REPORT

Rome,
Italy,
23-26 April
1991

European Commission for the Control of Foot-and-mouth Disease

Twenty-ninth session

Food and Agriculture Organization
of the United Nations

Meeting Report (AGA-701)
AGA: EUFMD

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

Rome, 23-26 April 1991

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1991

CONTENTS

Page

LIST OF APPENDICES

R 19. The proposal for an increase in contributions of 15% was accepted by majority vote and it was agreed that it would take effect as of 1 January 1992. (Item 9, para 7 & 8)

R 20. The revised budget for 1992 (Appendix 16) was agreed by the Commission. (Item 9, para 9)

R 21. The Commission agreed that the Executive Committee be empowered to ratify a further increase of 10% at their meeting in 1992 so that the new rates can come into effect on 1/1/1993. (Item 9, para 10 & 11)

R 22 The Commission agreed that:

a. the Commission should continue
b. a working document about future policy options be prepared by the Executive Committee for discussion at the next Session in 1993. (Item 10, para 9 a & b)

R 23. The decision taken by the Executive Committee regarding the continuation of the present Secretary's services was fully supported and endorsed by the Commission. (Item 10, para 10)

R 24. The Commission agreed the programme of future activities as listed at Item 10 para 11.

Summary

The Twenty-ninth Session of the European Commission for the Control of Foot-and-Mouth Disease met in Rome from 23-26 April 1991. Delegates from 25 of the twenty-eight member countries attended, together with observers from non-member countries and international organizations. The Session noted the favourable situation regarding FMD in Europe and reviewed the FMD situation elsewhere in the world over the last two years. The need for detailed contingency plans for prophylaxis, disease control, laboratory security procedures and vaccine banks was reviewed.

List of conclusions and recommendations:

R 1. The Commission noted that no outbreaks had occurred in Europe for 22 months and expressed its satisfaction on this favourable disease position. (item 3, 1st para)

R 2. The observers from the USSR were urged to do their best to convince their authorities to send samples of FMD field strains to the World Reference Laboratory for reference purposes. (Item 3, para 6)

R 3. The USSR observer was asked to convey to the national authorities that there was a need for the USSR to inform neighbouring countries of all outbreaks occurring in the USSR as soon as possible. (Item 3, para 7)

R 4. It was suggested that a new definition of disease freedom might be necessary and that a joint OIE/EEC/FAO meeting could be convened to consider this point. (Item 3, para 20)

R 5. The Commission recommended that vaccination for export purposes should be prohibited in disease-free countries. (Item 4a, para 11)

R 6. It was suggested that the following standards should be adopted for the importation of animals into non-vaccinating countries from countries where disease exists or where vaccination is practised.

1. The exporting country must have a competent Veterinary Service
2. The exporting country must be capable of providing quarantine and testing facilities
3. FMD must be notifiable and there must be a control programme
4. There must be pre-export quarantine with serological and probang testing. All results must be negative. This rules out vaccinated animals.
5. There must be post-import quarantine for 3 weeks in the presence of sentinel animals.
6. If no disease develops during the three-week period, the animals are released if still healthy. (Item 4a para 13)

R 7. In the case of stock imported for immediate slaughter, steps 1-4 would apply and, on arrival, the animals must be slaughtered within 72 hours. (Item 4a, para 14).

R 8. It was suggested that the Commission may help the Czechoslovak authorities with a view to speeding up the proposed changes in vaccination policy. (Item 4b, para 3)

R 9. The Commission felt that non-EC countries had to be considered in that it was important for them to have access to vaccine banks. It was suggested that it may be necessary to hold a special meeting to discuss the vaccination strategy in non-EC countries after 1992. (Item 4b, para 7)

R 10. The Commission concluded that a review of the security standards for FMD laboratories was required and recommended that it be carried out by the Research Group. (Item 4c, para 5)

R 11. It was recommended by the Commission that all countries who had not already done so should enter negotiations with one or other of the vaccine banks to ensure that, in an emergency, vaccine will be available for immediate supply. (Item 4d, para 18)

R 12. It was decided that an approach should be made to the Director-General of the FAO requesting him to liaise with Turkish authorities and UN Forces to organise a survey of potentially infected animals at the eastern frontier of Turkey and the immediate surrounding area. It was envisaged that this survey would be carried out by the veterinary services of the UN Forces. (Item 5, para 7)

R 13. The Commission felt that there could be difficulties over the training of foreign nationals and now might be a suitable time for FAO to consider setting up FMD reference centres outside Europe. (Item 6, para 4)

R 14. The proposed agenda for the next meeting of the Research Group in 1991 was agreed by the meeting. (Item 7, para 3)

R 15. It was agreed that the question of emergency action to be taken in non-vaccinating countries following an outbreak of FMD could be included on the agenda of the next Executive Committee meeting. (Item 7, para 4)

R 16. It was agreed that the whole revised recommendation about the movement of slaughter stock and meat should be referred back to the Research Group for further review. This review should take account of EC policy which was also currently under review. (Item 8, para 3)

R 17. The Commission supported the FAO World Reference Laboratory proposal for a request in increased contributions from FAO. (Item 8.1, para 5)

R 18. It was agreed that Israel should be in Category V and the contribution should amount to US$3,083 for 1991. (Item 9, para 6)

Introduction

1 The Twenty-ninth Session of the European Commission for the Control of Foot-and-Mouth Disease was held in Rome from 23 to 26 April 1991.

2 The Chairman, Professor P. Gafner (Switzerland) welcomed delegates, experts and observers to the meeting and extended a special welcome to the new member, Israel. He highlighted the favourable FMD position in Europe during 1989 and 1990 and indicated that the role of the Commission would, in future, be the consolidation of that status. It had to be remembered that FMD is still present in many neighbouring countries and the possibility of new outbreaks arising was unpredictable.

3 The present buffer zone had served its purpose well in protecting Europe from the introduction of disease through Turkey. The vaccination zone had been free of disease for ten years and allowed a relocation of the zone into west Anatolia. Further refinements of the vaccination zone may be possible.

4 The disturbances in recent months in the Middle East were of concern and a close watch would have to be kept on developments in that area. He went on to stress that continued vigilance would be necessary and the ability to respond quickly would be paramount. The coming period 1992-95 would present a new challenge with an unvaccinated population present throughout most of Europe.

5 Vaccine banks, which will probably have a vital role in the future, needed to be discussed and arrangements for emergency supplies of vaccine to all member countries agreed as soon as possible.

6 He was pleased that representatives from the EC were present and hoped that they would be able to update the meeting on EC proposals.

7 The role of the Commission itself could now be questioned because of the favourable situation in Europe but the Chairman reminded delegates that the Executive committee had recommended the continuation of the Commission for the challenging period over the next four years. He reminded the meeting that financial considerations had to be discussed and this would be an important agenda item.

8 He then introduced Dr. Cunningham, Director of the Animal Production and Health Division and invited him to open the Session.

9 Dr. Cunningham on behalf of the Director-General Dr. Saouma and Dr. de Haen Assistant Director-General, Agriculture Department, extended a welcome to delegates, experts and observers and he made special mention of the representatives from the OIE, EC, PAHO and Israel, the new member. He commented that the multi-national audience indicated that the control of FMD continued to attract interest worldwide. He reminded the meeting that in 1953 foot-and-mouth disease was raging in many European countries and it was realised that cooperation between countries would be essential for the success of any control or eradication programme. This had led to the establishment of the present Commission.

10 Developing countries had been aided by European experts employed by FAO in setting up technical projects and disease control programmes. The organization of diagnostic epidemiological and research work had been supported by European institutions and laboratories of which the World Reference Laboratory at Pirbright was the foremost example. The Commission had been heavily involved in FAO programmes on FMD control and vaccine production throughout Europe.

11 Dr. Cunningham continued by reminding delegates that, while Europe was now free of disease, the EC policy of cessation of vaccination would mean that collaboration and understanding between European governments would be more necessary than ever before. A common policy throughout the whole of Europe would be the best solution.

12 The Commission would, therefore, have to decide which policy would be the best to consolidate the present excellent disease situation in Europe. The disease situation in the neighbouring countries and regions must be taken into account. The vaccination zone has always been regarded as an important buffer between Europe and the Middle East and the advances in relocating the zone have to be applauded.

13 The disturbances in the Middle East had been, and are, a matter for concern and Europe must be prepared to cope with any adverse consequences. He concluded by acknowledging that the achievements over the last thirty-five years were excellent examples of international cooperation and he was convinced that the knowledge acquired by the Commission could be useful in other regions and as models in the campaigns against other highly infectious diseases. In closing, he thanked Dr. Kouba for his work as Chief of the Animal Health Service of the FAO and wished him well on his retirement. He also expressed his appreciation to Dr. Stouraitis, the Secretary of the Commission and Ms Raftery, Administrative Assistant for guiding the Commission's work.

Item 1 - Adoption of the Agenda

The Agenda was agreed as presented.

1. Adoption of Agenda

2. Report of the Executive Committee on the Commission's activities during 1989-1990.

3. FMD position in Europe during 1989-1990.

4. FMD prophylaxis in Europe:

   - a) prophylaxis programme 1989-1990
   - b) assessment of present/future prophylaxis policy in Europe; national contingency plans
   - c) position of FMD vaccine production plants
   - d) vaccine banks for Europe

5. Vaccination campaigns in South-Eastern European buffer zones:

6. FMD situation in other regions
   Commission's policy in European frontier regions

7. Research Group activities

8. Review of the Commission's recommendations
   - World Reference Laboratory (WRL) position and activities
   - Offals safety updating recommendations

9. Financial report
   - increase in contributions

10. Future policy of the Commission in the light of developments in FMD control and prophylaxis in Europe

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

12. Any other business

13. Adoption of draft report of the Session

Item 2 - Report of the Executive Committee on the Commission's activities during 1989-1990

1 The Secretary introduced the report covering the period since the Twenty-eighth Session. The full report is given at Appendix 1. He thanked the Danish Government for their cooperation in setting up the Session of the Research Group held in Denmark and the Swedish and Turkish authorities for the meetings in their countries.

2 The Chairman sought comments from delegates. The Tunisian representative thanked the Commission for inviting an observer from his country. He described the disease situation in Tunisia which had threatened millions of livestock and had caused serious economic problems. He appreciated the help given by the Secretary, the FAO, and the Italian Government in assisting with the control of the disease.

3 The Czechoslovakian Delegate stated that his country had been honoured to host the meeting of the Research Group in Prague in 1988. However, on the question of the proposed vaccination policy, he had reservations about stopping vaccination mainly due to the agricultural infrastructure in Czechoslovakia. A paper describing the situation in this country was distributed to all participants. A summary is included at Appendix 2.

Item 3 - FMD position in Europe during 1989-1990

1 A paper which is included as Appendix 3, describing the disease situation in Europe during 1989/90 was presented by the Secretary. He highlighted the fact that there had been no outbreak of disease for 22 months since the outbreaks in Italy in July 1989. Because of their close geographical relationship these could be regarded as one incident. He expressed the hope that this position could be consolidated and that it would be possible to build on the twenty-two months of freedom.

2 In response to the Chairman's invitation to comment, the observer from USSR said that the disease situation in USSR had improved considerably in the last few years. A total of 89 FMD outbreaks had been recorded in the country during the 1980s - see Appendix 4. In 1990 only six outbreaks were confirmed (four involving strain A22, one involving type 01 and one type C). These outbreaks had been in the Transcaucasus, Middle Asia and Kazakhstan and had been of low morbidity.

3 All of the outbreaks had been diagnosed at an early stage using complement fixation, serum neutralisation, indirect immunofluorescence and ELISA tests. Strict quarantine measures had been imposed on affected farms and movement restrictions in the neighbouring areas had been applied. In non-vaccinating areas, outbreaks are dealt with by stamping out, while in the vaccinated areas the slaughter of animals is limited to affected and contact animals. 21 days after the completion of slaughter and the application of sanitary measures, the quarantine zone is removed but restrictions on farms remain in force for three to 12 months. At present the USSR is free from FMD.

4 A special system based on both national and world experience has been developed to cope with the situation in the USSR (the country is unique in its vast size with very long frontiers). This system is implemented at a zonal level taking into account regional features of animal husbandry and epizootics in neighbouring countries. Special attention is given to the preventive vaccination of farm animals particularly in areas of permanent threat. In addition animals in high and medium risk areas namely Middle Asia Transcaucasus, south Kazakhstan, North Caucasus and Povolzhje in RSFSR, south-western regions of Ukranian SSR and the border areas are vaccinated. Some 150 million cattle, 75 million sheep and 3 million pigs were vaccinated between 1986 and 1990.

5 It is proposed that vaccination in the western USSR be discontinued. The vaccination regime is given in Appendix 4.

6 The WRL observer urged the observers from the USSR to do their best to convince authorities to send samples of field strains to the WRL. The Secretary supported this request and went on to ask the observer from the USSR the following questions:

a. Whether they had any plans to change their present policy of using formalin for inactivation?
b. The nature of the vaccine which had a ten-year shelf life?

7 The USSR observer replied that formalin was used at present but in future ethyleneimine compounds would be used, while the vaccine was a dried variety prepared using new technology. (The Commission asked the observer from the USSR for further information.)

8 The Delegate from Denmark urged the USSR observer to convey to their authorities that, in view of the European situation, there was a need for the USSR to inform neighbouring countries of all outbreaks occurring in the USSR as soon as possible.

9 The observer from the USSR replied that the USSR supplied information to OIE on a monthly basis. Summing up the Chairman reminded the USSR that every country made these returns to OIE but in addition would inform interested neighbours as a matter of urgency in the face of a FMD outbreak.

10 The Chairman then invited the Delegate from Israel to update the meeting on the situation in Israel.

11 The situation was described as follows: in March 1991, two outbreaks were reported: one involving a single case in a two-year old dairy cow vaccinated thirteen months previously, on a dairy farm with a total of 109 cattle which had been vaccinated two months previously. This outbreak occurred only seven km from the junction of the borders of Jordan, Syria and Israel. The second outbreak was 14 days later in the adjacent Kinneret district and involved 11 out of 120 dairy cattle and 50 out of 200 sheep which had been vaccinated 12 months previously. The spread of the disease was prevented by strict quarantine measures including slaughter of in-contact animals, animal movement control and ring revaccination.

12 All six isolates over the last two years (4 in 1990 and 2 in 1991) were caused by strain 01, closely related to the 01 Dalton strain included in the trivalent vaccine for cattle and bivalent vaccine for sheep and goats. The efficacy of this vaccine was clearly demonstrated during these outbreaks.

13 During 1990 some 400 000 cattle, 430 000 sheep and goats, 4 000 pigs and 387 camels had been vaccinated in Israel along with approximately 12 000 cattle and 355 000 sheep and goats in the controlled territories.

14 During the last twenty years a total of 167 outbreaks had been reported in Israel and the controlled territories of which 154 were type 0, 10 type A22 and 3 type ASIA-1. These outbreaks were reported within 13 of these 20 years with no cases recorded during seven of the years.

15 Outbreaks due to the introduction of infected animals had not occurred for 20 years as importation of animals for slaughter from the East bank (Jordan) into the West bank (controlled territory) has been prohibited since 1971. A clear seasonality of FMD had been observed over more than fifty years. This is demonstrated by the figures during the period from 1972 to 1991 with 91.6 percent of the outbreaks recorded during the period from March to July with a peak (56.3%) occurring in April and May. The disease was virtually always absent from September to November. There is no explanation for this phenomonen. It might, however, reflect the situation in other countries in the Near East and is almost certainly of importance to the member countries of the Commission.

16 The Secretary asked the WRL representative if any relationship could be detected between strains in the Near East and Israel. In reply the WRL observer said that strains found in North Africa were antigenically identical to those in the Middle East and concluded that vaccine of the Middle East type would give the best protection. Potent European 01 vaccine has also been shown to give satisfactory protection.

17 Serological investigation at the WRL on the 1989 Turkish field 01 strains showed that the 01 Manisa vaccine strain was not closely related. However, the 1990 Turkish field strains were much more closely related. A potency test of vaccine produced in the Ankara Institute will be undertaken in collaboration with Pirbright and results will be provided in two to three months time.

18 The OIE observer, supported by the Delegate from Finland, asked the meeting if the absence of clinical symptoms provided sufficient assurance of the absence of disease. He wondered whether serological surveillance was also necessary. The Secretary replied that the OIE rules applied within Europe and serological testing was not required, apart from in the buffer zone. The EC observer commented that there was no evidence to suggest that FMD was endemic in the Community, the main risks being from laboratories or from improperly inactivated vaccine. It was not proposed to institute routine serological checking of livestock but the scrutiny of the laboratories was in hand. It had to be borne in mind that even in the vaccinating countries only 25% of animals were actually vaccinated leaving the remaining 75% to act as sentinel animals.

19 The UK Delegate reminded the meeting that the UK was prepared to accept animals from a country which had stopped vaccinating for twelve months on condition that no disease had occurred in the intervening period.

20 The Secretary considered that a new definition of disease freedom might be necessary and suggested that a joint OIE/EEC/FAO meeting could be convened to consider this point.

21 He went on to say that over the last 15 years most European outbreaks originated from vaccine factories or from poorly inactivated vaccine, and there had been no introductions from outwith the European continent except for a few exotic strains associated with imported meat. The OIE observer informed the meeting that the OIE were currently looking at the definition and it was likely to be on the agenda at the forthcoming OIE meeting in May.

22 The Delegate from Turkey described the Turkish situation explaining that there had been 490 cases in 1990 principally caused by type 01, while type A22 had not caused significant problems. In the disease-free zone vaccination had not been used, while in the buffer zone susceptible stock had been vaccinated in accordance with the agreement i.e. twice yearly for cattle and once yearly for sheep.

23 New buffer zones were being established in central Anatolia and on the borders of Iran and Iraq. In 1991 new animal movement controls had been introduced and the results of the first three months had been promising with animals being vaccinated before moving into buffer zones. 2.6 million cattle in the Marmara area and 4 million in the central and eastern areas had been vaccinated along with a total of 5 million sheep.

24 In the rest of Turkey ring vaccination around confirmed cases was practised with some 4.8 million livestock vaccinated.

25 The area bordering Iraq had its own problems following the problems in Iraq and border control was not easy with many refugees and their livestock trying to enter the country.

Item 4 a) Prophylaxis programme 1989/1990

1 The Secretary introduced the paper which is reproduced in full at Appendix 5.

2 He highlighted the fact that, even in vaccinating countries the non-vaccinated animals act as sentinels for disease because only some 53% of cattle, 9% of pigs and 5% of sheep are actually vaccinated.

3 The Chairman asked members what their present policies were regarding vaccination with the following results -

Country	Date vaccination discontinued
Austria	31 March 1991
Belgium	31 March 1991
Czechoslovakia	still vaccinating
France	1 April 1991
Germany	31 March 1991
Hungary	31 December 1989
Italy	considering stopping 31 May 1991
Netherlands	1 March 1991
Portugal	planned from 30 June 1991
Spain	31 December 1990
Switzerland	spring 1990
USSR	still vaccinating in parts of the country

4 The Delegate from UK asked Yugoslavia when they expected to stop the vaccination of animals for export. The Yugoslav Delegate replied that only cattle to be exported to Italy were vaccinated in accordance with Italian requirements.

5 The Delegate from Denmark stressed that vaccination was not permitted in Denmark under any circumstances and he suggested that if importing countries required animals to be vaccinated this could be done either during or immediately after transport.

6 The observer from Morocco responded by saying that it was not always possible to vaccinate animals on arrival and suggested that a system of classification of countries was needed. The Delegate from Germany agreed that this topic merited further discussion perhaps with more guidance from a scientific viewpoint.

7 The Chairman asked whether the EC permitted vaccination of animals for export and the reply was that the use of vaccine was prohibited except in an emergency. Continuing on this theme the Delegate from Norway asked whether imports would be allowed from vaccinating countries. The EC observer replied that the conditions for importation were laid down in EC Directive 72/462/EC.

8 Animals from third countries where vaccination was not practised could be imported provided that there had been no FMD for a two-year period. Animals could be imported from vaccinating countries if there had been two years' disease freedom and the animals to be imported had been subjected to

negative serological tests and in the case of cattle, sheep and goats to a probang test. From countries where disease occurred, in addition to the above requirements, additional quarantine of the animals to be moved would be required.

9 The observer from Morocco stated that this policy would lead to a blockage of trade and suggested that the Commission should evaluate the situation and find a solution. To evaluate the scale of the problem the Delegate from the UK enquired into the numbers of animals imported into North African countries. The observer from Morocco said that some ten to fifteen thousand breeding cattle were imported into his country each year stretching their quarantine facilities to the full. He believed that Algeria, Tunisia and Egypt imported similar numbers.

10 Possible solutions to these problems were:

a. to vaccinate during shipment (which could be difficult logistically);
b. to vaccinate as soon after arrival as possible. It was suggested that the first vaccination could take place after two days' rest and the second vaccination two to three weeks later.

11 The Secretary reminded the meeting that vaccination was not compatible with EC policy. Vaccination in an exporting country can cause problems because it is not always known what strain of vaccine is required or what affect the stess of the transport might have or whether re-vaccination at a later date might create problems. Vaccinated animals themselves also presented some risks. The meeting agreed and recommended that vaccination for export purposes should be prohibited in disease-free countries.

12 The Delegate from the UK supported by Finland and Austria, questioned the apparent lack of a policy for the importation of animals and animal products into non-vaccinating countries.

13 He suggested that the following standards should be adopted for the importation of animals into non-vaccinating countries from countries where disease exists or where vaccination is practised:

a. The exporting country must have a competent Veterinary Service
b. The exporting country must be capable of providing quarantine and testing facilities
c. FMD must be notifiable and there must be a control programme
d. There must be pre-export quarantine with serological and probang testing. All results must be negative. This rules out vaccinated animals
e. There must be post-import quarantine for 3 weeks in the presence of sentinel animals
f. If no disease develops during the 3 week period the animals are released if still healthy.

14 He advised against testing animals after arrival, as false positive or inconclusive tests could be embarrassing. Summing up he stressed that this was a cumbersome and expensive business which should not be taken lightly. In the case of stock imported for immediate slaughter steps 1-4 would apply and on arrival the animals must be slaughtered within 72 hours.

Item 4 b) Assessment of present/future prophylaxis policy in Europe; national contingency plans

1 The Secretary introduced the paper at Appendix (6). In response to a request for comments by the Chairman, the Delegate from Poland stated that his country had never used prophylactic vaccination. This meant that all the animals in Poland were fully susceptible to FMD. Poland employed a strict importation policy and did not accept cloven-hoofed animals, meat or animal products from any infected country. This policy had been successful. He suggested that other non-vaccinating countries should adopt a similar import regime. He went on to say that Poland had never been infected by virus from neighbouring countries. Animals due for export could be vaccinated but only under strict isolation conditions. If exports had to be aborted vaccinated animals were destroyed. A serological survey of animals on the Eastern border was planned for the next two to three years.

2 The Secretary highlighted the differences in the frequency of outbreaks between vaccinating and non-vaccinating countries. The incidence in non-vaccinating countries was much lower, and most cases were associated with imported animals or animal products. He concluded that if proper sanitary measures are applied, vaccination is not essential.

3 The Delegate from Denmark wondered why, in the light of the information from Poland, Czechoslovakia wanted to continue their vaccination policy particularly when all neighbouring countries had moved away from its use. In reply the Delegate from Czechoslovakia mentioned the paper presented to the meeting highlighting their situation and pointed out that a stamping out policy on certain of their large livestock units would be untenable under present circumstances. They would need time to move away from the present vaccination policy. The Chairman suggested that the Commission might help by approaching the Czeckoslovak authorities with a view to speeding up the proposed process.

4 The Chairman reinvited the USSR to join the Commission and hoped that this would lead to more contact between the USSR and other member countries.

5 The Delegate from Spain suggested that the question of FMD might be suited to a regional approach citing that it was a problem in the Near East countries and the Chairman replied that the question of larger geographical area would be discussed under the relevant item.

6 The Delegate from Italy expressed concern that the position of the non-EC countries was not taken into consideration when deciding to discontinue vaccination in Europe. He also felt that the evidence presented was insufficient to embark on this new policy.

7 The Secretary stated that non-EC countries had to be considered as it was important for them to have access to vaccine banks. It was suggested that it may be necessary to hold a special meeting to discuss the vaccination strategy in non-EC countries after 1992.

Item 4 c) Position of FMD vaccine production plants

1 The Secretary introduced the paper, see Appendix 7.

2 The Delegate from Italy stated that the regulations for production factories should be strengthened and suggested that the manipulation of exotic virus should be prohibited in Europe.

3 The Delegate from the UK suggested that all European laboratories should be inspected. He could not agree with the Delegate of Italy about limiting the production of exotic vaccine to outside Europe. In his opinion there was much better control of production standards and security if production was carried out within Europe. He further suggested that there should be a review of the FAO minimal standards for laboratories and that all laboratories should be inspected by the Commission.

4 The EC observer said that laboratories within the EC were to be inspected during the year and the report would be available before the end of 1991. The Delegate from UK supported by France and Denmark, hoped that, if standards were reviewed and modifications to factories found to be necessary, that ratification would not have to await a further meeting of the Commission in two years time. The Research Group reassured him that, if the review recommended tightened standards, implementation would be immediate. The Secretary said that it was important for the same team of experienced workers to carry out all of the factory inspections but the observer from EC pointed out that, due to the number of laboratories to be inspected, it would not be practicable for the same team to carry out all of the inspections. However, inspection teams would be drawn from a panel of experts (four teams of two) working to a common standard.

5 The meeting concluded that a review of the standards for laboratories was required and recommended that it be carried out by the Research Group.

Item 4 d) Vaccine banks for Europe

1 The Secretary presented the Report (Appendix 8) and stressed that to maintain disease freedom in the absence of vaccination, it would be essential for:

a) FMD prevention and control policy to be strengthened both in individual countries and at regional level,
b) preparedness to cope with an emergency must be reviewed periodically and must include the training of new staff,
c) a Task Force with logistical support should be constantly ready to cope with an emergency, and
d) a strategic reserve of vaccine should be available for immediate use under certain circumstances.

2 On the latter point he said that vaccine banks were intended for emergency use in disease-free countries which had a fully susceptible animal population. This emergency use would be ancillary aid to total stamping out.

3 He highlighted the main patterns of animal movements in and around Europe and asked all members, who had not already done so, to consider negotiating terms for emergency supplies of vaccine.

4 The Chairman thanked the Secretary for his report and asked the EC Representative to describe the situation in the European Community. The EC observer stated that vaccine production could continue after 1992 subject to the necessary inspections and supplies were likely to be available during the coming years. However, it was recognized that the situation might change and for this reason a Community vaccine bank was to be set up. Member States were permitted to manufacture their own supply of the vaccine and, in the interim to hold stocks in readiness for an emergency at national level. In addition contracts were currently being negotiated at European Community level for the setting up of a Community bank and this will be discussed at a meeting of CVO's in May 1991.

5 It was proposed that the Community bank would be at three specified locations namely Pirbright, Lyons and Cologne or Reims. This would reduce the risks associated with such banks as far as possible. At each of these three sites concentrated inactivated antigen would be held stored over liquid nitrogen. At present it was anticipated that ten strains representing those responsible for epidemics in the Middle East, South America and Asia would be acquired and included in the bank.

6 In an emergency it is envisaged that the antigen would be returned to the manufacture for formulation into vaccine. Once reconstituted most vaccines would have a shelf life from three to twelve months which should be adequate for emergency purposes. It was hoped that, if this proposal is accepted by the next Council meeting, antigen could be in these stores within twelve months.

7 The EC would be sympathetic to approaches from other countries, having no objection in principle to making vaccine available to them.

8 The Delegate from France was concerned that, in the light of reduction of breakdowns and the consequent lower demand for vaccine, the knowhow of manufacturers may decline.

9 The Delegate from the U.K. described the vaccine bank at Pirbright. Seven countries participated namely the UK, Australia, Finland, Ireland, New Zealand, Norway and Sweden. There was a possibility of new members joining the bank. The amount of vaccine held was half a million doses each of A24 Cruziero, A22 Iraq, C1 Oberbayern, 01 Lausanne, ASIA-1, (India 8/79), and 01 Manisa.

10 On site facilities for vaccine bottling were present. Therefore, in an emergency, supplies of vaccine could be readily available from Pirbright. The seven members shared the costs in proportion to their drawing rights. Quality control was very tight with the antigen being tested routinely and as yet no problems had been identified. In the event of vaccine being drawn by a member, that member would be responsible for meeting the cost of replacement.

11 The Delegate from Italy repeated his country's concern about the manipulation of exotic virus in the European continent and expressed some concern about the EC proposals which could lead to delays in supply of vaccine. The EC observer suggested to Italy that discussion on this topic would be more appropriate within the EC.

12 The Chairman asked members about their future plans for obtaining vaccine in an emergency with the following results: Switzerland was in negotiation with France about joining the French vaccine bank. Bulgaria was seeking the necessary finances to join a bank. Hungary was in negotiation with France about suppies of O, A and C type monovalent vaccines and expressed its willingness to join a European vaccine bank in the future, provided the rules and financial conditions had been clearly determined. The delegate of Czeckoslovakia stated that the FMD vaccine production plant in Terezin, Czeckoslovakia, is technologically in a position to produce vaccines and to store properly inactivated antigen for emergency purposes on behalf of other countries. He asked if it could be inspected by an international team and invited the FAO/OIE/EC to set this up. He suggested that, provided the inspection was favourable, the plant could be added to the list of vaccine banks.

13 The Secretary said the Commission were optimistic that all countries would be able to make arrangements to join a vaccine bank but reminded the meeting of some potential problems. If demand was low European manufacturers may cease production and vaccines containing the correct strains may not be available elsewhere. It was therefore important to try and maintain European production levels in laboratories of the required security standards.

14 The Delegate from Turkey said that the vaccine production capability in the Middle East was now clouded in uncertainty and there was probably a vacuum in that area.

15 The observer from the USSR said that the USSR vaccine bank would be made available to other member states. In reply the Secretary said that lapinized vaccine would not be acceptable and, before the freeze-dried vaccine could be used, the Commission would need more technical information. He suggested that the USSR should be invited to attend the next meeting of the Research Group to provide more comprehensive information. In the meantime he thanked the observer from the USSR for this offer which certainly appeared an attractive option for the future.

16 The Delegates from Denmark and the UK asked members not to be too pessimistic about the present situation. It should be borne in mind that the World Reference Laboratory would continue, vaccine production plants would continue and expertise on FMD would still be available. Both the UK and the Danish Delegates were pleased to hear that so many countries had already entered negotiations to join a vaccine bank and hoped that, those who had not, would do so as a matter of urgency.

17 In response to a question from the Chairman, the EC observer said that two of the three vaccine banks were not privately owned but under state control. However, the antigen would have to be obtained from commercial sources and he did not envisage any immediate problems in Europe. In the

longer term the production companies could provide supplies from outwith Europe if this became essential. In such cases facilities to reconstitute the vaccine at the vaccine bank would be needed. The Delegate from Germany added that the German bank too was under State control.

18 It was recommended by the Commission that all countries who had not already done so should enter negotiations with one or other of the banks to ensure that, in an emergency, vaccine will be available for immediate supply.

Item 5 - Vaccination campaigns in southeastern European buffer zones

1 The Secretary summarized the paper which is given in full at Appendix 9. The buffer zone in the Thrace area had been established in 1962 and had been supported by Greece, Bulgaria, Turkey and the Commission. The zone was moved into west Anatolia (Marmara) in 1989. The main events are highlighted as follows:

a) the last vaccination campaigns in Thrace were carried out in the spring of 1989 with 01 and A22 vaccine,
b) probang tests on sheep showed no circulation of virus,
c) the buffer zone was relocated in western Anatolia in the Marmara area; vaccination campaigns are under the control of Turkish authorities.
d) arrangements have been made by the Pirbright Laboratory, UK, to challenge the potency of the Turkish vaccine; this will be in collaboration with the Ankara Institute,
e) financial constraints have had an effect on vaccine production at Ankara with consequential effects on the campaigns in the Marmara buffer zone, and
f) a five-year plan with financial support from the EEC will be presented for discussion at a FAO/OIE/EEC FMD Group meeting - to be convened as soon as the plan is ready.

2 The Commission could be proud that the buffer zone had been successful in preventing the introduction of exotic virus into Europe and of the relocation of the zone from Europe into Asia. The contributions of the countries concerned with the buffer zone in Thrace area were acknowledged.

3 At the invitation of the Chairman, the Delegate from Turkey described the procedures used in the Marmara buffer zone. Seven million animals were vaccinated annually and this required many vaccination teams. There were real logistical problems over distribution and, unfortunately, four outbreaks had occurred in the buffer zone - in mountainous areas difficult to reach. The increased size of the new buffer zone in comparison to the former in Thrace also increased the maintenance costs.

4 He went on to describe the additional buffer zone in the central Anatolia region, the establishment of control points on main roads, checks on trucks carrying livestock and checks on animals moving towards Istanbul. Animal movements into Turkey from Syria and Iraq and the mass movement of refugees created their own problems. It would be desirable to add the provinces adjacent to Syria and Iraq to the eastern buffer zone, but the additional costs could not be met at present.

5 The auction centre was now attended by a veterinary inspector who prohibited the movement of non-vaccinated animals into the protection zones. In response to queries from Denmark and Greece he confirmed that the control area was 95 000 sq km and that the apparent break in the Anatolia buffer zone shown in the map was, in fact, only an indication of the areas where checks on animal movements took place.

6 A lengthy discussion on the situation in the Middle East followed, the Delegate from Israel suspecting that the ASIA-1 strain may be circulating in this area. However, the Delegate from Turkey said that none of the Turkish outbreaks had involved ASIA-1 and this was confirmed by the observer from the World Reference Laboratory.

7 While it was agreed that the disease situation in the Middle East was worrying, it was recognized that in the uncertain political climate, direct approaches to the authorities in most Middle East countries would be unlikely to succeed. Conditions were now ideal for the maintenance of FMD virus and with summer approaching the situation could easily deteriorate. Several suggestions to try to find a way forward were discussed and, after considerable debate it was decided that an approach should be made to the Director-General of the FAO asking him to liaise with Turkish authorities and UN Forces to organise a survey of potentially infected animals at the eastern frontier of Turkey and the immediate surrounding area. It was envisaged that this survey would be carried out by the veterinary services of the UN Forces. A small group was convened to draft a suitable letter to the Director-General.

8 It was also agreed that this subject should be on the agenda at the forthcoming OIE meeting in Paris to which Israel and Turkey should be invited.

Item 6 - FMD situation in other regions

1 The Secretary presented this report (Appendix 10) and highlighted the main points on an overhead slide.

2 He made special mention of the problem in Tunisia and acknowledged the help given by the Italian government who had supplied six million doses of vaccine free of charge.

3 With regard to most of Africa and Asia, the Secretary pointed out that control policies for FMD were very difficult to implement due to the extremely poor infrastructure. Even when vaccine production plants are present, the production capacity and technical knowhow often meant that only areas near the laboratories could be vaccinated. In some countries FMD is not even notifiable.

4 The vaccine plant in Thailand may well be an exception and could possibly supply vaccine to other countries in the region. However, in considering the general situation in developing countries the Secretary said that FMD was not always at the top of their priority list. There could be problems over the training of foreign nationals since laboratories in Europe will no longer be able to allow training and now might be a suitable time to consider setting up reference centres outside Europe.

5 In response to the Chairman, the WRL observer confirmed that the position in Malaysia and Indonesia was favourable although there had been an outbreak in Malaysia in 1990.

6 The Chairman then invited the representative from PAHO to address the meeting. Dr. Casas Olascoaga said that there had been 3839 outbreaks of vesicular disease in 1990, a 13% reduction since 1989. North America, the Caribbrean and Central America had remained free from FMD. In South America, Chile, Guyana, French Guiana and Surinam had remained free as had the Uraba Chocoano area in Colombia and Patagonia in Argentina.

7 Even in affected areas, the situation had improved but notable outbreaks had occurred in Peru, Ecuador, Bolivia, Brazil, Argentina and Colombia. Full details had been made available to the secretariat.

8 He advised the meeting that in his opinion a vaccine manufactured from strains A24, 01, and C3 Indaial would give good protection against all South American strains. PAHO would be willing to supply the above strains to any European laboratory.

9 In response to a question from the representative of the WRL, Dr. Casas Olascoaga confirmed that C1 vaccine would provide good protection against most of the C strains found in south America but the C3 Indaial strain was better.

10 The Secretary suggested that South American countries should consider a cost-benefit study to evaluate whether they could recoup the costs of achieving FMD freedom.

The Commission's policy in frontier regions

11 The Secretary reminded the meeting that in future Europe would have a totally unprotected animal population and although a buffer zone existed to the southeast, the eastern frontier was totally unprotected. It was not possible to assess the full implications of the risk presented. It would be essential therefore for collaboration to be established and maintained with the USSR on future FMD policy and vaccination programmes.

Item 7: Activities of the Research Group during 1989-90

1 A full summary of the activities over the two year period was presented by the Chairman of the Research Group (Appendix 11). He referred to the report of the Session held at Lindholm, Denmark, in 1991, and emphasized the various recommendations for further research. He mentioned a preliminary note about current research activities in European and other FMD laboratories. (This note was circulated at the meeting). (Appendix 12)

2 He pointed out that the "Review of the Commission's Recommendations on movement of slaughter stock and meat from areas where exotic strains of FMD virus have occurred or Inactivated Exotic vaccines were applied in Europe" would be discussed at Item 8 on the agenda.

3 The proposed agenda for the next meeting of the Closed Session in 1991 was agreed by the meeting.

4 When the Chairman opened the paper for discussion the delegate from Norway, supported by delegates from Ireland and France, thought that Item 1 on the proposed agenda for the next meeting should be discussed by the full Commission meeting. The Secretary and the Chairman agreed that the topic could be included on the agenda of the next Executive Committee meeting and the Chairman hoped that there might be time to return to the subject later in the meeting.

Item 8 - Review of the Commission's recommendations

1 The Chairman of the Research Group presented the review concerning two Commission recommendations:

a. "The movement of slaughter stock and meat from areas where exotic FMD virus has occurred or where inactivated exotic vaccines were applied in Europe."
b. "The minimum conditions for the importation of beef into Europe from countries where FMD is endemic and caused by viruses not considered exotic to Europe".

2 The Delegate from Norway asked why diaphragmatic muscle was treated differently from masseters. The Research Group Chairman replied that experimental work in Brussels on viraemic animals had shown that there was a quick drop on pH in diaphragmatic muscle causing FMD virus to be inactivated within the specified period. In response to the delegate from Finland the EC observer described the methods adopted by EC inspectors to ensure that adequate pH levels are reached.

3 The delegate from the UK wondered why heart muscle was not listed along with masseter muscle. It was then realised that the recommendations referred to live animals as well as meat, and after some discussion it was agreed that the whole revised recommendations should be referred back to the Research Group for further review. This review should take account of EC policy which was also currently under review.

Item 8.1

1 Dr. Donaldson, Head of the Pirbright Laboratory, commented on this paper which had been prepared by the Secretary (Appendix 13).

2 He informed the meeting that Pirbright, UK, had been the World Reference Laboratory of the FAO since 1958. During 32 years of operation its work has been financed almost entirely by the UK government. Since 1990 it had received financial support from the EEC for its activities on behalf of that organisation. By comparison, the financial assistance received from FAO had been extremely limited. Dr. Donaldson reviewed the contributions made by Pirbright and the leading role it had taken in the development of new and improved tests for diagnosis, vaccine selection and molecular epidemiological investigation. This work has benefited countries throughout the world and has provided essential technical assistance for many countries in the control and eradication of the disease.

3 The costs of reagents and equipment for these tests have steadily risen but have not been matched by increased contributions from FAO. Dr. Donaldson appealed for a more realistic contribution from FAO and proposed that US$ 100,000 should be a minimum amount to expect per annum.

4 The Chairman of the Research Group said that he appreciated the work of the WRL and gave his full support to the proposal.

5 In an additional session attended by Professor E. Cunningham, Director of the Animal Production and Health Division, the observer from the WRL restated the case for increased financial support for the WRL from the FAO. Professor Cunningham noted the request and acknowledged the WRL's valuable contribution to all aspects of FMD research but indicated that he could not respond until the matter had been considered. The delegate from the UK expressed his concern that, although the issue had been raised by the WRL more than one year earlier, no response had been forthcoming from the FAO. The Commission agreed that the proposal of the WRL should be supported.

Item 9 - Financial Report

1 The Secretary introduced the report (Appendix 14)

2 Despite their best efforts, the secretariat had been unable to keep within the budget for the period. The allocation to the 1990 and 1991 budgets had been based on priorities and the 1992 proposals were open for discussion.

3 He stressed that the work of the Commission would be more necessary than ever as 1 January 1993 approached and proper funding was essential.

4 He then invited the Administrative Assistant to explain the budget details. The Administrative Assistant told delegates that an updated paper on the status of contributions had been circulated showing the funds received in 1991. If some members had paid in the meantime, the money had not found its way into the Commission account, probably because of lags in the system. She confirmed that the 1991 (net due) column did not include arrears. Delegates from Czecholovakia, Spain and Netherlands all had receipts to confirm payment. Norway would investigate what had happened to the missing $560.

5 In response to a question from the UK Delegate, the Administrative Assistant replied that the budget is based on pledges and could not include arrears which might not be forthcoming. The Delegate thanked the Administrative Assistant for this explanation but stated that he found the accounting system unsatisfactory.

6 The contribution due by Israel was then discussed. It was agreed that Israel should be in Category V and its contribution for 1991 should amount to US$3 083.

7 The proposed increase in contributions by 15% effective 1 January 1992 was discussed. The Chairman clarified that this increase was broadly in line with inflation although both he and the Secretary recognised that since the payment was made in US dollars the true rate for members would be affected by the exchange rates.

8 After some debate the proposal for an increase in contributions was accepted by majority vote and it was agreed that it would take effect as of 1 January 1992.

9 The Administrative Assistant presented a revised budget for 1992 (Appendix 11) in the light of the above decision to increase contributions by 15% and after some debate about temporary assistance, Research Group expenses and the contribution to the WRL, the new budget was agreed by members.

10 The Delegate from the UK proposed that: "The contributions from members for 1993 should be increased by 10% over the 1992 contributions".

11 After a lengthy discussion, during which the delegates from Ireland, Sweden and Germany said they did not have authority to decide, the motion was put to the vote. A majority of 20 members supported the proposal. As a result the Commission agreed that the Executive Committee be empowered to ratify this decision at their meeting in 1992 so that the new rates can come into effect on 1/1/1993.

Item 10 -Future policy of the Commission in the light of developments in FMD control and prophylaxis in Europe

1 The Chairman introduced the paper (Appendix 15) informing the meeting that various options were possible in future. He reminded delegates of the Constitution of the Commission which required every member to have the Parliamentary approval of its country. The Commission could only be wound up if membership fell below six members or by a 75% vote of members.

2 The Secretary added that the aim of eradicating FMD from Europe had been achieved and the main task now was to consolidate the present position: he highlighted the policy of the EC and suggested that other European countries should be advised to follow the same line.

3 The Secretary reminded delegates of the Executive Committee's recommendation at its 52nd Session that the Commission's activities cannot and should not be expanded at present but would be considered in the light of new developments in Europe. The Commission should continue for at least two further sessions.

4 Based on this recommendation, the Chairman asked for views from the floor, with a request that delegates differentiate their replies in two ways:

a) General opinions
b) Definite proposals.

5 The delegate from Denmark supported by Germany, Finland, and Sweden reviewed the achievements of the Commission which had been considerable. He suggested that the EC was continuing to expand and its policies had to be taken into account. He felt that further expansion of the Commission was a matter for political decision. He did not consider that there were any other diseases in Europe which compared with FMD and consequently, that the activities should not be expanded to include any other disease. He stressed that the Commission had an important role in coordinating the

liaison and action within Europe and in overseeing the maintenance of the buffer zone. He hoped that it would be possible for the Commission to build on the links with the USSR over the next few years. After this period serious consideration would have to be given about the continuation of the present Commission.

6 He suggested that other organisations such as the EC could take on this role with Research advice coming from the WRL. He also mentioned that, as the Secretary was due to retire in 1992, it would not be convenient to replace him in the present financial climate. The Chairman informed the meeting that FAO had already been asked to extend the present Secretary's post until the Commission's future is decided.

7 The delegate from France suggested that, as all of the FMD problems had not been resolved, continued coordination of action would be vital. He proposed that it was much too soon to consider disbanding the Commission. This view was supported by delegates from Ireland, Turkey, Greece, Bulgaria and Yugoslavia.

8 Delegates from Spain, Portugal and Malta also supported this view but, in addition, would like to see an expansion of the Commission's activities on a regional basis linked to the Mediterranean. They were particularly concerned about the problems in North Africa and hoped that new members from this area could be attracted.

9 The Chairman summed up the discussion by proposing that the following Executive Committee recommendations be agreed by the meeting:

a) that the Commission should continue
b) that a working document about future policy options be prepared by the Executive Committee for discussion at the next Session.

These proposals were agreed by the Commission.

10 The decision taken by the Executive Committee regarding the continuation of the Secretary's services was fully supported and endorsed by the Commission.

Future Activities of the Commission

The following future activities should be given priority:

- follow up of the recommendations adopted by the Commission at the Twenty-ninth Session
- participation and collaboration with international organisations concerned with FMD
- assist non-EC countries to review their policies on FMD bearing in mind those of the EC
- discuss and advise on the establishment of vaccine banks and operational procedures
- to assist Turkey in the maintenance of the buffer zone and in its related activities with FMD control programmes and vaccine production

- the Research Group to consider issues referred by the Commission and to give appropriate advice

- priority should be given to the Commission's work and the monitoring of the disease situation in Europe's frontier areas

- efforts should be made to strengthen collaboration with the USSR on FMD matters of common interest

- strengthening links with countries in the Near East area

- import policies for non-vaccinating countries

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

1 The Chairman announced that he was standing down as Chairman but that he was willing to continue on the Committee for a further two years if members so desired. He then asked for nominations for Chairman, First Vice-Chairman, Second Vice-Chairman and Executive Committee Members.

2 The following were elected to membership:

Chairman	Proposed	Seconded
Dr. E. Stougaard (Denmark)	Prof. P. Gafner (Switzerland)	Dr. R. Berger (Finland)
First Vice-Chairman		
Dr. N. Tanev Belev (Bulgaria)	Dr. B. Nordblom (Sweden)	Dr. P. Weber (Austria)
Second Vice-Chairman		
Prof. P. Gafner (Switzerland)	Dr. P. Weber (Austria)	Dr. L. Hallet (Belgium)

Executive Committee Members

Dr. C. Escribano (Spain)	Dr. J.M. Machado Gouveia (Portugal)	Dr. G. Bédès (France)
Dr. E. Istanbulluoglu (Turkey)	Dr. N. Tanev Belev (Bulgaria)	Dr. K. Meldrum (United Kingdom)
Dr. G. Bédès (France)	Dr. L. Hallet (Belgium)	Dr. E. Istanbulluoglu (Turkey)
Dr. K. Meldrum (United Kingdom)	Dr. G. Cullen (Ireland)	Dr. G. Bédès (France)
Dr. B. Nordblom (Sweden)	Dr. R. Berger (Finland)	Dr. E. Istanbulluoglu (Turkey)

Research Group

1 The following six members were appointed to the Research Group:-

Dr. M. Eskildsen (Denmark)
Dr. C. Terpstra (Netherlands)
Dr. G.F. Panina (Italy)
Dr. E. Domingo (Spain)
Dr. R. Ahl (Germany)
Dr. S. Ulutürk (Turkey)
Dr. A. Donaldson (WRL, Pirbright, UK) ex-officio

2 The term of office of the present members of the Research Group expires on 31 July 1991. According to FAO procedures, the appointment of the newly elected members is subject to government clearance, and their term of office will expire on 31 July 1993.

3 In reply to the Chairman of the Research Group, the Secretary confirmed that the Group should elect its own Chairman.

Item 12 - Any other Business

No other business was discussed.

Item 13 - Adoption of the draft report of the 29th Session

Following discussion of the draft report, the Chairman called for its adoption, subject to incorporation of the amendments agreed, and to any necessary editorial changes. If, on reflection, delegates wished to make further amendments they were asked to submit written suggestions to the Secretary within one week.

Item 14 - Closing Remarks

In his closing address the outgoing Chairman thanked all member countries for their cooperation during his term of office and hoped that his successor would enjoy the same good relations.

Item 15 - Date of next Session

It was recommended that the Thirtieth Session of the Commission should be held in Rome during the second half of April 1993.

Provisional arrangements were also made for the Fifty-fourth Session of the Executive Committee in March 1992.

Appendix 1

Report on the Commission's Activities during 1989-1990

General

This report covers the period which has elapsed since the Twenty-eighth Session of the Commission held in Rome in May 1989, the Report of which has been distributed to member countries of the Commission and to interested governments and international organizations.

Since then the Executive Committee has held two regular Sessions: the Fifty-second in Istanbul, Turkey, in March 1990, and the Fifty-third in Stockholm, Sweden in February 1991.

The Research Group of the Standing Technical Committee of the Commission held an open Session in Lindholm, Denmark in June 1991.

The reports of the Executive Committee Sessions and of the Research Group have been published and distributed to all member countries of the Commission and to interested governments and international agencies.

The Commission's activities during the reporting period have followed the recommendations made by the Twenty-eighth Sessions and by the Sessions of the Executive Committee and have been carried out in conformity with its Constitution.

Special activities

1. It is gratifying to report that since 5 July 1989 no outbreaks of FMD have been reported in the whole European region. This is the first time in the history of the Commission that a Session is being held without the presence of the disease in Europe for a period of almost 22 months. In accordance with the OIE regulations, Europe is now declared free from FMD. It is hoped that the favourable disease situation will be further consolidated in Europe and FMD can be included in the list of major animal plagues which have disappeared from the European continent.

The Secretary maintained close contacts with the various Government members and members of the Commission in order to have constantly to hand information on the evolution of foot-and-mouth disease and the measures adopted for its control. The Commission's member countries were promptly informed on the evolution of the disease in the areas where it occurred, in Italy in the first half of 1989, and for the whole reporting period in the areas where it occurred in the world. Information on the FMD situation in Europe for 1989-1990, including Israel and USSR, is given under Item 3.

2. The FMD situation in southeastern Europe and in the Near East area was followed with great attention by the Secretary both in the arrangements for the campaigns carried out in the buffer zone and in monitoring the FMD situation and virus types reported in the Near East regions. Special attention was given to Turkey (Anatolia) and to the North African countries where a flare-up of the disease of type O1 was reported in Libya, Tunisia, and Algeria during 1989-1990. The Secretary visited Tunisia and Libya and

collaborated with the national veterinary services in establishing a policy of disease control and eradication and he discussed the assistance in vaccine requested. The prompt action taken by FAO and by the Italian Government in providing vaccine and technical assistance was acknowledged by the Executive Committee and by the Governments concerned. However, the Committee stressed the need for North African countries to strengthen and harmonize the FMD prophylaxis and control policy in their region. Control of animal movements within the countries in this region needs to be established independently of the political agreements in this respect.

3. The Commission has actively participated in all problems encountered in eastern European countries in view of the EEC policy on FMD in the Community after 1992.

The Chairman and the Secretary visited Romania where they discussed all problems related to the disease situation in Europe and the problems faced by Romania in aligning its policy with the rest of Europe. In addition, the Secretary attended the meeting in Calabria, Italy, organized by the Italian Ministry of Health in September 1990 where "Agreement and Veterinary Conventions, and Europe of 1992" were discussed with the representatives of all Eastern European countries".

The Committee, aware of the important role which eastern European countries have played in FMD prevention and control not only for themselves but for the whole of Europe, recommended that this issue be discussed in detail at the Twenty-ninth Session of the Commission and the Veterinary representatives of the Commission of the European Community should be invited to participate in order to establish the action to be taken in case of an FMD emergency in this area.

4. The FMD prophylaxis in Europe deserves the special attention of the Commission and this matter was discussed in depth at the Fifty-second Session of the Executive Committee held in Istanbul in March 1990 and at the Fifty-third Session held in Stockholm, Sweden, in February 1991. The Committee considering the importance of this matter and its impact on the whole European continent agreed and recommended that it should be one of the major Agenda items for the Twenty-ninth Session of the Commission. Information on the prophylaxis programme for 1989-1990, and related future policy in Europe is provided under Item 4,(a), (b), (c), (d) and (e).

5. The Commission places considerable importance on the vaccination campaigns in southeastern Europe buffer zone in 1989, and on the results of the survey which was carried out by the World Reference Laboratory, Pirbright, UK, in July 1989, in animals in Turkish Thrace area. The results of this survey which show that there is no evidence of FMD virus circulating in sheep, and the favourable disease situation in this area since 1978 determined the recommendation made by the FAO/OIE/EEC FMD Group held in Brussels in October 1989, to relocate the buffer zone from Thrace to Marmara area in western Anatolia.

The recommendation on the relocation of the buffer zone and the policy to be applied was endorsed by the Executive Committee of the Commission in accordance with the recommendations of the Twenty-eighth Session of the Commission in May 1989.

Information on the establishment of the new buffer zone (strategic vaccination area) in western Anatolia, size of the area covered, the number of animals present in this buffer zone area, and the policy agreed for its implementation by the FAO/OIE/EEC FMD Group meeting held in Brussels in November 1990, is provided under Item 5.

6. The FMD situation in other regions of particular interest to Europe was kept under constant review through information received from the countries concerned, the OIE and the WRL which regularly communicate to the FAO and to the Commission, the results of virus identification from samples received from various countries of the world - see Cumulative Reports of WRL and Tables 1 and 2 under Appendix 10.

The present world political and economical disturbances in some areas surrounding Europe are of great concern for the Commission. The possible epizootiological dangers resulting from uncontrolled movement of animals and goods from epizootiologically uncertain territories and the disease situation which is expected to develop after the war in the Middle East area should be closely monitored and the Commission and the international organizations concerned should be prepared to cope with this new situation at national and regional level.

In reviewing the epizootiological situation in areas surrounding Europe, the Committee is of the opinion that strategic vaccination areas other than that in western Anatolia could be considered.

The FMD situation in south America was given special attention. The Commission noted the efforts made by the governments in supporting FMD control programmes at national and regional level. However, the incidence of the disease continues to be a great constraint on trade for animals and meat from the region.

7. The Research Group held an open Session which was held in June 1990, in Denmark at the State Veterinary Institute for Virus Research, Lindholm. The Research Group dealt with the items referred to the Group by the Commission and with the items related to the FAO Joint Collaborative Study and research programme related to FMD virus and vaccine. A one-day closed Session was held which was attended only by members of the Group and representatives from OIE and EEC.

A comprehensive report of the two Sessions has been prepared and distributed to the relevant parties.

8. The revised recommendations under Item 8 are submitted for discussion and approval. The proposed amendments are, in principle, in agreement with the present EEC regulation.

9. The Commission participated in all relevant FAO activities through its Secretary whom FAO entrusted with responsibility for technical backstopping of programmes in the field of foot-and-mouth disease and vaccine production laboratories supported through UNDP/FAO and TCP projects dealing with regular programmes and 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 setting up of FMD laboratories in different parts of the world (Bulgaria, Turkey, Myanmar (Burma) India, Tunisia, Libya, Bangladesh, Vietnam) for which the Secretary acted as technical advisor.

In addition, the Secretary is responsible for organizing and conducting FAO Seminars and Training Courses on FMD. A Seminar on Emergency Action against FMD was held in Catania, Italy, in October 1990 to which participants from all Mediterranean countries were invited.

10. The Commission maintained close collaboration with OIE, EEC and through the Panaftosa Center with COSALFA Commission in South America and with other international organizations in matters related to FMD.

11. Missions carried out by the Secretary of the Commission since the Twenty-eighth Session of the Commission, May 1989.

(a) in relation to the Commission's activities (Cost met from Commission Trust Funds)

1989

- France, Paris	22-26 May, 57th General Session of OIE
- Italy, Pisa	3-4 October, International Symposium on Environmental Pollutors and Animal Population
- U.K., Pirbright	9-10 October, Meeting on Monoclonal Antibodies
- Brussels,Belgium	30-31 October, FAO/EEC/OIE FMD Group Meeting on buffer zone (Chairman and Secretary TF 9111-EEC)
- Paris, France	28 November-1 December, OIE FMD and other Infectious Epizootics Commission

1990

- Istanbul,Turkey	25 March - 1 April, - to conduct Fifty-second Session of Executive Committee
- Paris, France	13-20 May, 58th General Session of OIE
- Bucharest, Romania	27-30 May - to review FMD situation (Secretary and Chairman)
- Lindholm, Denmark	25-29 June - to conduct Session of Research Group
- Sofia/Sliven,Bulgaria	27 September - 5 October, 14th Conference of the OIE Regional Conference for Europe/backstopping FMD and other exotic diseases Center BUL/86/001 (Commission/Project)
- Brussels, Belgium	19-20 November, FAO/OIE/EEC FMD Group Meeting (Secretary and Chairman, TF 9111-EEC)

(b) in relation to FAO activities (cost met from Regular Programme or Project funds)

1989

- Tunisia	18-20 December, to assess FMD situation and advise on policy for its control
- Libya	20-22 December, FMD situation and policy for its control

1990

- Tunisia	28 January-1 February, to review FMD situation
- Italy (labs.)	6-8 February, advice to Veterinary Services Tunisia on FMDV produced in Italy
- Sassari, Sardegna	6-7 April, to discuss laboratory security
- Catania, Italy	13-20 October, FMD Seminar for Mediterranean countries (Secretary and Admin. Assistant)

---

12. The amendment to the Constitution of the Commission as adopted at the Twenty-eighth Session of the Commission, May 1989, was considered by the FAO Council at its Ninety-sixth Session (Rome, 6-10 November 1989) and was approved by Resolution 2/96. In accordance with Article XIV, para. 5, of the Constitution, this amendment which is an amendment not involving additional obligations for members of the Commission, took effect on the date of the decision of the Council, 10 November 1989. In conformity with this amendment, Israel submitted an application for membership to the Director-General of FAO which was accepted and became effective from 4 September 1990.

Following the geopolitical developments in Europe which resulted in the unification of the former Democratic Republic with the Federal Republic of Germany on 3 October 1990, GDR is now included among the Commission's members. Membership has now reached 28. It is hoped that Romania and USSR will consider joining the Commission as full members.

13. Sessions of the Executive Committee

(a) Fifty-second Session, Istanbul, Turkey, 27-30 March 1990.

The Committee, following discussion of the main agenda items, concluded and recommended:

a) that the overall FMD situation in Europe was satisfactory and it was hoped that the situation will be further consolidated in order to reach the stage where the whole of Europe can be declared a disease-free continent.

b) that the European Communities' trading partners would be affected by a non-vaccination policy and would have to consider bringing their own policies into line to ensure that trade continues under harmonized conditions.

c) that it might be necessary for countries in Europe outside the Community to set up vaccine banks; careful consideration would have to be given to the possibility that other countries could become members of any Community vaccine bank once a decision on vaccine cessation had been taken.

d) that the European Community policy on FMD which will influence the prophylaxis in Europe and its impact for the whole European continent should be one of the major agenda items for the Twenty-ninth Session of the Commission in 1991.

e) that vaccination in the present buffer zone in Thrace should discontinue forthwith and that a new buffer zone in the Marmara area, Western Anatolia, be designated and rules for its maintenance be established.

f) that samples representative of most of the provinces in Turkey should be sent to the WRL for characterization and that a serological survey to test the level of immunity in vaccinated animals in the new buffer zone should be carried out.

g) that the Commission is prepared to provide technical assistance if so requested, through its Secretary, to MINEADEP programmes provided costs are met by MINEADEP.

h) that the work of the Commission should continue along the lines agreed at the Twenty-eighth Session (1989).

i) that the Commission's activities cannot and should not be expanded at present; this will be considered in the light of new developments in Europe.

(b) Fifty-third Session, Stockholm, Sweden, 5-8 February 1990

The conclusions and recommendations of this Session are given hereunder:

- that the FMD situation continues to be satisfactory in the whole of Europe including the Thrace area.

- that the EEC policy to discontinue vaccination from 1992 is of great importance for the Eastern European countries and a representative of the EEC should be invited to be prepared for a discussion on this important issue at the Twenty-ninth Session of the Commission in April 1991.

- that efforts should be made to increase channels of communication between the USSR and Europe and to improve collaboration in disease information and control programmes.

- that the disease situation in general and not only in the case of FMD will deteriorate after the war in the Gulf countries and the Commission should be prepared to cope with this problem when it arises.

- that a serological survey in non-vaccinated animals in Thrace area (Turkish side) should be repeated in order to check the level of antibodies against FMD. A similar survey should be carried out in animals in the new buffer zone, Marmara area, with a view to assessing the efficacity of the Turkish vaccine used. A challenge test of the Turkish vaccine should be carried out by the World Reference Laboratory, Pirbright, in order to assess the potency of the vaccine used in the buffer zone.

- that countries should check their own national contingency plans for FMD control.

- The Committee stressed the necessity for non-EEC countries to reflect on several alternatives for access to vaccine banks in the future.

- Pending an agreement on setting up concentrated antigen vaccine banks, a two-year transitional arrangement for ready-to-use vaccine availability is advisable during this period. Approved European laboratories should be ready to produce vaccine in an emergency disease situation.

- that the Research Group should give priority to the following items:

a) emergency action to be taken including ring vaccination, in a non-vaccinating country following an outbreak of FMD,

b) stability of FMD vaccines prepared from stored concentrated antigen, and

c) security requirements for laboratories working with FMD virus and vaccine production plants.

- that a proposal for a 15% increase in contributions be submitted for consideration to and approval by the Twenty-ninth Session of the Commission, April 1991.

- that the following options be discussed at the Twenty-ninth Session of the Commission with regard to its future policy:

(i) to review the position of the Commission in the light of the disease situation and policy development in Europe, and assess the future of the Commission;

(ii) to expand its activities in Europe to include other infectious diseases, and

(iii) to expand its activities to areas beyond the European continent.

14. In reviewing the work of the Commission carried out during the biennium, the Executive Committee is pleased to state that the Commission has further demonstrated its efficiency in working with all member countries and with the international organizations concerned in the implementation of its activities.

There can be no doubt that the success of the FMD control and eradication programme in Europe is a direct reflection of the willing co-operation of all Commission member countries in applying the Commission's recommendations.

The Commission can derive considerable satisfaction from the results achieved which should serve as an example to other regions of the world of the benefits to disease control and eradication stemming from international collaboration.

Europe is now facing the challenge of consolidating the favourable disease situation so far achieved over the past 35 years, a situation which has cost Europe enormous effort and financial input.

This is all the more necessary now that Europe is working towards a non-frontier policy between the Community countries and which undoubtedly will influence the policies and trade system of the other European countries.

The Executive Committee wishes to express appreciation to the member countries and to their respective veterinary authorities, and to the FAO, the EEC and the OIE for their great support to the Commission and their collaboration in the implementation of its activities and the achievement of the objectives for which it was established.

Appendix 2

Present Foot-and-Mouth Disease Prophylaxis Policy in Czechoslovakia and its Future*

Summary

The present Czechoslovak Veterinary Service conception of farm animal foot-and-mouth disease protection is based on the assessment of real possibilities aiming at disease eradication and the real probability of rapid and effective disease outbreak elimination.

Besides a number of important external and domestic factors, it is necessary to take into account the fact that livestock production in Czechoslovakia is still based on large scale cattle and pig raising systems accompanied by the extraordinarily high animal concentration per stable unit.

The whole cattle population in Czechoslovakia is covered by immunization against A,O,C types of FMD. The primo-vaccination is performed at the age of 3-6 months, followed by revaccination after 3 months, with successive vaccinations always after 12 months.

In the pig population only breeding sows on farms with more than 300 animals are kept under immunization. Immunization of sows begins at the age of 7-8 months with revaccination at 6 month intervals. Cattle immunity against FMD reaches 85% of the whole cattle population, and 42% of all sows, including a corresponding number of piglets, are immune.

In view of the density of animal population on the farms immediate cessation of FMD vaccination in conformity with EC Directives does not seem to be feasible at present. The recommended stamping out method cannot be applied effectively. 75% of the cattle population is kept on farms with more than 100 animals and 36 farms (2.3%) keep more than 1000 animals. As regards pigs, 48% of sows are kept on farms with more than 300 animals and up to 20% of the sow population is kept on farms with more than 1000 animals. 68% of fattening pigs are kept on farms with more than 1000 animals and 42% on farms with more than 6000 animals.

Rendering plants and slaughter houses for stamping out are not fully reliable either. Only 15 rendering plants and 11 (out of 82) slaughterhouses have a waste water treatment station. 22 meat plants are without a waste water treatment station.

Bearing in mind the present fundamental and structural changes in agricultural production, the gradual reduction of FMD vaccination will not be possible until a certain number of smaller farms come into existence. In this case, the requirements concerning the stamping out method could be met and in addition it will be possible to meet the requirements concerning general epizootiological prevention and protection more easily. Thus it can be assumed that in the case of a favourable epizootiological situation it will be possible to reduce vaccination gradually in Czechoslovakia.

Taking into consideration the geographical location of the C.S.F.R. with its FMD-immune animal population, it can be concluded that this territory represents a real protection for central and western Europe against FMD virus penetration from eastern territories.

---

*Statement presented by Czech Delegation to Twenty-ninth Session

FMD immunity level in the cattle and pig population in the Czech Republic

Results obtained from cattle and pig population from territory of Czech Republic in 1989.

Cattle

The immunity frequency is interpreted by percentage of immune animals (RAb value, TRAb and TTRAb - are calculated from probability functions of FMD immunity in cattle from the level of specific antibodies). The results obtained from the cattle population in 1989 on the Czech territory, approximately 3 500 000 head indicated that approximately 85% of animals were protected. For the immunization of these animals cca 4 100 000 vaccine doses/year (TNA) are necessary. Vaccine costs are 13 150 000 Kcs/year, together with per head cost and cost for injections totalling 42 000 000 Kcs/year.

Pigs

In accordance with the immunization programme, approximately 48% of sows are vaccinated against FMD with protection level reaching 87% of vaccinated animals. The piglets from vaccinated mothers are protected during the first months by colostrum immunity. In total about 17% of all young pigs are protected against FMD.

Distribution of holding categories of cattle and pigs in Czech Republic

Only 25% of the cattle population in the Czech Republic is kept on holdings of less than 100 head, 62% are kept on holdings of 100 to 800 head and 13% are kept on large-scale holdings of 800 to 3800 head.

As regards cows, 21% of animals are kept on holdings with more than 400 head (436 holdings); of these, 36 holdings have 1000 to 2200 head.

30% of calves are kept on holdings with more than 800 head; in rearing of cattle 75% of animals are kept on holdings with more than 100 head and 13% of animals on holdings with 600 to 3799 head of heifers. In fattening establishments 18% of animals are kept on holdings with 600 to 2599 head.

Comparison with member states of EEC

Approximately 63% of all pigs in Czechoslovakia are kept on holdings of more than 1000 head. This is the highest in comparison with continental European states.

Control of FMD in Czechoslovakia

From the above-mentioned analysis of the livestock farming system in Czechoslovakia and a number of other factors already mentioned it can be concluded without doubt that in Czechoslovakia it is not possible to stop prophylactic FMD vaccination immediately, especially in cattle. It would not be possible to stop /contain effectively and safely FMD outbreaks in large-scale livestock holdings. Disinfection and disposal of materials would create major problems. Control of FMD outbreaks would always be connected with negative consequences in the agricultural sector.

At present it would be possible to connect structural changes (privatization) with reduction of herd size. This includes protective structural and functional measures, more effective animal movement control, milk, feed, manure and effluent inspection etc. These changes could lead to gradual limitation of prophylactic FMD vaccination in Czechoslovakia.

Appendix 3

FMD position in Europe during 1989-1990

During the period which has elapsed since the last Session of the Commission held in May 1989, the disease situation has been further consolidated in the European continent. Since 7 July 1989, when the last outbreaks were reported in Italy, Europe continues to remain disease free.

The FMD outbreaks reported in Italy which lasted from 8 March to 7 July 1989, were controlled and eradicated through the adoption of strict sanitary measures combined with total stamping out of all infected and in-contact animals on the infected premises. Total stamping out applied involved 156 431 pigs, 2 130 cattle and 565 sheep. Indemnities paid to owners (100% of the value of animals) amounted to Lit. 35 000 000 000 while other costs involved amounted to Lit. 15 000 000 000. In accordance with Article 2.11.2 of the OIE International Animal Health Code, Italy has been declared free from FMD since 26 January 1990.

Turkey Thrace area continues to remain disease-free since 1978. Investigation of probang samples carried out in 1989 showed no evidence of FMD virus circulating in Turkish Thrace. In Anatolia FMD continues to be endemic with a number of outbreaks of type O1 and A22 affecting almost the entire area of Anatolia. Serological investigation carried out at the World Reference Laboratory, Pirbright, on field virus type O1 strain has shown that O1 Manisa vaccine strain was not closely related to O1/1989 field strains while the O1/1990 field strains have been shown to be related to O1 Manisa vaccine strain. This antigenic variation of the O1 field strain needs to be further investigated in order to assess effectiveness of vaccination especially now that vaccination in the new buffer zone in Marmara area, western Anatolia, should be implemented entirely with vaccine produced at the Ankara Institute.

The antigenic relationship of the O1 Manisa vaccine strain and the O field strain in Anatolia has been the subject of an in-depth discussion at the Fifty-second Session of the Executive Committee held in March 1990 at the Research Group meeting held in June 1990, and at the FAO/OIE/EEC FMD Group meeting held in November 1990, and it was agreed and recommended that the World Reference Laboratory and the Turkish Veterinary authorities should prepare a programme including costings for a study in animals on the potency of the Turkish vaccine against the current O1 field strains in Anatolia. An amount of US$ 1 500 was allocated through the EEC Trust Fund for the campaigns to assist Turkey in sending samples representative of most of the provinces in Anatolia to the WRL for characterization.

In addition, the need to strengthen the vaccine production plant in Ankara in order to increase production and improve the quality of the vaccine was stressed as well as the need to strengthen field activities in FMD in collaboration with Pirbright Laboratory and other Institutes. At the FAO/OIE/EEC FMD group meeting held in Brussels 19/20 November 1990, it

was agreed and recommended that Pirbright should prepare the plans and costings for vaccine testing, the results to be submitted for discussion at the Fifty-third Session of the Executive Committee which will be held in Stockholm in February 1990.

The Turkish veterinary authorities were also requested to prepare project proposals involving an FMD control and eradication programme in Anatolia and strengthening of the vaccine production laboratory in Ankara. An FAO/OIE/EEC FMD Group meeting should be convened on the occasion of the Executive Committee meeting in Stockholm to discuss the proposed project.

Israel Seven sporadic outbreaks of FMD type 01 and ASIA-1 were recorded in 1989 and 1990. Of these three outbreaks were recorded in the controlled territories. The outbreaks involved 10 month old calves which had been vaccinated twice at the age of 2-3 and 5-6 months with an imported trivalent vaccine. The virus isolated was typed as being similar to O Dalton virus strain. In the outbreaks recorded in small ruminants (sheep and goats) in the controlled territories mortality in young lambs reached 30% of the animals in the affected flocks.

An isolated outbreak of ASIA-1 type was recorded on a cattle farm in June 1989 located near to the frontiers with Syria. The origin of the outbreak remains unknown.

The spread of the disease was prevented by strict quarantine measures including slaughter of in-contact animals and ring vaccination. Detailed information is expected to be provided by the delegation of Israel to the Twenty-ninth Session of the Commission in April 1991.

In USSR information on the FMD situation indicated 8 outbreaks of A22 and 3 outbreaks of type 01 for 1989 while for 1990, the outbreaks reported were 4 of A22 type, one of type 01, and one of C type. All outbreaks were reported in central and southeastern provinces. The policy applied was stamping out of diseased animals, and ring vaccination at inter-regional and international levels.

Table 1 shows the number of outbreaks of FMD and virus types recorded in Commission member countries and in the USSR during 1989 and 1990.

FMD position in Europe 1989–1990 *

(By country, number of outbreaks and virus type)

COUNTRIES	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
ITALY													
1989	—	—	2 C1	6 C1	37 C	27 C1	1 C1	—	—	—	—	—	73 C1
1990	—	—	—	—	—	—	—	—	—	—	—	—	—
TURKEY													
Anatolia													
1989	14 A22/01	12 01	15 01	19 01	17 A22/01	15 A22/01	17 A22/01	12 A22/01	11 A22/01	7 A22/01	4 A22/01	4 A22/01	147 A22/01
1990	5 01	6 01	14 A22/01	12 A22/01	29 A22/01	65 A22/01	89 A22/01	109 01	64 01	79 A22/01	34 A22/01	36 01	542 A22/01
ISRAEL													
1989	—	—	—	1 01	—	1 ASIA-1	—	—	—	—	—	1 01	3 ASIA-1/01
1990	—	—	—	1 01	3 01								4 01
USSR*													
1989	3 A22	2 A22	2 A22	—	1 01	—	—	—	1 A22	—	1 01	1 01	11 A22/01
1990	3 A22	1 C	1 A22	—	—	—	1 01	—	—	—	—	—	6 A22/C/01
REMAINDER OF EUROPEAN COUNTRIES DISEASE FREE													

* Information provided by OIE, WRL
* Southeastern provinces A22/01.
— No outbreaks

Appendix 4

Foot-and-mouth disease position in the USSR*

The disease situation in the USSR has improved considerably in the last few years. A total of eighty-nine FMD outbreaks were recorded in the country during the period 1980-1990 (viz. nineteen outbreaks in 1980, ten in 1981, nine in 1982, fourteen in 1983, six in 1984, three in 1985, four in 1986, three in 1987, four in 1988, eleven in 1989, and six in 1990). Of these outbreaks 55 (61.8%) cases were of virus type O1, 31 (34.8%) of type A22, and 3 (3.4%) cases of type C1.

The evolution of the disease was characterized not only by sporadic outbreaks in geographically remote areas (the Republics of Transcaucasus, Middle Asia and Kazakhstan), but also by low morbidity. The origin of the infection may be attributed to virus introduced from the affected territories of some border countries because the initial foci occurred mainly in the border areas. Furthermore there is a possibility of virus persistence among sheep and wild animals in the areas of grazing husbandry. In a number of cases, FMD virus could have been brought to the unaffected areas through meat and plant by-products.

All outbreaks were promptly diagnosed by complement fixation, neutralization, indirect immunofluorescence and enzyme-linked immunosorbent assay tests. Strict quarantine measures were imposed on affected farms and the restrictions adequate to the case were implemented in the neighbouring area.

If FMD occurs in the areas where systematic vaccination is not practised, all affected animals are destroyed and contact animals on the farm are slaughtered after confirmation of disease.

If FMD appears in the areas where systematic vaccination is carried out, all affected animals are destroyed and contact animals on the farm are obligatorily slaughtered immediately or following removal of quarantine.

In conformity with the "Guidelines for foot-and-mouth disease preventive, control and eradication measures (1985)" quarantine is removed 21 days after completion of slaughter of affected animals and other procedures. Farm restrictions are served for 3 to 12 months. Thus, the initial foci of infection are brought under control to prevent its rapid spread. Nowadays the country is free from FMD.

In order to stabilize this situation and to ensure constant disease freedom in such a vast country with such a long land frontier (including that with the States where FMD occurs in enzootic form) a special system of sanitary measures has been developed which is based on the national and world experience of FMD control as well as on the achievements of science and practice in the USSR. It is implemented at zonal level with regard to area locations, regional features of animal husbandry and manifestation of epizootic process.

It should be noted that special attention to the system of sanitary measures is given to preventive vaccination of farm animals. It is carried out in the areas of permanent threat as well as in the areas at

---

*Statement presented by the observers from USSR

high and partly middle risks of FMD appearance and distribution (the Republics of Middle Asia, Transcaucasus, southern regions of Kazakhstan, North Caucasus and Povolzhje in RSFSR, south-western regions of Ukrainian SSR and the border areas of the country). From about 103 to 158 million cattle, 46 to 76 million sheep and 1.3 to 3.4 million pigs were vaccinated from 1986 to 1990.

It is planned to discontinue vaccination against FMD in the regions adherent to the western borders of the USSR.

In conformity with the vaccination schemes in the country all adult cattle are vaccinated twice a year (in spring and in autumn), young animals (from the age of 4 months up to the age of 18 months) are vaccinated every quarter, sheep - twice a year in the areas of grazing animal husbandry, and swine only if there is a threat of introducing the infection on the farm.

Inactivated mono-, bi-, trivalent sorbat vaccines made from both lapinized and cultural FMD viruses (by Frenkel and in BHK-21 cells) are produced in sufficient quantities by bio-factories in the USSR. Formalin and aziridin derivatives are used as inactivants. As to the vaccine cost, monovalent is 9, bivalent 18, and trivalent 27 copecks per dose. Foot-and-mouth disease monovalent oil adjuvant vaccines for immunization of pigs is also produced.

As far as the occurrence of foot-and-mouth disease Asia 1 in Pakistan and Iran is concerned sufficient quantities of this virus type vaccine could be produced at our biofactories for the countries mentioned above and for keeping in reserve in the case of further aggravation of the epizootic situation.

It is reasonable to create reserves of FMD vaccine in connection with the proposed cessation of FMD vaccination in Europe. The USSR is ready to participate in the creation of such reserves.

The country's main task and efforts, considering the favourable disease situation so far achieved and the need to reduce the cost of sanitary measures applied, should be concentrated on the optimization of systematic vaccination areas and gradual decrease in vaccination coverage depending on the epizootic situation and regional features of animal husbandry in the border zones provided that new and improved vaccines are used.

At present a new generation of universal foot-and-mouth disease vaccines of high activity developed by the Institute's research workers is being applied. These vaccines confer early protection (in 1 to 5 days after inoculation) and lasting immunity (more than a year). Hence it became possible to suggest a new and more economic system of measures against foot-and-mouth disease which provides an opportunity to discontinue vaccination in a great part of the country and to keep sufficient reserves of the universal vaccines ready for use in the case of an emergency FMD outbreak as well as dried vaccines of long validity (up to 10 years).

The USSR facing the experience gained and the changes in tactics and strategies of foot-and-mouth disease control in the whole European continent would supply some diagnostics and new technologies for preparing universal vaccines of various virus types as well as dried vaccines of long validity (up to 10 years) which would be especially helpful for strategic reserves and for development of disease control programmes.

Appendix 5

FMD prophylaxis in Europe

Prophylaxis programme 1989-1990

The FMD vaccination programme in 1989 was continued in those countries where disease prophylaxis was complemented with annual vaccination. With the exception of Italy where FMD outbreaks occurred from March to July 1989, and mass vaccination together with ring vaccination was applied in the affected provinces, a general vaccination programme was carried out in Belgium, France, the Federal Republic of Germany, Luxembourg, the Netherlands, Portugal, Spain, Switzerland, Czechoslovakia and Turkey. Mass vaccination was also carried out in the former German Democratic Republic, in Israel and in the USSR.

An area vaccination programme was carried out in Austria, Bulgaria, Greece, Hungary and Romania. In Bulgaria and Greece, vaccination was limited to the buffer zone area with 01/A22 bivalent vaccine provided through FAO in March 1989. This was the last vaccination in this buffer zone which was established in 1962 and was continued until 1989 when following a decision of the FAO/OIE/EEC FMD Group (October 1989) approved by the Executive Committee of the EUFMD at its Fifty-second Session held in Istanbul in March 1990, the buffer zone was relocated in Marmara area, western Anatolia.

In Turkey, the FMD prophylactic and control programme has been extended in Anatolia with 01/A22 bivalent vaccine produced at the Ankara Institute.

In the remaining countries in Europe, vaccination has been discontinued. Details on FMD, FMD prophylactic schemes and type of vaccine used by countries in Europe for 1989 and 1990 are given in Table 1.

TABLE I

FMD PROPHYLAXIS IN EUROPE DURING 1989/1990

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Albania	No vaccination				
Austria	Cattle, sheep, goats 1989 Cattle: 98 845 Sheep/goats 7 792 1990 Cattle: 80 000 Sheep/goats: 7 700	A. Spring B. Animals for export as required Same policy as for 1989	Animals over 6 weeks to be sent to mountain pastures in neighbouring countries (FRG, Italy and Switzerland)	Trivalent OAC cattle 5 ml Sheep 2 ml (1) Animals for export vaccine charge 16.5 A.S.	Lower fiducial limit = 3 PD50 (P=0,95)
Belgium	All cattle above three months of age. The maximal interval between 2 consecutive vaccinations is 13 months. 1989 Cattle:+/- 2 200 100 1990	From 1 Dec. to to 31 March Same policy as for 1989	the entire country since 1962	Triv. ($O_1/A_5/C1$) cattle: 5 cc 25 B. Fr. (2) Frenkel vaccine (sheep not vaccinated)	At least 6 cattle PD_{50} the challenge being 10 000 ID_{50} intradermolingually.

Note: (1) vaccine and vaccination free of charge to owner
(2) provided by owners

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 1989 Cattle: 138 142 1990 No vaccination	Spring March/April	30 Km buffer zone along frontiers with Turkey covering part of the communes of Achtopol, Malko, Tarnovo, Grudovo, Boliarovo, Elkhovo, Topolovgrad, Svilengrad, Liubimetz.	Bivalent O1/A22 provided through FAO.	European Pharmacopoeia standards. Results satisfactory
Cyprus	No vaccination since 1985				
Czechoslovakia	A. All cattle above 3 months Adult sheep, goats and sows 1989 Cattle: 3 800 000 Sheep: 180 000 Pigs : 1 000 000 Goats: 2 000 1990	During the whole year Same policy	The entire country	Trivalent OAC Trivalent OAC	Five cattle per type are challenged by rubbing a virus suspension on the tongue. One generalization tolerated. Produced at the FMD laboratory, Terezin

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Denmark	Total prohibition of vaccination as of 1 January 1977				
Finland	No vaccination				
France	A. All cattle above 4 months B. A number of sheep/ goats above 3 months 1989 Cattle: 18 127 160 Sheep/goats: 678 709 1990	All year round Before transhumance Same policy as for 1989	A. The entire country B. The frontier departments of the Pyrennees	Trivalent OAC (1) (A Allier 1960 O Lausanne 1965 C Vosges 1960) Combined or not with inactivated fixed rabies virus Cattle 5 cc Sheep 2 cc	Principle: 85% 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 used in France controlled by the L.N.P.B. Lyons
Germany, Federal Rebublic of	All cattle above 4 months 1989 Cattle: 13 000 000 1990 Cattle: 13 000 000	Late in winter before going to pasture Same policy	The entire country since 1965	Trivalent OAC ($0_1/A_5/C$) Dose: 5 cc Cost: DM 3.- (2)	Three cattle per type are challenged by rubbing a virus suspension on the tongue. No generalization admitted.

Note: (1) associated or not with inactivated fixed rabies virus
(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
Greece	Cattle above 3 months of age 1989 Cattle: 9 166 1990	Spring campaigns March/April no vaccination	Frontier areas in Greek Thrace Buffer zone areas (84/548 EEC)	Bivalent 01/A22 provided through FAO	European Pharmacopoeia standards. Results satisfactory Vaccine production in FMD Lab. Athens. Conventional European strains. Stock reserve.
Hungary	Cattle above 3 months of age Pigs 1989 Cattle: 493 934 Pigs: 263 243 1990	Two programmes Spring and Autumn No vaccination	Border areas	Trivalent OAC (1) Cattle dose: 5cc - 20 Ft	
Iceland	No vaccintaion				
Ireland	No vaccination				

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

VACCINATION PROGRAMMES				VACCINES	
Country	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Israel	Cattle, sheep, goats, pigs and camels 1989 cattle: 475 000 (13 600) sheep: 495 000 (261 000) goats: 55 000 (154 000) pigs: 2 131 camels: 314 (286) 1990 same policy	November-February All young cattle, 2 to 18 months re-vaccinated in May-June	Israel and controlled territories	Trivalent vaccine imported Cost more than US$ 600 000 annually	
Italy	A. All cattle above 3 months -Cattle not previously vaccinated which have attained 3 months -Cattle vaccinated for first time are vaccinated again within 3 to 6 weeks after first vaccination. B.Compulsory vaccination of all imported cattle over 3 months	A. From 01.04 to 31.05.89 & from: 01.10 to 30.11.89 From 01.06 to 30.08.89 & from 01.12.89 to 28.02.90	The entire country	Trivalent OAC ($O_1/A_5/C$) (1) A_5 Parma/62 O1 Swiss 65 C1 Brescia/64 5cc Lit.700+IVA	8 PD_{50} measured on cattle (3 groups of 5 cattle per valence - dilution 1:1; 1:4; 1:16 in buffer) - primary inactivant + formal - government official control for vaccine

VACCINATION PROGRAMMES				VACCINES	
Country	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Italy (cont.)	C.Sheep & goats over 3 months prior to transhumance.Under special licence from Min.Health.Vaccination of sheep/goats over 3 months when necessary for prophylactic purposes.	From 01.04 to 30.05.89			
	D.All pigs in surveillance/protected areas Vaccination of pigs over 45 days of age.	From 01.01 to 31.07.89		Monovalent in oil adjuvant C1	Potency test in lab. animals. Safety test: dose 2 ml.
	Revaccination of sows after 3 months from the first vaccination.	From 01.05 to 30.06.89	3 provinces Modena, Parma, Reggio Emilia	Lit/dose 700+IVA 1989	pigs
	1989 Cattle: 16 400 000 Sheep: 1 800 000 Pigs: 1 300 000	- Emergency vaccination during outbreaks. (Cattle present in areas of surveillance and protection vaccinated more than once)			
	1990 Cattle: 16 400 000	Spring and autumn	1 October to 30 November	01,A5,C1 trivalent vaccine	
Luxembourg	All cattle above three months of age 1989 Cattle: 181 000	From 1 Dec. to 31 January.	the entire country since 1966	Trivalent OAC ($O_1/A_5/C1$) Cattle 5 cc	More than 7 cattle PD_{50} challenge being 10 000 ID_{50} intradermolingually.
	1990 Cattle: 181 700	Same policy		Price 14.6 Frs. Lux/dose (1) Vaccination cost: Cattle 25 F.L. (15 owner/Gov.10)	

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

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Malta	Cattle, sheep and goats. 1989 Cattle: Sheep: Goats: 1990	December/January Spring No vaccination	entire country since 1978/79	OAC vaccine (Italy)	8 PD_{50} measured on cattle (3 groups of 5 cattle per valence - dilution 1:1: 1:4: 1:16 in buffer)
Netherlands	Compulsory annual OAC vaccination of all cattle above four months of age. 1989 Cattle: 3 640 000 1990	From 1st Dec. to 1st March Same policy	The entire country since 1953	Triv. $O_1/A_{10}/C$ (Frenkel) Vaccine plus injections: D. Fl. 5.5 (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 Average results of state control: between 6 and 10 cattle PD50

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Norway	No vaccination				
Poland	No vaccination				
Portugal	Cattle: compulsory vaccination above 3 months Sheep/Goats: not compulsory Pigs: compulsory for animals in trans-humance 1989 Cattle: 981 896 Pigs: 57 453 Sheep/goats: 640 1990	Once a year, when necessary twice a year Same policy	The entire country	Trivalent OAC Average 30 escudo per dose for cattle and 32 escudo for pigs (1)	More than 3 PD_{50} per cattle dose

Note: (1) vaccine and vaccination costs borne by owner 50%

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Spain	Cattle, sheep, goats and pigs over 3 months 1989 Cattle: 2 500 666 Sh./goats 7 720 000 Pigs: 2 561 250 1990	During the whole year. Same policy	The entire country sheep and goats	Trivalent OAC 5cc 50 Pts. per dose Pigs 58 Pts.(1)	Potency testing based on PD_{50} determination in cattle Results: very successful in pigs
Sweden	No vaccination				
Switzerland	All cattle born before 1 Jan. 1989 Cattle: 1 562 000 Sheep: 1 000 Pigs: 3 000 1990	From 15 Feb. to 15 May Compulsory annual vaccination of all cattle born before January Same policy	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

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
Turkey	Cattle, buffaloes, sheep and goats above 4 months of age	March/April in buffer zones ring vaccination all year round.	A. Turkish Thrace including Istanbul and Celibolu		9 cattle per batch (3 cattle per type are challenged intradermo-lingually; 6 controls). Good results
	Cattle Sheep	every six months once a year	Thrace Thrace	Bivalent: 400 TL A22-01	
	Cattle Sheep	every six months once a year	In the Marmara region and in all of the eastern and south-eastern provinces of Turkey.		
	Cattle	once a year	In the other provinces		
	Cattle-sheep	ring vaccination	Around the foci		
	1989 Cattle: 6 681 340 Sheep: 13 026 820 1990				
	A. Turkish Thrace - no vaccination B. Anatolia - new buffer zone Marmara area, cattle twice a year, sheep once a year in the other provinces and ring vaccination around the foci Cattle: 8 445 164 Sheep: 12 810 150				

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
United Kingdom	vaccination not permitted				
Yugoslavia	Cattle for export above 7 months 1989 Cattle: 230 920	Vaccination discontinued except of live animals for export at the request of the importing country		Trivalent OAC 5 ml doses	

NON-MEMBER COUNTRIES OF THE EUFMD

Former Democratic Republic of Germany	All cattle above 5 months 1989 Cattle: 5 800 000	From 1 Oct. to 31 Dec.	The entire country since 1950	Trivalent OAC Dose 5 ml	

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated	Period of vaccination	Territory covered by vaccination	Valencies Cattle dose/cost	Potency required and results
Romania	Cattle, sheep and goats 1989 Cattle: 1 087 500 Sheep: 714 400 1990	Twice a year (6 months interval); young cattle are revaccinated after 15-21 days Same policy	Frontier districts in the West. Frontier areas in the South and Southeast. Around sea and river ports and international airports	Trivalent vaccines produced against O_1, C, A_5. Cost per dose 13.54 lei.	The ordinary monovalent dose must contain 8 cattle PD_{50}. Current potency 18 PD_{50}/dose
U.S.S.R.	Cattle above 4 months Sheep and goats above 1 month, pigs above 2 months 1989 Cattle: 120 416 300 Sheep: 48 357 400 Pigs: 1 486 300 1990 Same policy	Spring and Autumn	Republic of Transcaucasus Kazakhstan, Middle Asia with bordering regions of RSFSR and Ukraine SSR and in the border regions of the country	Mainly monovalent and trivalent vaccines. Cattle dose: 5 cc monovalent: 9 Kopecks trivalent 27 Kopecks Aziridin-Formalin	
	Compulsory slaughter is performed if foot-and-mouth disease occurs for the first time in a district previously free from the disease. The carcasses are destroyed. The products obtained from the animals, slaughtered within 3 months after recovery are used with restrictions. These restrictions are also applied to the animals having been exposed to contact within 3 months prior to slaughter. The number of the animals slaughtered under these provisions is not registered.				

Appendix 6

FMD Prophylaxis in Europe

Assessment of present/future prophylaxis policy in Europe

The role played by annual vaccination campaigns in reducing FMD incidence in Europe has been recognized in all Commission meetings. The conclusions reached and recommendations made are given in the Reports of Sessions of the Commission. The value of vaccination cannot be over-emphasized. However, there is a risk that countries may consider that the present favourable disease situation represents a final result and consequently may neglect the need to continue vigilance against the disease.

In trying to evaluate the degree of protection conferred by the present vaccination programme in Europe, the Commission should consider the following points:

a) countries in the northern part of Europe, including Ireland and the United Kingdom, all countries in eastern and southeastern Europe, with the exception of Czechoslovakia, are totally unprotected by vaccination and in the case of an emergency most of them would have to depend on foreign supplies of vaccine;

b) in the vaccinating countries, the entire pig population and large numbers of small ruminants are not in the vaccination scheme;

c) among the vaccinated populations a large percentge of cattle (young cattle, feedlot animals etc) is insufficiently protected to withstand infection; only plurivaccinated animals being expected to show good level of immunity the whole year round; and

d) eastern and southeastern Europe, from a protection point of view, is open to those infections permanently affecting the Near East and Anatolia (Turkey) and possibly the USSR.

Looking at Europe as a whole, and the percentage of animals covered by regular annual vaccination, it is evident that for the favourable disease situation so far established, the determining factor for the eradication of the disease should not be attributed only to the vaccination but mainly to the strengthening of the national veterinary services and to the prompt and effective application of sanitary measures adequate to the case.

In addition, the strict importation of animals and animal products only from non-infected countries has further contributed to improving the disease situation in Europe. These factors contributed to decreasing considerably the disease incidence in Europe. Based on this, the Commission has evaluated the possibility of discontinuing the vaccination policy for foot-and-mouth disease.

The results of a cost benefit study on vaccination policy carried out by all member countries, with few exceptions, have clearly demonstrated that cost-profit was not in favour of vaccination policy. The stamping out policy combined with strict application of the sanitary measures and

the establishment of a vaccine reserve for use in case of an emergency was demonstrated to be the most effective policy for the control and eradication of isolated outbreaks in an FMD-free country. In case that the stamping-out policy should not succeed in controlling the disease then the use of vaccine should be considered and vaccination should be evaluated taking into account the economic consequences resulting from trade impediment and other related economic losses.

Independently of the type of strategy which would be chosen (vaccination or non-vaccination), the risk of infection in all countries in Europe will be continued and correlated to various factors represented by

a) possible introduction of FMD virus from countries bordering Europe where the disease is present,

b) escape of virus from vaccine production and control units, and

c) use of vaccine not properly inactivated. These factors should be taken into account by all countries in the preparation of their national contingency plans.

From the epidemiological point of view, the problem of FMD is extremely complicated since in a great number of countries there are laboratories working with FMD virus diagnosis or industrial vaccine production.

In addition, within the countries of the European continent, trade in animals and animal products, as well as movement of persons and means are of great intensity. In such circumstances, it would appear to be difficult if not impossible, to trace the origin of infection. This problem will be more difficult when the free market policy adopted by the European Community is in force from 1 January 1993.

The basic norms concerning the control of FMD stipulated in EEC Directive 85/511 as amended by the Directive 90/423 of 26.6.1990 adopted by the Council of Ministers of Agriculture, confirm the EEC policy on FMD after 1992 when vaccination against FMD will be discontinued in EEC countries in which susceptible animals represent more than 80% of the total livestock population in Europe.

Looking at Europe as a whole, it is necessary to consider the present geopolitical developments and to assess what the implications of such changes might be in both EEC and non-EEC countries. The Executive Committee of the EUFMD at its Fifty-second Session held in Istanbul, Turkey, in March 1990, gave careful consideration to the situation that would arise from the Community decision to ban routine prophylactic vaccination against FMD. The Committee concluded that the Community's trading partners would be affected by a non-vaccination policy and would have to consider bringing their own policies into line to ensure that trade continued under harmonized sanitary conditions.

The Committee also considered that it might be necessary for countries in Europe to set up vaccine banks or to evaluate the possibility to have access to a vaccine bank if an emergency arose.

At present it is difficult to foresee the results of the FMD control policy which will be applied after 1992 in the Community countries and consequently in the whole of Europe. Certainly during the initial phase of this policy, the number of problems which will arise should find a rapid

solution. It is essential that countries should be ready to take immediately all necessary action adequate to the case including logistic support for its proper implementation.

In conclusion, it is clear that Community countries cannot be considered protected from FMD as well as from other infectious diseases if the neighbouring countries do not have the same level of sanitary protection as that provided to the EEC countries since these countries are geographically located in the front line and consequently act as a buffer zone for the rest of Europe. Therefore the possibility of creating strategic FMD control zones in European borders should be considered.

After almost forty years of combating FMD in Europe and thanks to the joint efforts of all countries individually and through the FAO European Commission for the Control of FMD, it has been possible to achieve the present favourable disease situation. Europe is now facing a new era of disease freedom and the most difficult task to be faced is to maintain this freedom and make it irreversible.

National Contingency Plans

An aide memoire of recommended control procedures for FMD in non-vaccinating and vaccinating countries, including laboratory aspects of contingency plans, guidelines for total or partial stamping out of FMD, and disposal methods, was discussed at the Twenty-eighth Session of the Commission in May 1989 and at the Fifty-second Session of the Executive Committee in March 1990. Comments received from a number of member countries have been incorporated in the text. The recommended control procedures for FMD have been applied for the implementation of the FAO Seminar for Mediterranean countries on emergency action against FMD outbreaks which was held in Catania, Italy, from 15 to 19 October 1990. From the results of the Seminar it was demonstrated that the Contingency Plans established by the European Commission for the Control of FMD are a good basis for consideration by national governments. They should be adapted according to their own situation and updated according to developments in the zoo-sanitary situation of the particular country and their neighbours, and the plans should be harmonized by countries in the same region, and integrated with financial and political factors.

Appendix 7

FMD prophylaxis in Europe

Position of FMD vaccine production plants

In a number of FMD outbreaks reported in Europe over the last twenty years the responsible virus has been identified as being closely related to the vaccine virus strain. This indicates that in all primary outbreaks the isolates were suspected to be connected with vaccination or with vaccine production plants, although this connection has not been definitely confirmed.

In the last twenty years more than fifteen primary outbreaks were attributed to virus escape from FMD laboratories or to inadequate inactivation. It has not been possible to verify the way through which the virus escape took place but the location of the outbreaks in the vicinity of the laboratory reinforces this hypothesis. Furthermore, the development and application of the molecular virology techniques used for the comparative analysis of FMD virus genome permitted establishing inequivocally that vaccine strains were the origin of the outbreaks on farms located in the vicinity of the vaccine production plants. In addition, the analysis of virus isolated from outbreaks appeared after a vaccination campaign had put in evidence their similarity with vaccine virus strains.

These results demonstrate that most of the recent primary FMD outbreaks reported in Europe have originated from the affected country. This interconnection between vaccination, vaccine production plants and the appearance of FMD outbreaks in unexpected areas can now be better investigated and the origin of the disease traced.

In Europe there are 25 FMD laboratories in operation where FMD virus is manipulated for diagnostic purposes and for vaccine production using different methods of virus inactivation. In most of these laboratories security standards probably do not meet the basic requirements for FMD laboratories as recommended in the FAO guidelines on minimum standards. The results of a pilot survey carried out by the Commission to review the application of security standards in FMD laboratories has revealed some deficiencies.The necessity to keep an FMD laboratory operating should be examined by the country concerned taking into account the potential risk which it represents and the cost/benefit deriving from keeping such a laboratory in operation.

In view of the favourable disease situation so far established in Europe, and the EEC policy to discontinue vaccination from 1992, the position of the FMD laboratories needs to be examined as far as their utility is concerned and a decision should be taken as to which of these laboratories will be permitted to continue manipulating FMD virus for diagnosis or vaccine production. Such laboratories must work in compliance with strict security requirements. In the light of the FMD changing situation in Europe, the minimum standards for laboratories working with FMD *in vivo* and *in vitro* should be reviewed.

FMD laboratories manipulating virus for diagnosis or vaccine production in Europe

Country	Establishments	
	Public	Private
Austria	Vienna	-
Belgium	+ Uccle	-
Bulgaria*	+ Sliven	-
Czechoslovakia	+ Terezin	-
Denmark*	+ Lindholm	-
France	LCRV Alfort	+Rhône-Mérieux
	LNPB Lyon	-
Germany	Tübingen	+ Coopers
	Riems	+ Behringwerke
	-	+ Bayer
Greece*	+ Athens	-
Hungary**	? Budapest	-
Ireland*	-	-
Italy	+ Brescia	-
	+ Padua	-
	+ Perugia	-
Netherlands	+ Lelystad	-
Portugal	-	-
Romania	+ Bucharest	-
Spain	Madrid	+ Coopers
	-	+ Hipra
	-	+ Sabrino
Switzerland	Basel	
United Kingdom*	Pirbright	+ Pitman Moore

---

* No vaccination
** Vaccination discontinued from 1990
\+ Vaccine production plant

Appendix 8

FMD Prophylaxis in Europe

Vaccine banks for Europe

1. Introduction

Despite the remarkable progress made in achieving and maintaining disease freedom in Europe, the risk for any country to face an emergency FMD outbreak has not lessened. The FMD situation in the areas surrounding Europe where the disease is present in edemic or sporadic form with types of virus exotic to Europe is an indication of the potential risk persisting for European livestock from virus invasion from these areas.

In addition, incapacity of the field veterinary services in many countries to control the movement of large animal populations, the pressure of economic interests ranging from livestock exchange to the market of vaccines, the reluctance to notify the disease often resulting from fear of drastic reactions from importers and last but not least, the masking effect of improper vaccination or natural infection on the development of the clinical symptoms of the disease, all contribute to making public opinion either ignore or under-estimate the dangers deriving from the spread of virus in large areas of the world.

The disease has in fact remained overt or latent in three continents, and the possibilities for the virus to spread from infected countries has even increased especially from those areas which directly threaten the European continent.

Such spread could take place easily enough in the natural way facilitated by the steadily increasing movement of animals, livestock products and persons. The artificial spread of disease is not to be neglected either; on the contrary, what in the past could have simply been taken as an absurd or extravagant conjecture is today to be considered as probable.

In a Europe, where the total livestock population will be unprotected following the application of a non-vaccination policy after 1992, introduction of the disease could lead to a true explosion of epizootics which would make control extremely difficult and vaccination indispensable even in countries with a proven capacity in organizing eradication campaigns. In addition, it should be recognized that not all countries in Europe are well prepared to meet emergency situations with great probability of success and it is obvious that if such a situation arises it will compromise the whole prophylactic system in Europe and consequently will affect the inter-European and international trade in animals and animal products.

From the above it becomes evident that in Europe in order to be able to maintain disease freedom without vaccination it is essential that

-(a) FMD prevention and control policy should be strengthened in individual countries and at a regional level

-(b) preparedness to cope with an emergency outbreak should be checked periodically and should include training of young veterinarians in clinical diagnosis of the disease

-(c) a task force and the necessary logistic support should be ready at any time to cope with an emergency before laboratory confirmation of the disease

-(d) a strategic reserve of vaccine should be available for immediate use if deemed necessary.

2. Vaccine bank (proposals)

In view of the fact that vaccination against FMD will be discontinued in the Community countries from January 1992, that the remaining non-EEC countries which still vaccinate will align their vaccination policy with that of the EEC, and that when vaccination is discontinued all vaccinated animals after almost a year will result unprotected against any FMD virus, the establishment of strategic reserves of vaccines of conventional European FMD virus types and some of non-European types should be studied and organized in order that such reserves become operational in the shortest time possible.

The objective of the vaccine reserves (bank) is to provide an emergency facility for those countries which want to be prepared for the remote eventuality of having to vaccinate in case of an outbreak. The establishment of a vaccine reserve should not imply any change in control policies; preventive and stamping out measures should be maintained unaffected in all countries in Europe and vaccination must be considered only as an adjunct to the stamping out policy.

At the Twenty-fourth Session of the European Commission held in Rome in 1981, it was agreed that arrangements should be made to set up a bank of conventional (non-exotic) vaccines to be available to subscribing countries currently free of FMD and not practising routine vaccination.

Operation of the bank would be under the control of a Technical Advisory Committee on which the International Organizations (FAO/OIE/EEC) involved in FMD control would be represented. The Committee would make decisions regarding all technical details for the conduct of the bank and selection of appropriate virus types and strains for the vaccine. Since then strategic vaccine reserves have been established by groups of countries in Europe and an international vaccine bank has been established in U.K. based on concentrated inactivated antigens of European and non-European virus types which constitute a possible threat for Europe (i.e. Near East and South American strains).

Following the decision adopted by EEC on FMD control in Europe, the question of setting up a vaccine bank of concentrated inactivated antigen for use as an emergency reserve in the Community arises. At the same time a list of vaccine production laboratories would be established. These producers would be allowed to continue production subject to Community inspection and confirmation that they complied with FAO minimum security standards.

The matter was discussed at the Fifty-second Session of the Executive Committee held in Istanbul in March 1990, and it was concluded that as far as vaccine banks were concerned, the Committee considered that it might be necessary for non-EEC countries in Europe to set up their own vaccine banks. However, careful consideration would have to be given to the possibility that other countries could become members of any Community vaccine bank.

From the foregoing it has become evident that in connection with the establishment of a vaccine bank or banks it is essential that the position and needs of the non-EEC countries should be taken into account and there should

be the guarantee that for emergency cases they can become members of the Community vaccine bank and they can continue to import ready to use vaccine from producers in Europe authorized by the Community.

Proposals for the banks

As a guiding concept for the banks it should be considered that the vaccine is primarily intended for disease-free countries and a fully susceptible animal population and when, in case of an emergency, a total stamping-out policy is applied.

Form of vaccine or antigen to be stored

a) Finishing vaccine in bottles packed for immediate delivery (ready for immediate use).

b) Concentrated and tested vaccine in containers. Bottling and delivery within one week or more if retesting is requested.

c) Concentrated inactivated antigen to be reconstituted into vaccine; modalities concerning storage and testing have been prepared.

For all forms of vaccine storage testing procedures should be meticulously established, rigorously applied and controlled in conformity with the European Pharmacopoeia standards and any additional control requested by the responsible Technical Committee.

For a transitional period of at least two years fluid vaccine ready for use to be kept in the bank as mentioned in point (a) above is advisable, since the stability of stored concentrated and frozen FMD virus antigen and stability of vaccines prepared from such antigen has to be further investigated (see Research Group conclusions reported under Item 7).

The need for including virus strains other than the conventional European ones (i.e. O1, A5, C1) in the vaccine bank should be also considered based on an assessment of the risk which areas bordering with Europe or connected with the European continent through meat trade represent.

The Way Forward

The Fifty-third Session of the Executive Committee held in Stockholm in February 1991, concluded that the question of vaccine banks in Europe should be discussed by the Twenty-ninth Session of the Commission in Rome in April and member countries should be invited to consider the following options:-

a) establishment of a vaccine bank for non-EC member countries

b) membership of the EC's antigen bank when this becomes established, and

c) membership of an existing international antigen bank

bearing in mind that 15 members of the European Commission are or will be members of a vaccine bank and, therefore, will be able to obtain supplies of vaccine in an emergency.

Appendix 9

Vaccination campaigns in southeastern Europe buffer zones

1989 campaigns

The vaccination campaign in the buffer zone in Thrace area was implemented in accordance with the recommendations agreed by the FAO/OIE/EEC FMD Group at the meeting which was held on 26 September 1988 in Madrid and in agreement with the countries concerned, Turkey, Bulgaria and Greece. Bivalent 01/A22 vaccine was supplied to Bulgaria (200,000 doses), Greece (50,000 doses) and Turkey (50,000 doses). The vaccine for Turkey was provided for use in Thrace area as reference vaccine for the Turkish vaccine used to complement the vaccination of the whole Thrace and Marmara area (western Anatolia). The vaccine supplied through Coopers, U.K. was delivered in March 1989 and vaccination campaigns in the buffer zone were completed by the end of April 1989. The cost, US$ 88,280, was met from the FAO Trust Fund for the campaigns (TF 9111 EEC).

Survey in the European buffer zone in Turkey, Thrace 1989 - position buffer zone

A comprehensive serological survey including probang test was carried out in Turkish Thrace area by the Pirbright Laboratory, U.K. following the procedures presented to and agreed by the Commission at its Twenty-eighth Session. The relevant results were discussed at the meeting of the FAO/OIE/EEC FMD Group which was held in Brussels in October 1989.

The FMD Group taking into account (a) the results of the survey which show that there is no evidence of FMD virus in sheep (b) the views and concurrence of the countries concerned with the buffer zone, and the favourable disease situation so far established in Thrace area of Turkey since 1978, agreed and recommended that:

- vaccination in the present buffer zone in Thrace should be discontinued forthwith and that a new buffer zone corresponding to approximately twelve provinces in the Marmara area, western Anatolia, be designated.

- implementtion of the buffer zone should be carried out by the Turkish authorities on the basis of twice annual vaccination of all cattle and annual vaccination of all sheep present in the new buffer zone with vaccine produced at the Ankara Institute.

The vaccination programme agreed for the new buffer zone was reviewed by the Research Group of the Commission at its Session held in Lindholm, Denmark, in June 1990. The Research Group recommendations are included in the relevant document under Item 7.

The FAO/OIE/EEC FMD Group recommendation on relocation of the buffer zone and the policy to be applied was endorsed by the members of the Executive Committee of the Commission in conformity with the recommendations of the Twenty-eighth Session of the Commission in May 1989. The Commission's members have been informed in this respect.

Following the decision to relocate the buffer zone from Thrace area to Marmara area, the vaccination carried out in Bulgaria, Greece and Turkey buffer zone and the remaining part of Turkish Thrace was the last one in this area since 1962 when this buffer zone was established. However, it is essential that surveillance should continue in Thrace area and

periodical serological surveys be carried out in cattle and sheep the purpose of which would be to show that animals remain sero-negative and that the favourable situation achieved in Thrace be maintained.

Buffer zone in Marmara area, western Anatolia

The area designed for the new buffer zone corresponds to approximately twelve provinces covering an area of over 950,000 km2. The susceptible animals present in this area are estimated: 1.2 million cattle, 4 million sheep and 2 million goats.

The attached map and table show the area of the buffer zone, the size in square km., the animal population and number of slaughterhouses.

As agreed at the FAO/OIE/EEC FMD Group meetings in 1989 and 1990, and at the Fifty-second Session of the Executive Committee held in Istanbul in March 1990, the implementation of the new buffer zone should be carried out entirely by the Turkish authorities on the basis of the policy agreed at the above-mentioned meetings. However, the Turkish authorities reported at the FAO/OIE/EEC FMD Group meeting in November 1990 that due to lack of funds and maintenance at the Ankara Institute, vaccine production was decreased in 1990, and if this situation continues, the quality of the vaccine may also be affected. Therefore, the maintenance of the new buffer zone will also be affected if these problems are not solved soon. It was then suggested that a five-year plan of campaigns for the buffer zone should be submitted to the FAO/OIE/EEC FMD Group.

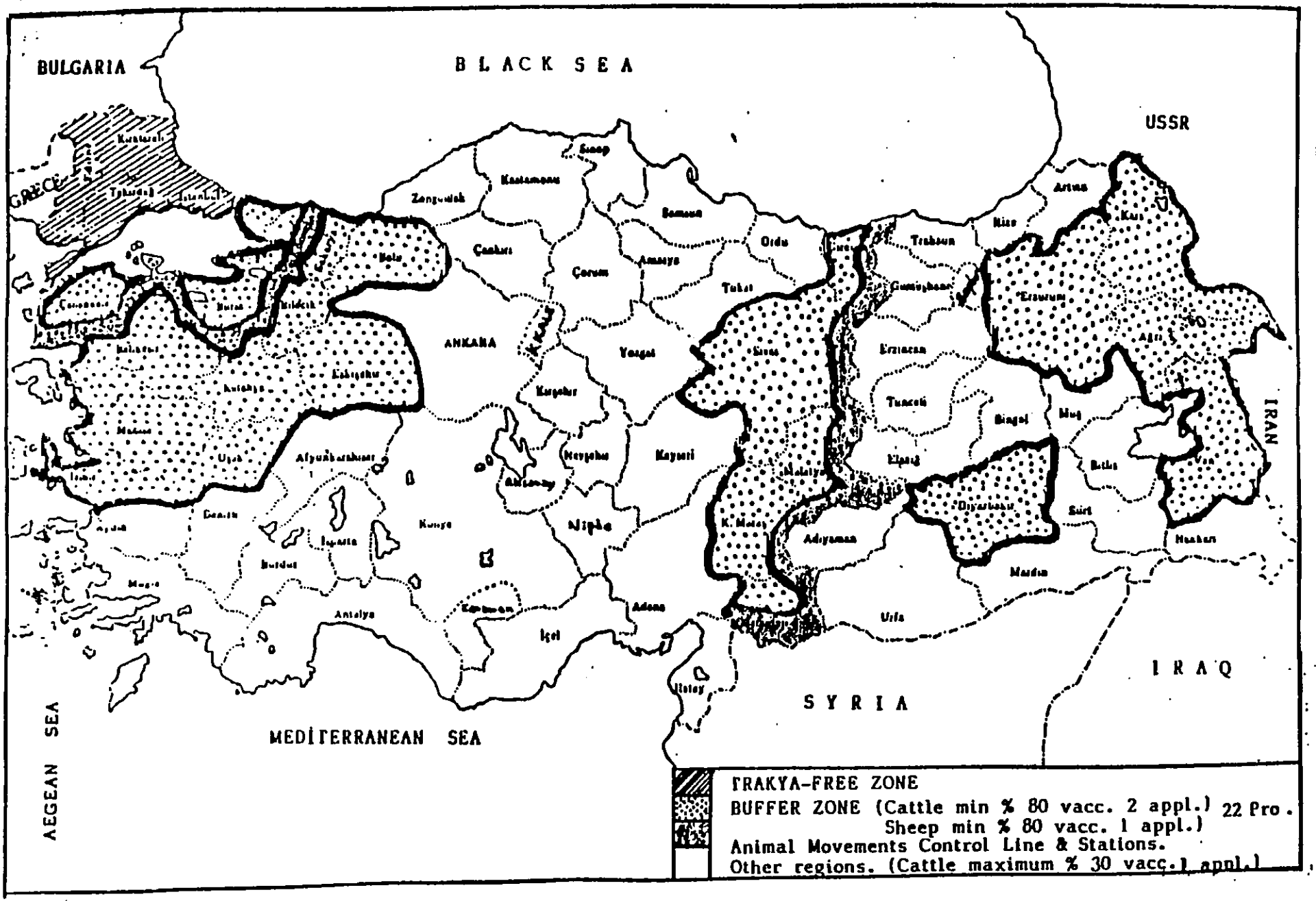
Dr. Istanbulluoglu agreed to prepare and present such a plan (see minutes attached of the FAO/OIE/EEC FMD Group meeting, Brussels, November 1990).

A proposed protocol by Pirbright Laboratory for cattle challenge tests of vaccine produced by Ankara Institute using homologous and heterologous virus as challenge strains was accepted by the FAO/OIE/EEC FMD Group held in November 1990, the cost to be met from Trust Fund 9111 (EEC). It was agreed that these tests would proceed in advance of other cooperative agreements between Turkey, EEC and FAO.

The breakdown of income/expenditures for Trust Funds 9111(EEC) and 9097 (non-EEC) is attached hereto.

Summary highlights

- Last vaccination campaigns in buffer zone in Thrace area were carried out in spring 1989 with 01/A22 vaccine.
- Probang test on sheep shows no circulation of virus.
- Buffer zone relocated in Marmara area western Anatolia. Campaigns implemented initially under responsibility of Turkish authorities.
- Arrangements have been made to challenge potency test of Turkish vaccine by Pirbright Laboratory, UK, in collaboration with Ankara Institute.
- Financial constraints affecting vaccine production at Ankara Institute and consequently proper implementtion of campaigns in Marmara area buffer zone.
- Five-year plan financed through EEC as soon as ready suggested to be presented for discussion at the next FAO/OIE/EEC FMD Group meeting.



Area of defined new buffer zone

1990 FMD CONTROL PROGRAMME

PROVINCE	AREA (Km^2) 000	CATTLE (000)	SHEEP (000)	GOATS (000)	PRIVATE SLAUGHTERHOUSES			OFFICIAL SLAUGHTERHOUSES		
					Num. of S.	BOVINE	OVINE	Num. of S.	BOVINE	OVINE
AYDIN	8.01	202.9	192.5	113				32	350	1.000
BALIKESİR	14.29	235.7	1108.6	215				24	800	6.300
BİLECİK	4.31	58.3	164.9	59.6				6	300	480
BURSA	11.04	136.1	478.6	119.5				13	450	120
ÇANAKKALE	9.74.	140..	527.4	227.4				12	100	450
DENİZLİ	11.87	97.8	394.5	277.7				11	300	2.500
İZMİR	11.97	196.6	569	258.6	3	250	1.000	28	1.100	6.400
KOCAELİ	3.63	89.1	117.8	18.1				10	400	1.000
KÜTAHYA	11.88	190.4	426.7	273.7				8	250	500
MANİSA	13.81	174	650.6	279.6				30	600	3.000
UŞAK	5.34	62	280.9	119.7				10	750	2.000
Sterile Zone										
EDİRNE	6.28	118.7	300.3	69.9				8	200	300
İSTANBUL	5.71	119.6	149.4	25.4	11	1.000	5.000	18	1.150	11.250
KIRKLARELİ	6.55	89.4	258.6	62.6				17	300	1.000
TEKİRDAĞ	6.22	90.1	240.6	65.5				12	300	1.500

FAO/IOE/EEC FMD Group
Minutes of Meeting held in Brussels
19 - 20 November 1990

Foot and mouth disease vaccination policy in southeastern Europe buffer zone

Participants

FAO	OIE	EEC
Prof. P. Gafner, Chairman, EUFMD	Dr. J. Blancou	Dr. J. Janssen
Dr. P. Souraitis, Secretary, EUFMD	Dr. U. Klhm	Dr. B. Marchant

Dr. N. Belev, Director General, Veterinary Services, Bulgaria
Dr. A. Saravanos, Director, Animal Health Department, Greece
Prof. E. Istanbulluoglu, Director General, Veterinary Services, Turkey
Dr. Donaldson, Head of WRL, Pirbright, UK
Dr. S. Barteling, Central Veterinary Institute, Lelystad, Netherlands

The meeting was held at the European Communities' premises in Brussels under the chairmanship of Prof. Gafner, Chairman of the FAO European Commission for the Control of Foot and Mouth Disease.

The following items were reviewed and discussed:

1. FMD situation in Europe and the Near East.
2. Report on results of field strains characterization.
3. Proposal for challenge testing of Turkish vaccine in Ankara Institute.
4. Situation with respect to vaccine production and availability in Turkey.
5. Future monitoring of FMD situation in Thrace area - cooperation with Pirbright.
6. Financial assistance for eradication of FMD outbreaks in the buffer zone.
8. Financial Report (T.F. EEC, non EEC).
9. Any other business.

1. Dr. Stouraitis provided information on the FMD situation in Europe and in the Near East region. He also reported on the implementation of the campaigns in the new buffer zone in 1989/90 which has been carried out in conformity with the recommendations agreed at the FAO/OIE/EEC FMD Group meeting held in Brussels in October 1989.

2. Dr. Donaldson reported that 24 field strains had been received at WRL, of which 22 were type O and 2 were type A. Of these, 8 samples of type O had been subjected to full characterization. The results indicated that the field strains were antigenically closely related to the vaccine strain O, Manisa 69. He also reported that these results were different from those for field strains in 1989. Further field strains are to be sent to WRL for examination, to continue the assessment of strains in Anatolia. Dr. Stouraitis reported that $ 1500 had been paid to Turkey for transport of the samples.

3. Dr. Donaldson outlined the proposed protocol for cattle challenge tests of vaccine produced by Ankara Institute, using homologous and heterologous virus as challenge strains. These protocols were accepted. Revised costings were requested from Dr. Donaldson prior to formal approval and funding from EC trust fund 9111. It was agreed that these tests could proceed in advance of other cooperative agreements between Turkey, FAO and EC.

4. Dr. Istanbulluoglu reported that 36 million monovalent doses of vaccine had been produced in 1989, but only 12 million in 1990. This decrease was due to lack of funds and maintenance in the Ankara Institute which, if they continue, could also affect the vaccine quality. Dr. Barteling reported that he had visited Ankara, and that he had found the standard generally good. Maintenance still represented a problem, often because of lack of spares. Potency testing in cattle was also not done fully, because of costs, but alternatives to the full cattle test as suggested in the European Pharmacopoeia could be used. The airconditionning in the building needed extensive maintenance.

   Then followed a discussion on the method of providing future aid to the Ankara Institute. It had been thought that one or two full-time experts on vaccine productions and tissue culture could work in the Institute for 1 - 2 years. However, Dr. Istanbulluoglu insisted that a package was required, including purchase of equipment and vehicles. This discussion was postponed to Item 7.

5. Dr. Donaldson referred to the Research Group's recommendation to repeat the survey of sheep and extend it to cattle in the Thrace area. This should be statistically based, and should concentrate on animals 1 - 2 years old.

   Dr. Istanbulluoglu agreed with the principle, but preferred to make this part of an overall package of control based on shared costs. He could not accept it as a single project or as part of a cooperation agreement with WRL (see Item 7).

6. Dr. Istanbulluoglu described the progress in vaccination in the 12 provinces of Marmara area during 1989 and 1990. All cattle are vaccinated twice annually and sheep annually.

7. Dr. Janssen explained that the budget of DG VI did not permit the financing of eradication measures in third countries. He was willing, however, to consider obtaining funds where possible from other sources in the Commission, and suggested that this should be done through the trust funds for the campaigns deposited in FAO.

The various elements to be financed included

1. serological survey of sheep and cattle in Thrace,
2. continuing support for the Ankara Institute,
3. testing of potency of vaccine produced in Ankara.

Dr. Istanbulluoglu requested that these be part of a cost-sharing project between the EC and Turkey, requesting also the purchase of 24 vehicles for vaccine distribution and certain equipment for the Institute.

Dr. Janssen suggested that a 5 year plan of campaign for the Marmara and Thrace areas should be submitted by Turkey to the Tripartite group and the Executive Committee of the European Commission for FMD. This was agreed. Representatives from OIE and EC should, therefore, be invited to attend the Executive Committee meeting in Stockholm in February 1991, where this subject will be discussed.

Dr. Janssen agreed to further examine the possibilities for finance for this project. It was agreed that the challenge testing of the O1 Manisa vaccine produced in Ankara would be carried out as soon as possible, by Pirbright in collaboration with Ankara, the cost to be met from Trust Fund 9111 (EC).

8. Dr. Stouraitis prescribed details of the state of the two trust funds (9111-EC and 1097-non EC). The provisional statement of accounts was approved by the meeting.

Concerning the use of these funds, Dr. Stouraitis informed the meeting that they were for activities related to maintenance of the buffer zone in Southeast Europe and to cope with any FMD emergency which may arise in this area.

9. The conclusions and recommendations of the Tripartite Group meeting of October 1989 were reviewed. It was agreed that all aspects had been implemented, and Dr. Istanbulluoglu informed the Committee that the legal measures to protect Thrace would soon be adopted by his government. He confirmed that vaccinated animals were allowed into Thrace.

Next meeting of the Tripartite Group would be held in Stockholm on 4 February 1991, prior to the meeting of the Executive Committee of the FAO European Commission.

Trust Fund 9111 (EEC) - status of funds as at 31 December 1989

	Expenditure	Income
	US$	US$
Cash balance 1 January 1989		1 277 205
*Refund from TF 9042 of amount transferred in 1988 to cover shortfall in income		30 000
Interest		90 745
Travel	2 860	
Serological survey on immunity level against FMD in animals in buffer zone (WRL)	36 174	
Vaccine for buffer zone A22/01 300 000 doses (Bulgaria 200 000, Greece 50 000, Turkey 50 000=	88 250	
Office equipment - PC Zenith	3 692	
Proj. servicing costs on all items except vaccine	2 563	
TOTAL	133 539	1 397 950

Balance 31 December 1989 US$ 1 264 411

Trust Fund 9097 (non-EEC) - status of funds as at 31 December 1989

Cash Balance 1 January 1989		93 380
Contributions (Switzerland 1985-1987)		23 028
Interest		7 485
Temp. typing assistance	3 010	
Travel	8 936	
Proj. servicing costs (6%)	717	
TOTAL	12 663	123 893

Balance 31 December 1989 US$ 111 230

Trust Fund 9111 (EEC)
Status of Funds 31 December 1990 (Provisional)

	Expenditures US$	Income US$
Cash balance 1 January 1990		1,264,411
(US$30,000 transferred to meet shortfall under TF9042 in December 1988 retransferred to TF 9111 on 25 November 1989)		
Interest 1990 (to be calculated by Financial Services Division)		
Despatch of samples from buffer zone (Turkey) to WRL, UK	1,500	
Travel to Brussels to participate in FAO/OIE/EEC FMD Group Meeting 19/20 November 1990 (Drs Gafner/Belev/Donaldson/Saravanos/ Istanbulluoglu/Stouraitis and travel to Turkey as consultant in vaccine production, Dr. Barteling, November 1990)	9,012	
Proj. servicing costs (6%)	631	
	11,143	1,264,411

Prov. balance 31 December 1990 US$ 1,264,411 - US$ 11,143 = US$ 1,253,268

Trust Fund 9097 (non-EEC)
Status of Funds as at 31 December 1990 (Provisional)

Cash balance 1 January 1990		111,230
Interest 1990 (to be calculated by Financial Services Division)		
Expenditure	nil	

Provisional balance 31 December 1990 = US$ 111 230

Appendix 10

FMD situation in other regions
- Commission policy in frontier regions -

The incidence of foot-and-mouth disease continues to be one of the major problems for susceptible livestock and especially for those countries where animals and meat export represent an income for their national economy.

In many parts of the world, in South America, Africa, the Near East and Asia, the disease occurs in epizootic or sporadic form. Although great progress has been made in disease control in some areas such as in South America, the northern and southern African countries and the southern part of Asia, the disease continues to occur with distinct types of FMD virus in each continent or areas of the same continent.

A worldwide assessment of the disease situation cannot be made due to the lack of information and the negligence of some countries and regions to report on disease incidence. The information available is provided mainly through OIE, the World Reference Laboratory, Pirbright, U.K. and the Pan American Centre for FMD, Rio de Janeiro, Brasil. The information related to the disease situation for 1989/1990, is attached to this document.

Near East Region

North African countries With the exception of Egypt and Morocco, a flare-up of FMD virus type 01 has been reported in Libya, Tunisia and Algeria, causing real epizootics.

In Tunisia FMD outbreaks were diagnosed on 17 November 1989 in flocks of sheep in the northwest provinces; thereafter it spread rapidly to the whole country. Samples were sent to the WRL, Pirbright, U.K.; virus type 01 was diagnosed. The disease affected mainly sheep and goats with severe clinical symptoms and high mortality among young animals. In cattle, the disease appeared in mild clinical form affecting generally non-vaccinated cattle while those vaccinated during the annual vaccination campaign were protected (vaccination was carried out with 01/A5/C1 trivalent vaccine, France).

A mass vaccination campaign was undertaken of all susceptible animals with imported vaccine and vaccine provided by FAO through TCP emergency assistance (2,220,000 doses of monovalent type 01 vaccine delivered to the country on 31 December 1989).

The number of outbreaks reported from the beginning of the epizootic, 17 November 1989 to 14 January 1990 was 2,212 (outbreak means an infected flock). Mortality among lambs was 50,836 head of animals.

The Secretary of the Commission had followed closely the disease situation and visited Tunisia twice, in December 1989 and in January 1990, where he collaborated with the national veterinary services in establishing a policy to cope with this emergency and organize the vaccination programme for the control and eradication of the epizootic. He recommended that a second mass vaccination be carried out in April-May 1990 in order to boost the level of immunity with vaccine provided from the Italian Government

through bilateral assistance (4.5 million doses of 01 monovalent vaccine). The Italian assistance was followed up by a serological survey to check the level of immunity in vaccinated animals.

The application of strict sanitary measures and a proper vaccination programme resulted in a drastic decrease of the disease incidence. However, isolated outbreaks were reported in sheep which had escaped vaccination. The recommendation that stamping out should be applied in such isolated outbreaks was not adopted by the national authorities.

In Libya outbreaks of FMD type 01 were reported on 17 November 1989. The disease was diagnosed in 34 herds of sheep and goats in the provinces near the Tunisian border. The Secretary of the Commission visited Libya on 21 December 1989 and discussed with national veterinary authorities the programme for disease control and eradication. Strict sanitary measures and vaccination of all susceptible animals in the affected provinces succeeded in containing the disease. No further outbreaks have been reported since 29 December 1989.

In Algeria FMD outbreaks were reported in nine communes in Tebessa Department bordering with Tunisia. The disease, suspected on 15 May 1990, was confirmed by the WRL, Pirbright, U.K. on 20 May as type 01. Cattle, sheep and goats were involved in the outbreaks. On the advice of the Secretary of the Commission, action has been taken by FAO to assist the Government of Algeria to cope with the emergency FMD outbreaks. 2,000,000 doses of monovalent vaccine type 01 was provided through TCP assistance. Strict sanitary measures and vaccination of all animals in the affected areas succeeded in controlling and eradicating the disease. Isolated outbreaks were reported in Algeria up to December 1990.

Epidemiological investigation carried out by the veterinary services of the affected countries has not shown evidence of the origin of the disease. It should be noted that in 1988 outbreaks of type 01 were reported in Libya while in Tunisia type 01 was reported in 1982. The development of the disease in the three countries should be considered as one epizootic, independently of the origin of the first outbreaks, which spread through free movement of animals between the three countries.

Middle East countries

Outbreaks of FMD continued throughout the Middle East. Type 01 was recorded widely in the region while serotypes of A22 were reported in Iran, Lebanon, Yemen Arab Republic and north Yemen. Types Asia-1 were recorded in Lebanon, Israel (1 outbreak), Oman and Yemen Arab Republic, while SAT-2 was recorded in North Yemen. The pattern of virus distribution in this area is subject to change due to the continuous flow of new virus types through the uncontrolled importation of animals from infected countries all around the world, against which the limited and uncoordinated vaccination carried out in cattle every three months does not provide adequate protection. In addition, the lack of application of sanitary measures and control of animal movement further contributes to spreading the virus within the country and in the region, especially in Saudi Arabia and the Gulf countries.

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 due to its geographical vicinity and the existing trade traffic between Europe and this area. The FMD situation in the Middle East area is unlikely to improve unless the respective governments in this area decide to apply the basic sanitary measures in FMD prevention and control recommended at various meetings organized for this purpose by the MINEADEP Commission and other international organizations concerned. The latest developments in the Middle East area will be a further reason for deterioration of the disease situation.

Africa FMD is widespread on the continent with endemic or sporadic outbreaks of types 0, A, SAT-1 and SAT-2 recorded in various countries with the exception of Botswana which continues to maintain its disease-free status since 1981. Due to the scarce information available an assessment of the epizootiological picture of the disease is difficult. However, it should be recognized that FMD in a number of countries is of minor importance in comparison with diseases such as rinderpest, pleuropneumonia and other diseases which affect the animal population. The infrastructure for FMD vaccine production in Africa is very poor and the existing vaccine production plants in Botswana, South Africa, and Kenya do not meet the requirements for vaccine for a regional approach to FMD. In addition, financial and logistic support to carry out a regional FMD control programme cannot be provided by individual countries unless such programmes are organized and implemented through the technical and financial assistance of international organizations and other donor countries.

Asia The epidemiology of the disease on the continent can be divided into two geographical areas, the mainland and the island areas. On the mainland (Pakistan, Nepal, India, Bhutan, Bangladesh, Myamar, Thailand, Laos, Kampuchea, Vietnam, Hong-Kong), the disease can be presumed to be endemic providing a reservoir of virus which spreads through movement of animals into the more developed areas where its presence can be more easily detected and reported through OIE, the WRL or through FAO when assistance in vaccine is requested by a country to cope with a disease emergency situation. Virus types 0, A, C and ASIA-1 were normally diagnosed. Prophylactic and control programmes are limited only to some extensive farms or to areas where emergency FMD outbreaks occur. Animal movement control and sanitary measures are not regularly and effectively applied.

China for the first time provided official information on FMD outbreaks of type O1 which occurred on a pig farm in Chenzen close to the Hong-Kong border. In the southern regions of Asia, owing to its geographical conformation (islands) with the exception of the Philippines, the disease situation has been further improved. Malaysia and Indonesia have been declared FMD-free in 1989 and the remaining countries continue to remain disease free.

South America The regular information provided by the Pan American Center for FMD Rio de Janeiro, Brasil, indicates that the FMD situation continues to improve in South American countries. Epidemic outbreaks caused by virus type A, were reported along Colombia's border with Ecuador. Also in Colombia there was a significant increase in the number of outbreaks of type 0 virus. FMD outbreaks continue to appear in west central Brasil, Argentina, Uruguay, Paraguay, Venezuela, Bolivia and Peru. Chile, Guyana, French Guinea, Suriname, Argentina Patagonia continue to be free from FMD.

No outbreaks of FMD were reported in Central and the Caribbean areas. The buffer zone established in Colombia at the border with Panama is being maintained and the vaccination programme is being implemented by the Colombian government in collaboration with the USA.

The FMD situation in South America deserves special attention from the European Commission and this has been the subject of lively discussions in all Sessions of the Commission. The close collaboration so far established between the Panamerican Center for FMD and the FAO WRL Pirbright is continuing through the exchange of information and virus strains and reagents. However, the FMD situation in South America continues to be the major constraint to animal and meat trade, seriously affecting the national economies. Despite the great efforts made for disease control and eradication by individual countries and international organizations (PAHO, FAO, EEC, IICA), the results achieved are not those expected.

To achieve the ultimate goal of eradication, continuous efforts in FMD control are necessary and substantial modification of the FMD prophylaxis system also needs to be considered. Fortunately, in the South American region, the experience and means to reach this end are present and their application depends only on the willingness of the Governments.

In view of the favourable disease situation so far established in Europe and the adoption of a non-vaccination policy, it can be expected that European import policies with regard to safeguarding countries in Europe against FMD will become even more stringent than they are today. Consequently, the European import policies will further affect the export of meat and meat products originating from countries where FMD is present.

Commission's policy in frontier regions

In the perspective of an FMD control policy radically modified in Europe, the necessity for plans and programmes aimed at preventing the introduction of infection in the border countries of Europe becomes more than ever of great importance. While the southern part of Europe has never been faced with such a risk, the east and southeastern parts of Europe are under continuous threat of virus invasion from those countries where the disease is still present in sporadic or endemic form. While in southeastern Europe through the establishment and maintenance of the buffer zone, Europe has been protected from invasion by exotic viruses, the eastern borders of Europe remain totally unprotected. Due to the political situation in the past and the recent developments in this area, it is not possible to assess the risk which it represents for Europe.

In view of the recommended harmonization of FMD control policies in Europe, it is essential that collaboration be established between the Commission and the USSR in matters of FMD policy and vaccination programmes. In addition, the possibility of and procedures for establishing strategic vaccination in an area or areas bordering with USSR should be studied, location and size to be agreed following an evaluation of all factors which might constitute a potential risk.

Table 1

FMD position and virus types in the Near East during 1989/1990 1/

Countries	No. of outbreaks	Virus type	Remarks
Tunisia	epizootic	O1	epizootic
Morocco	--	--	no outbreaks reported
Algeria	epizootic	O1	226 outbreaks 1990
Lybia	epizootic	O_1	epizootic
Egypt*	--	--	no outbreaks reported
Iraq*	?	?	no outbreaks reported
Iran*	endemic	O1/A22	no information
Syria	endemic	O1	51 outbreaks
Jordan	sporadic	O1	
Lebanon	endemic	O/A22/C/ASIA-1	no information reported (1989)
Israel*	isolated	O1/ASIA-1	1,ASIA-1
S. Arabia	endemic	O1	
Kuwait	sporadic	O1	48 outbreaks (1990)
Bahrain	sporadic	O1	
Oman	endemic	O1/ASIA-1	
U.A.E.	sporadic	?	
Yemen Arab Rep.	endemic	O1/ASIA-1 (1990)	
North Yemen	endemic	O1/A22/SAT-2 (1990)	

* FMD vaccine production plant
1/ Information provided by the WRL, OIE, and National Veterinary Services

Table 2

Countries affected by FMD and virus types detected in African, Asian and South American countries during 1989/1990 (OIE, WRL*)

Africa	Type of virus
S. Africa	SAT-2
Mozambique	?
Zimbabwe	SAT-2, SAT-1
Zambia	SAT-2/SAT-1/A
Malawi	O/SAT-2
Tanzania	O
Kenya*	A/O/SAT-1/SAT-2 (1988)
Burundi	O
Sudan	O
Ethiopia	A/O/SAT-2
Senegal	SAT-2? (1988)
Mauritania	SAT-2? (1988)
Niger	O1
Nigeria	...
Burkina Faso	...
Ivory Coast	SAT-2 imported cattle
Benin	...
Cameroon	O
Chad	...
Central African Republic	...
Zaire	...
Rwanda	...
Namibia	SAT-2
Asia	
Nepal	O/A/ASIA-1
Bangladesh	O/A/ASIA-1
Pakistan	O/ASIA-1/C
India	O/A/ASIA-1
Bhutan	O/ASIA-1/A
Burma	O/ASIA-1
Thailand	O/A
Sri Lanka	O/C
Philippines	C/O
Hong Kong	O + SVD
China	O1 (1990)
Laos	A22/O/ASIA-1
Kampuchea	A22/O/ASIA-1
Viet Nam	A22/O/ASIA-1
South America	
Argentina	O/A79/A81/A85
Bolivia	A24
Brasil	O/A24/C3
Colombia	O/A24/A Sabana 85
Ecuador	O/A24
Paraguay	O/A24/C3
Peru	A24
Uruguay	O/C3/A81
Venezuela	A/A32

... = No information available
* = See WRL Cumulative Report for 1989/1990 attached

INSTITUTE FOR ANIMAL HEALTH
PIRBRIGHT LABORATORY
Ash Road, Pirbright, Woking, Surrey, GU24 ONF, U.K.

WORLD REFERENCE LABORATORY FOR FOOT-AND-MOUTH DISEASE

CUMULATIVE REPORT FOR 1989

During 1989, 398 samples from 24 countries have been examined for types of virus. Virus was demonstrated in 188 of these samples and the types of virus are tabulated below.

COUNTRY	No.of Samples	O	A	C	SAT1	SAT2	SAT3	ASIA1	SVD	NVD
BAHRAIN	12	4	-	-	-	-	-	-	-	8
BHUTAN	1	-	-	-	-	-	-	-	-	1
BURMA	12	8	-	-	-	-	-	4	-	-
CAMBODIA	2	2	-	-	-	-	-	-	-	-
CAMEROON	10	8	-	-	-	-	-	-	-	2
EGYPT	4	4	-	-	-	-	-	-	-	-
HONG KONG	9	2	-	-	-	-	-	-	3	4
INDIA	10	8	-	-	-	-	-	2	-	-
ISRAEL	6	2	-	-	-	-	-	3	-	1
ITALY	5	-	1	4	-	-	-	-	-	-
JORDAN	2	2	-	-	-	-	-	-	-	-
LIBYA	11	2	-	-	-	-	-	-	-	9
NEPAL	30	13	-	-	-	-	-	-	-	17
NORTH YEMEN	57	23	1	-	-	-	-	-	-	33
OMAN	22	18	-	-	-	-	-	2	-	2
PHILLIPINES	12	-	-	6	-	-	-	-	-	6
SAUDI ARABIA	63	33	-	-	-	-	-	-	-	30
SENEGAL	3	-	-	-	-	-	-	-	-	3
SUDAN	11	6	-	-	-	-	-	-	-	5
SYRIA	1	1	-	-	-	-	-	-	-	-
TUNISIA	10	5	-	-	-	-	-	-	-	5
TURKEY	8	6	2	-	-	-	-	-	-	-
UNITED KINGDOM	72	-	-	-	-	-	-	-	-	72*
ZIMBABWE	25	-	-	-	4	9	-	-	-	12
TOTAL	398	147	4	10	4	9	-	11	3	210

119 out of the positive samples (63%) were typed as original suspension and 69 (37%) typed as tissue culture.

* Porcine enteroviruses 2,4,8,10 and 11 isolated.

INSTITUTE FOR ANIMAL HEALTH
PIRBRIGHT LABORATORY
Ash Road, Pirbright, Woking, Surrey, GU24 ONF, U.K.

WORLD REFERENCE LABORATORY FOR FOOT-AND-MOUTH DISEASE

CUMULATIVE REPORT FOR 1990

COUNTRY	No.of Samples	O	A	C	SAT1	SAT2	SAT3	ASIA1	SVD	NVD
ALGERIA	11	5	-	-	-	-	-	-	-	6
BAHRAIN	2	2	-	-	-	-	-	-	-	-
BHUTAN	5	2	1	-	-	-	-	-	-	2
BURKINA FASO	5	-	-	-	-	-	-	-	-	5
BURUNDI	6	-	2	-	-	-	-	-	-	4
CAMBODIA	2	-	-	-	-	-	-	2	-	-
ETHIOPIA	15	13	-	-	-	2	-	-	-	-
GHANA	3	-	-	-	-	1	-	-	-	2
HONG KONG	14	12	-	-	-	-	-	-	-	2
ISRAEL	2	2	-	-	-	-	-	-	-	-
IVORY COAST	8	-	-	-	-	5	-	-	-	3
JORDAN	2	2	-	-	-	-	-	-	-	-
LIBYA	3	-	-	-	-	-	-	-	-	3
MALAYSIA	3	-	-	-	-	-	-	1	-	2
MOROCCO	24	-	-	-	-	-	-	-	-	24
NEPAL	104	42	3	-	-	-	-	9	-	50
NEW ZEALAND	5	-	-	-	-	-	-	-	-	5
NIGER	2	-	-	-	-	-	-	-	-	2
OMAN	13	13	-	-	-	-	-	-	-	-
PHILIPPINES	4	-	-	4	-	-	-	-	-	-
SAUDI ARABIA	26	26	-	-	-	-	-	-	-	-
TOGO	2	-	-	-	-	2	-	-	-	-
TUNISIA	1	1	-	-	-	-	-	-	-	-
TURKEY	29	24	2	-	-	-	-	-	-	3
UNITED KINGDOM	5	-	-	-	-	-	-	-	-	5
YEMEN ARAB REPUBLIC	31	9	-	-	-	1	-	-	-	21
TOTAL	327	153	8	4	-	11	-	12	-	139

142 OF THE 188 POSITIVE SAMPLES (76%) WERE TYPED AS ORIGINAL SUSPENSION AND 46 (24%) WERE TYPED AS TISSUE CULTURE.

NPF/2 January 1991

Appendix 11

Activities of the Research Group 1989-1990

A Session of the Research Group was held from 25 to 29 June 1990 in Denmark at the State Veterinary Institute for Virus Research, Lindholm (a one day closed Session) and at Hotel Praestekilde, Island of Moen (an open general Session). In view of the items of common interest to be discussed at the closed Session, representatives from OIE, EEC and Turkey had been invited to join the Group. Representatives from Turkey were unable to be present.

A comprehensive report of the two meetings, including summaries of all contributions, has been prepared and circulated to the relevant parties. A brief summary of the conclusions and recommendations made under each of the items that were discussed is given below.

I. CLOSED SESSION

Items referred to the Group by the Commission.

1. Follow-up on items discussed at the previous Session in Prague 1988

2.a) Report of the survey in the European buffer zone in Thrace, Turkey, 1989

2.b) Minutes of the FAO/OIE/EEC FMD Group held at the European Communities' premises in Brussels, 30-31 October 1989.

2.c) Potency testing of 01 Manisa vaccine prepared by Ankara FMD Institute

Under these headings the Group has dealt with various aspects of FMD in relation to the buffer zone. The Group recognized the decision to move the buffer zone from Turkish Thrace to the Marmara area of Western Anatolia and it proposed to use the term **strategic vaccination area (SVA)** for this area. Further, the Group made recommendations for the vaccination programme and for serological surveys in the two areas. Special emphasis was put on the need for characterization of all field virus isolates, at SAP Institute as well as at the WRL, and for systematical epidemiological investigations, including identification of the origin of infection, in all outbreaks.

A protocol for testing the 01 vaccine used in the area had been prepared by the IAH, Pirbright. The protocol was discussed and specifications for a homologous and a heterologous trial were given.

Meanwhile, the World Reference Laboratory has examined the antigenic characteristics of a selection of field isolates of FMD virus received from Turkey in August 1990. The results indicate a better antigenic relationship between 1990 outbreak strains and the 01 Manisa vaccine strain than was obtained with isolates from 1989 (e.g. 0 TUR 6/89) and the 01 Manisa vaccine strain.

However, it is still recommended that a homologous trial be carried

out as outlined in the proposed protocol. As to the heterologous trial it might be useful to examine more field isolates, i.e. isolates collected systematically from all outbreaks, if possible, during a longer period of time within the new strategic vaccination area (SVA) and also isolates originating from outbreaks outside this area. All isolates should be examined and characterized both at the SAP Institute and at the WRL. Depending on the results, the need for a heterologous challenge test could be reconsidered.

3. Redrafting of the OIE document "Recommendations concerning International Traffic of Pathological and Biological Products containing Foot-and-Mouth Disease Virus"

In the light of the changing strategy for the control of FMD in Europe, the Group paid special attention to the need for specified security requirements for different functional categories of FMD laboratory according to type of virus manipulation. Details still remain to be discussed, including a revision of the **Minimum standards for laboratories working with foot-and-mouth disease virus in vitro and in vivo** as laid down in the Report of the Twenty-sixth Session of the European Commission for the Control of Foot-and-Mouth Disease, FAO, Rome, April 1985.

4. Review of the Commission's Recommendations on movement of slaughter stock and meat from areas where exotic strains of FMD virus have occurred or inactivated exotic vaccines were applied in Europe (revised by the Executive Committee on 22 May 1987 on the occasion of the 55th General Session of the OIE at OIE Headquarters, Paris).

Following discussions at the Session of the Executive Committee in Istanbul, March 1990, the Group proposed some amendments to the above document with special reference to offals. Similarly, amendments were proposed to the recommendations on **Minimum conditions for the importation of beef into Europe from countries where FMD is endemic and is caused by viruses not considered exotic to Europe** as adopted at the Twenty-seventh Session of the Commission, Rome, April 1987.

II. OPEN MEETING

1. The carrier state (presence, excretion, infectivity and other characteristics of carrier virus, duration of the carrier state etc.) - in pigs, sheep/goats and cattle

In the light of new technology, e.g. polymerase chain reaction (PCR) technique for the amplification and identification of small amounts of viral RNA etc., it was recommended that fundamental aspects of virus persistence in FMD virus carriers be further investigated. The role of sheep/goats and possibly pigs as carriers should be further investigated.

Furthermore, the earlier recommendation on **The carrier state** as adopted at the Twenty-second Session of the Commission, Rome, 29 March-1 April 1977, should be reviewed.

2. Immunity to FMD in sheep and goats

Various aspects of vaccination schemes for sheep/goats including young animals were discussed.

Recognizing the limited amount of data available on this subject, the Group recommended that further research be undertaken.

3. Phase XI of the FAO Collaborative Study on ELISA test systems for FMD antibody assay etc.

The aim of the collaborative study is to standardize laboratory methods so that variations of test results within laboratories as well as between laboratories be minimized. Following the introduction of ELISA test systems, the results of this type of collaboration have been very promising and it was agreed to continue with a Phase XII of this study.

4. Additional information for alternative tests on vaccine potency

The main objectives of replacing cattle challenge tests for vaccine potency assessment with serological test methods are to reduce costs, to reduce disease security risks, to follow the recommendations for animal welfare and to improve speed of potency estimation.

The Group concluded that high antibody titres in vaccinated animals obtained by ELISA or SN test are clearly related to protection whereas lower titres within a range of a "grey zone" do not allow such an interpretation. Further research is needed, especially regarding a clear definition of the effect or immune functions involved in protection against FMD virus challenge.

5. Setting up panels of monoclonal antibodies for the characterization of field isolates, vaccine strains and challenge strains

The collaboration in this field, which at present involves eight European laboratories, is coordinated by the IAH, Pirbright. Following discussion on various problems relating to free exchange of information and reagents etc. the Research Group agreed on several recommendations in order to promote this collaboration which has many promising aspects.

6. Further developments in the molecular biology of FMD virus

Polymerase Chain Reaction (PCR) for amplification of viral nucleic acid as well as nucleotide sequencing represent new techniques with many scientific and practical potentials, e.g. for investigations of pathogenesis, persistence and evolution of virus and for epidemiological studies etc.

7. Stability of stored, concentrated and frozen FMD virus antigen, and stability of vaccines prepared from such antigen

There is a general agreement that virus concentrates stored over liquid nitrogen are fully stable and make excellent vaccines immediately following formulation. However, some formulated vaccines have shown instability upon storage at 4oC.

It was recommended that efforts be continued to investigate this problem and that research be directed towards the formulation of such vaccines capable of protecting pigs, sheep and goats as well as cattle.

The subject has become extremely important in relation to the forthcoming discontinuation of annual vaccinations in many European

countries and the establishment of central antigen reserves.

8. Minimum disase security standards for large holdings

The National Pig Health Programme in Holland was discussed in relation to the need for preparation of general guidelines applicable throughout Europe for the control of FMD on and between the very large livestock units.

9. Any other business

The type O FMD outbreak in Tunisia, 1989/90

The results of laboratory tests carried out by the WRL and Rhône-Mérieux as well as the vaccination regimes used were discussed by the Group.

Date and place of next Session of the Group

For the restricted Session in 1991, Tübingen or Lelystad were proposed. The time could be September/October 1991. Dr. Schuller proposed that the open Session at which observers are invited should be in Austria in 1992.

Items proposed so far for the agenda of the next Session are:

1. Emergency actions to be taken in non-vaccinating countries following an outbreak of FMD
2. Alternative methods for FMD vaccine potency testing
3. The carrier state
4. Stability of FMD vaccines prepared from stored antigen
5. Collaborative study on ELISA test systems for FMD antibody assay etc.
6. Further developments in the molecular biology of FMD virus
7. Setting up panels of monoclonal antibodies for the characterization of field isolates, vaccine strains and challenge strains
8. Review of security requirements for laboratories working with FMD virus

Special attention should be paid to items 1, 3, 4 and 8 because of their importance in relation to the changing strategy for the control of FMD in Europe.

Appendix 12

A preliminary note on

FMD RESEARCH ACTIVITIES
in
European Laboratories

1991

In the light of the forthcoming change of FMD strategy in many European countries and considering the recommendations made by the Research Group on further research in FMD, it has been found useful to collect information about current FMD research in European laboratories. Based on information from participants in the last Session of the Research Group, June 1990, a list of research activities can be summarized as follows:

Belgium — **Institut National de Recherches Vétérinaires, Uccle.**

1. Production of FMD monoclonal antibodies for epitope mapping and diagnostic ELISAs.
2. Setting up a battery of diagnostic kits for vesicular diseases.
3. Production of monovalent egg yolk anti-FMD antibodies as an alternative to guinea pig sera in ELISAs.
4. Avirulent diagnostic test for serology screening based on peptides from expression in baculo or vaccinia virus.
5. FMD vaccine based on peptides from expression in baculo or vaccinia virus.

Bulgaria — **FMD Institute, Sliven.**

1. Research in FMD diagnosis (ELISA, iso-elctro-focusing) and vaccine production.

Denmark — **State Veterinary Institute for Virus Research, Lindholm.**

1. Investigations concerning concentration, purification and subsequent storage at low temperatures of FMDV immunogen.
2. Preparation and characterization of monoclonal antibodies for application in the diagnosis of FMD and other vesicular virus diseases.
3. Study of methods detecting antibodies against non-structural proteins of FMDV.

Federal Republic of Germany — **Federal Research Centre for Virus Diseases of Animals, Tübingen.**

1. Identification and characterization of B-cell and T-cell epitopes of FMDV.
2. Identification and characterization of FMDV cellular receptors.
3. Characterization of recombinant FMDV.
4. Antigenic variation of FMDV.

Friedrich-Loeffler-Institute, Insel Riems.

1. Expression of a structural protein protease tandem gene of FMDV in pro- and eucaryote cells.
2. Studies on regulation of FMDV replication.
3. Genetic changes of FMDV during persistent infection.
4. Influence of selected adjuvants on immunogenicity of synthetic peptides of FMDV.
5. Studies on FMDV cross reacting antibodies from non-vaccinated and non-infected cattle.
6. Adaptation of FMDV strains for vaccine production.

France — **Rhóne Mérieux, Laboratoire IFFA, Lyon.**

1. Engineering and immunogenicity of FMDV procapsids produced in insect cells (BRIDGE programme: collaborative study).
2. Investigation of new methods of immunization in emergency situations (ring vaccinations etc.).
3. New adjuvants.
4. Serological and biochemical studies of strains of epidemiological significance.

Italy — **Instituto Zooprofilattico Sperimentale, Brescia.**

1. Characterization of T-cell epitopes which are essential for the immune response to FMDV (planned collaborative study together with IAH, Pirbright, BFA, Tübingen and INIA, Madrid, subject to application for an EEC grant).
2. Research focusing on the interaction between FMDV-infected cells and bovine lymphocytes with natural, MHC-unrestricted cytotoxic activity.
3. Investigation on the persistence of vaccine-induced, FMDV-specific antibody.
4. Use of PCR to detect the carrier state in bovine.
5. Study of ELISA kits based on monoclonal antibodies for differential diagnosis of vesicular diseases.

Netherlands — **Central Veterinary Institute, Lelystad.**

1. Registration activities for a double-oil emulsion (DOE) vaccine for cattle and pigs (innocuity, potency, duration of maternal antibodies in piglets etc.).
2. Evaluation of a DAS-ELISA based on monoclonal antibodies for quantification of intact 146S particles for FMDV type A and O.
3. Implementation of the computerized epidemiological model for airborne transmission of FMDV.
4. Development of a PCR for detection of FMD viral RNA (especially in probang samples and semen).
5. Improvement and extension of capabilities for sub-typing of isolates by liquid-phase blocking ELISA and IDAS-ELISA (purchase of subtype-specific immune sera and inactivated antigens).

Spain — **Centro de Biologia Molecular, Universidad Autónoma de Madrid,**
Instituto Nacional de Investigationes Agrarias, Madrid,
Laboratorios Sobrino, Gerona.

1. Genetic and antigenetic variation of FMDV.
2. Persistence of FMDV in cell culture.
3. Studies on new vaccines and on molecular aspects of FMDV persistence (collaborative projects with groups in Pirbright and Wageningen, supported by the EC).

Switzerland — **Institut für Viruskrankheiten und Immunprophylaxe, Basel.**

1. Analysis of the capacity of bovine monocytes and different populations of macrophages at phagocytosing FMD virus complexed with specific antibody.
2. Analysis of the influence of activation/stimulation of bovine monocytes/macrophages on the phagocytosis of opsonized FMD virus.
3. Analysis of the relationship between opsonization-enhanced phagocytosis and protection against FMD in the bovine.
4. Analysis of the cellular requirements, and the interactions with leukines required for the primary and secondary in vitro stimulation of lymphocyte activity by FMD virus antigen. (The purpose is to determine the capacity of in vitro methodologies to accurately measure vaccine efficacy).
5. Analysis of vaccine potency in vivo, using challenge of bovines with FMD virus after vaccination; comparison of the results with those obtained from in vitro experiments.
6. Analysis of the cellular and humoral immune responses against non-structural FMD virus-infection-associated (VIA) proteins.
7. Application of PCR to the diagnosis of FMD, and determination of both the most appropriate primers and additional techniques or methodologies necessary to achieve the most effective diagnostic systems.

United Kingdom — Institute for Animal Health, Pirbright.

1. Molecular structure of FMDV and its recognition by antibodies.
2. Analyses of the variable regions of FMD virus that determine antigenic difference between virus strains.
3. Develop an expression system for the biosynthesis and manipulation of FMD capsids.
4. Manipulate the FMDV genome to generate strains with improved vaccine potential.
5. Construction of chimaeric strains of bovine enterovirus and FMDV.
6. Expression and properties of FMDV capsids using baculovirus vectors.
7. Structure, function and mechanism of FMDV proteinases.
8. Structure and function of the 5' non-coding region of FMDV.
9. T-cell immunity in FMD.
10. Investigate early infection and carriage of FMDV in the bovine respiratory tract.
11. Identify the origin of FMD outbreaks and improve selection methods for emergency vaccines.
12. Validate new tests for improved diagnosis of FMD and other vesicular virus diseases.
13. Preparation and characterization of mouse monoclonal antibodies and heterohybridomas against FMD virus and virus antigens.
14. Analysis of antigenic and amino acid sequence variation of FMD viruses in experimental systems.
15. Development of nucleic acid probe and PCR technologies for virus detection and characterization.
16. Validation of ELISA methods for the diagnosis of FMD by detection of antibodies against the virus-infection-associated antigen (VIAA) and development of assays to detect antibodies against other non-structural antigens.

Pitman-Moore, Pirbright.

1. Vaccine formulation (improved purification technology, improved duration of immunity, study of alternative adjuvants).
2. Antigen studies (novel antigen manufacture, epitope studies, improved stability, low temperature conservation).
3. Process technology (sterile ultrafiltration, improved antigen clarification).
4. Quality control (development of assay systems, ELISA, monoclonal antibodies).
5. Animal response to vaccination (regimen for vaccination of neonates, vaccination of goats).
6. Development of tissue culture and media.

OTHER LABORATORIES

Brazil — Pan American FMD Center of the Pan American Health Organization, Rio de Janeiro.

1. Studies on the molecular basis of viral pathogenicity and different aspects of virus persistence.

2. Development and improvement of methodologies related to

a) ELISA for the identification and quantification of virus and antibodies,
b) Production, characterization and selection of monoclonal antibodies for the diagnosis and for studying vaccine strains and challenge strains,
c) PCR for detection and characterization of virus from probang material,
d) Sequencing of viral RNA of capsid polypeptides to define the variability of the virus under different epidemiological conditions,
e) Expression of the viral RNA polymerase (VIA) in its native form and other non-structural antigens to be used to distinguish seropositive animals due to vaccination or infection.

Appendix 13

Review of the Commission's recommendations
World Reference Laboratory (WRL)

- World Reference Laboratory (WRL)

Background

At the third Session of the Commission, held in Rome in April 1957, it was decided "that a formal approach be made to the appropriate authorities in the United Kingdom with a view to the designation of the Virus Research Institute, Pirbright, U.K., as a reference laboratory for virus types, to maintain all the strains of virus and types-specific anti-sera, to label variant strains within types and to confirm typing of viruses on request from countries".

The Food and Agriculture Organization, because of its interest in the control of foot-and-mouth disease throughout the world felt that the activities of a Central Reference Laboratory should not be confined to European countries but should include all countries in which foot-and-mouth disease occurs.

The European Commission must also interest itself in the disease and the types of virus which are present in countries outside Europe.

At the Fifth Session of the Commission, Rome, April, 1958, it was agreed that the contract prepared between the Government of U.K. and FAO should include the interests of the Commission

It was also agreed that the sum of £250 should be the annual financial contribution from the Commission for the following two years to complement the sum of US$ 3 500 which FAO had agreed to contribute for each complete year of service as is shown in the relevant contract between FAO and the WRL and signed respectively on 18/6/58 and 10/7/58 (see copy attached to the document).

Position and activities

The WRL, Pirbright, was nominated in 1960 by OIE as the OIE WRL for FMD but no financial contribution has been granted to the WRL for the services provided to the OIE. The valuable work carried out by the WRL during the intervening 32 years is fully acknowledged by the Commission, the FAO, OIE, the countries concerned with FMD and other international organizations.

The financial contributions provided by the Commission and the FAO to the WRL are insufficient and the cost of staffing and running the World Reference Laboratory continues to be largely borne by the UK Government. Currently these are in excess of £1.0 million.

This matter was raised at various Sessions of the Commission by the delegate from UK and the Commission's response to this was to increase its contribution within the limits of its financial possibilities and to request FAO for a similar increase of its contribution.

Since 1958, when the first agreement was reached between FAO and the UK Government, the FAO's and the Commission's financial contributions have been as follows:

1958 -FAO US$ 3 500 plus Commission US$ 700
1983 -FAO US$ 2 000 plus Commission US$ 2 000
1984 -FAO US$ 3 000 plus Commission US$ 10 000
1988 -FAO US$ 5 000 plus Commission US$ 10 000

In January 1991, the Pirbright laboratory communicated to FAO that it was considered unreasonable that one country alone should be largely responsible and forever bear the cost of providing an international service.

The international service provided by the WRL should be realistically supported by the international agency responsible for the inception of the laboratory and which most heavily calls upon its services, namely FAO. Therefore, it is proposed that as a minimum FAO should support its FMD World Reference Laboratory by an annual financial contribution sufficient to cover the full economic cost of a senior scientific officer, including the cost of consumables; currently this would be US$ 100 000.

At the request of Dr. A. Donaldson, Head of the Pirbright Laboratory, UK, this matter is being submitted to the Twenty-ninth Session of the Commission for consideration both by the FAO and by the Commission.

Appendix 14

Financial Report

BUDGET FOR 1991
(Note by the Director-General of FAO)

1991 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. The proposed Annual Administrative Budget for 1991 totals US$211 706.

4. Under Code .10 "Personal Services", the budget estimates for 1991 allow as in 1990 for one P-5 Secretary to the Commission, one G-6 Administrative Assistant and temporary conference staff. Total contributions received in 1990 from Member governments amount to US$177 136; accrued interest amounted to US$28.

1991 Special Budget

5. In the Special Budget for the Special Account in 1991 it is recommended that the following amounts be provided for (a)US$3 000 to cover any necessary travel and per diem of the members of the Standing Technical Committee, and (b) US$4 000 towards the Collaborative Laboratory Study which is being carried out by the Research Group.

6. Attached is the Budget for 1991 which covers the Annual Administrative Budget and the Special Budget for the Special Account.

Assistance given by FAO

7. 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 as well as postal and cable services.

Trust Fund 9042 - MTF/INT/011/MUL - Inter-Regional
Commission for the Control of Foot-and-Mouth Disease
Status of Contributions as at 31 December 1990 (FINAL)

Member Governments	Outstanding 31/12/89	1990 Credits	Due 1990	Received 31/12/90	Outstanding 31/12/90	1991 Credits
Albania	$0.00	$0.00	$934.26	$930.39	$3.87	
Austria	$0.00	$0.00	$5,605.63	$5,606.63	$0.00	($1.00)
Belgium	$0.00	$0.00	$9,342.73	$9,342.73	$0.00	
Bulgaria	$0.00	($2,961.00)	$2,802.81	$0.00	$0.00	($158.19)
Cyprus	$0.00	$0.00	$934.26	$934.26	$0.00	
Czechoslovakia	$0.00	($291.01)	$5,605.63	$5,368.67	$0.00	($54.05)
Denmark	$0.00	$0.00	$9,342.73	$9,342.73	$0.00	
Finland	$0.00	$0.00	$5,605.63	$5,605.63	$0.00	
France	$0.00	$0.00	$18,685.48	$18,685.48	$0.00	
Germany	$0.00	$0.00	$18,685.48	$18,685.48	$0.00	
Greece	$0.00	$0.00	$2,802.81	$2,802.81	$0.00	
Hungary	$4,437.69	$0.00	$5,605.63	$0.00	$10,043.32	
Iceland	$0.00	$0.00	$934.26	$934.26	$0.00	
Ireland	$0.00	$0.00	$2,802.81	$2,802.81	$0.00	
Italy	$2,915.46	$0.00	$18,685.48	$21,666.40	$0.00	($65.46)
Luxembourg	$0.00	$0.00	$934.26	$934.26	$0.00	
Malta	$0.00	$0.00	$934.26	$934.26	$0.00	
Netherlands	$15.00	$0.00	$9,342.73	$0.00	$9,357.73	
Norway	$0.00	($2,242.25)	$2,802.81	$0.00	$560.56	
Poland	$6,707.26	$0.00	$9,342.73	$16,705.09	$0.00	($655.10)
Portugal	$0.00	$0.00	$2,802.81	$2,802.21	$0.60	
Spain	$3,691.78	$0.00	$9,342.73	$0.00	$13,034.51	
Sweden	$60.00	$0.00	$9,342.73	$9,402.73	$0.00	
Switzerland	$0.00	$0.00	$9,342.73	$9,342.73	$0.00	
Turkey	$0.00	$0.00	$5,605.63	$5,583.20	$22.43	
United Kingdom	$0.00	$0.00	$18,685.48	$18,633.48	$52.00	
Yugoslavia	$4,484.51	$0.00	$5,605.63	$10,090.14	$0.00	
	$22,311.70	($5,494.26)	$192,460.16	$177,136.38	$33,075.02	($933.80)

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE - TRUST FUND NO. 9042.00

Breakdown of expenditure against budget 1989/1990- approved budget 1991, proposed budget 1992

		1989		1990		1991**	1992***
		Budget	- Actual	Budget	- Actual*	Budget approved	- proposed
.10	Personal services						
	1 P5 An. Health Off.	94 000	91 853	101 000	100 962	108 500	116 095
	1 G6 Admin. Assist.	55 000	52 209	59 000	67 642	67 000	71 690
	Temporary assistance	10 500	12 374	7 000	-	12 000	4 000
	Overtime	2 000	1 913	500	-	1 200	1 000
	Home leave - bienn. entit.	4 500	2 834	-	-	4 500	-
	Total personal services	**166 000**	**161 183**	**167 500**	**168 604**	**193 200**	**192 785**
.20	Travel Sec./Chairman/Rapporteur	15 000	18 954	12 000	8 215	14 000	15 000
.30	Contractual services WRL	10 000	10 000	10 000	10 000	10 000	15 000
.40	Gen. Op. Expenses (hosp.misc.)	1 500	616	500	-	500	1 000
.50	Emerg.exp.Ch.II/Art.V of Constit.	-	-	-	-	-	-
	Total	**26 500**	**29 570**	**22 500**	**18 215**	**24 500**	**31 000**
			SPECIAL ACCOUNT				
.20	Travel Research Group	5 000	2 489	13 000	6 966	13 000	15 000
.30	Coll.Lab.study Ph.XI('90)Ph.XII('91)	5 000	-	2 000	2 000	4 089	3 000
.34	Publication of brochure (1989)	10 000	4 170				
Total		**20 000**	**6 659**	**15 000**	**8 966**	**17 089**	**18 000**
Unallocated balance 1992							5 225
TOTAL GENERAL AND SPECIAL ACCOUNTS		**212 500**	**197 412**	**205 000**	**195 785**	**234 789**	**247 010**

*1990 - actual expenditure for travel US$29 875 of which US$14 694 will be charged against 1991 budget and met from arrears outstanding at 31 December 1990 (US$33 075). Under Personal services actual expenditure for Admin. Assistant for 1990 includes an overall average salary increase of 10% retroactive to June 1990.

**1991 - proposed budget based on pledges US$211 706 + contribution from Israel US$3 083 + loan from TF 9097, US$ 20 000 to supplement exp. under temp. assist. and travel; total US$ 234 789. Any funds in excess of amount pledged for 1991 i.e. payment of arrears, balance following payment of outstanding commitments for 1990, to be used towards reimbursement of loan of US$20 000 taken from TF9097.

*** 1992 - proposed budget based on pledges following 15% increase (US$247 010) as agreed by Twenty-ninth Session.

5(24) May 1991

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

Trust Fund No. 9042 MTF/INT/001/MUL - INTERNATIONAL

Proposal for increase in contributions to be submitted to Twenty-ninth Session of the European Commission for the Control of Foot-and-Mouth Disease, Rome 23-26 April 1991

The Executive Committee at its Fifty-third Session held in Stockholm, Sweden, from 4 to 7 February 1991, having examined the financial position of the Commission concluded that in order to reconcile income/essential expenditure and to maintain the present activities of the Commission it would be necessary to submit a proposal for a 15% increase in contributions for consideration to and approval by the Twenty-ninth Session.

The Committee requested the secretariat to inform member countries immediately of this proposal in order to seek their support so that Delegates to the Twenty-ninth Session are vested with the necessary authority to commit governments when the proposal is presented. All Directors of Veterinary Services were informed of this decision either by FAX or letter.

A table showing the present scale of contributions and the proposed increase is attached hereto.

TRUST FUND NO. 9042 MTF/INT/001/MUL - INTERNATIONAL

Proposal for 15% increase in annual pledges to become effective 1.1.1992

Government of	Present scale	+15%	Proposed scale as of 1.1.1992
	US$	US$	US$
Albania	1 027.68	154.15	1 181.83
Austria	6 166.19	925.37	7 091.56
Belgium	10 277.00	1 541.55	11 818.55
Bulgaria	3 083.09	462.45	3 545.54
Cyprus	1 027.68	154.15	1 181.83
Czechoslovakia	6 166.19	925.37	7 091.56
Denmark	10 277.00	1 541.55	11 818.55
Finland	6 166.19	925.37	7 091.56
France	20 554.02	3 083.10	23 637.12
Germany, Fed.Rep.	20 554.02	3 083.10	23 637.12
Greece	3 083.09	462.45	3 545.54
Hungary	6 166.19	925.37	7 091.56
Iceland	1 027.68	154.15	1 181.83
Ireland	3 083.09	462.45	3 545.54
Israel	3 083.09	462.45	3 545.54
Italy	20 554.02	3 083.10	23 637.12
Luxembourg	1 027.68	154.15	1 181.83
Malta	1 027.68	154.15	1 181.83
Netherlands	10 277.00	1 541.55	11 818.55
Norway	3 083.09	462.45	3 545.54
Poland	10 277.00	1 541.55	11 818.55
Portugal	3 083.09	462.45	3 545.54
Spain	10 277.00	1 541.55	11 818.55
Sweden	10 277.00	1 541.55	11 818.55
Switzerland	10 277.00	1 541.55	11 818.55
Turkey	6 166.19	925.37	7 091.56
United Kingdom	20 554.02	3 083.10	23 637.12
Yugoslavia	6 166.19	925.37	7 091.56
TOTALS	211 706.34	31 758.47	247 010

Appendix 15

Future policy of the Commission in the light of developments in FMD control and prophylaxis in Europe

The favourable disease situation so far established in Europe and the European Communities' decision to discontinue vaccination from 1 January 1992, which has also been accepted by those non-EEC countries which are still vaccinating, will result in the application of the EEC policy in the whole of Europe.

In view of the developments in Europe, the Commission's future policy needs to be discussed in the light of the new situation in order to review its future position and activities especially after 1993 when the no-frontier policy will come into effect in the European Community countries.

The Commission's future activities should be carried out in conformity with its Constitution and with the recommendations of the Fifty-third Session of the Executive Committee and those of the Twenty-ninth Session. The Executive Committee at its Fifty-third Session recommended, inter alia, that there be no disruption in the continuity of the work of the secretariat at the present time.

In addition, the Executive Committee at its Fifty-third Session reiterated the recommendadion made at the Fifty-second Session, i.e. that the Commission's activities cannot and should not be expanded at present. This will be considered in the light of new developments in Europe.

Based on this recommendation, the future activities of the Commission should be discussed/reviewed taking into account the following options:

a) to review the position of the Commission in light of the disease situation and policy developed in Europe, and assess the future of the Commission,

b) to expand its activities in Europe to include other infectious diseases

c) to extend its activities to areas beyond the European continent

Before any decision is taken in respect of the future activities of the Commission, a careful assessment of the financial implications for the carrying out of such activities must be made.

The present financial position of the Commission has been adversely affected by the decline in the dollar exchange rate (expenditure is generally incurred in European currencies while contributions are determined and paid in US dollars).

The present and recent past level of activities can only be maintained if adequate financial provisions are made which would require an increase in contributions by member countries.

Appendix 16

List of Participants

Austria

Dr. Peter Weber
Head of the Veterinary
Administration, Federal Ministry
of Health, Sports and Consumer
Protection
Radetzkystrasse 2
A-1030 Vienna

Belgium

Dr. Leon Hallet
Inspecteur Général F.F.
Ministère de 1'Agriculture
Manhattan Center
21 Avenue du Boulevard
1210 Bruxelles

Bulgaria

Dr. N.T. Belev
Chairman, State Veterinary Services
Ministry of Agriculture
15a Boul. P. Slaveikov
1606 Sofia

Dr. R. Kassabov
Director, Veterinary Institute
for FMD and Exotic Viral Diseases
75 "Trakia" blvd
8800 Sliven

Cyprus

Mr. Chrysanthos Loizides
Agricultural Attaché
Permanent Representation of
Cyprus to FAO
44 Piazza Farnese
00186-Roma

Czechoslovakia

Dr. Frantisek Fejfar
Chief Veterinary Officer
Federal Ministry of Economy
Tesnov 17
117 05 Praha One

Dr. P. Zizka
Secretary, CZ National Committee
for Cooperation with FAO
Federal Ministry of Economy
Tesnov 17
117 05 Praha One

Dr. P. Flachsel
Director
Bioveta, Terezín

Dr. M. Soph
Veterinary Officer
Ministry of Agriculture State
Veterinary Administration
S.V.A. Tésnov 17
117 05 Praha One

Denmark

Dr. Erik Stougaard
Chief Veterinary Officer
Danish Veterinary Service
Ministry of Agriculture
Rolighedsvej 25
DK-1958 Frederiksberg C

Dr. Morten Eskildsen
Director
State Veterinary Institute
for Virus Research
Lindholm, DK-4771 Kalvehave

Finland

Dr. Rolf Berger
Director General of Vet. Services
Ministry of Agriculture and Forestry
Vourikatu 16
00100 Helsinki

Mrs Riitta Heinonen
Senior Veterinary Officer
Ministry of Agriculture and Forestry
Vourikatu 16A
00100 Helsinki

France

Dr. G. Bédès
Sous-Directeur de la Santé
et de la Production Animales
Direction Général de l'Alimentation
Ministère de l'Agriculture
175 rue de Chevaleret
75646 Paris Cedex 13

Germany

Dr. Hermann Pittler
Head of Division
Federal Ministry of Food,
Agriculture and Forestry
Rochusstr. 1
5300 Bonn 1

Greece

Dr. Christos Pappous
Directeur du Centre des
Institutions vétérinaires d'Athènes
rue Acharnon 2
10176 Athènes

Hungary

Dr. Tibor Soos
Director, Veterinary and Food
Control Service
Institute for Biologicals and Drugs
1107 Budapest
Szallas u.8

Dr. Tibor Bálint
Section Chief
Ministry of Agriculture
P.O. Box 1
Kossuth Lajos-tér. 11
1860 Budapest V.

Ireland

Dr. G. Cullen
Director of Veterinary Services
Department of Agriculture and Food
Agriculture House
Kildare Street
Dublin 2

Israel

Dr. A. Shimshony
Director of Veterinary Services
and Animal Health
Ministry of Agriculture
Beit Dagan, P.O. B. 12

Italy

Dr. L. Bellani
Direttore Generale dei Servizi
Veterinari
Ministero della Sanità
Piazza Marconi - Grattacielo Italia
00144-Roma (EUR)

Dr. F. Fabbrovich
Vice Direttore Generale dei
Servizi Veterinari
Ministero della Sanità

Dr. S. Giuliano
Direttore di Divisione
Ministero della Sanità

Dr. R. Zoletto
Istituto Zooprofilattico delle
Venezie
via G. Orus 2
35100-Padova

Dr. M. Amadori
Istituto Zooprofilattico Sperimentale
della Lombardia e dell'Emilia
v. Bianchi 7
25125-Brescia

Dr. M. Valpreda
Responsabile dei Servizi Veterinari
dell'Assessorato alla Sanità
della Regione Piemonte
Via S. Domenico 46
Torino

Dr. S. Borrello
Dirigente Veterinario
Ministero della Sanità

Italy (cont'd)

Dr. A. Pini
Istituto Superiore di Sanità
Viale Regina Elena 299
00161-Roma

Malta

Dr. C.L. Vella
Principal Veterinary Surgeon
Ministry of Agriculture and Fisheries
Old Mint Street
Valletta

Netherlands

Dr. J.A. Smak
Senior Veterinary Officer
Ministry of Agriculture,
Nature Management and Fisheries
Bezuidenhoutseweg 73
2500 EK The Hague

Norway

Dr. G. Bakken
Director of Veterinary Services
Ministry of Agriculture
P.O. Box 8007
0030 Oslo I

Poland

Dr. J. Kolacz
Head of Animal Health Division
Ministry of Agriculture
and Food Economy
30 Wspólna Str.
00-930 Warsaw

Portugal

Dr. João Manuel Machado Gouveia
General Director of Livestock
Ministério da Agricultura, Pescas
e Alimentaçao
Largo da Academia Nacional
das Belas Artes, no.2/3
1200 Lisbon

Dr. Diogo M. Santos Gamboa da Costa
Head of Division of Epidemiology
Ministério da Agricultura, Pescas
e Alimentaçao
Largo da Academia Nacional
das Belas Artes, no.2/3
1200 Lisbon

Spain

Dr. C. Escribano
Subdirector General de Sanidad
Animal
Ministerio de Agricultura, Pesca
y Alimentación
Calle Embajadores no. 68
28012-Madrid

Dr. J.L. Ladero Alvarez
Ministerio de Agricultura, Pesca
y Alimentación
p. Infante Isabel 1
28012-Madrid

Sweden

Dr. B. Nordblom
Director of Veterinary Services
National Board of Agriculture
S-55183 Joenkoeping

Dr. Sven Johansson
Head of Division for Contagious
Animal Diseases
National Board of Agriculture
S-55183 Joenkoeping

Dr. Anders Engvall
State Epizootiologist
National Veterinary Institute
S-750 07 Uppsala

Switzerland

Dr. P. Gafner
Directeur de l'Office vétérinaire
fédéral
Département fédéral de l'économie
publique
Schwarzenburgstrasse 161
3097 Liebefeld-Bern

Turkey

Dr. E. Istanbulluoglu
Director-General Veterinary Services
Ministry of Agriculture, Forestry
and Rural Affairs
T.B. Veteriner Isleri
Ankara

United Kingdom

Dr. K.C. Meldrum
Chief Veterinary Officer
Ministry of Agriculture, Fisheries
and Food (MAFF)
Govt. Bldg./Block B. Hook Rise South
Surbiton, Surrey KT 6 7NF

United Kingdom (cont'd)

Dr. K.C. Taylor
Assistant CVO, MAFF

Dr. P.M. Philip
Senior Veterinary Officer, MAFF
(Rapporteur)

Yugoslavia

Dr. Miladin Radovanovic
Chef de Service vétérinaire
Ministère de l'Agriculture
Bulevar Avnoj-A 104
Belgrade

OBSERVERS

EEC

Dr. J. Janssen
Chef d'Unité à la Direction
générale de l'agriculture
Commission des Communautés européennes
rue de la Loi 200
1049 Bruxelles
Belgique

Dr. B. Marchant
Administrateur Principal à la
Direction générale de l'agriculture
Commission des Communautés européennes

Dr. H. Batho
Administrateur principal à la
Direction générale de l'agriculture
Commission des Communautés Européennes

International Organizations

OIE

Dr.J. Blancou
Director Général de l'Office
International des epizooties
12 rue de Prony
75017 Paris
France

Dr U. Kihm
Président de la Commission de l'OIE
de la F.A. et autres epizooties
Institut vaccinal fédéral
Hagenaustrasse 74
CH-4000 Bale 25
Switzerland

PAHO

Dr. Raul Casas Olascoaga
Director, Pan American FMD Center
PAHO/WHO Caixa Postal 589
Rio de Janeiro
20001 Brasil

Australia

Dr. Kevin Dunn
Counsellor, Veterinary Services
Australian Mission to the EEC
rue Guimard 6-8
1040-Bruxelles
Belgique

Canada

Dr. Brian R. Jamieson
Chief, Foreign Animal Diseases
Ministry of Agriculture
2255 Carling Ave.
Ottawa, Ontario
KIA0Y9

Egypt

Dr. Yousef A. Hamdi
Agricultural Counsellor
Embassy of the Arab Republic of Egypt
via Salaria 267 (Villa Savoia)
00199-Rome

France

Dr. M. Lombard
Directeur de Produits F.A.
Rhône-Mérieux
29 Avenue Tony Garnier
B.P. 7123
69348-Lyon

Libya

Dr. Taher Matoug
Virologist, Ministry of Agriculture
Tripoli

Morocco

Dr. Abdeladim Lhafi
Directeur de l'elevage et des
Services vétérinaires
Ministère de l'Agriculture et de la
réforme agraire
1 rue Jaffer Essadig
Rabat

Morocco (cont'd)

Dr. Mustapha Sinaceur
Conseiller
Représentant permanent
adjoint
Ambassade du Royaume du Maroc
via Lazzaro Spallanzani 8-10
00161-Rome

Sudan

Dr. Gamal Mohamed Ahmed
Counsellor (Agricultural Affairs)
Embassy of the Republic of Sudan
Villa San Sebastiano
Viale di Porta Ardeatina 1vices
00154 Rome

Tunisia

Dr. Amor Ben Romdhane
Ministre Plénipotentiaire auprès
de la FAO
Représentation permanente de la
République tunisienne aurpès
de la FAO
via Asmara 7
00199-Rome

United Kingdom

Dr. Alex Donaldson
Head of Laboratory
AFRC Institute for Animal Health
Pirbright Laboratory, Ash Road
Pirbright, Woking, Surrey

USA

Dr. J.F. Karpati
APHIS Attaché
International Services, APHIS, USDA
American Embassy
Via Veneto 119/A

USSR

Dr. Alexandre Burdov
Director
FMD Research Institute
State Committee for Food and Purchasing
Vladimir

Dr. V. Popovtsev
Chief, Veterinary Control
State Committee for Food and
Purchasing
Orlikov Per. 1/11
Moscow

FAO

Dr. E.P. Cunningham
Director, AGA

Dr. V. Kouba
Chief, Animal Health Service, AGA

Secretariat

Dr. P. Stouraitis
Secretary, EUFMD

Ms. J. Raftery
Administrative Assistant, EUFMD

Ms M.C. Brunet
Bilingual Typist, EUFMD