codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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REPORT OF THE FOURTEENTH SESSION OF THE CODEX COMMITTEE ON PESTICIDE RESIDUES
The Hague, 14-21 June 1982

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

THE HAGUE, 14 - 21 JUNE 1982

INTRODUCTION

1. The Codex Committee on Pesticide Residues held its Fourteenth Session in The Hague, The Netherlands, from 14 to 21 June 1982. 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 46 countries:

Angola
Argentina
Australia
Austria
Bangladesh
Belgium
Brazil
Cameroon
Canada
Chile
China
Cuba
Czechoslovakia
Democratic People's Rep. of Korea
Denmark
Ecuador
Finland
France
German Democratic Rep. (observer)
Germany. Federal Rep. of
Greece
Hungary
Ireland
Israel
Italy
Japan
Kuwait
Mexico
Netherlands
New Zealand
Norway
Philippines
Poland
Portugal
Republic of Korea
Romania
South Africa, Rep. of (observer)
Spain
Sweden
Switzerland
Thailand
Tunisia
United Kingdom
Uruguay
United States of America
Yugoslavia

The following International Organizations were also represented:
- Association of Official Analytical Chemists (AOAC)
- International Organization for Standardization (ISO)
- Organization for Economic Co-operation and Development (OECD)
- Council of Europe (CE)
- European Economic Community (EEC)
- International Organization of Consumer Unions (IOCU)
- International Union of Pure and Applied Chemistry (IUPAC)
- International Federation of National Associations of Pesticide Manufacturers (GIFAP)
- European Plant Protection Organization (EPPO)
- International Dairy Federation (IDF)

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

OPENING OF THE SESSION BY THE STATE SECRETARY FOR HEALTH AND ENVIRONMENTAL PROTECTION

2. The Fourteenth Session was openend by Mrs. J.J. Lambers, State Secretary for Health and Environmental Protection of The Netherlands. The text of the opening speech of the State Secretary is attached as Appendix II to this Report.

ADOPTION OF THE AGENDA

3. At the request of the representative of WHO the Committee took a moment of silence to remember Dr. M. van Logten, a very highly esteemed colleague in JMPR who suddenly died only a few months ago. An agenda item "Appointment of rapporteur", was added to the agenda. The Chairman mentioned that CL 1981/42 (PR), which dealt with MRLs at Step 4, should be added as a reference document to agenda item 9 (a)

"Consideration of Maximum Residue Limits at Steps 4 and 7".
The Committee's attention was drawn to the fact that agenda item 13 dealt with two subjects, regulatory principles (CX/PR 82/15) and definitions (CX/PR 82/16).
On the proposal of the representative of FAO the Committee agreed to discuss problems relating to metabolites of pesticides which are also separate pesticides (Agenda Item 7b) together with the Report of the Analytical Working Group (Agenda Item 10).
The modified agenda was adopted by the Committee.

APPOINTMENT OF RAPPORTEUR

4. Mr. A.F. Machin (United Kingdom) was appointed to act as rapporteur to the Committee.

MATTERS OF INTEREST TO THE CODEX COMMITTEE ON PESTICIDE RESIDUES

(a) Matters arising from Codex Sessions

5. The Secretariat informed the Committee on certain matters of interest arising from Codex Sessions and also indicated that other matters of interest would be brought to the attention of the Committee under item 12 of the agenda, dealing with pesticide residue problems in developing countries.

Codex Coordinating Committee for Asia

6. The Committee noted that the Coordinating Committee had discussed the need for countries of the Region of Asia to generate through appropriate supervised trials, residue data on the basis of which the JMPR and CCPR could make recommendations for MRLs. The Coordinating Committee had also noted that a code of ethics governing the sale and use of potentially toxic substances (including pesticides) might be developed through IRPTC and UNEP and by FAO (paras 20, 26, 27, ALINORM 83/15).

Codex Coordinating Committee for Africa

7. The Committee was informed that the Coordinating Committee had stressed the need for the rapid and regular supply of official information on pesticides (use, storage, formulation, safety measures etc.), in order to be in a position to control their importation and use. The Coordinating Committee had also stressed the need to strengthen national infrastructures so that the safety of pesticides and the level of their residues in food could be ascertained by importing countries (paras 19, 20, ALINORM 81/28).

Codex Alimentarius Commission

8. The Committee noted that the Commission, at its 14th Session, had adopted the Committee's revised terms of reference and had also adopted the following addition: "to establish maximum limits for environmental and industrial contaminants showing chemical or other similarities to pesticides, in specific food items or groups of food" (para 250-251, ALINORM 81/39).
In this respect the Committee's attention was drawn to document CX/FA 82/18 considered at the last session of the Codex Committee on Food Additives (CCFA), in which attention was drawn to the need to delineate the contaminants to be considered by the CCFA and the CCPR respectively. It was suggested that the Working Group on Priorities should be asked to consider this point.
The Committee was informed that an FAO consultant would be engaged to examine this question as well as the extent of the problem in relation to the work of Codex. A report would be placed before the next sessions both of the CCFA and the CCPR.

9. The delegation of the United Kingdom expressed the view that the list of contaminants under discussion should be made available to

the Working Group on Analysis in order to see whether such contaminants interfered with current multiresidue analytical methods.

10. The Committee noted that the delegation of Finland to the 14th Session of the Commission had expressed the view that the CCPR should consider residues of drugs used in veterinary practice and as pesticides (para 252, ALINORM 81/39). It also noted that this matter would be discussed when considering the report of the Working Group on Priorities (see paras 248-252 of this Report).

Codex Committee on Fish and Fishery Products (CCFFP)

11. The indiscriminate use of pesticides, especially in tropical countries, to prevent insect infestation of dried or smoke-dried fish and fishery products,may lead to potentially dangerous situations and CCFFP sought guidance from the Codex Committee on Pesticide Residues on how best to tackle the problem.
The Committee expressed its opinion that guidance from the JMPR and specialised units within FAO should be sought and learnt that activities within the Fisheries Division and Plant Protection Service of FAO which were in progress might lead to the development of guidelines for good pesticide use on dried fish (ALINORM 83/18).

Codex Committee on Processed Meat and Poultry Products

12. The Committee recalled the discussion at its last session of the problems raised by sterilizing spices with ethylene oxide.
It learnt that the inhalation studies being carried out in the United States of America to study the toxicity of ethylene oxide were still incomplete. However it was agreed that these studies were of limited value in relation to the the question before the CCPR, ie. the ingestion of spices treated with ethylene oxide. It noted that effective alternatives to fumigation with ethylene oxide as a method for sterilization of spices were not yet widely available (ALINORM 81/16).

Codex Committee on Cereals and Cereal Products

13. The Committee was informed that the question whether limits for post-harvest protectants and their residues should be included in Codex commodity standards was still under consideration in the light of government comments. It was agreed to await developments before taking further action on this matter (paras 473-475, ALINORM 81/39).

(b) Matters arising from International Organisations

14. The representative of OECD informed the Committee of some matters relating to the implementation of the OECD Council decision on mutual acceptance of data, especially concerning the OECD guidelines for the testing of chemicals,as well as principles of Good Laboratory Practice. The OECD Expert Group on Good Laboratory Practice had issued a final report recommending an international approach for the assurance of the quality of test data. Reference was also made to the report of the Expert Group on Information Exchange relating to the export of hazardous chemicals.
The Expert Group had concluded that the guiding principles resulting from this work should be applicable also to non-OECD countries.
Other reports relevant to the CCPR concerned the confidentiality of data and guidance on the assessment of hazards.

15. The representative of the European Plant Protection Organization (EPPO) pointed to the need for internationally acceptable harmonized procedures and test methods for evaluations of efficacy so that available data could be used in other countries with similar agricultural regimes.
In this way the trials necessary to determine efficacy and crop safety could be limited.

Such guidelines had been established by EPPO about ten years ago. The guidelines published so far had been adopted by 34 member countries. In 1979, guidelines for field evaluations of herbicides were published as a result of the activity of the Australian Weed Committee.

16. The Council of Europe representative reported that resolutions on wood preservation products and on guidelines to reduce the risks of contamination of animal products for human consumption by residues which may result from the use of pesticides on livestock and in livestock premises had now been practically completed by the Committee of Experts on Pesticides. Two other subjects - one on the aerial application of pesticides and the other on the disinsectisation of aircraft and other means of transport - were under study.
The Committee of Experts on Pesticides had also recently proposed the preparation of a new edition of the booklet "Pesticides" to bring it up to date and to include certain new aspects, such as the proper application of pesticides with regard to potential risks to users and integrated pest control. It was also proposed to place more emphasis on the non-agricultural use of pesticides. As in the past, the views of GIFAP and CIPAC on the new edition would be sought. He added that Resolution AP (71) 4 on the classification of formulated pesticide products would be revised to bring the classification in line with that of WHO.

17. The representative of the Association of Official Analytical Chemists (AOAC) informed the Committee of the procedure of AOAC, viz. persuading government, university and industry laboratories to work together to develop and test methods and to study them collaboratively. Data were evaluated, methods adopted as official, and published. AOAC would like the Committee to give official encouragement to WHO and FAO in order to support the efforts of AOAC to persuade laboratory managements to allocate time to collaborative studies on pesticide residues in appropriate commodities.

CONSIDERATION OF THE REPORTS OF THE 1980 AND 1981 JOINT FAO/WHO EXPERT MEETING ON PESTICIDE RESIDUES (JMPR)

18. The Committee had before it the Reports of the 1980 and 1981 JMPRs (FAO Plant Protection and Protection Papers 26 and 37).

19. The problem of the quality of toxicological data and deficiences that were suspected in data generated by Industrial Biotest Laboratories (IBT) had been discussed at both JMPRs. A background paper prepared for the 1981 JMPR was distributed for information. The representative of WHO informed the Committee of the action taken by the 1981 JMPR on the pesticides involved, which in several cases meant re-examination by the JMPR in 1982. He also mentioned the collaboration of Canada in this matter, which was much appreciated.

20. By means of a special circular letter (CL 1982 / 1-PR) all governments had been invited to supply data which could be of help in solving the problems of evaluating pesticides which relied mainly on data generated by IBT.

21. The Committee was informed that the 1981 session of the Commission had decided to keep at Step 8 a number of MRLs for pesticides whose evaluation had been based on IBT data, on the basis of information from the delegation of Canada submitted in their written comment. It noted that the Secretariat had been instructed by the Commission not to send to governments for acceptance the MRLs for other pesticides which the JMPR had evaluated on the basis of IBT data, until the validity of these toxicological studies had been clarified. As the list submitted by Canada and the list submitted by the representative of WHO were not

completely identical, the delegation of Canada, the representative of WHO and the Secretariat were requested to identify the pesticides on which the Committee had to take action or on which the Committee might wish to make recommendations to the Commission (see paras 203 and 204).

22. The Committee agreed not to take any action at present with regard to Codex MRLs for pesticides whose evaluation had involved IBT data.

23. The delegation of the Federal Republic of Germany was of the opinion that the presentation of data on the disappearance of residues in stored and processed grain in the 1981 report could give rise to misunderstanding, as the decrease during processing depended largely on storage conditions. The delegation of Australia said that decrease during storage and during processing should be clearly distinguished. In reply to the delegation of the Federal Republic of Germany it stated that in the reported study, samples had been stored for at least one week prior to processing. Shorter periods of storage of grain would produce even lower residues in white flour after milling, since there would be less penetration of pesticide into the grain.

24. The Committee noted that the 1981 JMPR Report had outlined the basis for extrapolation of residue data to related crops. As not all pesticides behaved in the same way, a case-by-case approach was necessary.

25. The delegation of Sweden was concerned about the criticism expressed in the JMPR 1981 report of a certain epidemiological study on 2,4,5-T. They considered this as a public discrediting of scientists, which had no precedent in earlier JMPR reports.
The representative of WHO explained that it was the opinion of the members of the WHO scientific group of the JMPR that the study was not relevant for the establishment of the ADI of 2,4,5-T with a TCDD content not exceeding 0.01 mg/kg.

International Programme on Chemical Safety (IPCS)

26. The representative of WHO (IPCS) reported on recent developments within IPCS. From 28-30 October 1981 the Central Unit (CU) of the IPCS had convened an ad hoc Working Group to advise the CU on strengthening WHO's contribution to the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and to the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) within the activities of the IPCS.

27. The Working Group had identified and examined a number of organizational, operational and budgetary issues. These issues were examined by the Working Group in terms of their current arrangements under the JMPR-CCPR system, while also taking into account the organizational and operational framework of the IPCS and the relevant recommendations from the past sessions of the Programme Advisory Committee (PAC) of the IPCS. The recommendations of this Working Group were useful guidelines for the Central Unit to plan future activities, to strengthen WHO's input into JMPR and into related areas.

28. The WHO representative further explained how the membership of the IPCS had developed starting from July 1980 when the first session of the PAC took place; at that time only three countries, namely Canada, Finland and Sweden, had signed a memorandum of understanding between their governments and the IPCS. At the time of the second session of the PAC (December 1980) a fourth country, the United States of America, had signed a memorandum of understanding. Today, just before the holding of the third session of the PAC (23-28 June 1982) the membership of the IPCS is as follows: 10 countries (Bulgaria, Canada, Czechoslovakia,

Finland, Italy, Japan, Sweden, United Kingdom, USA and USSR) had signed the memorandum of understanding: 8 countries (Australia, Belgium, Brazil, France, the Federal Republic of Germany, Israel, The Netherlands, Norway) had finalized the memorandum and were ready to sign it; 12 additional countries had expressed strong interest in joining the Programme, namely Bangladesh, Denmark, Egypt, India, Mexico, Nepal, Pakistan, Poland, Sri Lanka, Switzerland, Thailand and Yugoslavia.

29. Previous reports on the IPCS to the CCPR were made at the 12th Session (ALINORM 81/24, paras 8-9) and 13th Session (ALINORM 83/24, paras 16-20).
From these previous discussions it should be noted that the interest of CCPR in the IPCS mostly concerned three aspects:
a. that the terms of reference of the JMPR should not be changed;
b. that the JMPR-CCPR system for the priority selection of compounds for evaluation by JMPR should be maintained;
c. that the JMPR should be strengthened.
The Representative of WHO stated that the records on the IPCS placed before this Committee showed that not only did the integration of the WHO Secretariat of the JMPR into the IPCS not result in a de facto change in the terms of reference of the JMPR or impair its continuity but proved to be an excellent ground for further developments.

Second Consultation on the International Harmonization of Pesticide Registration Requirements

30. The FAO representative confirmed that the second Consultation on the International Harmonization of Pesticide Registration Requirements would be held in Rome, 11-15 October 1982. He expected that invitations would be sent to member countries at the end of June. Each member government will be invited to prepare a brief summary (1 page) of their national registration process and the resources available for its implementation, according to suggested guidelines. The consultation will operate through four appointed committees to deal with:
1. Harmonization of data requirements for registration;
2. Registration procedures (FAO model scheme);
3. Effective national control of pesticides, including restrictions on availability, specifications, labelling, packaging, storage and disposal;
4. Coordination of international activities.
The Consultation will discuss ways and means of achieving harmonization and will seek commitments from member governments to implement any guidelines agreed by the Consultation.

REPORT ON ACCEPTANCES BY GOVERNMENTS OF CODEX MAXIMUM RESIDUE LIMITS

31. The Committee had before it document CX/PR 82/5, its addendum 1 and Room Document 6.
The Chairman in introducing the subject drew attention to the fact that almost 50% of the notifications on the 4th, 5th and 6th Series were "full acceptance" with about 10% "limited acceptance", mentioning that the overall picture was rather promising. However, tables 2 and 3 of CX/PR 82/5 made the situation seem less satisfactory. For several compounds a high percentage of the replies to the proposed MRLs was "non-acceptance" and "no free distribution". Although the CCPR is aiming to reach 100% acceptance, a good alternative would be "free distribution". It was decided that the Working Group on Regulatory Principles should examine the reasons for non-acceptance of proposed MRLs. A correction to section 5, para 2 of CX/PR 82/5 was noted. The last sentence should read "A Community Member, therefore, is free to adopt Codex MRLs, provided they are not lower than the levels indicated in the EEC directives."

32. The Belgian delegation was of the opinion that there was no

provision for reviewing or re-examining MRLs in the Codex procedure. The Chairman drew attention to the possibility of supplying new data to the JMPR. According to the delegation of the United Kingdom however, problems occur when countries reach different conclusions on the basis of the same (JMPR) data. The system does not provide for solutions in those cases.

33. The delegation of the United States of America reported on measures by the Environmental Protection Agency (EPA) to bring the United States tolerances more into line with Codex MRLs, starting with 7 compounds:
malathion, dioxathion, ethion, phosalone, diazinon, mevinfos and chlorfenvinphos. These proposed tolerance revisions have been published in Fed.Reg.Vol. 74, no. 1021, May 26th 1982, p. 22982-22985.

34. The Committee was informed by the delegation of the Federal Republic of Germany that in principle food items with higher residues than those permitted in their national legislation would be allowed, if appropriately labelled and as long as their residues did not exceed statutory limits when sold to the consumer. This would make the import of some commodities such as grains easier.

35. The Australian delegation pointed out that they could not accept proposals nationally as long as the separate States had not taken up the proposals in their internal legislation. Acceptance procedures in their country were improving and free distribution for foods meeting Codex MRLs will be allowed.

36. In New Zealand "full acceptance" is given to Codex MRLs equal to the tolerances in the national legislation and sometimes this legislation is changed to accomodate Codex MRLs. However, "free distribution" is given to all other Codex MRLs mentioned in the 4th, 5th and 6th Series.

INTAKE OF PESTICIDE RESIDUES

Guidelines for the study of pesticide residue intake

37. The Committee had before it document CX/PR 82/6, which was a paper prepared by the delegations of the United Kingdom and the United States of America on guidelines on pesticide residue intake studies. The delegation of the United Kingdom introduced the paper and reminded the Committee of the discussions on intake which had taken place in the past, during which consideration of the so-called potential daily intake (PDI) had gradually been abandoned, as it implied unrealistically high dietary exposure and, therefore, could discourage the acceptance of MRLs. However, the concept of PDI had apparently not been completely abandoned in all countries; the studies on actual intake gave a much more reassuring and realistic picture of the situation.
In order to assist countries which had planned to carry out intake studies and to promote comparability of the results, it was considered useful to elaborate concrete guidelines for such studies. The United Kingdom suggested the appointment of a small group which would elaborate guidelines for the next session of the Committee.

38. The delegations of Australia, Italy, The Netherlands, The United Kingdom and the United States of America and the representatives of FAO and WHO expressed their interest in participating in this small group. It was suggested that a member of the Ad Hoc Working Group on Pesticide Residue Problems in Developing Countries should also participate. The delegation of the United Kingdom or the United States of America would lead the group and first consult the Secretariat and FAO and WHO representatives on the approach to take.

39. The delegation of The Netherlands expressed their preference for the so-called Market Basket type of study, as this provided more information on the different sources of residues and, therefore, could indicate the type of action that might be necessary.

40. The delegations of Argentina and Italy informed the Committee that they had carried out residue intake studies. The representative of WHO said that the computer study on PDI, developed by WHO since 1969 and showing the theoretical potential intakes for a number of pesticides in 5 countries in different parts of the world had been abandoned following extensive discussion both at the JMPR and in this Committee. However, the FAO/WHO Food and Animal Feed Monitoring Programme, financially supported by UNEP, tried to collect data on the actual intake of contaminants, including pesticides, so as to compare these with ADIs or other relevant toxicological information. This programme would also offer opportunities for developing countries to participate. Cooperation with this programme in developing guidelines for conducting intake studies was recommended.

Reports on pesticide residue intake studies in various countries

41. The delegation of Finland presented Room Document 10, summarizing data on the average pesticide residue intakes in their country during the years 1977 - 1980. The total intake of pesticides was estimated at approximately 60 mg/person/year, of which 50 mg reached the consumer in imported foods. Post-harvest agents such as diphenyl and o-phenyl-phenol accounted for approximately 22 mg/person/year, dithiocarbamates for 10 mg/person year and benomyl, expressed as carbendazim, 14 mg/ person/year. The intake of bromide-ion, not included in the 60 mg total pesticide intake, was estimated at 330 mg/person/ year. These figures were, in general, all well below the ADIs and showed that the situation with regard to pesticide residues was generally satisfactory.

42. The delegation of The Netherlands presented a summary of a duplicate diet study in which total diets had been analysed for organochlorine pesticides and PCBs, and of a Market Basket study in which nutrients, food additives, pesticides and several other contaminants had been analysed in the diet of 16-18 year old boys (Room Document 8).
In general, the situation with regard to pesticide residue intake appeared to be very reassuring. Only for dieldrin was the intake sometimes near the ADI and the intake of other organochlorine pesticides in a few cases was relatively high. The intake of PCBs was considered very high.
In the case of omethoate, one sample containing a residue far above the temporary MRL accounted for a single high intake at a level of three times the TADI. The Market Basket study had shown that the limits of determination of the analytical methods used were not low enough in all cases to give an accurate picture.
In this respect, the question of how to calculate the intake when samples contained residues below the limit of determination was raised. Different studies had approached this matter in different ways. The subject was considered to be one of the items to be considered by the proposed small Working Group (see para 38).

43. The delegation of Australia presented a room document giving details of a Market Basket survey conducted in their country in 1980. For this study the 50 foods whose consumption was highest were selected. Samples had been taken in every season in each of the State capitals. Intake for organochlorine pesticides such as DDT was in general at a level of one tenth of the ADI; for dieldrin it was 65-75% of the ADI.

They mentioned that there were many pitfalls in such studies when extremely low residues were present.

44. The delegation of the Federal Republic of Germany pointed to the difficulties of differentiating between HCB and alpha-HCH. If alpha-HCH were found without beta-HCH, this should be a warning to the analyst as normally alpha- and beta-HCH would occur together.

GENERAL MATTERS RELATING TO MAXIMUM RESIDUE LIMITS

Consideration of Problems associated with Temporary ADIs and Guideline Levels

45. The Committee had before it a working paper on the above question prepared by the delegation of the United States of America (CX/PR 82/7 and addenda 1 and 2).
In introducing the paper the delegation of the United States of America traced the history of temporary ADIs and Guideline Levels and proposed three options to the Committee (CX/PR 82/7, para 8) for handling temporary MRLs and Guideline Levels (GLs) in the Codex Procedure.

46. The delegation of the Netherlands pointed out that GLs often represented registered uses of pesticides covered by national MRLs, indicating that such pesticides and their residues had been cleared from a safety point of view at the national level.
As regards temporary ADIs established by the JMPR owing to some lack of toxicological data, a distinction should be drawn between the situations where toxicological information did not exist and where it existed but had not been made available to the JMPR. In the latter case, ie. where no ADI had been established, there was a need for more follow-up by the JMPR Secretariat in an effort to obtain the data required and for JMPR to specify more clearly which data were required.
The Netherlands delegation proposed that GLs should not be advanced further than Step 4 in the Codex Procedure, while temporary MRLs should not be advanced further than Step 7.
Guideline Levels should be listed separately in Codex documents. Several delegations supported the proposal of the Netherlands.
The point was also made that the residue data on the basis of which MRLs, temporary MRLs (consequent upon TADIs) and GLs were established, were equivalent and were derived in the same way.

47. The Committee accepted the proposal of The Netherlands. It was noted that this corresponded to "option 2" proposed by the United States of America, with the amendment that temporary MRLs should not advance further than Step 7 instead of Step 4.

48. The Representative of WHO indicated that temporary ADIs were withdrawn when deadlines for the receipt of additional required data had expired in order to induce the sponsoring industry to provide such data. In this respect it was suggested that some of the withdrawals of ADIs could perhaps be prevented by a greater cooperation by the Industry with FAO/WHO in supplying required toxicological data.

49. The question arose as to what should be done in respect of Codex TMRLs when temporary ADIs were withdrawn.
The Codex Secretariat was of the opinion that any action to withdraw Codex temporary MRLs should be based on a consideration of all the facts such as the nature of the toxicological information required, the reason for withdrawal of the TADI and the likelihood of required toxicological data being made available. This was so since withdrawal of Codex TMRLs implied a need for a reversal of the action taken by governments which had accepted the Codex TMRLs and a halting of further acceptances.

50. The delegation of the Federal Republic of Germany queried whether pesticides evaluated a long time ago on the basis of the criteria then accepted should be re-evaluated by the JMPR on the basis of new criteria, since some "new" TADIs may, in fact, prove to be more soundly based than "old" ADIs. The representative of WHO indicated that two compounds had recently been re-evaluated on the basis of new criteria. The previous evaluations were confirmed, giving confidence in them. The interpretation of new toxicological parameters such as mutagenicity was still an open question.

51. Canada and the United States of America suggested that temporary Codex MRLs which had already progressed beyond Step 7 should be returned to that step. Following a discussion on possible procedures in moving temporary MRLs backwards in the Codex procedures, it was agreed that such TMRLs should be left at their current step until the temporary ADIs were either confirmed or withdrawn by the JMPR.

52. As regards the effect of the withdrawal of a temporary ADI upon temporary Codex MRLs, the Committee decided to postpone a decision until agenda item 9 when discussing individual MRLs.

CONSIDERATION OF AMENDMENTS TO CODEX MAXIMUM RESIDUE LIMITS

(a) Consideration of draft amendments at Steps 4 and 7 in the light of comments[1]

53. The Committee had before it CL 1981/44, CX/PR 82/2 and CX/PR 82/9 and 11.
It decided to discuss the proposed amendments when considering the proposals at Steps 4 and 7. The amendment for DDT in milk products should, however, be added to the list of MRLs in CX/PR 82/2.

(b) Consideration of new amendments proposed by the 1981 Joint FAO/WHO Meeting on Pesticide Residues[1]

54. As the changes proposed at Steps 4, 5 and 7 were included in CX/PR 82/2 and CX/PR 82/3 it was decided to discuss these when considering proposals at Steps 4 and 7. Of the changes proposed for Codex MRLs it was concluded that the amendment for paraquat in soybeans was substantial and that, therefore, the proposal should go through the amendment procedure.
It was decided to keep the Codex MRL for pirimicarb in Citrus unchanged until the new proposal for oranges had reached the same step.
The change of the TADI for cyhexatin to an ADI and, consequently, the TMRLs into MRLs was considered non-substantial. It was noted that attention should have been drawn to the change of the TADI for 2,4,5-T to an ADI at ten times the previous level. The amendment was considered to be non-substantial.

CONSIDERATION OF DRAFT CODEX MAXIMUM RESIDUE LIMITS IN THE LIGHT OF COMMENTS AND RECONSIDERATION OF MAXIMUM RESIDUE LIMITS HELD AT STEP 7

55. The Committee had before it the following documents:

a. the summary of MRLs at Steps 3, 6 and 7 of the Codex Procedure on which government comments had been requested (CX/PR 82/2 and 82/3);
b. the report of the 1980 JMPR;
c. the summary of written comments which had been received prior to the Committee's session, CX/PR 82/9 and 11 and Add. 1 to this document. In order to ensure a more detailed discussion of government comments the Committee urged delegates to give full consideration to the written comments submitted.

[1] Substantial and non-substantial amendments to Codex MRLs are contained in Appendix XI to this report.

56. The Committee considered a number of MRLs which had been submitted to the Commission at Step 5 of the Codex Procedure at the 13th Session of the Committee (see CX/PR 82/3).
In view of the phasing of Sessions the 14th Session of the Commission had not been able to consider the MRLs at Step 5. In light of the new procedures adopted by the Commission the Secretariat had requested comments from governments on the MRLs so that they could be considered at the present session.
In cases where the Committee unanimously agreed to these proposals, it was agreed to recommend to the Commission that Steps 6 and 7 be omitted. All other proposals at Step 5 would normally be advanced to Step 6 by the Commission at its 1983 Session.

57. The following paragraphs reflect the discussions concerning individual maximum residue limits. Only those proposed MRLs are referred to on which discussion took place. Where no special indication is made, proposals were advanced from Step 7 to Step 8. In view of the conclusion of the discussion on temporary ADIs (see paras 46 and 47), TMRLs for pesticides having a TADI were not advanced beyond Step 7. It was decided that proposals held at Step 7 for this reason could be submitted to the Commission at Step 8 as soon as an ADI had been established by the JMPR. The Secretariat was requested to make the necessary editorial arrangements for easy identification of the proposals at Step 7 which are in this category.[1]

BROMOPHOS (No. 4)

Blackberries

58. As it was felt that the figure was at a low level, it was decided to advance the proposed MRL of 1 mg/kg for blackberries to Step 8.

Bran (wheat, unprocessed)

59. Several delegations doubted the need for a special MRL for bran (wheat, unprocessed). The delegations of the United States of America, Switzerland and the Federal Republic of Germany expressed reservations concerning the proposed MRL, as it was not possible to accept it in their countries. Since other countries indicated a need for such a figure, however, it was agreed to advance the MRL of 20 mg/kg to Step 8.

CAPTAN (No. 7)

Cherries

60. The delegations of The Netherlands and Sweden expressed their reservations on the MRL of 50 mg/kg for cherries because the Evaluations specifying the reason for the change from 40 to 50 mg/kg were received very late and because captan was due for review by the 1982 JMPR. It was decided to return the amended proposed MRL for cherries to Step 6 for another round of comments.

Potatoes

61. It was agreed for similar reasons to return the proposed change in the MRL for potatoes from 0.1 mg/kg to 20 mg/kg (to accomodate post-harvest uses) to Step 6.

[1] Draft maximum residue limits at Step 8 and those at Step 5 where the omission of Steps is recommended have been included in Appendix X to this report.
Draft maximum residue limits at Step 5 have been included in document ALINORM 83/24 A - Add. 1.

CARBARYL (No. 8)

Kiwi fruit

62. The delegation of New Zealand had requested a higher MRL on kiwi fruit. As 90% or more of the residue is found on the non-edible skin, it was decided to recommend for this MRL that Steps 6 and 7 be omitted.

CARBOPHENOTHION (No. 11)

63. The Committee noted that it had retained the MRLs for carbophenothion in various commodities at Step 7 pending more information on intake. Such data were available to the Committee at the present Session. The United States of America, the United Kingdom and New Zealand informed the Committee that total diet studies carried out in their countries showed no detectable residues of the pesticide in the diet.
The Committee noted that interest in the insecticide still existed, though to a far lesser extent than when it was introduced in the early 60's.
The delegation of the Federal Republic of Germany reserved its position regarding the acceptance of MRLs, especially in view of the low ADI.
The Committee decided to advance all MRLs, including the amended MRLs for apples and pears, to Step 8.
The Committee noted that the commodity described as prunes was covered by the term plums, and agreed to amend the commodity description accordingly.

CHLORDANE (No. 12)

64. The Committee noted that IBT data had been involved in the evaluation of chlordane and the compound was scheduled for re-evaluation by the JMPR in 1982. Information was sought from governments on use patterns and residues by the 1981 JMPR but insufficient information for useful action had been received.
The Committee noted that chlordane was presently used mainly on soil and timber and its use on crops was very limited.
The MRLs under study did not correspond to the existing situation.
Recognizing that chlordane, though not used for edible crops, could be present in crops as an environmental contaminant, the Committee recommended an ERL of 0.05 mg/kg for all crops except root crops including potatoes and sweet potatoes, for which the MRLs were reduced to 0.1 mg/kg. The ERLs of 0.05 mg/kg for carcase meat and poultry were retained.
The Committee agreed to return all the MRLs and ERLs to Step 6 (or to Step 3 as proposed amendments to Codex MRLs) and to request comments from governments.

CHLOROBENZILATE (No. 16)

Apples, Grapes, Milk, Tomatoes

65. The Committee noted that chlorobenzilate was still used in tropical and subtropical countries where it was quite effective. The pesticide had presently a limited use in temperate climates and was no longer used in Canada.
Sweden and Switzerland reserved their position on the acceptance of MRLs for all the commodities listed, while The Netherlands and the Federal Republic of Germany reserved their position only for tomatoes, pending discussions within the EEC. The Committee agreed to delete the word "whole" from the description of milk, as decided at an earlier Session, and agreed to move all the MRLs to Step 8.
The delegation of the United States reported that, regardless of references in CCPR reports to the contrary except for Citrus residue data, which had been provided, the United States had no additional residue data on other commodities.

CHLORPYRIFOS (No. 17)

Milk, Milk products

66. The Committee noted the written comments of the United States of America that United States tolerances for this pesticide included the pyridinol metabolite and that the United States tolerance for milk had been increased from 0.25 to 0.5 mg/kg (on a fat basis) in order to accomodate new feed uses. For this reason the United States of America were unable to support the proposed MRL of 0.1 mg/kg on a fat basis for milk and milk products.

67. The Committee accepted the offer of the delegation of the United States of America to make available to the JMPR the results of a survey of uses on animals, especially the dermal treatment of cattle, which revealed that such treatment of lactating animals was virtually non-existent. Dermal treatment should, therefore, not contribute residues in milk and milk products in international trade.
The Committee agreed to request the JMPR to reconsider the definition of the residue and to examine the results of the United States of America survey.
It also agreed to reconsider the MRLs at Step 7 in the light of the conclusions of the JMPR.

COUMAPHOS (No. 18)

68. The Committee noted that the temporary ADI of coumaphos had been withdrawn by the JMPR since certain required toxicological information had not been provided. This required action by the Committee in respect of various Codex temporary MRLs sent previously to governments for acceptance (see para 70).

69. The delegation of Australia informed the Committee that coumaphos was used in that country in the control of ectoparasites on livestock, especially sheep. The existing Codex temporary MRLs were needed to cover this use.
The delegation of New Zealand confirmed that coumaphos was used to a limited extent and indicated that monitoring studies revealed no detectable residues. The delegation of The Netherlands informed the Committee that this pesticide was still used but that its use was limited because of the availability of alternative pesticides. It suggested that this matter be referred back to the JMPR with the request that the need for the toxicological data required by the 1968 JMPR be reconsidered in the light of more recent developments in toxicological testing. The representative of WHO indicated that further toxicological data were expected and that these, if available, would be considered by the 1983 JMPR.

70. The Committee discussed whether the existing temporary Codex MRLs should be retained until the JMPR had reconsidered further toxicological studies in 1983 or whether the Commission should be requested to initiate the amendment of the temporary MRLs with a view to their conversion into Guideline Levels.
Such an amendment was considered to be substantial. It was agreed to adopt the latter procedure, noting that this would be more in keeping with the normal procedures of the Committee which required the existence of ADIs based on toxicological data judged to be adequate by the JMPR, before an MRL could be proposed.

2,4-D (No. 20)

Definition of residue

71. The delegation of the Federal Republic of Germany expressed the opinion that the various forms of 2,4-D (ie salts and esters) found in food should be specified in the definition of the residue.

The Committee agreed that analytical procedures would determine 2,4-D as such and that the MRLs, therefore, referred to 2,4-D irrespective of the salt or ester present in the sample.

Cereals

72. The Committee considered a proposal by the delegation of Australia to establish a group MRL of 0.5 mg/kg for cereals. Following discussion and noting that data had been available to the JMPR to justify raising the MRLs only for barley, oats, rye and wheat to 0,5 mg/kg from the existing Codex group MRL of 0.2 mg/kg for raw cereals, it was agreed to leave the figures unchanged and to advance the proposals to Step 5 without requesting omission of Steps 6 and 7.

DDT (No. 21)

73. The representative of WHO stated that DDT is a safe pesticide, but because of its persistent character it had been withdrawn in many countries. DDT had been cleared by the JMPR but given a conditional ADI, meaning that its use should be restricted only to situations in which the availability of effective substitutes is limited. He said that the oncogenicity found in mouse studies had never been satisfactorily reproduced in any other animal species. The representative of FAO said that there were indications that the pesticide is less persistent in tropical countries and if it received environmental clearance, it would be an acceptable pesticide for use in such countries. IARC is presently collecting data on the toxicology of DDT which would be placed before the 1983 JMPR for consideration. The use of this pesticide in many tropical and sub-tropical countries continues, especially because its use is economical compared with other pesticides which might replace it.

The Committee was informed that the status of the present MRLs for DDT was to be the subject of a fresh review by JMPR on the basis of GAP and monitoring data.

Fruits (except grapes), vegetables

74. The Committee advanced the MRLs to Step 8.

Grapes

75. A number of countries expressed objections to the present MRL of 2 mg/kg and suggested an MRL of 1 mg/kg as more suitable. Monitoring data and residue studies carried out in some of these countries substantiated the conclusion. Though the MRL of 2 mg/kg was derived from data previously made available to the JMPR, the Committee noted that DDT would shortly be reviewed by the JMPR and expressed the opinion that the figure could be lowered in the light of new data. The Committee agreed to lower the MRL in grapes to 1 mg/kg but returned it to Step 6. This would provide the opportunity for further comments from countries and also allow review of the position in the light of the re-evaluation by the JMPR.

Cereal grains

76. The Committee advanced the MRL for cereal grains (0.1 mg/kg) to Step 8.

Milk products

77. The Committee noted that the MRL (1 mg/kg on a fat basis) mentioned in CL 1981/44 was already a Codex MRL.

DIAZINON (No. 22)

Kiwi fruit

78. The Committee noted that the proposed MRL of 0.5 mg/kg had been based on data generated in New Zealand in supervised trials.

The Committee, noting that there were no objections from governments to the acceptance of the MRL, recommended that Steps 6 and 7 be omitted.

DIMETHOATE (No. 27)

79. The Committee noted that the JMPR had discussed the relation between dimethoate, omethoate and formothion and had agreed to review these compounds at a future meeting with the aim of establishing separate MRLs for omethoate and dimethoate.
It was decided to keep the proposals at Step 7 pending the outcome of this review.

DIQUAT (No. 31)

Wheat flour (wholemeal), Wheat bran

80. The Committee advanced the present MRLs for wheat flour (wholemeal) and wheat bran to Step 8. The delegation of The Netherlands expressing its reservation. While advancing the MRLs in the Codex procedure the Committee noted that the pesticide, although involved in IBT studies, had been cleared by the JMPR on the basis of other data available to it.
The Committee agreed to request the Commission to send all MRLs held at Step 8 at the fourteenth Session, to governments for acceptance.

ENDOSULFAN (No. 32)

Meat, Milk, Milk products

81. The Committee noted that governments had been asked to provide data on the residue levels of this pesticide in meat, milk and milk products observed in their countries in order to enable the JMPR to re-evaluate the MRLs. It was suggested that it might be appropriate to set limits, as ERLs, at or about the limit of determination.
The Committee was informed that residue studies carried out in some countries revealed that only very low residue concentrations were present in meat and milk. The Committee noted that the MRL in milk should be expressed on a whole product basis, that the pesticide was affected by IBT studies, and that there was some uncertainty about the correct expression of the residue.
The Committee took no action but agreed to hold the MRLs at Step 7 and to request the JMPR to review the MRLs on the basis of new data that it was hoped would be submitted by governments and in particular to express its opinion on

i) the expression of the residue
ii) whether the limits should be MRLs or ERLs and
iii) what level should be regarded as the limit of determination.

FENITROTHION (No. 37)

Wheat flour (white)

82. The Committee noted that the present proposal of 3 mg/kg for wheat flour (white) was recommended by the JMPR to replace the Codex MRL of 1 mg/kg. The delegations of Finland, France, Italy and The Netherlands indicated that they could not accept the proposal, especially in view of the high toxicity and relative persistance of the compound. The delegation of The Netherlands did not consider it good agricultural practice to mix such substances directly with food commodities.

83. The Committee was informed that the JMPR at its 1981 meeting had reviewed all grain protectants. Most of the pesticides are lost from cereals during processing and from 80 to 92% of fenitrothion is lost from wheat during processing to wholemeal or white bread.

Furthermore, fenitrothion is effective in tropical climates and the prohibition of such pesticides might pose problems in tropical countries.
The Committee realised that representative sampling of cereal grains for pesticide determination was difficult and that the average residue levels observed were normally lower than the MRLs.
The Committee noted that an extensive review of grain protectants would be available later this year which would provide answers to a number of problems faced by the Committee.
The Committee advanced the MRL from Step 3 to Step 5.

84. The Committee noted that the pesticide was affected by IBT studies and would be reviewed by the JMPR in 1982. The Committee agreed to advise the Commission to send all MRLs held at Step 8 at its last session to governments for acceptance, provided the pesticide is cleared toxicologically by the JMPR.

FENTHION (No. 39)

85. Some doubts were raised concerning the use pattern. The Committee was informed that the compound is used on fruit in the Federal Republic of Germany and for several agricultural purposes in Central America. According to the delegate of Australia it was one of the most important compounds for control of the fruit fly. In Italy MRLs are set for cherries, Citrus fruit, peaches, olives and olive oil. The delegation of Denmark pointed out that their country could not accept MRLs for fruit and vegetables at a higher level than 0.5 mg/kg for toxicological reasons. In Finland no residues above 1 mg/kg can be accepted and in the Federal Republic of Germany only residues in fruit up to 1 mg/kg and in other commodities up to 0.1 mg/kg are considered acceptable.
The delegation of Switzerland remarked that the product was not registered in their country and, therefore, they had to reserve their position.

Apples, Cabbage

86. The delegations of Denmark, the Federal Republic of Germany, Finland, France and The Netherlands were of the opinion that the proposed figures were not acceptable.

Carcase meat

87. The delegation of the Federal Republic of Germany reserved its position. The delegation of the United States of America informed the Committee that a level of 2 mg/kg was not necessary for GAP in their country but that the proposal would be considered when data supporting the limit were made available to the authorities.The delegation of New Zealand stressed their support of the proposal.

Olives

88. The delegation of The Netherlands said that, in their opinion, it was doubtful whether the use of an oil-soluble compound on olives was to be considered good agricultural practice when a water soluble alternative, dimethoate, was available.
The representative of FAO did not share this view, pointing to the differing needs and economic constraints of different countries.

Status of the MRLs.

89. The Committee agreed to send all MRLs before it to Step 8.

INORGANIC BROMIDE (No. 47)

90. Information on intake had been received from several countries in response to the request in CL 1981/49 (PR). The 1981 JMPR had already looked at three of these studies and had asked for detailed data. The delegation of France promised to send the results of an on-going study early in 1983.
The recent study by the United Kingdom will also be made available to the 1983 JMPR.
The delegation of The Netherlands informed the Committee of an international symposium on bromide to be held in December 1982 at Bilthoven, The Netherlands. The papers, which will be published, will be sent to the JMPR.

Cabbage, Lettuce

91. The Committee noted that in the United States of America the use of 1,2-dibromo-3-chloropropane (DBCP) had recently been cancelled except on Hawaiian pineapple and that for this reason only bromide residues from the use of methyl bromide as a pre-plant soil fumigant had to be taken into account.
The resulting residues in lettuce from the proposed United States uses, however, could be up to 300 mg/kg.
The delegations of France and the United Kingdom pointed out that the level of the residue found is largely dependent on the type of soil.

92. The delegation of The Netherlands mentioned the problems they had met when exporting leafy vegetables, such as lettuce containing residues up to 100 mg/kg. Consequently their practices had been changed so that residues would not exceed 50 mg/kg. The delegation of Finland informed the Committee that Finland had set tolerances of 30 mg/kg for fresh fruits and vegetables, 200 mg/kg for spices and 50 mg/kg for other foodstuffs.

93. The Committee was informed that the JMPR was proposing re-evaluation of inorganic bromide in 1983 and agreed that government comments at Step 6 should be sought after this re-evaluation.

LINDANE (No. 48)

Cocoa butter, Cocoa mass

94. The delegation of Switzerland indicated that it had supplied residue data to the JMPR as requested by the CCPR, justifying reduction of the proposed MRLs of 1 mg/kg. In this respect the Committee noted that the MRLs of 1 mg/kg had been based on residue data from GAP in the producing countries and that monitoring data could not be used to reduce MRLs.

95. The Committee was informed by the delegations of the United Kingdom and Switzerland, that technical HCH was still being used in certain countries and that this use appeared to be increasing. This was attributed to the need for cheap and effective pesticides, such as mixed isomers of HCH and other organochlorines, in some countries. The delegation of the Federal Republic of Germany pointed out that the presence of beta-HCH and other isomers in food and human milk provided proof of such uses and was causing difficulties in trade apart from causing health concern.
The delegation of Argentina indicated that beta-HCH was found in human milk in that country although there had been a decrease in the ratio of this isomer to other isomers. Other sources of HCH isomers, particularly beta, in human milk were stated to be lanoline used in cosmetic preparations, and tallow etc. used in animal feed resulting in a concentration of residues in food of animal origin.

The Committee was informed that the recommendation of the CCPR that countries should make serious attempts to replace technical HCH with alternative pesticides had been communicated to Codex Coordinating Committees. The Coordinating Committee for Africa had suggested that a reduction in the use of the technical material should be seen as needing a co-ordinated effort by the competent ministries responsible for the use of pesticides in agriculture and vector control.

96. The opinion was expressed by the delegation of The Netherlands that this problem should be dealt with at the international level through technological and economic assistance (see also para 217). The representative of WHO indicated that some toxicological information on beta-HCH was available.The delegations of Switzerland and the United Kingdom requested WHO to make this information available to them.

97. The Committee decided to advance the MRLs for cocoa butter and cocoa mass to Step 8.

METHIDATHION (No. 51)

Mandarins

98. The delegation of Finland indicated that of 2000 consignments examined only 26 contained methidathion residues above 2 mg/kg and that they, therefore, concluded that the MRL of 5 mg/kg was too high.
The delegation of Italy also expressed the opinion that the MRL was too high and that the toxicology of the pesticide should be clarified. The delegation of the Federal Republic of Germany expressed concern because no no-effect-level had been demonstrated for liver effects in dogs. The delegation of Canada expressed the opinion that the JMPR should be requested to re-evaluate the pesticide. It indicated that a mouse study by IBT was available which had not previously been submitted to the JMPR. The delegation of Switzerland indicated that new studies were in course of completion by the company concerned and would be made available to the JMPR.

99. The representative of WHO informed the Committee that the ADI for methidathion had been based on human studies although a 2-year dog study had been used to establish the no-effect level.
Only one acute toxicity study from IBT had been used in the evaluation. There was no reason to refer any new studies to the JMPR unless a government submitted the data and expressed concern about the compound. Following a discussion of the need or otherwise to refer the results of the new studies to the JMPR, the Committee noted the formal request of the delegation of the Federal Republic of Germany that such new studies be considered by the JMPR. The Federal Republic of Germany undertook to transmit the data if made available and with the consent of the company to the JMPR. The Committee agreed, however, to ask the JMPR whether a further toxicological evaluation should be carried out in the light of the data to be submitted.

100. The Committee discussed whether the MRL of 5 mg/kg should be advanced in the Procedure. The delegation of Australia expressed the opinion that an MRL of 2 mg/kg would result in an unacceptable rejection rate, pointing out that the proportion of rejections mentioned by the delegation of Finland had had very serious financial consequences. This was quite unacceptable, especially since there were virtually no detectable residues in the fruit pulp.
The delegation of Israel informed the Committee that if low volume sprays were used on mandarins and other Citrus fruits an MRL of 5 mg/kg was essential.

101. The Committee decided that the Commission be requested to advance the MRL to Step 6 for further comments.

PARAQUAT (No. 57)

Sunflower meal, Sunflower oil

102. At the request of the representative of WHO, the Committee agreed that information should be gathered to see if new toxicology studies were needed, as the 1981 JMPR had not been able to evaluate the existing data. It was, therefore, decided to send both proposals to Step 8 of the Procedure and to recommend to the Commission that they be held with the other MRLs at that Step until the information asked for is available.

THIABENDAZOLE (No. 65)

Strawberries

103. The Committee noted that the 1981 JMPR had recommended an increased MRL of 3 mg/kg. As it was felt that more toxicological information was needed before a decision could be made, it was decided to return the 1981 recommendation to Step 6 of the Procedure.

Tomatoes

104. More information was needed concerning possible toxicological consequences of the proposed MRL of 2 mg/kg.
The proposal was advanced to Step 5 of the Procedure noting that this would allow opportunity for comments.

TRICHLORFON (No. 66)

Apples

105. The delegation of The Netherlands was of the opinion that there was a need for an MRL of 2 mg/kg on late varieties of apples. It was decided to advance the proposals to Step 8 of the Procedure. Several delegations were of the opinion that an MRL of 1 mg/kg would be sufficient.

CYHEXATIN (No. 67)

106. It was noted that the 1981 JMPR had converted the TADI to an ADI at the same level. The Canadian delegation remarked that the residue definition adopted in their country included dicyclohexyltin oxide and cyclohexyltin hydroxide oxide, but not other organotin degradation products. The Committee noted that

(1) The Working Group on Methods of Analysis would be making suggestions concerning the expression of the residue;
(2) a change in the definition of the residue would require a reconsideration of MRLs;
(3) the residue definition of azocyclotin included cyhexatin, but that of cyhexatin did not include azocyclotin.

The representative of FAO suggested that the JMPR should be asked to consider these points at a future meeting.

Peaches

107. The delegation of the United States of America informed the Committee that an MRL of 4 mg/kg was needed in their country, because of the use of concentrated sprays. They would attempt to supply data to the JMPR. It was decided to keep the proposal of 2 mg/kg at Step 7 of the Procedure.

Plums

108. The Committee considered the recommendation of the 1980 JMPR of 2 mg/kg. Several delegations were of the opinion that 1 mg/kg would be adequate.
The delegation of the United Kingdom suggested that the JMPR needed more information, as only limited data were available. At the request of the

Chairman, the Australian delegation promised to provide additional data. It was agreed to keep the proposal at Step 7 of the Procedure.

Strawberries

109. The proposal of 2 mg/kg was thought to be unnecessarily high by the delegation of the Netherlands, while the United States of America preferred a level of 3 mg/kg. It was decided to keep the proposal at Step 7 of the Procedure.

Beans

110. The delegation of The Netherlands was of the opinion that the proposal of 0.5 mg/kg was not sufficiently supported by the data in Table 1 of the 1978 Evaluations, which indicated that 0.2 mg/kg was sufficient. It was decided to keep the proposal at Step 7 of the Procedure.

DEMETON-S-METHYL (No. 73)

111. The Committee was informed that this compound belonged to the group of demeton-related compounds, in the evaluation of which IBT data were involved. The compounds were scheduled for consideration by the 1982 JMPR in order to see what action should be taken.
It was agreed to reconsider the proposals in the light of the outcome of the JMPR study and that Step 6 government comments should not be sought before then.

112. The delegation of The Netherlands objected against the proposed MRLs owing to a possible risk to animals from fodder containing residues at the proposed levels.
The delegation of Mexico preferred a limit of 2 mg/kg for sorghum fodder.

Turnip leaves

113. The Secretariat was requested to present the proposal for turnip leaves in such a way that it would be clear that it applied only to turnip leaves as animal feed and not to turnip greens intended for human consumption.

DISULFOTON (No. 74)

Alfalfa (hay), Clover (hay)

114. The Committee decided to advance the MRL of 10 mg/kg for alfalfa (hay) and clover (hay) to Step 8 of the Procedure.
The delegation of France indicated that levels of 10 mg/kg of disulfoton in animal fodder would result in the ingestion of pesticide by livestock in excess of the no-effect level.

115. The delegation of The Netherlands expressed the opinion that MRLs for disulfoton, which was related to demeton, should be held pending clarification of IBT data on demeton. Noting, however, that the 1981 JMPR had not based its evaluation of disulfoton on IBT studies and that the metabolites of disulfoton could be expected to have been cleared together with the parent compound, the Committee agreed that MRLs for this pesticide should be advanced to Step 8 in the Codex Procedure, and that the Commission should be requested to submit the other MRLs held at Step 8 to governments for acceptance.

PROPOXUR (No. 75)

Cocoa beans

116. As the proposed MRL was withdrawn by the 1981 JMPR it was agreed that it should be deleted.

THIOMETON (No. 76)

Egg plants, Mustard seed, Rape seed

117. The Committee decided to recommend that Steps 6 and 7 be omitted.

CHLOROTHALONIL (No. 81)

118. Attention was drawn to the extension of the TADI until 1983 at a lower level of 0.005 mg/kg body-weight by the 1981 JMPR. Data on use patterns were received too late for evaluation but will be considered by the 1983 JMPR.

Raw cereals, Grapes

119. Delegates felt that in the light of the new TADI they needed to reconsider the proposals. The Commission was requested to submit the proposed TMRLs to Governments for comment at Step 6.

DICHLOFLUANID (No. 82)

Blackberries

120. As the proposal was changed by the 1981 JMPR delegates had not yet had an opportunity to study the new proposal of 10 mg/kg. The proposal was returned to Step 6.

Eggplant

121. The proposal was kept at Step 7, awaiting data to be made available to the JMPR by The Netherlands.

FENAMIPHOS (No. 85)

122. The Committee noted that the Commission, at its 14th Session, had held MRLs for fenamiphos at Step 8. It was noted that the toxicological evaluation by the JMPR had not depended on IBT data. It was agreed to request the Commission to send the MRLs held at Step 8 to governments for acceptance.

Kiwi fruit

123. As it was understood that the proposed MRL of 0.05 mg/kg (see 1980 JMPR report) was at or about the limit of determination, the Committee decided to advance the MRL to Step 5 and recommended that Steps 6 and 7 of the Procedure be omitted.

PIRIMIPHOS-METHYL (No. 86)

Kiwi fruit

124. The Committee was informed that a tolerance of 5 mg/kg was being proposed in the United States of America and that it would include additional metabolites. The Commission was requested to advance the proposal to Step 6 of the Procedure.

Pears, plums

125. It was noted that the proposed MRLs had already been advanced to Step 8 by the Commission at the previous Session.

sec-BUTYLAMINE (No. 89)

126. The Canadian delegation had provided a document raising some toxicological questions about the proposals for this compound. In the light of these questions the delegation entered a reservation concerning the proposed MRLs pending clarification of the matter.

Citrus molasses

127. Because the ADI will be temporary until at least 1984 it was agreed that the proposed TMRL of 50 mg/kg should be advanced only to Step 7 of the Procedure. It was noted that allocation of an ADI would allow the proposal to proceed without further consideration by the Committee on the basis of another round of comments.

The delegation of the United States of America reaffirmed its view that a 90 mg/kg limit was more appropriate on the basis of data which had already been evaluated by the JMPR.

Dried Citrus pulp

128. As the 1980 JMPR had proposed an increase of the MRL to 100 mg/kg, this new proposal was returned to Step 6 of the Procedure to allow further comments.

CHLORPYRIFOS-METHYL (No. 90)

Meat, fat and byproducts of Cattle and Chicken, Eggs

129. The Committee recommended that Steps 6 and 7 be omitted.

CYANOFENPHOS (No.91)

Cabbage

130. The representative of WHO informed the Committee that new data concerning the toxicology of cyanofenphos would be presented soon. It was, therefore, decided to retain the TMRL of 2 mg/kg at Step 7 of the Procedure and agreed that this limit should be submitted by the Secretariat to the Commission at Step 8 as soon as the ADI for cyanofenphos has been confirmed by the JMPR.

ACEPHATE (No. 95)

131. The Committee noted that the safety evaluation of this pesticide had been based on data generated by IBT. The compound had been scheduled for examination by the 1982 JMPR to see what action was required. The Committee decided to retain all the proposals for this compound, except those for potatoes and sugar beet, at Step 7 of the Procedure and agreed that they should be submitted by the Secretariat to the Commission at Step 8 as soon as the ADI has been confirmed by the JMPR.

Potatoes, Sugar beet

132. As the proposals were lowered by the 1981 JMPR, the new proposals were returned to Step 6 to allow governments to comment.

Cabbage, Cauliflower, Brussels sprouts

133. The delegation of The Netherlands expressed its reservations on these proposals.

METHAMIDOPHOS (No. 100)

134. A number of countries had replied to the request to provide data on the current use patterns of the compound, but more information was needed. The Committee agreed to ask governments again to supply the required data to the JMPR. It was noted that the safety evaluation of this compound had been based on data generated by IBT. The compound had been scheduled for examination by the 1982 JMPR to see what action was required. The proposals, except those for lettuce and broccoli, were therefore kept at Step 7.

Broccoli, Lettuce

135. It was agreed to return the proposals as amended by the 1981 JMPR to Step 6 for government comments.

PIRIMICARB (No. 101)

Beans (with pod)

136. The Committee noted that the JMPR at its 1979 meeting had recommended an TMRL of 1 mg/kg for beans (with pod) to replace the Codex MRL of 0.5 mg/kg for beans. It also noted that the TMRL recommended by

the JMPR was acceptable to governments and recommended that it should be advanced in the Codex Procedure.
However, as the compound had a temporary ADI, the Committee proposed that the TMRL should be submitted by the Secretariat to the Commission at Step 8 when the JMPR allocates a firm ADI.
It was noted that the commodity should be described as "beans", not "beans (with pod)".

MALEIC HYDRAZIDE (No. 102)

Onions, Potatoes

137. The Committee noted that governments had not been invited to comment on the recommendations for temporary MRLs for maleic hydrazide in the 1980 JMPR report and expressed the opinion that it could not come to any decision regarding the TMRLs for onions and potatoes in the absence of further comments.
The Committee asked the Secretariat to request comments through a circular letter and agreed to consider the subject at its next Session.
It learnt that an extensive monograph covering aspects of the toxicity and chemistry of the pesticide[1] is under preparation in the United States of America and suggested that this monograph when ready for circulation should be made available to the JMPR for review.

PHOSMET (No. 103)

138. The Committee noted that "TMRL" in document CX/PR 82/2 should read "MRL".

Apples, Apricots

139. The Committee noted that new MRLs of 10 and 5 mg/kg respectively were recommended by the 1981 JMPR. It returned the new proposals to Step 6 to allow comments on them from governments.

Blueberries, Citrus fruit

140. The Committee advanced the MRL of 10 mg/kg for blueberries and 5 mg/kg for Citrus fruit to Step 8.

Cranberries

141. The Committee noted that the MRL of 5 mg/kg had been amended by the 1981 JMPR to 10 mg/kg. It asked governments to comment on the new MRL at Step 6.

Cattle carcase meat

142. The Committee advanced the MRL of 1 mg/kg on a fat basis for carcase meat to Step 8. The United States of America reserved its position.

Forage crops (dry)

143. The delegation of the United States informed the Committee that the MRL of 5 mg/kg was too low for good agricultural practice in the United States of America and that USA tolerance level of 40 mg/kg covered both fresh and dry forage.
The Committee advanced the MRL of 5 mg/kg for forage crops (dry) to Step 8.

Grapes

144. The Committee noted that the MRL of 5 mg/kg for grapes had been amended to 10 mg/kg by the 1981 JMPR. It returned the new MRL to Step 6.

[1] The Biologic/Economic Assessment of Maleic Hydrazide

Maize, Peas (fresh or dried), Potatoes, Sweet Potatoes, Tree nuts

145. The Committee advanced the MRLs for all the above crops to Step 8. There was some discussion on whether the MRL for sweet potato should be accompanied by the specification "product washed before analysis". The Committee was reminded that it had decided to include this wording at an earlier session and also noted that the JMPR had discussed this question and had expressed its opinion that variability in the residue content was too great if the sweet potatoes were not well washed. The Committee agreed to retain the wording "product washed before analysis".

Nectarines, Peaches, Pears

146. The Committee noted that the MRLs for the above crops had been amended by the 1981 JMPR. It asked comments from governments on the new MRLs at Step 6.

Milk, Milk products

147. The Committee discussed the MRL for milk, currently 0.01 mg/kg. It expressed its opinion that the level of 0.02 mg/kg would be nearer the limit of determination. It noted that the MRL of 0.01 mg/kg had been derived by dividing the MRL of 0.2 mg/kg on a fat basis by 25 and rounding off.
There was some discussion on whether the limit of determination in milk would now be lower owing to improved methods of analysis. The Committee agreed to refer the problem to the Working Group on Methods of Analysis. The Committee noted that data on residues resulting from the treatment of cattle to control warble fly could be interpreted as indicating the need for a higher MRL. The Commmittee understood however, that the JMPR had taken the view that a higher MRL was unnecessary because milk from recently treated animals would always be diluted with milk from those treated less recently or not at all. The Committee agreed to keep it at Step 7 and to refer this question to the Working Group on Methods of Analysis.

Kiwi fruit

148. The Committee recommended to the Commission that Steps 6 and 7 be omitted.

DITHIOCARBAMATES (No. 105)

149. The delegation of The Netherlands, referring to their written comment, expressed their opinion that levels of ethylenebisdithiocarbamates (EBDC) above 0.5 mg/kg were not acceptable in commodities which were normally cooked before consumption, as this corresponded to a level of about 0.1 mg/kg ETU after cooking. In order to accommodate a limit of 0.5 mg/kg, expressed as CS_2, it might be necessary to change agricultural practices.
In the light of the ETU question, they considered it necessary to differentiate between EBDCs and the other dithiocarbamates. Methods of analysis distinguishing residues of EBDCs from those of thiram and dimethyldithiocarbamates (DMDCs) were now available. MRLs should, therefore, be established on the basis of both CS_2 and on the basis of 1,2 bis-(pentafluorobenzamido)ethane for all commodities which were normally cooked and for which the MRL on the basis of CS_2 exceeded 0.5 mg/kg.
MRLs for 1,2 bis-(pentafluorofenzamido)ethane should not exceed 1 mg/kg. They added that they were not concerned so much about levels of ETU at harvest as about ETU formed during cooking.
The delegation of the United Kingdom said that proposed MRLs for most commodities that were normally cooked were already at or below 0.5 mg/kg. Although they agreed that analytical differentiation between the different classes and even between individual compounds was desirable, the methods of analysis proposed by The Netherlands were not well

advanced at the moment.
The delegation of France questioned the toxicological necessity of distinguishing between the different classes of dithiocarbamates, as this would increase the cost of control and was probably not necessary to protect the health of the consumer.
The delegation of the Federal Republic of Germany also preferred MRLs to be expressed as CS_2 for the time being.
The Secretariat indicated that, as some of the dithiocarbamates had temporary ADIs, the proposals would have to be retained at Step 7 and suggested that further work on these compounds and on methods of analysis should be initiated. Attention was drawn to the further work listed as required and desirable in the Report and Evaluations of the 1980 JMPR.
The representative of WHO indicated that during the last five years essential toxicological data which had previously been lacking, despite very widespread use of the compounds, had been provided. He was aware of some additional studies being carried out to satisfy the toxicological requirements for thiram listed in the report (para 4.14).
The delegation of Finland informed the Committee that a joint Scandinavian toxicological evaluation was in progress. A symposium would be held in June 1983 and data would be made available for the re-evaluation by the JMPR scheduled for 1983.
The delegation of the United States of America reserved its position on all proposals but did not anticipate major trade problems with residues in commodities at the proposed levels, with the possible exception of celery, currants and grapes, provided the limit for each commodity referred to the total dithiocarbamate residue.
The delegation of Finland said that a very large proportion of the intake of about 10 mg/kg per person per year was due to imported foodstuffs.
For reasons of relatively high intake and the toxicity of the metabolites the delegation of Finland reserved its position on all proposals.
The Committee decided to keep all proposals at Step 7.

Lettuce

150. The delegation of France pointed to the need of a higher limit for the protection of this crop. Taking into account the 50% decrease of the residue by washing a figure of 4 mg/kg would seem acceptable. It was indicated that data available at the 1979 JMPR justified a level of 1 mg/kg. The delegation of France was invited to supply data supporting a higher level.

ETHIOFENCARB (No. 107)

151. The Committee noted that the 1981 JMPR had reviewed data on beans and sugar beets which supported existing proposals. As the Committee was of the opinion that additional comments were needed, it was agreed to return the proposals to Step 6 of the Procedure.

FENBUTATIN OXIDE (No. 109)

Grapes

152. The delegation of the United States of America informed the Committee that in their country a tolerance of 5 mg/kg on grapes had been established, but that this tolerance included organotin metabolites. The contribution of metabolites to residues in plants amounted to less than 5% of the total.
The delegation of The Netherlands was of the opinion that the proposed figure was derived from residue trials in which fenbutatin oxide had been applied at excessive rates. In their opinion an MRL of 2 mg/kg would suffice.
The Swiss delegation informed the Committee that in their country the tolerance for all fruit was 1.5 mg/kg.

The Federal Republic of Germany had a tolerance of 4 mg/kg (excluding metabolites) for grapes.
The Committee agreed with the view of the delegation of the United Kingdom, that the comments showed that GAP in some countries required an MRL of 5 mg/kg, and agreed to recommend the omission of Steps 6 and 7 of the Procedure.

PROPARGITE (No. 113)

153. The delegation of Canada informed the Committee that most of the questions relating to IBT studies for this compound had been solved. The remaining questions related to occupational exposure.

Apples, Pears

154. The delegation of the Federal Republic of Germany thought that an MRL of 3 mg/kg would be adequate for pome fruit. The delegation of Finland preferred 2 mg/kg. It was decided not to amend the proposal of 5 mg/kg.

Milk (fat), Milk (whole)

155. As it was preferable to have only one entry for milk it was decided to delete the proposal for milk (fat). It was noted that the retained TMRL should refer to "milk", not "milk (whole)".

Tea

156. The delegation of the United States of America undertook to provide information to the JMPR in support of an increase of the MRL to 10 mg/kg. The proposal was kept at Step 7 pending review of further data by the JMPR.

157. The Committee agreed that all proposals with the exception of tea would remain at Step 7 of the Procedure owing to the temporary nature of the ADI, but agreed that they should be submitted by the Secretariat to the Commission at Step 8 as soon as the ADI had been confirmed by the JMPR.

TECNAZENE (No. 115)

158. The Committee concluded that the only direct use of the pesticide was on potatoes: it was not used on the other crops for which the MRLs were at Step 6 listed in the document CX/PR 82/2.
The use of the pesticide on potatoes was the only one that emerged from the questionnaire on GAP in the use of pesticides circulated by Canada. The Committee was, however, informed that the pesticide was used for soil treatment and that residues in chicory, lettuce, tomatoes and other vegetables resulted indirectly from this soil treatment.

Chicory (witloof), Tomatoes, Vegetables (except chicory, lettuce and potatoes)

159. The temporary MRLs were acceptable to governments and the Committee agreed to keep them at Step 7, in view of the temporary character of the MRL, but agreed that they should be submitted by the Secretariat to the Commission at Step 8 as soon as the ADI had been confirmed by the JMPR.

Potatoes

160. The Committee was informed that the United States of America had a tolerance of 25 mg/kg for tecnazene in potatoes not washed before analysis.
The Committee noted that the pesticide was used for the post-harvest treatment of potatoes, and that surface residues would be dependent on many factors including the skin structure and size of the potatoes, and would vary over a very wide range even within a single lot.

The Joint Meeting had no alternative but to propose a TMRL on washed potatoes. The United States of America informed the Committee that the extensive data available to JMPR supported a higher MRL than 1 mg/kg even for washed potatoes.
The Committee returned the temporary MRL of 1 mg/kg for washed potatoes to Step 6 and asked countries to investigate whether this figure could be supported.

Lettuce

161. The Committee kept the TMRL for lettuce of 2 mg/kg at Step 7 (see para 159). The delegation of Finland expressed their reservation and informed the Committee that 0.3 mg/kg would be acceptable to them.

ALDICARB (No. 117)

162. The Committee was informed by the delegation of the Federal Republic of Germany that they had to reserve their position on bananas because of gaps in the toxicological data supplied.

163. In the United States of America in 1979 an emergency aldicarb epidemiology study was carried out in the State of New York after suspected contamination of the drinking water supply owing to the use of aldicarb as a golden nematode control agent. There was no evidence of acute health symptoms associated with the consumption of contaminated drinking water or vegetables.

Potatoes

164. The Committee had received information on uses on potatoes for the control of nematodes from New Zealand, South Africa, the United States and The Netherlands. The delegations of the Netherlands and Canada informed the Committee that they had changed their agricultural practices to allow the establishment of lower MRLs (0.3 mg/kg in The Netherlands and 0.5 mg/kg in Canada). The delegation of The Netherlands indicated that their MRL was suitable also for early lifted potatoes. The delegation of the Federal Republic of Germany considered that a MRL of 0.3 mg/kg for potatoes would be adequate. As several delegations were of the opinion that no residues above 0.5 mg/kg could be accepted it was decided to change the proposed MRL to 0.5 mg/kg. The Commission was requested to advance this proposal to Step 6.

Citrus fruit

165. The delegation of the United States of America and the Federal Republic of Germany were of the opinion that an MRL of 0.3 mg/kg was required. The 1982 JMPR would review the data already submitted. The Commission was requested to advance the proposal to Step 6.

Milk

166. The delegation of The Netherlands, supported by the Federal Republic of Germany, proposed that the MRL should be increased from 0.002* to 0.01* mg/kg as this was a more realistic limit of determination. The delegation of the United States of America however stated that a limit of determination of 0.002* mg/kg had been validated by laboratory studies in their country.
Attention was drawn to the clarification of the JMPRs interpretation of "limit of determination" in the report of the 1981 Meeting. It was agreed to await the advice of the Working Group on Methods of Analysis. In view of their decision (see Appendix III, para 10) and the subsequent discussions (see para 227), the Committee agreed to amend the proposal to 0.01* and to request the Commission to advance it to Step 6.

Sugar beet leaves

167. The attention of the Committee was drawn to the classification number of this animal feed.

According to the delegation of The Netherlands, the number should be changed to A03.1614. The problem was referred to the Secretariat.

Other commodities

168. The Commission was requested to omit Steps 6 and 7 for all commodities except those mentioned in paras 164, 165 and 166.

CYPERMETHRIN (No. 118)

169. The Committee was informed that the TADI of 0.006 mg/kg body weight was converted to an ADI of 0.05 mg/kg body weight by the 1981 JMPR. The Canadian delegation mentioned their recent awareness of a mouse carcinogenicity study and asked for a re-evaluation when this study was made available to the JMPR. Meanwhile they reserved their position on this compound.
It was noted that the delegation of the Federal Republic of Germany reserved its position because of its need for further information on possible neurotoxicity.
The Committee was informed that this question had been addressed by the 1981 JMPR, which regarded it as having been satifactorily answered by studies in the rat.
The Commission was requested to advance all the MRLs to Step 6 of the Procedure.

Cottonseed

170. As the 1981 JMPR had changed the MRL from 0.1 to 0.2 mg/kg the Commission was requested to advance the new proposal to Step 6.

Grapes

171. The delegation of The Netherlands stated that according to the data in the 1979 Evaluations an MRL of 0.5 mg/kg would be sufficient, but it was noted that the data showed residues up to 0.7 mg/kg occurring after 13-17 days.
The delegation of Israel stated that an MRL of 1 mg/kg was needed in their country.

Kidney beans (without pods)

172. The observer from South Africa mentioned that the MRL of 0.1 mg/kg in their written comments referred to beans with pods and that the figure of 0.05 mg/kg proposed for beans (without pods) was, therefore, acceptable.

Lettuce

173. According to the delegation of The Netherlands an MRL of 1 mg/kg would be adequate because higher residues occurred only from excessive applications. The delegation of the United Kingdom, however, was of the opinion that the data presented supported the proposed MRL of 2 mg/kg.
The delegation of Finland reserved its position on the MRL since in its opinion 1 mg/kg would be satisfactory.

Peaches

174. The delegation of France informed the Committee that according to data obtained in France an MRL of 0.5 mg/kg would suffice.

Pome fruit

175. The delegations of France and The Netherlands were of the opinion that taking into account GAP data in the Evaluations an MRL of 1 mg/kg could be established.

Wheat

176. As it was mentioned in the 1979 Evaluations that no residue was found above 0.1 mg/kg, the delegation of The Netherlands considered that the figure of 0.2 mg/kg was unacceptable.

FENVALERATE (No. 119)

177. The Committee noted that the pesticide would be before the 1982 JMPR for review. The delegation of the Federal Republic of Germany reserved its position in view of the neurotoxicity of the pesticide which had not been fully cleared. The delegation of Canada informed the Committee that a 2-year dog study to evaluate the toxicity of the pesticide had been completed and expressed doubts whether the results of such a study had been made available to the JMPR.
The delegation of the Federal Republic of Germany indicated that its country would try to send data to the JMPR in support of an MRL for plums.
The Committee requested the Commission to advance all the temporary MRLs to Step 6.

Alfalfa

178. The Committee was informed that the TMRL of 20 mg/kg referred to alfalfa on a dry weight basis.

Broccoli, Brussels sprouts, Cabbage, Cabbage-Chinese, Cauliflower

179. The Committee agreed with the 1981 JMPR recommendation to consider the above vegetables as a group and to provide a group TMRL for brassica leafy vegetables.
The delegation of the United States of America informed the Committee that a registered use of 0.05 - 0.2 lb/acre and 3 days pre-harvest interval supported a TMRL of 10 mg/kg for cabbage. It expressed its reservation on an acceptance of 2 mg/kg and agreed to make data available to the JMPR.

Cereal grains

180. The delegation of France expressed the opinion that adoption of a TMRL of 5 mg/kg for cereal grains would result in non-acceptance of the similar TMRL for the bran. A figure of 2 mg/kg would be acceptable to France. The Netherlands informed the Committee of its desire to study the grain protectant and reserved its position.

Animal fats

181. The delegation of the United States of America indicated that the proposed TMRL of 0.2 mg/kg was too low to accommodate the United States tolerance for apple pomace used for animal feed.

Peaches

182. The Committee noted that the 1981 JMPR had amended the proposed TMRL to 5 mg/kg.

Pome fruits

183. The TMRL of 2 mg/kg was acceptable to the delegation of the United States of America with respect to apples and pears.

Peanuts

184. The Committee noted that the TMRL referred to whole nuts and agreed that peanuts should be qualified by "whole".

Small fruits and berries

185. The delegation of the Federal Republic of Germany informed the Committee that a TMRL of 2 mg/kg would be justifiable and agreed to send data, if available, to the JMPR.

Soybeans

186. The Committee was informed of a possible transcription error in the TMRL of soybeans and asked the Secretariat to look into this matter.

Squash, Sweet corn

187. The Committee noted that the 1981 JMPR had amended the proposed TMRLs for squash and sweet corn to 0.5 and 0.1 mg/kg.

Potatoes, Radishes, Sugar beets

188. The Committee noted that the 1981 JMPR had replaced the TMRL of 0.05 mg/kg for these commodities by a TMRL for "root and tuber vegetables" at the same level.

PERMETHRIN (No. 120)

189. The delegation of The Federal Republic of Germany informed the Committee that none of the TMRLs could be accepted for the time being, owing to the lack of toxicological data.
The Swedish delegate informed the Committee that in Sweden studies had taken place on fenvalerate in 1979 and on permethrin in 1980 and 1981, the latter on dermal exposure. The studies, on forestry workers, indicated that both compounds give rise to similar symptoms in man.
The Commission was requested to advance the proposed TMRLs of the various commodities included in the following paragraphs to Step 6 for further comments.

Cabbage

190. It was proposed to combine cabbage, Chinese cabbage and Savoy cabbage under the description "cabbage". The Secretariat indicated that such a commodity group did not exist within the classification system.
The delegation of The Netherlands regarded a TMRL of 2 mg/kg as sufficient as it was in conformity with GAP.

Cottonseed oil

191. The delegate of Israel wondered why the TMRL of 0.1 mg/kg proposed for permethrin differed from that proposed for cypermethrin (0.2 mg/kg). Also they raised the question why the figures for cottonseed (0.5 mg/kg) and cottonseed oil (0.1 mg/kg) were different, taking into account that the residue would be present in the oil phase. For cypermethrin the same figure (0.2 mg/kg) was specified for cottonseed as well as for cottonseed oil.
The Chairman supposed that the different limits for the two compounds in cottonseed oil could depend upon whether the oil was crude or refined.
The Secretariat undertook to look into this matter.

Egg plants

192. The Australian delegation was of the opinion that the figure of 1 mg/kg could be an error, because the data justified a figure of only 0.1 mg/kg. It was pointed out that as few data on egg plants were available to the 1979 JMPR, the more extensive data on related crops were taken into account resulting in an estimate of 1 mg/kg.

Gherkins

193. The Committee noted that the 1981 JMPR had proposed a new TMRL of 0.5 mg/kg instead of 0.1 mg/kg. It was agreed that comments should be requested on the new figure.

Grapes

194. The Canadian delegation informed the Committee that residue data in support of a TMRL of 2 mg/kg had recently been sent to the JMPR.

Kale

195. The Committee noted that the 1981 JMPR had proposed a TMRL of 5 mg/kg instead of 2 mg/kg. It was agreed that countries should be requested to comment on the new proposal.

Leeks

196. The delegations of France and The Netherlands were of the opinion that 1 mg/kg would be sufficient.

Lettuce

197. The Committee noted that the 1979 JMPR had recommended a TMRL of 20 mg/kg. The French delegation wondered why the figure was ten times the MRL of cypermethrin. It was pointed out that most of the residue was in the wrapper leaves of the product. The Canadian delegation informed the Committee that in Canada the MRL was 1 mg per kg for trimmed lettuce. This was probably compatible with a limit of 20 mg/kg for untrimmed lettuce. After discussion it was agreed to ask the JMPR to reconsider this subject, especially with respect to the pre-harvest interval. The delegation of the United Kingdom offered to send data for evaluation by the 1982 JMPR.

Oranges

198. The Committee noted that the 1981 JMPR had replaced the TMRL by a limit for Citrus fruits at the same level; this was currently at Step 3.

Soybean oil

199. The Committee was informed that the 1981 JMPR had noted that the 1979 JMPR had proposed a TMRL of 0.1 mg/kg.

Squash

200. The Committee noted that the 1981 JMPR had made a new proposal for a higher figure (0.5 mg/kg) concerning this commodity. It was agreed that countries should be asked to make comments on the new figure.

2,4,5-T (No. 121)

Various commodities

201. The Committee noted that the 1981 JMPR had converted the TADI of 0.003 mg/kg body weight to an ADI of 0.03 mg/kg body weight.
The delegation of The Netherlands pointed out that the inclusion of rice straw in the group "cereal straws" necessitated setting a figure of 2 mg/kg which otherwise could have been set at a lower level. The delegation suggested that this matter should be reconsidered by the JMPR.
The delegation of the United Kingdom indicated that even without the residue data for rice straw it would be advisable to set an MRL at 2 mg/kg to accommodate occasional higher residues.
Noting that even much higher residues than 2 mg/kg in animal fodder did not cause detectable levels in animal products, the Committee decided to recommend to the Commission the omission of Steps 6 and 7.

Consideration of Maximum Residue Limits included in the 1980 Report of the JMPR.

202. The Committee noted that governments had been invited to comment on the 1980 report and the MRLs contained therein at Step 3 of the Procedure (see CL 1981/42).
In view of the fact that the Evaluations arising from the 1980 JMPR had only recently been distributed to Codex Contact Points and other interested persons, the Committee decided to consider the MRLs at its next Session.

Action to be taken on MRLs where the ADI had been supported by IBT data

203. The Committee was informed of the status of pesticides affected by IBT studies as given in ALINORM 81/39, para 225, vis-à-vis the decisions of the 1981 JMPR.
The delegation of Canada informed the Committee that a number of other pesticides not included in this document, which were affected by IBT studies, were being re-evaluated in relation to both occupational hazards and food residues, and brought to the attention of the Committee the News Release 1982-87, dated May 6, 1982, Health and Welfare Canada, which contained such information.

204. The delegation of the United States of America made suggestions on the action to be taken on pesticides whose evaluation was based on data from IBT;
(1) A decision to hold or otherwise consider Codex MRLs or draft MRLs, should be made on the basis of the 1981 JMPR Report.
(2) No action should be taken on Codex MRLs (i.e. those at Step 9) pending the outcome of the deliberations of the 1982 and possibly subsequent meetings of the JMPR.
(3) No further MRLs in addition to those already held by the 14th Session of the Commission at Step 8 should be held at that step on the basis of the quality of toxicological data.

CONSIDERATION OF THE REPORT OF THE AD HOC WORKING GROUP ON REGULATORY PRINCIPLES

Questionnaire on National Pesticide Regulatory Systems

205. The Committee considered the report of the Ad Hoc Working Group on Regulatory Principles (see Appendix VI to this report) and documents CX/PR 82/15 and a tabular summary prepared by the United Kingdom. The Chairman of the ad hoc Working Group (Mr. J. Wessel, United States of America) introduced the report of the Working Group. He indicated that replies from 48 countries had been received to the questionnaire (see CX/PR 82/15) on the basis of which the Working Group had identified a number of factors influencing the acceptance of Codex MRLs. It appeared that matters of policy and attitudes in the application of national laws, as well as the laws themselves, represented obstacles to acceptances. The Working Group had recommended that guidelines on regulatory practices should be drawn up as a means of facilitating acceptances. In addition the Working Group had considered a tabular summary of government replies prepared by the United Kingdom. The Working Group had considered this summary very useful and had recommended to the Committee that it accept the offer of the United Kingdom to up-date the summary periodically and to distribute it to Codex members.

206. The Committee agreed with the recommendations of the Working Group concerning the preparation of guidelines on regulatory practices and the periodical up-dating of the United Kingdom summary document, noted that the Chairman of the Working Group would prepare the first draft of the guidelines in collaboration with members of the Working Group, and agreed that the guidelines should be considered at the next Session. The Commmittee also agreed that those countries that had not replied to the questionnaire should be requested to do so promptly.

Glossary of terms for use by the CCPR

207. The Committee was informed by the Chairman of the Working Group that the Group had considered revised and new definitions of terms for the purposes of the CCPR (CX/PR 82/16) and had concluded that it would be desirable to request governments to comment on the terms so that they could be finalized at the next Session.

208. The Committee had a brief discussion on the need for, and consequences of, developing such a glossary. As regards the definition of contaminants it was noted that the Codex definition (see Procedural Manual, 5th Ed.) already included environmental contaminants. The need for a new definition of contaminants was, therefore, questioned.
The delegation of Australia expressed the opinion that a definition of environmental and industrial contaminants could be developed. In this connection the Committee noted that the Codex Committee on Food Additives had also considered certain types of such contaminants and that it would, therefore, be preferable to develop any definition in consultation with that Committee.
It was also noted that new definitions and any changes proposed to existing Codex definitions as a result of this work, would be referred to the Commission for adoption.

209. It was agreed that the Chairman of the Working Group should prepare a revised glossary of terms on the basis of comments for the next Session as outlined in the report of the Working Group (see Appendix VI).

Appointment of an Ad Hoc Working Group on Regulatory Principles

210. The Committee thanked the Chairman and members of the ad hoc Working Group and decided to set up a new ad hoc Group with the same membership as before and under the Chairmanship of Mr. J. Wessel (United States of America).

CONSIDERATION OF THE REPORT OF THE AD HOC WORKING GROUP ON SAMPLING

211. The Committee considered the report of the Ad Hoc Working Group on Sampling (see Appendix IV to this report) which was introduced by Mr. J.A.R. Bates (FAO), Chairman of the Working Group. It also considered Appendix III, ALINORM 81/24 containing a document "Portion of Commodities to which Codex Maximum residue limits apply and which is analysed" in the light of comments at Step 6 (CX/PR 82/14).

Portion of the commodity to which Codex limits apply and which is analysed

212. The delegation of Spain, stressing the importance of the international trade in Citrus fruit, stated that they did not agree with the expression of MRLs on the whole fruit for fruit which had an inedible peel. Most pesticides used on Citrus fruit did not penetrate into the edible part.
In the exceptional cases where the skin was consumed, this was normally only after cooking. The peel of certain species such as tangarines was not used in making marmalade, jellies etc. and was not consumed. They proposed that at least for mandarins and tangerines MRLs be established on the edible portion.
They indicated furthermore that although Codex had recommended MRLs which reflected adequate agricultural practice, several importing countries and international organisations had established MRLs at a much lower level. This, of course, caused great problems in international trade without giving any increased protection to the health of the consumer.
It was pointed out in the following discussion that the peel of mandarins and tangerines was eaten in processed foods. The delegation of Israel, whilst recognising problems that could arise in international trade, said that many Citrus varieties might be eaten or processed to edible commodities with the peel. They also stressed the difficulties of dividing Citrus fruit into two groups with different bases for the MRL owing to the many hybrid varieties.It suggested the establishment of additional MRLs for the edible part and for juice.
The delegations of the Federal Republic of Germany, Thailand and Canada supported the establishment of MRLs both for the whole fruit and for the edible portion.

It was reiterated that there was wide agreement that as far as possible MRLs should apply to commodities as they moved in international trade. In cases where the fruit moved in unpeeled and in peeled (e.g. pulped) form, it might be necessary to have two MRLs.
It was argued that if MRLs were set both on the whole fruit and the edible portion, the product would have to comply with both limits and, therefore, the problems outlined by the delegation of Spain would not be resolved.

213. Delegations whose countries had data available on good agricultural practice which showed the need for higher MRLs for certain pesticides on Citrus were invited to supply them to the JMPR. It was also indicated that data on the edible portion were indispensable. Dissemination of this information by appropriate means could facilitate acceptance.
The delegate of Australia, supported by the delegation of Spain, said that several exporting countries were in a very difficult situation because a number of importing countries had not accepted Codex MRLs resulting from GAP. He recognized the need for producing countries to regulate carefully the use of pesticides and to ensure that good agricultural practices were followed.
The correct solution to the problems encountered however was that importing countries should change their legislation, since in most cases the residue is mainly in the peel. Neither the setting of MRLs for the pulp of a limited number of Citrus fruits, nor the setting of MRLs for both pulp and whole fruit would be satisfactory. MRLs should continue to be set for the whole fruit.
The Committee noted the extreme importance of making clear in the published documents of the JMPR that residues in Citrus fruits were virtually entirely in the peel and that a high MRL for the whole fruit was wholly consistent with the protection of the consumer.

214. It was decided to advance the document included as Appendix VIII to this report to Step 8 of the Procedure.

Establishment of an Ad Hoc Working Group on Sampling

215. The Committee thanked the Working Group on Sampling and its Chairman for their contribution to this Session. A new ad hoc Working Group was appointed, under the Chairmanship of Mr. J.A.R. Bates (FAO) and with the same membership as the outgoing Group, to continue with the proposed work until the end of the next Session.

CONSIDERATION OF THE REPORT OF THE AD HOC WORKING GROUP ON PESTICIDE RESIDUE PROBLEMS IN DEVELOPING COUNTRIES

216. The Committee had before it the Report of the ad hoc Working Group on Pesticide Residues Problems in Developing Countries (Appendix V). The Report was introduced by Dr. M.A. Martinez (Mexico). In introducing the report of the Working Group, he drew the attention of the Committee to the replies to the questionnaire on pesticide residue analysis and evaluation and manpower development which was sent to developing countries, and to the proceedings of a meeting held in Mexico on "Adequate Pesticide Use" in March 1982. These activities represented an effort by a region in the developing world to deal with the pesticide problems that faced it.
Delegations from four developing countries, Argentina, Uruguay, Ecuador and Chile, made statements (See Annex 1 to Appendix V) highlighting new work which they had embarked upon in connection with pesticide residue analysis and regulations and on problems facing them in international trade.

217. The delegation of Switzerland welcomed the idea of the development of a Code of ethics for international trade in pesticides and their marketing and use in developing countries.

As far as the use of pesticides was concerned, the Swiss delegation hoped that the Code, which should also cover chemicals manufactured in developing countries, would contribute to the control of the use of chemicals, such as technical HCH, which, as repeatedly stated and recently substantiated by analytical findings, could result in high levels of toxic and persistent residues in fresh milk and other foods. The delegation of Australia, while noting that the statement of the delegation of Switzerland was technically correct, expressed the opinion that it should be considered in the light of conditions prevailing in the developing countries. In many of these countries the food situation was desperate and the supply of appropriate pesticides far from satisfactory. These countries in addition, suffered from a shortage of foreign exchange and of food to satisfy the requirements of their growing populations. The use of such pesticides as technical HCH with the associated environmental problems was likely to continue.
As regards the need for the development of a Code of ethics, the delegation of Argentina expressed the opinion that such a Code should be in agreement with the GATT agreement on removing international trade barriers. The Committee noted that the Code, which would be important to countries that had no registration procedures, should probably be developed by FAO following the FAO Consultation on Harmonization of Pesticide Registration Requirements in collaboration with other organisations e.g. WHO, UNEP, etc.

218. The Committee noted that most developing countries needed assistance in (a) pesticide residue evaluation; (b) training in analytical techniques and (c) training in handling specialised equipment.
It also noted with pleasure the willingness of certain developed countries to provide such assistance.
The Committee was informed that replies to the second questionnaire on pesticide residue analysis and evaluation and manpower development had been received only from one country in Africa and one from the Far East. It, therefore, agreed that another questionnaire should be especially directed to countries in these regions.
Such a questionnaire could be sent by the Chairman of the Working Group. Another questionnaire may also be sent to developed countries which could assist developing countries in strengthening their infrastructures and capabilities in pesticide control.

219. The Committee noted that the recommendations which it had made at its previous Session (Appendix V, ALINORM 81/24 and Appendix IV, ALINORM 83/24) still held good. All the recommendations should be assembled into one document and brought to the attention of the Commission and interested organisations at the highest possible level. Also the document to emerge from this activity should be disseminated to all member countries through the regional Coordinating Committees as well as Codex Contact Points.

Appointment of an Ad Hoc Working Group on Pesticide Residue Problems in Developing Countries

220. The Committee appreciated the work done by the members and Chairman of the Working Group during the year. It decided to set up a new ad hoc Working Group under the chairmanship of Dr. M.A. Martinez (Mexico) and with the same membership as before.
The Committee felt that the work of the Group in the different regions should be strengthened. In order to promote this Dr. P. Deema and Dr. A.F. Rahde were appointed rapporteurs for the regions of Asia and Latin America respectively. The Secretariat undertook the task of seeking the appointment of a rapporteur for the region of Africa at the 5th Session of the Regional Coordinating Committee for Africa to be held in February 1983.

It was understood that the rapporteurs would be vice-chairmen of the Working Group.

221. In closing the discussion on this item, the Chairman of the Committee expressed the hope that the recommendations of the Working Group would be put into practice.

CONSIDERATION OF THE REPORT OF THE AD HOC WORKING GROUP ON METHODS OF ANALYSIS

222. 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 of The Netherlands (see Appendix III to this Report). He drew attention to Annex I which was not included in the Report of the Working Group because of its specialised nature.

223. The representative of GIFAP informed the Committee that, as in the past, his Organisation would be willing to assist Codex in the publication of the recommendations of the Working Group on Analysis. The Committee expressed its thanks to GIFAP for this offer.
The following subjects were discussed by the Committee.

Draft standard format for reporting analytical results of field trials

224. The representative of FAO was of the opinion that the format should be as widely available as possible. It was suggested that an FAO Plant Protection Paper could serve this purpose. The Committee was informed by the representative of IUPAC that much information in relation to this document and other working papers generated within the CCPR ad hoc Working Groups on Sampling and Methods of Analysis was included in a paper, "Recommended Approaches to the Production and Evaluation of Data on Pesticide Residues in Food", to be published in July 1982 in Pure and Appl.Chem.

Methods of expression of residues relating to analytical practice

225. The representative of FAO accepted the proposal of the Working Group to ask the JMPR for a review of the compounds listed. It was noted that a change in the definition of the residue might in some instances require a revision of the corresponding MRLs. Such cases would be few however. According to the representative of WHO the general rule of the JMPR is to ask for separate toxicological studies on metabolites only if they occur in the residue in significant quantity and if animal and plant metabolites differ qualitatively or quantitatively. If metabolites constitute only a small proportion of the residue and an ADI has been established there would be no reason for the JMPR to re-evaluate the compound toxicologically. The Committee noted from the delegation of Australia that in the past the JMPR had included metabolites in the definition of the residue even when no suitable methods of analysis were available.
In answer to a question by the delegation of the United States of America, the Chairman stated that, since government acceptances of current MRLs were based on existing definitions of residues, MRLs would have to follow the amendment procedures if the residues included in Codex MRLs were changed.
The Chairman of the Working Group stressed that the Working Group was not in a position to decide whether a metabolite could be omitted from the residue definition. It was decided to draw the problem to the attention of the JMPR by means of a document to be prepared by Mr. Bates (FAO).

Role of analytical variability in deciding whether a Codex MRL has been exceeded

226. The delegation of Belgium was of the opinion that two aspects should be taken into account: the legal and the analytical.

He suggested that the legal aspect should be referred to the Working Group on Regulatory Principles. Mr. Wessel as Chairman of that Working Group said that it was already the intention to include the problem in the next questionnaire. The representative of FAO stated that MRLs established by the JMPR were based on data which already included sampling and analytical errors. The Chairman of the Working Group pointed out that when analysing for enforcement of an MRL the analytical error of the method had still to be considered to be sure that a result exceeding the MRL was not caused by analytical errors.

Limit of determination of aldicarb in milk

227. The delegation of the United States of America was of the opinion that the limit of determination of 0.002 mg/kg was feasible. Several other countries however expressed the view that a "limit of determination" will differ for every analyst and laboratory. As most countries were in favour of a limit of determination of 0.01 mg/kg it was decided to change the proposed MRL accordingly.

Appointment of an Ad Hoc Working Group on Methods of Analysis

228. The Committee thanked the members and Chairman of the Working Group for the work done on residue analysis. It decided to set up a new ad hoc Working Group under the chairmanship of Dr. P.A. Greve (The Netherlands) and with the same membership as before.

CONSIDERATION OF METABOLITES OF PESTICIDES WHICH ARE ALSO SEPARATE PESTICIDES

229. The Committee had before it a working paper prepared by the Secretariat (CX/PR 82/8) at the request of the Committee at its last Session (para 163, ALINORM 83/24). In introducing the paper the Secretariat indicated that section 2.7 of the 1979 JMPR Report defined the critera for the inclusion of metabolites in the definition of residues but it did not specifically address the problem of metabolites used as pesticides in their own right. On the other hand, the approach which the JMPR had been following recently in dealing with such cases was based on setting separate MRLs for parent pesticides and for their metabolites used as pesticides. This also seemed to be the approach followed by governments.

230. During the brief discussion which followed on the proposals of the Secretariat contained in para 15 (a) - 15 (e) of document CX/PR 82/8, the delegations of the Federal Republic of Germany and the United Kingdom stressed the need to approach this question on a case-by-case basis.

231. The Committee concluded that the recommendations contained in the Secretariat paper were acceptable as a general approach, provided each case was considered on its merits.

EXPRESSION OF MRLS FOR FAT-SOLUBLE PESTICIDES IN DRIED MILK PRODUCTS

232. The Committee had before it document CX/PR 82/13 prepared by the Secretariat, in accordance with the request made at the 13th Session (ALINORM 83/24, para 169), and Room Document No. 11 containing comments of The Netherlands.

233. The Secretariat emphasized the sentence in para 5 (d) of document CX/PR 82/13 where it was pointed out that adoption of a practical empirical method of extraction of fat from milk products might be considered by the Committee. He added that it was not always possible to reconstitute a dried milk product on the basis of label instructions and further consideration was needed before adopting rules for reconstitution of dried milk products.

The solution outlined in the room document of The Netherlands might, however, make reconstitution considerations superfluous.

234. The delegation of The Netherlands stressed the importance of a simple and consistent system. The Committee at its Thirteenth Session had decided that MRLs for fat-soluble pesticides should always be expressed on a whole product basis for liquid milk and for milk products with a fat content of 2% or less (see ALINORM 83/24, para 174).
The Netherlands, in line with this decision, proposed that the MRL for milk products with a fat content below 2% be equivalent to a fat-based MRL, calculated for 2% fat, and hence half the MRL for milk. They considered it advantageous for the purposes of the Committee to reserve the term milk for "whole milk", i.e. raw milk and standardised full cream milk and to consider all other types of milk as milk products.
Annex II of the Room Document listed the main milk products.
They were of the opinion that possible exceptional cases were not important enough to need special consideration. Problems in the determination of the fat content were not expected at levels around 2%.

235. The delegation of the Federal Republic of Germany strongly supported the proposal of The Netherlands. In principle the same system had recently been adopted in their country.
The delegation of New Zealand was strongly in favour of determining residues on the basis of the reconstituted product.
The delegation of the United Kingdom pointed out that in its opinion some practical problems might arise from adopting the proposal of The Netherlands.

236. The delegation of the United States of America wondered whether the actual situation caused problems in practice. The delegation of New Zealand indicated that it did not encounter difficulties but believed that it was necessary to make clear what precisely was meant when applying Codex MRLs to milk and milk products.

237. The Chairman considered that, keeping in mind the proposals of The Netherlands, the problems relating to the expression of residues of fat-soluble pesticides could easily be solved if the Committee decided to establish only a single limit for milk, i.e. raw milk or standardised whole milk, expressed on a whole-product basis. The limits for milk products with a fat content above and below 2% could easily be derived from this figure, assuming 4% of fat in the raw or standardised whole milk. The limit for milk products with less than 2% fat would then be half that for whole milk and the figure for milk products with more than 2% fat would be expressed on a fat basis and would be 25 times that for whole milk. A Codex MRL for milk products did not have to be established separately because it could be derived from the limit for whole milk by a standard calculation factor. Hence the MRLs established for milk products could be deleted.

238. After some discussion on the possible consequences the Committee supported this approach. It was noted that it applied only to those pesticides which partitioned into the fat. The Secretariat was requested to look into the consequences for the existing proposals and to consider ways of explaining the meaning of the limits for milk in the relevant Codex publications.
The Chairman asked those who encountered serious practical problems as a result of this approach to let him know before the next Session.

REPORT BY AUSTRALIA ON THE RESULTS OF A COLLABORATIVE STUDY OF INORGANIC BROMIDE RESIDUES IN CEREAL GRAINS

239. The Committee recalled that, at its last Session, the delegation of Australia had indicated that the results of the above

survey would be up-dated on the basis of further replies submitted by the collaborating laboratories and that a final report would be prepared by Australia (paras 165-167, ALINORM 83/24).

240. The delegation of Australia informed the Committee that it had not been possible to interpret all results of the survey effectively and that, therefore, the final report could not be prepared for the present Session. As soon as it was finalized Australia would distribute the report to participants and Codex Contact Points.
The Committee thanked the delegation of Australia for undertaking this useful task.

CONSIDERATION OF THE REPORT OF THE AD HOC WORKING GROUP ON PRIORITIES

241. The Report of the Working Group (Appendix VII) was introduced by the Chairman of the Group, Prof. A.F.H. Besemer (The Netherlands). He informed the Committee that the Working Group had recommended a list of new compounds for evaluation by the 1982 JMPR and lists of compounds for consideration at the 1983 and subsequent JMPR sessions. The Group had also reviewed a number of compounds from List III in Appendix IV, ALINORM 81/24 since no responses had been received from governments or from Industry. The Group had concluded that if no information is received, these compounds will be deleted from the list at the next Session.

Establishment of priority lists

242. The representative of FAO drew the attention of the Committee to isoprocarb for which there were still no data available although it had been in list I on previous occasions.
In answer to the enquiry of the delegation of Australia whether new data were expected for nitrofen, the Committee was informed by the delegation of Canada that in their country nitrofen had been withdrawn from the market by the manufacturer. It was pointed out by the representative of GIFAP that owing to potential risks to female applicators the product had been removed from the market in countries where women handled the product, pending the completion of additional studies. New studies had already been submitted to the United States of America for review and would be sent to the JMPR in time for the 1983 Meeting.

243. The delegation of Australia was of the opinion that famphur could be deleted from priority lists as its use was small and it was gradually being replaced by other products. The Committee agreed that the compound should be deleted. The delegation of Canada doubted the need for establishing MRLs for glyphosate which was a herbicide and should not leave residues in food. The delegation of France pointed out that the use of glyphosate on wheat shortly before harvest and in other specialized applications could give rise to residues.

Benomyl, carbendazim and thiophanate-methyl

244. The delegation of Finland was pleased to see benomyl scheduled for re-evaluation by the JMPR, and thought that this review should include thiophanate-methyl and carbendazim because their metabolism, use pattern and residues were closely related. It drew attention to an evaluation of the toxicity of this compound by the Scandinavian countries, which concluded that it was mutagenic and teratogenic in mice and rats, carcinogenic in mice and ecotoxic. Carbendazim was also found to be carcinogenic in mice. It indicated that there would be severe restrictions in Finland on the use pattern of pesticide products containing benomyl and thiophanate-methyl in the near future.
The total intake of benomyl (as carbendazim) was 14 mg/person/year, of which more than 90% originated from imported foodstuffs. Finland would, therefore, like other countries to take the necessary steps to reduce the use of this group of compounds.

The delegation of the Federal Republic of Germany added that the use of these compounds had been severely restricted in their country and that MRLs had been established primarily to accommodate imported commodities. Questions relating to toxicology were under review.

245. The delegation of Sweden informed the Committee on the cooperation of the Scandinavian countries in the field of pesticides. Problems of commom concern were discussed at annual meetings. Since 1980, a common approach had been taken to the evaluation of compounds whose safety for consumers or users was in doubt owing to new toxicological data. Among the pesticides considered were captan, lindane and benomyl. These evaluations served as the basis for eventual action at the national level. On the basis of the evaluation of captan, Sweden had decided to ban all non-professional uses of this compound and to restrict the remaining uses to those for which no alternative product or method was available. Folpet was included in the decision owing to its chemical similarity. A similar decision had recently been taken on benomyl and the related compounds carbendazim and thiophanate-methyl. Following these decisions, Sweden had requested re-evaluation of these compounds by the JMPR and had indicated documents which they considered should be included in such a re-evaluation. Manufacturers should be urged to supply the necessary data to the JMPR. Information on benomyl had not yet been provided, but the Swedish agent had given a preliminary positive reply. The manufacturer of captan had undertaken to provide the complete file to the JMPR for the 1982 Meeting.The delegation of Sweden would continue to act along the same lines to identify chemicals which needed re-evaluation by the JMPR. The delegation of Canada supported the request for re-evaluation of benomyl and related compounds and agreed that pressure from governments on the manufacturers was needed.

246. The representative of WHO informed the Committee that he understood from the manufacturer of benomyl that data would not be available for the forthcoming JMPR. He added that more than 80% of the data on benomyl was unpublished.
He was of the opinion that Finland had done an excellent job in the evaluation of this compound, which would be extremely useful to the JMPR when the full data were submitted. He agreed that while the three compounds were all pesticides in their own right, they should not be evaluated separately.

Pentachlorophenol

247. The delegation of the United Kingdom asked whether evaluation of pentachlorophenol(PCP) by the JMPR had not taken place owing to problems with the accessibility of new data which were known to exist. The representative of WHO stated that it had been postponed owing to the heavy workload of the JMPR. More data would, however, be welcome. The delegation of Finland offered to send data to the JMPR on the toxicology of chlorinated phenols. The representative of FAO doubted whether MRLs for PCP could be established on the basis of GAP as PCP had to be considered a contaminant in food. He was of the opinion that residues in food resulted from industrial rather than agricultural uses. No data could be expected from manufacturers.
It was pointed out that residues occurred from uses such as the treatment of food containers and wood shavings used for animal bedding.
The delegation of The Netherlands recalled the decision taken at the 12th Session of the CCPR (ALINORM 81/24, para 11) stating that "the Committee was the appropriate forum for consideration of contaminants showing chemical or other similarity to pesticides. Such contaminants would follow the same procedure as pesticides including establishment of priorities". Ways for establishing MRLs, ERLs or guideline levels should be elaborated.

The Chairman of the Working Group explained that PCP had been placed in the priority list in para 5 of the Report of the Working Group because of these considerations.
It was concluded that data, including monitoring data, could be of great help.
The Secretariat drew attention to the industrial and environmental pollutants listed by the Codex Committee on Food Additives (CX/FA 82/18) which might be considered for inclusion in future work.
The delegation of Finland mentioned its proposal for the inclusion of prothiofos and profenofos in the priority lists. The Chairman explained that a formal application with reasons for the proposal was necessary.

Chemicals used for mass medication of food-producing animals

248. The Committee considered a submission from Australia concerning chemicals used for the mass medication of food producing animals. The Australian delegation explained the background to this submission, which is attached as Annex I to Appendix VII.
It indicated that residues of the compounds under discussion were a source of concern and were giving rise to problems in a very extensive area of international trade. In bringing the subject before this Committee, it was realized that new resources would have to be provided in view of the existing work loads of the CCPR and the JMPR and because the expertise available to these bodies was largely in the field of plant protection. It seemed however that an initial approach to this Committee was likely to be the best way to draw effective attention to the problem.

249. Several delegations fully appreciated the importance of the proposal, but believed that only those compounds which were also used as pesticides were within the terms of reference of this Committee. It was noted that the list of compounds might have to be extended to include hormones and antibiotics. It was suggested that a proposal for a new Codex Committee to deal with the subject might be put before the Commission.
It was noted that an international conference on the registration, marketing and use of animal drugs, organised by WHO and the United States Department of Agriculture, would take place in Pennsylvania in April 1983.

250. The representative of WHO was of the opinion that the problem might be handled through IPCS. He noted that the IPCS Programme Advisory Committee would shortly be holding its third meeting and suggested that those countries which had signed, or were about to sign, a memorandum of association with IPCS should brief their delegates to that meeting. It appeared that the compounds under discussion might be dealt with by the "short evaluation approach" of IPCS.
The WHO representative mentioned that JECFA had concluded that anabolic steroids would require expertise not currently included in the Committee and a different approach to their evaluation. This would probably also be true of the compounds under discussion.
The representative of FAO, noting that a body analogous to the JMPR would need to be involved, pointed out that the FAO Panel of the JMPR was funded by the FAO Plant Protection Division. Any corresponding activity in the field of animal drugs would be the responsibility of the Animal Health Division.

251. The Secretariat informed the Committee that residues in animal products had been discussed by CCFA at its last meeting. It had concluded that the subject was in principle within its terms of reference and was seeking comments from governments on its involvement. A submission from CCFA would be before the next meeting of the Commission.

252. In summarizing the discussion, the Chairman thanked the delegation of Australia for bringing the subject before the Committee. It seemed that this Committee would be able to deal only with those compounds which were also used as pesticides, but he recalled the remarks of the representative of WHO and the Secretariat, which indicated other bodies that might take action. He proposed, and the Committee agreed, that the Australian proposal and a summary of the Committee's discussions should go to the Commission.

Report by Canada on Good Agricultural Practices

253. The delegation of Canada introduced the Canadian "GAP Report" (CX/PR 82/17) indicating that it summarized the information received from 42 countries on the five most important pests and up to five recommended pesticides for maize, oilseed crops, potatoes and pulses. Canada was willing to continue the exercise of collecting information from governments on good agricultural practices but that it was the intention to allow a longer interval before a further report would be prepared. The issue of an up-dated report in about five years time was being considered. The Committee also received a list of pesticides used in the production of some important selected foods which summarized information in documents CX/PR 81/8 and CX/PR 82/17.

254. The Committee agreed that the Canadian documents contained information which greatly facilitated the work of the Committee and was also useful to the JMPR. Governments were urged to send information to Canada.
The Committee thanked the Canadian delegation for its useful contribution.

Acceptance of the report

255. The Committee noted and accepted the recommendations of the Working Group as contained in Appendix VII to this report with the exception of famphur (see para 243).

Appointment of an Ad Hoc Working Group on Priorities

256. The Chairman of the Committee thanked the Chairman and members of the Working Group and decided to set up a new ad hoc Group with the same membership as before and under the Chairmanship of Prof. A.F.H. Besemer (The Netherlands).

OTHER BUSINESS

257. The observer from GIFAP read a statement which placed on record the commitment of his Organization to the objectives of the Codex Committee on Pesticide Residues. However, he expressed the concern of basic producers of pesticides at the failure by many governments to treat data developed for a specific product as proprietary to the manufacturer who had developed the product.
The opinion was expressed that difficulties facing the Industry could be reduced through mutually acceptable procedures for protecting the security of unpublished proprietary data which industry submits to WHO. The statement of GIFAP is included as Appendix IX to this Report.

258. The representative of WHO brought to the attention of the Committee document EB69/INF. Doc/3 dated 25 January 1982, presented to the 69th Session of the Executive Board of WHO, which contained the views of the Organization on the subject of respecting the confidentiality of proprietary data.

259. The Swedish delegation informed the Committee of the publication "Control of Pesticide Residues in Food - Guide to National Authorities and International Organizations" by the Swedish National Food Administration in Uppsala which is presently at a draft stage.

Excerpts from the first draft had been sent to various countries for comment.
The Committee was pleased to know of the exercise and expressed its opinion that such publications would prove useful.

DATE AND PLACE OF NEXT SESSION

260. The Chairman of the Committee indicated that the next (Fifteenth) Session of the Codex Committee on Pesticide Residues and its Working Groups would take place from 1 to 10 October 1983 in The Hague and suggested the following time table:

Ad Hoc Working Group on Regulatory Principles	1 Oct.	09.00 hrs.
Ad Hoc Working on Priorities	1 Oct.	13.00 hrs.
Ad Hoc Working Group on Pesticide Residue Problems in Developing Countries	3 Oct.	09.00 hrs.
Ad Hoc Working Group on Sampling	3 Oct.	09.00 hrs.
Ad Hoc Working Group on Methods of Analysis	3 Oct.	11.00 hrs.
Opening of the plenary session	3 Oct.	14.00 hrs.

The Committee was informed that similar arrangements as at the present Session for simultaneous interpretation will be made available to the Ad Hoc Working Group on Pesticide Residue Problems in Developing Countries.

ALINORM 83/24A
APPENDIX I

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APPENDIX II

Opening Speech by the State Secretary for Health and Environmental Protection, Mrs. J.J. Lambers.

When in the early 60's the members of FAO and WHO decided to embark on a Joint FAO/WHO Food Standards Programme, they based this activity on two principles: ensuring fair practices in the food trade and protection of the health of the consumer. There were two main types of activity:
1. Development of standards for food commodities;
2. Development of standards for general subjects, not connected with specific food commodities but with an impact on food in general. The Codex Committee on Food Additives and the Codex Committee on Pesticide Residues are examples of this second type.

Many Codex Committees responsible for these activities have made good progress in the development of standards as well as in provisions of an advisory nature. Reviewing this, one cannot but conclude that Codex has generally succeeded in reaching the goals which the initiators had in mind: to allow unhampered trade and to protect the consumers' health.
It should be realized that this result has been achieved during a period in which knowledge and attitude with regard to many of the subjects involved have developed more drastically than ever before. Knowledge regarding the health aspects of food choice and of chemicals in foodstuffs demonstrates this, but also developments in methods of analysis and of assessment of toxicological risks are examples in this field. These developments have made us more and more conscious of existing but hitherto unknown risks. Especially in the field of carcinogenicity testing, the possibilities of obtaining early information on potential genotoxic properties of chemicals have increased substantially.
I am not trying to say that every risk should or can be avoided, but it certainly contributes to the quality of our decisions if we take them after full consideration with respect to their implications.
This also applies strongly to the consequences of our activities with regard to the environment. Not every discovery of a new dumping-ground of chemical wastes can simply be attributed immediately to the unscrupulous behaviour of an irresponsible factory-owner. In many cases we have only recently come to realize that what seemed a solution in the sixties is working out as a problem in our decennium. Now we must take concerted action, not only to reduce these problems inherited from a less enlightened and sometimes careless past, but also to prevent the birth of new problems. Cases like Love Canal - Lekkerkerk is a Dutch example - must be a warning signal that is taken to heart as a painful lesson showing the dire need of a preventive environmental policy.
I mentioned also a drastic change in our attitude with regard to the problems involved in Codex work in general and work on pesticides in particular. This attitude is influenced to a large extent by two publications. One in the early sixties highlighted the problems caused by a continually growing use of pesticides. The writer was Rachel Carson and the title, "Silent Spring", is no doubt known to everybody in this room. The other is the report of the Massachussets Institute of Technology "Limits to Growth", known as the report of the Club of Rome. Both publications presented a picture of what our future would be if we continued to proceed along the existing patterns. These publications differ sharply in concept: the first being based almost completely on the writer's personal imagination, the second being the outcome of a co-operative scientific effort based on the available data. They have, however, something basic in common. Both books describe a future which now, 20 and 10 years later, appears not to have materialized: not because such a future was an unlikely threat, but - I think - because the books themselves and the enormous publicity they received, have

contributed to the fact that this threat has not - at least not yet - turned into reality. Both publications have aroused great public interest and concern for the problems that our ever growing population, needs and wastes are creating. Both books have helped to open our eyes and minds to limits we should accept.
The public concern centered firstly on the subject of this Committee, pesticides, and has contributed to better legislation in many countries and consequently to research and development of pesticides by industry. Several of the older pesticides, though cheap and effective, show undesirable side-effects for man and the environment. It can be stated now that many new pesticides have been developed in the meantime which do not accumulate in body tissues and do not harm the environment. In large areas they have already replaced the older ones. We should, however, look for ways and means to ensure that their use will not remain the privilege of the economically stronger countries. As in so many other fields of human activity we are confronted here with a balancing of interests, of what is desirable against what is possible. While I am very much aware of the fact that this weighing will lead to different outcomes depending on conditions in the part of the world concerned, I must also emphasize that we have a duty to break the so-called circle of poison. When pesticides, not allowed any more in industrialized countries, are exported to developing countries, the use on crops there not only causes contamination of soil and water, but also results in contaminated crops that may be imported into the same countries where the use of the exported chemicals is forbidden or restricted. To help break this circle we must pay great attention to the task of making harmless alternatives available to developing countries and of working out appropriate codes of good practice. As I have stated already: this Committee has lived through the storms that have harassed chemistry in general and pesticides in particular. It has continued to obtain the active participation of a great number of countries and the interest and trust of many more. I think that this can be attributed to the fact that the Joint Meeting on Pesticide Residues and your Committee have, to a large extent, stayed ahead of developments. You have succeeded in offering a system of pesticide residues legislation that proves to serve the two main Codex goals: free trade and health protection. You have not limited your task to the mere proposing of figures but you have covered the field in a much broader area, ranging from standardization in the description of crops via sampling methods to a list of preferred methods of analysis. In this way you have offered the world a system that is able to resist a largely critical review.
It cannot be said that the wide participation in this Committee and the many positive aspects of its work have completely eliminated differences in the maximum limits of pesticide residues between countries. Although considerable harmonization has been achieved, these differences continue to exist to a larger extent than is desirable and necessary. I think that it is a useful initiative of your Committee to look for the causes of this phenomenon and to develop guidelines that can assist governments and groups of governments in giving effect to that which in your Committee and in the Codex Alimentarius Commission they have already declared to be acceptable.
Coming to the end of my speech, I would like to put to you some questions which I deem relevant, leaving it to you to act upon them. Isn't it strange to start harmonization of pesticide residues levels at the moment when differences have been legally laid down already? Shouldn't every effort be made to prevent differences coming into existence? Isn't there a task for a critical and timely surveillance when new pesticides are brought on the market, a task for governments and industry and trade together?

Appendix II (contd.)

I know that there is enough on your agenda for this week, but perhaps this is something to think about, if not now then for your next meeting. I wish you all a fruitful meeting and I hope that your agenda will permit you some leisure to enjoy at least something of our Dutch "environment"!

REPORT OF THE AD-HOC WORKING GROUP ON METHODS OF ANALYSIS

1. Membership: (see Appendix I for addresses)
The Ad-Hoc Working Group on Methods of Analysis consisted of the following persons:

D.C. Abbott	United Kingdom
L. Al-Omran	Kuwait
A. Ambrus	Hungary
A. Andersson	Sweden
S. Bailey	United Kingdom
J.A.R. Bates	FAO
H. Beck	Fed. Rep. of Germany
G. Becker	Fed. Rep. of Germany
R.S. Belcher	Australia
R. Blinn	GIFAP
G. Bressau	Fed. Rep. of Germany
E. Celma	Spain
P. Deema	Thailand
W. DeJonckheere	Belgium
S. Eamrungroj	Thailand
D. Eichler	Fed. Rep. of Germany
J.R. Ferreira	Portugal
H. Frehse	IUPAC
H.O. Friestad	Norway
M. Green Lauridsen	Denmark
P.A. Greve	The Netherlands (Chairman)
S. Gorbach	Fed. Rep. of Germany
M. Hascoët	France
Y. Ishii	Japan
F. Ives	United States of America
A. Kiviranta	Finland
M.R. Lynch	Ireland
R.B. Maybury	Canada
M. Mutter	The Netherlands
H. Pyysalo	Finland
H. Regenstein	GIFAP
T. Stijve	Switzerland
S. Takei	GIFAP
G.M. Telling	United Kingdom
G. Timme	Fed. Rep. of Germany
L.G.M.Th. Tuinstra	The Netherlands
J. Wessel	United States of America

2. Agenda
The Working Group discussed the following points:
- recommendations for methods of analysis for pesticides for which Codex MRLs or Guideline Levels are under discussion;
- liaison with AOAC;
- draft standard format for reporting analytical results of field trials;
- methods of expression of residues relating to analytical practice;
- confirmation of identity of residues;
- role of analytical variability in deciding whether a Codex MRL has been exceeded;
- publication of document finalized by the Working Group;
- limit of determination of aldicarb in milk.

Appendix III (contd.)

3. Recommendations for methods of analysis

The Working Group undertook the up-dating and reviewing of the recommendations given in the previous report (ALINORM 83/24, Annex I to Appendix II). To this list were added: aldicarb, azocyclotin, cypermethrin, fenvalerate, permethrin and 2,4,5-T, as well as the compounds for which at the moment only guideline levels exist, viz. carbon disulphide, carbon tetrachloride, 1,2-dibromoethane, 1,2-dichloroethane, hexachlorobenzene, methyl bromide, azinphos-ethyl, benomyl, camphechlor, carbendazim, vamidothion, bioresmethrin, maleic hydrazide, daminozide, ethephon, ethylenethiourea, dinocap, methomyl and phorate.

A separate new paragraph with general references to pesticide residue methodology was also incorporated.

The new list, which supersedes previous ones, will be published in due course (see paras 4 and 9 of this APPENDIX).

Contributions or amendments to the list should be sent to the Chairman of the Working Group, not later than February 1, 1983.

4. Liaison with the Association of Official Analytical Chemists (AOAC)

Mr. D. MacLean, executive director of the AOAC, gave an account of the work being done by AOAC with regard to collaborative testing of analytical methods. The group expressed its interest in collaborative tests being carried out, realizing however that collaboratively tested methods will not be available for all pesticide/product combinations occurring in practice. The Group restated its preference for collaboratively studied methods, and also stated that such methods should not be regarded as "obligatory methods".

Comments on the AOAC system included that the statistical treatment of outliers was different from that used by ISO, and that variability resulting from the AOAC system may not reflect the situation under practical conditions. The opinion was stated that the methods issued by AOAC were often based on American conditions and reagents, and therefore could not always be applied in other parts of the world without sometimes appreciable adaptation.

Mr. MacLean expressed the wish to cooperate with members of the Working Group and to receive further comments from them. Also he will consider the possibility of publishing documents adopted by the Working Group through AOAC channels.

5. Draft standard format for reporting analytical results of field trials (cf. ALINORM 83/24, Appendix II, para 4 and FAO Plant Protection Bulletin, Vol 29, No. 1/2, 1981)

A revision of the document discussed last year by the Working Group had been circulated to the Group by Mr. Bates (FAO). The document was adopted by the Group with the recommendation that more space (if necessary, on a second page) should be available for Block 4 (Results) and that "Interval" be specified as "Interval between last treatment and sampling".

6. Methods of expression of residues relating to analytical practice (cf. ALINORM 83/24, Appendix II, Para 5)

As was agreed in the previous meeting, the Working Group considered the expression of residues for all compounds under discussion at present in CCPR, based on information provided by the Secretariat.

The following points were discussed:

6.1. Simplification of expressions

The definitions of the residues to be included in the MRLs of certain compounds include metabolites which cannot be incorporated easily in standard analytical methods. Many of these metabolites

occur in low concentrations only and analytical standards for some of them are not always readily available. Considerable savings in time and effort could therefore be achieved if these metabolites were deleted from the residues to be measured. The Group asks that the JMPR review these compounds with special attention to possible modification of the definition of the residue to be included in the MRL. Preference is given to a definition in terms of the parent compound only.
Relevant cases in this respect are:
- the oxygen analogues of carbophenothion, coumaphos, ethion, fenchlorphos, fenitrothion, fensulfothion, fenthion, malathion, parathion, parathion-methyl, azinphos-ethyl, disulfoton, pirimiphos-methyl, dialifos, phosmet and phorate;
- the metabolite 2-aminobenzimidazole of benomyl;
- the metabolites 2-hydroxyphenyl methylcarbamate and 2-isopropoxyphenyl hydroxymethylcarbamate of propoxur;
- the metabolite 4-hydroxy-2,5,6-trichloro-1,3-benzenedicarbonitrile of chlorothalonil.

It is accepted by the Group that, for toxicological reasons, some of these modifications may not be possible.

6.2. Harmonisation of expression
It was also noted that the MRL expression of the residue for those compounds which contain a thioether group should be harmonized in the light of newer analytical developments. This situation applies to: carbophenothion, fensulfothion, fenthion, disulfoton, vamidothion, fenamiphos, phorate, aldicarb, ethiofencarb, demeton, demeton-S-methyl and thiometon.
The preferred general expression in these cases is: "sum of x, its sulphoxide and sulphone, expressed as x".

6.3. Proposals for changes in the expression of the residue on the basis of analytical practice
On analytical or general chemical grounds the following expressions are preferred to the existing ones:
- "all cyanides, expressed as hydrogen cyanide" instead of "hydrogen cyanide";
- "all phosphides, expressed as hydrogen phosphide" instead of "hydrogen phosphide";
- "sum of pyrethrins I and II, cinerins I and II, and jasmolins I and II, determined after calibration by means of the International Pyrethrum Standard", instead of "sum of pyrethrins I and II and other structurally related insecticidal ingredients of pyrethrum";
- "cyhexatin determined as tricyclohexylmethyltin and expressed as cyhexatin", instead of "cyhexatin and its organotin metabolites and degradation products, determined as total organic tin and expressed as cyhexatin";
- "sum of azocyclotin, cyhexatin determined as tricyclohexylmethyltin, and dicyclohexyltin oxide determined as dicyclohexyldimethyltin, expressed as azocyclotin" instead of "sum of azocyclotin, cyhexatin, dicyclohexyltin oxide and cyclohexyltin hydroxide oxide, expressed as azocyclotin";
- for ortho-phenylphenol: delete "sodium".

7. Confirmation of identity of residues (cf. ALINORM 83/24, Appendix II, Para 6)

The document on confirmation of identity of residues prepared by Mr. Bailey (United Kingdom) had been revised by him in the light of the discussions during the previous meeting and comments received since then. The version adopted now by the Group (Annex I to this Appendix) will replace existing Section 4.6 in the document on Good Analytical Practice issued earlier by the Group.

8. Role of analytical variability in deciding whether a Codex MRL has been exceeded (cf. ALINORM 83/24, Appendix II, Para 9)

The Working Group discussed some of the various systems which are in use or under discussion in different countries for reaching conclusions as to whether or not an MRL has been exceeded.

Although many different approaches exist and terminology differs widely, there is no disagreement about the fact that the analytical variation can be substantial and that it increases with decreasing residue level. When reaching conclusions, due attention must be paid to the inherent uncertainty of the result.

In some practices a "latitude" is applied above and below the figure found. If the lower corrected figure is greater than the MRL, the MRL has been exceeded.

Systems to estimate the "latitude" include a classification in four categories (depending on detection limit, residue level and method of determination) in use in Hungary, a "semi-mathematical" approach used in the Federal Republic of Germany (and under discussion in EEC) and a similar approach, but using different mathematical expressions, published by Frehse and Timme (Res. Revs. 73, 27-47 (1980)). It was noted that, although the theoretical starting points are very different in the various systems, the ultimate difference in practical situations is relatively small.

A different system, based on rounding off procedures, is used e.g. in the United Kingdom and the United States of America. As part of the United States of America decision-making system two independent analyses must be carried out by different analysts and both analytical results must exceed the MRL for action to ensue.

The view was also expressed that since sampling and analytical variations were taken into account by JMPR in their deliberations before proposing the MRL, no factors should be applied other than rounding results to one significant figure. The discussion included the point that results from supervised trials may not encompass the variability found in regulatory analysis.

The subject will remain on the agenda of the Working Group in order to give members the opportunity to react on the systems discussed.

9. Publication of documents finalized by the Working Group (cf. ALINORM 83/24 Appendix II, Para 10)

The Working Group noted with gratitude that GIFAP (Avenue Hamoir 12, 1180 Brussels, Belgium) had agreed to publish the recommendations for methods of analysis issued by the Group. Another possible channel of publication, the AOAC, has already been mentioned above (Para 4).

10. Limit of determination of aldicarb in milk

At the request of the last year's plenary meeting (ALINORM 83/24, Para 131) the Working Group discussed the limit of determination of aldicarb in milk.

Mr. Ives (United States of America) informed the Group that evidence from EPA was available that a limit of determination of 0.002 mg/kg was feasible with standard analytical equipment.

Other members, however, expressed the opinion that a limit of determination of 0.01 mg/kg would enable more laboratories to determine residues in milk effectively and that, therefore, if there were no toxicological arguments against it, a limit of determination of 0.01 mg/kg was preferable. The Group suggests that this matter be referred back to the JMPR.

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ALINORM 83/24A
APPENDIX III
ANNEX I

4.6 Confirmatory Tests.

4.6.1 When analyses are done for regulatory purposes it is especially important that confirmatory tests are carried out before reporting adversely on samples containing residues of pesticides not normally associated with that commodity or where MRLs appear to have been exceeded. Contamination of samples with non-pesticidal chemicals occurs from time to time and in some chromatographic methods these compounds may have similar properties to pesticides and may therefore be mis-identified as such. Examples in gas chromatography include the responses of electron-capture electors to phthalate esters and of phosphorous specific detectors to compounds containing sulphur.

4.6.2 Confirmatory tests can be divided into two types. Quantitative tests are necessary when MRLs appear to be exceeded whilst qualitative confirmation of identity is needed in these cases, or when atypical residues are encountered. Qualitative tests may involve chemical reactions or separation where some loss of the residue occurs. Particular problems occur in confirmation when MRLs are set at or about the limit of analytical determination.

4.6.3 The need for confirmatory tests may depend upon the type of sample or its known history. In many substrates, certain residues are nearly always found. For a series of samples of similar origin it may only be necessary to confirm the identity of residues in the initial samples. Similarly, when it is known that a particular pesticide has been applied to the sample material there may be little need for confirmation of identity, although a random proportion of samples should be confirmed. Where control samples are available, these should be used to check for the presence of possible interfering substances.

4.6.4 In quantitative confirmation at least one additional alternative procedure should be used and the lower result reported. In qualitative confirmation, an alternative technique using different physico-chemical properties is desirable.

4.6.5 The necessary steps to positive identification are a matter of judgement on the analyst's part and particular attention should be paid to the choice of a method which would eliminate the effect of interfering compounds. The chosen method would depend upon the availability of suitable apparatus and expertise within the testing laboratory. As a guidance to the analyst a number of alternative procedures for confirmation are given in the following paragraphs.

4.6.6 Alternative gas chromatographic columns. The results obtained in the primary analysis should always be quantitatively and qualitatively confirmed using at least one alternative column involving a stationary phase of different polarity. The quantitative results obtained should be within 20% of the primary analysis and the lower figure should be reported, since the higher figure may have been enhanced by interference from co-extracted material. Further quantitative confirmation is required if the results differ by more than 20%, except when the MRL is set "at or about the limit of determination" when a variation of up to 100% would be acceptable. In choosing the alternative column material, consideration should be given to separating any pesticidal or interfering compounds known to have retention times on the primary column identical to that of the residue detected. The alternative column may be a packed column or, preferably, a capillary column whose greater resolving power may be utilized. Whilst the use of an alternative gas chromatographic column may not always give positive confirmation it will often quickly disprove a suspected identity. In either case further confirmation is required to identify the residue.

4.6.7 Use of selective detectors for gas chromatography. When pesticides containing several chemical elements are present, detectors showing enhanced response to these elements may be used. Detectors such as flame photometric (sulphur, phosphorus and tin), alkali flame ionization (phosphorus and nitrogen) and coulometric/conductivity (nitrogen, sulphur and halogens) can give valuable additional information on residues. The sulphur/phosphorus response ratio obtained by using a flame photometric detector can give useful information in the case of phospharothioates.

4.6.8 Thin-layer chromatography (TLC). In some instances, confirmation of gas chromatographic findings is most conveniently achieved by TCL. Identification is based on two criteria, Rf value and visualisation reaction. The scientific literature contains numerous references to the technique, the IUPAC Report on Pesticides (13) (Bâtora, V., Vitorovič, S.Y. Thier, H.P. and Klisenko, M.A. Pure & Appl. Chem., 53, 1039-1049, 1981) reviews the technique and serves as a convenient introduction. The quantitative aspects of thin-layer chromatography are, however, limited. A further extension of this technique involves the removal of the area on the plate corresponding to the Rf of the compound of interest followed by elution from the layer material and further chemical or physical confirmatory analysis. A solution of the standard pesticide should always be spotted on the plate alongside the sample extract to obviate any problems of non-repeatability of Rf. Over-spotting of extract with standard pesticide can also give useful information. The advantages of thin-layer chromatography are speed, low cost and applicability to heat sensitive materials; disadvantages include usually lower sensitivity than gas-liquid chromatography and frequent need for more efficient clean-up. In some countries problems may be encountered when high humidity or temperature cause lack of repeatability.

4.6.9 High-performance liquid chromatography. (HPLC)
Although HPLC has not been used extensively in pesticide residue analysis, improvements in detector sensitivity and post-column derivatization techniques are increasing the opportunities of its use by the residues analyst. Particular advantage is gained in the qnalysis of heat-sensitive or non-volatile pesticide residues.

4.6.10 Column fractionation. The order of elution from liquid chromatographic columns may help to verify the identity of a compound. Thus an element of confirmation can be built-in to the extraction and clean-up procedure.

4.6.11 Extraction p-values. The fraction of pesticide partitioning into the upper phase when distributed between equal volumes of two immiscible liquids has been defined as the extraction p-value and is often a unique value for a given pesticide-solvent system. The technique has been fully described by Beroza, M. and Bowman, M.C. (Anal. Chem. 37, 291, 1965; JAOAC 48, 358, 1965; JAOAC 48, 943, 1965) and Bowman, M., Inscoe, M.N. and Bowman, M.C. (Res. Rev. 30, 1, 1969).

4.6.12 Derivatization. This area of confirmation may be considered under three broad headings:

(a) Chemical reactions

Small scale chemical reactions resulting in degradation, addition or condensation products of pesticides, followed by re-examination of the products by chromatographic techniques, have frequently been used. The reactions result in products processing different retention times and/or detector response from those of the parent compound. A sample of standard pesticide should be treated alongside the suspected residue so that the results from each may be directly compared. A fortified extract should also be included to prove that the reaction has proceeded in the presence of sample material. A review of chemical reactions which have been used for confirmatory purposes has been published by Cochrane, W.P. (Chemical derivatization in pesticide analysis, Plenum Press, NY. 1981). Chemical reactions have the advantages of being fast and easy to carry out, but specialised reagents may need to be purchased and/or purified.

(b) Physical reactions

A useful technique is the photochemical alteration of a pesticide residue to give one or more products with a reproducible chromatographic pattern. A sample of standard pesticide and fortified extract should always be treated in a similar manner. Samples containing more than one pesticide residue may give problems in the interpretation of results. In such cases pre-separation of specific residues may be carried out using TLC (4.6.8.), HPLC (4.6.9.) or column fractionation (4.6.10.) prior to reaction.

(c) Other methods

Many pesticides are susceptible to degradation/transformation by enzymes. In contrast to normal chemical reactions, these processes are very specific and generally consist of one of the following: oxidation, hydrolysis or de-alkylation. The products possess different chromatographic characteristics from the parent pesticide and may be used for confirmatory purposes if compared with reaction products using standard pesticides.

4.6.13 Mass spectrometry. Results obtained using mass spectrometry present the most definitive evidence for confirmation/identification purposes. Where the apparatus is available it is usually the confirmatory technique of choice. There are two principal methods of introducing samples into the instrument. The preferred method utilizes gas chromatographic separation prior to introduction into the mass spectrometer. This allows full mass spectral analysis of the peak observed during the primary analysis. Alternatively, samples can be introduced using the direct insertion probe technique. this method can be used in conjunction with TCL or HPLC when these have been used as initial confirmatory procedures. Residues separated in these techniques are isolated and subjected to mass spectrometry. To increase sensitivity, particularly with fast scanning quadrupole instruments, techniques known as single and multiple ion detection have been used. A sufficient number of fragment ions must be selected to ensure unambiguous identification. Increased sensitivity with respect to the molecular ion may be obtained by using chemical ionization in place of electron-impact. As mass spectrometers are generally sensitive at the nanogram level some extracts from primary gas-liquid chromatographic analysis may require concentration before mass spectrometric analysis, particularly when electron-capture detectors have been used for quantification. In some cases additional clean-up may be necessary, particularly if full spectra are to be obtained. Problems can be encountered with heat-sensitive compounds during mass spectrometry and particular care has to be taken when coupling gas chromatographs to mass spectrometers. As there is almost no differential response to compounds in mass spectrometry complications can arise in the presence of co-eluting contaminants. A useful introduction of the various techniques is to be found in "Mass Spectrometry of Pesticides and Pollutants" by O. Hutzinger and F. Safe, CRC Press 1973 and "Biochemical Applications of Mass Spectrometry" first supplemental volume, chapter 23 by J.A. Sphon and W.C. Brumley: Book edited by G.R. Waller and O.C. Dormer, John Wiley & Sons, New York 1980.

4.6.16 Spectral measurements. At present little use is made of infra-red, Raman or nuclear magnetic resonance spectroscopy in pesticide residue analysis. Instrumental techniques using multiple reflection cells, microcells, microprobes, laser light, Fourier Transformation etc. are being developed. These improve the quality of spectra and enhance the sensitivity and may enlarge the application of these techniques as post-column detection methods for identification of compounds isolated by chromatographic techniques.

REPORT OF THE AD HOC WORKING GROUP ON SAMPLING

Membership: (see Appendix I for addresses)

D.C. Abbott	- United Kingdom
A. Ambrus	- Hungary
A. Andersson	- Sweden
S. Bailey	- United Kingdom
J.A.R. Bates(Chairman)	- FAO
H. Beck	- Fed. Rep.of Germany
J. Benstead	- Australia
R. Blinn	- GIFAP
G. Bressau	- Fed. Rep.of Germany
G.L. Castro	- Cuba
E. Celma	- Spain
W.P. Cochrane	- Canada
W. Dejonckheere	- Belgium
S.V. Denes	- Romania
J.F. Eades	- Ireland
H. Frehse	- IUPAC
H.O. Friestad	- Norway
Cecilia P. Gaston	- Philippines
B. Jurien de la Gravière	- France
M. Green Lauridsen	- Denmark
E. Gonzalez	- Venzuela
S. Gorbach	- Fed.Rep. of Germany
R. van Havere	- Belgium
M. L'Hotellier	- France
N. Fred Ives	- USA
S. Iwanaga	- Japan
A. Kiviranta	- Finland
M.R. Lynch	- Ireland
L.G. Ladomery	- FAO
M.A. Martinez	- Mexico
M. Mutter	- Netherlands
G.B. Pickering	- United Kingdom
G.M. Telling	- United Kingdom
R.C. Tincknell	- GIFAP
L.G.M. Tuinstra	- Netherlands
P.M. Vermes	- Israel
J.R. Wessel	- USA
K. Wickström	- Finland

Portion of the commodity to which Codex limits apply and which is analysed

The Working Group considered the above document (Appendix III, ALINORM 81/24) in the light of comments.
Several members confirmed that for some commodities, in particular those with inedible peel, e.g. some Citrus fruit, some national limits apply to the edible portion of the commodity. The Group discussed fully a suggestion from the Spanish delegation to change the definition for Citrus fruit from whole commodity to 'edible portion'. The Group again reaffirmed its view that the objective of residues analysis in monitoring good agricultural practice was best served by considering the whole commodity as it moved in trade; this is in line with current JMPR practice.
Changes in agricultural practices which can result in higher residues in whole fruit, but no related increase in the edible portion, should be forwarded for consideration by the Joint Meeting in the usual way.

The delegate of Spain agreed to provide the residues data on mandarins for a future meeting.

Guidelines on trials in which treated crops are fed to animals or the pesticide is applied directly to the animal

The Group expects to consider a first draft of the above guidelines before the next CCPR meeting.

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

The above Working Group held its session during the fourteenth Session of the CCPR (14-22 June 1982, The Hague). It had before it documents WG-D2 82/1 which contained the provisional agenda and WG 3/CX/PR 82/2 containing an analysis by Dr. Roger C. Blinn (GIFAP-USA) of the replies received from certain countries in response to the second questionnaire. The meeting was attended by representatives of the following countries and international organizations.

country/organisation	Name of the participant
WHO	H. Gorchev
	G. Vettorazzi
FAO	J.A.R. Bates
	N. Rao Maturu
	L.G. Ladomery
GIFAP	Larry R. Hodges
	Burton B. Hodgden
	H. Leng
	F.J. Raveney
	G.M. Stone
	G.B. Fuller
	R.A. Conkin
	Samuel F. Rickard
	W. Graham
	R. Rowe
	J.H. Reed
	Roger C. Blinn
	René J. Lacoste
	G.R. Gardiner
	D.S. LaHoda
	Ralph M. Hill
OECD	Lowell E. Miller
United States of America	Stanford N. Fertig
	Jack Frawley
	D.M. McCollister
	Edwin Johnson
	Ralph Ross
Uruguay	Carlos Correa
Thailand	Prayoon Deema
	Oratai Silipanapaporn
	Udon Dechmani
Sweden	Georg Ekström
Philippines	Cecilia P. Gaston
Portugal	Assuncáo Vaz
Rep. of Korea	J.Y Aun
	S.B. Yoo
Yugoslavia	Franja Coha
Kuwait	Laila Al Omran
	Ghavib Khamis
	Jaafar Solayman
France	B. Jurien de la Gravière
The Netherlands	A.F.H. Besemer
United Kingdom	J.D. Garnett
	G.R.R. Jenkins
	D.C. Abbott

country/organization	Name of the participant
United Kingdom (cont.)	R.C. Tincknell
	F. Chandra
Angola	Albina Africano
	Adriana Januario
Ecuador	Mercedes Bolanos
Chile	Roberto H. Gonzalez
Cameroon	Nkuo Thaddeus
	Nganko Pierre
Cuba	Arnaldo Castro
Fed. Rep. of Germany	Gabriele Timme
	Rezhold Thil
	Elise Jinthia
	Gerhard Bressau
	S.G. Gorbach
	Dietrich Eichler
Canada	Jean Stalker
Brazil	Durval Henriques da Silva
	Alberto Furtado Rahde (Rapporteur)
Australia	A.L. Black
	J.T. Snelson
Argentina	Beatriz Diaz-Holton
Mexico	M.A. Martinez Munoz (Chairman)

The Working Group was presided over by Dr. M.A. Martinez (Mexico). Dr. A.F. Rahde (Brazil) acted as Rapporteur.
The provisional agenda was adopted without change.

Matters of interest to the Working Group
Codex Committee and Regional Coordinating Committee

The Working Group noted that a need to develop a code of ethics for international trade in pesticides and their marketing and use in developing countries was raised by the Asian Coordinating Committee at its 3rd Session held in Colombo but agreed to discuss it under a later agenda item.

WHO activities

The Working Group noted that the pesticide problems were presently looked after by the International Programme on Chemical Safety within WHO. The programme was supported by the three international organizations WHO, ILO and UNEP. The number of countries that had signed the memorandum of understanding presently stood at 10 (Bulgaria, Canada, Czechoslovakia, Finland, Italy, Japan, Sweden, United Kingdom, United States of America and USSR); that of countries that had finalized it are 8 (Australia, Belgium, Brazil, France, Israel, Netherlands, Norway and Federal Rep. of Germany); and that of countries that had expressed interest to join the IPCS very soon stood at 12 (Bangladesh, Denmark, Egypt, India, Mexico, Nepal, Pakistan, Poland, Sri Lanka, Switzerland, Thailand and Yugoslavia).
The IPCS is actively interested in the control and management of industrial chemicals, including pesticides. The activities of JMPR (WHO side) are already integrated with IPCS. Hope was expressed that more and more developing countries would sign the memorandum of understanding which would then strengthen IPCS which could embark on a number of activities related to pesticides, that would be beneficial to the developing countries.

FAO activities

The FAO representative informed the Working Group that the Second Consultation on the International Harmonization of Pesticide Registration Requirements would be held in Rome, 11-15 October 1982. He expected that invitations would be sent to member countries at the end of June.

Each member government will be invited to prepare a brief summary (1 page) of its national registration process and the resources available for its implementation, according to suggested guidelines. The consultation will operate through four appointed committees to deal with:

1. Harmonization of data requirements for registration;
2. Registration procedures (FAO model scheme);
3. Effective national control of pesticides, including restrictions on availability, specifications, labelling, packaging, storage and disposal;
4. Coordination of international activities.

The Consultation will discuss ways and means of achieving harmonization and will seek commitments from member governments to implement any guidelines agreed by the Consultation.

Activities of other organizations

Association of Official Analytical Chemists (AOAC)

AOAC provides a mechanism by which scientists in government and industry laboratories work together to develop, test and collaboratively study methods of analysis. The results of those interlaboratory collaborative studies are reliable methods for use by laboratories. The collaborative studies provide information on the repeatability and reproducibility of the methods. AOAC publishes the methods and collaborative studies. AOAC can offer the analytical laboratories in developing countries the opportunity to participate in collaborative studies of interest to them, contact with scientists in many laboratories through the talent file now under development, meetings and workshops and access to publications on methods of analysis, laboratory quality assurance, and other topics.

Organization for Economic Cooperation and Development (OECD)

The OECD Expert Group on Information Exchange Related to the Export of Hazardous Chemicals, under the leadership of Canada, has completed its work and submitted a final report. The Expert Group, in its report, suggests a two-step approach to meeting the informational needs of importing countries and proposes guiding principles on information exchange related to the export of hazardous chemicals. The Expert Group expressed the view that the guiding principles resulting from this work should be applicable, also, to non-OECD countries. This matter will be before the Second OECD High Level Meeting on Chemicals to be held in October 1982. The report of the Expert Group will be made available to all interested persons in the near future. The next phase of this activity will include the coordinating of this work with similar work being carried out in other international organisations.

Follow-up of recommendations of the Working Group (Appendix V, ALINORM 81/24) FAO/WHO

The Working Group recommended that a model pesticide laboratory be set up jointly by FAO/WHO. The Working Group noted that both FAO and WHO had been approached by different member governments with a proposal to set up pesticide laboratories but the needs of the governments differed significantly.

The Working Group was informed that it could be difficult to prepare guidelines for setting up a laboratory in any member country without a good knowledge of its sources and capabilities.

Representatives of developing countries

The delegation of Mexico, through Dr. Rahde, informed the Working Group of the proceedings of a meeting held in Mexico on "Adequate Pesticide Use" in March 1982. This activity represents an effort made by a region in the developing world to deal with pesticide problems that face that region. The recommendations of the meeting are given in Annex II to this Appendix.

The delegation of Argentina informed the Working Group that its government was embarking on a national surveillance programme in milk and dairy products.

This programme would evaluate 1) pesticide residues, 2) heavy metals, 3) mycotoxins, 4) antibiotic residues and 5) bacterial contaminants in foods.

The delegation of Brazil informed the Working Group that its government is collaborating in furnishing regulatory data to the files of IRPTC (International Register for Potentially Toxic Chemicals), which is connected with IPCS. (see also Annex II to this Appendix).

Second questionnaire on pesticide residue analysis and evaluation and manpower development in developing countries (Para 184, ALINORM 83/24).

Dr. Roger Blinn, Representative of GIFAP, informed the Working Group of the results of the questionnaire on pesticide residue analysis and evaluation and manpower development that he had sent out to developing countries. 18 replies to the questionnaire had been received, 1 from Africa, 1 from Europe, 1 from the Far East and the rest from Latin America. Most of the countries answering the questionnaire either had legislation to regulate and control pesticide usage in their country or legislation was pending. Also most of the countries had some type of control over pesticide residues. When addressing the question as to their ability to provide assistance to other developing countries in pesticide regulations and pesticide control most countries believed that such assistance could depend upon financial aid from international organizations.

The Working Group was informed that FAO could support small projects from its Regular programme funds (TAP funding) but through the assistance of UNDP if the project needed more funding. The member country should formulate a project and submit the proposal to FAO through the proper channels.

The initiative should be taken by the member government which needed the project.

The Working Group noted that certain developed countries such as Australia, Fed.Rep. of Germany and France were most willing to provide assistance to developing countries in i) sampling for formulation and quality control, ii) sampling of plant products for pesticide residue evaluation, iii) training in analytical techniques and iv) training in handling specialized equipment.

The Working Group expressed its opinion that it would be worth while to send out a third questionnaire on similar lines as the second questionnaire.

The Secretariat felt that a clearly worded circular letter asking for similar information could also be sent to all Codex Contact points.

The Working Group was informed by the delegation of the Philippines about the UNDP/UNIDO Regional pesticide network programme for Asia and the Pacific for the production and control of pesticides. The first technical advisory Committee meeting would be held in Bangkok in August 1982. The objectives of the project funded by UNDP/UNIDO are

i) Harmonization of pesticide registration requirements
ii) Formulation of pesticides
iii) Support of activity on pesticide problems within the region
iv) Training

Similar projects as supported by UNDP/UNIDO in other regions such as Africa and Latin America would strengthen pesticide activities in some regions.
The Working Group was informed that training normally formed a component in projects supported by FAO.

Consideration of the need to develop a code of ethics for international trade in pesticides and their marketing and use in developing countries

The Working Group felt that there was an urgent need to develop a code of ethics for international trade in pesticides and their marketing and use in developing countries. The Working Group noted that the code was more important to countries that had no registration procedures and stressed the need for the countries to strengthen their infrastructure for controlling the import of pesticides.
The FAO representative informed the Working Group that elaboration of such a code may be recommended by the FAO Consultation on harmonization of pesticide registration requirements to be held in Rome, October 1982; FAO taking a coordinating role to elaborate the code in collaboration with other organizations e.g. WHO, UNEP etc. The draft could be discussed by CCPR at its next session.

Recommendations for Action

The Working Group reiterated that the recommendations which it had made at the Twelfth and Thirteenth Sessions of the CCPR (ALINORM 81/24 and ALINORM 83/24) still held good and that these should be combined by the Secretariat and brought to the attention of the Codex Regional Coordinating Committees and other interested bodies.

Other Business

Dr. M.A. Martinez (Mexico) was elected Chairman of the Working Group from the end of the 14th Session to the end of the 15th Session of CCPR. The Working Group felt the need to appoint three vice chairmen in the regions of i) Asia and the Far East, ii) Africa and iii) Latin America in order to strengthen the activities of the Working Group in the regions but left their nomination to the plenary meeting.
Dr. A.F. Rahde (Brazil) who acted as rapporteur for the last two sessions of the Working Group were nominated as vice chairman for the Region of Latin America. The appointment of rapporteurs was referred to the plenary session of the CCPR. (see also para 219 of the Report).

Statements of Delegations in connection with the Report of the Ad Hoc Working Group on Pesticide Residue Problems in Developing Countries

Delegation of Argentina

Argentina has started, during the years 1980/1981, a survey of countries, organizations and institutions, private and public, which deal with the development, control and analysis of pesticides.
This survey was completed during the period 1981/1982 and covered consultations with:

a) authorities of public health and agriculture in the main provinces of food producers and in the regional universities;
b) the Advisory Centre of the National Institute for Agriculture Technology (INTA);
c) private organisations such as commercial institutions dealing with refrigeration plants and milk products, and some other non-scientific organisations;
d) private scientific institutions such as Instituto Nacional de Bromatología y Farmacología, Instituto Nacional, Malbran Instituto de Biología La Plata, Centro Industrial de Tecnología Lechera (CITL), Instituto de Tecnología Lechera Universidad Nacional de Rosario, Cátedra de Toxicología Universidad Nacional de Buenos Aires, Centro de Desarrollo Bioquímico - Universidad Nacional del Sur, Centro de Investigaciones Bíoquímicas "Org. Campomar", Servicio Nacional de Laboratorios de Productos Ganaderos, Instituto de Sanidad de Buenos Aires, etc.

Delegation of Uruguay

Uruguay has established in its country a National Commission on Biological Residues for meat and meat products which, through the coordination of all sectors with jurisdiction in this matter, is responsible for the control of these foods.
Investigations carried out during the last years on samples of the fat of animals slaughtered in this country, using random and biased sampling indicate that until now meat produced by 70% of animal producers has been analysed for pesticide residue.
A decrease in the number of non-complying samples was observed, as a result of the application of regulations and of extension work carried out on animal farms which faced problems.

Delegation of Chile

Although Codex MRLs have been officially accepted by Chile some export items such as fresh fruit, apples, table grapes and nectarines have to be produced in accordance with tolerances established by importing countries rather than with Codex MRLs.
It is noted that among importing countries in Europe and the United States of America there are substantial differences in MRLs for particular crops (e.g. ethion, carbophenothion, methidathion). It is equally noted that among importing countries there are substantial differences in the terms of registration of certain chemicals for particular commodities (e.g. thiabendazole, chlorpyrifos-ethyl).
Consequently Chile has to be permanently alert for this sort of information which is not always readily available, since some importing countries review their requirements from time to time.
In Chile, pesticide registration procedures are global, i.e. not for specific crops. Thus some chemicals, once registered, might include in their recommendations several crops for which the use is not allowed even in the countries of origin (manufacturing countries).

Appendix V (contd.)
Annex I (contd.)

Therefore, we request that GIFAP transmit to their associates this concern and request that local recommendations be made according to the approved pattern of use. A "code of ethics" is badly needed in this respect.
Finally, in view of the lack of local residue data, we endorse the recommendation to set up a regional pesticide analysis structure to facilitate information/training in this respect. At present, even though some laboratory facilities are in operation in Chile, these are still far from what is needed. It is also noted that a wide array of pesticides is marketed in Chile and it is difficult to cope with the analytical information needed.

Delegation of Ecuador
The MRLs recommended by Codex have been included in Ecuadors Pesticide law. Ecuador is studying the Codex MRLs and will notify its acceptances during 1983. The delegation supports the appointment of coordinators on pesticide matters for the Codex Regions and also supports the idea of establishing a regional model laboratory for pesticide residues.

Third meeting of consultation about adequate pesticide use in America and the Caribbean
Mexico city, March 1982

Recommendations

1. Believing that all countries should have the means to control the importation, production, formulation, transport and use of pesticides in their territories, the meeting recommends that, as appropriate, member countries should enact relevant legislation as soon as possible to ensure these objectives.
Such legislation should be reviewed regularly. In the interests of harmonization,countries should base the requirements of such legislation on the recommendations of international bodies such as FAO and WHO.

2. The meeting considered that it is advisable that the registration of pesticides should be managed by a central organization, within a country, supported and advised as appropriate by all Departments with an interest in the safe and efficient handling and use of pesticides.

3. The meeting supports the adoption and use of the recommendations of the 1977 Government Consultation on the Standardization of Pesticide Registration Requirements (FAO, Rome 1977). In particular countries should adopt the definitions in the report and require the registration of the compounds included in such definitions.

4. The meeting recommended the formation of regional working groups on registering requirements and pesticide labelling as well as other relevant activities based on the evaluation of the Consulting Report (FAO, Rome 1977) in the light of the needs and views of individual countries of America and the Caribbean.

5. The meeting recommended that consideration should be given by governments to legislation of the commercial application and advertising of pesticides. The licensing and training of commercial applicators is desirable.

6. Noting that there was already a well-established international system for harmonizing maximum residue levels of pesticide residues in food in the FAO/WHO Codex Committee on Pesticide Residues (CCPR), the meeting recommended that all countries actively consider the adoption of the limits recommended by the Codex Alimentarius Commission.
The Ad-Hoc Working Group of Developing Countries at the CCPR currently provides a working forum for member countries problems on pesticide residues (Recomm.4).

7. Recognizing that the ultimate responsibility for the safe and efficient use of pesticides lies with the user, the meeting recommended that high priority be given to regional collaboration in programmes for education and training. In order to execute such programmes a regional working group should be established as soon as possible to organize and carry out this extremely important task. Such programmes must include training on:
1. Registration systems
2. Labelling elaboration

APPENDIX V
Annex II (contd.)

3. Pesticide applications
4. Analytical procedures for quality control of pesticide formulations and residue analysis (Recomm. 4).

8. The exposure of field workers to pesticides should be studied by appropriate epidemiological monitoring techniques and incidents and results validated and coordinated by National Poisons Information Centres. Such Centres should be established, as appropriate, in member countries.

9. The meeting agreed that IICA in conjunction with OIRSA as appropriate should be responsible for coordinating further actions on recommendations from this meeting. This responsibility should include the collection and dissemination of all related information, beginning with an actual list of registered formulations as well as successive pesticide legislation. Because of the general lack of knowledge and wide misunderstanding of the pesticides and their use, the meeting recommended that consideration be given to the use of mass media in promulgating information of adequate use of pesticides.

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REPORT OF THE AD HOC WORKING GROUP ON REGULATORY PRINCIPLES

Memberships: (see Appendix I for addresses)

1. The following persons took part in the discussions of the ad hoc Working Group on Regulatory Principles:

D. Abbott	United Kingdom
A. Anderson	Sweden
S. Bailey	United Kingdom
J.A.R. Bates	FAO
P. Bennett	Canada
R. Belcher	Australia
A.F.H. Besemer	The Netherlands
A. Black	Australia
R. Blinn	GIFAP
G. Bressau	Federal Republic of Germany
R.A. Conrin	GIFAP
P. Deema	Thailand
U. Dechhani	Thailand
G. Ekström	Sweden
S. Eamrungroj	Thailand
S. Fertig	United States of America
H. Friestad	Norway
G. Fuller	GIFAP
J. Garnett	United Kingdom
C. Gaston	Philippines
S. Gorbach	Fed. Rep. of Germany
M. Hascoët	France
R. van Havere	Belgium
R. Hill	GIFAP
M. l'Hotellier	France
F. Ives	United States of America
G. Jenkins	United Kingdom
E. Johnson	United States of America
J. van der Kolk	The Netherlands
L.G. Ladomery	FAO
M. Lynch	Ireland
M. Martinez	Mexico
N. Rao Maturu	FAO
R. Maybury	Canada
H.M. Nollen	The Netherlands
D. Papworth	United Kingdom
A. Rahde	Brazil
J. Reed	GIFAP
H. Regenstein	GIFAP
S. Rickard	GIFAP
T. Smith	Norway
J. Snelson	Australia
J. Stalker	Canada
O. Silapanapaporn	Thailand
R. Ticknell	United Kingdom
G. Vettorazzi	WHO
B. Wahlström	Sweden
B. Watts	New Zealand
J. Wessel (Chairman)	United States of America

Questionnaire on National Pesticide Regulatory Systems

2. During 1981 the Working Group circulated a questionnaire to member nations to obtain information on their national systems for regulating pesticide residues in food. It was felt that this information could serve to identify factors that may impede governments from accepting and applying Codex MRLs.
The interim results of the questionnaire were discussed at the 13th Session of the CCPR and it was decided that a summary of the responses to the questionnaire should be made available to member countries. The Working Group accepted the offer of the United Kingdom delegation to prepare the summary.

3. At the 14th Session of the CCPR, the Working Group considered a document prepared by the United Kingdom which provided a proposed tabular format for listing each governments reply to the more important questions. The Working Group expressed its appreciation to the United Kingdom delegation for developing the document. It was agreed that the tabular summary was easy to follow and provided useful information on the systems governments follow in regulating pesticides and their relationship to the work of the CCPR.
Accordingly the Working Group recommended that the CCPR react favorably to its proposal that the United Kingdom prepare a final version of the tabular summary for distribution to member countries in the coming year. The United Kingdom also volunteered to up-date the information in the document periodically. The Working Group also recommended that the CCPR encourage the governments that have not submitted their replies to the questionnaire to do so as soon as possible. The member nations that have already responded should be encouraged to notify the United Kingdom from time to time of changes in their regulatory systems that would alter their original answers to the questionnaire.

4. The Working Group also reviewed its final report on the results of the questionnaire (CX/PR 82/15). This report lists the 48 member countries that responded to the questionnaire (Appendix I) and provides a profile of their pesticide regulatory systems. The report further provides the Working Group's analysis of the relationship of these systems to CCPR objectives and lists factors which this analysis identified as obstacles to acceptance of Codex MRLs by governments. Based on these factors, the Working Group agreed that matters of policy and attitude in the application of national laws, as well as the laws themselves can prevent governments from accepting Codex MRLs. It was also noted that the fact that governments may not be able to recognize the good agricultural practice needs of other countries represents a particularly critical issue in the consideration as to why Codex MRLs are not always acceptable to member nations.

5. The Working Group concluded that as a measure towards overcoming the problems identified in the report, guidelines on regulatory practices in the context of CCPR objectives should be developed. Such guidelines could explain the principles followed by the CCPR concerning various aspects of pesticide regulation. They could serve both as an educational tool for national agencies administering pesticide and food legislation and as a basis for harmonizing the policies and practices under national systems in relation to CCPR objectives. If the CCPR agrees with this recommendation, the Working Group can undertake development of a working paper on the proposed guidelines for discussion at the next Session of the CCPR.

CCPR glossary of terms

7. The Working Group discussed its paper on Codex definitions of terms relative to pesticides (CX/PR 82/16). This paper had been prepared in response to the decision made at the 13th Session of the CCPR that the Working Group review the existing definitions and recommend appropriate changes and additions. The paper describes the results of the Working Group's review and includes a proposed glossary of terms for use in the context of the work of the CCPR (Appendix I of CX/PR 82/16). The proposed glossary includes definitions for 13 terms, whereas the current guide to Codex Maximum Limits for Pesticide Residues (CAC/PR 1-1978) has definitions listed for only 5 terms. The new terms that the Working Group agreed should be added to the list are frequently used by the CCPR, and the Working Group considered that the definitions are needed to clarify and assure understanding of the meaning of the terms in the context of the CCPR.
Also the additional terms and changes in existing terms should assure that the definitions used by the CCPR and JMPR are in agreement as far as possible.

8. In discussing the proposed glossary the Working Group agreed that a number of further changes should be made in several of the definitions. Also it was noted that governments have not had ample opportunity to consider and comment on the Working Group's paper.
Accordingly the Working Group concluded that the CCPR should request member countries to submit their comments on the proposed glossary (Appendix I, CX/PR 82/16) to the Chairman of the Working Group before October 1, 1982.
A revised glossary, based on the comments received, will be prepared by the Working Group and circulated to governments for discussion at the next Session of the CCPR.

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ALINORM 83/24A
Appendix VII

REPORT OF THE AD HOC WORKING GROUP ON PRIORITIES

Memberships: (see Appendix I for addresses)

J.A.R. Bates	FAO
R. Belcher	Australia
J. Benstead	Australia
A.F.H. Besemer	The Netherlands (Chairman)
A.L. Black	Australia
G. Bressau	Federal Republic of Germany
P. Deema	Thailand
U. Dechmani	Thailand
G. Dupuis	SGCI/Switzerland
S. Eamrubgroj	Thailand
S. Gorbach	JPS/Federal Republic of Germany
J. Hascoet	INRA/France
M.R. Lynch	Ireland
L.G. Ladomery	FAO
M. L'Hotellier	France
G. Matthys	EPPO/France
D.S. Papsworth	United Kingdom
N. Rao Maturu	FAO
R.T. Ross	United States of America (Rapporteur)
J. Stalker	Canada
O. Silapanapaporn	Thailand
J.T. Snelson	Australia
G. Vettorazzi	WHO/IPCS
B.A. Wahlström	Sweden
B.B. Watts	New Zealand
G. Willis	GIFAP

1. INTRODUCTION

After the Chairman had welcomed the participants of the Priorities Group, a tentative agenda was adopted, and the Canadian delegation was recognized for putting together the work for the Group to review. The Chairman called attention to the terms of reference and criteria cited in the 1981 report (Appendix VI, ALINORM 83/24).

2. REPORT ON PLANS FOR THE 1982 JMPR

The FAO Secretariat circulated the list of compounds prepared for consideration by the 1982 JMPR.

Of the pesticides recommended for priority attention by the 13th Session of the CCPR (Appendix VI, ALINORM 83/24), positive responses for providing data have been received for 3 compounds (phoxim, triazophos and metalaxyl), fenarimol has been deferred, and in the case of 2 compounds (ethoprophos and isoprocarb), no responses have been received. Data for the 1982 JMPR had been requested to be supplied on or before May 31, 1982, and the Secretariat indicated that no data would be considered after June 30, 1982.

In addition to the 3 new compounds from the 13th Session, data have been supplied for bendiocarb which has been added to the 1982 list, making a total of four new compounds.

Isoprocarb and ethiprophos were also on the 1981 Priorities List I but no response had been received on the availability of data. The Group agreed that isoprocarb should remain a priority but be deferred until 1983. The difficulty in obtaining data may be attributed to the lack of previous interaction and familarity of the sponsoring company with the work of the JMPR.

For ethoprophos, there has been a change in the sponsoring company. It was agreed that it should remain a priority but placed on List III because of questions raised as to whether or not ethoprophos leaves significant residues.

If data for benomyl and methomyl are received in 1982 these compounds will be reviewed.
It was noted that only four new compounds were on the 1982 JMPR agenda, and questions were raised if this is a trend for reduction in the work load of the JMPR. The WHO Secretariat responded that although the Joint Meeting has only four new compounds, the 1982 agenda also includes validation of IBT (Industrial Biotest Laboratories) studies and other compounds to be re-evaluated.

3. NEW COMPOUNDS FOR THE 1982 JMPR

phoxim	metalaxyl
triazophos	bendiocarb

4. ESTABLISHMENT OF THE 1983 PRIORITY LIST

The Group considered the chemicals which had been proposed for addition to the priority lists. It was agreed that the most useful way of presenting proposals to the CCPR was in the form of three lists as in previous years.

(a) List I - This list consists of compounds judged to meet the selection criteria and that can be considered for evaluation by the 1983 JMPR.

isoprocarb	butocarboxim	terbufos
nitrofen	bitertanol	

(b) List II - This list consists of compounds judged to meet the selection criteria and which could be considered for evaluation by the JMPR in the succeeding year (1984) or later depending upon the availability of adequate scientific and technical data. Current expectations are that information will be available for some compounds while others may have to be deferred to subsequent years.

thiofanox*	prothiofos (1984)
vinclozolin*	cyhalothrin (1984)
glyphosate*	
oxycarboxin*	

*Date for data not known

(c) List III - This list consists of compounds identified from various sources that were tentatively judged to meet the selection criteria and are drawn to the attention of countries and manufacturers.

ethoprophos
promacyl

5. COMPOUNDS TO BE REMOVED FROM THE PRIORITY LIST

The Chairman called to the attention of the Group the compounds in List III in the report of the Twelfth Session (Appendix IV, ALINORM 81/24). These compounds had been identified from various sources and had been tentatively judged to meet the selection criteria and are drawn to the attention of member countries and manufacturers. The compounds were as follows:

dalapon	pentachlorophenol
famphur	propyzamide
metaldehyde	pyrazophos
naled	quinalphos

Since no responses were received from member countries and manufacturers at the time of the 1981 meeting, the group had agreed that these compounds should be removed from the list. Although these compounds meet the criteria, sufficient information for their evaluation has not been forthcoming.

Appendix VII (cont'd)

The Group concluded that sufficient time may not have been provided to enable member countries and manufacturers to respond, and another year should be allowed. In particular, the need for residue and toxicity data on these compounds will be referred to representatives of GIFAP.

6. REVIEW OF CAPTAN AND BENOMYL

Sweden had submitted proposals that new toxicity data on captan and benomyl be reviewed by the JMPR. The WHO Joint Secretary advised that captan was scheduled for re-evaluation in 1982 in order to validate studies carried out by IBT. The new toxicity information referred to by Sweden will be taken into consideration.
It was stated that toxicity data on benomyl and its metabolite carbendazim would not be available for evaluation in 1982, but discussions were proceeding with a view to having it available in 1983. In view of the implications for international trade, the importance of having benomyl evaluated was stressed by the Group.

7. REVIEW OF THE 1982 REPORT ON GOOD AGRICULTURAL PRACTICE (GAP)

The Canadian delegate gave a brief summary of the 1982 GAP report. The task of obtaining information on good agricultural practice had been given to the Canadian delegation at the 5th Session (paragraphs 14, 15 and Appendix VIII, ALINORM 71/24). The first survey had been done in May 1971 and updated in 1977 and 1980. The second survey had been initiated in 1974 with subsequent up-dates in 1978 and 1981. It was pointed out that the commodities surveyed were the most important food commodities in international trade according to FAO statistics.
The Canadian delegate suggested that in the future the Good Agricultural Practice Report should be considered for up-date at intervals of five years, rather than three. The group expressed their appreciation to the Canadian delegation for preparing the report and requested the Chairman to emphasize to the plenary session that efforts to broaden the usefulness of the report will depend on the quality of responses from member countries to the questionnaire for the next revision.
The Group noted that an alphabetical listing of pesticides from the two reports (CX/PR 81/8 and CX/PR 82/17) had been extracted. The US delegate agreed to add to the report an indication of the uses which were not supported by Codex MRLs. This list will be circulated to member countries to assist them in selecting compounds which merit priority and uses which should be referred to the JMPR.

8. SUBMISSION FROM AUSTRALIA CONCERNING CHEMICALS USED FOR MASS MEDICATION OF FOOD-PRODUCING ANIMALS

The Australian delegation submitted a proposal for "Chemicals used for Mass Medication of Food-Producing Animals" for consideration by the Working Group on Priorities (see Annex I). It stated that certain types of chemicals for which no international regulatory provisions exist were widely used for mass medication of food-producing animals. In most member countries veterinary drugs were distinguished from pesticides but were nonetheless subject to regulatory authorities. He recognised that it would put pressure on the already heavy work load of the JMPR, but in view of public concern and international trade implications, he did not think the problem could be put aside simply because of work pressures. The delegations of the United States of America, United Kingdom and the Federal Republic of Germany agreed there could be residue problems associated with at least some of the compounds put forward by the Australian delegation. However, many countries exercised control of such products through regulations governing medicines rather than pesticides, and they doubted whether the CCPR was the appropriate body to consider the matter.

They felt that the Commission should have the problem brought to its attention. The representative of WHO recognized the need to consider this question and thanked the delegation of Australia for bringing the matter to the attention of the Group. He stated, however, that the JMPR or the Joint Expert Committee on Food Additives would need additional expertise to deal with the issues; the International Programme on Chemical Safety (IPCS) might be an appropriate alternative. The secretary of the FAO pointed out that, since the FAO Panel of Experts on Pesticide Residues was part of the programme of the FAO Plant Protection Service it could not consider products outside its remit, which should properly be dealt with by another division of FAO.

The Group:
(1) recognized the problems with pesticides and/or other compounds which are used as drugs on food-producing animals,
(2) recognized that there may be residues which cause problems in international trade,
(3) agreed that the Australian submission should be presented to the plenary session for consideration by member countries, and
(4) recommended that the CCPR ask the Commission for a decision as to whether it would be appropriate for the CCPR to undertake the work or, if not, what other body should undertake the task.

9. OTHER BUSINESS

The delegate of New Zealand asked the Chairman if the Group would consider a verbal proposal for the compound flucythrinate for which the manufacturer had agreed to provide data.
The Chairman thanked the delegate from New Zealand and proposed that he submit the request, with a justification, in 1983 and if data were available the compound could be added to List I (to be reviewed in 1984).
The Secretaries of the JMPR indicated that the data on flucythrinate could be submitted directly to the JMPR with a request for their consideration.
The Codex Secretary asked what criteria were used by the Secretaries of the JMPR to place items on the JMPR agenda other than through the Priorities group.
The Secretaries of the JMPR stated that there were responsibilities to satisfy their respective Director-Generals to respond to requests made by member countries to review data on pesticides.

APPENDIX VII
Annex I

SUBMISSION FROM AUSTRALIA TO THE AD HOC WORKING GROUP ON PRIORITIES

Chemicals Used for Mass Medication of Food-Producing Animals

Introduction

1. CCPR is currently recommending MRLs for pesticides used on animals for the control of ectoparasites but this leaves several other categories of chemicals used in or on animals for which no such international regulatory device exists.
2. Anthelmintics form the most important group in this hitherto neglected area but there are a number of others including various types of feed additives.
3. Elaboration of standards for anthelmintics and other groups of mass-medicaments of food-producing animals would seem to be in keeping with the two principal aims of the Codex Alimentarius Commission, ie, to protect the health of consumers and to facilitate international trade.
4. The CCPR definition of the term "pesticide" is certainly broad enough to include a number of animal drugs other than animal pesticides.
5. Existing CCPR procedures for developing recommendations on all matters relating to pesticide residues could be applied to anthelmintics and certain other mass-medicaments virtually unchanged. In most member countries it will be found that regulatory authorities for veterinary drugs and pesticides work in close association with one another. In many cases the one contact point could serve both purposes.
6. It will be necessary to secure JMPR approval since it is this body which initiates most of the proposals considered and elaborated by CCPR. The matter is therefore raised in the first instance with the CCPR Working Group on Priorities.
7. The reasoning in this paper should be just as relevant to the JMPR as it is to CCPR. Both bodies are designed to help implement the FAO/WHO Food Standards Programme.
8. As a first step it is proposed that consideration be given only to anthelmintics and feed additives used in mass-medication of food-producing animals. Depending on the outcome of this test case further categories of animal drugs might be put forward in due course.
9. Lists of anthelmintics and feed additives are attached. These might provide a pool from which appropriate chemicals could be selected for inclusion in the JMPR priority lists.

Submission

- that anthelmintics and many livestock feed additives have all the attributes of what CCPR recognises as pesticides
- that they are widely used in food-producing animals and have the capability to leave residues in meat, milk and eggs
- that these residues can reach consumers without removal by preparation and without significant destruction by cooking
- that these residues are capable of interfering with international trade in food commodities. Importing countries have often shown little concern for disease control measures necessary in the country of origin
- that there is no other international forum for development of internationally acceptable residue standards for anthelmintics, livestock feed additives and several other categories of animal drugs

- that CCPR is the obvious choice for this function since its existing methods and machinery are readily applicable in their present form.

Recommended Action
That JMPR and CCPR be asked to add anthelmintics and livestock feed additives for mass-medication of food-producing animals to the range of chemicals currently being considered.
That further categories of animal drugs be proposed for inclusion at a later date in the event of a favourable outcome to this test case.

Anthelmintics used in mass-medication of food-producing animals

Albendazole
Bromsalans
Brotianide
Carbon tetrachloride
Clioxanide
Closantel
Cambendazole
Dichlorvos
Diethyl carbamazine citrate
Dibutyltin dilaurate
Febantel
Fenbendazole
Hexachloroethane
Hexachlorophene
Hygromycin
Ivermectin
Levamisole
Mebendazole
Morantel
Naphthalophos
Niclosamide
Nitroxynil
Oxfendazole
Oxibendazole
Oxyclozanide
Parbendazole
Phenothiazine
Piperazine
Rafoxanide
Sodium arsenite
Thiabendazole
Thiophanate
Trichlorfon

Feed Additives (excluding antibiotics and growth promotants)

Arsanilic acid
and other organic arsenicals
Acinitrazole
Aklomide
Amprolium
Buquinolate
Carbadox
Decoquinate
Dimetridazole
Dinsed
Dinitro-o-toluamide
Ethopabate
Furazolidone
Lasalocid
Methyl benzoquate
Clopidol (Metichlorpindol)
Monensin
Nicarbazin
Nifursol
Nihydrazone
Nithiazide
Nitrofurazone
Olaquindox
Robenidine
Salinomycin
Sulphadimidine
Sulfanitran
Sulphachloropyrazine
Sulfaquinoxaline

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ALINORM 83/24A
APPENDIX VIII

PORTION OF COMMODITIES TO WHICH CODEX MAXIMUM RESIDUE LIMITS APPLY AND WHICH IS ANALYSED (Advanced to Step 8)

INTRODUCTION

Codex maximum residue limits are in most cases stated in terms of a specific whole raw agricultural commodity as it moves in international trade. 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, the portion of the raw agricultural commodity to which the MRL applies and which is to be prepared as the analytical sample for the determination of pesticide residues is as described in the following table.

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
Group 1. ROOT AND TUBER VEGETABLES	
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	
Bulb vegetables are pungent flavourful 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.	
garlic leeks onions spring onions	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.

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
Group 3. LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES)	
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 beet 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	
Brassica (cole) leafy vegetables are foods derived from the leafy parts, stems and immature influorescences of plants commonly known and botanically classified as brassicas and also known as cole vegetables. The entire vegetable may be consumed.	
brassica leafy vegetables broccoli Brussels sprouts cabbage cabbage, Chinese cabbage, red cabbage, savoy cauliflower collards kales kohlrabi mustard greens	Whole commodity after removal of obviously decomposed or withered leaves. For cauliflower and headed broccoli analyse flower head only; for Brussels sprouts analyse "buttons" only.
Group 5. STEM VEGETABLES	
Stem vegetables are foods derived from the edible stems or shoots from a variety of plants.	

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
artichoke asparagus celery chicory (witloof) rhubarb	Whole commodity after removal of obviously decomposed or withered leaves. Rhubarb stems only. Celery and asparagus: remove adhering soil.
Group 6. LEGUME VEGETABLES	
Legume vegetables are derived from the dried or succulent seeds and immature pods or 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 beans dwarf beans French beans green beans kidney beans Lima beans navy beans runner beans snapbeans soybeans peas cow peas sugar peas	Whole commodity.
Group 7. FRUITING VEGETABLES - EDIBLE PEEL	
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.	
cucumber egg plant gherkin okra pepper summer squash tomato	Whole commodity after removal of stems.
Group 8. FRUITING VEGETABLES - INEDIBLE PEEL	
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.	

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
cantaloupe melon pumpkin squash watermelon winter squash	Whole commodity after removal of stems.
Group 9. CITRUS FRUITS Citrus fruits are produced by trees of the rue family and characterized by aromatic oily peels, globular form, and interior segments of juice filled vesicles. The fruit is fully exposed to pesticides during the growing season. The fruit pulp may be consumed in succulent form and as a beverage. The entire fruit may be used for preserving.	
citrus fruit	Whole commodity.
Group 10. POME FRUITS 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 fruit apple pear quince	Whole commodity after removal of stems.
Group 11. STONE FRUITS 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 sour cherries sweet cherries nectarines peaches plums	Whole commodity after removal of stems and stones but the residue calculated and expressed on the whole commodity without stem.

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
Group 12. SMALL FRUITS AND BERRIES	
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. Currants: fruit with stems.
Group 13. ASSORTED FRUITS - EDIBLE PEEL	
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 olives	Dates and olives: whole commodity after removal of stems and stones but residue calculated and expressed on the whole fruit. Figs: whole commodity.
Group 14. ASSORTED FRUITS - INEDIBLE PEEL	
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.	

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
avocados bananas kiwi fruit papayas passion fruits pineapples mangoes guavas	Whole commodity unless qualified e.g. bananas (pulp). Pineapples: after removal of crown. Avocado and mangoes: whole commodity after removal of stone but calculated on whole fruit.
Group 15. CEREAL GRAINS	
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 rice rye sorghum sweet corn wheat	Whole commodity. Fresh corn and sweet corn: kernels plus cob without husk.
Group 16. STALK AND STEM CROPS	
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 fodder and straw grass fodders maize fodder sorghum fodder	Whole commodity.
Group 17. LEGUME OILSEED	
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.

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
Group 18. LEGUME ANIMAL FEEDS	
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	
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 or processed forms.	
tree nuts almonds chestnuts filberts macadamia nuts pecans walnuts	Whole commodity after removal of shell. Chestnuts: whole in skin.
Group 20. OILSEED	
Oilseed consists of the seed from a variety of plants used in the production of edible vegetable oils. Some important vegetable oilseeds are byproducts of fibre or fruit crops.	
cottonseed rapeseed linseed safflowerseed sunflowerseed	Whole commodity.
Group 21. TROPICAL SEED	
Tropical seeds consist of the seed from several tropical and semitropical trees and shrubs mostly used in the production of beverages and confections. Tropical seeds are consumed after processing.	

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
cacao beans coffee beans	Whole commodity.
Group 22. HERBS	
Herbs consist of leaves, stems and roots from a variety of herbaceous plants used in relatively small amounts to flavour other foods. They are consumed in succulent or dried forms as components of other foods.	
herbs	Whole commodity.
Group 23. SPICES	
Spices consist of aromatic seed, roots, fruits and berries from a variety of plants used in relatively small amounts to flavour other foods. They are consumed primarily in the dried form as components of other foods.	
spices	Whole commodity.
Group 24. TEAS	
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	
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 (carcase fat) carcase meat of cattle carcase meat of goats carcase meat of horses carcase meat of pigs carcase meat of sheep	Whole commodity. (For fat soluble pesticides a portion of carcase fat is analysed and MRLs apply to carcase fat).

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
Group 26. ANIMAL FATS	
Animal fats are the rendered or extracted fat from the fatty tissue of animals. The entire product may be consumed.	
cattle fat pig fat sheep fat	Whole commodity.
Group 27. MEAT BYPRODUCTS	
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, kidney etc.) cattle meat byproducts goat meat byproducts pig meat byproducts sheep meat byproducts	Whole commodity.
Group 28. MILKS	
Milks are the mammary secretion of various species of lactating herbivorous ruminant animals, usually domesticated. The entire product may be consumed.	
milks	Whole commodity.
Group 29. MILK FATS	
Milk fats are the rendered or extracted fats from milk.	
milk fats	Whole commodity.
Group 30. POULTRY MEATS	
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.	
poultry meats (carcase fat)	Whole commodity. (For fat soluble pesticides a portion of carcase fat is analysed and MRLs apply to carcase fat).

Classification and examples of commodities under consideration by Codex Alimentarius Commission	Portion of commodity to which the MRL applies (and which is analysed)
Group 31. POULTRY FATS	
Poultry fats are the rendered or extracted fats from fatty tissues of poultry. The entire product may be consumed.	Whole commodity.
Group 32. POULTRY BYPRODUCTS	
Poultry byproducts are edible tissue and organs, other than poultry meat and poultry fat from slaughtered poultry.	
poultry byproducts	Whole commodity.
Group 33. EGGS	
Eggs are the fresh edible portion of the reproductive body of several avian species. The edible portion includes eggs white and eggs yolk after removal of the shell.	
eggs	Whole egg whites and yolks combined after removal of shells.

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ALINORM 83/24A
APPENDIX IX

STATEMENT BY GIFAP ON THE SUBMISSION OF DATA TO THE JMPR

During the discussion of Guideline Levels, attention was directed to the problems coincident with the failure of some manufacturers to provide to the JMPR relevant data which had been developed for a particular compound. The Chairman undertook to remind industry that such actions did not contribute to harmonization of MRLs at the international level.
GIFAP would like to place on the record of this meeting its commitment to the objectives of the CCPR and of the Food Standards Programme.
However, once again, GIFAP is compelled to express the concerns of basic producers at the failure by many Governments to treat data developed for a specific product as proprietary to the manufacturer who developed the data. Such data, developed to register one specific product, should not be used by national authorities as a basis for registration of products produced by other manufacturers without the written permission of the company that developed the information. Submission of complete data to the JMPR results in the publication of a monograph which, in the absence of a national policy to respect proprietary data, is often sufficient to serve as the basis for commercial registration in some countries, thus resulting in a loss of the proprietary value of the data. This discourages research and development required to develop improved pesticides.
The problem is further complicated by the transfer of WHO-JMPR activities to administration by the IPCS.
Pesticide manufacturers are concerned that proprietary data may be made available to individuals or to Organizations which are not directly and appropriately involved in the established JMPR/CCPR review procedure.
Although GIFAP recognizes that competitive product registration is an issue to be resolved at the national level, the difficulties facing Industry may still be reduced through mutually acceptable procedures for protecting the security of unpublished proprietary data which Industry submits to WHO. These procedures are being reviewed by GIFAP with the WHO/IPCS Secretariat to the JMPR.
GIFAP is continuing efforts to obtain a formal agreement with WHO on this matter so that Industry can make the fullest contribution to the work of the JMPR.
GIFAP will continue to inform its members of the activities and requests for information which are coincident with the programme of the CCPR, and to encourage its members to submit a timely response to requests for data.

MAXIMUM RESIDUE LIMITS AT STEP 8 AND STEP 5 WHERE THE OMISSION OF STEPS 6 AND 7 IS RECOMMENDED

(see also Appendix VII, ALINORM 83/24)

Pesticide	Commodity	MRL(mg/kg)	Step	ALINORM 83/24-A
004 bromophos	bran,wheat (unprocessed)	20	8	para 59
008 carbaryl	kiwi fruit	10	5 1/	para 62
011 carbophenothion	apples	1	8	para 63
	apricots	1	8	
	brocoli	0.5	8	
	brussel's sprouts	0.5	8	
	cattle, carcase meat	1 in the carcase fat	8	
	cauliflower	0.5	8	
	citrus fruit	2	8	
	nectarines	1	8	
	olive oil	0.2	8	
	olives(unprocessed)	0.1	8	
	peaches	1	8	
	pears	1	8	
	plums	1	8	
	sheep,carcase meat	1 in the carcase fat	8	
	spinach	2	8	
016 chlorobenzilate	apples	5	8	para 65
	grapes	2	8	
	milk	0.05 (*)	8	
	tomatoes	0.2	8	
020 2,4-D	blackberries	0.1	8	para 57
	raspberries	0.1	8	
021 DDT	fruit, except grapes	1 (TMRL)	8	paras 74, 76
	vegetables	1 (TMRL)	8	
	cereal grains	0.1(TERL)	8	
022 diazinon	kiwi fruit	0.5	5 1/	para 78
031 diquat	wheat flour(wholemeal)	2	8	para 80
	wheat bran	5	8	para 80
039 fenthion	apples	2	8	paras 85-89
	cabbage	1		
	carcase meat	2(in the carcase fat)		
	cauliflower	1		
	cherries	2		
	citrus fruit	2		
	grapes	0.5		
	lettuce	2		
	milk	0.05		
	olive oil	1		
	olives	1		
	peaches	2		
	peas	0.5		
	rice	0.1		
	squash	0.2		
	wheat	0.1		
	pears	2		
	strawberries	2		
	bananas	1		

1/ Omission of Steps 6 and 7 recommended by the CCPR.
(*) At or about the limit of determination.

APPENDIX X (cont'd.)

Pesticide	Commodity	MRL(mg/kg)	Step	ALINORM 83/24-A
039 fenthion(contd.)				
	plums	1	8	paras 85-89
	tomatoes	0.5		
	citrus juice	0.2		
	beans	0.1		
	onions	0.1		
	sweet potatoes	0.1		
	potatoes	0.05(*)		
048 lindane	cocoa butter	1	8	para 94-97
	cocoa mass	1	8	
057 paraquat	sunflower meal (animal feed component)	2	8	para 102
	sunflower oil (crude or refined)	0.05(*)	8	para 102
074 disulfoton	alfalfa (hay)	10	8	paras 114,115
	clover (hay)	10	8	paras 114,115
076 thiometon	egg plants	0.5	5 1/	para 117
	mustard seed	0.05 (*)	5 1/	para 117
	rape seed	0.05(*)	5 1/	para 117
085 fenamiphos	kiwi fruit	0.05(*)	5 1/	para 123
090 chlorpyriphos-methyl	carcase meat of cattle	0.05	5 1/	para 129
	cattle, fat	0.05		
	cattle, meat by-products	0.05		
	meat of chicken	0.05		
	chicken, fat	0.05		
	chicken, by-products	0.05		
	eggs	0.05		
103 phosmet	blueberries	10	8	para 140
	citrus fruit	5	8	para 140
	cattle, carcase meat	1 in the carcase fat	8	para 142
	forage crops(dry)	5	8	para 143
	kiwi fruit	15	5 1/	para 148
	maize	0.2(kernels and cob with husks removed)	8	para 145
	peas(fresh waned)	0.1	8	para 145
	potatoes	0.05	8	para 145
	sweet potatoes	10(product washed before analysis)	8	para 145
	tree nuts	0.1 on a shell-free basis	8	para 145
109 fenbutatin-oxide	grapes	5	5 1/	para 152
114 guazatine	citrus fruit	5	8	para 57
117 aldicarb	bananas	0.5	5 1/	paras 162-168
	beans (dried)	0.1		
	coffee beans	0.1		
	cottonseed	0.1		
	carcase meat	0.01(*)		
	onions	0.05(*)		
	peanuts	0.05(*)		
	soybeans	0.02(*)		
	sugar beets	0.05(*)		
	sugar beet leaves	1		

(*) At or about the limit of determination.
1/ Omission of Steps 6 and 7 recommended by the CCPR.

Pesticide	Commodity	MRL(mg/kg)	Step	ALINORM 83/24A
121 2,4,5-T	apples	0.05(*)		
	apricots	0.05(*)		
	barley	0.05(*)		
	carcase meat	0.05(*)		
	cereal straw	2	5 1/	paras 54, 201
	eggs	0.05(*)		
	meat by-products	0.05(*)		
	milk	0.05(*)		
	oats	0.05(*)		
	rice	0.05(*)		
	rye	0.05(*)		
	sugar cane	0.05(*)		
	wheat	0.05(*)		

1/ Omission of Steps 6 and 7 recommended by the CCPR.
(*) At or about the limit of determination.

PROPOSED AMENDMENTS TO CODEX MRLS AND ERLS

(Combined proposed amendments arising from ALINORM 83/24 and 24-A)

Key to References: (1) ALINORM 83/24-A, (2) ALINORM 79/24, (3) ALINORM 83/24

Pesticide	Codex MRL/ERL	Proposed change	Step	Reference
004 bromophos	blackberries 0.5 mg/kg	1 mg/kg	8	(1) para 58
005 bromophos-ethyl	milk and milk products 0.2 mg/kg on a fat basis 1/	milk, 0.008 mg/kg	2/	(1) paras 237, 238
006 captafol	onions, 0.5 mg/kg in the bulb	onions (bulb) 0.5 mg/kg	2/	(3) App.VIII
012 chlordane	beans, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	cantaloups, 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	citrus fruit 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	cottonseed oil, crude 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	cottonseed oil, edible, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	cucumber, 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	eggplant, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	eggs, 0.02 (ERL)	0.05 mg/kg (ERL)	3	
	linseed oil, crude 0.5 mg/kg	0.05 mg/kg (ERL)	3	
	maize, 0.05 mg/kg	0.05 mg/kg (ERL)	2/	
	milk, 0.05 mg/kg (ERL)	0.002 mg/kg (ERL)	1/2/	
	oats, 0.05 mg/kg	0.05 mg/kg (ERL)	2/	
	peas, 0.02 mg/kg	0.05 mg/kg (ERL)	3	(1) para 64
	peppers, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	pimento, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	pineapple 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	pome fruit 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	pumpkin, 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	rice, polished 0.05 mg/kg	0.05 mg/kg (ERL)	2/	
	rye 0.05 mg/kg	0.05 mg/kg (ERL)	2/	
	sorghum 0.05 mg/kg	0.05 mg/kg (ERL)	2/	
	soya bean oil, crude 0.5 mg/kg	0.05 mg/kg (ERL)	3	
	soya bean oil, edible 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	squash, 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	stone fruit, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	sugar beet, 0.03 mg/kg	0.1 mg/kg	3	
	tomatoes, 0.02 mg/kg	0.05 mg/kg (ERL)	3	
	watermelon, 0.1 mg/kg	0.05 mg/kg (ERL)	3	
	wheat, 0.05 mg/kg	0.05 mg/kg (ERL)	2/	
014 chlorfenvinphos	milk and milk products 0.2 mg/kg on a fat basis	milk, 0.008 mg/kg	1/	(1) paras 237, 238
017 chlorpyriphos	cauliflower, 0.01 mg/kg (*)	0.05 mg/kg (*)	2/	(2) para 205
	eggs, 0.01 mg/kg (*)	0.05 mg/kg (*)	2/	(2) para 205
	potatoes, 0.01 mg/kg (*)	0.05 mg/kg (*)	2/	(2) para 205
	red cabbage, 0.01 mg/kg (*)	0.05 mg/kg (*)	2/	(2) para 205
	celery, cottonseed oil (crude), mushrooms, onions, sugar beets 0.05 mg/kg	add (*)		(3) App.VIII

1/ Milk recalculated on whole product basis and milk products are deleted as a Codex MRL but still covered by a general provision on fat soluble pesticides.

2/ Non-substantive amendment.

(*) At or about the limit of determination.

APPENDIX XI (contd.)

Pesticide	Codex MRL/ERL	Proposed Change	Step	Reference
018 coumaphos	all commodities	temp.MRL into GL [1/]		(1)paras 68-70
	milk products, 0.5 mg/kg on a fat basis	delete [2/]	3/	(1)paras 237, 238
019 crufomate	milk, 0.05 mg/kg on a fat basis	milk 0.002 mg/kg	3/	(1)paras 237, 238
020 2,4-D	barley, 0.5 mg/kg oats, 0.5 mg/kg rye, 0.5 mg/kg wheat, 0.5 mg/kg	exemptions from the general Codex MRL for raw cereals of 0.2 mg/kg	5	(1)para 72
021 DDT	milk and milk products, 1.25 mg/kg on a fat basis	milk 0.02 mg/kg	2/	(1)paras 237, 238
022 diazinon	milk and milk products, 0.5 mg/kg on a fat basis	milk 0.02 mg/kg	3/	(1)paras 237, 238
028 dioxathion	milk and milk products, 0.2 mg/kg on a fat basis	milk, 0.008 mg/kg	3/	(1)paras 237, 238
033 endrin	milk and milk products, 0.02 mg/kg on a fat basis	milk, 0.008 mg/kg (ERL)		
034 ethion	milk and milk products, 0.5 mg/kg on a fat basis	0.02 mg/kg	2/	(1)paras 237, 238
036 fenchlorphos	milk and milk products 2 mg/kg on a fat basis	0.08 mg/kg	2/	(1)paras 237, 238
037 fenitrothion	milk and milk products 0.05 mg/kg on a fat basis	0.002 mg/kg (ERL)	2/	(1)paras 237, 238
	wheat flour (white) 1 mg/kg	3 mg/kg	5	(1)paras 82,83
043 heptachlor	milk and milk products 0.15 mg/kg on a fat basis (ERL)	milk, 0.006 mg/kg	2/	(1)paras 237, 238
051 methidathion	milk and milk products 0.02 mg/kg on a fat basis	milk 0.008 mg/kg (*)	2/	(1)paras 237, 238 (3)App.VIII
057 paraquat	soya beans, 0.1 mg/kg	0.2 mg/kg	3	(1)para 54
065 thiabendazole	tomatoes, 0.1 mg/kg	2 mg/kg	5	(1)para 104

1/ The temporary ADI of coumaphos has been withdrawn by the 1980 JMPR.

2/ Milk recalculated on whole product basis and milk products are deleted but still covered by a general provision on fat-soluble pesticides.

3/ Non-substantive amendment.

(*) At or about the limit of determination.

APPENDIX XI (contd.)

Pesticide	Codex MRL/ERL	Proposed change	Step	Reference
066 trichlorfon	apples, 0.1 mg/kg	2 mg/kg	8	(1)para 105
	cabbage, 0.1 mg/kg	0.5 mg/kg	8	(1)para 105
	strawberries, 0.1 mg/kg	1 mg/kg	8	(1)para 105
067 cyhexatin	temporary MRL	MRL	2/	(1)para 54
077 thiophanate-methyl	raspberries, 10 mg/kg	5 mg/kg	1/	(3)App.VIII
082 dichlofluanid	sweet peppers, 2 mg/kg	peppers, 2 mg/kg (TMRL)	2/	
	hops, dried 1 mg/kg	1 mg/kg (TMRL)	2/	
	wheat straw, 0.5 mg/kg	0.5 mg/kg (TMRL)	2/	
	barley, 0.1 mg/kg oats, 0.1 mg/kg rye, 0.1 mg/kg wheat, 0.1 mg/kg	to replace Codex MRL of 0.1 mg/kg for raw cereals	2/	(3)para 60(c)
085 fenamiphos	citrus fruit(except oranges) 0.05 mg/kg(*)	to be deleted	-	(3)para 6(g)
	tomatoes, 0.2 mg/kg	temporary MRL changed to MRL		(3)App.VIII

1/ Corrigendum of 10 mg/kg which is in error.

2/ Non-substantive amendment.

(*) At or about the limit of determination.