTING SAFETY AND NUTRITIONAL QUALITY OF VEGETABLE PROTEIN PRODUCTS[1/]

Vegetable Protein Products (VPP) are vegetable products which have been processed in a manner which results in a significant degree of increase in the protein

content in the final product, VPP have found significant uses as functional ingredients in food products and as protein extenders and replacements. Certain VPP, particularly those derived from soya beans, have been subjected to intensive investigation. From these investigations has come an appreciation of the technological properties which may be significant to the food use of VPP. As new sources of VPP are developed guidance is necessary on how these products should be tested for safety and nutritional quality.

The raw materials from which VPP are produced may contain naturally occurring toxic or anti-nutritional factors, e.g., glucosinolates in Brassica Spp, gossypol in cottonseed, hemagglutins and trypsin inhibitors in legumes. Some of these factors may still be present in the VPP after processing. The processing involved in the preparation of VPP such as treatment with heat, organic solvents, acids, alkalis, salts and enzymes, etc. tends to increase the level of certain nutrients such as sodium and eliminate others such as vitamins. It may also result in changes in digestibility, absorption and protein quality. Furthermore, residual solvents or reaction products may be present in the VPP.

In the light of the above observations, it becomes important that prior to use as human food, VPP be subjected to adequate testing to demonstrate safety and appropriate nutritional quality. In order to aid food manufacturers in determining what testing is required to evaluate safety and nutritional value of VPP, the Codex Committee on Vegetable Proteins (CCVP) has developed this guideline.

The purpose of this guideline is not to lay down a rigid plan or to cover all procedural details but to serve as a general recommendation for the testing of vegetable protein products. A distinct VPP needs be tested pursuant to this guideline only once, that is, to obtain a toxicological and nutritional profile for the VPP. The guideline is not intended for use in production quality control testing on a lotbylot basis. Novel VPP, those processed by new techniques from commonly used sources and those produced from sources not previously used as human food, require thorough testing. VPP which are produced by minor processing variants from sources commonly used as food need not be tested so thoroughly. Prior history of safe use may be taken into account in evaluation of a novel VPP proposed for general consumption, but this alone is not necessarily sufficient to preclude adequate preclinical testing by currently available, more objective, laboratory animal feeding studies, and, where applicable, studies using human volunteers. Adequacy of history of safe use will have to be evaluated on a casebycase basis. Applicable data in the available literature may be used in lieu of separate testing pursuant to this guideline. The content and depth of the investigations for a specific VPP will depend on the kind of process applied in its preparation, and the conditions of its intended use as prepared for consumption and the presence of known toxic or anti-nutritional factor(s) in the starting material.

[1/] Modified version of the UNU/PAG Guideline No. 6 on preclinical testing of novel sources of food. Food and Nutrition Bulletin Vol. 5, No. 1 (1983).

1. CATEGORIES OF INFORMATION NEEDED

The following information is required for each novel VPP.

1.1 Specifications and Process Details

A general description of the process used to prepare the VPP and the specification of the VPP should be included. This description should be sufficient to enable those evaluating the product to identify potential problem areas, such as processing damage to the nutrient content.

1.2 Nutritional Value

The nutritional value of the VPP should be predicted first from its amino acid content and then by means of (insert reference to method for determining protein quality as described in the applicable Codex standard).

1.3 Microbiological Status

The procedures that are required to maintain adequate sanitation with respect to the sources of raw materials and conditions under which they are processed to produce the VPP should be included.

1.4 Toxicological Safety

The safety of the VPP should be predicted from information concerning methods of production, chemical and physical properties, content of microorganisms and their metabolites. This should be supported where necessary by safety data using laboratory animals.

2. EVALUATION

Each novel VPP should be subjected to the following analysis using procedures indicated in the recommended general standard for VPP unless otherwise specified.

2.1 Chemical

2.1.1 Proximate composiShtion

Moisture, total solids, total nitrogen, crude protein (N x 6.25) fat (ether extract), ash, fibre, total carbohydrates, and undigestible carbohydrates (dietary fibre) (insert reference to the appropriate method).

2.1.1.1 Nitrogenous components

Amino acid composition should be expressed as g amino acid/16gN, and information on the recovery of amino acid nitrogen should be obtained. The presence and amount of non-protein nitrogenous components, if any, should be determined.

2.1.1.2 Lipid

The solvent extract should be analyzed for the fatty acid profile by chromatography if the solvent extract is greater than 1 percent. The solvent extract should also be examined for the presence of unusual (e.g. cyclic) fatty acids.

2.1.1.3 Mineral elements

The material should be analyzed for its content of metals or minerals or toxicological or nutritional significance (including arsenic, calcium, cadmium, copper, fluoride, iron, lead, magnesium, manganese, mercury, phosphorous, potassium, selenium, sodium and zinc).

2.1.1.4 Carbohydrates

Analysis should be carried out to characterize the available (digestible) carbohydrates.

2.1.1.5 Vitamins

Analysis should be conducted for all of the major vitamins except those for which low lipid content or instability under processing conditions indicate little likelihood of their presence in significant amounts.

2.1.2 Solvent residues

The product should be examined for the presence of potentially hazardous solvent residues.

2.2 Microbial

The VPP should be examined to determine numbers and types of microorganisms to be expected under sanitary conditions of production or processing and to establish its freedom from microbial toxins and toxigenic organisms.

2.3 Nutritional

Nutritive value of VPP should be assessed by (insert reference to method for protein quality described in appropriate Codex standard).

2.4 Toxicological

2.4.1 Subacute toxicity studies

The purpose of these studies is to delineate the toxic potential of VPP and to elucidate such problems as species sensitivity, the nature of gross and micro-pathological changes, and the approximate dose level at which these effects occur. They also provide guidance for the selection of dosage for chronic toxicity tests and any functional or biochemical studies that may be necessary. They should be carried out in accordance with recognized codes of good laboratory practice.

2.4.1.1 Animals

At least two species of healthy animals of both sexes, one rodent, preferably rats, and one non-rodent, should be used. Among the non-rodent species, beagle dogs, monkeys, and miniature pigs may be considered. If biochemical information is available that indicates the species of animal most likely to elicit information simulating man, such species should be selected for these studies. Rodents are usually started on tests at or shortly after weaning and are assigned to groups of equal size balanced with respect to litter distribution, sex, and average weight. Groups should be large enough to provide statistically adequate data.

2.1.4.2 Diet

The diet should be nutritionally adequate for all test groups. If the test product has been shown to be nutritionally complete, it may be fed as a replacement for basic protein in the diet. Particular attention should be paid to balancing the tests and control diets in respect to minor nutrients. It is not feasible to test a VPP at large multiples of the potential use level. Nevertheless, the highest practicable use level should be included and if feasible, grade levels of the VPP should be reflected in the experimental design. It is not realistic to establish a dose response curve.

2.4.1.3 Length of study

Subacute toxicity feeding trials should be of at least three months duration.

2.4.2 Other studies

Following an appraisal of the source and the method of manufacture of the VPP together with the results of nutritional and subacute toxicity studies, the need for further studies including chronic, reproduction, teratogenic and mutagenic studies will be evaluated.

2.5 Statistical

Reports of investigations must include complete details, data for control as well as test groups, and appropriate statistical analysis of the findings.

PROPOSED DRAFT RECOMMENDED INTERNATIONAL GENERAL STANDARD FOR VEGETABLE PROTEIN PRODUCTS (VPP)

(Returned to Step 6)

1. SCOPE

This standard applies to vegetable protein products {VPP) intended for use in foods, which are prepared by various separation and extraction processes from proteins from vegetable sources other than single cell protein. The VPP are intended for use in foods requiring further preparation and for use by the food processing industry. This standard does not apply to any vegetable protein product which is the subject of a specific Codex Commodity Standard and is designated by a specific name laid down in such standards.

2. DESCRIPTION

2.1 VPP covered by this standard are food products produced by the reduction or removal from vegetable materials of certain of the major nonprotein constituents (water, oil, starch, other carbohydrates) in a manner to achieve a protein (N x 6.25) content of 40% or more. The protein content is calculated on a dry weight basis excluding added vitamins, minerals, amino acids and food additives as specified in Section 4.

3. ESSENTIAL COMPOSITION AND QUALITY AND NUTRITIONAL FACTORS

3.1 Raw Materials

Clean, sound, plant material essentially free from foreign matter in accordance with good manufacturing practice, or VPP of lower protein content meeting the specifications contained in this standard.

3.2 VPP shall conform to the following compositional requirements except in so faras certain requirements may be modified in specific types of VPP.

3.2.1 Moisture

The moisture content shall be sufficiently low as to ensure microbiological stability under the recommended conditions of storage.

3.2.2 Crude protein

(N x 6.25) shall not be less than 40% on a dry weight basis, excluding vitamins, minerals, amino acids and food additives as specified in Section 4.

3.2.3 Ash

The yield of ash on incineration shall not exceed 8% on a dry weight basis.

3.2.4 Fat

The residual fat content shall be compatible with good manufacturing practices.

3.2.5 Crude Fibre

For products not covered by a specific product standard, crude fibre shall not exceed 8% on a dry weight basis.

3.3 Optional Ingredients

a) carbohydrates, including sugars
b) edible fats and oils
c) other protein products
d) vitamins and minerals
e) salt
f) herbs and spices

3.4 Nutritional Factors

Processing shall be carefully controlled and sufficiently thorough to secure optimum flavour and palatability, as well as to control such anti-nutritional factors as trypsin inhibitor, hemagglutinins, glucosinolates, etc., in accordance with intended use. Certain VPP are produced under low temperature conditions to avoid loss of protein solubility or enzyme activity. These special purpose VPP shall be assayed for protein nutritive value after appropriate heat treatment. Processing must not be so severe as to appreciably impair the nutritive value.

3.4.1 Minimum protein nutritive value

To be established.

4. FOOD ADDITIVES

To be elaborated.

5. CONTAMINANTS

To be elaborated.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.1).

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

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

(a) shall be free of microorganisms which may represent a hazard to health;

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

(c) shall not contain any other poisonous substances in amounts which may represent a hazard to health.

7. PACKAGING

VPP shall be packed in suitable hygienic containers which will maintain the product during storage and transport in a sanitary condition.

8. LABELLING

In addition to Sections 2,3,7 and 8 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CODEX STAN 1-1985)*, the following specific provisions apply:

8.1 Name of the Food

8.1.1 The name of the food shall be:

".....Protein product"

The blank is to be filled with the name of the specific source of the vegetable protein, e.g. soya, groundnut, cottonseed, rapeseed.

8.1.2 The protein content of the VPP shall be declared on a dry weight basis.

* Hereafter referred to as the General Standard.

8.1.3 The name may include a term which accurately describes the physical form of the product, e.g., "granules" or "bits".

8.1.4 When the VPP is subjected to a texturization process, the name of the product may include an appropriate qualifying term such as "textured" or "structured".

8.2 Net Contents

The net contents shall be declared by weight in metric units ("Système International") in accordance with Section 4.3 of the General Standard.

8.3 Name and Address

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

8.4 Country of Origin

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

8.5 Lot Identification

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

8.6 Instructions for use

Instructions for use shall be given In accordance with Section 4.8 of the General Standard.

8.7 Date Marking

The "date of minimum durability" (preceded by the words "best before") shall be declared by the day, month and year in uncoded numerical sequence except that for products with a shelf-life of more than three months, the month and year will suffice. The month may be indicated by letters in those countries where such use will not confuse the consumer. In the case of products requiring a declaration of month and year only, and the shelf-life of the product is valud to the end of a given year, the expression "end (stated year)" may be used as an alternative.

8.8 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and added minerals, these ingredients shall be arranged as separate groups for vitamins and minerals, respectively, and within these groups the vitamins and minerals need not be listed in descending order of proportion.

8.9 Non-Retail Containers

Information on 8.1.1 to 8.8 should be given 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 may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF SAMPLING AND ANALYSIS

The methods of sampling and analysis referred to hereunder are international methods and apply to the Proposed Standard for VPP.

9.1 Sampling

(For analytical purposes excluding sampling for net content).

9.2 Analysis

9.2.1 Determination of moisture

According to the AOAC Method 14.002 (AOAC, 13th Ed., 1980). TYPE I

9.2.2 Determination of crude protein

According to the AOAC Method 2.057 (13th Ed., 1980). TYPE I

Conversion factor 6.25 to comply with definition in Sections 2 and 5.

9.2.3 Determination of ash

According to the ISO 2171-1980 cereals, pulses and derived products TYPE 1

- determination of ash.

9.2.4 Determination of fat

According to the method No.1 of CAC/RS 72/74 - 1976. TYPE I

9.2.5 Determination of crude fibre

According to AACC Method 32 - 17 (AACC, 1982). TYPE 1

9.2.6 Heavy metal contaminants

Methods to be identified.

PROPOSED DRAFT RECOMMENDED INTERNATIONAL STANDARD FOR SOY PROTEIN PRODUCTS

(Step 5)

1. SCOPE

This standard applies to Vegetable Protein Products (VPP) prepared from soybeans (seeds of Glycine max.L.) by various separation and extraction processes. These products are intended for use in foods requiring further preparation and by the food processing Industry.

2. DESCRIPTION

Soy Protein Products (SPP) covered by this standard are food products produced by the reduction or removal from soybeans of certain of the major non-protein constituents (water, oil, carbohydrates) in a manner to achieve a protein (N x 6.25) content of:

- in the case of a soy protein flour (SPF) 50% or more and less than 65%;

- in the case of a soy protein concentrate (SPC) 65% or more and less than 90%;

- in the case of soy protein isolate (SPI) 90% or more.

The protein content is calculated on a dry weight basis excluding added vitamins, minerals, amino acids and food additives specified in Section 4.

3. ESSENTIAL COMPOSITION AND QUALITY AND NUTRITIONAL FACTORS

3.1 Raw Materials

Clean, sound, mature, dry seeds essentially free from other seeds and foreign matter in accordance with good manufacturing practice, or SPP of lower protein content meeting the specifications contained in this standard.

3.2 SPP shall conform to the following compositional requirements:

3.2.1 Moisture content shall not exceed 10% (m/m).

3.2.2 Crude protein (N x 6.25) shall be:

- in the case of SPF, 50% or more and less than 65%;

- in the case of SPC, 65% or more and less than 90%;

- in the case of SPI, 90% or more

on a dry weight basis excluding added vitamins, minerals, amino acids and food additives specified in Section 4.

3.2.3 Ash

The yield of ash on incineration shall not exceed 8% on a dry weight basis.

3.2.4 Fat

The residual fat content shall be compatible with good manufacturing practices.

3.2.5 Crude fibre content shall not exceed:

- in the case of SPF, 5%;

- in the case of SPC, 6%;

- in the case of SPI, 0.5%

on a dry weight basis.

3.3 Optional Ingredients

a) carbohydrates, including sugars
b) edible fats and oils
c) other protein products
d) vitamins and minerals
e) salt
f) herbs and spices

3.4 Nutritional Factors

Processing should be carefully controlled and sufficiently thorough to secure optimum flavour and palatability, as well as to control such factors as trypsin inhibitor, hemagglutinins, etc., in accordance with intended use. Certain SPP are produced under

low temperature conditions to avoid loss of protein solubility or enzyme activity. The special purpose SPP shall be assayed for protein nutritive value after appropriate heat treatment. Processing must not be so severe as to appreciably impair the nutritive value.

3.4.1 Protein nutritive value

Minimum protein nutritive value for each SPP to be established.

4. FOOD ADDITIVES

To be elaborated.

5. CONTAMINANTS

To be elaborated.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.1).

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

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

(a) shall be free of micro-organisms which may represent a hazard to health;

(b) shall not contain any substances originating from micro-organisms inamounts which may represent a hazard to health; and

(c) shall not contain any other poisonous substances in amounts which may represent a hazard to health.

7. PACKAGING

SPP shall be packed in suitable hygienic containers which will maintain the product during storage and transport in a dry and sanitary condition.

8. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CODEX STAN 1-1985*), the following specific provisions apply:

8.1 Name of the Food

* Hereafter referred to as the General Standard.

8.1.1 The name of the food shall be:

"soy protein flour" or "soya protein flour" when the protein content is 50% or more and less than 65%.

"soy protein concentrate" or "soya protein concentrate" when the protein content is 65% or more and less than 90%.

"soy protein isolate" or "isolated soy protein" or "soya protein isolate" or "isolated soya protein" when the protein content is 90% or more.

8.1.2 The name may include a term which accurately describes the physical form of the product, e.g., "granules" or "bits".

8.1.3 When the SPP is subjected to a texturization process, the name of the productmay include an appropriate qualifying term such as "textured" or "structured".

8.2 Net Contents

The net contents of the container shall be declared by weight in metric units ("Système International") in accordance with Section 4.3 of the General Standard.

8.3 Name and Address

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

8.4 Country of Origin

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

8.5 Lot Identification

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

8.6 Information for Utilization

The manufacturer of SPP shall provide clear instructions for specific uses claimed on the label.

8.7 Date marking

The "date of minimum durability" (preceded by the words "best before") shall be declared by the day, month and year in uncoded numerical sequence except that for products with a shelf-life of more than three months, the month and year will suffice. The month may be indicated by letters in those countries where such use will not confuse the consumer. In the case of products requiring a declaration of month and year only, and the shelf-life of the product is valid to the end of a given year, the expression "end (stated year)" may be used as an alternative.

8.8 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and added minerals, these ingredients shall be arranged as separate groups for vitamins and minerals, respectively, and within these groups the vitamins and minerals need not be listed in descending order of proportion.

8.9 Labelling of Non-Retail Containers

Information on 8.1.1 to 8.8 should be given 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 may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF SAMPLING AND ANALYSIS

The methods of sampling and analysis referred to hereunder are international methods and apply to the Proposed Standard for SPP.

9.1 Sampling

(For analytical purposes excluding sampling for net content). According to ISO Method 2170-1980 Cereals and Pulses - Sampling of milled products.

9.2 Analysis

9.2.1 Determination of moisture

According to the AOAC Method 14.002 (AOAC, 13th Ed., 19.80). TYPE I

9.2.2 Determination of crude protein

According to the AOAC Method 2.057 (AOAC, 13th Ed., 1980). TYPE I

Conversion factor 6.25 to comply with definition in Sections 2 and 3.

9.2.3 Determination of ash

According to the ISO 2171-1980 Cereals, Pulses and derived products - determination of ash. TYPE I

9.2.4 Determination of fat

According to the method no. 1 of CAC/RS 72/74 - 1976. TYPE I

9.2.5 Determination of crude fibre

According to AACC Method 32-17 (AACC, 1982) TYPE I

9.2.6 Trypsin inhibitor and other anti-nutritional factors

Method to be identified.

9.2.7 Heavy metal contaminants

Methods to be identified.

PROPOSED DRAFT RECOMMENDED INTERNATIONAL STANDARD FOR WHEAT GLUTEN

(Advanced to Step 8)

1. SCOPE

This standard applies to wheat gluten intended for use in foods and prepared from wheat by various extraction processes. The wheat gluten may be presented either as vital or devitalized and is intended for use in foods requiring further preparation and for use by the food processing industry.

2. DESCRIPTION

2.1 Definitions

Wheat gluten is a food product produced by wet extraction from wheat or wheat flour of certain non-protein constituents (starch, other carbohydrates), in a manner to achieve a protein content of 80% or more (N x 6.25) on a dry weight basis.

Vital wheat gluten is characterized by its property of high viscoelasticity as hydrated.

Devitalized wheat gluten is characterized by its lost property of viscoelasticity as hydrated due to denaturation.

3. ESSENTIAL COMPOSITION, QUALITY AND NUTRITIONAL FACTORS

3.1 Raw Materials

Wheat or wheat flour essentially free from other seeds and foreign matter in accordance with good manufacturing practice.

3.2 Compositional Requirements

Wheat gluten shall conform to the following compositional requirements:

3.2.1 Moisture content shall not exceed 10% m/m.

3.2.2 Crude protein (N x 6.25) shall be 80% or more on a dry weight basis.

3.2.3 Ash content shall not exceed 2.0% on a dry weight basis.

3.2.4 Fat content (ether extracted) shall not exceed 2.0% on a dry weight basis.

3.2.5 Crude fibre content shall not exceed 1.5% on a dry weight basis.

4. FOOD ADDITIVES

No food additives are permitted.

5. CONTAMINANTS

To be elaborated.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.1).

6.2 To the extent possible in good manufacturing practice the products shall be free from objectionable matter.

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

(a) shall be free of microorganisms which may represent a hazard to health;and

(b) shall not contain any substances originating from microorganisms inamounts which may represent a hazard to health; and

(c) shall not contain any other poisonous substances in amounts which mayrepresent a hazard to health.

7. PACKAGING

Wheat gluten shall be packed in suitable hygienic containers which will maintain the product during storage and transport in a dry and sanitary condition.

8. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CODEX STAN 1-1985*), the following specific provisions apply:

8.1 Name of the Food

8.1.1 Vital wheat gluten

The name of the food shall be "vital wheat gluten" or "wheat gluten".

8.1.2 Divitalized wheat gluten

The name of the food shall be "devitalized wheat gluten" or devital wheat gluten".

8.2 Net Contents

The net contents shall be declared by weight in metric units ("Système international") in accordance with Section 4.3 of the General Standard.

8.3 Name and Address

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

8.4 Country of Origin

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

8.5 Lot Identification

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

8.6 Instructions for Use

The manufacturer of wheat gluten shall provide clear instructions for specific uses claimed on the label. Cautionary statements for gluten intolerant persons shall be on the label if required by national legislation.

8.7 Date Marking

The "date of minimum durability" (preceded by the words "best before") shall be declared by the day, month and year in uncoded numerical sequence except that for products with a shelf life of more than three months, the month and year will suffice. The month may be indicated by letters in those countries where such use will not confuse the consumer. In the case of products requiring a declaration of month and year only and the shelflife of the product is valid to the end of a given year, the expression "end (stated year)" may be used as an alternative.

* Hereafter referred to as the General Standard.

8.8 Labelling of Non-Retail Containers

Information on 8.1.1 to 8.7 should be given 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 should appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

9. METHODS OF SAMPLING AND ANALYSIS

The methods of sampling and analysis referred to hereunder are international methods and apply to the Recommended International Standard for Wheat Gluten.

9.1 Sampling

(For analytical purposes excluding sampling for net content).

According to the ISO Method 2170-1980 Cereals and Pulses - Sampling of Milled Products.

9.2 Analysis

9.2.1 Determination of Moisture

According to the AOAC Method 14.002 (AOAC, 13th Ed., 1980).

9.2.2 Determination of Protein

According to the AOAC Method 7.021 (AOAC, 13th Ed., 1980), but using the factor N x 6.25.

9.2.3 Determination of Ash

According to the AOAC Method 14.006 (AOAC, 13th Ed., 1980).

9.2.4 Determination of Ether Extractable Fat

According to the AOAC Method 7.055 (AOAC, 13th Ed., 1980).

9.2.5 Determination of Crude Fibre

According to the AOAC Method 7.061 (AOAC, 13th Ed., 1980).

9.2.6 Determination of Denaturatlon of Gluten

According to the AACC Method 38-20 Vital Wheat Gluten (American Association of Cereal Chemistry - AACC, 7th Ed., 1962).

9.2.7 Heavy Metal Contaminants

Methods to be Identified.

ALINORM
APPENDIX VIII

REPORT OF THE WORKING GROUP ON METHODS OF ANALYSIS

The Working Group on Methods of Analysis, which included representatives from Canada, Cuba, France, the Netherlands, Sweden, United Kingdom, U.S.A. and the observer from EWSA, examined the methods of analysis proposed in the draft Codex standards, as well as the comments of the Codex Committee on Methods of Analysis and Sampling. The following amendments were proposed.

Draft General Standard for Vegetable Protein Products

9.2.1 Determination of moisture

According to the AOAC Method 14.002 (AOAC, 13th Ed., 1980).

9.2.2 Determination of crude protein

The ISO 1871 standard Is too general; it deals with general guidance for the estimation of nitrogen and should be replaced by the standard ISO 598.3-1979 "Animal feed - Determination of nitrogen content for the calculation of crude protein content."

9.2.3 Determination of ash

Add "method B" to the end of the sentence.

9.2.5 Determination of crude fibre

The AOAC method which gives no limitation to this field of application was chosen for this reason. After some discussion, It was decided to replace this reference by the following:

ISO 5498-1981 "Agricultural food products - determination of crude fibre content" - "General Method" or General Method AOAC 7.061 (AOAC, 13th Ed.).

9.2.6 and 9.2.7 - These points were removed.

9.2.8 Heavy metals

For lead and cadmium the AOAC general methods were retained.

For mercury the ICC 141 method was proposed.

Draft International Standard for Soy Protein Products

Apply the same amendments as for Vegetable Protein Products, except for trypsine inhibitors for which a method should be established.

9.2.1 Moisture content

According to AOAC Method 14.002 (AOAC, 13th Ed., 1980): ISO method 6496.

Draft Standard for Wheat Gluten

9.2.2 Determination of protein

ISO 5983-1979 "Animal feed - Determination of nitrogen content for the calculation of crude protein content" or AOAC 2057 (AOAC, 13th Ed., 1980).

9.2.3 Determination of ash

According to ISO 2171-1980 "Cereals, pulses and derived products - Determination of ash" - Method B or AOAC 14.006, AOAC, 13th Ed., 1980).

9.2.4 Determination of fats extracted by ether

ISO 5986-1983 "Animal feed - Determination of ether extract" or AOAC 7056, (AOAC, 13th Ed., 1980).

9.2.5 Determination of crude fibre

According to ISO 5498-1981 "Agricultural Food Products - Determination of crude fibre content - General Method" or AOAC 7.061 (AOAC, 13th Ed., 1980).

9.2.6. Solvent Residues (Hexane)

Delete this provision.

9.2.8 Heavy Metals

Same methods as for Vegetable Protein Products.

In cases where there were both ISO and AOAC methods with divergent principles, unanimous agreement was not possible. A majority was however identified by the Ad Hoc Working Group in favour of the AOAC methods and these were retained. The Working Group considered nevertheless that the matter required further examination and encouraged member countries to provide information on the methods used and, if possible, to carry out comparative studies. The methods under discussion concerned vegetable protein products and soy protein products.

Wheat Gluten

9.2.1 Moisture Content

According to the AOAC method 14.002 (AOAC, 13th Ed., 1980)

Determination of ash

According to AOAC method 14.006 (AOAC, 13th Ed., 1980): ISO Method 2171 (Method A).