REPORT OF THE

TWENTY-SIXTH SESSION OF THE EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE

Rome
23-26 April 1985

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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SUMMARY

The Twenty-sixth Session of the European Commission for the Control of Foot-and-Mouth Disease met in Rome from 23 to 26 April 1985. Delegates from member countries attended together with a number of observers from several non-member countries and international organizations. The Session reviewed information available on the incidence of FMD in Europe and elsewhere in the world during the previous biennium. The progress of prophylactic campaigns undertaken by the Commission in association with FAO and EEC was also considered.

The main recommendations of the Session are listed below:

RECOMMENDATIONS

R1 The Research Group of the Commission should consider whether it is now necessary to have a specified laboratory where cattle, vaccinated against types A, O, and C can be challenged with field virus to assess the effectiveness of vaccines used. (page 6)

R2 The Research Group of the Commission should consider whether it is necessary to harmonize the vaccine strains used for vaccination in Europe in view of the different levels of protection provided. (page 7)

R3 The Commission recommends that the present European vaccination strategy should continue until such time as a full re-assessment, including a cost/effective study, can be made. (page 8)

R4 The FMD control policies of EEC, non-EEC and CMEA countries should be considered jointly so that prophylactic programmes in Europe can be based on the use of the appropriate vaccine and in the long term to implement their harmonization. (page 8)

R5 The Commission recommended that the buffer zone should be continued. (page 8)

R6 In an emergency, in the buffer zone, arrangements should be made for a prompt supply of vaccine of the appropriate strain. (page 8)

R7 Any change in vaccination policy other than that recommended by the FAO/EEC/OIE Tripartite Group in consultation with Bulgaria, Turkey and Greece, should be notified to the Tripartite Group. In the event of an outbreak in the buffer zone epizootiological investigations should be carried out jointly by the veterinary services of the three countries concerned with the maintenance of the buffer zone. (page 8)

R8 Members should be alert to the dangers of feeding waste food; the relevant working doucument (Appendix 7) should be regarded as a guideline for the feeding of such material. (page 10)

R9 The majority of members agreed with the opinion of the Research Group (Lelystad 1983) that "an importing country would be sufficiently protected if meat was imported from those European countries which apply an annual vaccination with fully inactivated virus against classical European types, according to the European Pharmacopoeia and where a stamping-out policy is followed in the event of outbreaks. This is not intended to exclude shorter periods of time of freedom from disease which may be laid down in regulations by other bodies such as the Commission of the European Community." (page 10)

R10 The Research Group should consider the need to maintain the stock of seed virus at AVRI, Pirbright and, if so, which strains should be maintained. (page 11)

R11 The basic security standards for FMD laboratories (Appendix 9) should be regarded as guidelines for any member country handling foot-and-mouth disease virus. (page 11)

R12 National authorities should formulate rules covering the movement of FMD genetic material from laboratories. These rules should also provide safeguards when importing such material. Adequate tests for the absence of infective virus are to be applied. (page 11)

R13 It was proposed that a group of countries should carry out a cost/effective study related to their procedures for control of foot-and-mouth disease. The study should be based on the model discussed during the Session (Appendix 10). The Federal Republic of Germany, Finland, the Netherlands, the Republic of Ireland, Spain, Switzerland, and the United Kingdom agreed to participate. Procedures for the implementation of the exercise should be discussed by the participating countries at a meeting to be arranged by the Secretary. (page 13)

R14 The Commission agreed that conditions for importation of meat into Europe should be harmonized. For that purpose a small group of experts should be convened by the Secretary to discuss matters of detail with experts of EEC. (page 14)

R15 The Commission agreed that the Research Group should consist of not more than nine members. (page 17)

INTRODUCTION

The Twenty-sixth Session of the European Commission for the Control of Foot-and-Mouth Disease was held in Rome from 23 to 26 April 1985. The Chairman, Dr. A. Rojahn (Federal Republic of Germany) welcomed delegates and invited Dr. D.F.R. Bommer, Assistant Director-General, Agriculture Department, to open the meeting.

At the start of his address, on behalf of the Director-General of FAO, Dr. Bommer welcomed all delegates, experts and observers. A special welcome was extended to the two new members of the Commission, France and Poland. He expressed regret that the formal adherence of a few countries in Eastern Europe, which are not yet members but have contributed so much to the work of the Commission, seems still to be hindered by some difficulties. Membership of all European countries would be even more vital today than ever to the effectiveness of the work of the Commission in the field of FMD control.

FMD continues to be a serious problem of animal health within world agriculture. With regard to Europe, it is gratifying to see the excellent results achieved by the majority of countries in maintaining long periods of disease freedom. However, the recent reappearance of the disease in some countries should be taken as a serious warning against over-optimistic views and forecasts concerning complete eradication of FMD in Europe.

The outbreaks reported in the Netherlands, the Federal Republic of Germany, Greece, and particularly those currently reported in Italy, are matters of great concern. It was not possible to identify the origin of these outbreaks. These events are a clear demonstration that the disease control measures and the vaccination policy recommended by this Commission must be further strengthened. When the results of the cost benefit analysis of the vaccination policy in Europe become available governments will be better placed to choose the appropriate prophylactic system.

Dr. Bommer then turned to the events in south-eastern Europe which have given cause for concern because of the presence of the ASIA-1 virus in the buffer zone area in Greece.

Thanks to the effective sanitary measures applied in this area by the Greek Veterinary Services and the prompt delivery of the appropriate vaccine to Greece by FAO, the emergency situation was rapidly brought under control. However, the potential danger of new invasions by any of the FMD exotic viruses cannot be over emphasized in view of their presence in the Near East, the inadequacy of the disease control measures, and the open importation policy into the region of animals from FMD affected areas. Consequently the maintenance of a buffer zone in south-eastern Europe must continue and international cooperation (in particular by FAO, EEC and non-EEC countries) will be necessary for the continuation of the campaigns which have been successfully operating for over twenty years. Dr. Bommer stated that it was of vital importance for member Governments of the Commission to continue to support this programme.

The fact that the new FMD vaccine plants in Bulgaria and Turkey have been completed and will be operational during 1985 is a further step forward in the combat against FMD. In the case of Turkey this will permit the taking over of vaccination coverage with locally produced vaccine of the cattle population in Thrace, including the Turkish buffer zone.

The disease situation in other regions of the world was considered to be a further matter for concern because of its direct or indirect repercussions on the work of the Commission. Efforts made by the Commission to obtain more reliable information on the worldwide FMD situation have been very fruitful. Research carried out to date on viruses which may have consequences for Europe has proved to be of major importance. Such research should continue on an international basis.

FAO, recognizing the importance of this work, has given financial assistance to the Animal Virus Research Institute, Pirbright, United Kingdom, to carry out trials on the immunological relationship of A5 European virus strain and A24 South American virus strain.

Dr. Bommer stated that he was glad to note that the Standing Technical Committee of the Commission will hold its next meeting at the Pan American Center for FMD in Rio de Janeiro. This will give the Group the opportunity to discuss FMD matters of common interest to Europe and South America together with South American scientists.

In referring to the idea of a strategic reserve of FMD vaccine, he expressed satisfaction that this has now become reality with the establishment of the international vaccine bank by a number of European countries, Australia and New Zealand. This bank represents an example to be followed by other groups of countries in different regions.

In concluding, Dr. Bommer drew attention to the many important items on the agenda of this Session and he stressed once again the value FAO places on the technical guidance of the Commission in the field of FMD control.

1. Adoption of Agenda

The following agenda was adopted:

1. Adoption of Agenda
2. Report of the Executive Committee on the Commission's activities during the last biennium
3. FMD position during 1983-1984
   - 3.1 Position and prophylaxis in Europe
   - 3.2 Vaccination campaigns in southeastern Europe
   - 3.3 FMD position in other regions of particular interest to Europe
   - 3.4 Swine vesicular disease in Europe
   - 3.5 Treatment of swill
4. Activities of the Research Group
   - 4.1 Basic security standards for FMD laboratories
   - 4.2 Manipulation and transfer of FMD genetic material in Europe
5. Regionalization of FMD vaccine production
6. Strategic vaccine reserve (vaccine bank) for Europe

7. Cost-benefit study on vaccination policy in Europe

8. Review of current policy on the importation of meat in Europe

9. Financial report and approval of budget

10. Future activities

11. Election of Chairman, Vice-Chairmen and Members of the Executive Committee

12. Adoption of the draft report of the Session

13. Any other business

14. Closing remarks

Item 2 Report of the Executive Committee on the Commission's activities during the last biennium

The Secretary introduced the relevant report covering the period which had elapsed since the Twenty-fifth Session. The Chairman indicated that the items discussed at the two sessions of the Executive Committee held during the biennium had been included in the working papers for the Twenty-sixth Session (Appendix I).

Item 3 FMD position during 1983-1984

The discussion on this item was opened by the Secretary demonstrating, by means of slides, the distribution of FMD virus in Europe during the last biennium, and summarising the position in various countries. These related to outbreaks in Spain, Portugal, The Netherlands, the Federal Republic of Germany, Denmark, Greece, Italy, Turkey, and the USSR.

The majority of outbreaks were attributed to A5, O1, and A22, (Anatolia), (Appendix 2, Table I) but the principal cause for concern was the appearance of ASIA-1 in Greece. This was the first time that ASIA-1 had been recorded in Europe. Thanks to the prompt control measures applied by the Greek Veterinary authorities, and the quick provision of vaccine by FAO, the disease was contained at its origin and was brought under control without delay.

The Chairman invited delegates to report on the situation in those countries which had experienced outbreaks of FMD during the years 1983 and 1984.

Portugal

The Portuguese delegate reported that, in 1984, there had been 22 outbreaks of disease, but none have been recorded, to the present date, in 1985. Control is by total slaughter when the disease occurs in small farms but, for financial reasons, only partial slaughter and ring vaccination is practised when larger numbers of animals are involved.

In many cases the origins of outbreaks have not been identified and it was stated that Portugal does not import meat, and only imports live animals from FMD-free countries.

Spain

The Spanish delegate reported that, from mid 1983, Spain has been free of FMD. Traditionally, there is vaccination of all susceptible species

and this vaccination programme has been very successful. In response to a query about the type of vaccine used to vaccinate pigs, he stated that it was an oil adjuvant vaccine. In the presence of disease small ruminants are also vaccinated.

It had been shown that the A5 virus in Spain was similar to that which was involved in outbreaks in Portugal and Morocco, and the question was asked if Spain imports either animals or meat from those two countries. In reply it was stated that trade exists between Portugal and Spain. It was stated that there is difficulty in monitoring illegal movement of animals between Spain and Portugal although cooperation between the authorities is good. The Spanish delegate was also asked if there had been an investigation of any relationship between the vaccinal virus and field virus but stated that there was no evidence that vaccination was related to the outbreaks.

Regarding the outbreaks of FMD reported in Morocco in 1983, the observer from Morocco stated that the trade in animals and animal products which exists between Morocco and Spain is controlled.

The Spanish delegate felt that collaboration between the Moroccan and Spanish Veterinary Services should be further strengthened in order to improve control in this field.

The Netherlands

The Dutch delegate described a series of six outbreaks (4 in 1983 and 2 in 1984). There was total slaughter of all susceptible species on the premises and the carcases were sent to rendering plants. There was a complete standstill in an extensive area around the infected farms, and the annual vaccination was implemented as a matter of urgency.

All possible origins of infection were investigated. The first premises to be affected contained a bull-fattening unit and it is thought that infection first entered the herd in early December 1983. Local spread was by movement of people but it is not clear how the disease spread to the premises further afield.

There is no evidence that there was escape of virus from the National Laboratory but security measures have been tightened.

The Dutch delegate stated that there had been no recent FMD vaccination on the first affected farm. The annual vaccination had not yet been carried out.

Denmark

The Danish delegate reported that the last outbreak occurred on Funen on 13 January 1983. Thorough investigations included a study of frozen meat present on the farm, and an examination of mice and rats for the presence of FMD virus - results were negative. There was no obvious link established with the 1982 outbreaks and there was a slight difference between the two viruses. However, the farm was approximately 800 metres from an 1982 outbreak and although it was not possible to demonstrate a link it was concluded that infection must have been by spread from the previous outbreak.

Federal Republic of Germany

This report was presented by the Chairman who described three outbreaks in 1984 - two of which were due to A5 and one to O1. The first of the A5 outbreaks occurred on a farm on which there had been routine FMD

vaccination nearly three months prior to confirmation of the disease. The first sick animal was an adult and this was followed by symptoms in young cattle which had received their first vaccination. The second A5 outbreak was approximately 800 metres from the first and was probably due to spread from that outbreak. Ring vaccination with monovalent A5 vaccine was implemented. An origin for the outbreak has not been established. Investigation did not connect the field and vaccination strains of virus.

In October 1984 an outbreak due to O1 virus was diagnosed. This occurred in a pig fattening farm and 26 animals were affected. Once more an origin could not be established and there was no connection with any other outbreaks of O1 type.

Greece

The Greek delegate reported on two outbreaks of FMD which were diagnosed in cattle on the Evros Delta in June 1984. The owners reported suspicion of FMD on 20 June and this was confirmed clinically on the same day. Laboratory confirmation followed 12 hours later. On 21 June symptoms were seen in cattle in a neighbouring herd. Pirbright confirmed the presence of ASIA-1.

In the affected area there was approximately 3 500 head of free-grazing livestock. A total ban on movement was imposed and 1 276 cattle and 11 pigs were slaughtered and buried on the spot. Vaccination began on 25 June and was completed on 13 July. Re-vaccination was carried out three weeks later.

Epizootiological investigations carried out by the Greek Veterinary Services has not shown evidence of the origin of the disease. Although the Greek authorities believe, from various sources, that outbreaks of ASIA-1 infection were occurring in the adjoining areas in Turkey, this is disputed by the Turkish veterinary authorities. Vaccination against ASIA-1 has been carried out in Turkey but this is said to be as a protection against the incursion of disease from Near East countries.

Italy

The Italian delegate reminded the meeting that, prior to the present epizootic, the last case of FMD in Italy was in 1981.

The first case in the present series was diagnosed on 26 November 1984, and up to 14 April 1985, there have been 113 outbreaks of FMD due to A5 virus. These first occurred in Modena province but have since been recorded in many provinces from Cuneo in the north to Sicily in the south. The origin of the disease has not been discovered but spread has been due to a delayed vaccination control procedure and to movements of animals.

The control measures have comprised either slaughter of the clinically affected cases or, in a few outbreaks, total slaughter of animals on the premises. All shows, sales etc. have been banned and animals are examined prior to movement. The winter vaccination programme was completed with the vaccination of all cattle over three months of age. The spring vaccination programme is now under way and all cattle now over 3 months of age and those cattle which have only been vaccinated once should be revaccinated. Pigs are not normally vaccinated but are now being so, in high risk areas, with a monovalent A5 vaccine.

The United Kingdom delegate asked for an explanation of the epidemiological grounds for total or partial slaughter, and was informed that the decision depended on the level of the vaccination. The secretary thanked italy for co-operating with the commission and asked why the

control plan was apparentely not so effective. In answer the Italian delegate stated that the control measures were satisfactory but in future it will be necessary to ensure that they are being fully implemented.

The delegate of the World Veterinary Association (WVA) drew attention to the role imported young animals could have as a disease potentiating factor. He was informed that imported animals should be certified as having been vaccinated prior to importation. They are re-vaccinated on arrival in Italy. Immunological trials carried out in cattle in Italy showed that the vaccine (A5 Parma 62) produced at the Brescia FMD Institute conferred satisfactory protection against the field strain virus, A5 Modena.

The delegate from Pirbright explained that samples of virus from the outbreak were very similar to the A5 Parma 62 strain. In 25 samples taken from different affected areas in Italy and examined by iso-electric focusing it was found that three early isolates were identical to the A5 Parma 62 vaccine strain but that the other 22 taken later were different from that strain in at least one polypeptide. This indicated evolution of the virus in passage from one animal to another (Appendix 6).

Turkey

The Turkish delegate reported that Thrace has been free of FMD since November 1978. To maintain this freedom, in addition to the buffer zone coverage, annual vaccination and movement controls are carried out in the Thrace area. In the Anatolia region cases of O1 and A22 do occur.

For the protection of Turkey and Europe annual vaccination is carried out at the east and southeastern borders of Turkey.

The delegate from the EEC stated that all countries in the buffer zone area should agree to use the same types of vaccine at the same time each year. He also questioned the use of ASIA-1 vaccine in the West of Turkey when the threat is from the East. Dr. Ozawa (FAO) suggested that should there be a threat of incursion of ASIA-1 from the Near East there should be a meeting of the Committee and of the three countries concerned with the buffer zone (Greece, Turkey and Bulgaria) to discuss preventive measures in advance of the spread of disease.

U.S.S.R.

The U.S.S.R. delegate explained the prophylactic measures used in the U.S.S.R. This consists of procedures for controlling the importation of animals and animal products, and vaccination of susceptible species in the territories adjoining FMD-affected neighbours. In 1984, 138 million doses of vaccine were used in cattle, 66.5 million in sheep and goats, and 2.3 million in pigs.

Should an outbreak of FMD occur, movement controls are imposed and, when necessary, the diseased animals are destroyed and the products of other exported animals are only used after sterilization. The farm is considered to be disease-free 21 days after destruction of the affected animals and disinfection of the premises.

In 1983, FMD was confirmed on 14 farms and, in 1984, on 6 farms. In the first quarter of 1985 one case has been confirmed. The viruses involved were types O and A22.

The Chairman raised the following two points:-

1) Is it now necessary to have a specified laboratory where cattle,

vaccinated against types A, O, and C can be challenged with field virus to asses the effectiveness of vaccines used, and

2) Is it necessary to harmonize the vaccine strains used for vaccination in Europe in view of the different levels of protection.

The Chairman of the Research Group of the Commission stated that a number of European laboratories using the Complement Fixation Test (CFT) can provide a good diagnostic service within 24 hours. They also have the means to assess serologically (SNT) the relationship between the field strain and different vaccinal strains at short notice. The use of vaccinated animals could be very expensive. This view was supported by the representatives of the national abattoirs of United Kingdom and France, although the latter believed that a biological test may be necessary at some stage. The Secretary noted that there are at least three A vaccine strains - A10, A5 Parma 62 and A5 Allier against the current A5 virus strain now in use in Europe. He proposed that A5 strains should be tested in order to harmonize the A5 vaccine strain. The United Kingdom delegate noted that there was merit in harmonising strains but firstly we should determine from where the risk was greatest - e.g. Europe, Middle East, South America, etc. This was supported by the EEC delegate.

The Chairman recommended that the Research Group should consider both points. This was agreed.

The Chairman also suggested that when FMD is first diagnosed in a country the only acceptable procedure should be total slaughter of all susceptible species on the premises. The Danish delegate asked that "susceptible" should be defined. The EEC delegate informed the meeting that, within the EEC, funds are available for total slaughter in the first 20 outbreaks in an epizootic. This strategy has been proved to be successful. The Secretary supported this policy as the best way of preventing spread but believed that the size of the unit affected should be considered. The Dutch delegate held the view that all animals should be slaughtered on the farm before removal for destruction.

The following conclusion was reached:

The majority of the members of the Commission supported the view that all member countries should, whether vaccinating or not, whenever possible, adopt a policy of "stamping out" for all outbreaks of foot-and-mouth disease. This is particularly important during the initial stages of any outbreaks. This was not supported by Austria, Belgium and Italy.

"Stamping out" means the immediate slaughter and destruction of all affected and exposed cloven-footed animals on an infected premises, and should include urgent tracing and slaughter of all animals moved off the farm immediately prior to the outbreak, and during the incubation period of the disease.

Item 3.1 Position and prophylaxis in Europe

The relevant document was introduced by the Secretary who demonstrated that eastern and south eastern European countries do not practise FMD vaccination except along their borders which may be at risk, or in the case of animals to be exported at the importing countries' request. (Appendix 3)

In reviewing the prophylaxis position in Europe the Commission felt that the present system does not give complete coverage since pigs and small ruminants are not routinely vaccinated. However, past experience in Europe has shown that the present system gives satisfactory protection. The Commission was also of the opinion that the present European vaccination strategy should continue. The results of a cost/effective study as laid down in the model which will be undertaken in a number of countries could possibly be taken into account when a re-assessment is made.

The Commission further considered that the FMD control policies of EEC and non-EEC countries and of the CMEA (Council for Mutual Economic Assistance) countries should be considered jointly so that FMD prophylactic programmes in Europe can be based on the use of the appropriate vaccine, and in order to harmonise their implementation.

Item 3.2. - Vaccination campaigns in south-eastern Europe

The Secretary introduced the relevant document and gave detailed information on the implementation of the vaccination campaigns in Greece, Turkey and Bulgaria in 1983/1984, and in 1985. These had been implemented as recommended by the FAO/EEC/OIE Tripartite Group. (Appendix 4)

The action taken for the continuation of the maintenance of the buffer zone until 1987 was also reported. Following discussion, the Commission recommended that:

1) The maintenance of the buffer zone be continued.

2) In case of emergency, arrangements should be made for a prompt supply of vaccine of the appropriate strain.

3) Countries concerned with the maintenance of the buffer zone in south-eastern Europe should inform FAO/EEC/OIE of any changes in vaccination policy, other than those recommended by the FAO/EEC/OIE Tripartite Group, and agreed with the veterinary services of Bulgaria, Turkey and Greece, this agreement to be arranged at a meeting called by the Commission at a suitable time before the vaccination campaigns.

4) If an outbreak occurs in the buffer zone area, epizootiological investigations should be carried out jointly by the veterinary services of the three countries.

Item 3.3.- FMD position in other regions of particular interest to Europe

This item was introduced by the Secretary who demonstrated the world-wide distribution of FMD outbreaks in the years 1983 and 1984. This included those countries where the disease was either endemic or sporadic. The predominant strains were described. (Appendix 5)

There is a constant threat of introduction of FMD to a country by the nature of international trade in animal products and live animals, and that risk should never be underestimated.

The Cyprus delegate supported that view and was concerned that, although Cyprus has been free of FMD since 1965, there is a real threat of spread from the Near East.

The delegate from Morocco also noted the increasing threat from South of the Sahara and suggested that Morocco should be included in protection procedures against the introduction of the disease into Morocco and

consequently to Europe from the affected region of Africa.

Dr. Casas, Director Pan-American Foot-and-Mouth Disease Centre, described the current situation in South America. He explained that there is a co-ordinated programme in which all countries participate under the guidance of the Pan-American Foot-and-Mouth Disease Centre and the South American Commission for FMD. Because of the surveillance and control measures implemented, when combined with the measures laid down by the EEC, importing European countries have a much greater degree of safety.

He also reported that samples of virus are sent to the World Reference Laboratory, Pirbright for confirmation of typing, and made a plea that the results of that typing should be communicated to his laboratory as soon as possible. He also requested that details of FMD outbreaks in Europe should be communicated to South America. A report documenting the occurrence of various strains of virus in South America in recent years, and numbers of outbreaks of disease in the individual countries, was made available to the Commission and is attached as Table 1 Appendix 5.

The Director of PANAFTOSA assured the Commission that the Center would continue to send samples of virus of epidemiological relevance to the W.R.L., Pirbright, as quickly as possible on the understanding that the samples would not be made available by W.R.L. to any other organization. That assurance was given. The Commission aknowledged the help and cooperation given by PANAFTOSA over the past years, which has greatly contriubted to the collaborative work in the field of FMD in matters of common interest.

3.4. - Swine vesicular disease in Europe

This was introduced by the Secretary who acknowledged the United Kingdom's freedom from the disease and reported that in 1983 two outbreaks of SVD were reported in France. In 1983, four cases were reported in Italy, and a further one in 1984.

The importance of SVD is in its resemblance to FMD. The Secretary also commented that it had been suggested that, in some of the outbreaks of FMD in Italy, there had also been recovery of SVD virus, but he could not confirm that suggestion. The Italian delegate stated that this was not the case and that there had been no recovery of SVD virus in FMD outbreaks in pigs.

The delegate from Sweden reported that there is a virus in Swedish pig herds which gives a weak reaction to SVD antigens. It also gives a reaction to the coxackie B virus but has not yet been isolated. Clinical signs of SVD have not been seen in Sweden.

The delegate from Hungary informed the meeting that a few pigs in a consignment imported from Sweden had been found to be seropositive for SVD. Swedish scientists visited Hungary to investigate and take samples from the pigs. They had confirmed the results. Samples sent to Pirbright were also positive for SVD. A number of pigs in the replacement consignment also proved to be positive.

Although the pigs were quarantined for 6 weeks, repeated investigations failed to disclose any spread of disease. All of the pigs in the consignment were slaughtered, and the Hungarian veterinary services are extremely grateful to their Swedish colleagues for their prompt and willing co-operation.

The United Kingdom delegate explained that the last case of SVD was confirmed on 21 May 1982. Extensive serological surveys since that date

have failed to disclose disease. These surveys have now been discontinued.

Item 3.5.- Treatment of swill

The item was introduced by the Secretary who explained that the discussion document had been prepared by the United Kingdom and that it was intended to be incorporated in the form of guidelines in an appendix to the report. (Appendix 7)

The United Kingdom delegate explained that in the early stages of SVD eradication many cases could be traced back to the feeding of waste food. At that time the waste food plants were licensed by local Government and numbered in excess of 4 000. In an attempt to control these plants and improve their efficiency, control was taken over by Central Government. There are now slightly more than 700 licensed plants. The document presented is intended only as guidelines, but it is essential that any controls should be supported by legislation.

The Secretary reported that a survey of member countries had revealed that there was not a standard control for feeding of waste food. In the course of discussion some members said that the suppliers of waste food should bear an equal responsibility with the user.

The Chairman recommended that the feeding of waste food be treated as a matter of concern, that members should be alert to the dangers and that the document should be included in the Appendices to the report in the form of guidelines.

Item 4 Activities of the Research Group

In the past two years two meetings of the Research Group were held, one at Lelystad in September 1983, and the other at Brescia in June 1984. Reports of the meetings have been distributed.

The relevant working document with conclusions and recommendations from both meetings is included as Appendix 8 .

In considering the importation of meat from vaccinating countries which have been free from FMD for at least one year, the majority of the members of the Commission agreed with the opinion of the Research Group expressed at the meeting held in Lelystad in 1983, i.e..

"The importing country would be sufficiently protected if meat was imported from those European countries which apply an annual vaccination with fully inactivated virus against classical European types, according to the European Pharmacopoeia, and where a stamping-out policy is followed in the event of outbreaks. This is not intended to exclude shorter periods of times of freedom from disease which may be laid down in regulations by other bodies such as the Commission of the European Community".

In reply to the Chairman's question as to whether it is still necessary to maintain the current seed viruses held at the WRL, Pirbright, and if so are the strains currently held adequate in the present epizootiological FMD situation, the WRL representative expressed his concern and requested advice from the Commission in this respect.

In the discussion which followed there was some doubt that the strains were the most appropriate and the Secretary said that the strains should be updated to reflect the current FMD situation. The meeting was also informed that the laboratory is no longer in a position to prepare vaccine

seeds on a pilot basis; they are now directed more towards diagnostic and research purposes. It was agreed that the question of whether or not to maintain seed virus and, if so, which strains should be maintained, would be referred to the Research Group for discussion at its next Session.

The Commission agreed that the next meeting of the Research Group should be held at the Pan American FMD Centre in Rio de Janeiro, and expressed its appreciation to PAHO for the invitation to host the meeting, and to the Director of the Center for making available the necessary facilities for the meeting.

Item 4.1 Basic security standards for FMD laboratories

The item was introduced by the Chairman of the Research Group and the document presented for discussion describes the minimal standards to be considered when working with FMD virus. It also lists the problems which should be tackled (Appendix 9).

Following a short discussion, it was agreed that the document should go forward as a recommendation to member countries handling foot-and-mouth disease virus.

Item 4.2 Manipulation and transfer of FMD genetic material in Europe

This topic was introduced by the Chairman of the Research Group who explained that it was necessary to discuss the subject because of the movement of biological material from one FMD laboratory to another laboratory - perhaps for the production of vaccine.

The Commission agreed that the opinion of the Research Group expressed at the meeting held in Tubingen in 1981 and in Lelystad in 1983 should be considered as a recommendation i.e. "that national authorities should give rules covering the movement of such material from FMD laboratories and also the importation of such material. Adequate tests for the absence of infective virus are to be applied."

Item 5 - Regionalization of FMD vaccine production

The Secretary in introducing the relevant document referred to the OIE Conference held in Vienna in September 1962, and the subsequent FAO/OIE meeting held in Paris, also in 1962, where it was recommended that the production of exotic vaccine should not take place in countries which are not involved or menaced by the corresponding exotic virus. This recommendation was endorsed also by the EEC (73/78) Décision du Conseil 26 mars 1973).

At the meeting of the OIE FMD Commission held in Paris in 1984 the matter was discussed and proposals made in this respect as follows: "Among biological materials may be considered microbial genetic material. As far as foot-and-mouth disease virus is concerned, the following can be considered as non-infectious: cDNA copies of m RNA's or pieces of cDNA copies of viral RNA. However, these materials may be contaminated with FMD virus during preparation. Freedom from such contamination must be tested by inoculation of susceptible tissue cultures, mice or cattle. Handling of such material should be submitted under the same regulations applied in manipulation of FMD virus."

This policy was followed by the FAO and the Commission which are responsible for the execution of the campaigns in south-eastern Europe and have endeavoured to procure the vaccine needed for the implementation of the vaccination campaigns in the buffer zone, and also for emergency action against non-conventional European FMD virus strains for producers outside the European continent.

The emergency created by the outbreak of ASIA-1 virus in Greece in June 1984, highlighted the problems in obtaining an immediate supply of vaccine to meet the emergency situation in Greece, and the prophylactic programme in Bulgaria. The fact that the regular supplier could not provide a sufficient supply of the relevant vaccine on demand emphasized the difficulties of meeting an exotic disease situation.

The Secretary referred to the FAO/OIE/EEC Tripartite meeting held in Paris on the occasion of the OIE Fifty-second General Session in May 1984, at which the provision of a ready supply of vaccine in the case of an emergency situation had been discussed.

In the course of discussion it became obvious that there was a wide disparity of views which encompassed three main approaches. These were broadly:

1. maintain the status quo i.e. the OIE recommendation,

2. delay a decision until further discussion at the forthcoming OIE General Session in May 1985, and

3. recognize the changing circumstances since 1962 and authorize production of vaccine against exotic strains at nominated centres in Europe.

A consensus of opinion could not be obtained but the subject should be raised for further discussion at a later date.

Item 6 Strategic vaccine reserve (vaccine bank) for Europe

This item was introduced by the Delegate from the United Kingdom who updated the meeting on progress achieved. The bank will be situated in a unit at AVRI, Pirbright, and will consist of concentrated antigen to be stored in a building outside the restricted area.

The bank will contain the equivalent of 0.5 million cattle doses of the following types: C1, O1, A22 and A24. It will be under the control of a commission composed by the Chief Veterinary Officers of the participating countries.

Progress to date has been delayed by legal problems but favourable progress is now being made. It is also anticipated that there will be discussions with the American bank which represents USA, Canada and Mexico, concerning the possibility of exchange arrangements between the banks.

In answer to questions from members, the United Kingdom delegate answered that there would be spare capacity for storage in the unit and it is possible that this could be made available for use by non-participating countries on a commercial basis, but the decision would be made by the Commissioners. It was also explained that the legal agreement was drawn up in such a way that it may be possible in future for further members to be admitted. In respect of additional strains of virus, the delegate stated that there were no plans at present to extend the range but it could be possible if the Commissioners agreed.

Item 7 Cost-benefit study on vaccination policy in Europe

This item was introduced by Dr. Davies of the Central Veterinary Laboratory, Weybridge, U.K. and the background to this study is detailed in Appendix 10.

The study compared the comparative costs of a stamping out policy and a routine vaccination policy. Within both procedures there is a common factor which is the cost of the disease, beyond that one has to consider the cost of either implementing a vaccination programme or maintaining a vaccine bank and estimating the loss of exports due to disease or vaccination.

It was pointed out that countries will already have available statistics for the control programme which they currently employ. The details of the report are at Appendix 10 .

To use the model suggested it is proposed that a cost/effective study based on the likelihood of a single outbreak should be assessed. It is essential that professional economists are used to interpret the statistics, but at the end of the day it must be a veterinary decision as to the effectiveness of one policy against another.

The Secretary explained that the results of a survey in 1984 disclosed the fact that very few countries had done a cost/benefit survey and this was one of the reasons for undertaking the present study.

The Commission expressed appreciation for the work carried out by the Group in the preparation of this in-depth study.

Considerable discussion ensued and although recognizing the difficulties in applying the model to individual circumstances, support was expressed by a number of countries for the proposals of the group.

A cautionary note was expressed by the French delegate who believed that variables such as civic awareness of the farming community, size of holdings, export patterns etc. were not sufficiently considered.

The view was expressed that unless professional economists are involved in the review the results would not be acceptable to the politicians but the final recommendation must remain with the national veterinary authorities.

The Chairman proposed that a group of six or seven countries covering various methods of FMD control should use the model to compare its use in differing circumstances. It was finally agreed that the Federal Republic of Germany, Finland, the Netherlands, the Republic of Ireland, Spain, Switzerland and the United Kingdom will take part in the exercise.

The Hungarian delegate also expressed an interest but could not give a definite commitment.

The Chairman requested the Secretary to arrange a meeting with the participating countries to discuss procedures for the implementation of the exercise.

Item 8. Review of current policy on the importation of meat in Europe

The Secretary introduced the item while reminding the meeting that in 1972 the European Commission at its Nineteenth Session adopted and recommended the conditions for importation of beef into Europe from

countries were FMD is endemic but considered not to be exotic to Europe. That recommendation reflected in general the rules applied by the United Kingdom but tended to be more flexible.

He also referred to EEC Commission Decision 85/97 (Importation of fresh meat from Brazil) and in particular referred to Article 1 (a) and (b) and the Animal Health Certificate which appears as an Appendix to that Decision.

The EEC delegate expressed appreciation that the principles applied in the Community were now being considered as a possible model for the importation of meat into Europe from FMD-infected countries. He also mentioned the studies which are being pursued in some Member States to determine the effect of electrical stimulation of carcases on the reduction in pH levels. He would welcome further discussions with the Commission on technical aspects.

The United Kingdom delegate noted that the document circulated at the meeting proposed that deboning should not take place within 48 hours of slaughter; this is in contrast to EEC requirements that the interval should be 24 hours.

There was general agreement that conditions for importation of meat into Europe should be harmonized.

The Chairman proposed that a small expert group should be nominated by the Secretary and a meeting convened by him to discuss matters of detail with experts from the EEC. A paper detailing the results of that meeting will be circulated to all members.

9. Financial Report and Approval of Budgets

In introducing the relevant working paper (Appendix 11), the Administrative Assistant stated that it had been prepared in conformity with the recommendations of the Twenty-fifth Session i.e. that the General Session would approve the provisional accounts for the year preceding the Session and the provisional budget for the two years following the Session, it being understood that the Executive Committee would monitor the period in between.

The breakdown of accounts for 1984, the budget for 1985 as revised by the Forty-seventh Session of the Executive Committee, and the proposed budgets for 1986 and 1987 were then presented. With regard to the budget for 1985, the Delegate from the UK stated that the allocation for contractual services of the World Reference Laboratory is a small percentage in relation to the overall costs.

In response to a comment that no estimate had been given under the Special Account for 1987, the Administrative Assistant explained that the budget for the Special Account is based on savings from the General Account and it was considered inappropriate to anticipate the savings that might be available as far ahead as 1987.

The accounts for 1984, budget for 1985 and proposed budgets for 1986 and 1987 were approved as presented.

The pledge position as of 31 December 1984 was then presented. Delegates were reminded that under Financial Regulation V, 5.4 of the Constitution "Contributions shall be due and payable in full within 30 days of the receipt of the communication of the Director-General". At the beginning of each calendar year, the Director-General informs Member

Governments of their obligations in respect of annual contributions to the budget.

A number of Delegates stated that the Director-General's communication is often received too late to be included in national budgets and this is the principal reason for arrears in payments. The Administrative Assistant undertook to bring this matter to the notice of the Financial Services Division of FAO, and it was agreed that the document showing the pledge position at 31 December 1984, would, be scrutinized, amended if necessary, and recirculated to the Delegates before the close of the Session.

Before the close of the Session, the Administrative Assistant, at the request of Delegates, recirculated the table showing the pledge position at 31 December 1984, as revised and updated by the Financial Services Division on 25 April 1985. Delegates were informed that the pledge position drawn up at the end of each year does not always reflect the true state of payments since member countries' contributions which do not carry a reference to the Trust Fund for which they are intended, are placed in a suspense account pending identification.

Item 10. Future activities

The proposed list of future activities was presented to the meeting in the report of the Forty-seventh Session of the Executive Committee which met in the Hague on 5-8 March 1985.

The delegate from Italy requested that there should be clarification of the aims of the items proposed. It was his belief that, to be fully representative of Europe, the membership should be expanded and he also was of the opinion that the purpose of the Commission should be reassessed.

The Secretary was able to state that financial procedures had been agreed whereby countries which found difficulty in paying the required subscription in the normal FAO currency, could now pay in their own currency. By this means it is possible that the membership will be expanded.

The delegate from Norway asked if there was a close relationship between the Commission and OIE. The Chairman stated that, in respect of FMD, there is a close relationship and regular meetings are held in the form of the Tripartite Group (OIE/FAO/EEC). Dr. Ozawa confirmed that contact has been made with various International Organizations and that collaboration will continue.

The Italian delegate suggested that the items for future activities should be listed in order of their priority and suggested amendments. He also suggested that in addition to the Tripartite Group the CMEA (Council for Mutual Economic Assistance) group should also be included in future discussions. The delegate from Austria proposed that the list should be discussed point by point. His proposal was accepted by the Chairman.

Following detailed discussion the final agreed list of subjects was as follows:

1. Maintaining contacts with non-member countries and encouraging them to join the Commission; collecting information on the FMD situation in Europe and other regions of the world; and collaboration with OIE, EEC, CMEA and other international organizations for the purpose of meeting to exchange information and discuss FMD control procedures.

2. Continuation of analysis of different FMD control strategies in regard to the experience collected in different countries in Europe. Based on the cost/effective study, rules for stamping out and vaccination strategy should be established.

3. Implementation of the campaigns and monitoring of the FMD situation in south-astern Europe and in the Near East with the collaboration of the border countries and ensuring the necessary financial resources. This latter point refers to procedures in the buffer zone.

4. Re-examination of veterinary import policies in Europe, in respect of FMD, with a view to their revision and updating, was considered necessary.

5. Supporting the proposal of the Research Group to intensify cooperation between laboratories in order to optimise the development of monoclonal antibodies (MCAs)

6. Continue to participate in FAO activities in the field of FMD.

7. Preparation of a suitable booklet describing the activities and achievements of the Commission during the past 30 years.

8. The Commission will continue to promote and encourage national and international action for the control of FMD in Europe. For this purpose close contact will be maintained with government authorities, OIE, EEC, and other bodies and institutions.

9. The Secretary, in consultation with the Chairman, will continue his activities within the European continent along the lines of the functions specified under Articles IV and V of the Commission's Constitution and the programme of work related to the proposed future policy of the Commission.

The delegate from Norway proposed that if any members should wish to make detailed amendements to proposals for discussion at future meetings they should make their wishes known in advance of the meeting when they receive the documents.

Item 11 Election of the Chairman, Vice-Chairmen and members of the Executive Committee

The Chairman, quoting from the Consitution of the Commission, indicated the procedure to be followed for the election of officers. He then called for nominations for the offices of Chairman, two Vice-Chairmen and members of the Executive Committee.

(a) Elected as Chairman of the Commission - Dr. A. Rojahn, Federal Republic of Germany

proposed by Dr. M.J. Dobbelaar, Netherlands
seconded by Dr. W.H.G. Rees, U.K.

(b) Elected as Vice-Chairmen - Dr. W.H.G. Rees. U.K.
proposed by Dr. E. Stougaard, Denmark
seconded by Dr. R.G. Cullen, Ireland

proposed by Dr. D.M.A. Yubero, Spain - Dr. L. Perpere, France
seconded by Dr. C.L. Vella, Malta

The following five delegates were elected to membership of the Executive Committee:

- Dr. N. Tanev Belev, Bulgaria
- Dr. R. Berger, Finland
- Dr. A.M. de Andrade Fontes, Portugal
- Dr. D.H. Keller, Switzerland
- Dr. F. Walla, Austria

Item 12 Adoption of the draft report of the Twenty-sixth Session

Following the completion of discussion of the draft report, the Chairman called for its adoption, subject to incorporation of amendments made at this final meeting and to any necessary editorial changes. This was unanimously agreed.

Item 13 - Any other business

13.1 Membership of the Research Group of the Standing Technical Committee of the Commission

The Research Group is composed of seven members who are experts on foot-and-mouth disease. As its term of office is due to end on 31 July 1985, proposals were made by the Chairman for the re-appointment of the group for a further period of two years.

The number of members to be appointed was discussed.

The proposal of the Italian delegate was that the composition of the group should be increased from the present seven to at least nine, and preferably eleven, to provide a wider cross section of expertise from State laboratories in member countries.

The Chairman expressed the opinion that such a proposed increase would create financial difficulties for the Commission budget. He proposed that the Group should not have more than eight members.

Following discussion, and an explanation from the Secretary of the rules pertaining to this Group, the Commission agreed that the Group should have not more than nine members.

Nominations were received from the delegates and, following an evaluation of the nominees' qualifications, the Commission agreed that the following experts should be put forward as prospective members of the Group. The normal administrative protocols for appointment will be observed.

BELGIUM	Dr. J. Leunen
DENMARK	Dr. M. Eskildsen
FEDERAL REPUBLIC OF GERMANY	Prof. Dr. G. Wittmann
FRANCE	Dr. G. Dannacher
ITALY	Prof. G.F. Panina
NETHERLANDS	Dr. J.G. van Bekkum
SPAIN	Dr. M. Viñuela

UNITED KINGDOM	Dr. G.N. Mowat
YUGOSLAVIA	Dr. D. Panjevic

The Commission proposed that Dr. van Bekkum should continue as Chairman and Dr. Mowat should serve as vice Chairman of the Research Group.

Item 13.2 Date of next Session

The Commission agreed that the Twenty-seventh Session be held the second half of April 1987, at a date to be decided.

Item 14. Closing remarks

On behalf of FAO, Dr. Ozawa, Chief, Animal Health Service, Animal Production and Health Division, congratulated the Commission on a successful meeting and wished the members success in the continuation of their work which, he stated, had been of great benefit not only to the improvement of animal health in Europe but to the eradication of foot-and-mouth disease on a worldwide basis.

On behalf of the Commission, Dr. Rees thanked the Chairman for his conduct of the Session and wished him every success in his new term of office.

In concluding the Session, the Chairman thanked the Delegates and observers for their participation and their valuable contribution to the discussions. He also acknowledged the assisstance given by the interpreters and FAO staff who had been involved in the running of the meeting.

Appendix 1

Report of the Executive Committee to the Commission on Activities during the biennium 1983/1984

Introduction

This report covers the period which has elapsed since the Twenty-fifth Session of the European Commission (April 1983). Since then the Executive Committee has held two Sessions:- the Forty-sixth in Bonn, Federal Republic of Germany in April 1984, and the Forty-seventh in the Hague, Netherlands in March 1985.

The Research Group held two Sessions during the biennium - in Lelystad, Netherlands, in September 1983, and in Brescia, Italy in June 1984.

The relevant reports of the Sessions of the Executive Committee and of the Research Group contain full information on the activities carried out during the biennium and have been distributed to all member countries as well as to other interested governments and agencies.

General activities

The activities of the Commission and its secretariat have followed the recommendations made by the Sessions of the Executive Committee and the Twenty-fifth Session of the Commission. The regular work of the Commission has been carried out in conformity with its Constitution.

Thanks to the generally favourable disease situation, it was possible to concentrate attention on the relatively few outbreaks which occurred during the period under review and to follow closely their origin and evolution. While most of the outbreaks concerned sporadic cases, two required continuous monitoring. These were the appearance of ASIA-1 virus in Greece buffer zone area in June 1984 and the A5 virus epizootic in Italy, first reported on 26.11.84 in the province of Modena and currently affecting different provinces in the country, involving cattle and pig farms.

The persistence of the virus A5 in Italy, especially among the pig population which is totally unprotected, is a matter for concern and deserves the special attention of all Commission member countries.

Despite the in-depth epizootiological investigations carried out by the countries affected by FMD during the reporting period, the origin of the primary outbreaks remained unknown. This is further evidence of the persistence of unknown sources of FMD virus in Europe which it would be essential to identify. It is important that countries be aware of this problem and not underestimate it. This is valid for both exporting and importing countries in Europe. The Committee recongnizes the cooperation of the Government authorities in supplying all the information needed. However, it is essential that information systems on all aspects of FMD virus strains and disease control be further reinforced in Europe.

The Secretary maintained contacts with the various member governments in order to have constantly on hand information on the evolution of foot-and-mouth disease and the measures adopted for its control. The member countries were regularly kept informed on the evolution of the disease in the areas where it occurred.

The FMD situation in southeastern Europe and the Near East was followed with great attention by the Secretary both in the arrangements for the spring campaigns conducted in the buffer zone and in monitoring the FMD situation and virus types present in the Near East region. The Commission took prompt action to assist Greece when FMD, type ASIA-1, outbreaks occurred in 1984, and Bulgaria to carry out prophylactic vaccination. All action taken by the Secretary was carried out in consultation with the Chairman and was in line with the recommendations of the Commission and those of the EEC/FAO/OIE Tripartite meetings.

Attention was given to the problems connected with the subtyping and identification of FMD virus strains carried out at the national laboratories and at the World Reference Laboratory in Pirbright, U.K. The WRL was closely consulted mainly on epizootiological problems related to Europe and to other regions in the world for which the laboratory provides virus typing services.

The persistence of ASIA-1 and C virus in most of the Near East countries and the presence of SAT-1 type in Yemen is obviously a matter for concern, and the Commission should take the necessary prophylactic measures in order to avoid its possible introduction into Europe.

The Committee noted with satisfaction that the new FMD vaccine plant in Turkey was near completion and the FMD vaccine plant in Iraq was already operational. Iran has plans to set up a large vaccine production unit. The laboratory infrastructure in this area will certainly be a positive contribution to disease control in the Near East region.

The FMD position in other countries in the world from which the disease might be introduced into Europe was kept under constant review. Although no evidence is available, it is interesting to note that South American FMD virus strains A24 and C3 are present in the Philippines and type O close to O Campos was responsible for the epizootic in Indonesia in 1983.

The FMD situation in South America was given special attention by the Executive Committee and the Research Group and it is gratifying to see the high level of collaboration established between the Pan-American Center and the South American Commission for the Control of FMD (COSALFA) with the Research Group in matters of common interest. The meeting of the Research Group scheduled to be held at PANAFTOSA Center, Rio, in October 1985, with the participation of COSALFA, is a tangible demonstration of the importance which FAO and the Commission gives to the FMD problems in South America.

The activities of the Research Group relating to specific technical matters and those referred to the Group by the Commission were discussed at the meetings held in Lelystad, Netherlands, 1983 and in Brescia, Italy, 1984. Major items discussed with conclusions and recommendations are included in the relevant reports.

Further efforts are being made to increase the membership of the Commission.

During the reporting period the Commission maintained close

cooperaiton with OIE, EEC, and other specialized agencies.

1. Special activities

The vaccination campaign in the buffer zone along the borders of Turkey, Bulgaria and Greece, was carried out in conformity with the recommendations of the Twenty-fifth Session of the Commission in April 1983, the Forty-sixth Session of the Executive Committee, and those of the EEC/FAO/OIE Tripartite Committee. Detailed information on the implementation of the campaigns in 1983, 1984 and 1985, and the action taken for the maintenance of the buffer zone until 1987 is given in the relevant document.

The emergency situation created by the outbreak of FMD type ASIA-1 in Greece in June 1985 was a matter for concern and the Commission took action immediately to assist Greece to face the situation. Assistance was also given to Bulgaria to establish vaccination coverage along the borders with Greece and Turkey. In addition, the Chairman, accompanied by the Secretary, visited Turkey and Bulgaria from 27 January to 1 February 1985, to discuss all problems related with the maintenance of the buffer zone in Thrace, vaccine production in the respective national laboratories and future policy for FMD control in both countries.

2. FMD position in other regions

The evolution of FMD in other regions and especially in the Near East and South America was kept under scrutiny by the Commission's secretariat. The constant change of the virus pattern in the Near East region was a matter for continuous monitoring by the Secretary and the Chairman was consulted for guidance as in the case of the emergency supply of ASIA-1 vaccine to Turkey for vaccination in the frontier areas with Anatolia.

Particular emphasis was given to the FMD situation in South America and to the results of the trials carried out by EEC in Argentina. The immunological relationship between the virus strains A24 and A5 has not yet been well studied. The Commission recognized FAO's contribution to the clarification of this matter: an agreement had been signed with AVRI, Pirbright, to carry out trials in cattle. Similar trials should be carried out with other viruses which are of common interest to Europe and South America.

3. Participation in FAO activities

The Commission participated through its Secretariat in all FAO activities. The work carried out was related to the expanding programme of the Organization in the field of foot-and-mouth disease control. The main activities in which the Secretariat was involved were: UNDP and TCP projects dealing with emergency assistance to countries facing FMD outbreaks, development of field programmes, recruitment of experts, advice on the planning, backstopping and evaluation of FMD projects and the construction of FMD laboratory facilities in different parts of the world (Bulgaria, Iran, Burma, India) for which the Secretary acts as Technical Adviser, organization of international FAO Seminar on FMD virus diagnosis (Brescia, Italy, September 1985).

3.1 Special missions of the Secretary

- Morocco March 1983, to review FMD position and discuss FAO assistance through TCP project

  March 1984, to review FMD situation and prepare technical

statement for TCP project

- Burma — April 1983 and 1984, to participate in Tripartite Review Meeting and advise on activities of UNDP/FAO project "Development of Animal Virus Vaccine"

- Thailand — May 1983, to review the FMD position and discuss FMD vaccine bank with APHCA COMMISSION

- Malaysia — May 1983, to discuss FMD programmes

- Iran — October 1983, to review the present condition and capacity of the Razi Institute (Teheran) and particularly the FMD laboratory; to discuss problems related to the implementation of FAO assistance (TCP/IRA/2303)

- Brasil — November 1983, to attend the meeting of the Standing Advisory Committee of the PANAFTOSA CENTER
May 1984, to attend the XIth Session of COSALFA, and to draft a project document for TCP assistance to Brasil for oil-adjuvant FMD vaccine production

- Indonesia — December 1983, to participate in a joint FAO/OIE mission to review and discuss the FMD position and assist the Government in the preparation of a national programme for the control and eradication of FMD

- Italy — Brescia, November 1984, to organize and discuss the programme for the FAO Seminar on Current Techniques in FMD Virus Typing.

Travel costs have been borne by FAO.

4. Attendance at OIE Sessions

The Secretary attended the Annual General Sessions of OIE, the OIE Regional Conference for Europe held in Vienna in 1984, and participated in the meetings for the European Vaccine Bank and the OIE/FAO/EEC Tripartite Committee held on the occasion of the OIE Sessions.

5. Membership of the Commission

Contacts were maintained with the European non-member countries of the Commission. The Chairman, accompanied by the Secretary, visited Poland, Czechoslovakia and Romania, to discuss problems related to their membership.

France and Poland joined the Commission in 1984, bringing the present membership to 25. Czechoslovakia and Albania have shown interest in becoming members. It is hoped that USSR, the German Democratic Republic and Romania will also consider applying for membership.

6. Fellowships

As recommended by the Forty-sixth Session of the Executive Committee held in Bonn in April 1984, Dr. Kesy from the FMD laboratory in Poland was selected for five months training in FMD vaccine production and control at the Istituto Zooprofilattico, Brescia, Italy.

7. Sessions of the Research Group

Considerable work was carried out by the Research Group during the biennium under the Chairmanship of Dr. J.G. van Bekkum. In addition to

advice given to the Commission on all matters referred to it for examination, the Group continued studies and activities towards reaching the highest possible uniformity both in the use and interpretation of the laboratory techniques currently applied in FMD laboratories.

The Research Group held two Sessions during the biennium:

a) the Session held at the Central Veterinary Institute, Lelystad, Netherlands from 20 to 23 September 1983, and

b) the Session held at the Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia from 26 to 28 June 1984.

The relevant reports have been distributed to the member countries of the Commission.

The Executive Committee takes the opportunity to express its appreciation for the work carried out by the Research Group during the reporting period.

8. Sessions of the Executive Committee

Since the Twenty-fifth Session of the Commission, held in April 1983, the Executive Committee held two Sessions:

1) the Forty-sixth Session held in Bonn, Federal Republic of Germany, from 16 to 18 April 1984, and

2) the Forty-seventh Session held in The Hague, Netherlands, from 5 to 8 March 1985.

Forty-sixth Session

- FMD position and prophylaxis in Europe

It was agreed that:

- the prophylactic policy in Europe should continue until the results of the cost-benefit study are made available;

- the maintenance of the buffer zone in south-eastern Europe should continue and FAO should request additional funds from EEC and non-EEC countries in order to ensure the maintenance of the campaigns until 1987.

The Committee strongly emphasized the need for countries concerned with the buffer zone in south-eastern Europe to inform EEC/FAO/OIE of any changes in the vaccination policy other than those recommended by the EEC/FAO/OIE Tripartite Committee.

It was also recommended that the Commission be ready to take immediate action should an emergency FMD situation arise in view of the high incidence of FMD outbreaks of ASIA-1 in the Near East Region.

The Committee agreed that the Federal Republic of Germany, the Netherlands and the United Kingdom should undertake to study common criteria for a cost benefit study. The relevant document will be

submitted for consideration to the Twenty-sixth Session of the Commission.

The Committee in reviewing some of the main regulations on disease control made by the Commission agreed that:

- basic security standards should be drawn up by the Research Group and submitted to member countries for information and consideration,

- the recommendation made concerning animal movements and meat trade in Europe at the Twenty-fifth Session should be modified as follows:

> "Considered that restrictive measures should be applied only to the FMD affected areas and the period of enforcement of such measures could be the same as that applied, for example, in non-vaccinating EEC countries. Such measures should be applied to live susceptible animals and their products only."

Forty-seventh Session

FMD position in Europe and prophylaxis

The disease situation in Europe was reviewed and discussed. Special attention was given to the ASIA-1 outbreaks in Greece in 1984, and to the current FMD situation in Italy.

The Committee wished to draw the attention of the Chief Veterinary Officers of Europe to the difficulties experienced in recent years in recognizing the first outbreaks of the disease.

The prompt action taken by the Secretary in consultation with the Chairman to assist Greece to bring the ASIA-1 outbreaks under control was acknowledged.

The Committee considered that the present vaccination strategy in Europe should continue.

Vaccination campaigns in south-eastern Europe

The Committee recommended that:-

1) the maintenance of the buffer zone be continued;

2) in case of an emergency, arrangements should be made for a prompt supply of vaccine of the appropriate strain.

It was also recommended that the OIE recommendation (Vienna 1962) concerning production of vaccine against so-called exotic strains be rediscussed at the Twenty-sixth Session.

In view of this fact the Commission considered that restrictive measures should be applied only to the affected areas as is the established policy of the EEC and the period of enforcement of such measures could be the same as that applied in non-vaccinatiing EEC countries

The Research Group's opinion supported the views of the Commission.

FMD position in other regions

The Committee recommended that the Commission continue its efforts to obtain prompt and better information on new virus strains and that funds should be earmarked for vaccine studies with virus strains which may have consequences for Europe.

Activities of the Research Group

The Committee agreed that the Research Group's next Session should be held at the PANAFTOSA Center in Rio de Janeiro, Brasil.

Regionalization of FMD vaccine production

With regard to Europe, the Committee suggested that the problem of providing exotic vaccines should be discussed at the Commission's Session in April 1985.

Vaccine bank

The Commission might consider the possibility of utilizing the storage facilities available at AVRI, Pirbright, to establish a reserve bank of exotic types only.

Cost-benefit study

The Committee agreed that the relevant document be presented for discussion at the Twenty-sixth Session of the Commission.

Importation of meat into Europe

The Committee considered that the Commission's recommendation adopted at its XIXth Session (1972) should be reviewed and updated in the light of present circumstances and the knowledge acquired since the recommendation was made.

Appendix 2

FMD position in Europe during 1983 and 1984

As in previous years, the foot-and-mouth disease situation in Europe remained generally favourable during 1983/1984.

In the Iberian Peninsula a number of outbreaks were reported in both Spain (1983) and Portugal (1983/1984).

Netherlands, after six years freedom from FMD suffered a number of outbreaks in December 1983 and in January/February 1984.

The Federal Republic of Germany reported three outbreaks, two in June, and one in September 1984.

FMD ASIA-1 type appeared for the first time on the European continent in June 1984 with two outbreaks recorded in Greece in the buffer zone area close to the border with Turkey. Italy has suffered a series of outbreaks of FMD since 26 November 1984, which have continued also in 1985, affecting different provinces in the country.

In Turkey, the disease was recorded in the whole of Anatolia during the biennium while the Thrace area has remained disease-free since 1978. In the USSR only sporadic outbreaks have been reported. The remainder of Europe has enjoyed disease freedom.

Outbreaks of FMD and the responsible virus types recorded in Europe during 1983/84 and part of 1985 are shown in Table 1. Detailed information on the disease situation in those countries where the disease occurred is as follows:-

Portugal Serious outbreaks of FMD, type A5, totalling 133 cases, were reported in 1983. More than 3,000 animals (cattle, sheep, goats and pigs) were affected. A mass vaccination programme was carried out and by the end of 1983, 1 073 832 cattle, 39 838 sheep and goats, and 236 780 pigs had been vaccinated. During 1984 the number of outbreaks decreased considerably with 20 reported in pigs in January, and 2 outbreaks in cattle, one in April and one in August. Ring vaccination and occasionally the stamping out policy were applied.

Spain From January to July 1983 the country was affected by a number of outbreaks of type A_5 which occurred in the central and northern provinces. Strict sanitary measures, ring vaccination and occasionally stamping out of all affected and suspected animals, were applied with 1 638 cattle and 4 203 sheep and goats involved. A mass vaccination campaign with trivalent $O_1/A_5/C_1$ vaccine was carried out on cattle, sheep and pigs. By the end of 1983, 4 500 000 cattle, 10 000 000 sheep and 3 000 000 pigs had been vaccinated. Since July 1983, no further outbreaks have been reported in Spain.

Serological investigation at the WRL, Pirbright, showed that FMD outbreaks caused by type A_5 virus recorded in Spain, Portugal and Morocco in 1983 had very similar patterns to, or were indistinguishable from A_5 virus classical strain. (WRL Information Sheet No. 36, 1983).

Netherlands After a period of almost seven years freedom from FMD (type A on 7 January 1977), six outbreaks of FMD virus type O_1 were diagnosed; four in the Noord-Oost Polder on 30 December 1983, and two in the province of Noord-Holland on 20 January and 2 February 1984. Twenty-one young

unvaccinated cattle of less than one year were affected. Strict sanitary measures were applied and all animals of susceptible species present on the affected premises were killed and transported to the rendering plants in closed containers. In total 1 223 cattle, 110 pigs, 83 sheep and 13 goats were killed with a total compensation of 3 million Dutch guilders. Ring vaccination of all susceptible animals in the infected zones with monovalent vaccine type O_1 was carried out. The annual vaccination with trivalent vaccine O, A, C, of all cattle above the age of four months was completed as soon as possible, first in the infected zones, later also in the rest of the country.

The source of the infection was not identified and investigations carried out have not shown any evidence of its origin and exclude the possibility of airborne virus escape from the Central Veterinary Institute, Lelystad. Detailed information is given in the Report of the Forty-sixth Session of the Executive Committee held in Bonn, Federal Republic of Germany in April 1984.

As of 7 March 1984, all restrictions were lifted and the country was declared free from FMD.

Denmark Complete information on the one FMD outbreak, type O_1, reported on 13 January 1983 on the island of Funen was provided by the Danish Veterinary Services at the Twenty-fifth Session of the Commission in April 1983. Denmark was declared free from FMD on 14 February 1983.

Federal Republic of Germany In 1984 three outbreaks were reported, two of virus type A5 and one of type O_1. The first outbreak of A_5 reported on 6 June 1984 was in a herd of 53 cattle and one pig located in the Weilheim-Schongau District, Bavaria. 7 cattle were affected, 2 of which died. All animals present on the affected farm were destroyed and strict sanitary measures were applied. All animals on the infected farm had been vaccinated with trivalent OAC vaccine on 23 March 1984. Epizootiological investigations carried out have not shown any evidence of the origin of the disease.

On 17 June a second outbreak of FMD was reported in cattle in the Weilheim-Schongau District, Bavaria, in a herd of 24 cattle, located 800 metres from the first outbreaks which were considered as the origin of the infection. All animals present on the farm were destroyed and sanitary measures were applied including the establishment of a protection area within a radius of 10 Km around the outbreaks. Ring vaccination with monovalent A5 vaccine was carried out.

In both cases A_5 type virus was identified by the Federal Research Institute for Animal Virus Diseases, Tubingen, and this was confirmed by the World Reference Laboratory in Pirbright, U.K. All restrictions applied were removed on 19 July 1984.

A third outbreak of FMD type 01 was reported on 1 October 1984 in the Augsburg District, Bavaria, on a farm of 851 fattening pigs; 26 were affected. Stamping out of all animals present on the farm and strict application of the necessary sanitary measures brought the situation back to normal. The origin of the disease remained unknown.

Greece On 20 June 1984, FMD was recorded in two herds of cattle located in the Delta area of Evros Department (3 Km from the Turkish border). The Delta area is included in the buffer zone where all animals were vaccinated against O/A_{22} viruses during the annual prophylactic campaign which was carried out in April 1984. The affected herds, comprised of 930 head of cattle, were immediately isolated and strict sanitary measures were applied. Samples from affected cattle were sent to the FMD Institute

in Athens for typing. The FMD Institute confirmed the diagnosis and identified the virus type as ASIA-1. On 21/6/84 this was confirmed by the World Reference Laboratory, Pirbright, U.K.

The Greek Veterinary Services informed the neighbouring countries, Bulgaria, Turkey, Yugoslavia and Albania, the OIE, FAO, and EEC, and requested FAO to provide an emergency supply of 50 000 doses of FMD vaccine of ASIA-1 type. Following consultation with the Chairman of the Commission, the Secretary took action for the immediate delivery of 50 000 doses of vaccine to Greece on 23 June. Arrangements were made for an additional 70 000 doses to be sent to Greece on 6 July. Both supplies were made through Rhône-Mérieux (Teheran production).

Vaccination covering the whole buffer zone area was started on 25 June and completed on 13 July 1984. Revaccination was carried out on 30 July in and around the Delta area. The total number of animals vaccinated was 39 434 cattle, 118 012 sheep and 2 076 pigs. The emergency situation created in Greece by the presence of ASIA-1 virus outbreaks alerted the Bulgarian Veterinary Services who immediately enforced strict sanitary measures and vaccination of all susceptible animals (222 512 cattle and 390 510 sheep in the buffer zone (30 km) bordering Greece and Turkey. 430 000 doses of ASIA-1 vaccine were supplied to Bulgaria by FAO on 24 June and on 6 July 1984.

No vaccine was requested by Turkey; the Government officially informed FAO that vaccination campaigns had been carried out in the buffer zone with ASIA-1 vaccine in February 1984. On 3 July 1984, the Secretary visited the affected area in Evros where the emergency situation and action taken for its control and eradication were discussed with local Government Authorities. The stamping out of all cattle in the two affected herds which started on 4 July, was delayed due to the difficult access in this area. Stamping out was extended to all animals present in a radius of 3 km from the affected herds and involved a total of 1 276 cattle and 11 pigs. Compensation paid to the owners including cost of stamping out operations amounted to 125 876 000 Dr.

Origin of the disease Since Turkey had officially declared that Thrace is free from FMD since 1978 and no outbreaks of ASIA-1 virus had been reported in Anatolia, (last outbreak 1973) epizootiological investigations carried out by the Greek Veterinary Services have not shown any evidence of the origin of the disease.

Investigations carried out at the WRL, Pirbright, have shown that: the 1984 AISA-1 virus strain from Greece is very similar to those from Lebanon in 1983 and 1984. It is closely related to Iran 1/73 and PAK 1/54 the earlier strains, and less related to the more recent ASIA-1 strains from India and Kampuchea. A vaccine prepared from Iran 1/73 or similar strains should give adequate protection. (FMD type ASIA-1 in Greece. WRL Informaiton Sheet No. 37, July 1984). (Appendix 6)

Thanks to the prompt and efficient sanitary measures applied by the Greek Veterinary Services and the prompt delivery of vaccine by FAO, the emergency situation was quickly brought back to normal and all restrictions applied in the Department of Evros were removed on 10 October 1984.

Turkey The disease position has followed the same pattern as in previous years with FMD outbreaks reported in Anatolia while Thrace area has continued to remain disease-free since 1978. In Anatolia both virus A_{22} and O_1 were present during 1983 and 1984 and outbreaks were reported in cattle, sheep, and goats (Annex 1). Considering that the number of outbreaks reported in Turkey is based at village level, this increases

considerably the number of animals affected or involved in an outbreak. Vaccination programmes for FMD prophylaxis and control were carried out during the reporting period with vaccine produced at the Ankara FMD Institute where production is continuing at the capacity permitted by the existing laboratory facilities. The amount of vaccine produced in 1984, was on average 7 000 000 doses of monovalent vaccine of O_1 and A_{22} type, and 6 000 000 doses of ASIA-1 type.

Bivalent O/A_{22} vaccine was used for the implementation of the vaccination campaigns in Thrace in addition to the vaccine supplied by FAO, (450 000 doses O/A_{22} vaccine) in the eastern and southeastern boundary regions in Anatolia, and for ring vaccination in affected areas. The ASIA-1 type vaccine has been used to carry out prophylactic vaccination at the border with Iran and in the Thrace buffer zone area because of the risk the presence of ASIA-1 virus represents in the Near east region and especially in Iran. (300 000 doses of ASIA-1 vaccine supplied by FAO in April 1984 as emergency assistance).

The new FMD vaccine plant in Ankara is now nearing completion and has a produciton capacity of over 40 million doses of monovalent vaccine; and it is expected to be operational in 1985. Its establishment has been made possible thanks to the collaboration established with the FMD Institute in Brescia, Italy, and the financial assistance granted by EEC. This will permit Turkey to meet the national need for vaccine and to carry on the campaign in Thrace (Turkish side) with locally produced vaccine. This was also the objective of the assistance given to Turkey by the Commission and by FAO since 1969, and that provided by EEC at present.

U.S.S.R. The information received from the Main Veterinary Department of the U.S.S.R. Ministry of Agriculture, shows that U.S.S.R. enjoyed a favourable disease situation during 1983-1984. FMD incidence of types O_1 and A_{22} was reported in Georgia, Armenia, Azerbajan and the southeastern provinces during 1983. In 1984 a total of 6 outbreaks of A_{22} type were reported, 4 in Armenia involving 307 cattle and 2 in Georgia involving 146 cattle. Vaccination coverage of cattle, sheep and pigs was largely extended during the reporting period. (Table 1). Information on the FMD position in the U.S.S.R. has been provided regularly to the Commission by the Main Veterinary Department. It is hoped that scientific collaboration in the field of FMD virus strains isolated in Europe and in the U.S.S.R. and in other matters of common interest can be improved.

Italy After three years freedom from the disease, (last outbreak 1981), Italy has suffered a serious and widespread epizootic of FMD, A_5 virus type. The first outbreaks occurred on 26/11/84 on a cattle farm in the village of San Prospero in Modena Province. The herd comprised 22 cows, 1 bull, 14 calves, and 11 cattle, out of which only 1 of the cattle and 1 bull were affected. After the primary outbreak, the disease spread rapidly in the Province of Modena and to the adjacent Provinces of Reggio Emilia and Bologna. Thereafter the disease spread to the Provinces of Cuneo (Piemonte), Brescia, Cremona, Mantova (Lombardy) and suddenly it appeared quite a distance from the primary outbreaks causing isolated outbreaks in the Provinces of Perugia (Umbria), Salerno (Campania), Ragusa (Sicily) and Rieti (Lazio). The most affected Provinces were Modena, Brescia and Cuneo while only a few or isolated outbreaks occurred in the other Provinces where the disease was reported. Details of the outbreaks reported in Italy in chronological order are given in (Table 1). As stated by the Director General of Veterinary Services in Italy, sanitary measures and a control policy adequate to the situation were applied in accordance with national and EEC regulations.

The slaughter policy was applied mainly to the clinically infected animals in the affected premises while in a number of cases whole herds

were slaughtered. Ring vaccination of all susceptible animals was immediately undertaken in the affected areas while mass vaccination with trivalent O/A/C vaccine was expedited in the whole country. Disinfection of affected premises was carried out and transport and animal movement from the affected areas was prohibited.

Investigations carried out at the Istituto Zooprofilattico in Brescia showed that the virus responsible for the epizootic was A_5 type. This was confirmed also by the World Reference Laboratory, U.K. Investigations are being extended to blood samples collected from vaccinated cattle; immunological trials in cattle are being carried out.

The disease mainly affected non-vaccinated beef cattle of local breed or imported, and only in a few cases dairy cattle, pluri-vaccinated, were affected. In one case, where cattle, pigs and sheep were on the same premises, only cattle were affected. Later on outbreaks were reported on pig farms, in the provinces of Cuneo, Brescia, Mantova, Cremona and Parma. The appearance of secondary outbreaks in the most affected Provinces (Brescia, Cuneo) occurred with a certain lapse of time from the primary outbreaks registered in Modena as well as the isolated outbreaks which occurred in other Provinces some of which were located a long distance away (Perugia, Salerno, Ragusa, Rieti, Cosenza, Benevento, Caserta). From 26/11/84 when the first outbreak was reported in Modena, until 11/3/85 date of the last outbreak reported in Salerno (Campania), the disese affected eight Regions (15 Provinces), causing 91 outbreaks of which 84 in cattle and 7 in pigs with 11 006 cattle, 24 379 pigs and 660 sheep and goats involved. The number of animals slaughtered was 1 816 cattle, 4 449 pigs and 657 sheep and goats. Indemnities paid amounted to over seventeen billion Italian lira.

Table I

FMD POSITION IN EUROPE 1983-1984
(By country, number of outbreaks and virus type)

COUNTRIES	Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov	Dec.
1983												
Denmark	1-O											
Netherlands												4-O
Spain	1-A_5	3-A_5	3-A_5			2-A_5						
Portugal	29-A_5	37-A_5	36-A_5	11-A_5	18-A_5	2-A_5						
U.S.S.R.	2-O	2-O	1-O			1-O					4-A_{22}	4-A_{22}
Turkey:												
Thrace*												
Anatolia	24-O	24-OA_{22}	19-O	29-O_1	31-O_1A_{22}	27-OA_{22}	40-OA_{22}	31-OA_{22}	65-OA_{22}	63-OA_{22}	47-OA_{22}	45-OA_{22}
1984												
Portugal	20-A_5			1-A_5				1-A_5				
Netherlands	1-O_1	1-O_1										
Germany Fed. Rep.						2-A_5				1-O_1		
Greece						2 ASIA-1						
Italy											8-A_5	37-A_5
Turkey:												
Thrace												
Anatolia	59-A_{22} O	46-A_{22} O	56-A_{22} O	49-A_{22} O	43-A_{22} O	37-A_{22} O	38-A_{22} O	26-A_{22} O	18-A_{22} O	20-A_{22}O	20-A_{22}O	26-A_{22}O
U.S.S.R.				1-A22		1-A_{22}	2-A-22		2-A22			
1985												
Italy	32-A_5	9-A_5	23-A_5	4-A5**								

* Turkish Thrace no outbreaks reported since 1978;
** Outbreaks reported until 14 April 1985

Appendix 3

FMD prophylaxis in Europe, 1983-1984

FMD prophylaxis in Europe during the period which has elapsed since the Twenty-fifth Session of the Commission in April 1983, has followed the same pattern as previously. A general vaccination programme has been implemented in Belgium, France, the Federal Republic of Germany, Italy, Luxembourg, Malta, the Netherlands, Portugal, Spain and Switzerland. A general vaccination programme has also been carried out in Czechoslovakia, the German Democratic Republic and in the USSR, while in Bulgria, Greece (buffer zone in Thrace), Cyprus (south part), Hungary, Romania and Turkey, only area vaccination has been carried out (Table 1).

In the remainder of Europe prophylactic vaccination is not practised; prophylaxis is based on the sanitary measures and animal movement control regulations in force in each country.

The favourable disease situation established in the greater part of Europe and the consequent tendency to relax the security measures in some countries may compromise the stability of the disease control system established so far and at the same time the capacity of the national authorities to face an emergency FMD situation may be reduced.

Disease security measures have proved to be effective in countries where national emergency plans for FMD outbreaks have been established and function when an emergency arises. The survey carried out by the Commission shows that only a few countries dispose of an effective emergency plan to face FMD outbreaks especially of an exotic type (Report of the Executive Committee, Bonn, 1984).

In the case of an FMD outbreak of an exotic virus type the vaccine would have to be imported from abroad until an homologous vaccine could be produced by a laboratory of the country concerned. In addition only a few countries dispose of a reserve of vaccine of conventional types for emergency situations. In the countries where vaccine production facilities do not exist supplies are entirely dependent on foreign production.

The recent FMD outbreaks which occurred in Europe are clear evidence that the prophylactic system alone does not give absolute protection. For instance the entire pig and small ruminant population remains unprotected.

Events over the last few years in Europe show that complacency with regard to the FMD situation is dangerous and countries should continue to be alert to the insidiousness of the disease. National prophylactic programmes should in practice be implemented according to the rules existing in each country and the epizootiological situation in neighbouring countries or regions. This policy should be strictly applied especially in importing countries. To ensure efficient disease control and prophylaxis it is essential that national prophylactic requirements and plans for emergency action to cope with FMD outbreaks be reviewed and updated regularly.

The Executive Committee at its Forty-sixth Session held in April 1984, in Bonn, Federal Republic of Germany, recognized that the present prophylactic policy might not be optimal; protection experiments using field virus might clear up this point. The real danger might not be the classical European FMD virus strains but rather strains for which the present vaccination policy may not be fully effective. The Committee

agreed that the present policy should continue until the results of the cost-benefit study on prophylactic vaccination are known.

Europe, considering its relatively limited size, the density of its livestock population, and the inter-trade activities in this sector, should be considered as one epizootiological unit. This would permint European countries to adopt a common prophylactic system. The FMD control policies of EEC and non-EEC countries and of the CMEA (Council for Mutual Economic Assistance) countries should be considered jointly in order that FMD prophylactic programmes in Europe can be based on the use of the appropriate vaccine and in order to harmonize their implementation.

Table I

FMD PROPHYLAXIS IN EUROPE DURING 1983 AND 1984

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Netherlands	All cattle above four months OAC vaccines 1983 Cattle: 4 200 000 1984	From 1st Dec. to 1st March Emergency vaccination Noord-oost and Flevoland Polders of cattle 2-4 months and sheep, goats and pigs. Same in Noord Holland Province	The entire country since 1953	Triv. $0_1/A_{10}/C$ (Frenkel) Vaccine plus injections: D. Fl. 5.5 (1) (5 cc)	At least 10 cattle PD_{50}. Resistance to generalization after intradermolingual challenge with 10 000 cattle PD_{50}. PD_{50} are calculated from three groups of 5 cattle
Belgium	All cattle above three months of age. The maximal interval between 2 consecutive vaccinations is 13 months. 1983 Cattle: 2 200 000 1984 Cattle: 2 200 000	From 1 Dec. to to 31 March	the entire country since 1962	Triv. OAC ($0_1/A_5$/ C1) cattle: 5 cc sheep : 2 cc 25 B. Fr. (2)	At least 10 cattle PD_{50} the challenge being 10 000 ID_{50} intradermolingually.

Note: (1) vaccine and vaccination costs borne by owner 50%
(2) cost met by owners

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Luxembourg	All cattle above three months of age 1983 Cattle: 195 000 1984 Cattle: 195 000	From 1 Dec. to 31 January.	the entire country since 1966	Trivalent OAC ($O_1/A_5/C1$) Cattle 5 cc Price 17 B. Fr. (1)	More than 5 cattle PD_{50} challenge being 10 000 ID_{50} intradermolingually.
France	A. All cattle above 4 months B. All sheep and goats above 3 months 1983 Cattle: 20 000 000 Sheep and goats: 700 000 1984 Cattle: 20 000 000 Sheep and goats: 650 000	All year round but mainly from Nov. to May Before transhumance	A. The entire country since 1962 excluding Finistère B. The frontier departments of the Pyrennees	Trivalent OAC (A Allier 1960 O Lausanne 1965 C Vosges 1960) Cattle 5 cc Sheep 2 cc Price: (triv. dose) 4.30 F.F. (Frankel) 3.80 F.F. (B.H.K.)	Principle: > 80% protection rate in cattle against generalization by intradermolingual challenge Methods and minimums Index K (Lucam) = 1.2 Index C = 10^2_1 Index S = 10^1 Vaccine produced in France controlled by the L.N.P., Lyons

Note: (1) vaccine free of charge; vaccination cost 17 B.Fr. shared by the state (7 B.Fr.)and the owner (10 B. Fr.)

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Switzerland	All cattle born before 1 Jan. 1983 Cattle: 1 600 000 1984 Cattle: 1 635 140	From 15 Feb. to 15 May	The entire country since 1966	Trivalent OAC cost of vaccine SF. 1.6 (1) cost of injection SF. 1.7	Vaccines almost entirely imported from France
Federal Rebublic of Germany	All cattle above four months 1983 - 1984 Same policy	Late in winter before going to pasture	The entire country since 1965	Trivalent OAC ($O_1/A_5/C$) Dose: 5 cc Cost: DM 3.- (2)	Three cattle per type are challenged by rubbing a virus suspension on the tongue. No generalization admitted.
Democratic Republic of Germany	All cattle above 5 months 1983 -1984 Same policy	From 1 Oct. to 31 Dec.	The entire country since 1950	Trivalent OAC Dose 5 ml	

(1) vaccine and injection (total cost: S.Fr. 3.30) free of charge to owner
(2) in some "Lander vaccination is free of charge, in others the owner is charged 50% of cost

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Portugal	Cattle: above 3 months Sheep and goats: above 2 months Pigs: above 2 months 1983 Cattle : 1 073 832 Swine : 236 789 Sheep and goats: 39 838 1984 Cattle : 718 420 Swine : 221 980 Sheep and goats: 1 935	Once a year	The entire country	Trivalent OAC	PD_{50} according suitable international Code. Good results.
Italy	A. All cattle above 3 months B. Cattle, sheep and goats sent to alpine pastures 1983 Cattle: 9 000 000 Sheep and goats: 2 800 000 1984 Cattle: 9 000 000 Sheep : 1 200 000	From 1 November to 31 January Emergency vaccination in affected provinces of all susceptible animals.	The entire country since 1968 Sheep and goats: the entire territory of Sicily	Trivalent OAC ($O_1/A_5/C$) (1) 5 cc Cost: Lit. 520 per Triv. dose	8 PD_{50} measured on cattle (3 groups of 5 cattle per valence - dilution 1:1; 1:4; 1:16 in buffer)

Note: (1) vaccine and vaccination programme paid by Government

* for administrative reasons vaccination programme finished in Spring 1982

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Spain	A. All cattle above 4 months. Sheep and goats destined for transport. B. Swine: compulsory for breeding stock. In case of outbreak all pigs. Radius 25 Km outbreak 1983 Cattle: 4 500 000 Sheep: 10 000 000 Swine: 3 000 000 1984 Cattle and sheep: 7 900 000 Swine: 5 300 000	A. Spring (and autumn) in border provinces. B. Twice yearly for breeding animals.	The entire country for cattle & pigs 25 Km around outbreaks	A. Trivalent OAC 35 Pst. per dose (1) B. Two types in use: DEAE and oil vaccines 40 Pst. per dose. Monovalent C oil vaccine 16 Pst. Trivalent OAC cattle, sheep Trivalent OAC swine	Potency testing based on the cattle PD_{50} determination has been started, as reference. Routine: 2 vaccinated animals are challenged against field strains; both must remain protected. Results: very successful in pigs.

Note: (1) The cost of vaccine free of charge for cattle and 50% in pigs and fattening cattle; vaccination paid by owner

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
U.S.S.R.	Cattle above 4 months. Sheep and goats above 1 month, pigs above 2 months 1983 Cattle: 140 522 149 Sheep : 49 133 218 Swine : 2 850 585 1984 Cattle: 137 815 600 Sheep : 66 554 500 Swine: 2 295 300	Early Spring and Autumn	Republic of Transcaucasus Kazakhstan, Middle Asia with bordering regions of RSFSR and Ukraine Same policy	Mainly monovalent and trivalent vaccines. Cattle dose: 5.cc monovalent: 9 Kopecks trivalent 27 Kopecks	Required duration of immunity: 6 months
Hungary	Cattle and sheep above 2 months of age. Pigs not vaccinated. 1983 Cattle: 477 000 Sheep : 1 080 000 1984 Cattle: 482 000 Sheep : 995 000	Two programmes: Spring and Autumn	Eastern border provinces	Trivalent OAC (1) Cattle dose: 5cc sheep dose : 3cc	Vaccination free of charge

Note: Vaccine and vaccination free of charge to owner (1)

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccinaiton	Valencies Cattle dose/cost	Potency required and results
Czechoslovakia	A. All cattle above 3 months Adult sheep, goats and pigs 1983 Cattle: 4 900 000 Sheep : 750 000 Goats : 4 000 Pigs : 1 000 000 1984 Cattle: 3 800 000 Sheep : 175 000 Goats : 2 000 Pigs : 900 000	During the whole year	The enitre country	Trivalent OAC	Five cattle per type are challenged by rubbing a virus suspension on the tongue. One generalization tolerated.
Denmark	Total prohibition of vaccination as of 1 January 1977				
Austria	Cattle, sheep, goats and pigs 1983 Cattle: 90 000 Sheep and goats: 4 000 1984 Cattle: 91 000 Sheep and goats: 4 000	A. Autumn B. Spring C. Animals for export as required	Around the FMD Institue (Vienna) Animals to be sent to mountain pastures.	Trivalent AOC cattle 5 ml Sheep 3 ml 16,5 A.S. (1)	Per type two groups of cattle (undil. and 1:4 dilution) are challenged intradermolingually with 10.000 ID_{50} PD_{50} are calculated

Note: (1) vaccine and vaccination free of charge to owner

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Turkey	Cattle, buffaloes, sheep and goats above 4 months of age 1983 Cattle: 2 052 433 Sheep : 3 176 360 Pigs : 650 1984 Same policy	March-May in buffer zones RING vaccination all year round. Autumn - young stock in Thrace buffer zones Emergency prophylactic vaccination with ASIA-1 vaccine	A. Turkish Thrace including Istanbul and celibolu B. Frontier areas in eastern and southern Anatolia C. State and dairy farms, feedlots and other exposed areas	O_1/A_{22} IN 198	9 cattle per batch (3 cattle per type are challenged intradermolingually; 6 controls).
Greece	Cattle, sheep and goats above 3 months of age 1983 Cattle: 14 955 Sheep and goats: 41 744 1984 Cattle: 11 079 Sheep and goats: 27 780	Spring campaigns June-July 1984 Emergemcy vaccination in buffer zone area with ASIA-1 vaccine of all susceptible animals: 28 355 cattle, 90 232 sheep, 2 076 pigs	Frontier areas in Greek Thrace	Bivalent O_1/A_{22} provided through FAO Monovalent ASIA-1 provided through FAO	Potency evaluated on guinea pigs, the protection dose being less than 0.3 ml. (monovalent cattle dose: 3 ml.) Vaccine production in FMD Lab. Athens. Conventional European strains. Stock reserve.

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Bulgaria	Cattle and sheep above 3 months 1983 Cattle: 183 000 1984 Cattle: 200 000	Spring Emergency vaccination with ASIA-1 along frontiers with Greece and Turkey	30 Km buffer zone along frontiers with Turkey and Greece and at frontier posts.	Biv. O_1/A_{22} (FAO vacc.) of border areas with Turkey.	100% protection against generalization in 4 cattle intradermolingual challenge with 10 000 ID_{50} Seroneutralization index above 3.
Romania	Cattle and sheep above 6 months 1983 Cattle: 1 264 000 Sheep : 528 000 Pigs : 20 300 1984 Cattle: 1 320 000 Sheep : 583 000	Twice a year (6 months interval); young cattle are revaccinated after 15-21 days	Frontier districts in the West. Frontier areas in the South and Southeast. Around sea and river ports and international airports	Monovalent vaccines produced against O_1, C, A_5. Cost per dose 4.32 lei.	The ordinary monovalent dose must contain 8 cattle PD_{50}.

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Yugoslavia	Cattle for export above 7 months 1983 Cattle: 52 075 1984 Cattle: 84 261	All the year round		Trivalent OAC 5 ml doses	
Cyprus	All cattle above 6 months. Sheep and goats above 3 months 1983 Cattle: 12 631 Sheep : 145 307 Goats : 149 249 1984 Cattle: 18 279 Sheep : 302 362 Goats : 111 670	Early spring and autumn	Entire coountry in South	Trivalent 0_1, A_{22}, and ASIA-1 Monovalent A_{22} and ASIA-1	
Malta	Cattle, sheep and goats. 1983 / 1984 Cattle: 10 777 / 11 799 Sheep : 334 / 390 Goats : 3 698 / 4 431	Winter and Spring	Double vaccinaiton entire country in 1978/79; entire country since	OAC vaccine (Italy)	

Appendix 4

Vaccination campaigns in south-eastern Europe

The annual vaccination campaigns in south-eastern Europe were continued in the buffer zone in Thrace in 1983 and in 1984. According to reports from the countries concerned, the frontier areas of Turkey, Greece and Bulgaria were given vaccination coverage during April/May. Bivalent FMD vaccine A22/O1 was supplied by FAO to the three countries concerned with funds provided from EEC and non-EEC countries. The total amount of vaccine supplied for the 1983 and 1984 campaigns was: Turkey, 800 000 doses; Bulgaria, 500 000 doses, and Greece 100 000 doses. The vaccine was supplied through Rhône-Mérieux (Teheran production) at a cost of US$ 700 000.

In view of the epizootiological situation in the Near East region where FMD outbreaks of ASIA-1 type virus are widespread, and the emergency situation created by the occurrence of FMD ASIA-1 type outbreaks in Greece, in the Delta area of Evros Thrace buffer zone, in June 1984, the FAO/EEC/OIE Tripartite Group on FMD at the meeting held in Vienna on 26 September 1984, (on the occasion of the XIth Conference of the OIE Regional Commission for Europe) recommended that ASIA-1 type vaccine be included in the spring vaccination campaigns in the buffer zone for 1985 (A22/O1/ASIA-1 trivalent vaccine) in Greece, Turkey and Bulgaria. Following this recommendation, and taking into account the request of the countries concerned, arrangements were made for the supply of 810 000 doses of A22/O1/ASIA-1 trivalent vaccine for the spring vaccination campaigns in 1985 through Rhône Mérieux (Teheran production) at a cost of US$ 486 000. (Cost met through TF's 9097 and 9111). The vaccine was supplied in February to the three countries concerned in order that vaccination in the buffer zone could be carried out simultaneously (Turkey, 500 000 doses, Bulgaria 250 000 doses and Greece 60 000 doses). In addition Turkey will provide 600 000 doses of locally produced A22/O/ASIA-1 vaccine to complement the vaccinaiton coverage in Thrace.

Emergency assistance - ASIA-1 vaccine

Turkey During the visit of the Secretary to Iran in October 1983, the FMD situation was reviewed, and the Veterinary Authorities informed him that ASIA-1 type outbreaks were widespread in Iran at the border with Turkey (West Azerbajan). The Turkish Government was immediately informed of the risk this represented, considering the previous experience with ASIA-1 outbreaks in Turkey in 1973. The Turkish Government requested assistance from FAO for the provision of 500 000 doses of ASIA-1 vaccine to complete vaccination coverage along the border with Iran. Following consultation with the Chairman of the Commission, it was agreed that the assistance requested by the Turkish Government should be provided but due to the limited availability of funds only 300 000 doses of vaccine were supplied by Rhône Mérieux (Teheran production) at cost of US$ 70 000. The cost was met from TF 9097 (non-EEC).

Greece The occurrence of FMD outbreaks of ASIA-1 type in Greece on 20 June 1984 created an emergency situation not only in Greece but in all of south-eastern Europe. FAO took action immediately and a supply of 50 000 doses of ASIA-1 vaccine was airfreighted to Greece on 23 June and 75 000 doses of the same type on 6 July 1984. The total amount of ASIA-1 vaccine furnished to Greece was 125 000 doses and the expenditure incurred was met through Trust Fund 9111 (EEC). This prompt action was possible due to the arrangements made by the Commission to hold a stock of ASIA-1 vaccine at Rhone Mérieux laboratories in France for immediate delivery in case of emergency. These arrangements were made as a follow-up to the recommendation made at the Forty-sixth Session of the Exeuctive Committee held in Bonn in April 1984 and that of the FAO/ECC/OIE Tripartite meeting

held in Paris during the Fifty-Second OIE General Session in May 1984.

Bulgaria The emergency situation in Greece alerted the neighbouring country, Bulgaria, and action was taken by FAO and the Commission to assist Bulgaria to establish vaccination coverage in the buffer zone area bordering with Greece and Turkey and also to extend the protection barrier against ASIA-1 virus in order to cover the whole area of the buffer zone. (Turkey had already vaccinated). Arrangements were made for the immediate delivery of 150 000 doses of ASIA-1 vaccine which arrived in Sofia on 23 June 1984 and at the request of the Government of Bulgaria an additional 280 000 doses were supplied on 6 July 1984.

Difficulties were encountred in obtaining the second delivery from sources outside of Europe and the matter was discussed by the FAO/EEC/OIE Tripartite Group on 28 June 1984 in Budapest during the Ad hoc Consultation on the Improvement of Animal Health Coordination in the European Region. The Group concluded that if the 280 000 doses of ASIA-1 FMD vaccine requested by Bulgaria was not immediately available from producers outside of Europe it should be obtained from Wellcome U.K. immediatley as an exceptional emergency arrangement without making this a precedent. The Secretary of the Commission was instructed by cable to act accordingly. The cost of these deliveries (430 000 doses US$ 95 219) was met from TF's 9111 (EEC) and 9097 (non-EEC).

Turkey informed FAO and the Commission that the veterinary authorities, alerted by the information regarding the presence of ASIA-1 type FMD in the Near East, especially Iran and Lebanon, had already undertaken vaccination with ASIA-1 type vaccine in the buffer zone area in February 1984, before the outbreaks in Greece, and consequently it felt that was not necessary to revaccinate in the same area. Therefore no vaccine was requested by the Government. ASIA-1 vaccine has been produced at the Ankara FMD Institute since 1983.

Turkey officially declared that the Thrace area had remained free from FMD since 1978 while in Anatolia only FMD types O1 and A22 had been recorded. The last outbreak of ASIA-1 virus type had been recorded in Turkey in 1973.

Provision for the maintenance of the buffer zone in south-eastern Europe

At the Twenty-fifth Session of the Commission in April 1983 it was agreed that the vaccination campaigns be continued in the buffer zone in Thrace beyond 1984 if Turkey was not in a position to continue the campaigns with locally produced vaccine. It was recommended that continuation of the campaigns be reviewed again in 1985 at the Twenty-sixth Session. The Tripartite Group FAO/EEC/OIE endorsed this recommendation at the meeting held in Brussels on 16 September 1983. In view of the delay reported in the completion of the FMD Institute in Ankara, which was not expected to become fully operational before 1986, the Forty-sixth Session of the Executive Committee held in Bonn in April 1984, recommended that the maintenance of the buffer zone in Thrace be continued beyond 1986. The Committee agreed that additional funding would be necessary to ensure the continuation of the campaigns.

This recommendation was endorsed by the FAO/EEC/OIE Tripartite Group at a meeting held in Paris on 23 May 1984 on the occasion of the Fifty-second OIE General Session. At this meeting the question of emergency supply of exotic vaccines was discussed. The Group was of the opinion that FAO should be authorized to supply such vaccine independently of the place of production on condition that the quality of such vaccine conforms with international standards. In view of the EEC rules in this respect, the Group requested the EEC delegate to discuss this matter at

the Permanent Veterinary Committee of the EEC and inform FAO of the outcome.

Based on the foregoing, the Director-General of FAO launched an appeal in July 1984 to the EEC and non-EEC countries for additional funding for the vaccination campaigns. The total amount requested was US$ 998 052 from EEC countries and US$ 239 448 from non-EEC countries. This would have covered vaccination with bivalent vaccine (O1/A22) for the period recommended by the Commission i.e. beyond 1986.

At the Ad hoc meeting of the FAO/EEC/OIE Tripartite Group on FMD held in Vienna on 26 September 1984, on the occasion of the XIth Conference of the OIE Regional Commission for Europe, the Group in reviewing the FMD situation in south-eastern Europe and the Near East and the emergency situation created by the outbreak of FMD type ASIA-1 virus in the Greek buffer zone, recommended, firstly, that ASIA-1 type vaccine should be included in the spring vaccination campaigns in the buffer zone in 1985 (A22/O1/ASIA-1 trivalent vaccine - Greece, Turkey and Bulgaria), secondly, that consideration be given to the inclusion of other FMD virus types in the vaccination campaigns during the following years since the pattern of FMD virus types is changing frequently in the Near East region. In view of this it was recommended that sufficient funds be made available to FAO to permit the inclusion of other virus types in the vaccine to be supplied to any country facing an emergency or for prophylactic vaccination in the buffer zone during 1985/87. It is hoped that during this period Turkey will be self-sufficient in vaccine and will be in a position to take full responsibility for the maintenance of the buffer zone on the Turkish side.

Following the above, on 12 October 1984 FAO again approached the EEC to seek an increase in the funding requested under cover of the Director-General's letter of 31 July 1984 i.e. US$ 1 596 883 instead of the amount of US$ 998 052 originally requested.

The accounts of the relevant Trust Funds (TF 9111 and TF 9097) are attached hereto.

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE
Statement of income/account for Trust Funds 9111 (EEC) and 9097 (non-EEC) 1983/1984 (Provisional)

TF 9111

1983			
Income		Expenditure	
Bal. 1/1/83	US$ 49 158	Provision of bivalent A22/01 FMD vaccine - 700 000 doses (Turkey 400 000, Bulgaria 250,000 Greece 50 000)	US$ 350 000
EEC Deposits	314 572		
EEC Deposits	486 384		
Interest credited (1983)	37 584	Reimbursement to TF 9097 for expenditure incurred in 1982	163 000
		Commission publication charges in excess of Regular Programme allocation	437
		Project Servicing Costs	26
	US$ 887 698		US$ 513 463
1984			
Bal. 1/1/84	US$ 374 235	Provision of bivalent A22/01 FMD vaccine - 700 000 doses (Turkey 400 000, Bulgaria 250,000 Greece 50 000)	US$ 350 000
EEC Deposits (reimbursement for vaccine provided for Greek buffer zone)	25 000		
Interest credited (1984)	6 133	Inactivated FMD vaccine (ASIA-1) 200 000 doses (Bulgaria 150 000, Greece 50 000) June 1984	
		Total commitment	* US$ 47 619
		Paid in 1984	11 364
	US$ 405 368		
Income due		Inactivated FMD vaccine (ASIA-1) 50 000 doses to Greece July 1984 EEC for vaccine	11 429
Reimbursement from EEC for vaccine supplied to Greece		Inactivated FMD vaccine (ASIA-1) 25 000 doses to Greece July 1984	5 682
- Campaigns 1984 50 000 doses A22/01	25 000		
		Travel - Secretary to Greece to advise on emergency FMD situation	798
- Emergency supply 125 000 doses ASIA-1	28 500	Project servicing costs	48
			US$ 379 321
		* Outstanding payment	36 255
	US$ 458 868		US$ 415 576
BALANCE	US$ 43 292		
1985 Funds committed for vaccination campaigns			US$ 30 000
Balance TF 9111 (EEC) 1/2/85			US$ 13 292

TF 9097

1983 Income		Expenditure	
Bal. 1/1/83	US$ 261 836	Travel - Secretary/Chairman to Poland, Romania and Cezechoslovakia. Secretary to Netherlands to conduct Session Research Group (part charge only)	US$ 2 930
Finland	14 956		
Sweden	9 555		
Switzerland	19 540		
Yugoslavia	16 623		
Interest accrued (1983)	34 697	Project servicing costs	176
Reimbursement from TF 9111 for exp. incurred for vaccine supplies in 1982	163 000		
	520 207		3 106
1984			
Bal. 1/1/84	US$ 517 101	280 000 doses inactivated FMD vaccine (ASIA-1) to Bulgaria, July 1984	47 600
Sweden (representing bal. on outstanding amount appeal 1982)	9 555	300 000 doses inactivated FMD vaccine (ASIA-1) to Turkey, April 1984	73 171
Yugoslavia	16 625		
Interest accrued (1984)	21 358	Travel - carryover from 1983, travel of Sec. to Brasil (discussions with PAHO - 50 percent from RP), rep. Comm. by Prof. Ahl, Tubingen, at OIE FMD Commission meeting Nov. 84 (Paris)	2 615
		Project servicing costs	157
	US$ 564 639		US$ 123 543
Balance:	US$ 441 096		
1985			
Balance:	US$ 441 096		
Funds received from Austria Jan. 1985	30 555	Funds committed for vaccination campaigns	US$ 456 000
	US$ 471 651		US$ 456 000

Balance TF 9097 (non-EEC) 1/2/85 US$ 15 651

FMD VACCINATION CAMPAIGNS IN SOUTHEASTERN EUROPE TFs 9111/9097

Response to Director General's Appeal dated 31 July 1984 to EEC and non-EEC countries

Position at 1.2.1985

	Requested
EEC	
(DG letter dated 31.7.84 As recommended by EEC FAO/ OIE Trip. Group at meeting held Vienna 26.9.84 amount requested increased - DG cable of 12.10.84)	US$ 998 052
Total amount requested from EEC	US$ 1 596 883
BALANCE TF 9111 at 1.2.85 (provisional accounts)	US$ 13 292
non-EEC Total amount requested	US$ 239 448
Balance TF 9097 at 1.2.85 (provisional accounts)	US$ 15 651
TOTAL	US$ 28.943

Appendix 5

FMD position in other regions and particularly in countries exporting to Europe

Near East and North Africa

The FMD situation in the Near East region deteriorated during 1983/1984 with several outbreaks of types 0/A22/ASIA-1 and C reported in most countries. Due to the uncontrolled importation of animals from infected countries, the pattern of FMD distribution and development in the Near East is subject to frequent changes with conventional indigenous FMD virus strains alternating with new strains which have frequently spread throughout the region creating a serious menace for Europe. Turkey and Greece have also been involved and serious and concerted national and international efforts have been made to control the waves of exotic virus attacks (SAT-1, A22, ASIA-1). This threat is still present together with the possibility of further invasions following the steadily deteriorating FMD position in the Near East region (Table 2).

Morocco After two years freedom from FMD, in 1983 serious outbreaks of type A5 were recorded in several areas throughout the country. A mass vaccination campaign was carried out initially with A/Morocco/77 vaccine and later with type A5 vaccine. The Government imported more than 2 000 000 doses of FMD monovalent type A5 vaccine. In addition, 1 500 000 doses of A5 vaccine was provided by FAO through a TCP project. Thanks to a mass vaccination campaign and the application of strict sanitary measures Morocco succeeded in bringing the disease under control and the last outbreaks of type A5 were reported in November 1983 in the provinces of Tetouan and Meknes. Prophylactic vaccination was continued in 1984 and 2 897 427 cattle were vaccinated with A5 vaccine.

Algeria and Tunisia No outbreaks reported.

Libya Since 1981, FMD is present in the country with several outbreaks of type 01 recorded during 1983. Outbreaks were reported in 14 provinces in the northern part of the country with cattle, sheep and goats affected. The vaccination programme carried out in 1983 was limited to 10 678 cattle, 29 484 sheep and 2 030 goats. No information has been made available on the disease situation during 1984.

Egypt FMD is endemic in the country with outbreaks of type 01 reported in 1983/1984.

Middle East countries

Lebanon FMD is widespread with 62 outbreaks reported during 1983 and 59 for 1984, in cattle, sheep and goats. Type ASIA-1 was diagnosed in samples sent to the World Reference Laboratory but according to official information received from the Services des Ressources Animales of the Ministry of Agriculture, in addition to ASIA-1 types 0, A22 and C were also reported. Vaccination was carried out on a small number of animals with 01, A22 and ASIA-1 vaccine provided through FAO (48 210 cattle, 41 500 sheep, 7 140 goats and 4 000 pigs). Vaccination programmes and application of sanitary measures for disease control are limited to free access areas only in the country.

Iraq The Government, seriously concerned with the economic problems caused by the presence of FMD in the country (estimated losses in 1974 - US$

10 000 000), decided to establish an FMD vaccine production institute to meet the national requirements in FMD vaccine for disease prophylaxis and control programmes. The institute is located at Dora near Baghdad and was established in collaboration with Rhone Merieux, Lyons, France, at a cost of 15 million dollars. It was inaugurated in October 1983. It has a production capacity of 12 million doses per annum of FMD trivalent vaccine against the 01, A22 and ASIA-1 virus types which are at the origin of epizootics in Iraq and in the region. During 1984, 22 outbreaks of 01, A22 and ASIA-1 types were reported, involving 3,713 cattle. 1,023,170 cattle and 242 460 sheep were vaccinated in 1984.

The strengthening of FMD vaccine production plants in the Near East is of paramount importance and it is gratifying for FAO and for the Commission to see the establishment of the new FMD vaccine production plant in Iraq. This will permit a regional supply of homologous vaccine and the implementation of vaccination programmes at national and regional level. Furthermore, the availability of exotic vaccine (types A22 and ASIA-1) will help Europe and other regions to handle emergencies caused by exotic FMD outbreaks.

Syria FMD continues to be endemic with 174 outbreaks of types A22 and 01 reported in 1983 in cattle and sheep, involving 5 300 animals.In 1984 outbreaks of type 0 were reported.

Jordan No data available.

Israel The country which enjoyed disease freedom since 1981 was faced with two outbreaks of ASIA-1 type on cattle farms located in Kibbutz Daphna in the District of Zefat close to the border with Lebanon. The primary outbreak was reported on 27 May 1984 and the secondary on 3 June 1984. Out of 330 cattle present in both affected farms 90 were infected. Animals slaughtered - 7 and one died.

Total number of animals vaccinated including vaccination carried out in the affected area during 1984 were cattle 539 521, sheep 186 316, pigs 1 548 and camels 348. Trivalent 0/A22/ASIA-1 vaccine is produced locally and potency testing is carried out on cattle in an isolated unit which has been constructed and put into operation since September 1984.

Strict sanitary measures, quarantine, and revaccination brought the situation back to normal. Virus typing was carried out in Kimron Veterinary Institute and was confirmed by the World Reference Laboratory.

Iran The FMD laboratory is located on the premises of the Razi Institute and is the only FMD vaccine production laboratory in the country. It has a capacity of more than 10 million doses of trivalent vaccine per year using suspended cell cultures and the Frenkel method in collaboration with Rhone-Merieux, Lyons, France. Cell culture vaccine is produced by the Iranian staff while Frenkel vaccine is produced by the French group. An average of 40 kg of epithelium is imported weekly from France and used for vaccine production by the French group (one graduate and two technicians) who are still working at the FMD laboratory under special agreement signed between the Government and Rhône-Mérieux.

At present types A22, 0 and ASIA-1 vaccine are produced. The vaccine after having passed the controls for safety, sterility and potency is delivered to the Government. Only a certain percentage of the total amount of vaccine produced is allowed to be exported by Rhone-Merieux.

The Government attaches great importance to control and eradication of disease in the country and to this effect they intend to increase vaccine production in order to reach a level that will cover fully all

requirements. It is therefore the intention of the Government to set up a new FMD producing laboratory with a production target of 30 million doses of trivalent vaccine per year.

Vaccination programmes are carried out twice a year on all Government cattle farms with trivalent 0, A22 and ASIA-1 vaccine and ring vaccination in the case of outbreaks. No stamping out is applied. Vaccine is provided free of charge only to Government farms.

Only the cattle population is covered by vaccination; sheep and goats are not vaccinated (70 million head).

As regards the FMD position in Iran, at present types 0, A22 and ASIA-1 are recorded. Virus type ASIA-1 was first identified in cattle in Lorestam province near the border with Iraq in June 1983. Since then a number of ASIA-1 outbreaks occurred in central and northern regions of the country 1(Teheran, East and West Azerbaijan). Between January and October 1983 about 830 samples were submitted for typing to the FMD laboratory at the Razi Institute. Of these 95 were type 0, one type A22 and 53 ASIA-1. Type 0 has been isolated in almost all provinces in Iran and A22 occurred only in one outbreak in Fars in June 1983. In 1984, the disease followed the same pattern as in 1983 with 189 outbreaks reported of 0, A22 and ASIA-1 types, involving cattle, sheep and goats. In 1984 3 684 573 cattle and 15 318 973 sheep were vaccinated with A22/0/ASIA-1 vaccine.

Saudi Arabia and the Gulf countries In S. Arabia, Kuwait, Oman, Yemen A.R., and in the U.A.E., information received from OIE, the WRL and other sources on FMD types diagnosed during 1983/1984 are shown in Table 1. Kuwait suffered several FMD outbreaks of 01 type involving 3 953 dairy cattle . 16 000 cattle were vaccinated during 1984. The information received on the disease position is generally incomplete and out of date and the numnber of samples submitted to the WRL for typing is too limited to permit valid conclusions on disease and virus type distribution in the Saudi Arabia and Gulf countries as well as in the whole region.

Relationship between Near East and European FMD virus strains (Appendix 6)

The serological investigations carried out at the AVRI and at Rhone-Merieux laboratories are reported on in the Report of the Research Group Session held at Pirbright in 1982 and that of the Session held at Lelystad in 1983.

The 0 virus strains which have recently appeared in the Near East do not differ widely. However, they are quite different from the 01 classical European strains.

The cross challenges of cattle vaccinated with the European 01 strain vaccine and challenged with 01 Manisa 1969 virus (Turkey) confirm this difference showing 60% of heterologous protection.

The virus strains isolated from outbreaks in the USSR, 01 USSR 1618 66 and 01 Ukraine 81, are closely related to the 01 Near East strains and are quite different from the 01 classical European virus strains (01 Lausanne 1965, 01BFS 1860, UK 1957).

The virus strains 0 Austria 81 and 0 Wuppertal W. Germany 82 show a high ratio with sera from 01 USSR 1618 66, 01 Manisa 1969, and 0 Sharquia, Egypt 1972.

The virus strain 01 Greece 1981 shows a high ratio with 01 Sharquia and 01 Manisa 1969. The virus strains ASIA-1 Greece 1984 shows a high

ratio with ASIA-1 Iraq/73 and Lebanon 1983/1984. (Information Sheet No. 37, WRL).

From the foregoing it becomes evident that the FMD position in the Near East and especially in the Middle East countries deserves special attention from the European Commission since it constitutes a potential threat for all of Europe. In addition, the outbreaks which occurred in Austria and the Federal Republic of Germany, fortunately of type O1, and Greece type ASIA-1, are a serious warning of the risk which still exists.

Africa

The disease is widespread on the continent with endemic or sporadic outbreaks of FMD types SAT-1, SAT-2 and SAT-3 mainly in Southern African countries and in South Africa, and type O in other African regions with the exception of Senegal (West Africa) where FMD outbreaks type SAT-2 were reported in 1983 (Table 3). Botswana continues to maintain its disease freedom since 1981. In Zimbabwee and Kenya extensive vaccination programmes are carried out every year but despite this FMD outbreaks are being recorded in both countries. Mozambique has now started an ambitious three year programme for FMD control with financial assistance from the World Bank and FMD experts and consultants have been appointed by the Government of Mozambique for the implementation of the project. However, in areas where animal movement cannot be controlled, and especially in border areas, FMD control should be based on coordinated programmes at sub-regional or regional level.

In those areas where the disease is endemic no livestock improvement schemes are operating, all cattle are indigenous, mainly Zebu race, and there is a low but persistent incidence of FMD. The infrequent epidemics, with mild clinical symptoms of the disease, give a false picture of the disease position. However, where exotic breeds have been introduced or where livestock improvement schemes and artificial insemination are being applied, disease spreads more rapidly following its introduction and epidemics are likely to occur more frequently with severe clinical symptoms. In addition National Game Parks or remote areas constitute a natural reservoir of FMD virus from where outbreaks frequently originate. For these reasons, the FMD situation in many of the African countries should be considered not only on the basis of the number of FMD outbreaks reported by individual countries but also on the basis of breed of animals and system of breeding. In addition, the ecological situation in each country is a factor which must be taken into account in the preparation and implementation of national or regional programmes for FMD.

Asia

The epidemiology of the disease on the continent can be divided into two FMD situations: the mainland situation and the island situation. On the mainland (India, Buthan, Nepal, Bangladesh, Burma, Thailand) the disease can be presumed to be endemic providing a reservoir of virus which is spread by movement of animals into the more developed areas where its presence can be more easily detected and reported.

It is generally accepted that FMD infection moves downwards from north to south involving Thailand and from there through uncontrolled movement of animals and export of cattle and sheep it spreads sporadically into the northern state of Malaysia. From India and Pakistan the disease is transferred to the Near East Region through the extensive trade in cattle and sheep which is carried out between these regions.

In the southeastern region of Asia, owing to its geographical conformation (islands) the disease situation has improved; Singapore, Taiwan and South Korea are free of FMD and not all the islands of the Philippines and Indonesia are included in the infected areas. In Lao, Kampuchea, and Viet Nam the disease is endemic with outbreaks of types 0, A and ASIA-1 on record (Table 3).

Indonesia, after almost three years of FMD freedom, in 1983 suffered several FMD outbreaks on the island of Java. The responsible virus was identified as type 01. Tests carried out at the WRL, Pirbright, showed a very close relationship with the S.American virus strain 0 Campos. A mass vaccination programme was launched by the Government of all cattle and buffaloes on the island with 01 BFS vaccine. Because of failure of the 01 BFS vaccine and following the typing results from the WRL, a second vaccination was carried out with 0 Campos vaccine produced by Wellcome as well as homologous 01 Java 83 vaccine produced by Rhone Merieux, Lyons. More than eight million doses of FMD vaccine was purchased by the Government for a double vaccination of all cattle and buffaloes in Java. Up to the end of November 1983, 6 167 000 doses of FMD vaccine had been used and as a result of this the number of outbreaks in Java had decreased considerably.

FAO has followed closely the FMD situation in Indonesia, and the Secretary of the Commission, together with the OIE representative, visited Indonesia from 15 to 20 December 1983. The FMD situation was reviewed and discussed with the national authorities and advice was given on the disease control programme to be followed in Java. The Government policy is to continue vaccinating every year with imported vaccine until 1986 since the vaccine production capacity at the Surabaya FMD laboratory is limited to a hundred thousand doses per year. The infrastructure for FMD vaccine production in Asia is very poor and the existing vaccine production plants in Thailand and India do not meet the national requirements for the vaccination programmes. It is not expected that the situation will improve in the near future.

South America

The FMD situation during 1983/1984 did not change significantly as compared with the previous two years, with the exception of Chile where after five years of disease freedom two outbreaks of type 01 were reported in cattle in the frontier area with Argentina. Stamping out policy and ring vaccination brought the situation back to normal. In the region as a whole, the diagnosis of 0 virus rose 262% and C virus was up 609% while diagnosis of A virus was down by 61% in 1983. Some 151 019 cattle cases were reported during 1983, giving an overall morbidity rate in South America of almost 7 per 10 000 animals. This data shows a predominant presence of virus type 0; virus type C increased significantly while with the exception of Brasil, there was a decrease in the incidence of virus type A in the whole region. (Table 1).

Type A/81 strain was present in Argentina and Brasil in 1981 and was brought under control through ring vaccination. It had not been identified in Brasil since 1981 while in Argentina it had been isolated occasionally during 1982. In 1983 the predominant A virus strain in Brasil and Argentina was related to A79 strain which is included in the vaccine. As regards C virus strain, its increase was the highest in the last eight years. This incidence was further increased in 1984 with 243 outbreaks reported in Argentina and in 1985 it was introduced in the south-east part of Bolivia causing several outbreaks. From information received from the Pan-American Center, Rio de Janeiro, immunological trials in cattle carried out showed that vaccine strain C3 Resende against field virus strain Argentina 84 protects 73% at 30 days post-vaccination

and over 90% at 30 days post-vaccination as measured in serum protection test. As a result of these trials, vaccination campaigns were carried out in Argentina in February 1985 with monovalent C/84 vaccine used simultaneously with the normal OAC trivalent vaccine .

Type C Argentina 84 virus strains were sent to the WRL, Pirbright, from PANAFTOSA. It should be noted that other South American strains of A24 Cruziero, A27 Colombia, A32 Venezuela, A Venceslau, A Brasil/75, A Argentina/79, A Uruguaiana /81 with their respective antisera were already submitted to the WRL by the Center on previous occasions. This was discussed at the Twenty-fifth Session of the ECCFMD held in April 1983, and it is gratifying to note that the collaboration established between the PANAFTOSA Center and the WRL is continuing. (Appendix 6)

Table 1

South America - Herds affected by FMD, 1983-1984

Country	Virus type*	1983	1984
Argentina	01	352	88
	A79	23	7
	C3+C84	196	243
Bolivia**	01	1	3
	A24	1	8
	C3+C24	2	1
Brasil	01	50	71
	A79,A24	143	119
	C3	13	18
Colombia	01	192	164
	A27	21	88
Chile***	0	-	6
	A	-	-
	C3	-	-
Ecuador	01	22	13
	A24-27	37	27
Paraguay	01	9	21
	A24	1	-
	C3	-	6
Peru	0	-	-
	A24	1	4
	C3	4	-
Uruguay	0	-	10
	A24	1	-
	C3	4	6
Venezuela	01	12	15
	A32	5	6

* FMD virus subtypes refer only to 1983 and partially to 1984
** Partial data - C84 reported in 1985
*** No outbreaks registered from 1979 to 1983. Country officially declared free of FMD and other vesicular diseases as of 1981.

Source: Reports from COSALFA-XI Ordinary Meeting and Situation of FMD Control Programmes in South America, 1983, CPFA, May 1984. CPFA information 1985.

Table 2

Country	No. of outbreaks 1983	1984	No./type animals involved	involved	Virus type	FMD control policy
Morocco*	34	-	209 504	cattle sheep and goats	A5	Mass vaccination, ring vaccination, sanitary measures
Algeria**						
Tunisia**						
Libya	104	12	1 895 46 120 2 049	cattle sheep goats	01	Sanitary measures; vaccination
Egypt	5	2	?	cattle	01	Sanitary measures; vaccination
Sudan	2	2	?	cattle	01/A	
Israel***	-	2	330	cattle	ASIA-1	Sanitary measures, vaccination, slaughter
Lebanon	62	59	930	cattle/sheep	01/A22/ ASIA-1/C	Vaccination whole country with 01/A22/ASIA-1 vaccine
Syria	174	19	5 385	cattle/sheep	01/A22/ ASIA-1	
Iraq	?	22	3 713	cattle	0/A22/ASIA-1	Sanitary measures; vaccination
Iran	151	189	?	cattle/sheep	01/A22/ ASIA-1	
S. Arabia****	15	28		cattle	A22/C/01	
Kuwait	7	9	4303	cattle	01	Vaccination with quadrivalent vaccine A22/ 0/C/ASIA-1 twice a year
Oman	11	1	7	cattle	01	
U.A.E.	6			cattle	01	
Yemen Arab Republic	6	16		cattle	SAT-1/01	
Qatar						

* Last outbreak November 1983
** no outbreaks reported
*** FMD free since 1981
**** FMD type C reported in 1984

Table 3

Type of FMD virus detected in African and Asian Countries in 1983-1984 (OIE, WRL)

Countries	Number of outbreaks 1983	1984	Type of virus
AFRICA			
S. Africa	10	+	SAT-2
Mozambique	+	2	SAT-2
Zimbabwe	5	2	SAT-2/SAT-3
Malawi	13	+	?
Tanzania	6	2	SAT-2/O_1
Kenya	207	+	4-A/42-O_1/5-C/ 2 SAT-1/SAT-2
Burundi	+	1	O_1
Somalia	1	+	O_1
Ethiopia	+	4	A
Sudan	4	1	O_1/A
Senegal	6	+	SAT-2
Nigeria	15	10	?
Ivory Coast	2	+	?
Mauritania	+	5	SAT-2 ?
ASIA			
Nepal	5	26	O_1/A22
Bangladesh	+	+	O/ASIA-1
India	9	+	O_1/C/ASIA-1
Burma	+	+	O_1/ASIA-1
Buthan	1	1	O_1/A
Thailand	151	108	O_1/ASIA-1
Malaysia	2	1	O_1
Indonesia	160	-	O_1
Hong Kong	20	5	O_1
Philippines	+	+	A/C
China	no information		
Laos	+	+	O/A_{22}/ASIA-1
Kampuchea	+	+	O/A_{22}/ASIA-1
Vietnam	+	+	O/A22/ASIA-1

+ = incidence

Appendix 6

ANIMAL VIRUS RESEARCH INSTITUTE

WORLD REFERENCE LABORATORY FOR FOOT & MOUTH DISEASE,

PIRBRIGHT, WOKING, SURREY, GU24 ONF, U.K.

Report of recent investigations

Typing of FMD virus strains has continued with monthly submission of reports to l'Office International des Epizooties. During 1984 some 178 samples were received from 23 countries and it was possible to identify the serotypes of virus contained in 108 of these samples. As in the reports from the previous 5 years, virus of serotype O predominated (54.6 per cent) in the samples received (see attached copy of Cumulative Report for 1984).

Strains of particular epidemiological importance have been further examined for subtype identity by serological methods and in some cases by means of detailed biochemical techniques.

In the recent outbreaks in Europe, the assistance of the W.R.L. has been sought not only to confirm the typing results of the particular national laboratory involved but also to use its expertise with the more modern methods in attempting to identify the origins of the infection.

Outbreaks of importance in which the W.R.L. has provided assistance in the analysis of strains have included:-

A_5 Outbreak in Italy 1984-85

An isolate recovered from an early outbreak in Modena (December 1984) was used for the initial comparisons with strains from Europe, the Middle East and South America. One way subtyping tests by virus neutralisation gave the following 'r' values:-

Sera	virus:- A Modena/84
A_5 Portugal/83	0.38
A_5 Bernbeuren 84	0.64
A_5 Allier (Fra. 1/68)	0.89
A_5 Parma 62	>1.00
A_{22} Iraq 24/64	0.06
A_{24} Cruzeiro	0.32
A Brazil 79	0.025
A Argentina 81	0.034
A Italy 80	0.017

These results indicated that the Modena isolate was closely related to the A_5 subgroup and completely different from the A_{22} group and also the South American A strains.

Further analysis of a wide range of A strains by means of polyacrylamide gel electrophoresis (PAGE) and restriction endonuclease mapping (T1) confirmed the very close similarity if not identity to the A_5 Parma 62 vaccine strain and differences to the other strains examined. Some 7 isolates from early in the epizootic

designated by the WRL as A Italy 1/85 - 7/85 were shown by T1 mapping to be quite different from:-

A_5 Gorizia, A_5 Allier, A_5 Westerwald, A_{22} Iraq 24/64, A ARG 79 and A Bernbeuren '84 but again showed a clear similarity to the A_5 Parma 62 strains.

A study was also made of 25 isolates taken from different geographical locations (most affected provinces including Sicily) during the period 26th November, 1984 to 13th February, 1985. These were compared one with another in parallel with the A_5 Parma vaccine strain, supplied by the Brescia Institute, by iso-electric focusing of the viral coat proteins. Three early samples Modena (3.12.84) Cuneo (31.12.84) and Castiglione (10.1.85) were indistinguishable from the Parma vaccine strain.

The remaining 22 isolates are different from the vaccine strain in at least one polypeptide - 40% were altered in one polypeptide, 44% in two polypeptides and 4% in three polypeptides. It is of importance to note, however, that the major immunogenic protein, viz VP1, was unaffected in all the isolates examined.

The changes in polypeptides are a clear indication that this virus strain is evolving during the passage from animal to animal in the field and at a rate greater than observed with the O_1 strain affecting the U.K. in 1967/68. So far the biological significance of these changes is not known.

Type A outbreak in 1984 at Bernbeuren, Bavaria, Federal Republic of Germany.

Cross neutralisation tests using sera from young infected cattle showed the virus involved to be very similar to the A_5 subgroup and widely different from the A_{22} and A_{24} subgroups and from the South American strains A Brazil 79, A Argentina 81 and A Uruguiana 81. Isoelectric focusing indicated that the A Bernbeuren strain was not closely related epidemiologically to either A_5 Allier or A_5 Westerwald. A striking similarity was found, however, in the T1 maps of the Bernbeuren strain and those prepared with the strains A Morocco 1/83 and A Portugal 1/83.

Type O outbreak in 1984 at Zusmarsausen, Augsburg, Bavaria, FDR.

T1 mapping of this isolate showed it to have close similarity to the O1 Kaufbeuren strain used for challenge tests but it had little relationship with the strains O_1 Austria 1/81, O Wuppertal 82 and O_1 Murchin, E. Germ '82. The O_1 Austria and Wuppertal strains appeared to be related.

Type O outbreak in 1984 in North Holland.

Eight samples of virus were examined by conventional serology and also by isoelectric focusing and T1 mapping. The results from all of these methods showed all the strains to be very similar to the O_1 BFS 1860 strain which was isolated in the U.K. in 1967.

Survey of Type Asia 1 strains

This project was planned in late 1982 but was subsequently extended to include strains from 1984. As a result it has included the strain from Evros in Greece. The primary intention of the project was classification i.e. to investigate what subgroups existed in the Near, Middle & Far East and to determine if new subtypes had evolved. There was concern over the frequency of isolation of this serotype in the Gulf region, thus posing a possible threat to Europe.

The survey covered some 20 different strains and from tables of 'r' and 'R' values the following principal conclusions were drawn:-

1. The strain from Greece in 1984 is very similar to those from Lebanon in 1983 and 1984.

2. These strains are closely related to the strains Iran 1/73 and Pak 1/54 (i.e. the earlier strains) and less related to the more recent Asian strains from India and Kampuchea.

3. The 1983-84 strains Leb 3/83, Gre 1/84, Nepal 18/84 and Laos 8/84 form a group of strains which are linked but within which there is antigenic variation.

4. A vaccine prepared from the strain Iran 1/73 would be the most appropriate against the isolates of 1983/84 e.g. 'R' values for Leb.3/83 = 75%, Gre 1/84 = 85%, Nepal 18/84 = 67% and Laos 8/84 = 77%.

5. The vaccine strains India 8/79 and India 34/81 are appropriate for isolates from Bangladesh and Burma in addition to India 45/82.

6. Oman 2/82 showed some cross reactions with sera against strains from Yemen, Israel, Bangalore & Kampuchea with 'r' values in the range 0.60 - 0.79. However, in the opposite direction i.e. Oman 2/82 sera against the above virus strains the 'r' values were reduced to 0.2 - 0.5. The 'R' values obtained suggest this strain to be a new subtype. 'R' range 27 - 50%.

7. The Hong Kong 1980 isolate appears to be a central strain to which most of the Near East strains after 1979, Asia strains from 1982 and the single European strain are related.

Type C strains
==========

C Argentina/84

Through the good offices of the Pan American Foot & Mouth Disease Center, a sample of the latest type C strain active in Argentina and its antiserum were received at the W.R.L. for comparison with the European type C vaccine strains.

From cross neutralisation tests the following 'R' values have been calculated:-

C Argentina/84 virus:-

C Noville	-	25%
C_3 Indaial	-	32%
C^3 Resende	-	48%
C^3Gerona	-	8%
C Santa Pan	-	27%

Clearly the C Arg/84 strain is different from all of the above strains although it has some affinity with the C_3 subgroup. It appears to be very different from the C Gerona strain which was originally isolated from an outbreak in 1973.

C Saudi Arabia/84

Two isolates were examined using 146S antisera prepared in guinea pigs, by cross complement fixation tests. Results showed the 2 isolates to be very similar to each other and closest to C_3 Resende. There were lesser relationships with C Noville and with a strain isolated in Kuwait in 1982.

Type SAT 1
==========

Yemen 16/84

It is important to report that this strain represents the first isolation of a SAT 1 virus from the Yemen. Results from cross-complement fixation tests suggested some relationship with the strains Nigeria 4/81 and Tanzania 155/71 but not a very close one (an 'R' value of 41% was obtained with both strains).

ANIMAL VIRUS RESEARCH INSTITUTE

WORLD REFERENCE LABORATORY FOR FOOT AND MOUTH DISEASE

Pirbright, Woking, Surrey, GU24 ONF, U.K.

CUMULATIVE REPORT FOR 1984

During 1984 178 samples from 23 countries have been examined for type of virus. Virus was demonstrated in 108 of these samples and the types of virus recovered are tabulated below.

COUNTRY	NO. OF SAMPLES	O	A	C	SAT 1	SAT 2	SAT 3	ASIA 1	SVD	NO VIRUS DETECTED
BHUTAN	1	-	1	-	-	-	-	-	-	-
BURUNDI	1	1	-	-	-	-	-	-	-	-
GREECE	3	-	-	-	-	-	-	3	-	-
HONG KONG	6	5	-	-	-	-	-	-	-	1
INDIA	1	1	-	-	-	-	-	-	-	-
ISRAEL	1	-	-	-	-	-	-	1	-	-
KUWAIT	1	-	-	-	-	-	-	-	-	1
LAOS	9	1	-	-	-	-	-	6	-	2
LEBANON	1	-	-	-	-	-	-	1	-	-
MALAYSIA	4	1	-	-	-	-	-	-	-	3
NEPAL	44	17	9	-	-	-	-	4	-	14
NIGERIA	10	-	-	-	-	-	-	-	-	10
OMAN	8	1	-	-	-	-	-	-	-	7
PHILIPPINES	9	-	-	2	-	-	-	-	-	7
RWANDA	2	-	-	-	-	-	-	-	-	2
SAUDI ARABIA	36	13*	1	14*	-	-	-	-	-	9
SRI LANKA	4	2	-	2	-	-	-	-	-	-
SUDAN	2	-	1	-	-	-	-	-	-	1
SYRIA	2	2	-	-	-	-	-	-	-	-
TANZANIA	3	2	-	-	-	-	-	-	-	1
YEMEN	23	13	-	-	3	-	-	-	-	7
ZAMBIA	5	-	-	-	-	-	-	-	-	5
ZIMBABWE	2	-	-	-	-	-	2	-	-	-
TOTALS	178	59	12	18	3	-	2	15	-	70

* includes types O and C viruses isolated from a single sample (SAU 1/84)

10 out of the 108 positive samples (9.25%) were typed as original suspensions and 98 (90.75%) after tissue culture.

15.1.1985

W.R.L. INFORMATION SHEET No. 37

FMD Type Asia 1 in Greece - 1984

At the end of June, 1984, type Asia 1 was isolated from a herd of grazing cattle in the delta region of Evros in Thrace buffer zone (O.I.E. No. GR 84/3/174).

This is the first time that type Asia 1 FMD has been isolated from Europe, and since the initial typing had been made by the FMD Institute in Athens, subtyping was started immediately.

This report covers the initial unilateral neutralisation and complement fixation tests. An antiserum is under preparation in guinea pigs using a purified virus preparation.

The strains used in this serology were as follows:-

Reference strains

Pak 1/54 - strain from Pakistan - the first Asia 1 strain described.

India 8/79 (Ind 8/79) - received in February, 1979.

Kampuchea 9/80 (Cam 9/80) - received in December 1980, from an outbreak in Siem Riep province involving oxen and buffalo.

India 34/81 (Ind 34/81) - received in June 1981.

Iran 1/73 - material received in June, 1973, from an outbreak in cattle in Teheran, Iran.

Field strains

Lebanon 3/83 (Leb 3/83) - received in November, 1983 from an outbreak in cattle in the village of Kafer Kela, Southern Lebanon. An antiserum had been prepared in guinea pigs using a purified virus preparation.

Lebanon 1/84 (Leb 1/84) - received in June, 1984 from an outbreak in cattle in the villge of Addeissa, Southern Lebanon.

Greece 1/84 (GRE 1/84) - received June 1984 from an outbreak in cattle in the delta area of Evros Department in Thrace.

'r' values

Viruses/ sera	Pak 1/54	Ind 8/79	Cam 9/80	Ind 34/81	Iran 73	Leb 3/83	Leb 1/84	Gre 1/84	
Pak 1/54	1.0					>1.0		>1.0	SNT
	1.0					0.70	0.65	0.65	CFT
India 8/79		1.0				0.42		1.00	
		1.0				0.60	0.23	0.49	
Cam 9/80			1.0			0.47		0.69	
			1.0			0.38	0.24	0.50	
India 34/81				1.0		0.41		0.47	
				1.0		0.83	0.24	0.50	
Iran 73					1.0	0.60		0.68	
					1.0	>1.0	>1.0	>1.0	
Leb 3/83	0.40	0.28	0.28	0.20	0.87	1.0		>1.0	
	1.0	0.43	0.25	0.17	0.50	1.0	0.86	1.00	

SNT - results from one test only.
CFT - results from four tests.

Results and Conclusions

An examination of the 'r' values shows:-

1. The strain from Greece in 1984 is very similar to those from Lebanon in 1983 and 1984.

2. They are closely related to Iran 1/73 and Pak 1/54 the earlier strains, and less related to the more recent Asian strains from India and Kampuches.

3. A vaccine prepared from Iran 1/73 or similar strains should give adequate protection.

A.E.M. ARROWSMITH, A.L. SAMUEL

JULY, 1984

Appendix 7

PROCEDURES NECESSARY FOR THE CONTROLLED FEEDING OF WASTE FOOD (SWILL) TO LIVESTOCK

The feeding of waste food to livestock should be prohibited by law except under the special provisions of a licence granted by the veterinary authorities of the country concerned.

Legislation drawn up to control the feeding of waste food should include an absolute prohibition on the feeding of any waste food derived from international transport such as aeroplanes, ships, trains or any other means, and should include a provision that any pigs on premises on which waste food is fed, processed or kept may move off such premises only direct to a slaughterhouse for slaughter.

In addition, the legislation should include in its provisions the following basic requirements.

1. Definitions:

"Waste food" means any meat, bone, blood, offal or other part of the carcase of any livestock or of any poultry or product derived therefrom or hatchery waste or eggs or eggshells or

Any broken or waste food stuffs (including table or kitchen refuse, scraps or waste) which contain or have been in contact with any meat, bones, blood, offal or with any other part of the carcase of any livestock or of any poultry.

"Livestock" means cattle, sheep, pigs and goats.

"Poultry" means live birds of the following species:- fowls, turkeys, geese, ducks, guinea fowl, pigeons, pheasant, partridges and quail.

"Processed" means treated so that all the waste food being treated remains at a temperature of 100° for a minimum period of 60 minutes or treated by an alternative process authorised in writing.

2. Approval and Licensing of Plants

The legislation should stipulate that all processing plants must be licensed and must lay down conditions of approval.

Minimum standards of construction and operation should include the following:-

The processing plant must:

(a) be sited separate from livestock buildings and have a separate entrance;

(b) be constructed of impervious materials capable of being easily cleansed and disinfected;

(c) be totally enclosed and be bird- and rodent-proof;

(d) be divided into 2 separate and distinct areas by a solid wall without aperture except where the waste food passes through. One such area to be used for handling and processing the waste food and the other for handling processed waste food.

(e) Drainage from these areas to be separate and not accessible to animals.

(f) Be equipped with a means of recording temperatures of waste food being processed.

(g) Have separate utensils and implements for use in each of the two areas.

(h) Have washing facilities in the area where unprocessed waste food is handled.

In addition the licensee must ensure that:-

(a) records are kept of the sources of unprocessed waste food;

(b) the licensing authority has access to the plant at all reasonable times;

(c) operators do not leave the area where unprocessed waste food is handled without first washing their hands and disinfecting footwear and changing outer clothing.

(d) That unprocessed waste food is stored for no longer than 48 hours.

3. Inspection of plants

The licensing authority shall have legal authority to inspect the plant at all reasonable times and shall carry out:-

(a) a visit once per year to check standards of construction and operation and if satisfactory a licence may be issued or renewed.

(b) a visit every quarter to check on processing temperatures and to ensure that adequate temperatures are achieved throughout the mass of the food being processed.

(c) Random spot checks to ensure compliance with the legislation.

4. Transport of Waste Food

(a) Vehicles used for transport of waste food shall be drip-proof, covered and enclosed and be capable of disinfection.
(b) As soon as possible after transporting waste food and before being used for any other purpose the vehicle should be thoroughly cleansed and disinfected.

5. Disposal of Waste Food at ports, airports, rail terminals etc.

A legal prohibition should be placed on the feeding to livestock or poultry any waste food originating from stores aboard any ship, aircraft, hovercraft, train or other means of international transport or any waste food which has been in contact with it. Disposal of waste food of this description should be by incineration. If this is not practicable alternative means of disposal should be agreed with the licensing authority.

The licensing authority should have legal powers to inspect the disposal facilities at ports, airports etc to ensure that arrangements for disposal of such waste food are satisfactory and that the possibility of contaminating home produced waste food does not exist. Such inspection visits should take place once every 3 months.

Appendix 8

Activities of the Research Group during 1983-1984

Two regular Sessions of the Researach Group were held during the biennium: one in Lelystad, Netherlands, from 20 to 22 September 1983 and one in Brescia, Italy, from 26 to 28 June 1984.

The reports of these Sessons have been distributed. The conclusions and recommendations are given hereunder:

A) Lelystad Session, 1983

Item 1 Development of monoclonal antibodies against FMD virus types O and A

Although monoclonal antibodies are proving to be powerful research tools their application to practical areas such as diagnosis seems more remote and will only be possible with a full understanding of the antigenic structure of the FMD virus. It is recommended that in order to realise fully the practical application of monoclonal antibodies, the Research Group should encourage the exchange of preparations and the standardization of procedures among interested laboratories.

Item 2 Use of ELISA in FMD

Results of studies carried out of the use of ELISA were presented and discussed: (i) for diagnosis of FMD; (ii) for virus strains differentiation for monitoring vaccine application; and, (iii) for detection of FMD antibodies. These studies were aimed at determinig the application of the ELISA technique in the FMD virus laboratory tests. From discussions, it became evident that the ELISA technique has proved very versatile but care should be taken in defining the nature of the antigen and antibody to be used in accordance with the purpose of the test.

Item 3 Development of alternative methods for the evaluation of antigen preparations and vaccines

The OIE Recommendations and the European Pharmacopoeia Monograph require that a cattle challenge potency test should be the definitive test for the potency testing of FMD vaccines. For reasons including cost, disease security hazard and ethical objections it would be desirable to develop equally reliable alternative methods. The European Pharmacopoeia would permit National Control Authorities to use such alternative tests. Five papers were presented on this item. These papers demonstrated that the assay of serum neutralizing response to vaccine may be a useful alternative to the cattle challenge test provided the relevant statistical background to the particular challenge virus used has ben established.

Item 4 Miscellaneous contributions

Under this item five unrelated papers were pesented and these have been published in the relevant report. An interesting presentation was made by Dr. Moore from Plum Island, USA, which reviewed the progress of work for FMDV biosynthetic VP-1.

Results using VP-1 produced through recombinant DNA techniques yielded interesting results but some of the animals responding to O1 VP-1 vaccination with high neutralizing titer were not protected against challenge exposure.

Item 6 Items referred to the Research Group by the European Commission for the Control of FMD at previous sessions

Topic (1) Risks of transmitting FMD Virus with Semen destined for A.I.

The Group agreed that for the importation of semen from countries which do not vaccinate and where the epidemiological situation in the herd and surrounding area is known in detail a history of freedom of disease in that country should be sufficient. In the case of countries which have a regular vaccination programme it is also essential to have reliable assurance of freedom of disease in the exporting country. A 30-day period of quarantine should precede the collection of semen.

After collection of semen, it should be stored in quarantine for at least 30 days during which time a careful daily examination should reveal no clinical evidence of FMD in the herd. Depending on the situation pertaining, the importing country could require the testing of the semen and probang samples.

Topic (2) Safety of meat imports from vaccinating countries which have been free from FMD for at least 1 year

The Group was of the opinion that "the importing country would be sufficiently protected if meat was imported from those European countries which apply an annual vaccination with fully inactivated virus against classical European types, according to the European Pharmacopoeia and where a stamping-out policy is followed in the event of outbreaks. This is not intended to exclude shorter periods of times of freedom from disease which may be laid down in regulations by other bodies such as the Commission of the European Community".

Topic (3) Controls required for the safety of work on recombinant FMD virus material and its import into European laboratories from other regions

The Group agreed that this standpoint previously stated in the 1981 report should be reconfirmed (Session of the Research Group 29.9. - 1.10.1981, Tunbingen, FRG):

(a) Transfer of genetically manipulated materials

With regard to recombinant DNA work on FMD virus, in general the Group was concerned about the release of possibly infective materials from FMD laboratories. Materials leaving such laboratories should routinely be tested for the absence of infectivity. As recent developments open the door to a much wider circulation of genetic material derived from FMD virus than was previously the case, the opinion was further expressed that National Authorities should develop legislation covering the importation of FMDV derived materials used in recombinant DNA work. Adequate tests for the absence of infective virus should be required.

Topic (4) Criteria for detailed examination of FMD virus strains

Dr. Sellers provided a paper outlining current criteria for detailed examination of FMD virus strains. The amended document can be made available to countries submitting field material as an explanatory document.

Topic (5) The monitoring of seed virus stocks held at AVRI, Pirbright in the light of emerging virus strains

The Chairman asked Dr. Sellers to provide a list of seed viruses in stock at AVRI. Relevant information on the field situation and in

vaccination results should, where possible, also be made available for scrutiny by the European Commission for the Control of FMD. Any gaps in our knowledge should be highlighted but the necessity to fill them might require financial support.

Topic (6) Development of a questionnaire, for circulation to all FMD laboratories indicating the information required on FMD strains isolated

The Secretary suggested that there was a need to tell FMD laboratories around the world what data they should provide when field samples are collected and that this might best be achieved by compiling a questionnaire for distribution to them. After discussion the Group was in agreement that information on strains should be compiled by the World Reference Laboratory (WRL) at AVRI and that this could be most expeditiously done by direct commuinication between the WRL and other FMD laboratories.

Item 7 Any other business

(a) The first item discussed under this heading was a report by Dr. G.N. Mowat of AVRI, Pirbright of Phases 1 and 2 of an International Collaborative study on FMD virus assay methods.

This paper has been cleared for publication by FAO. The paper was then accepted by the Group and has been submitted by the author to the Journal of Biological Standardization for publication.

(b) The second item discussed was the requirement for safety standards for FMD laboratories.

A paper provided by Drs. Mann and Sellers of AVRI, Pirbright, was provided as a basis for discussion.

The item was deferred to the Session of the Research Group held at the Istituto Zooprofilattico, Brescia, Italy, in June 1984.

(c) Collaboration with the Pan American Foot-and-Mouth Disease Center

Satisfaction was expressed by the Secretary on behalf of the Commission at the indications of increased cooperation between the Pan American Foot-and-Mouth Disease Center in Rio de Janeiro, the WRL and the Commission. It was proposed that collaboration between these establishments on aspects of FMD investigation of mutual interest should be further developed.

B) Brescia Session, 1984

Item 1 Innocuity testing of vaccines

Two papers were given under this heading. 1) Dr. Donaldson presented results obtained at AVRI, Pirbright, showing that FMDV grown in BHK-21 cells produced higher infectivity end-points in bovine thyroid cells than in BHK-21 cells. Some antigen preparations obtained from BHK 21 cells and inactivated either by AEI treatment or by combined treatment with AEI and formaldehyde were still infective for bovine thyroid cultures but not for BHK 21 cells. The importance of monitoring the Kinetics of the extinction slope of viral infectivity during inactivation was emphasized. Concentration of antigen should be after inactivation.

Dr. Lombard presented results on investigations carried out at the IFFA Laboratory, Lyon, on the safety testing of both non-concentrated and concentrated FMD antigens. Purified ethyleneimine was used for non-concentrated virus inactivation and binary-ethyleneimine for concentrated purified virus inactivation. Residual viral infectivity was detected by inoculation of secondary lamb kidney cells. The results indicated that this system offered advantages over innocuity testing in cattle in terms of sensitivity of virus detection and practicality.

A draft proposal on the requirements for the innocuity testing of FMD vaccines intended for submission to the European Pharmacopoeia was considered to be incomplete by the Researach Group and was withdrawn. The Group directed that the members of the drafting committee involved should prepare a revised document for circulation to members of the Group before the next Session.

Item 2 Further data on the use of concentrated virus preparations stored at low temperature

Two papers were presented under this heading.

In the first paper the stability of 146S particles in PEG-precipitated FMD virus harvests stored in Kieselguhr filter-cakes over liquid nitrogen was examined at intervals over a period of 7 years. The data pointed to excellent stability of 146S particles of all 3 serotypes during storage in accordance with previous findings. The potency of vaccine prepared from filter-cakes stored for 7 years is under investigation.

The second paper described the storage of inactivated, two step PEG-precipitated FMD virus of sero-type A_{10}, C-Detmold and O_1 BFS 1860 stored as Kieselguhr filter-cakes at $-70^{o}C$. Complete recoveries of 146S particles of all 3 serotypes were obtained after 2-4 years of storage. The double oil emulsion formulation was found to be considerably more efficient than the single oil emulsion vaccine with efficiency equaling that of the standard vaccine.

The standard vaccine tended to induce high levels of neutralising antibodies more rapidly, whereas the double oil emulsion vaccine gave a more sustained response.

During discussion, the question of shelf life of vaccines prepared from concentrated stored antigen was posed. No experience on this aspect of the use of concentrated antigen seemed to be available.

Item 3 Use of monoclonal antibodies against FMD virus

Three presentations on the characterisation and potential application of monoclonal antibodies (MAb's) were given.

The Group felt that in order to optimise the development and use of MAb's the cooperation taking place between FMD laboratories in this field should be further expanded and strongly promoted.

Item 4 FAO international collaborative laboratory study

A paper dealing with matters relating to Phase I of the International Collaborative Study on FMD virus assay methods prepared by Dr. Mowat of AVRI, Pirbright, has been accepted for publication in the Journal of Biological Standardization. A draft of a second paper written by Drs. Doel and Mowat, AVRI, and describing progress under Phase 2, was submitted to the Research Group but was received too late for scrutiny and comment. However, since the meeting it has been circulated to the Group for

amendments and/or comments and thereafter has been submitted for publication in the Journal of Biological Standardization.

It was requested that Dr. Lombard, IFFA Laboratory, Lyons, should, subject to availability, send type A5 and C1 antisera resulting from both one and two inoculations of vaccination to AVRI Pirbright for distribution to collaborating laboratories to be included in their routine tests as standards. The results obtained should be reported at the next meeting of the Research Group.

Item 5 Miscellaneous contributions

In two papers presented by Dr. Sellers, the procedures employed at AVRI, Pirbright for the typing and characterisation of vesicular viruses were reviewed. The speed of routine diagnosis is mainly influenced by (i) time of day when the sample reaches the laboratory; (ii) the quantity and quality of material in the specimen; and (iii) the necessity for passage in tissue culture. An analysis of 1,085 specimens submitted from 51 overseas countries between 1979 and 1983 showed that the likelihood of obtaining positive results was highest when four or more samples were submitted at a time. The spectrum of tests used for differentiating the viruses was outlined and the priority objectives were described. In the case of FMD virus strains these are: (a) to attempt to relate the strain isolated to available vaccine(s) and to advise on whether protection is likely to be achieved after one or two vaccinations; and (b) to characterise the strain both immunologically and physico-chemically in order to try to establish its source of origin.

Dr. McKercher, Plum Island Animal Disease Center, U.S.A., outlined results obtained in a collaborative study with the laboratory at Brescia, Italy, on the survival of swine vesicular disease virus (SVDV) in Parma hams. The results obtained showed that SVDV was inactivated between 180 and 300 days post-slaughter in the U.S. experiments and between 90 and 182 days in the Italian experiments, which ensures that such products are free of SVD virus at the end of the maturation period (12 months).

The final paper under this heading presented by Dr. Lombard, IFFA Laboratory, Lyons, dealt with the serological characterisation of type O virus strains from Indonesia. The "r" values obtained indicated that strains obtained from Indonesia between 1962 and 1975 were related to each other but different compared to those from Europe, Turkey, Brasil, Thailand and Hong Kong. The 1983 Indonesia strain was different from older O1 strains isolated in Indonesia and from the other O1 strains examined.

Item 6 Items referred to the Research Group by the European Commission for the Control of FMD at previous Sessions.

The following topics were discussed by the members of the Research Group in closed session:

Topic (1) Minimum standards for laboratories working with foot-and-mouth disease both in vitro and in vivo

A revised paper by Dr. Mann and Dr. Sellers was discussed and certain alterations and additions to the text were proposed by the Group; the revised final version of this is presented under Agenda Item 3.1.

Topic (2) Trials on FMD strains, Argentina (evaluation)

The results of trials carried out to test the resistance of cattle vaccinated with trivalent European and South American vaccines against

challenge with A/79 and A/81 strains from South America were reported by Dr. Leunen, INVR, Brussels. The Group commented upon the preliminary results and recommended that trials should be continued. The Group urged that future trials should be carefully co-ordinated between the collaborating investigators involved to ensure the maximum validity of the results.

Topic (3) Trials carried out at AVRI, Pirbright, on A24 and A5 cross protection (financial support provided by FAO)

A preliminary report of tests carried out at AVRI to determine whether immunisation with commercial A24 vaccine will protect against challenge with an A5 virus was examined by the Group: the results were accepted and the Group recommended that this study be completed by challenge of A5 vaccinated cattle with A24 virus.

Topic (4) Zoosanitary code

Under this heading previous recommendations made by the Research Group with respect to the survival of FMD virus in milk, semen and meat were reviewed and compared with stand-points taken by the Permanent Commission on FMD of O.I.E. as laid down in the Zoosanitary Code.

In regard to the heat treatment of milk, the Group reconsidered the proposals which were made at the 1979 meeting in Lindholm and which are contained in the report of that meeting (Lindholm Report, page 12) and concluded that those recommendations are still valid.

The Group compared the recommendations which it made for FMD and semen at the Lelystad meeting in 1983 (Lelystad Report, page 4) with those in the O.I.E. Zoosanitary Code and found no essential differences.

The Group felt that in regard to FMD in meat, its recommendations in the past (Tubingen Report 1981, page 6; Lelystad Report 1983, page 4) have dealt with specific questions, and therefore, not always related to some of the wider aspects covered by O.I.E. in the Zoosanitary Code .

Topic (5) Disinfection of vehicles at check points

The Executive Committee of the European Commission for the Control of FMD, having noted the extensive vehicular traffic which enters Europe from the Near East through check points in Bulgaria, and being aware of the potential risk which this traffic represents for Europe, had requested the Research Group to study the problem and to make recommendations on the necessity of measures for the external disinfectioni of vehicles.

The Group concluded that disinfection was an impracticable proposition and since it is unlikely that sufficient FMD virus would be carried on vehicles to constitute a risk of FMD transmission to animals and since there is no evidence to indicate that virus can be transmitted in this way, the enforced washing of vehicles was neither necessary nor an effective operation.

Item 7 Any other business

Dr. R. Casas Olascoaga, Director, Pan-American FMD Center, on behalf of the Pan-American Health Organization, kindly invited the Research Group to hold its next meeting at the Pan-American FMD Center in Rio de Janeiro between 15 and 19 October, 1985. This invitation was accepted by the Group and it was agreed that the following items should be included in the Agenda for discussion:

- evaluation of FMD vaccine potency
- importance of strains of different sub-types
- epidemiology of FMD in South America
- items referred to the Research Group by the European Commission for the Control of FMD

It was recommended that keynote speakers should be invited by the Research Group to present general papers on these topics which could then be followed by more specific contributions. The Secretary emphasized the necessity for papers to be available for distribution well in advance of this meeting.

Appendix 9

Minimum standards for laboratories working with FMDV in vitro and in vivo

Introduction

Foot-and-mouth disease is one of the most infectious virus diseases known and handling the virus in the laboratory with due precautions is a hazard.

The epizootiological investigations carried out on FMD outbreaks in Europe have shown that in some cases they were related to virus escape from FMD vaccine production plants. The Commission concerned about this problem requested the Research Group to examine it further. It was discussed at the Session of the Research Group held in Lelystad in September 1983 and it was agreed by the Research Group that it would be useful for the World Reference Laboratory, Pirbright, U.K. to prepare a document on minimum standards for countries which might be contemplating the building of FMD laboratories or installing security systems in existing laboratories. This document was prepared by the World Reference Laboratory and was discussed by the Research Group at the Session held in Brescia in June 1984.

The Executive Committee examined this document at its Forty-seventh Session held in the Hague from 5 to 8 March 1985, and agreed that it should be submitted for consideration to the Twenty-sixth Session of the Commission.

Route of infection

Investigations have been made of the amount of virus required to infect susceptible animals by different routes. The results of such work indicate variation in susceptibility both between and within species by various routes of infection and with different virus strains. However, it is always possible that one infectious virus unit or infectious RNA unit is capable of setting up infection in a susceptible animal.

Sources of virus of infectious RNA

The sources are:

(i) Infected susceptible cattle, sheep, goats, pigs, wild ruminants and other susceptible wild animals.

(ii) Infected laboratory animals - mice, guinea pigs, rabbits, etc.

(iii) Infected tissue cultures: (a) small scale; (b) large scale.

(iv) Physical and chemical processes: (a) concentration; (b) purification; (c) inactivation.

The virus may be present as solids (e.g. in tissues, etc.), liquid (in fluids or suspensions), aerosol or particulate matter. The amounts of virus or infectious RNA present in the various tissues, secretions, excretions and preparations or arising as a result of handling have been published in the literature (Sellers, 1971) or are available from FMD laboratories.

Means by which virus can escape

Laboratories can be regarded as a series of boxes, one inside the other, starting with the safety cabinet or animal cage in the laboratory

or room itself. The room may be situated in a suite of rooms which in turn may be part of a bigger building.

Each box or stage has an effect on the degree to which cross contamination or escape from the laboratory may occur.

The ways by which the virus or infectious RNA may be carried out or escape include:

- Animals (dead or alive)
- Tissues
- Secretions and excretions
- Unused foodstuffs
- Bedding
- Tissue cultures
- Virus/infectious RNA preparations of various kinds
- People
- Clothes
- Instruments
- Records
- Water
- Air
- Unwanted pests
- Mechanical and building materials

Minimum control measures

Various methods have been devised for ensuring that no infectious material is carried beyond limits to which it is permitted to be taken.

These include the use of heat in its various forms, chemicals and disinfectants, air filtration, etc., and laboratories working with foot-and-mouth disease have over the years amassed valuable information on the efficacy of the various methods (Sellers, 1981). It is suggested that the measures proposed in Sections A to H as follows represent the minimum safety procedures to ensure FMD containment.

A. PERSONNEL

1. Must be trained appropriately for the position held.

2. Must be prepared to change clothing on entering restricted area and shower on leaving.

3. Must agree to abide by minimum standards of quarantine, i.e. NO contact with animals susceptible to foot-and-mouth disease for periods according to virus exposure at work.

Minimum periods

(a) Involvement with normal laboratory techniques .. .. minimum of 2-day quarantine

(b) Following contact with animals infected with foot-and-mouth disease virus or involvement with large-scale virus production .. .. minimum of 4-day quarantine

B. CLOTHING

1. Regular supply of clean comfortable clothing.

2. Laundry process to involve at least a hot (90° C) detergent wash at

some stage of cycle.

N.B. Where clothing is not laudered on premises, it should be autoclaved before leaving restricted areas.

C. EXPERIMENTAL ANIMALS

1. Naturally susceptible animals should only be allowed to be kept in insecure houses in close proximity to the restricted areas if they are under close observation.

2. All animal carcasses to be sterilized by heat or incinerated at the end of experiment. (Salvage of carcass meat should only be permitted if proper steps are taken to ensure its innocuity.)

D. FOOD STUFF

1. Any excess food stuff which has been taken into a restricted area should be sterilized by heat or incinerated.

E. EQUIPMENT

1. Sterilize with heat (autoclave), if possible, to remove from restricted area.

2. Fumigate with formaldehyde (0.3 g/cu.ft. at 70% RH) for at least 24 hours or equivalent with other aldehydes, e.g. glutaraldehyde.

3. Thoroughly wash in an appropriate chemical disinfectant:

4% washing soda (Na_2HCO_3)
0.2% caustic soda ($NaOH$)
2% citric acid ($C_6H_8O_7$)

Note: The efficiency of these chemical disinfectants is considerably improved by the addition of detergents.

F. VENTILATION

1. All virus handling areas held at pressures negative to atmospheric.

2. Negative pressure of at least 5 mm air pressure should be employed and the filtration system should be monitored to ensure that the negative pressure is being maintained.

3. Exhaust air must be passed through properly installed H.E.P.A. filters which are checked on a regular basis.

G. EFFLUENT TREATMENT

1. Effluent from laboratory area and from areas holding experimental animals should be treated in a manner which ensures that the inactivation of FMD virus has been achieved.

H. CODE OF PRACTICE

1. A detailed code of practice must be drawn up and readily available to all staff at all times.

A person of suitable rank should be responsible for the strict implementation of all aspects of the code of practice.

It is suggested that the various processes and procedures can be assessed qualitatively and quantitatively by means of a check such as that which follows:

1. Locality
   - Urban
   - Rural

2. Proximity of susceptible stock
   - Which stock

3. Restrictd public access
   - Fenced
   - Guarded
   - Locks

4. Staff identification
   - Staff movement restrictions

5. Safety against
   - Flood
   - Subsidence
   - Landslide
   - Earthquake
   - Other

6. Is there room for development?

7. Buildings
   - Generally suitable
   - Old
   - New
   - Conventional/prefabricated/ other

   - Windows
     - Double
     - Sealed
     - Shatterproof

   - Doors
     - Sealed
     - Self-closing
     - Interlocked at airlocks
     - Vision panel
     - Marked sign - HAZARDS

   - Walls, Floors Ceilings
     - Suitable surfaces
     - Cleanable
     - Sealed entry of services

   - Lighting

8. Laboratory fittings

   - Benches
     - Surfaces
     - Impervious
     - Continuous

   - Safety equip.
     - Microbiological safety cabinets
       - Class 1
       - Class 2
       - Class 3
     - Protected centrifuges
     - Protected sonicators
     - Protected homogenisers

- Taps
  - Hand
  - Wrist
  - Elbow
  - Foot
  - Electronic
- Space
  - Adequate
  - Overcrowded

9. Ventilation: Virus handling area

- Air pressure
  - Negative to atmoshpere
  - Negative pressure
- Monitoring
  - Manometers
  - Frequency observation
  - Recording
  - Electronic
  - Temperature control
  - Humidity
- Air locks
  - Sophisticated
  - Simple
  - Separately ventilated
- Exhaust air
  - H.E.P.A. Filters
    - Single
    - Double
  - Quality of Filter
  - Monitoring
  - Testing methods
- Filter container
  - Ladder frame
  - Canisters
- Input air
  - Filtered
  - Quality
  - Temperature, etc.
- Input/Extract
  - Interlocked
- Standby generating system

10. Range of work:

- Research
- Vaccine production
- Large animal work
- Small animal work
- Diagnosis
- Other

11. Effluent treatment:

- Heat
- Chemical
- Irradiation
- Other

12. Storage of viruses:
    - Location
    - minus 20° C
    - minus 70° C
    - Liquid nitrogen
    - Locked
    - Up to date records
    - Secure area

13. Pass-out facilities:
    - Autoclaves
    - Fumigation cabinets
    - Monitoring
    - Photocopying
    - Facsimile machine

14. Structure - Disease Security Department

15. Disease Security Regulations

16. Other security (intrusion)

17. Fire precautions

18. Staff training

19. Staff selection

20. Visitors

21. Procedure for emergencies

REFERENCES

1. Sellers, R.F. (1971). Quantitative aspects of the spread of foot-and-mouth disease. Veterinary Bulletin, 41, 431-439.

2. Sellers, R.F. (1981). Absolute safety in communicable diseases resulting from storage, handlng, transport and landspreading of manures. CEC: Luxembourg, pp. 239-245.

Annex 1

Treatment of exhaust air and effluent from laboratories handling foot-and-mouth disease

System used at AVRI, Pirbright, U.K.

F.1 VENTILATION
EXHAUST AIR

A negative air pressure of at least 5 mm water gauge must be maintained at all times. Appropriately placed manometers must be read at least once a day to record pressures in virus handling areas. Failure of an extract fan should operate an alarm. Input and extract fans should be interlocked so that failure of an extract fan shuts off input.

All exhaust air must pass through a system of H.E.P.A. filters which will ensure a penetration efficiency of 0.003% with particles of 0.3-0.5 um.

Testing

All filters must pass an overall test for efficiency (sodium flame test) before installation (this is usually done by manufacturers). When installed an efficiency test using smoke with a photometric detection system should be carried out.

A manometer reading pressure across filters must be installed and read daily.

G.1 EFFLUENT TREATMENT

Effluent must be treated by heat or chemicals.

Heat treatment (Most suitable for slurry)

Effluent should be heated to a minimum of 100°C for one hour. Thorough mixing of the slurry during the heating process is essential.

Testing

A continuous temperature record must be kept and checked regularly.

Chemical treatment

(Suitable for laboratory effluent with a relatively low solid content).

Suggested chemicals

Sodium bicarbonate at 4% (final concentration) minimum pH 10.5^{+}_{-} .5*
Sodium hydroxide at 0.2% (final concentration) minimum pH 12.2

*pH can vary according to the quality of chemical used.

Testing

Measure pH and titrate samples to determine concentration of alkali. A minimum pH value of 10 must be achieved and maintained for 24 hours before effluent is released.

System used at the Central Veterinary Institute, Lelystad, Netherlands

G.1 EFFLUENT TREATMENT

Contaminated effluents from laboratories and animal rooms are heat treated.

Infected effluent is separated into a watery and a solids containing phase (less than 15% solids). These are treated separately.

The watery phase is first heated in a series of heat exchangers to ca. 95°C and is then brought to 115°C by steam injection for at least 10 minutes. The solids are heated by steam injection while being circulated in an autoclave. A temperature of 115°C is reached in 15 minutes and maintained for 30 minutes. The fluid is then allowed to cool to 80°C and added to the watery phase.

Testing

Treatment is carried out in a closed system, both steps controlled through thermography.

Subsequently the effluent is released to the municipal sewage treatment system at a temperature of 40°C.

Appendix 10

Cost-benefit study on vaccination policy in Europe

At the Twenty-fifth Session of the European Commission for the Control of Foot-and-Mouth Disease held in Rome in April 1983, the position of FMD prophylactic schemes in Europe was discussed and the tendency to discontinue or reduce vaccination against FMD in a number of countries in Europe was considered to be a matter for concern.

The role played by compulsory vaccination campaigns in reducing the incidence of FMD in Europe has been discussed at almost all meetings of the Commission, and its importance cannot be over-emphasized. However, there is a risk, especially among administrators, that the favourable FMD position achieved to-date in Europe represents the attainment of complete eradication. Such a favourable disease position may be a strong temptation to decrease or change the system as has been the case in a number of countries in Europe. The Commission, having discussed this problem at its Twenty-fifth Session, recommended that European countries undertake a cost-benefit study of the FMD vaccination policy before any decision is taken to change it.

As a follow-up to this recommendation, the Executive Committee at its Forty-sixth Session held in Bonn, Fed. Republic of Germany, in April 1984, discussed the results of a survey carried out in Europe on this subject (Appendix 3 of the Report of this Session refers) and agreed that data provided by the member countries showed that cost-benefit analysis and evaluation of the present prophylactic scheme applied in different countries in Europe are not comparable because methods for FMD prophylaxis and control differ from country to country and the benefit to be obtained from each particular programme is very difficult to estimate. Furthermore, the Committee considered that since parameters for a cost-benefit study have now changed in Europe under the present FMD situation, results of cost-benefit analysis need to be reviewed. For this purpose the Committee agreed that a group of selected countries, representing both policies - vaccination and non-vaccination - would undertake a further study to establish a common basis for evaluation which would serve as a model for countries wishing to carry out cost-benefit analysis when reviewing their vaccination policy.

This task was undertaken by the Federal Republic of Germany, The Netherlands and the United Kingdom; a Working Group composed of experts from these three countries and the Secretary of the Commission was set up to study the subject and prepare common criteria which would serve as a model for European countries. The Working Group held two meetings: the first at Weybridge, U.K. on 19/20 July 1984, and the second in Bonn, Fed. Rep. of Germany on 25/26 November 1984.

Following an in-depth discussion and analysis of all factors concerned, common criteria were adopted for the setting up of a document entitled "A Guide to the Economic Evaluation of FMD Vaccination Programmes".

This document was approved by the Forty-seventh Session of the Executive Committee as an Item for submission to the Twenty-sixth Session of the Commission.

This work would not have been possible without the facilities made available by the U.K. and the Federal Republic of Germany who hosted the two meetings. The expertise and valuable contribution of the experts who participated in the preparation of this document is acknowledged: Drs. Mowat, Richardson, Power and Davies, U.K., Drs. Lorenz and Valder, Fed. Rep. of Germany, and Dr. Smak, The Netherlands.

A GUIDE TO THE ECONOMIC EVALUATION OF F.M.D. VACCINATION PROGRAMMES

This shortened version of the guide is intended for veterinary administrators; it avoids the mathematical analyses contained in the full version. The full version contains a full explanation of the analyisis necessary for a cost effectiveness study and should be used by economists advising veterinary administrators and others carrying out appraisals of policy. 1/

BACKGROUND

1. This document sets out a model cost effectiveness study for European countries wishing to carry out economic analyses before taking decisions on their vaccination strategies for controlling FMD.

THE ANALYTICAL FRAMEWORK

2. It assumes that FMD is an external threat to national herds and that no European country would contemplate allowing the disease becoming endemic. It further assumes that each national government is faced with two alternatives:

   a) routine prophylactic vaccination of a large proportion of the national herd.

   b) stamping out the disease by slaughtering all susceptible stock on infected holdings with or without ring vaccination.

   Finally it assumes that, in the European situation, neither of these alternative policies would allow FMD epidemics so massive as to result in complete disruption of the domestic markets in meat, milk and other animal products.

3. The purpose of the analysis is to determine which is the better of the two alternatives for the country concerned. For this, the costs of both alternatives are calculated and compared on an annual basis. The major cost elements of the two policies are set out in Table 1.

1/ The full version was presented to delegates at the Twenty-sixth Session and maybe obtained from the secretariat of the Commission on request.

TABLE 1: The Costs of the Alternative policies.

ROUTINE VACCINATION	STAMPING OUT
Vaccination Programme	Maintaining a Strategic Bank of Vaccine
Vaccine (including emergency vaccine bank)	Vaccine and Storage
Vaccination	
*Side-effects	
FMD Outbreaks	FMD Outbreaks
*Controlling outbreaks including ring-vaccination (if carried out)	*Controlling outbreaks including ring vaccination (if carried out)
*Slaughtered herds	*Slaughtered herds
*Loss of Production	*Loss of Production
*Interrruption of domestic trade	*Interruption of domestic trade
Loss of Export Trade	Loss of Export Trade
Effect of national vaccination status	*Effect of outbreaks
*Effect of outbreaks	*Effect of charge of national vaccination status if ring vaccination used.

*Denotes costs which are uncertain

4. Where a country employs routine prophylactic vaccination the costs are:

   a) the costs of the vaccination programme
   b) the costs of FMD outbreaks that occur despite the policy
   c) the costs to the export trade of the national vaccination status

5. Where a country operates a stamping out policy the costs are:

   a) the costs of maintaining a strategic store of vaccine.
   b) the costs of FMD outbreaks
   c) the costs to the export trade of sanctions following outbreaks

6. Certain costs are identical to both alternatives and are therefore excluded from the analysis. Thus the national veterinary service will maintain a disease surveillance system, including diagnostic facilities, irrespective of whether there is a national vaccination scheme. Likewise outbreaks of FMD due to strains not normally found in Europe (e.g. ASIA I) may occur under either policy and are excluded from this analysis.

7. The comparison of the two alternatives is dealt with by setting out the cost of each item i.e.

a vaccination programme	- para 8 et seq.
maintaining a store	- para 11
FMD outbreaks	- para 12 et seq.
loss of export trade	- para 17-18

The final step is to make a series of alternative assumptions about the uncertain variables (indicated by * in Table 1) and to incorporate these in a final analysis (para. 19 et seq.).

THE COST OF VACCINATION PROGRAMMES

Vacine Costs

8. These include:

i) The cost of the number of doses of vaccine required to vaccinate the proportion of the national herd covered by the programme. The estimated number of doses required should be adjusted to include an allowance for wastage.

ii) The cost of any potency and safety tests undertaken by he veterinary service in addition to those undertaken by the manufacturer.

iii) The cost of handling and storing the vaccine before use.

iv) The cost of an emergency store of vaccine for use in case of outbreaks of the disease.

Vaccination Costs

9. This is the cost of visiting the farm and vaccinating the animals. Where this work is delegated to veterinary surgeons or lay vaccinaters that are not in government empmloyment this cost is the payments to these people plus relevant administration costs. Where the vaccination is undertaken by government staff the cost consists of the total hourly cost of employing the staff concerned plus the cost of adminisrative overheads together with that of travel to and from the farm.

Side-Effects

10. These include:-

i) The cost of temporary loss of milk yield, allergic reactions, abortions and other reactions that occur as a direct result of vaccination.

ii) The costs of FMD outbreaks which are side effects from the manufacture or use of vaccines. The best way of allowing for this cost is to include it under the cost of FMD outbreaks which occur despite routine vaccinatiton.

THE COST OF MAINTAINING A STRATEGIC STORE OF VACCINE

11. These costs include the purchase price of the vaccine and the maintenance of the storage facilities.

THE COST OF F.M.D. OUTBREAKS

12. In this paper an outbreak is an occurrence of disease in an agricultural establishment, breeding establishment or premises, including all buildings and adjoining premises - (OIE Definition).

The Cost of Controlling Outbreaks or Series of Outbreaks (Epidemics):-

13. This consists of the cost of carrying out control procedures on all holdings where FMD is diagnosed and the cost of all control procedures elsewhere.

i) The cost of control procedures on the holdings where FMD is diagnosed include:

Slaughter and disposal of carcases;
Disinfection;
Destrution or handling of possible fomites;
Valuing stock for compensation purposes.
Other tasks
Staff, administration and transportation costs

ii) The cost of any ring vaccination carried out:
(see the costs of vaccination outlined in para. 9)

iii) The cost of general control procedures whch include:

Diagnosing disease and carrying out epidemiological investigations,
Tracing infection
Administering quarantine and other controls
Administrative support.

The Cost of Slaughtered Herds

14. The analysis assumes that if FMD is diagnosed on a holding all susceptible stock are slaughtered. The cost therefore consists of the total value of the susceptible livestock on all holdings where FMD has been diagnosed (the cost of carrying out the slaughter and disposal of carcases is included under 13 (i) above. The value of the animals will depend on their age, class and condition and will be the total value of all susceptible animals which are slaughtered or die of FMD.

The Cost of Lost Production

15. On the Holdings:

i) This is the cost of the delay before restocking can take place on the holdings where livestock have been slaughtered due to FMD.

ii) To the processing industries and distribution trades:
This is the cost of the delay in livestock production as it affects these iindustries.

The Cost of Interrruption to Domestic Trade

16. Following an outbreak of FMD, domestic trade in livestock products is likely to be reduced or to cease altogether for a short period. If sales of milk from any holdings are temporarily prohibited then the cost of this is the total value of the sales concerned. Sales of livestock and meat however are delayed rather than permanently lost.

LOSS OF EXPORT TRADE

17. A country's (or region's) exports of susceptible animials and of meat from such animals are temporarily banned following an outbreak of FMD. Some importing countries also ban imports of susceptible animals from places in which any livestock has been vaccinated in recent years; in such cases routine vaccination results in a ban on livestock which is permanent unless the policy is changed. Ring vaccination under a stamping-out policy may also hinder exports of animals and agricultural products. Limited bans of short duration may have little effect on the trade in animals or in meat but bans lasting more than a year might well result in a sustained loss of a country's export markets or reduce its export share.

18. The consequences of the bans will be felt (to a greater or lesser degree depending on the importance of the export trade) in the disruption of the domestic markets and of the industry in the exporting country concerned; its potential for developing its export trade will also receive a setback. These costs are difficult to quantify. They may be of marginal importance for minor exporting countries and must always be taken into account in reaching the final policy decision.

THE COMPARISON OF THE ALTERNATIVE POLICIES

19. This cost effectiveness study of national FMD policies compares two alternatives: routine vaccination and stamping out. One of these will be the existing policy and data will be available to cost it; the other will be the hypothetical alternative and costing it will involve an estimate of the risk of outbreaks (the number of outbreaks and the size of herds etc.) and other uncertainties under that policy.

20. The purpose of the final analysis is to weigh up these uncertainties and to arrive at a clear decision as to which policy is best. The full version of the guide sets out two alternative techniques, Scenario analysis, and Critical point analysis, which should be used to complete the study. The application of either technique in practice is likely to be complex and the advice of professional economists will be needed. The following example however provides some indication of how the best technique (critical point analysis) works.

21. This method estimates the critical point at which the costs of one policy equal those of the other. In essence the analytical method is as follows:-

    a) cost its existing vaccination policy
    b) cost an FMD oubreak
    c) estimate how many outbreaks per year under a stamping out policy would be equivalent in cost to the vaccination policy. This is called the critical number.

22. This puts two clear alternatives before veterinary administrators: either

    a) the expected number of outbreaks under stamping out is greater than the critical number in which case the exisisting policy is best or

b) the expected number of outbreaks is less than the critical number in which case the best policy is stamping out.

23. A cost effectiveness analysis provides veterinary administrators with a comparison of the costs of alternative strategies. The final decision on a policy must include a veterinary judgement on the major imponderables such as effects on export trade, the effectiveness of surveillance systems, and the attitude of the agricultural industry.

Appendix 11

BUDGET FOR 1985

(Note by the Director-General of FAO)

1985 Administrative Budget

1. In accordance with the Constitution of the Commission and with its Financial Regulation III, the proposed Annual Administrative Budget is presented herewith.

2. The budget estimates have been drawn up in the form established in the Financial Regulations.

3. In the absence of "supplementary details", the estimates for Chapter II are presented in a single total in accordance with Financial Regulation III 3.5.

4. The proposed Annual Administrative Budget for 1985 totals US$ 146 000.

5. Under Code .10 "Personal Services" of Chapter I, the budget estimates for 1985 allow as in 1984 for one P-5 Secretary to the Commission, one G-6 Administrative Assistant and temporary conference staff. Total contributions received in 1984 from Member Governments amount to US$ 106 942 including accrued interest.

1985 Special Budget

6. In the Special Budget for the Special Account in 1985, it is recommended that the following amounts be provided for: (a) US$ 13 000 to cover any necessary travel and per diem of the members of the Standing Technical Committee; (b) US$ 1 000 for reimbursement to the World Reference Laboratory for work related to the Research Group; (c) US$ 19 000 for immunological trials of new FMD virus strains which may present differences from FMD vaccines used at present in Europe; (d) US$ 5 000 for fellowships/study tours.

7. Attached is the Budget for 1985 which covers the Annual Administrative Budget and the Special Budget for the Special Account.

Assistance given by FAO

8. Besides the above expenditure, there are services provided by the Organization which have not been included in the cost estimate. Items not charged to the Commission include part-time services of senior officials of the Organization, budgetary and financial services, office accommodation, equipment, supplies of stationery, document processing and publication, etc. as well as postal and cable services.

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE - TRUST FUND 9042

	1984 Approved budget	1984 actual expenditure	1985 1/ Budget as revised by 47th Session of Exec. Committee	1986 Proposed budget	1987 Proposed budget
GENERAL ACCOUNT Application of resources	US$	US$	US$	US$	US$
Ch.I - Administrative expenditure (Articles IV and XII .2 of Constitution)					
.10 Personal services					
1 P5 Animal Health Officer) 1 G6 Administrative Assistant) Temporary assistance and interpretation) for meetings)	95 000	90 307	102 500	95 000	105 000
Home leave - biennial entitlement of secretariat	-	-	3 000	-	3 000
.20 Travel secretariat/Chairman and rapporteur for years in which General Session is held	12 000	4 209	12 000	12 000	12 000
.30 Contractual services World Reference Lab.	5 000	-	7 000	7 000	7 000
.40 Gen. Op. Expenses (Hosp./Misc.)	700	1 030	1 500	700	1 500
Ch.II - Special Functions - Art.V of Constitution					
.50 Emergency expenditure	20 000	105	20 000	20 000	14 000
	132 700	95 651	146 000	134 700	142 500

Annual income from contributions pledged by member countries: US$ 153 043
As of 1 January 1985, France/UK placed in second category - recommendation of Twenty-fifth Session of the Commission
Annual income from contributions as of 1 January 1985:- US$ 142 694

SPECIAL ACCOUNT	US$	US$	US$	US$	
.20 Travel Research Group	8 000	-	13 000	10 000	Budget depending on availability of funds
.30 Contractual services					
(a) Collaborative Laboratory Study	5 000	-	1 000	-	
(b) Immunological trials of new FMD virus strains which may present differences from FMD vaccines used at present in Europe	-	-	19 000	-	
.80 Fellowships/study tours	5 000	1 177	5 000	-	
	18 000	1 177	38 000	10 000	

1/ See detailed budget for 1985 as revised by Forty-seventh Session of the Executive Committee

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE

Trust Fund 9042 - Budget for 1985 as revised by the Forty-seventh Session of the Executive Committee

(Ch. I - Administrative expenditure under Articles IV and XII.2)

		US$	US$
.10	Personal Services		
01.	P5 Animal Health Officer (12 months)	62 500	
	G6 Admin. Assistant (12 months)	29 000	
03.	Temp. assistance (interpreters for Twenty-sixth Session - 4 x 4 days)	8 000	
05.	Overtime - typing assistance for Forty-seventh Session Exec. Comm., Twenty-sixth Session of Commission and Session of Research Group	3 000	
		------	102 500
.14	Home leave - biennial entitlement of secretariat		3 000
.20	Travel - secretariat, Chairman, and Rapporteur for Twenty-sixth Session		12 000
.30	Contractual Services - services by World Reference Laboratory, Pirbright, for 1985		7 000
.40	General operating expenses		
.45	Hospitality*	1 000	
.49	Miscellaneous	500	
		-----	1 500

(Ch.II - Emergency expenditure under Art.V of the Constitution)

.50	Supplies and Materials (Special Functions/Art.V of the Constitution)		20 000

Pledged 1985 (as agreed at Twenty-fifth Session as of 1.1.1985 France/UK placed in second category).....	US$ 142 694		146 000
Balance 31.12.1984	US$ 41 821		=======
	US$ 184 515 Balance US$		38 515
			======

SPECIAL ACCOUNT

.20	Travel - Research Group		13 000
.30	Contractual Services		
	- Collaborative Laboratory Study	1 000	
	- Immunological trials of new FMD virus strains which may present differences from FMD vaccines used at present in Europe	19 000	
		------	20 000
.80	Fellowships/study tours		5 000
	Uncommitted balance		515

		US$	38 515
			======

Trust Fund No. 9042.00 - International - European Commission for the Control of Foot-and-Mouth Disease MTF/INT/011/MUL

Pledge Position as at 31 December 1984 (Final)
(expressed in U.S. Dollars)

	Outstanding 31/12/83	Contribution 1984	Received During 1984	Outstanding as at 31/12/84	
Govt. of Austria	-	4,270.96	4,270.96	-	
Belgium	7,118.28	7,118.28	-	14,236.56	1/
Bulgaria	-	2,135.48	2,135.48	-	
Cyprus	-	711.82	711.82	-	
Denmark	-	7,118.28	7,118.28	-	
Finland	-	4,270.96	4,270.96	-	
France *	-	19,931.18	-	19,931.18	
Germany	-	14,236.56	14,236.56	-	
Greece	-	2,135.48	2,135.48	-	
Hungary	4,270.96	4,270.96	8,541.92	-	
Iceland	-	711.82	711.82	-	
Ireland	-	2,135.48	2,135.48	-	
Italy	(1,812.82)	14,236.56	12,423.74	-	
Luxembourg	-	711.82	711.82	-	
Malta	-	711.82	711.82	-	
Netherlands	-	7,118.28	7,118.28	-	
Norway	-	2,135.48	2,135.48	-	
Poland	-	7,118.28	-	7,118.28	
Portugal	-	2,135.48	2,135.48	-	
Spain	7,118.28	7,118.28	5,942.34	8,294.22	2/
Sweden	-	7,118.28	7,118.28	-	
Switzerland	-	7,118.28	7,118.28	-	
Turkey	3,359.42	4,270.96	4,270.00	3,360.38	
United Kingdom	-	19,931.18	19,931.18	-	
Yugoslavia	-	4,270.96	-	4,270.96	3/
	20,054.12	153,042.92	115,885.46	57,211.58	

* Considered member from 1 January 1984.

1/ Received in February 1985
2/ $6,585.42 received in March 1985
3/ Received in April 1985

Appendix 12

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Appendix 13

FAO ACTIVITIES ON FMD AND OTHER MAJOR INFECTIOUS DISEASES

A. FOOT-AND-MOUTH DISEASE (FMD)

FAO continues to support strengthening of the FMD buffer zone in south-eastern Europe. For this purpose, following the recommendation of the European Commission for the Control of FMD, the Director-General has launched another appeal to the EEC and non-EEC countries for funding the continuation of the campaign until 1987. There were positive responses from EEC and many of the non-EEC countries indicating the necessity to maintain this buffer zone which has been successfully implemented since 1962.

In addition, FAO supports and executes the UNDP funded project in Bulgaria for the establishment of the large-scale FMD vaccine production plant in Sliven. The FMD Laboratory has been completed and FAO's support to the project will continue for an additional two years to assist the centre to deal with any problem which might arise during its initial period of operation.

FAO through its Technical Cooperation Programme (TCP) has assisted the Government of Morocco to face emergency FMD outbreaks in 1983 by providing one-and-a-half million doses of FMD vaccine (type A-5).

FAO attaches importance to the situation in the Near East region where most of the major infectious diseases are present and constitute a potential threat for other regions. The Seminar on the Control of FMD in the Near East held in Ankara in 1982 established the strategy for the control of FMD in the Near East region.

The subject was discussed again at the Heads of Veterinary Services meeting organized by MINEADEP In October 1984 in Baghdad, and it was decided to send a mission to carry out studies on virus types and vaccination procedures required. As a follow up to the above meeting a joint FAO/MINEADEP mission has visited the four countries in the Near East region. A second mission will visit the remaining countries in the region in order to complete the studies on the virus types existing in the region and to formulate vaccination programmes. The Secretary of the European Commission was invited to attend the MINEADEP Executive Board meeting in May 1985 in Amman to discuss the outcome of the mission and future actions to be taken.

In other regions, FAO provides assistance to Burma through a UNDP/FAO project for the establishment of a high security laboratory. Recently, a consultant was sent to India to participate in the Indian Task Force Meeting for FMD and the national policies on FMD control in India were discussed. There is another operational TCP project in Brazil to assist the Government in the production of an oil-adjuvant FMD vaccine in the national laboratory in Campinos.

FAO has provided two grants in support of research on immunological relationship between A-5 and A-24 FMD virus sub-types which was carried out through AVRI, Pirbright. FAO also supported the immunological studies carried out by the EEC in Argentina in 1983/84 by providing financial support to the PANAFTOSA Centre for the completion of serological investigations on the relationship between the European and south American FMD virus types A, O and C.

In the field of training, a course is scheduled to be held in September 1985 at the FMD Institute in Brescia in order to improve the current techniques on FMD virus typing and identification. Participants from south-eastern Europe and Near East countries have been invited.

B. OTHER MAJOR INFECTIOUS DISEASES CONTROL

At present, FAO gives priority to Africa, mobilizing more than half of its resources to improve the situation in Africa. Since 1980 FAO provided assistance to 28 countries in Africa through TCP projects (approximately US$ 6.7 million) to control rinderpest and to prepare for the Pan-African Rinderpest Campaign which is now planned to be implemented from 1986. As a result of FAO's emergency assistance supporting individual national vaccination campaigns, the incidence of rinderpest in Africa has decreased gradually in 1984 after the peak in 1983, but the emergency assistance will continue to prevent further spread of the disease until eventually PARC commences. (In 1984, six countries in Africa reported rinderpest - Ivory Coast, Mali, Mauritania, Niger, Nigeria and Ethiopia).

It is FAO's intention to support the vaccine production laboratories in Africa in order to make them self-sufficient with vaccines produced in Africa by the year 2000. This is not only for rinderpest vaccine, but also for other vaccines needed in Africa. A specialist for vaccine production will be employed on a full time basis to be stationed in Africa to initiate this activity from 1986. An overall plan is being made to strengthen the diagnostic services in Africa not only through the establishment and strengthening of existing FAO reference laboratories but also the establishment of additional reference centres for various other diseases of major importance.

Special attention should be paid to the rinderpest situation in the Near East region. In 1984-85 nine countries reported outbreaks of rinderpest (Egypt, Sudan, Lebanon, Yemen Arab Republic, Oman, United Arab Emirates, Kuwait, Bahrain and Iraq). To prevent further spreading of this disease to the north-west, the Turkish veterinary authorities have been alerted and requested to increase their vigilance and prophylactic measures along the borders.

African swine fever (ASF) in Haiti, the Dominican Republic, Malta and Sao Tomé has been eradicated with FAO and other donors assistance by eliminating their whole swine population. Recently Brazil also declared freedom from ASF. The continued monitoring and vigilance to prevent the further spread of ASF is essential, as the incidence in Spain and Portugal still remains high, and also recently the disease suddenly appeared in Belgium. Classical swine fever (CSF) is also currently spreading in Europe and there is a risk of misdiagnosing ASF as clinical signs of the two diseases are similar.

C. DISEASE INFORMATION SERVICES

In order to improve animal health protection in the European region a Consultation was held in Budapest in June 1984 and a number of recommendations were made, one of which was that European countries should report to FAO on any outbreaks of FMD, rinderpest and ASF since international emergency actions may be required. It was also stressed that there is a need for immediate reporting by all European countries of any new outbreak of animal diseases of the OIE List A to all neighbouring countries and trade partner countries, as well as to OIE and to FAO, and where applicable to WHO. A follow-up consultation is planned to be held in 1986.