

codex alimentarius commission

FOOD AND AGRICULTURE
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CODEX ALIMENTARIUS COMMISSION

Thirteenth Session

Rome, 3-14 December 1979

REPORT OF THE ELEVENTH SESSION OF THE
CODEX COMMITTEE ON PESTICIDE RESIDUES

Note: Recommendations of the 1979 Codex Committee on Pesticide Residues regarding maximum residue limits (MRLs) are contained in the following documents:

- Amendments to MRLs at Step 9 : Appendix IV to this Report
- MRLs advanced to Steps 5 and 8 : ALINORM 79/24-A;ADD.I
- MRLs at Steps 3 and 6 : Circular CL 1979/29

The Hague

11 - 18 June 1979

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CODEX COMMITTEE ON PESTICIDE RESIDUES

The Hague, 11 - 18 June 1979

INTRODUCTION

1. The Codex Committee on Pesticide Residues (CCPR) held its Eleventh Session in The Hague, The Netherlands, from 11 to 18 June 1979. Mr. A.J. Pieters, Public Health Officer of the Ministry of Health and Environmental Protection, Foodstuffs Division, acted as Chairman. The Session was attended by government delegates, experts, observers and advisers from the following 44 countries:

Argentina	Greece	Nigeria
Australia	Hungary	Norway
Austria	India	Portugal
Belgium	Ireland	Romania
Brazil	Israel	Saudi Arabia
Canada	Italy	South Africa, Republic of(observer)
Chile	Japan	Spain
Cuba	Kenya	Sweden
Czechoslovakia	Kuwait	Switzerland
Denmark	Libya	Thailand
Dominican Republic	Malaysia	United Kingdom
Finland	Mexico	United States of America
France	Netherlands	Venezuela
German, Democratic Republic (observer)	New Zealand	Yugoslavia
Germany, Federal Republic of	Nicaragua	

The following International Organizations were also represented:

Council of Europe
European Economic Community (EEC)
European and Mediterranean Plant Protection Organization (EPPO)
International Federation of Margarine Associations (IFMA)
International Federation of National Associations of Pesticide Manufacturers (GIFAP)
International Office of Cocoa and Chocolate (IOCC)
International Organization for Standardization (ISO)
International Union of Pure and Applied Chemistry (IUPAC)
Nordic Committee on Food Analysis (NMKL)

The list of participants, including officers from FAO and WHO, is attached as Appendix I to this Report.

OPENING SPEECH BY THE CHIEF INSPECTOR OF FOODSTUFFS

2. The Eleventh Session was opened by Mr. P.H. Berben, Chief Inspector of Foodstuffs, Ministry of Health and Environmental Protection. Speaking on behalf of the Minister, Mr. Berben welcomed the participants.

He pointed out that the use of pesticides has been a matter of concern to officials responsible for the safety of food ever since it was realized that the use of these biologically active materials could result in the occurrence of residues in food. Many governments had reacted by developing legislation to regulate the use of pesticides. In this way governments were able to influence to varying degrees the pesticides which were used, and the recommendations for their use. Where appropriate through prescribing safety periods between last spraying and harvest they could, in addition, influence residue levels. Some governments considered these measures sufficient to achieve adequate protection of consumers. Many other countries decided to introduce a system of maximum allowable residue levels in food. The levels were based on national needs and considerations. Food with levels in excess of those prescribed were considered as being unfit for human consumption. Such an approach led to very many differences in the acceptable residue levels for the same pesticide/crop combination. The need for international harmonization of pesticide residue tolerances, taking into account their toxic properties, was thus clearly evident. Those concerned are to be applauded for the decision to include pesticide residues in the FAO/WHO Food Standards Programme.

The decision of the Codex Alimentarius Commission to elaborate pesticide residue tolerances involved a number of unforeseen organizational problems and also required a mental reconditioning of those involved in tolerance-setting.

There existed a need for an internationally acceptable forum for the toxicological evaluation of pesticides. Formerly this had been achieved through the work of the group of experts, known as the WHO Expert Committee on Pesticide Residues. The conclusions of that Committee provided an acceptable basis for decision making. A forum for evaluating residue data also proved necessary. FAO had already established a Working Party on Pesticide Residues. The conclusions of that Working Party formed a useful basis for elaborating Codex proposals for internationally recognized maximum residue limits.

The extent and the manner in which the work of the combined meetings of the WHO Expert Committee and the FAO Working Party, known as the "Joint Meeting on Pesticide Residues", influenced the Codex Committee on Pesticide Residues was quickly established. The Joint Meeting provided the infrastructure necessary for the operation of the Codex Committee on Pesticide Residues itself. It is, therefore, incumbent on FAO and WHO to do everything possible to protect and to improve the functioning of the Joint Meeting.

For several years the reports of the Joint Meeting on Pesticide Residues have contained the ominous words "the meeting was unable to arrive at conclusions because of the absence of data", even though most people were aware that much data existed. Mr. Berben made a plea to all concerned in governments, in international agencies and organizations and in industry for efforts to solve these problems. "Data known to exist" had to be made available to the scientists in the Joint Meeting in order to prevent a gradual deterioration of their work. If this was not achieved it would be reflected in the work of the Committee.

While previously it was sufficient to take into account local practice in the establishment of national maximum residue limits, participation in Codex required a change in attitude. Governments in deciding to participate in Codex undertook to consider maximum residue limits different from, and obviously some times higher than, those established on the basis of national conditions. They also had to be prepared to consider the acceptance of maximum residue limits for pesticides not used in their

own country. Even where this approach had been adopted, legislative restrictions in many cases prevented the acceptance of Codex maximum residue limits. Participants were urged to promote suitable amendments of laws to enable international harmonization (i.e acceptance of Codex standards). The need for such adjustments has been highlighted by the increase in the number of maximum residue limits which had reached Step 9 of the Codex Procedure. The sixth series of recommended maximum residue limits would soon be distributed. If participants, as part of their work in this Committee, tried to bring national regulations in line with Codex proposals, it would facilitate trade in many foodstuffs and basic agricultural commodities and, at the same time, safeguard an important aspect of public health. It was recognized that certain individual countries might have difficulties in reacting to Codex proposals, since they may be bound by agreements requiring inter-country examination and agreement. Bodies responsible for such consultations were urged to take their responsibilities seriously and to give priority to the preparation of comments on proposed maximum residue limits. Comments from every individual country, particularly those participating in this meeting, should be provided promptly.

Although much progress had been made in the work of the Committee, Mr. Berben indicated that it was desirable that such progress be reflected in increased numbers of acceptances of Codex maximum residue limits. The Codex Alimentarius Commission, in evaluating its own activities, had to decide on priorities and could do so only on the basis of acceptances received and not of countries present at meetings. The work of the Committee could thus be in danger of undervaluation.

The Committee had rightly extended its field of activity beyond the pure development of maximum residue limits: i.e development and compilation of codes of practices in the pesticide field; development of sampling methods and of methods for residue analysis; the establishment of a survey of good agricultural practice; the establishment of foods and food groups. All these activities were important in facilitating the implementation of international maximum residue limits.

Appreciation of the work of the Committee was shown by the ever growing number of participants. The present session was attended by participants from 44 different countries and several organizations.

Mr. Berben wished the Committee a successful outcome in dealing with a heavy agenda.

3. The Chairman welcomed the increased participation of member countries of the Commission in the work of the Committee and referred to the Committee's increasing impact on bilateral and international consultations on the use of pesticides in general and on pesticide residues in particular.

ADOPTION OF AGENDA

4. The Committee agreed to the adoption of the agenda with some minor amendments.

APPOINTMENT OF RAPORTEURS

5. Dr. M. Lynch (Ireland), Mr. M. Galoux (Belgium) and Prof. E. Astolfi (Argentina) were appointed to act as rapporteurs to the Committee.

MATTERS OF INTEREST TO THE CODEX COMMITTEE ON PESTICIDE RESIDUES

Report of the 1977 Joint Meeting on Pesticide Residues (JMPR)

6. The Committee had before it the report of the 1977 Joint Meeting on Pesticide Residues (FAO Plant Production and Protection Paper 10 Rev.) and circular CL 1978/37 issued by the Secretariat. It also considered Room Document No. 1 prepared by The

Netherlands stressing the need to consider the problem raised in paragraph 2.6 of the above Report and, in particular, the problems associated with obtaining data of a confidential nature (mainly toxicological data).

7. The Committee noted that the question of confidentiality of data was being considered by the various committees dealing with toxicology, environmental aspects, residues and pesticide specifications ^{1/}. It also noted that the OECD, through an expert committee, was giving attention to the question of confidentiality of data and agreed that there should be full cooperation between the secretariats of FAO, OECD and WHO in order to facilitate the resolution of this question. It was agreed that an amelioration of the situation concerning the availability of confidential data for consideration by the JMPR was urgently required.

8. The Committee also took note of the conclusion of the 1977 JMPR and agreed that specific aspects contained in the report should be taken up by the appropriate working group or the Committee itself under the relevant item of the agenda.

REPORT OF THE 1978 JOINT MEETING ON PESTICIDE RESIDUES (JMPR)

9. The Committee had before it the report of the above Joint Meeting but agreed that, as the report was only available in English and had been distributed only shortly before the Session, it should be placed on the agenda of the next session. It noted that circular CL 1979/9 issued by the Secretariat indicated the recommendations for MRLs on which comments were being sought, but agreed that governments were free to comment on any aspect of the above report for the next session.

MATTERS ARISING FROM CODEX SESSIONS

10. The Committee had before it documents CX/PR 79/2 and Addendum 1 thereto, containing a statement of matters of interest arising from a number of Codex Sessions as follows:

(a) Codex Committee on Food Additives (12th Session, ALINORM 79/12)

11. The Committee decided to consider the remarks contained in paragraph 35-41, ALINORM 79/12 concerning food additive and pesticide residue intake under item 7 of the Agenda (see paragraph 37).

(b) Codex Committee on Fats and Oils (10th Session, ALINORM 79/17)

12. The Committee noted that the Codex Committee on Fats and Oils had discussed the desirability of drawing up a Code of Practice for the commercial processing of fats and oils and the need to study the question of the removal of pesticide residues during processing. It was also noted that the Commodity Committee had requested guidance from the Codex Committee on Pesticide Residues concerning the desirability of including MRLs for pesticide residues in Codex standards for fats and oils. The Committee noted that the question of the fate of residues following the processing of fats and oils had already been considered by the JMPR in making recommendations for MRLs for these products. The Secretariat of the JMPR indicated that it would prepare a paper on the question of the fate of residues during processing for the JMPR, on the basis of published material available on this subject. On the other hand, treatment of fats and oils directed specifically to the removal of residues represented a different problem which would have implications both for the Codex Committee on Pesticide Residues and

^{1/} Ad Hoc Government Consultation on International Standardization of Pesticide Registration Requirements; AGP: 1977/M/9.
Second Session of the FAO Panel of Experts on Pesticide Specifications, Registration Requirements and Application Standards; Rome, 15-19 October 1979.

the Commodity Committee (e.g treatment of virgin oils to remove residues leading to some of these oils having lower or higher residues and posing the question as to whether such treated oils were still virgin oils). The representative of IFMA undertook to make information available to the Secretariat 1/.

13. As regards the question of including MRLs for pesticide residues in the contaminant section of Codex standards, it was agreed that this was not practical given the fact that Codex recommended MRLs followed a different "Acceptance Procedure" and were not elaborated by the Codex Committee on Pesticide Residues in a manner that would permit synchronization with the publication of Codex recommended standards for the commodities to which MRLs applied.

(c) Joint FAO/WHO Food Standards Regional Conference for Latin America
(CX/Latin America 78/12)

14. The Committee noted that the above conference had considered a Code of Ethics for the International Trade in Food (CX/GEN 77/1) which recommended that (i) pesticide residues in food be regulated; (ii) governments accept Codex recommendations for MRLs and (iii) governments ensure that food exported from their country be checked for compliance with either the regulations of the producing or the importing country.

15. The Committee also noted that the conference had stressed the need for governments to strengthen their food control and monitoring capabilities which would enable data to be developed which would in turn reveal whether the Codex recommended MRLs were appropriate for the countries within the Region.

(d) Codex Committee on Processed Fruits and Vegetables (14th Session,
ALINORM 79/20)

16. The Committee noted that the above Committee was seeking information on fumigants used on dried foods under consideration by that Committee in order to assist the Codex Committee on Pesticide Residues and the JMPR in recommending MRLs for fumigants in these commodities.

17. At the last session of the Codex Committee on Pesticide Residues some delegations had requested that the question of the use of fumigants and resultant MRLs should be examined. This matter had also been discussed at the last session of the abovementioned Codex Commodity Committee. That Committee had decided to request governments to indicate what fumigants were used on dried fruits and vegetables and to provide residue data on the basis of which MRLs could be established (see paragraph 8, ALINORM 79/20 and CL 1978/40).

18. The Codex Committee on Pesticide Residues had before it document CX/PR 79/2 Addendum I which included information of MRLs in force in the United States of America for a number of fumigants. The Delegation of the United States of America stated that the MRLs for methyl bromide referred to in the document were for residues of inorganic bromide and that the MRLs for aluminium phosphide were for residues of phosphine. It was informed that the JMPR, at its 1979 Session, would evaluate data on the fumigants ethylene dichloride, ethylene dibromide, carbon tetrachloride and methyl bromide. The representative of WHO pointed out that the question of interaction between fumigants and foods would also need to be examined and that some information was available to the JMPR who would consider this matter.

1/ Note by the Secretariat: See "Nutritional and Safety Aspects of Food Processing"; (D.J. Sissons and G.M. Telling, S.R. Tannerbaum (Ed.), Marcel Dekker, 1979, Ch.10).

19. The representative of FAO indicated that, as fumigants were no longer the property of individual companies, there was a need for governments to provide the necessary data.

20. Several delegations and the representative of EPP0 stressed the need for internationally agreed MRLs in order to overcome problems created by the existing strict phytosanitary requirements of importing countries which specified the absence of insects in products such as cereals. The delegation of India indicated the need for establishing MRLs for fumigants in cashew nuts.

21. The Committee requested governments to provide the necessary data to the JMPR so that fumigants could be evaluated.

STATEMENT OF THE REPRESENTATIVE OF THE COUNCIL OF EUROPE

22. The Committee was informed that the Committee of Experts on Pesticides of the Council of Europe (Partial Agreement) had decided to revise the "Pesticides" booklet, which aimed at providing guidance on data to be supplied to a competent national authority by a manufacturer intending to market a new pesticide or introduce a new use for an existing product. This booklet had proved to be very popular with both industry and the public.

23. Publication of the 5th edition was expected for 1980 and the Committee noted that the scope of the new edition had been enlarged. It would also be addressed to farmers and other users of pesticides.

24. The Representative of the Council of Europe indicated that several new subjects would be included in this edition, such as:

- good laboratory practice, step sequence testing of pesticides and the confidentiality of research and development data;
- storage of pesticides;
- use of viruses, bacteria and other biological agents in agricultural parasite control.

25. Other subjects under study for possible inclusion in the new edition were:

- efficacy of pesticides;
- security guidance for pesticide handling by commercial servicing company operators;
- definition of required levels of training and certification for qualified pesticide users.

26. The Committee was also informed that aerial application of pesticides was being studied by the Committee of Experts on Pesticides, and that at its next Session it would examine a draft resolution aimed at environmental protection and operative safety. The Committee of Experts had also extended its activities to other uses of pesticides, such as:

- desinsectization of aircrafts and of other means of transport; and
- preservation of wood.

27. Moreover, the Committee of Experts had completed a draft resolution on the "Risks of contamination of animal products for human consumption which might result from pesticide residues in feeding stuffs intended for livestock". The Committee of Ministers had adopted, early this year, Resolution AP(79)1 on "Guidelines which national authorities should consider including in their publications on the use of pesticides".

28. The Committee also noted that another draft resolution on the "Domestic use of pesticides", would soon be adopted by the Committee of Ministers.

RECONSIDERATION OF RESOLUTION DRAWN UP BY THE TENTH SESSION OF THE COMMITTEE

29. The Resolution, drawn up by the Tenth Session of the Committee, was re-examined at this Session (see ALINORM 79/24, paragraphs 187-196). The delegation of The Netherlands introduced an addition to this Resolution in order to emphasize that sufficient data should be made available on residues in crops grown under tropical conditions to permit an adequate evaluation to be made. This addition received wide support and was adopted with slight editorial changes. It was incorporated in the text of the Resolution, reproduced in Appendix II. The delegation of the United Kingdom pointed to the existence of some laboratories, which were already carrying out the type of work needed. FAO was requested to identify these laboratories and to take further appropriate action to stimulate the generation of data in a form suitable for the needs of the JMPR and the Codex Committee on Pesticide Residues. Several countries indicated the need for help from FAO to enable them to set up adequate laboratory facilities for this purpose. Regional cooperation might be useful in this context.

30. The amended Resolution received the full support of the Committee. Delegates were urged to keep their authorities constantly informed of the work of the Committee and of actions necessary to facilitate the work of the Committee.

31. The delegation of Canada cited from a document, discussed at the World Health Assembly 1979, where it was stated that the WHO part of the JMPR was to be incorporated in a new programme on environmental chemical safety, involving major organizational changes. The delegate of WHO indicated that this matter was still being discussed at an organizational level within WHO and that it was premature to speculate on the implications of these developments (see also paragraphs 218-224).

COMMENTS ON CLASSIFICATION OF FOODS

32. The Committee had before it the classification system contained in Part 1 of document CAC/PR 1-1978 and comments thereon given in document CX/PR 79/4 and Room Document 3.

33. The Committee noted that the purpose of the food classification system was:
(a) to provide a grouping of foods for computerized data storage and retrieval;
(b) to standardize and define terms used to describe items and groups of food; and
(c) to group foods which had similar potential for pesticide residues with a view of establishing, where possible, MRLs covering groups of food.

34. Some delegations pointed out that the Codex food classification system included many foods which were of minor importance in international trade. Other delegations were of the opinion that it was difficult to judge the importance, or otherwise, of a food for the purpose of setting MRLs as some foods, which appeared to be "minor crops", were important export items to some countries. It was suggested that the Working Group on Priorities might be asked to make recommendations on foods they considered to be of importance in international trade in connection with the pesticides proposed for priorities.

35. With respect to the concept of setting group MRLs, the Committee noted that the basic issue involved was to decide whether it was possible to set such "group MRLs" on the basis of residue data available for selected food items in the groups. It was agreed that a decision on this matter was premature and that, in the meantime, the establishment of "group MRLs" should be continued on a case by case basis in the light of all available relevant information. It was proposed that the question of minimum data requirements for the establishment of "group MRLs" should be discussed by the JMPR.

Some delegations were of the opinion that the establishment of group MRLs to cover other than small groups of food was likely to prove difficult.

36. The Committee agreed that:

- (a) the Codex food classification required revision and correction on the basis of documents CX/PR 79/4, Room Document 3 and comments and information from governments and relevant international organizations, prior to the issue of an improved second version, which would also take into consideration the conclusions of the Committee concerning the classification of processed foods and animal feeds;
- (b) the question of the minimum data requirements for the establishment of "group MRLs" was a matter for consideration by the JMPR. The views of previous Sessions of the Codex Committee on Pesticide Residues should be taken into account; consideration should be given to the problem of ensuring that the MRL selected would be applicable to all commodities in the group, providing for exceptions where required;
- (c) although the Codex food classification system would have to be updated, nevertheless both the JMPR and the Codex Committee on Pesticide Residues should continue to use it in an attempt to establish uniform and meaningful commodity descriptions and where appropriate, MRLs covering groups of foods;
- (d) the question of "minor crops" was likely to resolve itself in the light of the availability of residue data, of requests by governments for MRLs and of the MRLs proposed by the JMPR on the basis of data from industry in specific foods considered to be of importance in international trade.

The Committee expressed its appreciation to the FAO Consultant, Mr. R.E. Duggan, who had developed the present food classification system.

CONSIDERATION OF THE INTAKE OF PESTICIDE RESIDUES

(a) Guidelines for the design of pesticide residue intake studies

37. The Secretariat expressed its regret that this document, to be prepared by the Joint FAO/WHO Food and Animal Feed Contaminants Monitoring Programme, had not yet been finalized. The Committee was informed that, at the last Session of the Codex Committee on Food Additives it had been stated that intake of pesticide residues and contaminants has more relevance to developing countries than the intake of food additives.

(b) Information on pesticide residue intake - results of national studies

38. The Committee had before it document CX/PR 79/5 containing a summary of the results of national intake studies conducted in Canada, The Netherlands, New Zealand, Poland and the United States of America. The delegation of Canada, introducing their contribution, indicated that it was a summary and the complete study would be published. Although over 100 pesticides had been looked for, only some 23 had been detected in these total diet studies. The actual intake was generally low when compared to the ADI. Residues of organochlorine compounds had declined steadily over the last few years. They drew the attention of the Committee to a recent publication entitled "Approach for Estimating Human Intakes of Chemical Substances", by S.W. Gunnar and D.C. Kirkpatrick and published in the Canadian Inst. Food Sci. Technol. Vol.12, No.1, January 1979, p.27-31 and which contained a review of different approaches to total diet studies.

The Netherlands study showed intake for organochlorine compounds to be well below the ADI, except in the case of dieldrin, where the intake approached the ADI.

The delegate of New Zealand introduced a report on the first total diet study carried out in his country. Results had led to further restrictions on the industrial use of dieldrin and to an extension of the pre-harvest interval for omethoate. The contribution of Poland showed residue of DDT and Thiram at a rather high level. The delegation of the United States of America recalled that in their country total diet studies had been carried out since 1964 and had consistently shown pesticide residues at a relatively low level. Several changes in the design of the studies were expected in the next years. As the actual intake did not show any important change since the previous study, a precise calculation of total intake had been omitted from the latest publication.

39. The delegate of WHO stressed the importance of uniformity in the contributions of the different countries to the Committee and undertook to provide a simple scheme for the reporting of results of total diet studies in a uniform way.

40. The delegate of Australia apologized for not submitting the results of total diet studies in his country to the Committee. These studies showed, that in general intake was much lower than the ADI. Residues of dieldrin and HCB, which were relatively high in 1970, had significantly declined.

41. The chairman invited all other delegations to submit results of total diet studies conducted in their countries, to the Committee.

CONSIDERATION OF THE ESTABLISHMENT OF MAXIMUM RESIDUE LIMITS
IN ANIMAL FEEDS

42. The Committee had before it document CX/PR 79/6 on the above subject which had been prepared by the Secretariat following discussions which had taken place at previous Sessions of the Committee (see ALINORM 79/24, paragraph 141). The document provided a basis for the classification and definition of animal feeds, identified the need for MRLs in such products and provided a statement of the purpose which such MRLs would serve. It also included a suggested procedure of "acceptance" of recommended Codex MRLs for animal feeds and contained the following proposals:

- (a) For the purposes of the Codex, "animal feeds" should be regarded as harvested fodder crops or by-products of agricultural crops used to feed slaughter or dairy animals and which are not suitable or not normally used for human consumption;
- (b) Where a product is used both for human and for animal consumption, only one MRL should be recommended by Codex, i.e. an MRL which assumes direct consumption of that product by humans;
- (c) It seems both appropriate and useful to continue to elaborate MRLs for "animal feeds" as defined under (a) above, in accordance with the Codex Procedures for the Elaboration and Acceptance of MRLs, as the benefits which would be derived from the harmonization of such MRLs would out-weigh the investment of effort in their elaboration by Codex. In any event, there seemed to be a case for reconciling national differences in MRLs in order to facilitate international trade in animal feeds;
- (d) Animal feeds could be classified in various ways. For the purposes of the Codex, and taking into account the work of the JMPR, practical considerations and the cost/benefit aspects of the exercise, one way was as shown in the Appendix to paper CX/PR 79/6, noting that the lists of feeds included in the classification were only for the purpose of illustration and would have to be completed should the Codex Committee on Pesticide Residues decide to follow the suggestion of the Secretariat.

43. In the discussion that followed, there was general agreement among delegations with the suggestions of the Secretariat indicated in paragraphs (a) to (d) above, in essence that the Committee should maintain the status quo with regard to establishing maximum residue limits in animal feeds. Consequently, the Committee should continue to deal, through the JMPR, with such products on a case by case basis bearing in mind the Codex criteria of protecting the health of the consumer and the importance of the commodity in international trade. In supporting the views of the Committee, the representative of the EEC drew attention to the existence of community provisions in the animal feed sector.

44. Regarding the definition of "animal feeds" proposed by the Secretariat, some expressed the view that this should be reworded so that, for instance, certain by-products from food processing and mixed feeds could be covered. In replying to a question by the delegation of Belgium, the Secretariat informed the Committee that the definition of 'animal feeding stuffs' was intended to cover pesticide residues only. Contamination of feeding stuffs by aflatoxin, PCB and similar contaminants was being dealt with by the FAO/WHO Food and Feed Monitoring Programme. The question of animal feed adjuncts had been considered by the Codex Committee on Food Additives.

45. Concerning the proposal in point (b) in paragraph 42, to recommend only one MRL where a product is used for both animal or human consumption, it was pointed out that there were some cases where pesticide residues could accumulate at the end of the food chain in animal products and that in such cases a lower MRL for the product used in animal feeding would be necessary.

46. The Committee agreed that a small group should meet with the Secretariat to discuss the question of definitions with a view to drafting proposals for consideration by the Committee. The definition proposed by the Working Group to the Committee is given in Appendix III. The Committee agreed to reconsider the definition at its next Session in the light of comments.

47. The Secretariat was requested to bring this matter to the attention of the Commission in order to ensure that the terms of reference of the Committee reflected its work on MRLs in certain types of animal feeds.

AMENDMENTS TO STEP 9 MAXIMUM RESIDUE LIMITS

48. The Committee had before it documents CX/PR 79/7 and CX/PR 79/8. The recommendations of the Committee are summarized below and are also given in Appendix IV to this report:

(a) Proposed draft amendments at Step 4 to Codex maximum residue limits at Step 9

The amendments to certain MRLs for lindane were discussed under the next agenda item (see paragraphs 94-96).

(b) Changes proposed by the 1975, 1977 and 1978 Joint FAO/WHO Meetings on Pesticide Residues to Step 9 maximum residue limits

49. The changes proposed for coumaphos; cyhexatin; for DDT in carcass meat and milk; ~~for dimethoate; diquat and lindane and trichlorfon~~ (i.e. change from temp.MRL to MRL) were not considered substantial. The Committee requested the Commission to endorse these changes (see Appendix IV to ALINORM 79/24-A).

BROMOPHOS (No.4)

50. The Committee noted that the MRL for black currants at 0.5 mg/kg had to be deleted, since the proposed MRL at Step 6 includes red, black and white currants at 1 mg/kg. The change proposed for blackberries (from 0.5 to 1 mg/kg) was considered substantial. The Committee requested the Commission to submit the new proposed MRL of 1 mg/kg to governments at Step 3.

CHLORPYRIFOS (No.17)

51. The changes proposed were considered substantial. The Committee, therefore, requested the Commission to submit the new proposed MRLs to governments at Step 3.

CHLORDIMEFORM (No.13)

52. The Committee noted that the 1978 JMPR had withdrawn the proposals for all fruits and vegetables and for rice (hulled) and had amended all other proposals with the exception of those for cottonseed, cottonseed oil (crude) and milk. ^{1/} These three proposals, being unchanged, should stay at Step 9. The Committee considered that the other proposals as amended by the 1978 JMPR should also be maintained at Step 9, as they were at the limit of determination and reflected the changed use pattern of this pesticide.

DDT (No.21)

53. The delegation of Brazil questioned the concept of a "conditional ADI" as the conditional status was not reflected in the status of the corresponding MRLs. It was decided to request the JMPR to reconsider the concept of a "conditional ADI". The representative of WHO informed the Committee that DDT was scheduled for re-evaluation by the 1979 JMPR. The change to the proposal for milk products from 1.25 to 1 mg/kg (on a fat basis) was considered substantial. The Commission was therefore advised to submit the amended proposal to governments at Step 3. The Committee noted that the 1978 JMPR had withdrawn all the other proposals, including those at Step 9, with the exception of that for eggs, and had made a new series of proposals which would be submitted to it at Step 4 at its next Session.

HEXACHLOROBENZENE (No.44)

54. It was agreed that, as the 1978 JMPR had withdrawn the previous "conditional ADI" for this compound, the proposed MRLs should be withdrawn (i.e. should become guideline levels and should not be taken up in the Codex Procedure). The Secretariat was requested to inform the Commission accordingly.

CONSIDERATION OF CODEX MAXIMUM RESIDUE LIMITS AT STEP 4 AND 7
IN THE LIGHT OF GOVERNMENT COMMENTS

55. The Committee had before it the following documents:
- (a) The Guide to Codex Maximum Limits for Pesticide Residues, CAC/PR 1-1978, summarizing all maximum residue limits recommended up to and including 1977 JMPR, and indicating their status in the Codex Procedure;
 - (b) The report of the Tenth Session of the Committee, ALINORM 79/24; and
 - (c) The summary of written comments received prior to the Committee's Session, CX/PR 79/7 and 9 and two addenda to this document.

^{1/}Note by the Secretariat: The 1978 JMPR has changed the commodity description "whole milk" to "milk".

56. The chairman of the Committee, introducing this agenda item, reminded delegations that their comments at Steps 4 and 7 of the procedure would have implications when the proposals reached Step 9. Positive reaction, or the absence of comments at Steps 4 and 7 indicated that, in principle, countries were prepared to accept the proposals when they are submitted to them at Step 9. This acceptance could take the form of full acceptance, target acceptance or limited acceptance. Countries could also consider non-acceptance whilst permitting free distribution of food commodities with residues up to the level of the Codex MRL.

57. The delegation of Canada, supported by several other delegations, applauded the new format of the Report of the JMPR which made essential information available shortly after JMPR Sessions.

58. The delegation of Australia urged that the "Evaluations" of the JMPR indicate more clearly the relationship between proposals for fresh and dried commodities. The basis for the derivation of the latter should be stated. It was agreed that the JMPR be requested to comply with these suggestions in their future publications. The delegation of the Federal Republic of Germany explained that MRLs for dried fruits or vegetables could usually be calculated from MRLs on a fresh weight basis, if the commodities concerned were not treated after harvest.

59. The delegation of Denmark indicated that they were not yet in a position to give a clear commitment on the acceptability of maximum residue limits as consultations within their country concerning the introduction of national MRLs had not yet been completed.

60. The delegation of the United States of America, whilst strongly supporting the work of the Committee, outlined the legal difficulties of the United States in accepting Codex MRLs. The establishment of a tolerance equal to the Codex MRL was necessary under United States law before a Codex MRL could be accepted. The problem was made more acute where no United States tolerance had been established for that commodity and by the fact that the data published in the JMPR Evaluation were not sufficient for a tolerance to be established. Original data had to be evaluated. It was for this reason that the United States, in its written comments, had reserved its position on these MRLs where no United States tolerance at all had been established. The delegation of Switzerland explained that in their country the legal situation was similar to that described by the delegation of the United States of America.

61. The delegation of the Federal Republic of Germany explained that the procedure for acceptance in their country is complicated. All of the Federal States had to agree before the Federal Government could give acceptance. Many MRLs had, however, been established for pesticides not registered in the Federal Republic.

62. The delegation of the Dominican Republic pointed out that Codex MRLs were not always compatible with pest control practices in their country. The Codex Secretariat suggested that in such cases, it might be appropriate to consider a form of acceptance which would allow free distribution of imported foods (e.g limited acceptance). Furthermore, countries could request United Nations assistance in order to ensure that, in particular, exported foods would comply with Codex MRLs or the MRLs of importing countries.

63. The delegation of Japan outlined the system in their country for the elaboration of maximum residue limits, which were established for the purpose of avoiding possible hazard to humans and livestock.

DISCUSSION OF SPECIFIC RECOMMENDATIONS

64. The following paragraphs reflect the discussions concerning individual maximum residue limits. The proposals referred to are those, on which discussion took place. Where no special indication is made, proposals were advanced from Step 3 to Step 5 or from Step 6 to Step 8, as appropriate. 1/

BROMOPHOS (No.4)

Raw cereals, White bread, White flour and Wholemeal bread

65. As the 1975 JMPR had withdrawn its proposals for maize, sorghum and wheat and substituted a proposal for an MRL of 10 mg/kg for raw cereals, including raw rice, the MRLs for the commodities shown in the title of this paragraph were advanced to Step 5. The MRLs for maize, sorghum and wheat were deleted by the Codex Committee on Pesticide Residues.

Bran

66. The proposal for bran, erroneously listed in the Guide as being at Step 5 instead of 3, was returned to Step 3 to provide governments another opportunity to submit their comments.

67. The delegation of Cuba requested that an MRL for cottonseed and cottonseed oil be proposed by the Joint Meeting. Brazil had made a similar request at the Tenth Session but since no data had been made available to the 1978 JMPR, an MRL could not be established.

CAPTAN (No.7)

Apples and Pears

68. The delegations of The Netherlands and Sweden indicated that residues greater than 10 mg/kg had never been found in their countries. They proposed an MRL of 15 mg/kg. The delegation of the United States of America indicated that residue data generated in the United States was consistent with the proposal of 25 mg/kg. The delegate of FAO indicated that the 1978 JMPR had no data to justify an amendment to the existing proposal. The Secretariat added that Codex MRLs are normally based on supervised trials and, therefore, generally reflect the levels occurring at harvest. Data generated through food surveys would not always be of the same magnitude. It was decided to advance the proposal to Step 8.

Cherries

69. Several delegations reserved their position, pending examination of the 1978 Evaluations. The delegation of Canada indicated that results of a study conducted in their country would be available in the course of 1979. The proposal was returned to Step 6.

CARBARYL (No.8)

70. The Committee discussed at length whether or not 1-naphthol and/or other metabolites were included with carbaryl in the residue. It seemed that the Reports and Evaluations of the Joint Meeting reflected a rather confusing situation. It was concluded, that the MRL did not include metabolites and thus referred to the carbaryl

1/ The decisions of the Committee to change MRLs or to move them to Step 5 or 8 in the Codex Procedure will be given in Add.I to the Report of the Eleventh Session of the Codex Committee on Pesticide Residues (ALINORM 79/24-A:ADD.I) to be issued separately during September 1979. Decisions to move MRLs to Steps 3 or 6 will be brought to the attention of Governments by means of circulars.

parent compound only. It was noted that the practical implications involved in the different ways of expressing the residue might not be of significance.

Animal feedstuffs (green).

71. The Committee decided that separate MRLs should be established for (a) grasses (fodder); (b) legumes (fodder); (c) cereal grains (fodder) and (d) sugar beat tops; and decided to advance them to Step 8.

CARBOPHENOTHION (No.11)

72. The delegation of The Netherlands indicated that, in view of the low ADI of the compound, residues resulting from its use on broad groups of fruit and vegetables might lead to intake in excess of the ADI. They could not accept many of the proposals.

73. It was noted that the compound was scheduled for re-evaluation by the JMPR in 1979. In the light of comments received, it was decided not to advance the proposals and to await the results of the re-evaluation mentioned.

Apples and Pears

74. The delegation of the United States pointed out that residue data generated in the United States of America supported an MRL of 0.8 mg/kg and not 0.5 mg/kg. The JMPR was requested to reconsider the proposal. The delegation of Canada and the United States undertook to try to send data to the JMPR.

Carcase meat of cattle, Milk and Milk products

75. The delegation of The Netherlands pointed to the discrepancy between the proposal for meat and those for milk and milk products.

CHLORDANE (No.12)

76. The Committee recalled that, at its last Session, it had requested governments for information concerning the use pattern for chlordane and acceptable MRLs for both this pesticide and 'oxychlordane' (see paragraph 76, ALINORM 79/24). The Secretariat indicated that reference had been made to this request in a circular but that a specific circular such as issued in the case of DDT had not been distributed to governments.

77. The Committee decided to retain the various MRLs at Step 7 of the Procedure and requested the Secretariat to issue a circular to governments seeking the information referred to in paragraph 76 of ALINORM 79/24 on chlordane and seeking information on other similar pesticides which the JMPR intended reviewing.

CHLORDIMEFORM (No.13)

Pears, Rice (hulled), Tomatoes

78. The proposals at Step 3 and Step 6 were deleted. See also paragraph 52.

CHLORMEQUAT (No.15)

Barley, straw; Oat, straw; Rye, straw; Wheat, straw

79. It was decided to advance these proposals to Step 5 with the recommendation that Steps 6 and 7 be omitted.

CHLOROBENZILATE (No.16)

80. The Committee was informed by the delegation of the United States that in their country all registered uses of chlorobenzilate, except on citrus fruit, had been cancelled on toxicological grounds. The citrus fruit use was being confirmed after an exhaustive risk/benefit analysis. The data would be provided to the JMPR. It was decided to retain the proposals at Step 7 of the procedure.

2,4-D (No.20)

Raw cereals

81. As no data were submitted to the JMPR, the MRL for raw cereals had not been changed. The proposal was advanced to Step 8.

DDT (No.21)

82. The Committee noted that the 1978 JMPR had reviewed the compound. The new proposals are listed in the Annex of 1978 JMPR Report. The Committee noted these new proposals.

DIPHENYLAMINE (No.30)

Apples

83. The 1978 JMPR had proposed reducing the MRL for apples from 10 to 5 mg/kg in 1978 unless data were made available to support the MRL of 10 mg/kg. The Committee decided to retain the proposal at Step 7 in order to give governments a further possibility of supplying data to the JMPR in support of either of these figures. Subsequently governments could comment on the results of the 1979 JMPR.

DIQUAT (No.31)

Barley, Wheat and Wheat flour (white)

84. The Committee agreed to return the proposals to Step 6 in order to provide governments with an opportunity to comment on the Evaluations of the 1978 JMPR.

ENDOSULFAN (No.32)

Meat, Milk, Milk products

85. The Committee noted that no new data had been made available to the JMPR. Consequently, the JMPR had been unable to comply with the request of the Committee to reconsider the ERLs ^{1/}at Step 6. Comments submitted by governments, based on analytical data from food control and monitoring activities, indicated that an ERL of 0.1 mg/kg was sufficient. The Committee discussed the advisability of reducing the existing limits at Step 7 to 0.1 mg/kg on the basis of this information and on the basis of the relatively rapid metabolism and excretion of this pesticide.

86. It was agreed that, in the light of the likely changes in the pattern of usage of this pesticide on those crops used as animal feeds and on the basis of government comments, the existing ERLs were too high. The Committee decided to seek further residue information from governments and requested the JMPR to consider information received including that in the open literature. It was agreed that it was appropriate for the Committee to change ERLs recommended by the JMPR on the basis of additional data and where necessary, to facilitate their acceptance by governments. It was, therefore, agreed that acceptable ERLs would be recommended for endosulfan in these foods at the next Session.

^{1/}The old term 'practical residue limit'(PRL) has been replaced by the term 'extraneous residue limit'(ERL).

FENITROTHION (No.37)

Bread(white), Raw cereals, Wheat bran, Wheat flour(white),
Wheat flour(wholemeal)

87. The delegation of India indicated that in their country direct use of this pesticide on foodstuffs was not allowed. Such applications could easily give rise to unacceptable levels of intake. Foodstuffs prepared from treated cereals underwent little processing; consequently, the residue levels would hardly diminish. MRLs in Indian regulations were 0.02 mg/kg for raw cereals and 0.005 mg/kg for milled grain.

The delegations of The Netherlands, the Federal Republic of Germany and Sweden opposed the proposals, since the residues which consequently occurred in wholemeal bread, a major food item in their countries, were not acceptable on public health grounds. The delegation of Australia pointed to the importance of pesticides for the post-harvest control of pests in stored grain. In their opinion, residues resulting from some of such uses were acceptable. The proposals were advanced to Step 8.

88. The delegation of Switzerland was of the opinion that, in general, MRLs for grain protectant residues in processed brans should be established at much lower levels than those proposed for unprocessed brans. The delegation of Australia offered to make data available to the JMPR. The data showed that residues greater than 1 mg/kg never occurred in breakfast bran. The Committee decided to request the Joint Meeting to provide a recommendation for bran (processed) on the basis of the new data.

Rice (polished)

89. It was decided to modify the description to bring it into line with that for the JMPR recommendation: rice (milled). As this change was not of a substantial nature, the proposal was advanced to Step 5.

Peaches, Pears

90. The JMPR had been asked for clarification on both proposals, as indicated in paragraphs 107 and 108 of ALINORM 79/24. In the absence of this clarification, the proposals were retained at Step 7.

FENTHION (No.39)

91. The Committee noted that the compound was scheduled for re-evaluation at the 1979 JMPR. It was, therefore, decided to retain the proposals at Step 7. The proposals at Step 4 were advanced to Step 5.

HEPTACHLOR (No.43)

Sugar beet

92. It was stated that pulp (i.e wastes and tops) of sugar beets containing residues of up to 0.05 mg/kg, when fed to cattle, would give rise to residues in milk and meat greater than those proposed for these commodities. The use of heptachlor had, however, been discouraged and residues occurring in practice were considered to be insignificant. Dried sugar beet pulp was important in international trade in some parts of the world. It was concluded that the proposal for sugar beet could be deleted. A separate proposal (an ERL) for dried sugar beet pulp should be proposed if this proved necessary.

93. Several delegations mentioned the use of heptachlor on sugar cane and enquired whether such use of insecticides might lead to appearance of residues in sugar. Experience in India had demonstrated that this was not the case. It was suggested that the problem of possible residues in sugar be studied first at a regional level.

LINDANE (No.48)

Cherries, Grapes and Plums

94. The Committee noted that the replies to CI 1978/15 concerning proposed amendments to the limits for cherries, grapes and plums from 3 mg/kg to 0.5 mg/kg were in favour of the amendments and decided to advance them to Step 5 of the procedure with a recommendation that Steps 6 and 7 be omitted.

Spinach, Tomatoes and Carrots

95. The proposed MRLs for spinach, tomatoes and for carrots were advanced to Step 5.

96. The Committee noted that the delegation of the United States did not support the proposed limit of 0.5 mg/kg for tomatoes and considered 3 mg/kg more appropriate. It was agreed to refer the matter to the JMPR for reconsideration.

MANCOZEB (No.50)

97. The Committee was informed that the 1977 JMPR had withdrawn all proposals for mancozeb and included them under 105, DITHIOCARBAMATES and 108, ETHYLENE THIOUREA. It was decided to delete the MRLs for mancozeb.

OMETHOATE (No.55)

98. As a result of the decision of the 1978 JMPR to incorporate the MRLs for omethoate in those for dimethoate, it was concluded that the MRLs for omethoate could be deleted.

PARATHION-METHYL (No.59)

Vegetables

99. The Secretariat informed the Committee that re-evaluation of the compound was scheduled for the 1979 JMPR. Pending this re-evaluation the proposed MRL for vegetables was returned to Step 6.

PYRETHRINS (No.63)

100. Discussion on the description of the residue is reported in paragraph 174.

THIABENDAZOLE (No.65)

Potatoes, Onions and Tomatoes

101. The Committee decided to advance these proposals to Step 5 and, as there was general agreement to do so, recommended that Steps 6 and 7 be omitted.

Sugar beet tops, Sugar beet, Sugar beet pulp and Sugar beet molasses

102. On the question as to whether it was necessary to have MRLs for all these sugar beet products, the Committee decided that the Secretariat would clarify the situation and would try to indicate for what parts of sugar beet and at what stage of processing MRLs were needed. The proposals were advanced to Step 5.

Raw grain

103. The delegation of the Federal Republic of Germany stated that they would try to make data available to the JMPR to support an increase of this MRL to 2 mg/kg. The proposal was advanced to Step 5.

Strawberries

104. The delegation of Denmark indicated that the proposed MRL was too low. They would try to arrange supervised trials to be carried out and make the data available to the JMPR.

TRICHLORFON (No.66)

105. The Committee was informed that the temporary ADI had been changed to a full ADI by the 1978 JMPR. Consequently, the temporary MRLs were modified to MRLs.

Lettuce, Raw cereals and Spinach

106. The Committee in advancing the proposals to Step 5, unanimously recommended that Steps 6 and 7 be omitted.

DEMETON-S-METHYL (No.73)

Animal feed(dry), Animal feed(green)

107. In the light of decisions reached in connection with the establishment of MRLs for animal feeds (see paragraphs 42-47) the Committee requested the Secretariat to examine the data available to the JMPR on the basis of which the proposals had been established. The Secretariat was requested to amend the description "animal feed" and to bring it into line with the terminology and definitions used in the Codex Food Classification system and in document CX/PR 79/6, as amended by the Committee.

108. It was decided that the MRLs for dry and green animal feeds with the editorial amendments to be made by the Secretariat should be advanced to Step 8 of the procedure.

DISULFOTON (No.74)

Animal feeds

109. In view of its decision concerning animal feeds (see paragraphs 42-47), the Committee decided to advance the MRLs for alfalfa (hay), clover (hay) and peanut shells to Step 5 and that for forage crops (green) to Step 8 of the procedure.

The delegation of The Netherlands was of the opinion that, where MRLs were established for animal feeds, it was necessary to establish MRLs also for animal products. The Committee requested governments to provide residue data to the JMPR on the basis of which appropriate MRLs could be proposed.

Potatoes

110. It was noted that the MRL of 0.5 mg/kg, considered too high by some delegations to the last Session of the Committee, could not be reconsidered by the JMPR in the absence of data. The delegation of Switzerland informed the Committee that residue data from trials carried out in 1966 had been sent to the Secretariat. The delegations of the Federal Republic of Germany and The Netherlands undertook to send further residue data to the JMPR. The MRL for potatoes was, therefore, retained at Step 7 of the Procedure.

PROPOXUR (No.75)

Animal feedstuffs (green)

111. The Committee proceeded as in the case of Demeton-S-methyl (paragraph 108) and advanced the recommendation to Step 8 of the Procedure.

Cocoa Beans

112. It was noted that no new information had been received from Ghana, or any other countries, on the basis of which a final recommendation could be made. The request for data was repeated and the JMPR was requested to re-examine the MRL of 0.05 mg/kg in the light of information to be submitted. The recommendation was returned to Step 6 of the Procedure.

THIOMETON (No.76)

113. The Committee noted that the Steps indicated in the Guide CAC/PR 1-1978 were incorrectly recorded. MRLs indicated as being at Step 3 were, in fact, at Step 5 and those indicated as being at Step 6 were at Step 8. The various MRLs were, therefore, not considered as being before this Session of the Committee.

THIOPHANATE-METHYL (No.77)

Residue

114. It was noted that the 1978 JMPR had changed the definition of the residue to exclude carbendazim (a metabolite of thiophanate-methyl for which separate GLs had been established). The reason for this exclusion was that carbendazim (a pesticide in its own right) had not been allocated an ADI and that, in any case, it was a relatively minor metabolite.

115. Some delegations were of the opinion that carbendazim, benomyl and, in the opinion of the delegation of the Federal Republic of Germany, also possibly thiophanate-ethyl, should be included in the definition of the thiophanate-methyl residue, others held the opposite view (see also paragraph 169).

116. The Committee accepted the amended definition of the residue and also decided to advance the MRL of 5 mg/kg for sugar beet tops to Step 8.

CHINOMETHIONATE (No.80)

Apples

117. The delegations of Canada and the United States informed the Committee that questions had been raised in their countries as to the nature and toxicological significance of certain unidentified bound residues which may constitute most of the residue 7-8 days following treatment. The proposal was advanced to Step 8.

CHLOROTHALONIL (No.81)

Banana (whole), Banana (pulp)

118. Data made available by the manufacturer to several countries indicated that an MRL of 0.2 or 0.5 mg/kg for banana (whole) and an MRL of 0.02 or 0.05 for banana (pulp) might be sufficient. It was decided to request the JMPR to review the proposals in the light of the data mentioned. The proposals were advanced to Step 5.

DICHLORFLUANID (No.82)

Blackberries, Gooseberries

119. Most of the residue data for blackberries in the 1977 Evaluations referred to the sum of dichlorfluanid and DMSA. As the MRL only included dichlorfluanid (parent compound), the delegation of The Netherlands was of the opinion that the MRL may have to be reduced to take this into account. It was also thought that the proposed MRL for

gooseberries might be too low to account for the variations met under practical conditions. It was decided to ask the Joint Meeting to reconsider both proposals to see whether a change to 10 mg/kg was possible for both commodities. The proposals were advanced to Step 5.

Eggplant

120. As the fate of residues in eggplant was similar to that for tomatoes, it was suggested that the proposal for eggplant might be too low in the case of glasshouse culture and probably should be raised to the level proposed for tomatoes. It was agreed that this matter be brought to the attention of the JMPR. The delegation of The Netherlands indicated that they would try to make data available to the JMPR to support an MRL of 2 mg/kg for eggplants. The proposal of 1 mg/kg was advanced to Step 5.

Onions

121. The inclusion of the term "bulb" in the description of this commodity was considered unnecessary and was, therefore, deleted. The delegation of the Federal Republic of Germany agreed to try to send data to the JMPR which would justify raising the MRL to 1 mg/kg. The proposal was advanced to Step 5.

Raw grain (barley, oats, rye, wheat)

122. It was decided that proposals for the individual grain crops mentioned should be listed. The Committee advanced the proposals to Step 5 with the recommendation that Steps 6 and 7 be omitted.

Sweet peppers, Hops (dried), Wheat straw, Potatoes

123. As there was general agreement to these proposals, the Committee decided to advance the proposals to Step 5 with the recommendation that Steps 6 and 7 be omitted.

PIRIMIPHOS-METHYL (No.86)

Raw cereals, Wheat bran, Wheat flour (white), Wholemeal flour (wheat, rye), Bread (white), Bread (wholemeal), Rice bran, Rice (hulled) and Rice (polished)

124. Since the 1977 JMPR had proposed a group MRL for "raw cereals" at 10 mg/kg, the individual limits at 7 mg/kg for barley, maize and oats and 10 mg/kg for rice in the husk, rye and wheat, were deleted. The Committee decided to return the proposal for raw cereals to Step 6 to provide governments with an opportunity to comment. Consequently the other related proposals were also returned to Step 6.

Pears and Plums

125. As the proposed MRLs for pears and plums at 2 mg/kg had inadvertently not been listed in the Guide (CAC/PR 1-1978), the Committee agreed to return the proposals to Step 3. Governments were invited to comment on them.

Kivi fruit

126. As data had been made available to the JMPR the delegation of New Zealand requested that an MRL for pirimiphos-methyl in kivi fruit be established.

LEPTOPHOS (No.88)

127. The 1978 JMPR decided to withdraw all the proposals for leptophos as this compound is no longer manufactured. The proposed MRLs were deleted.

SEC-BUTYLAMINE (No.89)

Citrus fruits and Citrus juice

128. The Committee agreed to advance these proposals to Step 5 of the Procedure with the recommendation that Steps 6 and 7 be omitted.

Citrus molasses and Dried Citrus pulp

129. The delegation of the United States informed the Committee that in their country an MRL of 90 mg/kg is valid for these commodities. The level is based on a conversion factor of 3 (with regard to Citrus fruits). It was pointed out that the MRLs recommended by the JMPR were based on available data and did not depend on the use of a conversion factor. The Committee decided to advance the proposed MRLs to Step 5.

Kidney and Liver of cattle, goats, pigs and sheep

130. The delegation of the Netherlands requested that different MRLs be proposed for kidney and liver. The delegation of the Federal Republic of Germany explained that it would be more appropriate to convert these MRLs into ERLs (this also applied to the MRLs mentioned in paragraph 131). It was agreed that the proposals be advanced to Step 5 with a request to the JMPR to review the matter.

Milk, Milk products

131. It was pointed out by the delegation of the United States that, although the figures differed from their national tolerances, the United States figures were based on the same data as the JMPR proposals. The JMPR was asked to review these items. The proposed MRLs were advanced to Step 5.

Meat of cattle, goats, pigs and sheep

132. As the MRLs for these commodities had not been included in the Guide (CAC/PR 1-1978), they were returned to Step 3. Governments were asked to comment on them. There was some doubt as to whether the proposals should be MRLs or ERLs. The Secretariat was requested to clarify this matter.

CHLORPYRIFOS-METHYL (No.90)

Lettuce

133. The Committee agreed to delete reference to the term "outdoor" when describing lettuce in the list of commodities and to add instead a footnote indicating that the proposed MRL was based on data for outdoor lettuce. The Committee added that if data were available for lettuce grown under other conditions, such data should be supplied to the JMPR. The Committee noted that the Federal Republic of Germany would be supplying data supporting changes in the MRLs proposed and the addition of MRLs for other commodities. It was decided to advance the proposal to Step 5.

ACEPHATE (No.95)

Residue

134. The Committee noted that the metabolite of acephate, methamidophos (a pesticide in its own right) had been excluded from the definition and was covered by separate MRLs. The delegation of the United States, supported by the Federal Republic of Germany, was of the opinion that methamidophos should be included in the definition of the residue. In answer to a question by the Secretariat, the Committee was informed that the

MRLs established for methamidophos would accommodate residues of that substance arising from the degradation of acephate.

Brussels sprouts, cabbage, cauliflower, lettuce

135. It was noted that the JMPR could not reconsider its previous recommendations for these commodities as no additional residue data had been provided (see paragraph 175, ALINORM 79/24). The original MRLs recommended by the JMPR were advanced to Step 5 of the Procedure. The delegation of The Netherlands was of the opinion that an MRL of 5 mg/kg for lettuce was more realistic. The delegation of Switzerland indicated that data from supervised trials in that country supported an MRL of 2 mg/kg for the sum of acephate and methamidophos for these four commodities.

Alfalfa, Sugar beet leaves

136. In view of its decision concerning animal feeds, the Committee decided to advance the MRLs for these commodities to Step 5 of the Procedure.

CARBOFURAN (No.96)

137. The Committee noted that the MRLs listed were temporary. It decided to advance the proposed limits for the following items to Step 5: alfalfa (fresh), alfalfa (hay), beets (fodder), maize fodder (fresh), sugar beet tops.

138. It was agreed that the Secretariat should clarify the commodities included in the term "Other Animal Feeds not listed" and that the JMPR should be asked to indicate which items should be included in the list.

DIALIFOS (No.98)

139. The Committee advanced the proposed limits for the following items to Step 5: apples, grapes and pears.

METHAMIDOPHOS (No.100)

140. The Committee, in discussing MRLs recommended for this pesticide, recalled its conclusions concerning acephate (paragraph 134).

141. A number of delegations were of the opinion that, on the basis of experience in their countries, some of the MRLs for methamidophos recommended by the JMPR were higher than required. These delegations also observed that the ADI was very low and that the possibility existed that it could be exceeded. They, therefore, suggested that the recommended MRLs should not be advanced but should be referred back to the JMPR.

142. It was pointed out that the MRLs were based on pre-harvest intervals ranging from 3 to 28 days and that, therefore, it was necessary to reconsider what constituted a good agricultural practice in the use of this pesticide, before the MRLs themselves could be reconsidered. There was little to be gained in referring methamidophos back to the JMPR.

143. The Committee agreed to advance the MRLs for methamidophos to Step 5 of the Procedure and recommended that in the case of the MRLs at 0.01 mg/kg (at or about the limit of determination) Steps 6 and 7 be omitted. The JMPR was requested to reconsider the recommendations for acephate and methamidophos in the light of any new information.

PIRIMICARB (No.101)

Residue and ADI

144. The Committee noted that the definition of the residue had been revised by the JMPR to imply the sum of pirimicarb and its metabolites but not expressed as pirimicarb. It was also noted that the temporary ADI had been increased to 0.01 mg/kg body-weight.

Beans (with pod) and other commodities

145. The delegation of The Netherlands indicated that they would submit residue data to the JMPR supporting a higher MRL than 0.5 mg/kg for beans (with pod). The Committee decided to advance all recommendations to Step 5 of the Procedure and recommended that, with the exception of beans (with pod), Steps 6 and 7 be omitted.

DITHIOCARBAMATES (No.105)

146. The Committee noted that the words "including zineb formed as a result of a combined treatment with nabam and zinc sulphate" had been omitted and should be added after zineb.

147. The attention of the Committee was drawn to the fact that some ADIs for the compounds in the group of dithiocarbamates were temporary. The Secretariat was asked to amend the presentation in the Guide in an appropriate manner.

148. Several delegations had serious doubts on the proposals because of the formation of ethylene thiourea (ETU) from ethylene bisdithiocarbamates (EBDC). It was noted that, when determining CS₂, no distinction could be made as to its origin; it could result from the use of any one of the group including the most toxic compound. Separate analysis of dimethyl dithiocarbamates (DMDC) was not yet practicable. The situation, as reflected in the 1977 Evaluations was not quite satisfactory, but no better solution was currently possible. As the 1977 JMPR Evaluations were not yet available to most of the delegates, it was agreed to re-examine the reasoning of the JMPR in establishing these limits (with the residue expressed as CS₂). The proposals were advanced to Step 5 of the Procedure.

149. As the formation of ETU was highly influenced by cooking, the delegation of The Netherlands informed the Committee that in their country severe restrictions were imposed on the use of all dithiocarbamates on crops which normally were cooked prior to consumption. This was considered necessary until such time as a method of analysis became available that could distinguish between ethylene bisdithiocarbamates (EBDC) and dimethyldithiocarbamates (DMDC). They reserved their position on the MRLs for these commodities. The delegation of the United States also reserved its position as this class of compounds was being re-evaluated in the United States of America.

ETHIOFENCARB (No.107)

150. The Committee was informed that the definition of the residue had been changed by the 1978 JMPR. The term "expressed as ethiofencarb" would accordingly be deleted from the definition.

151. In response to a question from the delegation of Belgium concerning the three-generation study required by the 1977 JMPR, the representative of WHO stated that the study was not yet available but that data had been requested to ensure that there was no reproductive effect. It was pointed out that studies were necessary to rule out any effect on reproduction since the compound was a cholinesterase-inhibitor. The JMPR secretariat was informed that these studies were in progress and would become available to the JMPR in 1980.

Beans (with pod)

152. The Committee agreed to modify the proposed figure from 5 to 0.5 mg/kg as there was apparently a mistake, evidenced by the data in the Evaluations of the 1977 JMPR. The proposal at 0.5 mg/kg was advanced to Step 5.

FENBUTATIN OXIDE (No.109)

153. The delegation of Switzerland stated that recently the use of fenbutatin oxide had been registered in their country and tolerances had been set.

Peaches

154. The delegation of The Netherlands was of the opinion that on the basis of the data in the 1977 JMPR Evaluations an MRL of 5 mg/kg would suffice. The proposal was advanced to Step 5, requesting the JMPR to review the proposed figure.

Apples, Pears

155. The delegation of Canada, supported by the delegations of The Netherlands, New Zealand, Switzerland and the Federal Republic of Germany and by the observer from South Africa, expressed the view that an MRL of 5 mg/kg was too high. The Committee decided to ask the JMPR whether it was possible to reduce the MRL to 2 mg/kg on the basis of the available data and advanced the proposals to Step 5. The delegation of the United States indicated that the main metabolite 1,1,3,3-tetrakis(B,B-dimethylphenethyl)-1,3-dihydroxydistannoxane could exceed the residue of the parent compound itself and should, therefore, be included in the definition of the residue. It was also decided to bring this matter to the attention of the JMPR.

Grapes

156. The delegation of The Netherlands requested that an MRL for grapes be proposed by the JMPR, as there were data available in the 1977 Evaluations supporting an MRL of 5 mg/kg.

IMAZALIL (No.110)

Wheat grain

157. The delegation of the Federal Republic of Germany proposed that the MRL be raised from 0.01 to 0.02 mg/kg because of analytical problems (lower limit of determination). It was agreed to refer this matter to the Working Group on Methods of Analysis. The proposal was advanced to Step 5.

IPRODIONE (No.111)

Apples, Grapes, Lettuce, Peaches, Pears, Plums and Strawberries

158. It was stated by the delegation of Sweden that they could accept the proposed figures. Their written comments were withdrawn. The proposals were advanced to Step 5.

PROPARGITE (No.113)

159. The delegation of The Netherlands remarked that they suspected that the compound might have carcinogenic potential, since it was structurally related to aramite. They, therefore, reserved their position. The representative of WHO informed the Committee that the JMPR in 1977 had expressed the opinion that, as the available long-term feeding study in rats was found to be inadequate in some respects, a satisfactory carcinogenicity study on this compound should be undertaken.

Apples and Pears

160. The Committee was informed that the 1978 JMPR had reduced the proposed figures from 3 to 2 mg/kg. The delegation of the United States promised to make data available to the JMPR supporting a higher MRL for apples and pears. The proposals were advanced to Step 5.

Figs

161. The Committee noted that MRL had been changed from 3 to 2 mg/kg by the 1978 JMPR.

Raisins

162. The delegation of Canada pointed out to the Committee that the MRL for raisins had been proposed by the JMPR on the basis of a conversion factor of 2.5 and the MRL for grapes. They promised to supply data to the JMPR showing that an MRL of 10 mg/kg would suffice. The proposal was advanced to Step 5.

CONSIDERATION OF GUIDELINE LEVELS IN THE LIGHT OF GOVERNMENT COMMENTS

163. At its Tenth Session the Committee had an extensive discussion on "guideline levels" and on the way it should handle these (ALINORM 79/24, paragraphs 39-41). It had been agreed, that guideline levels should be processed through the early stages of the Codex MRL elaboration procedure and discussed at Step 4 of the Procedure in the light of government comments. The Committee noted that by means of circular letter, CL 1977/41 (November 1977) governments had been invited to comment on the "guideline levels" contained in document CX/GEN 77/2. Two countries had set general comments prior to the Session; no specific comments were received.

164. Some countries expressed concern that the purpose of "guideline levels" has not always been clearly understood. They felt that such levels might be taken as recommendations having the same standing as MRLs. In the latter case, complete toxicological evaluation had been possible. To avoid any misunderstanding, it was decided that the next issue of the Guide would list separately the compounds for which an ADI or a temporary ADI had been established and those for which only guideline levels had been recommended. It was greatly appreciated that the Report of the 1978 JMPR and the Annex thereto made a clear distinction between these categories. It was noted that the Annex contained some errors.

165. It was explained, that absence of an ADI in general should not be taken as indicating that no toxicological data were available. In all cases toxicological information had been provided to the authorities in the countries where the compounds had been registered. In some cases, the toxicological data available to the JMPR were almost complete. One or more gaps in the information available precluded the establishment of an ADI. In other cases, the toxicological data were complete, but had not been made available to the JMPR because of confidentiality considerations. In the latter case, many countries had established ADIs at the national level. It was emphasized that "guideline levels" were recommended by the Joint FAO/WHO Meeting on Pesticide Residues and that these recommendations had, therefore, been made with the agreement of both the FAO and the WHO members of the JMPR.

166. Many delegations stressed the importance of "guideline levels" as such and urged that they be processed through the early stages of the Codex Procedure (i.e up to and including Step 4). Guideline levels provided an indication of what residue levels need not be exceeded when applying the pesticide concerned in accordance with "good agricultural practice", thereby minimising the possibility of misuse. They could form the basis for bilateral discussions between exporting and importing countries.

They could also be useful in discussions within a country between officials of different ministries and as references or standards for international bodies. When an ADI was established at a later stage, they could easily be converted into MRLs. Discussion in the Committee at Step 4 gave an indication both to governments and to the JMPR on the acceptability of the proposals and might also stimulate the generation of further data.

167. It was decided to seek comments again from governments, by means of a circular letter, on the recommended guideline levels. Comments received would be brought to the attention of both the JMPR and the Committee.

ANALYSIS OF PESTICIDE RESIDUES

168. The Committee received the report of the Ad Hoc Working Group on Methods of Analysis. It was introduced by the Chairman of the Working Group, Dr. P.A. Greve, Netherlands (see Appendix V). The Committee noted that the Group had further considered the question of establishing guidelines for "good analytical practice" in the determination of pesticide residues and that such guidelines would be finalized at the next session of the Working Group. The following questions were discussed by the Committee:

Expression of MRLs relative to analytical practice

169. The Committee accepted the rewording of the definitions for certain pesticide residues proposed by the Working Group in order to reflect current analytical practices. The question was raised in connection with the definition for thiophanate-methyl residue as to whether the methods proposed measured the parent compound as well as carbendazim. It was pointed out that the proposed methods enabled the parent compound to be measured separately and that analysts would be in a position to select the appropriate method or methods for this purpose. It was also noted that the original residue data were appropriate for the establishment of MRLs for thiophanate-methyl, expressed as carbendazim.

Expression of MRLs for fat-soluble pesticides in milk and milk products

170. The Committee had before it the report of the Ad Hoc Working Group on Methods of Analysis, document CX/PR 79/12 and Room documents submitted by Canada, the United States of America and New Zealand. The Committee discussed in detail the merits and disadvantages of expressing MRLs for fat-soluble pesticides on a fat basis, with particular reference to products with low fat content. It was noted that, in order to reach conclusions on the question of fat-soluble pesticides in milk and milk products, the following aspects should be considered:

- (a) The distribution coefficient of the pesticide residue between the aqueous and fatty phase;
- (b) Analytical difficulties and potential errors in determining fat contents at low levels (e.g 1 or 2%); and availability of standard methods for this purpose;
- (c) The applicability of the original residue data to products of varying fat content; and
- (d) current analytical practices.

171. Some delegations were in favour of expressing MRLs for fat-soluble pesticide residues in all milk products on a fat basis, as this approach enabled MRLs to be set which would cover a wide range of foods having varying fat contents. Other delegations preferred MRLs to be set on a whole product basis for foods with low fat content, while retaining the fat basis of expressing residue content for products with higher fat content. The question arose as to the level at which milk products should be considered to have a low fat content, i.e 1%, 2%, 4% or 8%.

172. The Committee agreed to submit the following proposal to governments for comment in order to facilitate resolution of the matter at the next session:

- (a) Milk products with a fat content of $\sqrt{4\%}$ or less and milk would be allocated MRLs at the same level on a whole product basis;
- (b) Milk products with more than $\sqrt{4\%}$ fat content would be allocated MRLs expressed on a fat basis calculated from the corresponding MRLs allocated for milk under (a) above, assuming that such milk contained 4% fat.

173. The basis for proceeding in this manner was that residue data for fat-soluble pesticides were usually given for "whole milk" on a product basis and that the MRLs established on the basis of residue data from whole milk would be appropriate to products with similar fat content. On the other hand, expressing the MRL on a fat basis for products with higher fat content would have the desirable effect of avoiding the need to specify separate MRLs for a large number of commodities. It was recognized that the above approach was practical but arbitrary.

Expression of MRLs for pyrethrins

174. The Committee accepted the new wording for pyrethrin residues proposed by the Working Group noting that other standards existed: e.g the "International Pyrethrum Standard" of the Pyrethrum Board of Kenya.

Future Work

175. The Committee agreed the programme of work proposed by the Working Group. The question was raised as to whether the Working Group should consider methods of analysis for pesticides for which "guideline levels" had been established. It was agreed that, in order not to overload the Working Group, participants should suggest priorities to the Chairman of the Working Group, Dr. Greve.

Recommendations for methods of analysis

176. The Committee noted that the Working Group had recommended methods of analysis, where possible, not only for MRLs at Step 8 but also at Steps 5, 6 and 7 of the Procedure. It was further noted that a given method recommended by the Working Group did not always determine the residue as defined by the Codex Committee on Pesticide Residues. However, through a judicious selection of methods by the analyst the required determination could be made.

177. The delegation of Libya remarked that the methods recommended by the Working Group were not always within the capabilities of laboratories in developing countries and that this fact should be taken into consideration. The Secretariat pointed out that FAO assisted developing countries in setting up food control and monitoring facilities. This problem had also been recognized by the Codex Alimentarius Commission which had established Regional Coordinating Committees to look into such matters, inter alia.

Results of Collaborative Studies

178. The delegation of Australia informed the Committee that because of unforeseen circumstances, the collaborative study planned for 1978 had been delayed, but that samples would be distributed in September 1979 to the 70 laboratories that had agreed to participate in the study. The delegation of Australia hoped to be able to submit a report on the study to the next session of the Committee.

179. The Committee expressed its appreciation to Dr. Greve and to the outgoing Working Group for the valuable work performed during 1978/1979 and during the present Session.

Establishment of an Ad Hoc Working Group on Methods of Analysis

180. The Committee decided to appoint a new ad hoc Working Group on Methods of Analysis under the Chairmanship of Dr. Greve to continue with the proposed work until the end of the next Session. Membership of the new Ad Hoc Working Group consists of the countries indicated in the report of the outgoing Working Group together with Canada (see Appendix V).

SAMPLING

181. The Committee considered the Report of the Ad Hoc Working Group on Sampling (see Appendix VI to this Report) which was introduced by Mr. J.A.R. Bates, Chairman of the Working Group.

Method of sampling

182. The only comment on the sampling method (Appendix IV, Annex 1, of ALINORM 79/24) received by the Working Group was that from the United States, in which it was indicated that a comparative study of the Codex and the Food and Drug Administration sampling methods under actual conditions of use was being conducted in the United States of America. The Committee agreed with the recommendation of the Working Group that, since no changes had been suggested, the sampling method should be incorporated in the next issue of the Guide. The method would be reviewed regularly on the basis of comments received and on the basis of experience in its use.

Portion of Sampled Commodity to be analysed

183. It was pointed out that, for the enforcement of MRLs, the portion of the sampled commodity to be analysed should be standardized. It was agreed by the Committee that the proposals listed in Annex 1 to Appendix VI of this Report, should be submitted to governments at Step 3 and should be processed through the Codex stepwise Procedure, as proposed by the Working Group.

Guidelines on residue trials methodology

184. The Committee expressed its thanks to GIFAP for the preparation of the draft guidelines on residue trials methodology. It was the first attempt at international harmonization in this field. It was noted that the document was relevant to growing crops and stored commodities only. The delegation of Australia informed the Committee of their intention to prepare parallel guidelines on residue trials methodology for animal products. Results would be made available in due course.

185. A schedule was agreed for the submission of comments on the methodology. The Codex Secretariat would make the revised draft available to all members of the Committee. Comments should be sent to Mr. J.A.R. Bates (FAO).

186. It was stressed that all aspects of data generation and interpretation should be regarded as being interdependent. The different documents prepared by the Committee, the Working Groups and the Secretariat should be carefully cross-checked to ensure their compatibility. Special attention should be given to ensuring that MRLs proposed were based on that portion of the commodities described in the Annex of the Sampling document.

Establishment of an Ad Hoc Working Group on Sampling

187. The Committee thanked Mr. J.A.R. Bates and the Working Group on Sampling for the valuable work performed during 1978/1979 and during the present Session.

188. The Committee decided to appoint a new ad hoc Working Group under the chairmanship of Mr. Bates (FAO), to continue with the proposed work until the end of the

next Session. Membership of the new Ad Hoc Working Group consists of the countries indicated in the report of the outgoing Working Group (see Appendix VI) together with Canada, Federal Republic of Germany, Argentina, Mexico and France.

DEFINITION AND CLASSIFICATION OF PROCESSED FOODS IN RELATION TO MRLs

189. The Committee had before it a paper containing a summary of government comments (CX/PR 79/15) on a document prepared by the Secretariat (CX/PR 78/13) and a joint proposal by the Codex and JMPR Secretariats on the handling of MRLs for processed foods (CX/PR 79/15 - ADD.I).

190. The Secretariat's paper drew a distinction between: (a) pesticide residues in processed foods resulting from pre- or post-harvest use on raw agricultural commodities (carry-over); and (b) pesticide residues in processed foods following direct usage on processed foods.

191. It also contained a proposal for the classification and definition of processed foods: (a) products which have undergone relatively simple processing and which could be further processed or used as ingredients in the manufacture of foods; (b) single and multi-component manufactured foods; and (c) products derived from raw agricultural commodities.

192. The Committee discussed the proposals of the Secretariat and in general endorsed them. It noted that, as far as processed commodities of the type described under (a) and (c) of paragraph 191 were concerned, there should not be a change in the manner of handling the recommendations of the JMPR. The Committee agreed that it would be desirable to prepare guidelines or principles for the handling of processed foods of the type described under (b) of paragraph 191, since an agreed procedure was required for dealing with pesticide residues in processed foods arising from either pre- or post-harvest applications to raw agricultural commodities for which no MRLs have been established.

193. The Committee decided that governments should be requested to submit comments on papers CX/PR 79/15 and ADD.I. On the basis of comments received it should be possible to reach agreement during the next Session. With respect to the drawing up of guidelines as envisaged in the preceding paragraph, the Committee requested the Codex and JMPR Secretariats to continue their examination of the question and to enlist the help of a consultant should this prove necessary.

ESTABLISHMENT OF PRIORITY LISTS

194. The report of the Ad Hoc Working Group on Priorities was introduced by the Chairman, Dr. A.H.F. Besemer.

195. It was noted that the Working Group had selected compounds for priority consideration on the basis of the work already agreed for the 1979 JMPR meeting and on the basis of suggestions made to the Working Group. The Working Group, as in previous sessions, prepared 3 lists:

- I Those compounds for consideration by the 1980 JMPR;
- II Those for review in 1981;
- III Those which meet the selection criteria and are drawn to the attention of countries and manufacturers with an interest in having them evaluated. The procedures laid down in the previous report of the Working Group (see ALINORM 79/24, Appendix V paragraph 5) should be followed.

196. The Working Group considered those pesticides listed in the current edition of the document "Good Agricultural Practice" CX/PR 79/16 (see paragraphs 8 and 9 of the report of the Working Group, Appendix VII). The Working Group had also dealt with the

question of providing guidance for the handling of minor commodities (see paragraph 10 of Appendix VII). The Group had noted that an international workshop to consider registration guidelines for biological control agents and sponsored by the Swedish Government had met in Stockholm (see paragraph 11, Appendix VII).

197. The Committee endorsed the proposals of the Working Group. The following specific matters were considered:

2,4,5-T

198. The Committee noted that this compound had been added to List I as the Group was aware of the existence of data which would be made available to the JMPR in the near future, in view of its widespread use on food crops of importance in international trade and because of the possibility that food crops not deliberately treated could be contaminated. The Committee noted the concern expressed by some delegations relating to the toxicological properties of 2,4,5-T. In view of the special interest indicated by the delegations of 10 countries present at the meeting, the Committee requested that 2,4,5-T be included on the agenda for re-evaluation by the 1979 JMPR.

Streptomycin

199. The Committee briefly discussed whether or not this product should be included in List II, since it was both a pesticide and a pharmaceutical product. It was noted that the product was used pre-harvest on plants and crops and that its uses in food preservation had already been considered by the Eleventh Session of the Joint FAO/WHO Expert Committee on Food Additives. It was agreed that streptomycin should remain on List II to be reviewed in the light of information received from the Codex Committee on Food Additives and any other data supplied.

List III

200. The Committee agreed that future consideration of compounds under this heading should take into account the comments of the United States of America presented in paragraphs 19, 20 and 21 of CX/PR 79/15.

Establishment of an Ad Hoc Working Group on Priorities

201. The Committee expressed its appreciation of the valuable work done by the outgoing Working Group during 1978/1979 and during the present Session. The Committee also expressed its thanks to the outgoing Chairman of the Working Group, Mr. Ralph Houghton (Canada) and requested the Secretariat to convey its appreciation to Mr. Houghton for the valuable contribution he had made to the work of the Committee in past years.

202. The Committee decided to establish a new Ad Hoc Working Group on Priorities to continue until the end of the next Session, under the chairmanship of Dr. A.F.H. Besemer (The Netherlands). The membership of the Working Group is that given in the report of the outgoing Working Group on Priorities (see Appendix VII).

SURVEY OF GOOD AGRICULTURAL PRACTICE IN THE USE OF PESTICIDES

203. The Committee considered document CX/PR 79/16, entitled "Summary of replies to the questionnaire on good agricultural practice in the use of pesticides in the production of some important selected foods". The document was introduced by the Canadian delegation. It was an updated version of document CX/PR 75/10. Thirty-seven countries had replied to the questionnaire and their replies are summarized in the document.

204. The Committee was most appreciative of the work done by the Canadian delegation since it undertook this task during the Fifth Session of the Committee in 1970. The document served as a guide of enormous value, not only for this Committee and the JMPR,

but also for other persons interested in the use of pesticides and the possible occurrence of pesticide residues in food in international trade.

205. At the Tenth Session of the Committee, the delegation of Canada had offered to produce a third report if suggestions were made on the group of food commodities to be included (see ALINORM 79/24, paragraph 229). As no new commodities had been suggested, the work would continue as before. The two existing documents, each relating to a different group of commodities, would be updated every three years. Accordingly, a new updated document would be prepared for the Thirteenth Session of the Committee.

GUIDELINES FOR THE REGULATION OF PESTICIDE RESIDUES IN FOOD

206. The Committee had before it a document on the subject of guidelines for the regulation of pesticide residues in food (CX/PR 79/17) which had been prepared by the Codex Secretariat. It was noted that the paper dealt with two aspects: (a) the need to consolidate in one document the various recommendations of the Committee on the subject of special problems relating to pesticide residue legislation (see paragraph 10, CX/PR 79/17) and (b) the need to discuss the legal or administrative difficulties which governments faced in giving acceptance to recommended MRLs.

207. The Committee noted that the Ad Hoc Working Group Concerning Problems in Developing Countries had expressed the view that it would be desirable to elaborate guidelines on legislative means for the control of pesticide residues in food (see Appendix VIII).

208. It was agreed that the questions raised in the Secretariat's paper were of fundamental importance and that the question should be discussed at the next Session after governments had an opportunity to consider the matter.

OTHER BUSINESS

Report of an Ad Hoc Working Group on Problems in Developing Countries Relating to Pesticide Residues

209. The Committee had before it the report of an informal Ad Hoc Working Group which had discussed problems relating to various aspects of pesticides in relation to developing countries. The Working Group was attended by delegates of 14 developing countries, of some other countries and by representatives of FAO and WHO. The report (see Appendix VIII) was introduced by the Chairman of the Group, Prof. W.F. Almeida (Brazil).

210. The Committee discussed the report of the Working Group in detail. As there were a number of proposals for changes in the report of the Working Group, the Committee and the Group agreed that the Chairman of the Group, assisted by the rapporteurs and the Secretariat, should prepare the final draft for adoption by the Committee. The report of the Group as adopted and which contains a list of participants is given as Appendix VIII to this Report.

211. The Committee was in general agreement with the recommendations of the Working Group, but considered that it would be necessary to obtain comments from Governments on the recommendations, prior to their adoption at the next Session of the Working Group and of the Committee. The Committee also noted a proposal by the Working Group that developing countries should forward statements of their problems with respect to pesticide residues, to the Secretariat. A paper prepared on the basis of such replies would be referred to the Codex Alimentarius Commission for consideration. The delegation of Argentina reserved its position with regard to the recommendations made by the Ad Hoc Working Group until such time as their Government had been consulted.

212. The Committee decided to establish an Ad Hoc Working Group on Problems in Developing Countries Relating to Pesticide Residues, under the Chairmanship of Prof. W.F. Almeida (Brazil). The membership of the Working Group consists of countries indicated in the report of the Working Group (see Appendix VIII). The Working Group was requested to examine all questions of interest to developing countries relating to the work of the Codex Committee on Pesticide Residues and to liaise with the Codex Regional Coordinating Committee where appropriate. Any country or organization interested in problems related to pesticide residues in developing countries were also invited to participate in future meetings of the Working Group.

Pesticide Residues in Tobacco and New Pesticide Formulations

213. The delegation of Cuba pointed to the need to discuss the question of pesticide residues in tobacco as this represented an important item in international trade.

214. The delegation of Cuba was also of the opinion that new pesticide formulations were being developed and marketed at an accelerated rate and that it would be desirable to exercise some control over this development at the international level in order to ensure that the marketing of such new formulations was justified and since several developing countries, particularly those which had no established pesticide residue control, were not in a position to evaluate such new formulations.

Pesticide used post-harvest

215. The delegation of Australia drew the attention of the Committee to the fact that some pesticides used for post-harvest treatment of certain crops were considered as "food additives" by some countries. During the discussion, it became apparent that the situation was rather complicated. Some pesticides for post-harvest treatments were controlled under the same national legislation as pesticides applied pre-harvest. Often, the same pesticides used for post-harvest treatment of other commodities were considered to be food additives. Pesticides used in houses were in some instances regarded as drugs.

216. This situation gave rise to problems for exporting countries since it hampered the acceptance in some countries of MRLs recommended by Codex. It was brought to the attention of the Committee that certain countries required that some food commodities have a declaration on the label, at retail level, of post-harvest treatments.

217. The Committee reconfirmed its view that in accordance with its adopted definitions for "pesticides" and "pesticide residues", chemicals used to protect raw agricultural commodities were pesticides whether used before or after harvest. The practice in some countries of classifying certain pesticides used after harvest as "food additives" rather than pesticides created difficulties in the acceptance of Codex MRLs. The Committee requested governments using these classifications to review the matter urgently in order to resolve the problem.

WHO Programme on the Evaluation of the Effects of Chemicals on Health

218. The delegation of Canada drew the attention of the Committee to the contents of paragraph 196 of ALINORM 79/24 in which the steps taken by WHO to organize the above-mentioned programme were outlined (see paragraph 31).

219. The Committee requested WHO to advise them on the implication of this programme with respect to the work of JMPR and of the Committee.

220. In his reply, the representative of WHO informed the Committee that the WHO Food Safety Programme had been discussed at the Sixty-third Session of the Executive

ALINORM 79/24-A
APPENDIX I

LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

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Board in January 1979, and at the Thirty-second World Health Assembly in May 1979. He indicated that the relationship between the JMPR, the Committee and the WHO international programme on chemical safety had not been discussed.

221. The Committee noted that this programme was due to become operational in 1980 and would include various outputs: "guidelines on exposure limits, such as acceptable daily intakes for food additives and pesticide residues and tolerances for toxic substances in food, air, water, soil and the working environment" (see WHO, A 32/12, paragraph 12).

222. Several delegations stated that the intentions of WHO with regard to the Joint FAO/WHO Programme on Pesticide Residues in Food had not been indicated and expressed concern at the effect this might have on the future work of the Committee and on its well-established relationship with the JMPR.

223. The Committee noted that it had already adopted a resolution recommending "that FAO and WHO should increase the expert participation at the Joint FAO/WHO Meeting on Pesticide Residues and that additional staff and funds should be made available at FAO and WHO Headquarters for Joint FAO/WHO Meeting on Pesticide Residues and Codex Committee on Pesticide Residues activities" and urged delegations to bring the terms of the resolution to the notice of their Governments.

224. It was decided to request the Codex Alimentarius Commission to seek clarification of WHO's intentions with regard to the future of the Joint FAO/WHO Programme on Pesticide Residues.

Biological control agents

225. The Working Group on Priorities had asked for guidance as to whether biological control agents were within the terms of reference of the Committee and whether the Group might be requested to assign priorities to such products in the future. It was indicated that in France, the United Kingdom and the United States of America there were already guidelines for pesticides of natural origin, including pheromones. An international Workshop, sponsored by several Swedish Government Departments and held in Stockholm in May 1979, had considered, amongst other related matters, registration requirements for such products.

226. The Committee agreed that biological control agents fell within its terms of reference. The definition of a pesticide for Codex purposes is as follows:

A pesticide is any substance or mixture of substances intended for preventing or controlling any unwanted species of plants and animals and also included any substances or mixture of substances intended for use as a plant-growth regulator, defoliant or desiccant (Annex 2, Glossary, 1975 JMPR Evaluations).

DATE AND PLACE OF NEXT SESSION

227. The Chairman of the Committee indicated that the next (Twelfth) Session of the Codex Committee on Pesticide Residues would take place from 2 to 9 June 1980 in The Hague.

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ALINORM 79/24
APPENDIX II

RESOLUTION

The Codex Committee on Pesticide Residues

Having examined the attached document entitled "Review of the Work of the Codex Committee on Pesticide Residues" (CX/PR 78/5, March 1978);

Recognizing that since its First Session in 1966 considerable progress has been made towards mutual understanding between Member Countries on the principles for establishing maximum residue limits for pesticides in food and feed;

Recognizing that many countries are adopting or otherwise seriously taking into account proposals for maximum residue limits emerging from the Codex Committee on Pesticide Residues;

Recognizing that this development is an important contribution to the harmonization of maximum residue limits in food and feed on an international scale, thus ensuring the safety of the health of the consumer, the maintenance of adequate pest control measures according to Good Agricultural Practice, and the facilitation of international trade;

Pointing out that the present working arrangement between the Joint FAO/WHO Meeting on Pesticide Residues, an independent scientific body, and the Codex Committee on Pesticide Residues, an intergovernmental body, should be maintained, as should the Codex step-wise procedure in dealing with proposed maximum residue limits;

Being aware of the fact that a number of constraints have become apparent during recent years, partly as a result of the rapidly increasing workload without a corresponding adjustment of available resources, and partly due to external factors which have added to the complexity of the problems involved;

Draws attention to the fact that the Codex Committee on Pesticide Residues has reappraised the modus operandi of the Codex Committee on Pesticide Residues and the Joint FAO/WHO Meeting on Pesticide Residues with a view to coping with new obligations and expediting the work, bearing in mind the allocation of priorities to important commodities in international trade;

Emphasizes that Member Countries should be aware of the fact that their participation in the Codex Committee on Pesticide Residues expresses their adherence to Codex principles and a willingness to work towards harmonization of maximum residue limits in one of the ways laid down in the Codex Acceptance Procedure;

Further emphasizes that national authorities should undertake appropriate action of a legal, administrative or organizational nature within their country in order to enable the free distribution of commodities complying with internationally acceptable Codex maximum residue limits;

Recognizing that the Joint FAO/WHO Meeting on Pesticide Residues, as a scientific advisory body can only arrive at recommendations on the basis of scientific and technical information supplied by industry and Member Countries, and that at present, this information is often inadequate from the point of view of worldwide coverage, particularly, with respect to the needs and problems confronting the developing countries;

Recommends that Member Countries should increase substantially the flow of information to the Joint FAO/WHO Meeting on Pesticide Residues in order to enhance the quality and acceptability of Joint FAO/WHO Meeting on Pesticide Residues recommendations;

Draws attention to pertinent proposals to that effect, which were included in paragraph 214 of the Report of the Eighth Session of the Codex Committee on Pesticide Residues, which reads as follows:

- (i) Establishment of a contact point specifically for pesticide matters who would correspond directly with the secretaries of the Joint FAO/WHO Meeting on Pesticide Residues; and
- (ii) Establishment, within the government, of a group of pesticide experts charged with the task; utilization of national and international trade or scientific organizations as a source of information from manufacturers, formulators, etc., and continuity of representation at the Codex Committee on Pesticide Residues;

and which have as yet not been implemented;

Recognizing that in particular there is a general deficiency in information on use pattern of pesticides and on resulting residues in commodities grown under tropical conditions;

Recommends that a form of assistance should be promoted by FAO and WHO in order to generate such information, through appropriate national or international organizations and through existing regional Codex bodies;

Considering the fact that with the increased workload in the field of pesticide residue matters FAO and WHO are facing a situation of continuous shortage in staffing and funding to the detriment of both the quality and the efficiency of the work of the Codex Committee on Pesticide Residues;

Recommends that FAO and WHO should increase the expert participation at the Joint FAO/WHO Meeting on Pesticide Residues and that additional staff and funds should be made available at FAO and WHO Headquarters for Joint FAO/WHO Meeting on Pesticide Residues and Codex Committee on Pesticide Residues activities;

Urges that at the same time FAO should explore the feasibility and desirability of any organizational measure to ensure and improve concerted action of the two secretariats of Joint FAO/WHO Meeting on Pesticide Residues and Codex Committee on Pesticide Residues.

APPENDIX III

DEFINITION OF 'STRAIGHT ANIMAL FEEDING-STUFFS'

For the purposes of the Codex Alimentarius, the term 'straight animal feeding-stuffs' means harvested fodder crops and by-products of crops, which are not suitable or are not used for human consumption and which may be used directly or as ingredients of compound feeding-stuffs.

NOTE:

The purpose of establishing Codex MRLs for 'straight animal feeding-stuffs' is to ensure that, by limiting the intake of residues by livestock (e.g. slaughter and dairy animals and poultry including laying hens), MRLs established for foods of animal origin will not be exceeded. MRLs are, therefore, not proposed with a view to protecting the productivity or health status of livestock but are intended to limit the transfer of residues into human food. Codex MRLs recommended for 'straight animal feeding-stuffs' are also intended to facilitate international trade in these products.

ALINORM 79/24-A
APPENDIX IV

AMENDMENTS TO RECOMMENDED INTERNATIONAL
MAXIMUM LIMITS FOR PESTICIDE RESIDUES

The following amendments to Step 9 MRLs have been submitted to the Thirteenth Session of the Commission by the Codex Committee on Pesticide Residues:

Abbreviations: - ERL = extraneous residue limit (formerly practical residue limit)
MRL = maximum residue limit (formerly tolerance)
GL = guideline level

4. BROMOPHOS

Residue: Bromophos

<u>Code</u>	<u>Commodity</u>	<u>MRL at Step 9</u> (mg/kg)	<u>Proposed Amendment</u>	<u>Step</u>	<u>ALINORM 79/24A</u> (paragraph)
A02.1207	Blackcurrants	0.5	delete	1/	50
A02.1202	Blackberries	0.5	1	1 2/	50

13. CHLORDIMEFORM

Residue: Sum of chlordimeform and its metabolites determined as 4-chloro-o-toluidine and expressed as chlordimeform.

C.	Cottonseed oil (crude or refined)	2	Cottonseed oil (edible) no residue to occur at current limit of detection (0.05 mg/kg)	3/	52
			Cottonseed oil (crude)		52
B07.2800	Milk (whole)	0.05	Milk no residue to occur at current limit of detection (0.05 mg/kg)	4/	52
C.	Milk products	0.5	no residue to occur at the current limit of detection		
B07.2503	Cattle, meat of	0.5	(0.05 mg/kg)	5/	52
	All other foods at Step 9		MRL withdrawn	-	52

1/ There is a new proposal of 1 mg/kg for currants (red, black and white) at Step 8 of the Procedure (see also para.55, ALINORM 79/24).

2/ Substantive change at Step 1.

3/ CCPR recommends that this limit be maintained at Step 9 since it reflects actual situation as regards the fate of chlordimeform following processing of crude oil and is at the limit of detection.

4/ Not considered substantive.

5/ This is a residue situation which reflects current changes in use pattern of chlordimeform and is not considered substantive.

17. CHLORPYRIPHOS

Residue:

<u>Code</u>	<u>Commodity</u>	<u>MRL at Step 9</u> (mg/kg)	<u>Proposed Amendment</u>	<u>Step</u>	<u>ALINORM 79/24A</u> (paragraph)
B07.2800	Milk, whole	0.01 on a fat basis	0.1 on a fat basis	1	51
C.	Milk products			1	

18. COUMAPHOS

Residue: Sum of coumaphos and its oxygen analogue

B07.2800	Milk	0.5 on a fat basis	0.02 <u>2/</u>	3/	49
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21. DDT

Residue: Sum of p,p'-DDT; o,p'-DDT; p,p'-DDE and p,p'-TDE (DDD)

B07.2500	Carcase meat	7 in the carcase fat (ERL)	5 in the carcase fat (ERL)	7/	49
B07.2800	Milk	1.25 on a fat basis (ERL)	0.05 (ERL)	5/	49
C.	Milk products	1.25 on a fat basis (ERL)	1 on a fat basis (ERL)	1 6/	53
B08.3000	Poultry	7 in the carcase fat	withdrawn	-	53

27. DIMETHOATE

Residue: Sum of dimethoate and omethoate resulting from the use of formothion, dimethoate and omethoate (change underlined) 7/

A02	Tree fruit	2(MRL)	Citrus fruit 2(Temp.MRL)	8/	49
A02.1207	Black currants	2(MRL)	1(Temp.MRL)	9/	49
A01.0710	Peppers	1(MRL)	1(Temp.MRL)	9/	49
A02.1217	Strawberries	1(MRL)	1(Temp.MRL)	9/	49
A01.0713	Tomatoes	1(MRL)	1(Temp.MRL)	9/	49
A01	Vegetables	2(MRL)	2(Temp.MRL)	9/	49

1/ Substantive change at Step 1.

2/ On a whole product basis.

3/ The change is not considered to be substantive as the figure has been obtained from the Step 9 MRL by calculation on the basis of fat content.

4/ Change in definition of residue does not affect the MRLs.

5/ Not considered substantive as the figure of 0.05 has been obtained from the Step 9 MRL by calculation on the basis of fat content.

6/ Substantive change at Step 1.

7/ Change not considered substantive.

8/ Change not considered substantive as Citrus fruit has been specifically included in the Step 9 MRL for 'Tree Fruit' and since other tree fruits are being considered at Step 3.

9/ Change MRL to Temp.MRL not considered substantive.

31. DIQUAT

Residue: Diquat cation

<u>Code</u>	<u>Commodity</u>	<u>MRL at Step 9</u> (mg/kg)	<u>Proposed Amendment</u>	<u>Step</u>	<u>ALINORM 79/24A</u> (paragraph)
C.	Rice, polished	0.2	Rice, hulled and/or polished 0.2	1/	49

44. HEXACHLOROBENZENE

Residue: Hexachlorobenzene

-	All items at Step 9	ERL	GL	-	54
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48. LINDANE (Syn.: gamma-BHC or gamma-HCH)

Residue: Gamma-HCH

A02.1102	Cherries	3	0.5	5 2/	94
A02.1211	Grapes	3	0.5	5 2/	94
A02.1107	Plums <u>3</u>	3	0.5	5 2/	94
B07.2800	Milk	0.2 on a fat basis (ERL)	0.01 (MRL)	4/5/	49
C	Milk products	0.2 on a fat basis (ERL)	0.2 on a fat basis (MRL)	5/	49

66. TRICHLORFON

Residue:

A02.1001	Apples	0.1 (Temp.MRL)	2 (MRL)	1 6/	
A01.0404	Cabbage	0.1 (Temp.MRL)	0.5 (MRL)	1 6/	
A02.1217	Strawberries	0.1 (Temp.MRL)	1 (MRL)	1 6/	
-	All other foods at Step 9	Temp.MRL	MRL	1/	49

67. CYHEXATIN

Residue: Changed to: Cyhexatin and its organotin metabolites and degradation products, determined as total organic tin and expressed as cyhexatin. 7/

B07.2500	Meat	0.2 (Temp.ERL)	0.2 (Temp.MRL)	8/	49
B07.2800	Milk	0.05 (Temp.ERL)	0.05 (Temp.MRL)	8/	49
C.	Milk products	(*)	(*)		

- 1/ Not considered to be substantive.
 - 2/ The CCPR recommends that Steps 6 and 7 be omitted.
 - 3/ The term 'plums' includes prunes.
 - 4/ The change is not considered to be substantive as the figure has been obtained from the Step 9 MRL by calculation on the basis of fat content.
 - 5/ The change ERL to MRL is not considered to be substantive.
 - 6/ Substantive change at Step 1.
 - 7/ Change in definition of residue does not affect the MRLs.
 - 8/ Change from ERL to MRL is not considered substantive (NB: erroneously listed as 'on a fat basis' in CAC/RS 100-1978).
- (*) Level at or about the limit of determination.

REPORT OF THE AD HOC WORKING GROUP ON METHODS OF ANALYSIS

1. Membership

The following persons took part in the discussions of the Ad Hoc Working Group on Methods of Analysis:

D.C. Abbott	United Kingdom
A. Ambrus	Hungary
A. Andersson	Sweden
S. Bailey	United Kingdom
G. Becker	Federal Republic of Germany
R.C. Blinn	United States of America
H.W. Brinkman	Netherlands
E. Celma	Spain
W. Dejonckheere	Belgium
M.B. Dolan	Ireland
J.F. Eades	Ireland
J. Ferreira	Portugal
H. Frehse	International Union of Pure and Applied Chemistry
P.A. Greve (Chairman)	Netherlands
F. Ives	United States of America
A. Kiviranta	Finland
K. Krishnamurthy	India
H. Løkke	Denmark
H. Nakamura	Japan
R. Mestres	France
G. Pickering	United Kingdom
H. Pyysalo	Finland
T. Stijva	Switzerland
G.M. Telling	United Kingdom
S.L. Vitorović	Yugoslavia
A. Vongbuddhapitak	Thailand
J.R. Wessel	United States of America

2. Agenda

The Working Group discussed the following points:

- recommendations for methods of analysis for pesticide commodity combinations at Step 5 or higher of the Procedure;
- expression of MRLs relative to analytical practice in the light of JMPR 1978 comments;
- expression of MRLs for fat-soluble pesticides in low-fat commodities;
- expression of MRLs of pyrethrins;
- future work.

3. Recommendations for methods of analysis

The Working Group undertook the up-dating and reviewing of the recommendations given in the previous report (ALINORM 79/24, Appendix III, paragraph 4) and the recommendation of methods for the combinations which were brought to Step 8 or 9 of the Procedure at the Tenth Session. It also undertook, as an extension of its previous work, the recommendation of methods of analysis for pesticide-commodity combinations at Steps 5, 6 or 7 of the Procedure (of ALINORM 79/24, Appendix III, paragraph 7.4). As it was agreed

at the Tenth Session of the Codex Committee on Pesticide Residues that the recommendations for methods of analysis should be given a wider circulation than previously (of ALINORM 79/24, paragraph 202, and Appendix III, paragraph 7.5) the format of the recommendations was redrafted in such a way, that they can be incorporated easily in the Guide. The references were, in order to make them more accessible, put in alphabetical order according to the first author. The recommendations are summarized in the Annex.

4. Expression of the MRLs relative to analytical practice in the light of JMPR 1978 comments

At the request of the Committee, the Working Group considered the conclusion of the 1978 JMPR (of 2.8) regarding "description of residues to which limits refer" and the relationship of this conclusion to the similar view expressed by the Working Group at the Tenth Session of the CCPR (ALINORM 79/24, Appendix III paragraph 7(1)). At the Tenth Session, the Working Group recommended that the definition of some residues should be reworded in order better to describe actual analytical practice. Such rewording, which was recommended specifically for 22 compounds, did not represent any substantive changes for these compounds, but rather a more precise description of the residue to which the MRLs refer. For example, the residue description for aldrin and dieldrin was expressed as "aldrin/dieldrin" which was intended to mean the sum of the chemical residues of the individual parent compounds. The Working Group felt that it would be more helpful to use an expression that was more explicit than the previously used implicit expression for aldrin and dieldrin. Thus, the expression recommended was "sum of HHDN and HEOD". This rewording would not alter in any way the meaning of the residue covered by the MRL. The 1978 JMPR agreed with the recommended rewording of the 22 pesticides listed in the Working Group's Report to the Committee at the Tenth Session. The 1978 JMPR further agreed that similar and appropriate rewording should be carried out as and when each parent compound was reviewed. The Working Group supported this view.

Following the same lines, the Working Group suggested that the expression of residues for a number of pesticides which have recently come to the Working Group's attention be reworded as follows:

Aldrin/dieldrin	:	sum of HHDN and HEOD
Carbophenothion	:	sum of carbophenothion, its sulphoxide and sulphone, together with their corresponding oxygen analogues
Fenthion	:	sum of fenthion, its oxygen analogue and their sulphoxides and sulphones
Disulfoton	:	sum of disulfoton, demeton-S and their sulphoxides and sulphones
Thiometon	:	sum of thiometon, its sulphoxide and sulphone
Thiophanate-methyl	:	thiophanate-methyl, expressed as carbendazim
Chlorothalonil	:	sum of chlorothalonil and 4-hydroxy-2,5,6-trichloro-1,3-benzene-dicarbonitrile
Dicloran	:	(syn: 2,6-dichloro-4-nitroaniline) residue: dicloran
Fenamiphos	:	sum of fenamiphos, its sulphoxide and sulphone

Pirimiphos-methyl	:	sum of pirimiphos-methyl, its oxygen analogue and N-desethyl-pirimiphos-methyl
Demeton	:	sum of demeton-S, demeton-O and their sulphoxides and sulphones
Dialifos	:	sum of dialifos and its oxygen analogue

5. Expression of MRLs for fat-soluble pesticides in low-fat commodities

As the matter of expression of MRLs for fat-soluble pesticides was under renewed discussion at the plenary meeting, the Working Group only restated its previously given opinion that the expression of MRLs for fat-soluble pesticides on a fat-basis is analytically unsound for products of a low fat content (e.g. 1 or 2%). Residues in milk should always be expressed on a commodity basis.

6. Expression of MRLs for pyrethrins

As was agreed at the Tenth Session of the CCPR (ALINORM 79/24, paragraph 204) the Working Group reconsidered the basis for expressing pyrethrin residues so as better to cover the recommended analytical procedure (see Annex 2). As a result, the following wording was proposed: "sum of pyrethrin I and II, and cinerin I and II, determined after calibration by means of the International Pyrethrum Standard".

7. Future work

The members of the Working Group committed themselves to considering all pesticide-commodity combinations reaching Step 5 or higher at the Eleventh Session of the CCPR and to updating recommended methods where possible to cover these combinations. Dr. Greve agreed to coordinate the production of a specific document on the confirmation of residues by combined gas chromatography-mass spectrometry. Mr. Telling agreed to receive comments up to 1st January 1980 from members regarding his paper on Good Analytical Practice and to prepare a revised version to be produced as a Codex document for inclusion in the Analytical Methods section of the Guide. Members were requested to report to Dr. Greve on validation of published methods in their own laboratories in order to upgrade methods at present termed "other analytical methods" to the "collaboratively checked" category. Deadline for comments to be sent to Dr. Greve was set at 1st May 1980.

RECOMMENDATIONS FOR METHODS OF ANALYSIS

1. INTRODUCTION

1.1 Scope

In this part recommendations are given for those analytical methods which, from practical experience of the Ad Hoc Working Group on Methods of Analysis to the CCPR, can be applied to the determination of pesticide residues for regulatory purposes. The list, given in 2, covers pesticides for which Codex MRLs are under discussion at Step 5, or higher, of the Procedure; the list is not exhaustive.

1.2 Criteria for the selection of analytical methods

The analytical methods being recommended by the Ad Hoc Working Group generally met the following criteria:

- (A) Published in the open literature.
- (B) Collaboratively studied or known to have been validated in a number of laboratories with validation data being reported in the publication.
- (C) Capable of detecting more than one residue, i.e. multiresidue methods.
- (D) Suitable for as many pesticide-commodity combinations as possible at or below the specified MRLs.
- (E) Applicable in a regulatory laboratory equipped with routine analytical instrumentation.

In addition, preference was given to gas-liquid chromatography as the determinative step for the recommended methods. Spectrometry, thin layer chromatography, and high-performance liquid chromatography were normally included under "other analytical methods". So far mass spectrometry has been recommended for confirmatory purposes only.

1.3 Confirmatory tests

In the last column confirmatory tests are listed. Confirmation of a supposed residue by an independent test is to be considered as an essential part of Good Analytical Practice (of 1.4), especially when the initial result suggests that a Codex MRL is exceeded. The ultimate choice of a confirmatory test depends upon the technique used in the initial determination and upon the available instrumentation and necessary expertise.

1.4 Application of methods

Although the methods listed have been carefully selected it will always be necessary for the analyst to validate the method before it is first applied in the regulatory laboratory. There is a further need for regular assessment of the methods in use both at the MRL and at the lower limit of determination. The methods are only recommended for the pesticide-commodity combinations reported in the quoted references. For all new pesticide-commodity combinations the method must be validated following Good Analytical Practice.

2. List of methods of analysis

compound	collaboratively checked or otherwise assessed methods	other analytical methods	confirmatory tests
acephate	2b	2c, 2f Leary	2c
aldrin/dieldrin	1a, 2a, 3a, 4a Greve (2) Holmes Telling	Mestres (1 and 4) Porter Sissons	2d, 3b, 4a Mestres (5)
amitrole	none	2c, 4b	none
azinphos-methyl	2b, 3a, 4a Abbott Panel (3)	2f, 4b Bowman (1) Krause Mestres (1)	2d Cochrane (3) Ernst Mendoza (1) Mestres (5)
binapacryl	3a	4b Baker (3)	Baker (3)
bromophos	2a, 4a Abbott	4b Krause	4a Ernst Mestres (5)
bromophos-ethyl	2a, 3a, 4a Abbott	4b	Ernst Mestres (5)
bromopropylate	none	none	none
captafol	2a	2c, 4a Baker (2) Kilgore (2) Mestres (1) Pomerantz (2)	Pomerantz (1)
captan	2a, 3a, 4a	2c, 4b Baker (2) Kilgore (2) Mestres (1) Pomerantz (2)	3b Pomerantz (1)
carbaryl	1c, 3a	1b, 2f, 4b Cohen Lawrence (2)	2d Cochrane (3) Ernst Mendoza (1 and 2)
carbofuran	1c, 3a	2c Lawrence (2)	2c, 2d Cochrane (3) Mendoza (2)

carbophenothion	1d, 2a, 2b, 3a, 4a Abbott	2f Bowman (1) Mestres (1)	2d Ernst Mendoza (1) Mestres (5)
cartap	none	none	none
chinomethionate	none	2c, 4b Tjan	2c
chlordane	2a, 3a, 4a	2f Cochrane (2) Mestres (1 and 4)	2d, 3b Chau (1) Mestres (5)
chlordimeform	none	2c Zweig (1)	none
chlorfenvinphos	3a, 4a Abbott	2c, 4b Krause	2d Ernst Mestres (5)
chlormequat	none	Zweig (1)	none
chlorobenzilate	2a, 3a	2c	Mestres (5)
chlorothalonil	3a	2c Zweig (2)	Mestres (5)
chlorpyrifos	2a, 2b, 3a, 4a	Bowman (1) Braun	2d, 4a Ernst Mestres (5)
coumaphos	2b, 3a	2c Bowman (1)	2d Ernst Zakrevsky
crufomate	none	2c Bowman (1)	2d Greenhalgh (1 and 2)
cyanofenphos	none	none	none
cyhexatin	none	Gauer Zweig (1)	none
2, 4-D	3a	2e, 4b Allebone Bjerke Clark Dupuy	2d Cochrane (3) Mestres (5) Suffet
DDT	1a, 2a, 3a, 4a Greve (2) Holmes Telling	2f, 4b Mestres (1 and 4) Porter Sissons	2d, 3b, 4a Chau (1) Cochrane (3) Mestres (5)
demeton	2b, 4a Abbott	2c	2c, 2d Ernst

demeton-S-methyl	4a Abbott	Krause Thornton (2) Wagner (2)	2d Ernst
dialifos	2a	2c, 4a, 4b Westlake	Ernst
diazinon	1a, 2a, 2b, 3a, 4a Abbott	2 f, 4b Bowman (1) Krause Machin Mestres (1)	2d Ernst Mendoza (1 and 2) Mestres (5) Singh
dichlofluanid	4a	4b	Mestres (5)
dicloran	2a, 3a	2c	none
dichlorvos	2b, 3a, 4a Abbott Panel (1 and 3)	4b Dale Dräger Elgar Krause	2d Cochrane (3) Ernst Mendoza (2) Mestres (5)
dicofol	2a, 3a, 4a Telling	4b Mestres (1) Morgan	2d, 4a
dieldrin: see aldrin			
dimethoate	2b, 3a, 4a Abbott Panel (3)	2 f, 4b Krause Mestres (1) Steller Wagner (1)	2d Greenhalgh (2) Mestres (5)
diexathion	2b, 3a, 4a Abbott	none	Ernst
diphenyl	1h	2 f Farrow Mestres (3)	none
diphenylamine	none	2c	none
diquat	none	4b Calderbank (2) King	none
disulfoton	2b, 3a, 4a Abbott	2c Bowman (2) Thornton (1)	2c, 2d Mendoza (1) Mestres (5)
dodine	1i	2c Newsome	none
edifenphos	none	none	none

endosulfan	1k, 2a, 3a, 4a Telling	4b Porter Sissons	2d, 3b Chau (2) Cochrane (3) Grove (1) Mestres (5) Musial Putnam
endrin	1a, 2a, 3a, 4a Holmes Telling	Mestres (1 and 4) Sissons	2d, 3b, 4a Chau (3 and 4) Mestres (5) Musial
ethion	1a, 2a, 2b, 3a, 4a Abbott	2f Bowman (1) Ivey Mestres (1)	2d, 4a Ernst Mandoza (1 and 2) Mestres (5)
ethoxyquin	1e	2c Winell	Weilenmann
fenamiphos	none	2c	none
fenchlorfos	1a, 2a, 2b, 3a, 4a Abbott	none	2d, 4a Ernst Mestres (5) Singh
fenitrothion	2a, 2b, 3a, 4a Abbott	4b Krause Mestres (1) Takimoto	2d Ernst Mestres (5) Singh
fensulfothion	2b, 3a, 4a	Bowman (3) Williams Zweig (1)	none
fenthion	2b, 3a, 4a Abbott	2c Bowman (2) Krause Mestres (1) Wright	2d Ernst
fentin	none	2c, 4b	2c
folpet	3a, 4a	2c, 4b Baker (2) Pomerantz (2)	Pomerantz (1)
formothion	4a Abbott	Zweig (2)	Ernst Mestres (5)
heptachlor	1a, 2a, 3a, 4a Grove (2) Holmes * Telling	2f Mestres (1 and 4) Porter * Sissons	2d, 3b, 4a Chau (1 and 4) Cochrane (3) Mestres (5) Musial * Ward

* for heptachloroepoxide only

hexachlorobenzene	11, 2a, 3a, 4a Greve (2) Holmes Telling	Bong Goursaud Mestres (1 and 4)	2d, 4a Cochrane (3) Collins Mestres (5) Zimmerli
hydrogen cyanide	1f	2c, 4b Jaulmes	none
hydrogen phosphide	none	4b Robison	Bruce
inorganic bromide	Greve (3) Panel (2)	Heuser	none
lindane	1a, 2a, 3a, 4a Greve (2) Holmes Telling	4b Mestres (1 and 4) Porter Sissons	4a Cochrane (1) Mestres (5)
malathion	1a, 2a, 2b, 3a, 4a Abbott Panel (1 and 3)	2f, 4b Bowman (1) Krause Mestres (1)	2d Cochrane (1) Ernst Mendoza (1 and 2) Mestres (5) Singh
methidathion	2b, 3a, 4a	4b Krause Mestres (1) Zweig (2)	Ernst Mestres (5)
mevinphos	2b, 3a, 4a Abbott	2f, 4b Krause	2d Cochrane (3) Ernst Mendoza (1) Mestres (5)
monocrotophos	2b	2f Lawrence (1)	2d Ernst Lawrence (1) Mestres (5)
omethoate	2b, 3a, 4a Abbott Panel (3)	4b Steller Wagner (1)	Ernst Mestres (5)
ortho-phenylphenol	none	2c, 2f Farrow Mestres (3)	Cochrane (3) Nose
paraquat	none	2c, 4b Calderbank (1) Khan	Cochrane (3)
parathion	1a, 1d, 2a, 2b, 3a, 4a Abbott Panel (3)	2f, 4b Bowman (1) Krause Mestres (1)	2d Cochrane (3) Ernst Mendoza (1 and 2) Mestres (5) Singh

parathion-methyl	1a, 2a, 2b, 3a, 4a Abbott	2f, 4b Bowman (1) Krause Mestres (1)	2d Cochrane (3) Ernst Mendoza (1 and 2) Mestres (5) Singh
phosalone	2a, 2b, 3a Abbott	4a Mestres (1) Zweig (1)	Ernst Mestres (5)
-phosphamidon	2b, 3a, 4a Abbott	Voss	Mestres (5)
piperonyl butoxide	1g	2c, 4b Munday	none
pirimiphos-methyl	none	Brealey Zweig (2)	none
propoxur	1c	4b Cohen Lawrence (2) Stanley Zweig (1)	Cochrane (3) Ernst Mendoza (2)
pyrethrins	none	2c	none
quintozene	2a, 3a, 4a	4b Baker (1) Goursaud	2d, 4a Baker (1) Mestres (5)
thiabendazole	none	4b Farrow Maada Mestres (1 and 2) Rajzman	Aharonson Tanaka Wegman
thiometon	4a Abbott	Zweig (2)	Ernst
thiophanate-methyl	Mestres (2)	2c Shiga	Mestres (2) Wegman
trichlorfon	3a, 4a Abbott	4b	2d Cochrane (3) Ernst Mestres (5)

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 - (b) 29.077 - 29.081
 - (c) 29.A01 - 29.A06, in: JAOAC, 58, 397-399 (1975)
 - (d) 29.033 - 29.037, for supplement to 29.034 see JAOAC, 58, 397 (1975)
 - (e) 41.024 - 41.028
 - (f) 26.115 (NB: not suitable at the Codex MRL for flour)
 - (g) 29.151 - 29.154
 - (h) 29.059 - 29.066
 - (i) 29.108 - 29.111
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Contact person: J. Wessel, Food and Drug Administration, 5600 Fishers Lane, Rockville, Md, 20852, U.S.A.
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 - (b) Vol. I, table 201-H and section 232.3
 - (c) Vol. II, see under compound name *
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 - (e) Vol. I, table 201-D and sections 221, 222
 - (f) Vol. I, table 201-I and section 232.4
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 - (b) confirmatory methods (section 11)

*When in this reference several methods have been given, they are generally listed in order of preference.

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(b) special methods ("Spezialmethoden")

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REPORT OF THE AD HOC WORKING GROUP ON SAMPLING

The following persons took part in the discussion of the Ad Hoc Working Group on Sampling:

J.A.R. Bates (Chairman)	FAO, Rome
A. Ambrus	Hungary
A. Andersson	Sweden
S. Bailey	United Kingdom
G. Becker	Federal Republic of Germany
J. Benstead	Australia
A.F.H. Besemer	The Netherlands
R.C. Blinn	GIFAP
H.W. Brinkman	The Netherlands
A. Calderbank	GIFAP
E. Celma	Spain
W. Dejonckheere	Belgium
M.B. Dolan	Ireland
J.F. Eades	Ireland
J. Ferreira	Portugal
H. Frehse	IUPAC
F. Ives	United States of America
A. Kiviranta	Finland
K. Krishnamurthy	India
H. Løkke	Denmark
G.B. Pickering	United Kingdom
H. Pyysalo	Finland
G.M. Telling	United Kingdom
R.C. Tincknell	United Kingdom
S.L. Vitotović	Yugoslavia
J. Wessel	United States of America

Method of Sampling

Members discussed experience with the sampling method as described in Appendix IV (Annex I) of ALINORM 79/24. It was noted that, although the method had not yet come into use in the majority of countries no problems had arisen where it had been used. In the United States of America a comparison of Codex and FDA sampling methods under actual conditions of use was being considered. Since no changes had been proposed to the method the Working Group considered that there was no need to include it again as an Annex to this Report and recommended that it was ready to be incorporated in the next issue of the Codex Guide.

The Group re-expressed the hope that all Member Countries would adopt the method and report on its usefulness and on any problems encountered.

Portion of Sampled Commodity to be Analysed

The Working Group considered comments from Member Countries on the portion of sampled commodity to be prepared for analysis as outlined in Appendix IV (Annex II) of ALINORM 79/24. While discussing these comments the opportunity was taken to reconsider the whole document with a consequent editing to give a more uniform and meaningful presentation. The Group confirmed the general principle that MRLs should apply to the whole commodity as it moves in commerce, the exceptions to this principle being specified in the document. The Group again emphasised the urgent need for a definition of this subject and proposed that the revised document be submitted through the Step-wise Codex Procedures for eventual adoption. The revised document is presented as Annex I of this Report.

Guidelines on Residue Trials Methodology

At its Tenth Session, the Codex Committee on Pesticide Residues welcomed the Group's intention to begin work on residue trials methodology which could form an important part of the effort to improve the quality of data submitted to the JMPR. The Group has now considered comments from a number of its members on a working document prepared by the International Federation of National Associations of Pesticide Manufacturers (GIFAP).

APPENDIX VI
ANNEX I

RECOMMENDED PORTION OF SAMPLE TO BE PREPARED FOR THE
DETERMINATION OF PESTICIDE RESIDUES

INTRODUCTION

Codex maximum residue limits are in most cases stated in terms of a specific whole raw agricultural commodity. In some instances, a qualification is included that describes the part of the raw agricultural commodity to which the maximum residue limit applies, for example, almonds on a shell-free basis and beans without pods. In other instances, such qualifications are not provided. Therefore, unless otherwise specified in the Codex Recommended International Maximum Limits for Pesticide Residues, the portion of the raw agricultural commodity to be prepared as the Analytical Sample for the determination of pesticide residues is as described in the following table.

The Group expressed its appreciation to GIFAP for this draft which it felt formed a valuable basis for its discussion. A first Working Group draft based on the GIFAP document was fully discussed in general terms by members. They considered that the scope of the present document should cover growing crops and stored commodities only. The application of pesticides to animals or the subsequent feeding of treated produce to animals, where this was relevant in the production of residues in products of animal origin, are not included. It was agreed that further written comments from Working Group members would be considered up to 1st October 1979. A new draft would be completed by 1st November 1979 which would be circulated to members for detailed comments to be received by 1st February 1980. Any second-round comments would be incorporated in the version to be considered by the Working Group at the Twelfth Codex Committee on Pesticide Residues meeting.

CLASSIFICATION

EXAMPLES OF COMMODITIES
UNDER CONSIDERATION BY
CODEX COMMITTEE ON
PESTICIDE RESIDUES

PORTION OF COMMODITY FOR
ANALYSIS

GROUP 1 ROOT AND TUBER VEGETABLES

Group 1 root and tuber vegetables are starchy foods derived from the enlarged solid roots, tubers, corms or rhizomes, mostly subterranean, of various species of plants. The entire vegetable may be consumed.

ROOT AND TUBER VEGETABLES
BEETS
CARROTS
CELERIAC
PARSNIPS
POTATOES
RADISHES
RUTABAGAS
SUGAR BEETS
SWEET POTATOES
TURNIPS
YAMS

Whole commodity after removing tops
Remove adhering soil (e.g. by rinsing in running water or by gentle brushing of the dry commodity).

GROUP 2 BULB VEGETABLES

Group 2 bulb vegetables are pungent flavorful foods derived from the fleshy scale bulbs, or growth buds of alliums of the lily family (Liliaceae). The entire bulb may be consumed following removal of the parchment like skin.

LEEKs
ONIONS
GARLIC

Bulb/dry onions and garlic. Whole commodity after removal of roots and adhering soil and whatever parchment skin is easily detached.
Leeks and spring onions.
Whole vegetable after removal of roots and adhering soil.

GROUP 3 LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES)

Group 3 leafy vegetables (except Group 4 vegetables) are foods derived from the leaves of a wide variety of edible plants including leafy parts of group 1 vegetables. The entire leaf may be consumed. Leafy vegetables of the brassica family are grouped separately.

LEAFY VEGETABLES
BET LEAVES
CORN SALAD
ENDIVE
LETTUCE
RADISH LEAVES
SPINACH
SUGAR BEET LEAVES
SWISS CHARD

Whole commodity after removal of obviously decomposed or withered leaves.

GROUP 4 BRASSICA (COLE) LEAFY VEGETABLES

Group 4 brassica (cole) leafy vegetables are foods derived from the leafy parts, stems and immature inflorescences of plants commonly known and botanically classified as brassicas and also known as cole vegetables. The entire vegetable may be consumed.

BRASSICA LEAFY VEGETABLES

BRUSSELS
BRUSSEL SPROUTS
CABBAGE
CABBAGE, CHINESE
CABBAGE, RED
CABBAGE, SAVOY
CAULIFLOWER
COLLARDS
KAI-LAN
KOHLRABI
MUSTARD GREENS

Whole commodity after removal of obviously decomposed or withered leaves.
For cauliflower, analyse white flower head only; for brussels sprouts analyse "buttons" only.

GROUP 5 STEM VEGETABLES

Group 5 stem vegetables are foods derived from the edible stems or shoots, from a variety of plants.

ARTICHOKE
ASPARAGUS
CELERY
RHUBARB

Whole commodity after removal of obviously decomposed or withered leaves.
Rhubarb-stems only.

GROUP 6 LEGUME VEGETABLES

Group 6 legume vegetables are derived from the dried or succulent seeds and immature pods of leguminous plants commonly known as beans and peas. Succulent forms may be consumed as whole pods or as the shelled product. Legume fodder is in group 18.

BEANS
BROAD BEAN
DWARF BEANS
FRENCH BEANS
GREEN BEANS
KIDNEY BEANS
LIMA BEANS
NAVY BEANS
RUNNER BEANS
SNAPBEANS
SOYBEANS
PEAS
COW PEAS
SUGAR PEAS

Whole commodity unless specified e.g. broad beans (without pod)

GROUP 7 FRUITING VEGETABLES - EDIBLE PEEL

Group 7 fruiting vegetables - edible peel are derived from the immature or mature fruits of various plants, usually annual vines or bushes. The entire fruiting vegetables may be consumed.

CUCUMBERS
EGG PLANTS
GHERKIN
OKRA
PEPPERS
SUMMER SQUASH
TOMATO

Whole commodity after removal of stems.

GROUP 8 FRUITING VEGETABLES - INEDIBLE PEEL

Group 8 fruiting vegetables - inedible peel are derived from the immature or mature fruits of various plants, usually annual vines or bushes. Edible portion is protected by skin, peel or husk which is removed or discarded before consumption.

CANTALOUPE
MELONS
PUMPKIN
SQUASH
WATERMELON
WINTER SQUASH

Whole commodity after removal of stems.

GROUP 9 CITRUS FRUITS

Fruits are derived from many different kinds of plants, usually cultivated. They consist of the ripe, mostly sweet, succulent or pulpy developed plant ovary and its accessory parts commonly and traditionally known as fruit. Fruits may be consumed in whole or in part and in the form of fresh, dried or processed products.

CITRUS FRUITS

Whole commodity.

GROUP 10 POME FRUITS

Group 10 pome fruits are produced by trees related to the genus pyrus of the rose family (Rosaceae). They are characterized by fleshy tissue surrounding a core consisting of parchment like carpels enclosing the seed. The entire fruit, excepting the core, may be consumed in the succulent form or after processing.

POME FRUITS
APPLES
PEARS
QUINCE

Whole commodity after removal of stems.

GROUP 11 STONE FRUITS

Group 11 stone fruits are produced by trees related to the genus prunus of the rose family (Rosaceae) characterized by fleshy tissue surrounding a single hard shelled seed. The entire fruit, except seed, may be consumed in a succulent or processed form.

STONE FRUITS
APRICOTS
CHERRIES
SCUR CHERRIES
SWEET CHERRIES
NECTARINES
PEACHES
PLUMS

Whole commodity after removal of stems and stones (cherries: remove stems only). Calculate residue on the whole commodity without stem.

GROUP 12 SMALL FRUITS AND BERRIES

Group 12 small fruits and berries are derived from a variety of plants having fruit characterized by a high surface-weight ratio. The entire fruit, often including seed, may be consumed in a succulent or processed form.

BLACKBERRIES
BLUEBERRIES
BOYSENBERRIES
CRANBERRIES
CURRANTS
DEWBERRIES
GOOSEBERRIES
GRAPES
LOGANBERRIES
RASPBERRIES
STRAWBERRIES

Whole commodity after removal of caps and stems. Very small fruit e.g. currants: fruit with stems.

GROUP 13 ASSORTED FRUITS - EDIBLE PEEL

Group 13 assorted fruits - edible peel are derived from the immature or mature fruits of a variety of plants, usually shrubs or trees from tropical or subtropical regions. The whole fruit may be consumed in a succulent or processed form.

DATES
FIGS
MANGOS
GUAVAS

Whole commodity after removal of stems and stones but calculated on the whole fruit.

Figs and Olives: whole commodity.

GROUP 14 ASSORTED FRUITS - INEDIBLE PEEL

Group 14 assorted fruits - inedible peel are derived from the immature or mature fruits of different kinds of plants, usually shrubs or trees from tropical or subtropical regions. Edible portion is protected by skin, peel or husk. Fruit may be consumed in a fresh or processed form.

AVOCADOS
BANANAS
KIWI FRUIT
PAPAYAS
PASSION FRUITS
PINEAPPLES
MANGOS
GUAVAS

Whole commodity unless qualified e.g. bananas (pulp) pineapples: after removal of crown.

Avocado: whole commodity after removal of stone but calculated on whole fruit.

GROUP 15 CEREAL GRAINS

Group 15 cereal grains are derived from the clusters of starchy seed produced by a variety of plants, primarily of the grass family (Gramineae). Husks are removed before consumption.

CEREAL GRAINS
BARLEY
MAIZE
OATS
POPCORN
RICE
RYE
SORGHUM
WHEAT

Whole commodity

GROUP 16 STALK AND STEM CROPS

Group 16 stalk and stem crops are various kinds of plants, mostly of the grass family (Gramineae) cultivated extensively as animal feed and for the production of sugar. Stems and stalks used for animal feeds are consumed as succulent forage, silage, or as dried fodder or hay. Sugar crops are processed.

BARLEY AND STRAW
GRASSES, FODDER
MAIZE FODDER
SORGHUM FODDER

Whole commodity

GROUP 17 LEGUME OILSEED

Group 17 legume oilseed are mature seed from legumes cultivated for processing into edible vegetable oil or for direct use as human food.

PEANUTS

Whole kernel after removal of shell.

GROUP 18 LEGUME ANIMAL FEEDS

Group 18 legume animal feeds are various species of legumes used for animal forage, grazing, fodder, hay or silage with or without seed. Legume animal feeds are consumed as succulent forage or as dried fodder or hay.

ALFALFA FODDER
BEAN FODDER
CLOVER FODDER
PEANUT FODDER
PEA FODDER
SOYBEAN FODDER

Whole commodity

GROUP 19 TREE NUTS

Group 19 tree nuts are the seed of a variety of trees and shrubs which are characterized by a hard inedible shell enclosing an oil seed. The edible portion of the nut is consumed in succulent, dried and processed forms.

TREE NUTS
ALMONDS
CHESTNUTS
FILBERTS
MACADAMIA NUTS
PECANS
WALNUTS,

Whole nut meat, after removal of shell.

Chestnuts - whole in skin,

GROUP 20 OILSEED

Group 20 oilseed consists of the seed from a variety of plants used in the production of edible vegetable oils. Some important vegetable oilseed are by products of fiber or fruit crops.

COTTONSEED
RAPESEED
LINSEED
SUNFLOWERSEED

Whole commodity

GROUP 21 TROPICAL SEED

Group 21 tropical seed consist of the seed from several tropical and semi-tropical trees and shrubs mostly used in the production of beverages and confections. Tropical seed are consumed after processing.

CACAO BEANS
COFFEE BEANS

Whole commodity

GROUP 22 HERBS

Group 22 herbs consist of leaves, stems and roots from a variety of herbaceous plants used in relatively small amounts to flavor other foods. They are consumed in succulent and dried forms as components of other foods.

HERBS

Whole commodity.

GROUP 23 SPICES

Group 23 spices consist of aromatic seed, roots, fruits and berries from a variety of plants used in relatively small amounts to flavor other foods. They are consumed primarily in the dried form as components of other foods.

SPICES

Whole commodity.

GROUP 24 TEAS

Group 24 teas are derived from the leaves of several plants, but principally *Camellia sinensis*. They are used in the preparation of infusions for consumption as stimulating beverages. They are consumed as extracts of the dried or processed product.

TEA

Whole commodity _____

GROUP 25 MEATS

Group 25 meats are the muscular tissue, including adhering fatty tissue from animal carcasses as prepared for wholesale distribution. The entire product may be consumed.

CARCASE MEAT
CARCASE MEAT OF CATTLE
CARCASE MEAT OF GOATS
CARCASE MEAT OF HORSES
CARCASE MEAT OF PIGS
CARCASE MEAT OF SHEEP

Whole commodity.
When MRLs are set on fat basis:
carcase fat of carcase meat.

GROUP 26 ANIMAL FATS

Group 26 animal fats are the rendered or extracted fat from the fatty tissue of animals. The entire product may be consumed.

Whole commodity.

GROUP 27 MEAT BYPRODUCTS

Group 27 meat byproducts are edible tissues and organs, other than meat and animal fat, from slaughtered animals as prepared for wholesale distribution. Examples: liver, kidney, tongue, heart. The entire product may be consumed.

MEAT BYPRODUCTS (such as liver,
CATTLE MEAT BYPRODUCTS kidney etc.)
GOAT MEAT BYPRODUCTS
PIG MEAT BYPRODUCTS
SHEEP MEAT BYPRODUCTS

Whole commodity _____

GROUP 28	<p>MILKS</p> <p>Group 28 milks are the mammary secretion of various species of lactating herbivorous ruminant animals, usually domesticated. The entire product may be consumed.</p>	MILKS	Whole commodity.
GROUP 29	<p>MILK FATS</p> <p>Group 29 milk fats are the rendered or extracted fats from milk.</p>	MILK FATS	Whole commodity.
GROUP 30	<p>POULTRY MEATS</p> <p>Group 30 poultry meats are the muscular tissues including adhering fat and skin from poultry carcasses as prepared for wholesale distribution. The entire product may be consumed.</p>	POULTRY MEATS	<p>Whole commodity.</p> <p>When NRLs are set on fat basis: carcass fat of poultry.</p>
GROUP 31	<p>POULTRY FATS</p> <p>Group 31 poultry fats are the rendered or extracted fats from fatty tissues of poultry. The entire product may be consumed.</p>		Whole commodity.
GROUP 32	<p>POULTRY BYPRODUCTS</p> <p>Group 32 poultry byproducts are edible tissue and organs, other than poultry meat and poultry fat from slaughtered poultry.</p>	POULTRY BYPRODUCTS.	Whole commodity
GROUP 33	<p>EGGS</p> <p>Group 33 eggs are the fresh edible portion of the reproductive body several domesticated avian species. The edible portion includes egg white and egg yolk after removal of the shell.</p>	EGGS	Whole egg whites and yolks combined after removal of shells.

REPORT OF THE AD HOC WORKING GROUP ON PRIORITIES

Participants:

W.F. Almeida	Brazil
J.A.R. Bates	FAO, Rome
A.F.H. Besemer (Chairman)	Netherlands
G. Bressau	Fed.Rep. of Germany
A. Calderbank	GIFAP
P. Deema	Thailand
M.B. Delan	Ireland
G. Dupuis	Switzerland
D. Marsico	Argentina
G. Mathys	EPPO
D.S. Papworth (Rapporteur)	United Kingdom
R.T. Ross	United States of America
J.T. Snelson	Australia
Jean Stalker	Canada
R. Trottier	Canada
G. Vettorazzi	WHO, Geneva
B.B. Watts	New Zealand
G.A. Willis	GIFAP

1. A letter from the ex-chairman, Mr. Ralph Houghton (Canada), was received expressing his apologies for absence and indicating his acceptance of another official post which would preclude chairmanship of the Priorities Group. The Group accepted the letter with regrets and agreed to forward a letter of thanks to Mr. Houghton for all the work which he had contributed in past years.

2. The Priorities Group unanimously elected Dr. A.F.H. Besemer (Netherlands) as its chairman.

3. The Working Group then considered the selection of compounds for priority consideration from various sources, having first noted the work already agreed for the 1979 JMPR meeting. This included the following chemicals scheduled for re-evaluation:

carbophenothion	diphenylamine	bromoethane (methyl bromide)
carbofuran	edifenphos	1,2-dibromoathane (ethylene dibromide)
chlorothalonil	omethoate	1,2-dichloroethane(ethylene dichloride)
chlorodimeform	phosmet	tetrachlormethane (carbon tetra-
dichlofluanid	thiometon	chloride)

4. It was noted that aminocarb had not been considered by the 1978 JMPR due to insufficient data becoming available.

5. New pesticides originally planned for the 1979 JMPR include:

permethrin	cypermethrin	phenazin-5-oxide
phenothrin	triadimefon	aminocarb
fenvaterate	azocyclotin	

6. It was noted that data on diflubenzuron would not be available until 1983 and data on tetrachlorvinphos until 1980.

7. The Group then considered the chemicals which had been proposed for adding to the priority list. It was agreed that the most useful way of presenting information on priorities to the CCPR was by the compilation of three lists as in 1978.

(a) List I - This list consists of compounds judged to meet the selection criteria that can be considered for review by the JMPR in 1980.

fenarimol	amitraz	2,4,5-T (1979 list as data are available)
etrimfos	decamethrin	methacrifos
		oxamyl

(b) List II - This list consists of compounds judged to meet the selection criteria that may be considered for review in the succeeding year (1981) by the JMPR depending upon the availability of adequate scientific and technical data on the individual compounds. Current expectations are that the information will be available for many of the compounds, however some others may be deferred to subsequent years.

procymidone	isofenphos
tetrachlorvinphos	streptomycin

(c) List III - This list consists of compounds identified from various sources that have been tentatively judged to meet the selection criteria, and are drawn to the attention of countries and manufacturers. Countries or manufacturers having an interest in compounds on this list should follow procedures outlined in paragraph 5 of the report of the Priorities Group from the Tenth Session (ALINORM 79/24, pages 79-83).

bupirimate	pyrazophos	propyzamide
dalapon	quinalphos	famphur
ethoprophos	triazophos	metaldehyde
naled	phoxim	
pentachlorophenol	isoprocarb	

8. The Working Group then considered some remaining pesticides identified in the current edition of "Good Agricultural Practice" CX/PR 79/16. Several Member States emphasized the value of the document and their willingness to contribute to future editions as in the past.
9. Atrazine, diuron, EPN, fluometuron, hydrogen cyanide, linuron, methabenzthiazuron, metribuzin, monolinuron and trifluralin were identified in the 1979 edition of the "Good Agricultural Practice" report as having already been considered or not at the moment requiring a priority category.
10. In a discussion on working document 15, concerning the JMPR providing guidance for dealing with minor commodities, it was agreed that whilst there might occasionally be a need for the establishment of priorities with food crops, the proposal presented considerable difficulties. Firstly, the position was largely self-regulating in that industry normally directed products towards the major crops and investment in sufficient residue data on very minor crops would be at a minimum. Secondly, unless the crop was of any importance a company would be unlikely to submit data and probably be further discouraged to register minor uses where considerable residue data for a minor crop was requested.
11. The Working Group took note of an international Workshop sponsored by the Government of Sweden held in Stockholm 15-17 May 1979 to consider registration guidelines for biological control agents. At that meeting France, U.K. and U.S.A. registration officials had presented the current draft guidelines available for the registration of such products. It was agreed that the CCPR should be consulted on the future status of biological control agents within its terms of reference and whether the Group might be required to assign priorities to such products in the future.
12. The Group finally expressed its appreciation to the Canadian delegation for the organization of working papers and noted the Canadian delegation was willing to continue acting as the contact point for members.

REPORT OF AN AD HOC WORKING GROUP ON "PROBLEMS IN DEVELOPING
COUNTRIES RELATED TO PESTICIDE RESIDUES"

The following persons took part in the discussions on this Ad Hoc Working Group meeting:

Marsico Osvaldo	Argentina
Lysis de Aloe	Brazil
Maria Elisa W. de Almeida	Brazil
Sebastiao R. de S. Pinheiro	Brazil
Waldemar F. Almeida (Chairman)	Brazil
Clara Torres	Cuba
Angela Arce	Cuba
Mireya Charles de Rodríguez	Rep. Dominicana
Amaury Rodríguez Sosa	Rep. Dominicana
K. Krishnamurthy (rapporteur)	India
K.N. Mehrotra	India
M.I. El-Fassam	Kuwait
A.A. Sherif	Libya
R.D. Amarasingham	Malaysia
M.A. Martínez (rapporteur)	Mexico
Enrique García-Galliano	Mexico
I.C. de Rivera	Nicaragua
O.A.A. Kupoluye	Nigeria
M. Sabry Khames	Saudi Arabia
Pakdee Pothisiri	Thailand
G.B. Pickering	United Kingdom
Ruben Rodríguez Dellan	Venezuela
Alberto Ramos Balza	Venezuela
S. Lj. Vitorović	Yugoslavia

Invited to participate:

J.A.R. Bates	FAO, Rome
L.G. Ladomery	FAO, Rome
G. Vettorazzi	WHO, Geneva

After discussing various problems particular to developing countries, with reference to application of pesticides, the Working Group agreed:

1. That many developing countries do not possess adequate facilities to undertake preregistration trials on pesticides and their formulations, toxicity tests, pesticide residue analysis in crops, stored food grains, animal products and processed food products, generation of appropriate data on intake of pesticide residues and impact on the environment. FAO/WHO should intensify its assistance in establishing suitable facilities for these activities either at the national or regional level.
2. That FAO/WHO and other international bodies, such as UNDP, UNEP, UNIDO and IAEA, should intensify their assistance to developing countries in training of personnel involved in these programmes, such as application of pesticides, techniques of sampling, methods of analysis, and documentation.
3. That FAO/WHO should prepare a document indicating the presently available facilities and expertise in this field in the developing countries, preferably on a regional basis.

4. That, as a collaborative effort among countries, Regional Committees on Pesticides should be established to discuss problems related to pesticides in the Region and that seminars and conferences for exchange of technical informations and experiences gained in this field be held frequently.
 5. That with respect to WHO's proposed new programme on the "evaluation of the effects of chemicals on health", the implications especially concerning developing countries should be examined.
 6. That FAO/WHO and other international bodies should prepare a digest on toxicological data and efficacy of newer pesticides and formulations and supply these to the developing countries.
 7. That guidelines for good practices in the use of pesticides, toxicity hazards and precautions to be taken and also for legislation and control should be prepared and supplied to developing countries.
 8. That FAO/WHO and governments should ensure that existing information on the various aspects of pesticides should reach those concerned at the working level.
 9. That, even though in previous conferences a number of similar recommendations had been made, very little follow-up action has been taken and, therefore, a time target should be fixed for implementation of all accepted proposals.
 10. That in recommending MRLs, consideration should be given not only to public health aspects, but also to the economic impact on the international trade of developing countries.
 11. That the CCPR and Regional Coordinating Committees should include in their agenda subjects of interest to developing countries including those proposed by the Ad Hoc Working Group.
 12. That developing countries should take the following actions:
 - (i) Establishment of National Interdepartmental Committees on Pesticide Residues;
 - (ii) Steps to ensure that pesticides are registered on the basis of appropriate data, such as those recommended by FAO/WHO and including local agricultural information, and on the basis of the evaluations of the Joint FAO/WHO Meetings on Pesticide Residues as well as on the basis of the recommendations of the Codex Committee on Pesticide Residues;
 - (iii) Control of import, sale, distribution and use of pesticides and of their residues in food;
 - (iv) Establishment of national Codex Committees to deal with matters relating to pesticide residues and to act as Codex contact points in this field.
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