REPORT

Rome,
Italy,
27-29 April
2005

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

Thirty-sixth session

Food and Agriculture Organization of the United Nations

AGA: EUFMD/05

REPORT

of the

THIRTY-SIXTH SESSION

of the

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

FAO HQs
Rome, Italy

27-29 April 2005

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2005

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1. Countries in the European region which are not recognized as officially free of FMD should be encouraged to progress towards gaining free status, and are encouraged to call upon technical assistance through the EUFMD Commission, OIE and EC.

2. The Commission should continue work on the global distribution of FMDV infection, working with interested parties to develop models of global distribution that assist the international community in directing control efforts and the free countries in their risk assessment requirements. In this effort, significant effort should be made to improve the accuracy and credibility of the global distribution models through validation of the opinions and through gathering additional factual epidemiological data.

3. The capacity of veterinary services to monitor and control outbreaks should be brought into future work on global FMD observation where relevant to risk assessment and to better identify constraints to regional and global FMD control.

Item 3. Progress towards FMD freedom in Europe

4. EUFMD-FAO in cooperation with other international agencies (such as OIE and EC) should continue to focus its activities along the East-West corridor from Central Asia to Europe and should co-ordinate the various ongoing projects in this region. In each of the affected countries a special effort should be made to engage stakeholders in the livestock industry.

5. EUFMD should support the activities that Turkey has proposed and should lend financial and technical assistance to short-term initiatives planned for 2005 and 2006 in both Thrace (serosurveillance) and Anatolia (epidemiological studies).

6. For Transcaucasus countries, EUFMD should continue to assist in the implementation of serosurveillance programmes, in ensuring proper storage and use of vaccine, in staff-training and co-ordinating these activities in the three countries. The EUFMD should organize a feasibility study in 2005 to prepare the final project document for a 3 year programme of actions to commence in 2006 to assist the three countries to establish effective and sustainable FMD control. The EUFMD, EC, FAO and OIE should continue to press for the cessation of the production and application of FMD vaccine that does not meet international standards, and particularly those produced in rabbits (lapinised vaccines).

7. EUFMD should proceed with the first phase of the Central Asia FMD Surveillance Centre initiative and seek to ensure that funds are secured from the EU for the proposed second regional phase.

8. Every effort should be made by EUFMD in co-operation with FAO and OIE to get reliable information on the current FMD situation in both Iraq and Syria.

Item 5. Strategic Plan 2005-8

9. The Strategy should be implemented and the Executive Committee should ensure that suitable projects are identified and progress towards their implementation and achievement are monitored, evaluated and reported at six monthly intervals.

10. The possibility that FMD emergencies could interfere with the achievement of objectives and that their postponement or cancellation should be recognised and managed by the Executive Committee. Wherever possible, however, such emergencies should not be allowed to divert funds previously allocated to the strategic objectives.

11. The EUFMD should continue to support the implementation of comprehensive actions for the surveillance and effective response to FMD in the southern Balkan region (Greece, Bulgaria and the whole of Turkey).

12. The EUFMD should increase effort to support the monitoring and control of FMD in the areas threatening south eastern Europe and in particular in the countries to the south and east of Turkey and the south Caucasus.

13. The EUFMD together with partners should encourage those on the eastern borders of the enlarged European Union, which are not officially free of FMD to progress towards gaining and maintaining an officially recognised free status.

14. Higher attention and support should be given by the EUFMD Commission, in collaboration with EC and OIE, to the monitoring and control of FMD in African countries north of the Sahara.

15. The EUFMD should work to improve virus observation and risk analysis through supporting virus submission to the WRL and other FAO/OIE reference laboratories from risk areas for Europe, and through support to achieve a global FMD virus information system through the networking of FMD Reference Laboratories.

16. The EUFMD should ensure that a concise, current status report to EUFMD members and other linked organisations at regular intervals is made of global epidemiological information on FMD using a range of relevant sources of information. In so doing the maximum possible use should be made of existing information systems and networks.

17. The EUFMD should assist in the coordination of technical and scientific studies, to address constraints in the implementation of policies for the control of FMD.

18. The EUFMD should work with member countries and partners to develop initiatives that have the aim to raise and retain expertise and competence in FMD management. The initiatives should be based on the needs of the member countries and on identified best practises, and make best use of the opportunities from other parts of the EUFMD programme including actions in infected countries, through the research group network and its activities and in other relevant areas.

Item 6. Global Surveillance

19. EUFMD should continue to provide targeted support for the delivery of specimens to the WRL for virus characterisation.

20. Proficiency testing (which should be clearly separated from the process of producing reference sera) should be conducted on an annual basis with more emphasis on NSPE; future inter-laboratory exercises should place more emphasis on quality control, on SAT-type serodiagnosis and on the standardisation of serological methods for assessing vaccine protection.

21. FMD Reference laboratories should agree on a memorandum of understanding to facilitate exchange of materials and information between them and should develop web-based tools for sharing this information.

22. EUFMD and other agencies (OIE, FAO and the EC) should, where possible, provide suitable support to assist networking between FMD reference laboratories.

23. The EUFMD Executive Committee should engage in discussion with OIE and FAO on the creation of an FAO-EUFMD/OIE network of FMD specialised laboratories, epidemiology centres, and other competent expert groups.

24. The difficulties to arrange transportation of diagnostic samples can be expected to continue, and therefore the OIE, EC and EUFMD/FAO should ensure a continuum of effort in relation to the relevant UN Committees and IATA in order to avoid unwarranted levels of restrictions that affect disease surveillance and access to reference laboratories.

Item 7. Report of the Research Group

25. The EUFMD Research Group should present a prioritized action plan for 2005-2007 at the next Session of the Executive Committee.

26. The Executive Committee should ensure that this action plan addresses the technical needs of member countries.

27. The Research Group should make increased use of epidemiological expertise to ensure that its various activities meet the needs of decision makers in FMD control policy and planning.

28. The Research Group and the FAO WRL should co-ordinate their activities with those of the EU Community Reference Laboratory for FMD (whenever this is designated). This should include, at least, an invitation to the EU-CRL to be represented at each Research Group Session.

29. Studies should be urgently conducted on virus survival in milk products.

30. Attention should be given to issues that affect uptake and use of portable diagnostic devices ("penside tests") for use in emergency situations in normally free countries.

Item 8. European FMD expertise and technical capacity

31. The need for a common training course was endorsed and the Secretariat was urged to pursue the further definition of the precise requirements and the detailed consideration of

the structure, content, management and financing of the training programme.

32. The EUFMD Secretariat should urgently convene a working group with clear terms of reference to further investigate the definition of appropriate training. The working group should be convened within one month of the General Session and would be expected to bring forward to the Executive Committee detailed proposals for the structure, content, management and financing of an appropriate training course within six months of its appointment.

Item 9. FMD vaccine and antigen banks

33. The results of the survey in respect of information on the virus strains and the number of dose equivalents of material stored, both in total and by individual countries, should be held in safe keeping by the EUFMD Secretariat, and only divulged at the written request of the Chief Veterinary Officer (CVO) of the member country or the nominated official of DG-SANCO of the EC (Section E), or the nominated official of the FAO (Chief Veterinary Officer of FAO).

34. A working group should be created to bring forward proposals for rules governing the control of antigen and vaccine bank information, including aspects of both confidentiality and freedom of information. The proposals should be delivered within six months of the General Session and would be considered by the EUFMD Executive Committee prior to circulation to member countries for comment.

35. The EUFMD Commission, through the Research Group and WRL, should continue to prepare recommendations every two years on the contents of the European FMD vaccine and antigen banks, and to advise the Executive in the intervening period, and in doing so, should make greater use of relevant risk assessment procedures.

36. The EUFMD Research Group and the EUFMD Secretariat should continue to participate actively in the work towards a global vaccine bank network being undertaken by the partners of the EU FP6 Co-ordination Action and through the OIE ad hoc group.

37. The EUFMD Secretariat should maintain a watching brief on the activities of the European Medicines Evaluation Agency (EMEA) in respect of FMD vaccine licensing and particularly on progress towards the revision of Directive 2001/82/EC and the proposed inclusion of the Antigen Master File concept.

Item 10. Demonstrating freedom from infection after emergency vaccination

38. Participants at the Brescia workshop should complete their analysis of the data generated and publish the results of the comparative evaluation as soon as possible.

39. The EUFMD Secretariat should assist with field studies aimed at collecting suitable materials from small ruminants and pigs to evaluate NSP test performance for those species.

40. In devising post-vaccination surveillance strategies, member countries should bear in mind that: (i) NSP tests are only one component and can "substantiate" rather than "demonstrate" disease freedom and (ii) absolute certainty cannot be achieved and the concepts of "design prevalence" and "confidence levels" have to be understood.

41. Member countries should urgently consider if the requirements of the OIE Code Chapter should be revised, in particular relating to the demonstration of absence of infection and surveillance requirements, for FMD free countries which use "vaccination to live" as part of the eradication policy.

42. The EUFMD Research Group should advise on how NSP antibody detection tests might best be used as part of a post-vaccination surveillance strategy in different species and populations where a vaccinate-to-live policy has been decided. In formulating this advice, the objective(s) of surveillance needs to be precisely defined and the limitations of various strategies need to be clearly described.

43. Studies aimed at establishing the most appropriate design prevalence for surveillance should be encouraged along with comparisons between the risks posed by vaccination and non-vaccination policies.

Item 12. Financial matters

44. The Commission should, as far as possible under the procedures of the FAO, express the budget contributions in Euro, and to provide the financial statements in Euro, or Euro equivalent to the currency (US $) in use in the administrative system of the Organization.

45. The Chairperson should write to the authorities in member states that are in arrears to remind them of their obligations under the Constitution.

REPORT

INTRODUCTION

Dr Karin Schwabenbauer, President of the EUFMD Commission, opened the 36th General Session and introduced Dr Samuel C. Jutzi, Director of the Animal Production and Health Division of FAO.

OPENING CEREMONY

Opening address by Samuel C. Jutzi, Director, AGA

Dr Schwabenbauer, President of the EUFMD Commission, Members of the Executive Committee of the EUFMD, Delegates of the Veterinary Services of Member States, Observers of the European Commission and OIE, observers from N. America and the Maghreb, colleagues,

It is a great privilege for me, Director of the Animal Production and Health Division to open the 36th Session of the EUFMD Commission. I do this not only in my name, but also on behalf of the Director-General of FAO, Dr Jacques Diouf and of the Assistant Director-General of the Agriculture Department, Dr Louise Fresco.

EUFMD is the first, and thus the oldest and most mature FAO Commission, and my Division is privileged to have hosted this Commission for more than 50 years.

As I said, on previous occasions, I have had personal ties to the European efforts to master this disease on the continent: I have witnessed, as the son of a farmer, the real threat to rural livelihoods by this devastating disease.

EUFMD has always, and continues to contribute in a catalyst mode to the FMD eradication process on the continent, and it not only keeps a close watch on the virus circulation internationally and in particular at Europe's footsteps, but also constantly upgrades and updates the tools for disease prevention and control.

EUFMD has a small, but agile Secretariat, a high quality Research Group and has the tripartite FAO/OIE/EC mechanism at hand for strategic and rapid agreed intervention. EUFMD's structure is therefore, in my assessment, close to optimal and worth emulating. I note with pleasure the decisions of the Commission to expand its active FMD watching brief much beyond Europe; this is excellent evidence of pro-active programme evolution. Through many decisions, the role of the EUFMD secretariat in early warning and crisis preparedness will be decisively strengthened.

I believe I am correct when I state that the tools for FMD control are basically available and becoming more and more sophisticated thanks to the activities of the EUFMD Research Group. The fact that FMD is, however, persisting in many areas of the world is therefore basically due to insufficient political will to use such tools. We are in a period of time when we observe increasing frequency and impact of animal diseases, particularly of transboundary and also sporadic nature. This has to do with rapidly increasing domestic animal densities in many tropical and sub-tropical areas, to ever closer contact among different animal species and with man, with the globalization and liberalization of livestock and animal product trade, with much increased human mobility areas, large distances and other factors.

The current HPAI crisis in Asia may serve as an example of magnitude, dynamics and impact of such disease emergence. More than ever before, EUFMD has a crucial role to play for the interaction of member states' CVOs on how to face the continuing and probably increasing disease risks. EUFMD is there to serve such purposes, of a platform and fast intervention force.

In conclusion, I would like to single out a few personalities and institutions which have contributed, and continue to contribute to EUFMD's success:

Dr Karin Schwabenbauer, the dynamic leader of the Commission, Dr Kris De Clercq, the able coach of the EUFMD Research Group; both Drs Joseph Domenech and Bernard Vallat for reconfirming their trust in EUFMD; the European Commission without whose support EUFMD would not be in existence. All members of the Commission including the ones joining EUFMD's secretariat staff and prominently the Government of Ireland which has now for the third time in a row provided an Associate Professional Officer to the EUFMD Secretariat.

I perceive a strong general support for EUFMD and its vision and work programme as the platform for the fight against this devastating disease – devastating for Europe, but also for many other parts of the world. I can assure you of all FAO's support for this important body.

I wish you fruitful and rewarding deliberations in your Session.

Thank you.

REPORT OF THE GENERAL SESSION

Item 1. Adoption of the Agenda

The Agenda was adopted as proposed (**Appendix 1**).

Item 2. Overview of the FMD situation in Europe and other regions

An overview of the regional situation, and of the wider FMD situation, was presented by Keith Sumption, the Secretary of EUFMD. The main points are summarized within **Appendix 7**.

He emphasized that in the period since the 35th Session, there had been:

- No confirmed outbreaks of FMD in the EUFMD member countries which are considered to be officially free of FMD.
- No confirmed FMD outbreaks in the Trans-Caucasus countries (Georgia, Armenia and Azerbaijan).
- No confirmed FMD outbreaks in the Thrace region of Turkey, or in approximately half of the 81 Provinces of Turkey.

He emphasized that this did not occur by chance, but through continuous effort of the member countries and international organizations, principally the actions of the European Commission (EC), including those with EUFMD/FAO and OIE and others that have as their aim the reduction of risk to Europe.

He stressed that there is much yet to improve, and that in this period no additional European country had gained officially recognized freedom on a zonal or full country basis, a relatively

poor level of progress compared to countries in South America. He considered it important that we ask if enough is being done to encourage countries in the European neighbourhood to gain free status where FMD has not been reported for several years.

He emphasized that parts of Europe remain at high risk, particularly in the south-eastern corridor (Turkey, Iran and the Trans-Caucasus countries), and outlined some of the initiatives that the Commission had undertaken in the support of FMD control in this region over the past two years. He stressed the importance of: (i) understanding the basis of persistence of FMD in endemic regions; (ii) understanding local policy failures; (iii) engagement with stakeholders in the livestock industry in the problem areas; (iv) continuing effort at regional and national level, in order to eventually control FMD in these countries.

The Secretary also addressed issues of global risk and its assessment; in response to the 35th Session recommendations the Secretariat had conducted a survey of expert opinion to identify critical areas from which FMD virus information was lacking and on the basis of the priorities identified, had provided assistance with the delivery of specimens from some endemic countries (to the FAO/OIE world reference laboratory for FMD (WRL), Pirbright, UK for virus-typing). In addition, through collaboration with the European Food Safety Authority (EFSA) significant and on-going effort is being made to re-assess risk of entry of FMD virus into Europe requiring new methods and approaches to deal with variation in provision of FMD information by countries to the OIE.

The floor was then provided to Dr William Wint, FAO Consultant, to present the approach taken **(Appendix 2)** to improve the risk assessment process for purposes of EFSA and EUFMD member countries in a pilot study which had been funded by EUFMD. The objective of the study was to define a logical basis for mapping the "expected prevalence" of FMD for regions in which the status was uncertain, for example where the country did not report the number of outbreaks or the level of reporting was considered far below the actual situation. Dr. Wint showed how patterns of livestock movement can be deduced by analysis of trade and husbandry-related indices, whilst "incidence indicators" can be produced from expert opinion (ranking the pattern and frequency of FMD occurrence) and a combination of additional disease-related parameters. These "incidence indices" can then be combined with livestock density distributions to provide an indication of levels of FMD infection in different geographic regions and may even provide useful information on the likely prevalence of FMD at sub-national level. Dr. Wint emphasized that this was very much a work-in-progress and invited comments and constructive criticism from the audience. In addition he said that real epidemiological data would be required from some endemic regions to "ground-truth" the model.

In discussion the points were made that:-

- Effort should be made to indicate the capacity and effectiveness of Veterinary Services to counter FMD, since the risk from a country depends in part on the capacity to control epidemics.
- As it may be impossible to obtain reliable information for some countries, the best means of validating the indicators and indices would be to test them out for a country where the data is established as being reliable and, once validated, to investigate their usefulness in a country where the data is poor.
- The approach taken, of using data from one region to apply to other regions which exhibit commonalities (e.g. of climate, husbandry etc) when other data elements are deficient in the second country, requires effort to validate with "ground truth" studies.

- Epidemiological data could be sought from known "hotspot" areas in Turkey and Iran and this data could be used to validate and refine the model.

The full report is given as **Appendix 3.**

Conclusion

1. Results of the pilot study suggest that even for those countries in which quantitative FMD data is currently not available, such methods can provide useful information on the likely prevalence of FMD at sub-national level. However, further work will be required to refine and improve the data and the techniques used.

Recommendations

1. Countries in the European region which are not recognized as officially free of FMD should be encouraged to progress towards gaining free status, and are encouraged to call upon technical assistance through the EUFMD Commission, OIE and EC.

2. The Commission should continue work on the global distribution of FMDV infection, working with interested parties to develop models of global distribution that assist the international community in directing control efforts and the free countries in their risk assessment requirements. Significant efforts should also be made to improve the accuracy and credibility of the global distribution models through validation of the opinions and through gathering additional factual epidemiological data.

3. The capacity of veterinary services to monitor and control outbreaks should be brought into future work on global FMD observation where relevant to risk assessment and to better identify constraints to regional and global FMD control.

Item 3. Progress towards FMD Freedom in Europe

(i) FMD situation in Turkey

The current FMD situation in Turkey was reported by Dr Sinan Aktaş, ŞAP Institute, Ankara **(Appendix 4)**. Fifty one outbreaks of clinical FMD were reported in 2003, 75 in 2004 and 27 in 2005 (to the end of March). Although Asia 1 has not been associated with any outbreaks of FMD in Turkey since April 2002, the current situation in Iran where this serotype is widespread, is of great concern to the Turkish veterinary authorities. The recent virus sequences support the hypothesis that persistence of type O occurs in Turkey, and that type A viruses may enter to outcompete, or exist alongside the strains already present. However, since antigenically all of the A-type viruses were quite close to A Iran 96 and the O-types were all related to O1 Manisa, the ŞAP Institute had not changed the antigens present in the vaccine in the last two years. An EUFMD-funded study had shown that although the numbers of outbreaks of FMD caused by each of serotypes O and A had decreased between the two periods studied (1990-1996 and 1997-2002), infection appeared to persist in specific "hotspot" areas, which should be given more attention in control programmes. Dr Aktaş outlined proposed changes to the vaccination strategy for Turkey in 2005-2006; in particular stating that the aim would be to achieve 100% vaccination coverage throughout the country. To facilitate this, a scheme has been initiated to subsidize the involvement of private veterinary practitioners in FMD vaccination campaigns during 2005. It is also intended to continue with post-vaccination serosurveillance and follow-up investigations, as were implemented in Thrace during 2003 and 2004. In addition, improvements have been made

in the manufacturing process at the ŞAP Institute to comply with rules for GMP and to increase vaccine production.

Dr Aktaş also provided details of an eight year programme for FMD control commencing in 2007 and expected to cost an estimated €230 million. This should involve mass annual vaccination of all cattle and small ruminants in the entire country over a three-year period (2007-2009) followed by strategic vaccination for a further five years. Policy and administrative changes to facilitate this programme have been proposed, including: completion of the system for individual identification and registration of animals, with expectation of a fully functional system for cattle by the end of 2006, and thereafter extended to include small ruminants in the Thrace region); market and trade controls; compensation schemes for livestock farmers; contingency planning; and breeding programmes to increase the productivity of livestock in south-eastern provinces with the aim of providing an incentive for compliance with FMD control measures and to raise the likelihood of detection of clinical cases in "improved animals".

In response to a question on the vaccine production capacity of the ŞAP Institute, Dr Aktaş said that EU-funded equipment which is currently being installed will allow production of 70 million monovalent cattle doses in 2006. The ŞAP Institute and the General Directorate for Protection and Control were praised for their previous collaboration with the EUFMD Research Group and were commended for this latest initiative. The need for political support for their ambitious programme was emphasized as was the importance of motivating livestock owners to comply with rules and regulations, through incentives and penalties.

(ii) FMD control in Trans-Caucasus

The Secretariat provided a paper (**Appendix 5**) outlining the main actions and issues arising from the involvement of the EUFMD Commission, working with OIE and EC, in this region in the last two years. The situation report was provided by Carsten Pötzsch, (FAO consultant) based on his missions to the three countries to monitor buffer zone vaccination in 2004 and subsequent assistance given to EUFMD in developing a proposal for a longer term project for FMD control in this region. Although no outbreaks of FMD were reported from this region in 2003 and 2004, vaccination campaigns were conducted in border areas (buffer zones) between the countries using trivalent vaccine provided by EUFMD and funded by EC, sourced from the All-Russian Research Institute for Animal Health (FGI-ARRIAH). Problems which were identified in his missions included: the presence of informal livestock markets; overstaffed and underpaid state veterinary services, lacking training and other resources for field and laboratory investigations; inadequate storage facilities for vaccine in the field (probably resulting in decreased vaccine potency) and geographic gaps in vaccine coverage (in politically-troubled areas). The principle recommendations were: that improvements be made in vaccine storage facilities; that serosurveillance studies be implemented (a baseline study followed by a longitudinal study); that the role of ARRIAH be defined and that regional co-operation be promoted for both surveillance and control activities and that staff receive appropriate training in epidemiology and laboratory methodology.

Dr Pötzsch noted that Georgia had ceased production and use of lapinised FMD vaccine. The EUFMD Commission with OIE and EC had pressed for this over the past 6 years, but change was really a result of agreements between US and Georgia for a 7 year biosecurity programme. He noted that Armenia continued to produce and use lapinised vaccine.

In discussion it was noted:

1. The countries concerned should be given the opportunity to provide input into the project design through discussion with senior Government officials at an early stage.
2. A potential conflict of interest for the OIE Regional Reference Laboratory in undertaking monitoring of the performance of the ARRIAH vaccine should be avoided. In 2004, FAO did not award a contract to ARRIAH for these reasons, and on the advice of the countries concerned, sought independent reference laboratory services.
3. Trained staff had been retained in two of the three countries, following the EUFMD/EC supported training for FMD laboratories. Future programmes should ensure continued training to counter losses from the state services.
4. The complex ethnicity of the border areas is likely to promote some animal movements, and more could be done to understand the trading practices. The 2004 situation was relatively favourable, with no indication of large-scale trade or movement of animals across any of these borders and livestock price differences that would probably drive animal movement out of (rather than into) the Transcaucasus countries.
5. Planned activities in the Transcaucasus countries should be considered in the context of the EU's "Neighbourhood Programme" which may provide additional support and funding. In addition, efforts to link with US agencies involved in the region should continue.

(iii) FMD control in neighbouring regions (Iran and Iraq)

The Chairperson invited Dr Francis Geiger (France, and seconded to FAO) to report the progress in the implementation of a collaborative surveillance project between EUFMD and the Iranian Veterinary Organization (IVO).

Since the rationale for early warning system had been given under Item 2 by the Secretariat, Dr Geiger presented the plan of activities to increase the collection and analysis of epidemiological data on FMD and also for the isolation and typing of circulating viral strains. He explained that the IVO were supportive of the project because of their interest in understanding the regional disease risk situation. Teheran was considered a suitable hub for the activities because of the animal trading patterns and the degree of organization and centralization of the state veterinary service. The benefits of the project should include earlier detection of epidemiologically-significant events threatening countries which share borders with Iran, in particular the Trans-Caucasus countries and Turkey. In the first phase of this study activities will be focused on high risk areas within Iran, beginning with a number of pilot study areas. This will involve training veterinarians in basic epidemiological concepts and procedures and the establishment of a task force to conduct surveillance activities. The second phase of the study would envisage the same activities being used to promote similar practices in neighbouring countries in this region.

In discussion, it was emphasized that the value of such epidemiological information for neighbouring countries would depend on the speed with which it was communicated to them. The issue of transboundary movements between Iraq and Iran was also raised, and the project was encouraged to provide early warning information to Iraq.

The Chairperson then asked Dr David Ward, a veterinarian with FAO's Animal Health Service, to report on the FAO involvement in FMD control in Iraq, as a follow up to the 35th Session.

Dr Ward outlined the FAO involvement in the project "Restoration of veterinary services in Iraq", which in contrast to earlier support to the 3 northern Governorates, acts in support at national level and has five main activities: staff-training (including training for management staff); designing strategies for disease control; re-equipping three laboratories; refurbishing other

laboratories and initiating field activities. This project is ongoing until 2006, and the EUFMD Secretariat had been requested to assist development of the national strategy for control of FMD. He indicated that FMD should be considered endemic and could not be considered the top priority for veterinarians at this stage. There was, however, a strong interest expressed by Government for assistance and the project provides an entry point for engagement and assistance with the veterinary services to promote control.

In discussion, it was indicated that there is interest in Iraq to rebuild FMD vaccine production facilities, but the case for international support was not obvious as the livestock population is relatively small and Government should be in position to purchase sufficient for its needs.

(iv) Regional policy and activity

The Secretary then briefly summarized the status of EUFMD actions relating to the western and eastern borders of Turkey (**Appendix 6**). He indicated that as yet the southern border area with Syria had not been addressed in EUFMD plans but the need to provide support for disease control initiatives in this area should be reviewed. He suggested that the actions proposed with the trans-Caucasus countries and Iran could be called a "good neighbours approach", as the intention is to provide mutual benefit through early warning and to promote effective national programmes to safeguard the regional health status and particularly to prevent exotic infections entering into Turkey.

Discussion

In discussion, the focus on the region of south-east Europe was questioned by several delegates following the events of 2001.

The French delegation suggested more attention be given to North Africa given its proximity to Southern Europe.

Another delegation considered that more attention be given to identification of the risk from other areas of the world in order to improve the international targeting of control efforts.

The Chairperson summarized discussions which had already taken place at recent Sessions of the Executive Committee, which had lead to the development of the Strategic Plan. She considered the Strategic Plan recognized both sources of FMD risk to Europe, and that within the resources available, would increase the attention given to risk from the Sahelian countries into southern Europe through North Africa, and to wider risk identification and response. She considered that the need of most EUFMD countries is for maintaining awareness and expertise in member countries and defended the need to assist a member country (Turkey) to control FMD, which could provide lessons, and experience for the free countries of Europe.

In regard to assistance in regions further from Europe, support for information exchange and training could be mutually beneficial but the Plan did not envisage EUFMD being further involved in FMD control activities in those countries.

Conclusions

1. All of the presentations emphasized the importance of recognizing, understanding and tackling FMD at source.

2. Turkey presented details of an ambitious FMD control programme to commence in 2007 with the aim of eventual eradication of infection and cessation of mass routine vaccination within the subsequent 10 year period.

3. A co-ordinated vaccination and surveillance programme in the buffer zones in the Transcaucasus countries remains necessary in the forthcoming biennium.

4. A programme has been initiated in Iran to allow for collection of epidemiological data and typing of FMD virus isolates in the region; initially this is focused on Iran but it is hoped that this will be extended to other central Asian countries.

5. Currently there is insufficient information available on the FMD situation in Iraq and Syria.

Recommendations

4. EUFMD-FAO in cooperation with other international agencies (such as OIE and EC) should continue to focus its activities along the East-West corridor from Central Asia to Europe and should co-ordinate the various ongoing projects in this region. In each of the affected countries a special effort should be made to engage stakeholders in the livestock industry.

5. EUFMD should support the activities that Turkey has proposed and should lend financial and technical assistance to short-term initiatives planned for 2005 and 2006 in both Thrace (serosurveillance) and Anatolia (epidemiological studies).

6. For Transcaucasus countries, EUFMD should continue to assist in the implementation of serosurveillance programmes, in ensuring proper storage and use of vaccine, in staff-training and in the co-ordination of these activities in the three countries. The EUFMD should organize a feasibility study in 2005 to prepare the final project document for a 3 year programme of actions to commence in 2006 to assist the three countries to establish effective and sustainable FMD control. The EUFMD, EC, FAO and OIE should continue to press for the cessation of the production and application of FMD vaccine that does not meet international standards, and particularly those produced in rabbits (lapinised vaccines).

7. EUFMD should proceed with the first phase of the Central Asia FMD Surveillance Centre initiative and seek to ensure that funds are secured from the EU for the proposed second regional phase.

8. Every effort should be made by EUFMD in co-operation with FAO and OIE to get reliable information on the current FMD situation in both Iraq and Syria.

(v) FAO/OIE joint initiatives to reduce the risk of FMD at source

The Chair then invited Joseph Domenech, Chief, Animal Health Service, FAO, to report on the joint approach taken to stimulate and develop regional disease control projects between FAO and OIE. In his presentation he indicated that the organizations have agreed in 2004 to create synergy in their respective activities and to avoid unnecessary overlap in areas such as standard setting and information gathering. The FAO/OIE Global Framework for the control of Transboundary Animal Diseases (GF-TADs) has been agreed in 2004, and several projects have been agreed or implemented which should support greater control of FMD in source areas. He indicated that 90% of the funding requirements are usually for in country costs, with a small element for co-ordination costs of FAO/OIE.

Item 4. Report of the Commission's Activities in 2003 and 2004

The Secretary provided the report (**Appendix 7**) of the Activities undertaken in 2003 and 2004 and drew attention to the increased actions in support of disease surveillance through a short presentation.

Conclusions

1. The General Session received the comprehensive report of the Commission's activities during the biennium and expressed appreciation for both the extensive work load effected and the achievements attained.

Item 5. Plan of Action for the EUFMD Commission for the next four years (2005 -2008)

The Secretary presented a paper (**Appendix 8**) which set out the proposed strategy of the Commission for the period 2005 – 2008. He indicated that the proposal had been developed following discussion at the 3 most recent Executive Committee sessions, and extended the planning time frame from the present interval of two years to four years.

The strategy takes into consideration the importance of continuing partnerships forged over many years, and aims to make best use of the EUFMD/FAO capacity to bridge the divide between free and non-free countries in away that assists in meeting the needs of both.

The goal of the Strategy was proposed as "A Europe free of FMD – the FMD disease-free state achieved and maintained in all Europe". A number of key problems had been identified to which an EUFMD response was proposed:

- FMD risk to south-eastern Europe from FMD in Turkey.
- Risk of exotic FMD incursions into Turkey/Russian Federation from West Asia via Caucasus.
- Need for immediate technical assistance and provision and supervision of inputs during FMD control operations when emergencies occur.
- The problem of vaccine selection/bank management because of lack of virus collection in endemic areas, and lack of comparable or timely information exchange between laboratories.
- In free countries, declining number of veterinarians with experience and expertise in FMD control operations and related management areas.
- Diversity in European region in levels of human resources, in proficiency and resources to undertake surveillance and epidemic management.
- Issues constraining selection of "vaccination to live" as an emergency response in countries free without vaccination.

He explained that the Strategy proposed to focus on delivery in four key categories of action in the period 2005-8:

- Support to FMD control in "traditional risk areas" - threatening south-eastern Europe and Turkey.
- Global FMD observation – virus circulation and risk.
- Coordination of technical studies to address constraints to policy implementation.
- Capacity building across Europe – raising and retaining expertise and competence in the scientific basis of FMD control and in best practises in epidemic management.

Projects would be required to deliver in each of these areas, and the role of the Secretariat and Executive Committee to ensure suitable projects were developed and progress in implementation appropriately monitored.

The financial strategy was also outlined, and to achieve the above would require maintenance of the Secretariat as an enabling unit and strengthening of the technical and operational support to deliver projects and assist member countries to develop their programmes, with the latter requiring additional technical support to be costed into the project components.

In discussion of this topic the following points were raised:-

- The EUFMD should also pay attention to the FMD situation in the countries of North Africa, and to the needs of the new eastern neighbouring countries of the recently enlarged European Union.

Conclusions

1. The paper was adopted and can therefore be considered the Strategic Plan for the Commission for the period 2005-8.

2. The General Session fully supported the stated goal to achieve and maintain the status of FMD Freedom throughout all Europe.

Recommendations

9. The Strategy should be implemented and the Executive Committee should ensure that suitable projects are identified and progress towards their implementation and achievement are monitored, evaluated and reported at six monthly intervals.

10. The possibility that FMD emergencies could interfere with the achievement of objectives and that their postponement or cancellation should be recognised and managed by the Executive Committee. Wherever possible, however, such emergencies should not be allowed to divert funds previously allocated to the strategic objectives.

11. The EUFMD should continue to support the implementation of comprehensive actions for the surveillance and effective response to FMD in the southern Balkan region (Greece, Bulgaria and the whole of Turkey).

12. The EUFMD should increase effort to support the monitoring and control of FMD in the areas threatening south eastern Europe and in particular in the countries to the south and east of Turkey and the south Caucasus.

13. The EUFMD together with partners should encourage those on the eastern borders of the enlarged European Union, which are not officially free of FMD to progress towards gaining and maintaining an officially recognised free status.

14. Higher attention and support should be given by the EUFMD Commission, in collaboration with EC and OIE, to the monitoring and control of FMD in African countries north of the Sahara.

15. The EUFMD should work to improve virus observation and risk analysis through supporting virus submission to the WRL and other FAO/OIE reference laboratories from risk areas for Europe, and through support to achieve a global FMD virus information system through the networking of FMD Reference Laboratories.

16. The EUFMD should ensure that a concise, current status report to EUFMD members and other linked organisations at regular intervals is made of global epidemiological information on FMD using a range of relevant sources of information. In so doing the maximum possible use should be made of existing information systems and networks.

17. The EUFMD should assist in the coordination of technical and scientific studies, to address constraints in the implementation of policies for the control of FMD.

18. The EUFMD should work with member countries and partners to develop initiatives that have the aim to raise and retain expertise and competence in FMD management. The initiatives should be based on the needs of the member countries and on identified best practises, and make best use of the opportunities from other parts of the EUFMD programme including actions in infected countries, through the research group network and its activities and in other relevant areas.

Item 6. European involvement in the global surveillance for FMD

(i) The role of the World Reference Laboratory (WRL)
The report (**Appendix 9**) of the FAO World Reference Laboratory for FMD, Pirbright was presented by Dr David Paton, and summarized the activities conducted under contract with FAO/EUFMD, and other actions relevant to the EUFMD session, the constraints affecting function and plans for the immediate future.

He drew attention to the following:

- The numbers of countries which had officially reported the occurrence of FMD to OIE during 2004 and 2005 is considerably less than the number considered to harbour infection in the WRL conjectured global FMD situation.
- The effort made in collaboration with EUFMD/FAO to increase the numbers of countries submitting specimens (at WRL) for virus-typing from around the world.
- The observed pattern of prevalent serotypes/strains of virus in different geographic regions and the implications for vaccine use.
- The role of WRL in producing the current vaccine strain recommendations produced for the EUFMD Commission, through the Research Group.
- The quality assurance activities for FMD national reference laboratories supported by EUFMD and implemented by the WRL.
- New initiatives co-ordinated by the WRL and which involve or impact upon EUFMD functions.

Dr. Paton in his report also referred to the redevelopment of the Pirbright Laboratory site which is currently underway costing an estimated STG£120 million and will involve the relocation of the Virology Department from the Veterinary Laboratories Agency site at Weybridge to Pirbright.

The session commended the extensive programme of work reported from the FAO WRL for FMD.

(ii) Network of FMD Reference laboratories

Dr Paton described the Coordination action, funded by DG-Research of the EU, for FMD and CSF reference laboratories (2005-2007) in which IAH will take the lead role and in which EUFMD, OIE and EC (DG-SANCO) form part of the Steering Committee. He also described the outcome of a recent meeting at the OIE at which agreement was reached between participating OIE reference laboratories to develop a network under OIE/FAO of FMD Reference Laboratories, for which, at least in the initial period, the WRL will act as Secretariat.

(iii) EUFMD support (2005 – 2008)

The Secretary of the Commission, in describing the support that EUFMD intends to provide for FMD reference laboratory activities over the next four years, identified two key problems: (i) lack of submissions to reference laboratories and (ii) lack of rapid, understandable data exchange between reference laboratories. EUFMD-funded studies in Sudan, Kenya, Zimbabwe and the Hong Kong SAR have seen delivery of specimens to the WRL for virus-typing over the past 12 months, and therefore the Secretariat proposed that the Commission should continue over the coming 2 years at least to support the submission of specimens from risk areas, with a regular review of priorities for support. He proposed that a flexible approach should be continued using small grants to develop collaborative actions with the countries concerned, and warned that the rate of progress can be slow as there are many barriers preventing submission of specimens apart from the costs involved.

Regarding information exchange between laboratories, the Secretariat proposed that support be given to improve the availability of information from the reference laboratories through improving communication, information and the exchange of reference materials. EUFMD could provide organizational and/or financial support to ensure that the networking of reference laboratories continues and that it develops to meet the needs of the end-users.

Discussion

The participation of national laboratories and epidemiology centres in an FMD laboratory network was an issue raised by several delegates. Those involved in FAO and OIE were requested to ensure these stakeholders were not excluded, and a two-step approach was suggested where the first step would focus on exchange of information between OIE reference laboratories, with subsequent involvement of national reference laboratories and other surveillance centres.

The involvement of FMD vaccine manufacturers should be considered since they have strong interests and engagement in collection of epidemiological information and field isolates of virus, although their concerns over intellectual property may inhibit participation.

The lack of incentives for FMD-infected countries which do not have export potential was highlighted. In these countries the veterinary services may be reluctant to submit samples because of concerns over the handling of the information. The Secretary responded by saying that since the information is valuable to Europe, it is appropriate to support costs of the activity, including the involvement of the originating country in developing the report because of the sensitive issues involved.

In the strongly supported view of one delegate, the networking of reference laboratories should not be seen as a reason for reducing exchange of viral strains for typing as this is a sound scientific practice to ensure verification of results.

Serious concern was voiced over the problem of restrictions affecting air transport of samples for confirmation of infection, and it was suggested that more should be done to overcome difficulties in facilitating the transport of virus samples. The response from EUFMD Secretariat and OIE indicated that reducing the risk category of FMD samples, and other infectious agents, was not a simple process, and that this area will increase in importance. It was noted that the International Air Transport Association (IATA) are not supportive of moves to reduce containment requirements on diagnostic virological specimens. Member countries therefore must expect that since most restrictions are there for human health or bioterrorism concerns, advocacy will be needed to resolve problems that result for surveillance and routine diagnosis.

Conclusions

1. Three hundred and eighty specimens from 18 countries were collected during 2004 and submitted to the WRL for virus isolation and characterisation; 182 FMD virus isolates were sequenced and some of these isolates were also antigenically characterised.

2. FMD outbreaks were officially reported in 48 countries in 2004/2005; none of these countries had been FMD-free without vaccination; although most countries reporting outbreaks were in endemic regions, some were in regions without recent known virus circulation.

3. There has been little recent change in the prevailing serotypes/strains in different geographic regions; WRL vaccine strain recommendations were unchanged although the situation with A and SAT serotypes is still problematic.

4. Comparative serological exercises organised by WRL demonstrated a high level of consistency in the results obtained by the participating laboratories with different panels of sera and various serological tests (including SPCE and NSPEs).

5. WRL has continued to provide consultative advice for International Agencies such as OIE and laboratory support for different EUFMD-sponsored initiatives.

6. IAH will take the lead role in a EU-funded Coordination action for FMD and CSF over the next three years (2005-2007), which will inter alia, provide support and coordination for existing structures and activities. In addition the WRL will act as secretariat for a recently-established network of OIE/FAO FMD reference laboratories.

7. In some instances the exchange of information obtained using standardized, validated test systems might obviate the need for the physical exchange of samples. However, it was agreed that physical exchange of samples will continue to be a scientific necessity.

Recommendations

19. EUFMD should continue to provide targeted support for the delivery of specimens to the WRL for virus characterisation.

20. Proficiency testing (which should be clearly separated from the process of producing reference sera) should be conducted on an annual basis with more emphasis on NSPE; future inter-laboratory exercises should place more emphasis on quality control, on SAT-type serodiagnosis and on the standardisation of serological methods for assessing vaccine protection.

21. FMD Reference Laboratories should agree on a memorandum of understanding to facilitate exchange of materials and information between them and should develop web-based tools for sharing this information.

22. EUFMD and other agencies (OIE, FAO and the EC) should, where possible, provide suitable support to assist networking between FMD Reference Laboratories.

23. The EUFMD Executive Committee should engage in discussion with OIE and FAO on the creation of an FAO-EUFMD/OIE network for FMD specialised laboratories, epidemiology centres and other competent expert groups.

24. The difficulties to arrange transportation of diagnostic samples can be expected to continue, and therefore the OIE, EC and EUFMD/FAO should ensure a continuum of effort in relation to the relevant UN Committees and IATA in order to avoid unwarranted levels of restrictions that affect disease surveillance and access to reference laboratories.

Item 7. Addressing technical constraints to application of FMD control policy; report of the Research Group of the Standing Technical Committee

(i) Report on the past biennium - Gerzensee workplan
(ii) Priorities and plan of action, 2005-2006
(iii) Coordination

A comprehensive overview (**Appendix 10**) of the activities of the Research Group in 2003-2004 was presented by Dr Kris De Clercq, Chairman of the Group. The 35th Session had recommended that priorities be set; this recommendation had been followed but not without difficulties, as quite a number of priorities had been identified by CVOs at the 35th Session. He presented information on how the Research Group has been engaged in issues or collaborative actions in the following areas:

- Global Surveillance
- Vaccines
- Post-vaccination (sero)surveillance
- Laboratory contingency planning
- Diagnostic standardization
- Test Development
- Safety of animal products
- Pathology
- EC/OIE
- Information management

Discussion

Dr Alf Füssel (DG-SANCO, EC) commended the Group highly for the excellent work which they had undertaken and stressed the importance of the progress made in the last 2 years.

He requested clarification on the endorsement by the Session of the paper produced by the Group on minimum biosecurity requirements for FMD serodiagnosis, as the adoption of the paper should enable it to be referenced in EC legislation. The discussion and resolution is reported under Item 11.

The UK delegation commended the work on penside diagnostic tests and suggested that the Group should assist resolution of issues affecting their application in emergency situations. The Secretary replied by outlining what had been done during 2003-2004, but agreed that several areas merit attention.

The use of predictive models was raised and in response Dr Willeberg, who had been the member of Executive with responsibility for liaison with the Research Group, indicated that many key questions on FMD management and in emergency planning required the input of modellers and he regretted that the Group had not been able to secure a higher level of involvement of this type of expertise. He noted the interest of groups working in North America and Australasia in this field and suggested that wider links be established and joint actions be stimulated to improve the European scenario planning.

Clarification was requested on the research gaps on virus inactivation in meat and milk products. The Chairman reported that significant effort had been made in the past but the form of the data did not allow the impact of alternative meat and milk processes, that may be more acceptable to the industry to be predicted with confidence. The type of studies required had been identified, but not yet funded. The cost of primary research where significant animal infections are needed is usually covered by national authorities or the EC, through calls for tender. He indicated that such applied research is usually uninteresting to science funding councils, and therefore if the CVOs wish to ensure it occurs, they should act to find or support funding from their own budgets or from industry, or through a request to the EC.

Conclusions

1. The chairman of the EUFMD Research Group (Standing Technical Committee) gave a comprehensive overview of the activities of the Research Group over the previous two-year period stressing the inter-related nature of these various activities and outlining the list of actions, which is currently being pursued, the persons involved and the progress that has been made to date.

2. Major activities over the past two years have included: (i) validation of NSP antibody detection tests, towards developing effective surveillance strategies for demonstrating freedom of infection post-vaccination and (ii) assisting national reference laboratories in contingency planning and in particular, towards increasing sero-diagnostic capacity.

3. The central role of the FAO/OIE WRL in many of the activities of the Research Group was highlighted.

4. The assistance of a CVO to act as a liaison between the Executive Committee and the Research Group had been a very useful innovation, which greatly facilitated communication between both groups.

5. The General Session expressed satisfaction with the list of activities and the progress that has been made by the Research Group to date. In particular, the Session appreciated that activities has been prioritized, that actions had been timetabled, responsible persons identified, outputs and deadlines decided and that this plan was followed.

Recommendations

25. The EUFMD Research Group should present a prioritized action plan for 2005-2007 at the next Session of the Executive Committee.

26. The Executive Committee should ensure that this action plan addresses the technical needs of member countries.

27. The Research Group should make increased use of epidemiological expertise to ensure that its various activities meet the needs of decision makers in FMD control policy and planning.

28. The Research Group and the FAO WRL should co-ordinate their activities with those of the EU Community Reference Laboratory for FMD (whenever this is designated). This should include, at least, an invitation to the EU-CRL to be represented at each Research Group Session.

29. Studies should be urgently conducted on virus survival in milk products.

30. Attention should be given to issues that affect uptake and use of portable diagnostic devices ("penside tests") for use in emegency situations in normally free countries.

Item 8. European FMD Expertise and Technical Capacity

(i) **Survey on Training Needs**
(ii) **Training in FMD investigation in the field**
(iii) **Competencies in FMD management: Concept Presentation**

Dr Tony Garland presented the results of the EUFMD questionnaire on FMD experience and the level of interest in developing FMD expertise via a training programme for member countries. The objectives were to ascertain the current availability of experienced personnel and the training presently provided and also to gather opinions on the possible curriculum for a common training course, on the target audiences and on various means by which the training could be delivered.

The responses confirmed that, while a minority of members had significant experience of FMD and its control in the last few years, most member countries had had virtually no experience of the disease or its management for decades. There was a clear need and desire for a common training course and a wide range of topics were suggested for inclusion.

The full presentation is given as **Appendix 11.**

Dr Dónal Sammin presented a paper (**Appendix 12**) indicating the points which must be considered if training in FMD investigation in the field is to be undertaken. He illustrated this with recent experience in Turkey where the EUFMD had worked with the Turkish authorities to test guidelines for FMD investigation in an endemic area. The experience had been extremely useful for both parties, and illustrated the complexities of FMD transmission in the field which are far different from those encountered or taught in the laboratory situation. However, although the field experience was invaluable, it could be very difficult to "scale–up". The difficulties and sensitivities identified would need to be addressed in developing this training option.

In the discussion of his paper the following points were raised:-

- In the endemic countries, training of trainers may be required to deal with the need for larger numbers of competent persons to cope with regular disease events.
- In the free countries, training might focus on the need to maintain skills in the core group of persons with managerial roles in FMD control, including those in the permanent expert group.
- Training in the field should not primarily be for the purpose of disease recognition, as this may be taught in more controlled situations, but may provide valuable lessons from the reality of livestock agriculture, such as disease tracing and the organisation of surveillance.

Prof. Julian Hilton presented the concept of training on the basis of competencies, and presented an approach to the introduction of such training for the recognition and management of the disease, targeted at different levels of responsibility and expertise. He also demonstrated aspects of the "AVIS FMD 2004", multi-media, computer-based knowledge base on FMD which could be used as one resource element for a training programme.

The full presentation is given as **Appendix 13.**

Panel Discussion

Dr Sumption took the Chair, invited the presenting authors and Mike Robson (FAO) to form the panel.

The panel responded to points raised, and suggested the following:-

- That it is essential to decide at an early stage if a competency based approach leading to certification is appropriate for FMD investigation and management and generally compatible with training currently provided to the staff in state veterinary services of member countries.
- Certification of competence might have to be effected on a national basis.
- The FMD model may be relevant to other diseases, so a decision is needed on "stand alone" FMD training compared to a more generic training programme.
- Opportunities for linking-up with pre-existing training programmes in member countries, including courses offered by the Veterinary Schools should be considered.
- Although EUFMD training courses would most probably be provided in English and French, course materials could also be translated into other languages as necessary.
- A practical approach could be to conduct themed workshops on specific priority topics rather than to aim for an all embracing programme; a HACCP approach could be employed to identify the critical skills or objectives.
- The existing FAO "Good Emergency Management Practices" programme could form part of the training scheme.
- National responsibilities need to include training for farmers and para-veterinarians as these form a very important target audience for disease awareness training.
- Similarly the involvement of non-veterinary services (e.g. army, police, fire service) in training was seen as crucially important part of national contingency plans.
- The development of FMD outbreak simulation software could provide a very useful, practical and economical method of providing training for a large number of people.

Conclusions

1. Responses to the EUFMD questionnaire on training have so far been received from 22 of the 33 EUFMD member countries, and the non-responding countries will be followed-up in order to provide a more complete report for the Commission.

2. The responses demonstrate that there is currently a major lack of personnel having direct, recent experience of FMD or the control of the disease in most EUFMD member countries.

3. The questionnaire responses have identified both the need and demand for practical and theoretical training to ensure capability in the recognition of the disease and also for the effective delivery of rapid emergency responses for the control of FMD.

4. Interim information has been collated on the topics to be included in training courses and on various means of delivering such training.

5. An example of practical field training in an FMD endemic country was presented. Such training could be valuable for individuals, although important potential constraints to implementation were recognized.

6. A presentation was given on a competencies based approach to training. This could offer potential advantages, including validation of training and a means of certification. The decision on whether or not to adopt a competencies approach was seen as a critical initial step in the development of a training scheme.

7. The Terms of Reference of a Working Group to carry forward the initiative were presented. It was considered important that these:
   - take into consideration the results of the questionnaire;
   - respect the relevant elements of EU Directive 2003/85/EC and, where appropriate, entail the application of HACCP methodology;
   - identify the areas which would be most appropriate and of best value for a common, collaborative approach, and those which fall most appropriately within the competence of individual EUFMD member countries;
   - prioritize critical components and activities for training and determine the way forward in respect of the possible adoption of a competencies based approach. The possibility of developing outbreak simulation software should also be considered.

Recommendations

31. The need for a common training course was endorsed and the Secretariat was urged to pursue the further definition of the precise requirements and the detailed consideration of the structure, content, management and financing of the training programme.

32. The EUFMD Secretariat should urgently convene a working group with clear terms of reference to further investigate the definition of appropriate training. The working group should be convened within one month of the General Session and would be expected to bring forward to the Executive Committee detailed proposals for the structure, content, management and financing of an appropriate training course within six months of its appointment.

The Chairperson, Dr Schwabenbauer, proposed that a training group be established to follow-up the recommendations arising. She proposed the following members of this group:

Dr Debby Reynolds (UK)
Dr Sloboden Cokrevski (TFYR of Macedonia)
Dr Alf Füssel (DG-SANCO)
Dr Tony Garland (UK)
Dr Dónal Sammin (Ireland)

It was agreed that this is not an exclusive group. She proposed that Dr Reynolds be the Chair of this group and that the group would develop the Terms of Reference together with the incoming chairperson and Secretariat. The session indicated their approval of the proposal. She encouraged the group to report to the incoming Chairperson at the earliest opportunity in order that decisions on the way to progress could be made at the next Executive meeting.

Item 9. FMD Vaccine and antigen bank situation in the European Region: Stocks Held and future outlook

(i) EUFMD 2005 Antigen and Vaccine Bank Survey

Mr Tom Murray (FAO Associate Professional Officer with the EUFMD Secretariat) presented an analysis of the results of the EUFMD questionnaire on reserves of FMD antigen and formulated vaccine in member countries.

Twenty six of the 33 member countries had responded by the deadline for submission. The new EU Directive, 2003/85/EC, placed stringent restrictions on the confidentiality of information concerning the virus vaccine strains and the number and disposition of doses of vaccine held in the EU vaccine bank or in banks maintained by individual countries within the Union. These restrictions meant that the presentation could only deal in anonymous responses and general findings, although specific details could be divulged to authorised persons and organisations on request.

The results showed that 18 individual countries had made arrangements (and some more than one) to ensure the emergency supply of vaccine, whereas 8 did not have formal emergency arrangements in place for such supply. This latest questionnaire had included additional enquiries on information concerning (i) the status of the vaccine reserves vis-à-vis the possibility that their use would or would not be likely to engender antibodies to non-structural proteins of the virus (ii) whether or not the stocks were in compliance with guidelines concerning the agents responsible for Transmissible Spongiform Encephalopathies and (iii) the issue of Marketing Authorizations.

The Session received the report on the survey conducted by the Secretariat on the current situation of FMD antigen and vaccine banks in EUFMD member countries.

(ii) Future Outlook: Network of Banks - EU Coordination Action Approach –Work Package 4

Dr Paton outlined the approach being taken by the Co-ordination action to promote discussion and resolution of issues affecting exchange of antigens between the antigen banks held in different parts of the world.

He indicated that partners (including EU, OIE, EUFMD, the FAO WRL for FMD) were interested in the possible creation of a virtual, global, strategic FMD vaccine bank network. The first, information gathering phase of this initiative had commenced. The partners considered that it would be essential for technical issues to be first resolved before attempting to resolve administrative or political issues.

(iii) OIE ad hoc group on antigen and vaccine banks

Dr Schudel explained to the Session that the ad hoc group had been established in 2004, and had met on two occasions. The history and experience of Europe would be of value to other parts of the world, and the OIE saw potential for networking of vaccine banks to increase availability in crisis situations. Members included the EUFMD Secretary, Dr Paton and Dr De Clercq. The group had produced a draft of basic standards for generic antigen and vaccine banks, using FMD as the initial model, which was now out for consultation and which would, when finalized, be included as a Chapter in the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals. The same group was producing an FMD specific version. The group had also addressed the need for standardized vaccine matching, and information exchange, and thereby OIE had brought together the OIE Regional reference laboratories to reach agreement on these issues and to promote networking.

(iv) Panel Discussion

Dr Sumption took the Chair and Drs Füssel (DG-SANCO, Dr de Leeuw (the Netherlands), Dr Paton (WRL, Pirbright) and Dr Schudel (OIE) formed the panel.

Dr Sumption asked delegates to specifically focus on issues raised in responses to the 2005 Vaccine bank survey. The responses indicated:-

- Some member countries, particularly in the Balkans, are effectively dependent upon the EU vaccine bank if a crisis situation arose.
- The EU confirmed that there were mechanisms in place to allow the provision of vaccine to non EU member countries, based on an obligation to replace the stocks and subject to restrictions based on the needs of Europe. A transitional arrangement of this nature was currently in place with Australia and New Zealand.
- The scale of the EU vaccine bank holding will depend on a number of factors, and not simply on the increased population in the enlarged EU. There is a need to review the composition and size of vaccine reserves for the enlarged EU and the research group could play a valuable role in doing this, on the basis of risk assessment and scenario modelling.
- There was a wide ranging discussion of the confidentiality issue, including complications which might arise in certain countries because of freedom of information legislation.
- Changing circumstances modify positions on vaccination: e.g. Iceland was reconsidering its present prohibition of FMD vaccination since tourism had increased greatly and there had been an influx of foreign workers.
- With the demise of the International Vaccine Bank, former members were making alternative arrangements. Within the European arena, Norway is in the process of concluding contractual supply arrangements involving complex legal aspects. The Norwegian delegate suggested that their experience may be of interest and use to other member countries.

- The EMEA was working on the revision of Directive 2001/82/EC so as to incorporate the Antigen Master File concept, so enabling the rapid incorporation of new viral strains of FMD into vaccines under the cover of an existing Market Authorisation.
- Care was needed in any change to legislation to ensure that it would in no way prejudice the position regarding the marketing of meat and milk from vaccinated animals.

Recommendations

33. The results of the survey in respect of information on the virus strains and the number of dose equivalents of material stored, both in total and by individual countries, should be held in safe keeping by the EUFMD Secretariat, and only divulged at the written request of the Chief Veterinary Officer (CVO) of the member country or the nominated official of DG-SANCO of the EC (Section E), or the nominated official of the FAO (Chief Veterinary Officer of FAO).

34. A working group[1] should be created to bring forward proposals for rules governing the control of antigen and vaccine bank information, including aspects of both confidentiality and freedom of information. The proposals should be delivered within six months of the General Session and would be considered by the EUFMD Executive Committee prior to circulation to member countries for comment.

35. The EUFMD Commission, through the Research Group and WRL, should continue to prepare recommendations every two years on the contents of the European FMD vaccine and antigen banks, and to advise the Executive in the intervening period, and in doing so, should make greater use of relevant risk assessment procedures.

36. The EUFMD Research Group and the EUFMD secretariat should continue to participate actively in the work towards a global vaccine bank network being undertaken by the partners of the EU FP6 Co-ordination Action and through the OIE ad hoc group.

37. The EUFMD secretariat should maintain a watching brief on the activities of the European Medicines Evaluation Agency (EMEA) in respect of FMD vaccine licensing and particularly on progress towards the revision of Directive 2001/82/EC and the proposed inclusion of the Antigen Master File concept.

Item 10. Demonstrating freedom from infection after emergency vaccination in FMD-free countries – progress on the resolution of technical issues

The Chairperson indicated that this issue had been given high priority by the 35th Session and therefore the 71st Session of the Executive Committee had proposed it be given special attention as an Agenda item for the 36th Session.

She invited Dr Emiliana Brocchi, (Brescia, Italy), and Dr Paton (Pirbright) to present the progress report on the resolution of laboratory and surveillance issues affecting the acceptance or implementation of "vaccination to live" as a disease control policy.

Dr Brocchi indicated that the predominant issue was the evaluation (and eventual validation) of diagnostic tests for use in discrimination of infected and vaccinated animals (DIVA tests). One major constraint to policy had been the lack of an available diagnostic test for use in Europe

[1] In response to the circulated report, France indicated an interest to participate in this group.

which had a known performance level in relation to the OIE index test. Therefore very considerable effort had been made to identify test performance of commercially available and in-house assays in comparison to the OIE index, and to resolve as far as possible the remaining data gaps for validation of tests for use in cattle, small ruminants and pigs.

The group decided that to reach consensus and achieve the volume of results required, a "wet workshop" would be needed and this was held in Brescia in May 2004 to evaluate six different ELISAs used for detection of antibodies to non-structural proteins (NSP) of FMD virus. Laboratory scientists from eight countries provided sera and participated in both technical and intellectual aspects of the exercise. Data was generated on the analytical and diagnostic sensitivity/specificity of each ELISA using sera derived from experimental studies. In addition, test performance was compared for sera collected during field studies in Israel and Zimbabwe, allowing field detection rates and relative sensitivity values to be calculated. Sufficient data has now been generated to validate the use of these tests in cattle but more data will be required from pigs and small ruminants to establish diagnostic sensitivity/specificity and other test parameters for those species.

Dr Paton presented a paper (**Appendix 14**) on the application of NSP ELISAs in post-vaccination serosurveillance to demonstrate FMD freedom after use of an emergency "vaccinate-to-live" policy. He indicated that the policy requirements relating to detection of FMD infection in animals after vaccination generally necessitated very high levels of test performance, and the performances identified at the Brescia workshop suggested that benefit to the overall diagnostic system might be obtained either at the laboratory side and/or through design of the sampling scheme.

Strategies were suggested that should raise the overall performance but the issue remained that the target for surveillance needed to be clear and that a decision was required as to the acceptable level for confidence in absence of infection, since the test and the sampling scheme can never provide an absolute assurance of virus absence.

The paper also argued that serological testing should only be considered as one component of post-outbreak surveillance and as such might "substantiate" rather than "demonstrate" disease freedom.

Discussion

In clarification of a technical point it was noted that although high risk animals are more likely to be NSP seropositive, "carriers" are not always NSP seropositive, although NSP antibody responses tend to be of lower titre and shorter duration in "non-carrier" animals than in carriers. Training/advice will be needed on the design of serosurveillance and interpretation and follow up of results.

There is an urgent need to agree on what the final target of testing should be.

The OIE Animal Health Code is currently phrased in a way that does not reflect the scientifically-based principle of "confidence of absence" but instead requires "demonstration of freedom". The OIE representative said that this terminology might be reconsidered and referred to revised OIE guidelines requiring "freedom of virus circulation" as distinct from "freedom from infection" for those countries which are "FMD free with vaccination". However, the EC representative emphasized that EU member states "free without vaccination" would still be required as before to "demonstrate freedom" after the use of emergency vaccination.

One of the concerns expressed by the Session was that serosurveillance would also be required for small ruminants and that data on test performance in these species was incomplete.

Conclusions

1. Significant progress has been made since the 35th Session to determine the performance of NSP antibody detection ELISAs for use in cattle and to identify how these may be applied in surveillance schemes following emergency vaccination.

2. *The conclusions of the test evaluation workshop can be summarized as:*

Diagnostic Specificity
There were no significant differences in test specificity between vaccinated and non-vaccinated European cattle populations; specificities for the different tests ranged from 97.2% to 98.5%. "False-positives" obtained with each test method were usually scored as negative by all of the other tests, thus allowing the option of using different NSP ELISAs in series, one as a screening test and the second as a confirmatory test.

Diagnostic Sensitivity
The production of antibody to NSP correlates with the extent of virus replication such that infected cattle which have not been protected by vaccination and/or "carriers" are more likely to be NSP seropositive and thus to be detected; diagnostic sensitivity reaches 100% for all tests when used in non-vaccinated, infected cattle and approaches 90% with the more sensitive tests in vaccinated, "carrier" cattle. The diagnostic sensitivities of the CEDI test and the Brescia test were equivalent to that of the OIE index test (PANAFTOSA).

Diagnostic performance in post outbreak surveys
Field results were similar to results obtained with sera from experimental animals, with higher detection rates scored by three of the tests (PANAFTOSA, Brescia, Cedi). NSP-antibody prevalences were estimated for different field situations and NSP test performance in the diagnosis of SAT-type FMD was evaluated.

3. The use of NSP antibody detection tests can now be recommended for use in surveillance for the purpose of demonstrating freedom from infection in cattle after emergency vaccination, providing that it is recognized that absolute freedom cannot be guaranteed; for other species, some assumptions could be made based on what is known at the moment for cattle, but further evaluation is required.

4. There is no such thing as a perfect diagnostic test and since it is very unlikely that all animals in a population will be tested post-vaccination, the use of absolute terms in describing freedom from infection should be replaced with requirements which are technically achievable and also acceptable in terms of risk.

Recommendations

38. Participants at the Brescia workshop should complete their analysis of the data generated and publish the results of the comparative evaluation as soon as possible.

39. The EUFMD Secretariat should assist with field studies aimed at collecting suitable materials from small ruminants and pigs to evaluate NSP test performance for those species.

40. In devising post-vaccination surveillance strategies, member countries should bear in mind that: (i) NSP tests are only one component and can "substantiate" rather than "demonstrate" disease freedom and (ii) absolute certainty cannot be achieved and the concepts of "design prevalence" and "confidence levels" have to be understood.

41. Member countries should urgently consider if the requirements of the OIE Code Chapter should be revised, in particular relating to the demonstration of absence of infection and surveillance requirements, for FMD free countries which use "vaccination to live" as part of the eradication policy.

42. The EUFMD Research Group should advise on how NSP antibody detection tests might best be used as part of a post-vaccination surveillance strategy in different species and populations where a vaccinate-to-live policy has been decided. In formulating this advice, the objective(s) of surveillance needs to be precisely defined and the limitations of various strategies need to be clearly described.

43. Studies aimed at establishing the most appropriate design prevalence for surveillance should be encouraged along with comparisons between the risks posed by vaccination and non-vaccination policies.

Item 11. Paper prepared by the Standing Technical Committee on Bio-security for laboratories undertaking serology with blood samples from areas not considered free of FMD

(The paper was briefly discussed under Item 7. Report of the Research Group).

The Secretary explained this paper is proposed as a supplement to the Security Standards for FMD laboratories, which had been adopted by the EUFMD Commission in 1993.

The need for the paper arises from the lack of capacity to undertake mass serology in high containment facilities and the opportunities arising from the use of test methods that do not require live virus.

He explained that the paper was developed by a working party of the Research Group, and subject to several rounds of review: first by a working group of European reference laboratory staff during the Cordoba workshop in April 2004, before adoption of the final version at the Closed Session of the Research Group in October 2004. The paper was adopted into the report of that Session, and the report approved by the 71st Session.

However, the Secretary proposed that as the final version in English and French had not been circulated to delegates in sufficient time to allow them to consult their relevant experts, a period of 90 days consultation should be given and that the Chairman of the Research Group should decide if any of the responses required revision of the paper. If not, the paper provided in the report of the 36th Session should be considered final, and this decision published in the 72nd Executive Committee report.

Conclusion

The proposal was accepted.

Item 12. Financial statement and report

In accordance with Financial Procedures for the Commission, the Secretary presented the final financial statements for 2003 and 2004 (**Appendix 15**), which had been prepared by the responsible division of FAO. He then presented the proposed budget of the Commission for the operation of the Trust Fund MTF/INT/011/MUL for 2006 and 2007 (**Appendix 16**).

He provided the background to the proposed budget of US$ 496,210 per annum in 2006 and 2007, which had been approved by the Executive Committee at the 71st Session, and therefore was presented for approval by the 36th General Session.

Conclusion

The statements for 2003 and 2004 were accepted.

The budget proposal for 2006 and 2007 for Trust Fund MTF/INT/011/MUL including the scale of annual contributions was unanimously accepted by the delegates of the member countries represented at the Session ([2]).

Recommendations

44. The Commission should, as far as possible under the procedures of the FAO, express the budget contributions in Euro, and to provide the financial statements in Euro, or Euro equivalent to the currency (US $) in use in the administrative system of the Organization.

45. The Chairperson should write to the authorities in member states that are in arrears to remind them of their obligations under the Constitution

Item 13. Proposed change to the Rules of Procedure of the EUFMD Commission

The Secretary presented a paper (**Appendix 17**) outlining the proposed inclusion of a rule which would enable deputies to participate and vote at Executive Committee Sessions in the event that the elected member could be not be present. He indicated that the Executive Committee and Secretariat, wished to see this rule utilised only very occasionally, to preserve the level of experience present at each Executive Committee session.

Conclusion

The proposed addition to the Rules was accepted.

Item 14. Election of Chairmen, Vice-Chairmen, members of the Executive Committee and members of the Standing Technical Committee

The Chief of the Animal Health Service, Dr Domenech explained the election procedures for the Executive Committee and for the Standing Technical Committee. He called for nominations for the Chairperson and Vice-Chairs on the Executive Committee. The following were proposed:

[2] subject to ratification by the financial authorities in the member states

		Proposed by	Seconded by
Chairperson	Dr. Karin Schwabenbauer (Germany)	Denmark	Italy
First Vice-Chairman	Dr. Peter de Leeuw (The Netherlands)	Luxembourg	Belgium
Second Vice-Chairman	Dr. Sloboden Cokrevski (The former Yugoslav Republic of Macedonia)	Bulgaria	Serbia & Montenegro

Dr Schwabenbauer was unanimously elected to the position of Chairperson.

Dr. Peter de Leeuw was elected as first Vice Chairman and Dr. Cokrevski as second Vice Chairman, both unanimously.

For the election of members of the Executive Committee the following persons were proposed, seconded and elected unanimously:

Members:	**Proposed by:**	**Seconded by:**
Dr Nihat Pakdil (Turkey)	The former Yugoslav Republic of Macedonia	Bulgaria
Dr. Romano Marabelli (Italy)	The Netherlands	Sweden
Dr. Preben Willeberg (Denmark)	Germany	Belgium
Dr Vasilios Stylas (Greece)	France	United Kingdom
Dr Gabriel Predoi (Romania)	Turkey	Italy

Election of the Research Group of the Standing Technical Committee

Dr. Preben Willeberg on behalf of the outgoing Executive Committee introduced the paper which had been approved by the 71st Session of the Executive Committee. He outlined his role in liaison between the Executive and the Standing Technical Committee. He indicated that the Executive had agreed that a balance was necessary in the composition of the Committee between the experts representing laboratory disciplines and those with a different expertise particularly relating to disease management and epidemiology. Dr Domenech then asked if there were further

nominations and as none were made he asked the session to approve the proposed list. The session indicated their approval by a unanimous round of applause.

The following members were elected to the Standing Technical Committee:

Dr Kris De Clerq	Belgium
Dr Aldo Dekker	The Netherlands
Dr Matthias Greiner	Denmark
Dr Emiliana Brocchi	Italy
Dr Mark Bronsvoort	UK
Dr Georgi Georgiev	Bulgaria
Dr Bernd Haas	Germany
Dr François Moutou	France
Dr Sinan Aktas	Turkey
Dr Soren Alexandersen	Denmark
Dr Dónal Sammin	Ireland
Dr Hagai Yadin	Israel

The WRL Representative and the Community Reference Laboratory (CRL), when nominated, would as per usual procedure, be expected to participate as *ex-officio* members of the Group.

Dr David Paton confirmed that he would continue to represent the WRL.

The Research Group subsequently elects its own Chairman.

Twenty-nine of the 33 member countries were present. Albania, Hungary, Israel and Malta were not represented.

Item 15. Adoption of the draft report

The draft repot was adopted subject to the agreed amendments being included. It was also agreed that the delegates would be given a period of 2 weeks to review these changes from the date of circulation by the Secretariat of the amended report.

Item 16. Closure of the Session

The President thanked the delegates and observers for their contributions to the meeting, which she considered had been very successful. She thanked the delegates for their support given to the Commission and in the vote of confidence for the continued Term of Office. She thanked the Chairman of the Research Group for his contribution to the work over the past two years and asked for the gratitude of the country members to be conveyed to the Group. She thanked the Secretariat for the organisation of the Session, and expressed her gratitude to the rapporteurs who had the difficult task of summarizing the lengthy discussions, while also being expected to contribute presentations on certain items.

She thanked Dr de Leeuw for his offer to host the next Session of the Executive in the Netherlands in October.

She called upon Dr Füssel to make a statement in closing regarding the revision of the agreement between EC and FAO on the support to EUFMD activities. He indicated that the European Commission had completed most of the internal procedures which should enable the revised

agreement with FAO, which had been under negotiation for more than half of year to soon reach the point of signature. He indicated that the agreement should provide for support of 4.5 million Euro for actions in the period to the end of 2008. He thanked all those who had assisted to reach this point and looked forward to monitoring the progress that should be made as a result.

The President thanked Dr Füssel for his statement and promised that the Commission would work hard to ensure the agreement resulted in observable benefits for the member countries.

Finally Dr Sumption thanked the delegates for their support and made presentations in appreciation of the efforts made to ensure the progress of the last two years. He hoped that the Session agreed with him that individuals honoured thoroughly merited the label on their gift shirts of "100% dedicated to Animal Production and Health". The applause indicated that they evidently so agreed.

Appendix 1

36th Session of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD)

PROVISIONAL AGENDA

Rome, 27-29 April 2005

1. Opening of the Session

2. Adoption of the Agenda

3. Overview of the FMD situation in Europe and in other regions

4. Report of the Executive Committee on the Commission's activities during the past biennium

5. Plan of Action for the EUFMD Commission for the next 4 years (2005-2008)

6. European involvement in the global surveillance for FMD
   i) The role of the World Reference Laboratory, Pirbright
   ii) Plan of action, 2005-2008

7. Progress towards FMD freedom in Europe
   i) FMD situation in Turkey – current situation and future outlook
   ii) FMD control in Trans-Caucasus region
   iii) FMD control in neighbouring regions
   iv) Strategy and plans, 2005-2008

8. Addressing technical constraints to application of FMD control policy; report of the Standing Technical Committee of the EUFMD Commission
   i) Report for the past biennium
   ii) Priorities and plan of action, 2005-2006

9. European FMD expertise and technical capacity – situation critical?
   i) Situation overview
   ii) Proposal for action in this area in period 2005-2008

Specific Technical Items

10. FMD vaccine situation in the European region
    i) Stocks held
    ii) Future outlook

11. Emergency vaccination in FMD-free countries – what issues are resolved – and which remain?

12. Bio-containment and bio-security
    i) Paper for adoption on biosecurity standards for FMD sero-diagnostic laboratories

Constitution and Procedures, Finances, Committees

13. Financial matters: accounts 2003 and 2004 and proposed budget for 2006 and 2007

14. Rules of Procedure – proposed changes
    i) Election of Chairmen, Vice-Chairmen, members of the Executive Committee and members of the Standing Technical Committee

15. Any other business

16. Adoption of the Draft Report of the 36th Session

17. Closing of the Session

Appendix 2

MAPPING THE FMD HOMELANDS:
An exploratory look at global ruminant production systems associated animal movements and FMD risk

Dr William Wint, *Consultant to EUFMD Commission,* Environmental Research Group Oxford, UK

Summary

The quality and reliability of quantitative Foot and Mouth Disease related statistics are patchy and unpredictable, even at the country level. The primary medium term imperative must be to improve disease reporting and surveillance so that decision makers can assess risks effectively and plan response strategies in case of outbreaks. In the short term, however it would be desirable to develop risk assessment techniques that make the best use of what data are currently available.

Main Objectives

To provide global maps of FMD distribution in bovines, small ruminants and pigs, using:
- Indicators of animal movement to as a surrogate for risk of disease spread
- Quantitative indices of incidence and prevalence based on expert opinion

Main Conclusions

Trade and husbandry related indices of livestock movement can be produced

A number of different incidence indices can be produced using expert rankings of
- Degree of FMD presence
- A combination of a range of additional ranked disease parameters

The incidence indices can be effectively combined with livestock species density distributions to provide credible prevalence indices

Calculated prevalence is highest in China (pigs), India (cattle), the Near East (small ruminants) and the Sahel (small ruminants and cattle)

Results suggest that methods can be used to provide some useful information at national and sub-national resolution, even for countries for which quantitative FMD data is currently unavailable.

Work is required to refine and improve the data and the techniques, which will require input from and collaboration between a number of agencies and institutions

Main Recommendations

The techniques assessed can be significantly improved by:
- Making the rankings used more robust by introducing additional parameters and evaluating alternative weighting regimes
- Using more sophisticated spatial analysis tools such as watershed analysis, classification and segmentation and iterative spread modelling to identify 'self contained' disease systems and define limits to likely spread

The data and expert opinion underlying the analyses must also be validated and if possible extended specifically by:
- Ground truthing assigned incidence levels in critical countries, particularly those with high disease burdens that share borders or trade livestock with currently FMD free nations
- Evaluating key indicators such as sero-conversion rates in selected age groups

Regional Characterisation of FMD Status
Meeting held at FAO, 27th March 2005

MAPPING THE FMD HOMELANDS:
An exploratory look at global ruminant production systems and associated movements to market

by

William Wint, Environmental Research Group Oxford

Main objectives

to work towards a logical basis for identifying FMD epidemiological zones and assessing incidence and prevalence in area with patchy or unreliable data using a Geographic Information System (GIS) based approach

Exploratory Analyses

i.e. a toe in the water to see if there is any potential in the ideas
extends and adapts outputs from previous and on going FAO projects:

FAO Animal Health Programme
Livestock Geography Atlas
Atlas of Epidemiological Instability
Agriculture Towards 2020
Global Livestock Distribution Mapping

Identify Data Needs

to ensure adequate risk assessment in medium term
to quantify and map risk to EU from outside its borders

Main Conclusions

- Trade and husbandry related indices of livestock movement can be produced
- A number of different incidence indices can be produced using expert rankings of
  - Degree, pattern and frequency of FMD presence
  - A combination of a range of additional ranked disease parameters
- The incidence indices can be effectively combined with livestock species density distributions to provide credible prevalence indices
- Calculated prevalence is highest in China (pigs), India (cattle), the Near East (small ruminants) and the Sahel (small ruminants and cattle)
- Results suggest that methods can be used to provide some useful information at national and sub-national resolution, even for countries for which quantitative FMD data is currently unavailable.
- Work is required to refine and improve the data and the techniques,

Assumptions

FMD persistence/spread likely where:

livestock densities are high

cattle (& buffalo), sheep & goats, pigs

incidence is high

stock movements are frequent

no movement records as for e.g. UK so

pastoral transhumance

trade

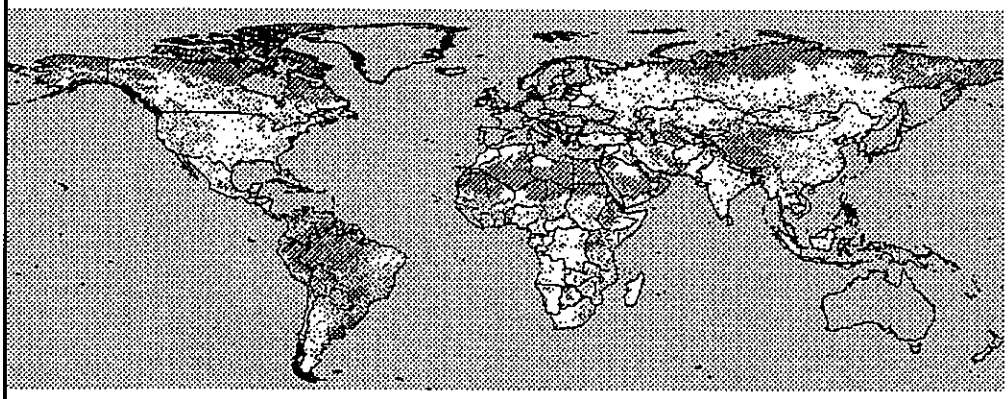
limited preventative measures

?? Climatic or environmental factors relevant

?? Wildlife hosts

CTS DATA 2001
MONTHLY MOVEMENTS
PER SQUARE KILOMETRE
INTO CELLS

Movement 1: Husbandry related



Low density bovine systems, minimal crops

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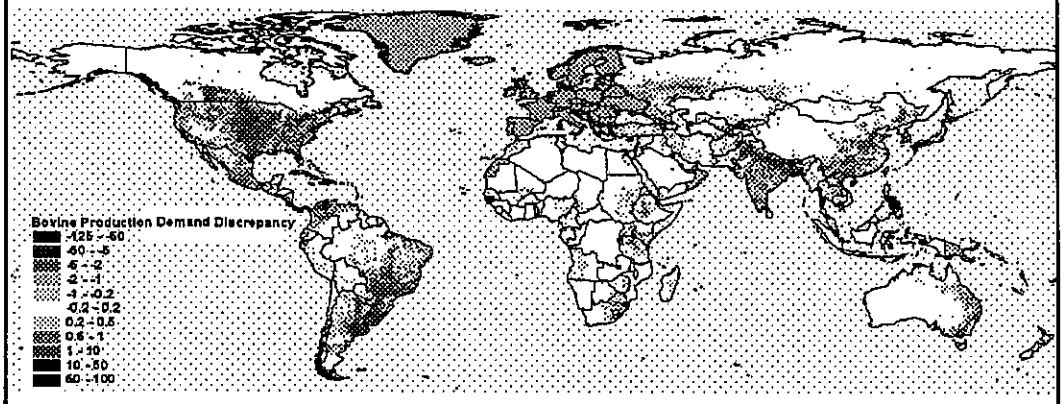
Movement 2: Trade related = Production minus demand



Production 'Surplus' – Cattle

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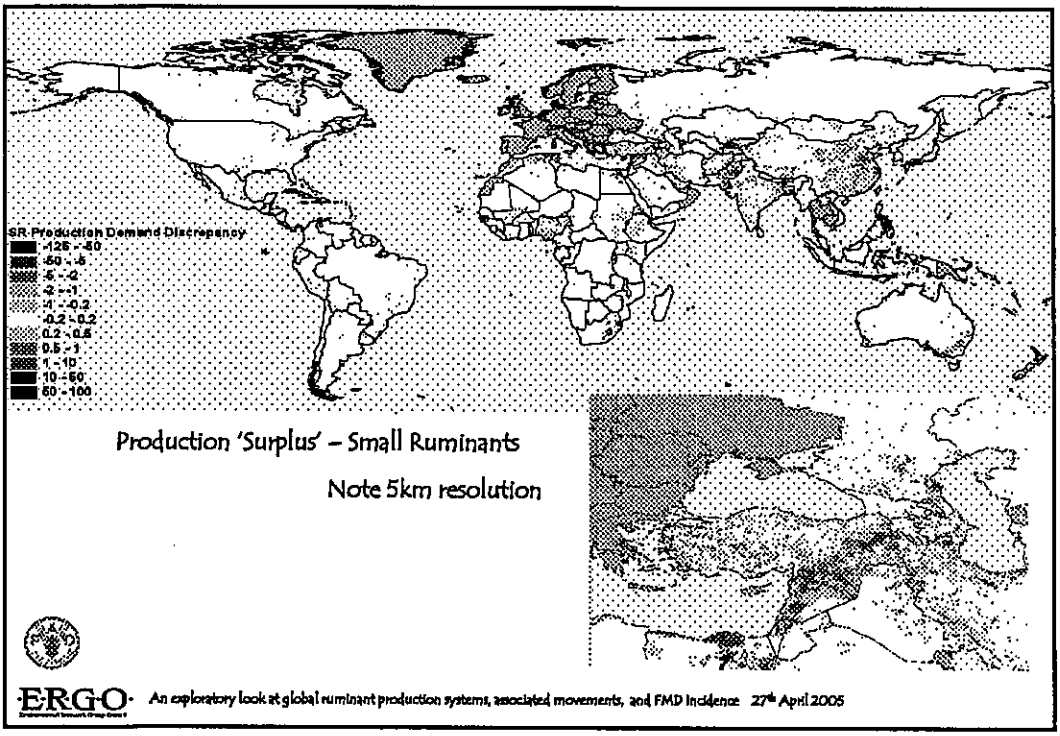

Production 'Surplus' – Small Ruminants

Note 5km resolution

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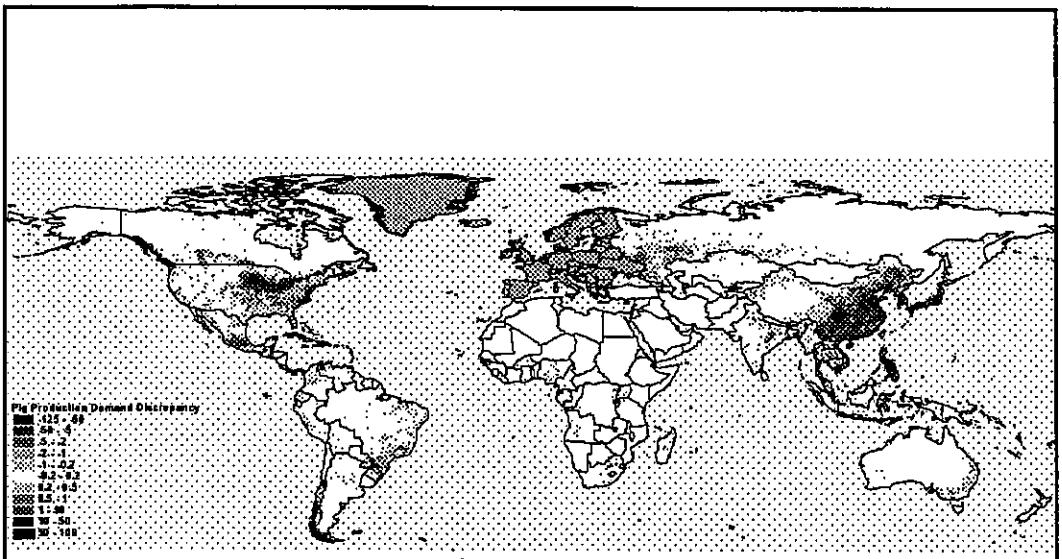

Production 'Surplus' – Pigs

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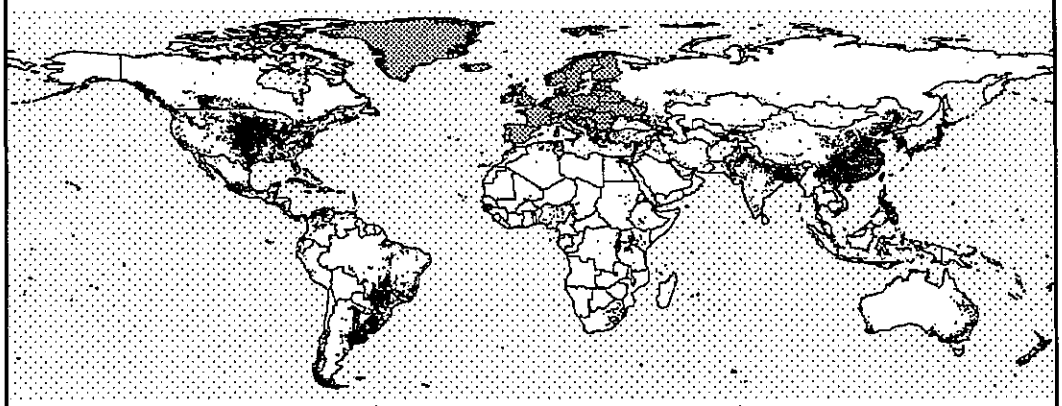

Combined High Bovine, SR or Pig Production Surplus

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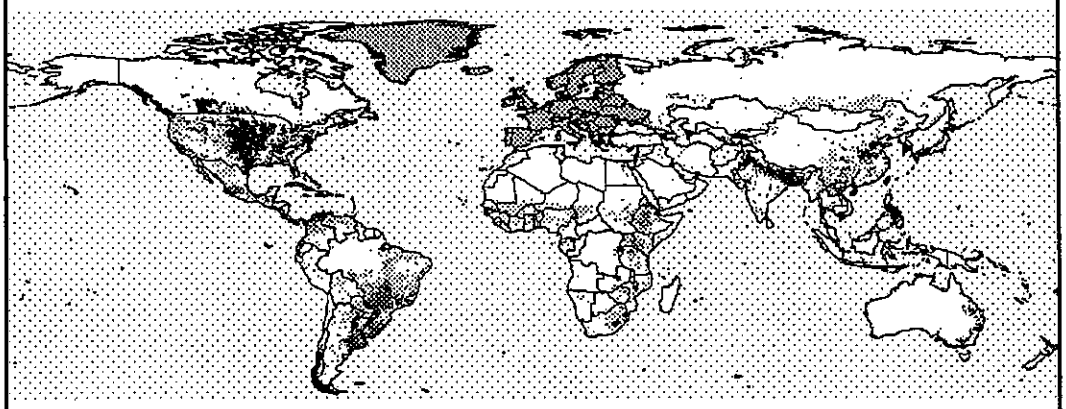
Areas with exclusive or high density bovines or moderate to high beef production surplus



Movement related spread risk if disease present and little prevention

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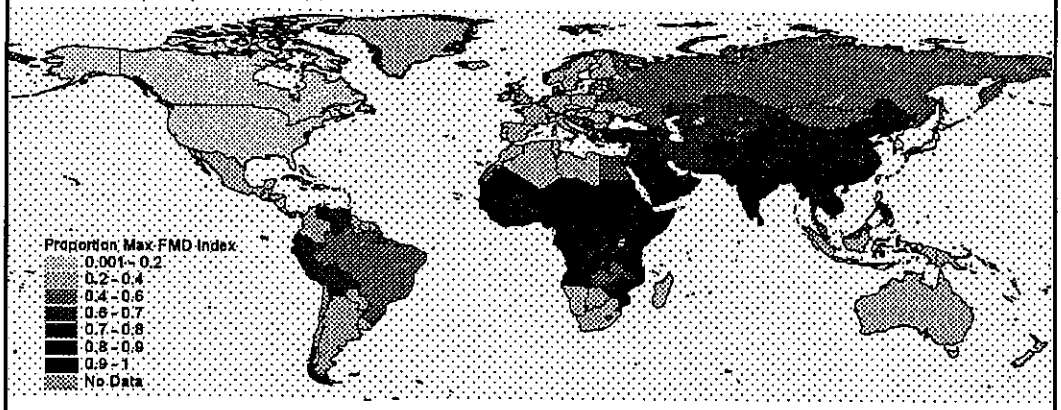
Measures of Incidence and Prevalence 1: Expert Ranking

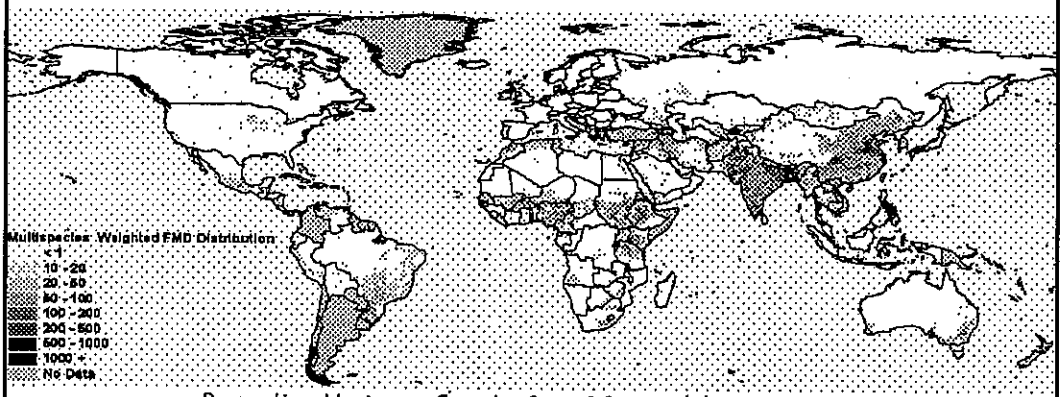
Normalised sum of: reported incidence, reporting, border and movement controls, serotype number, wildlife reservoirs:



M. Rweyemamu and K. Sumption with EFSA

Measures of Incidence and Prevalence 2:

Multispecies FMD Weighted Density Distribution



Proportion Maximum Country Score * Summed density

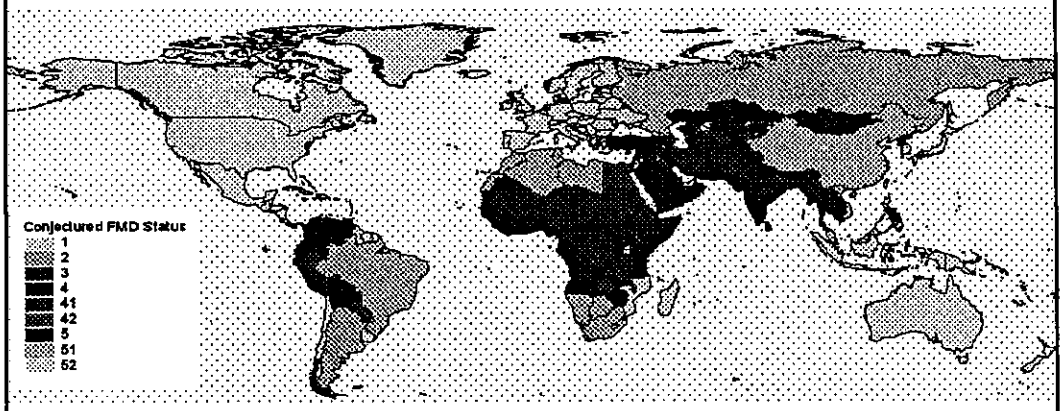
Measures of Incidence and Prevalence 3:

Incidence often measures patchy or unreliable:

=> ranking by expert opinion, with mean incidence assigned as representative of the ranking category (#/1000hd/Yr)

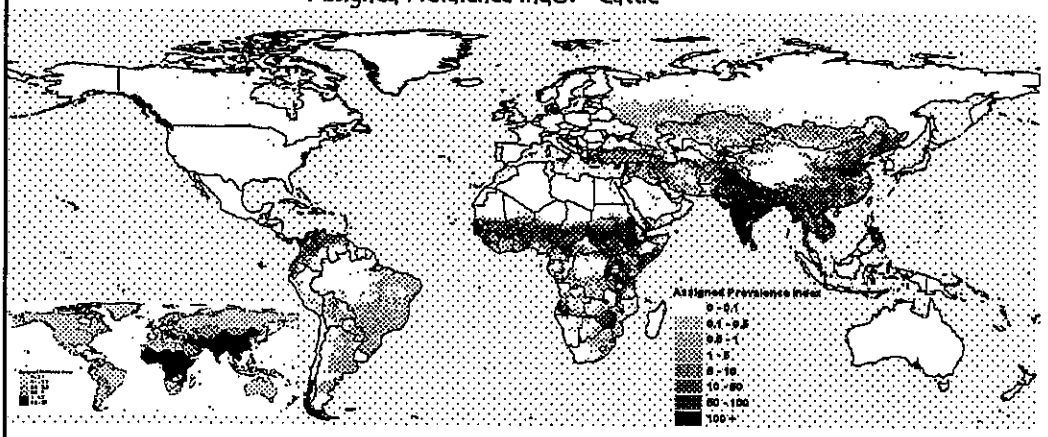
'Conjectured FMD Categories'	Cattle	Pigs	SR
Whole country free 1	0	0	0
Low sporadic incidence with effective reporting 2	0.047	0.002	0.037
Apparently low sporadic incidence with ineffective reporting 3	0.047	0.002	0.037
Disease expected every year (seasonal and/or restricted) 4	0.884	0.044	0.445
High incidence with outbreaks throughout the year 5	3.388	0.168	1.720
As 4, but involving the Cathay topotype of type O in pigs 41	0.884	6.408	0.445
As 4 but involving only SAT virus types 42	0.884	0.044	0.090
As 5, but involving the Cathay topotype of type O in pigs 51	3.388	24.560	1.720
As 5 but involving only SAT virus types 52	3.388	0.168	0.344

Measures of Incidence and Prevalence 3:



Measures of Incidence and Prevalence 4:

Assigned Prevalence Index – Cattle



Assigned Incidence * animal density

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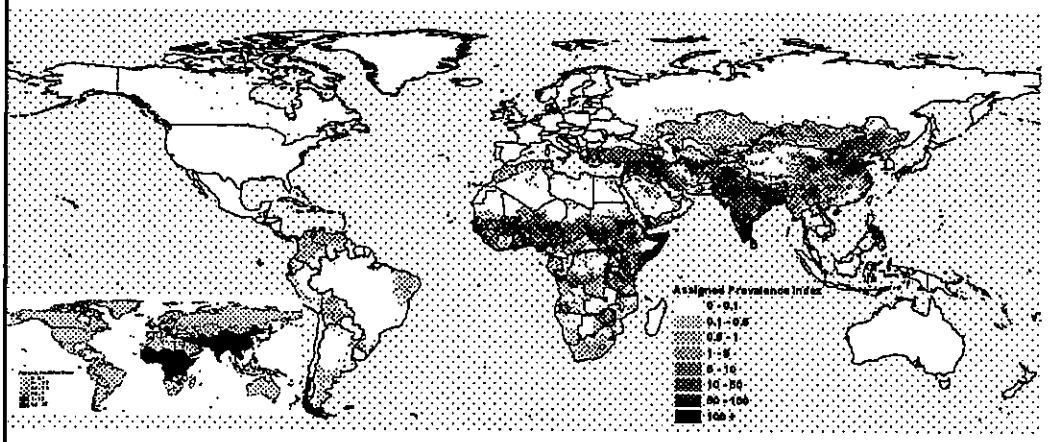

Assigned Prevalence Index – Small Ruminants

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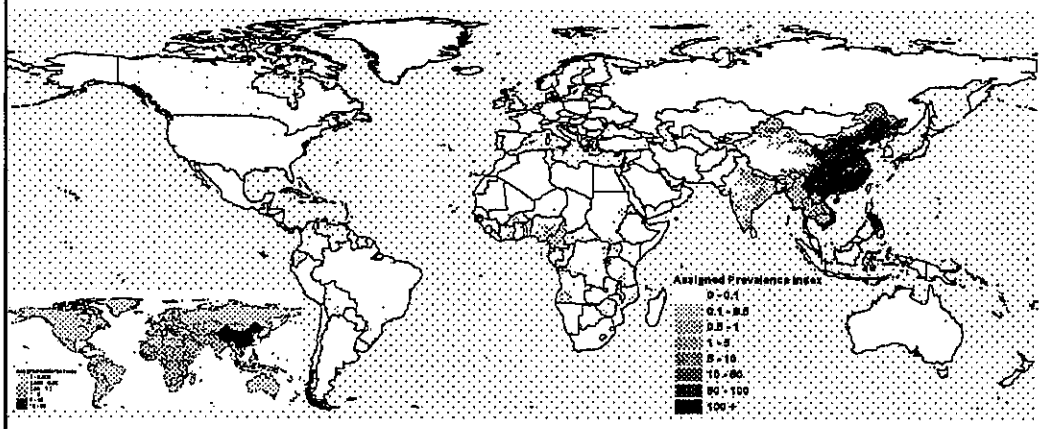


Assigned Prevalence Index – Pigs

Main Recommendations

The techniques assessed can be significantly improved by:

Making the rankings used more robust by introducing additional parameters and evaluating alternative weighting regimes

Using more sophisticated spatial analysis tools such as watershed analysis, classification and segmentation and iterative spread modelling to identify 'self contained' disease systems and define limits to likely spread

The data and expert opinion underlying the analyses must also be validated and if possible extended specifically by:

Ground truthing assigned incidence levels in critical countries, particularly those with high disease burdens that share borders or trade livestock with currently FMD free nations

Evaluating key indicators such as sero-conversion rates in selected age groups

Inputs needed

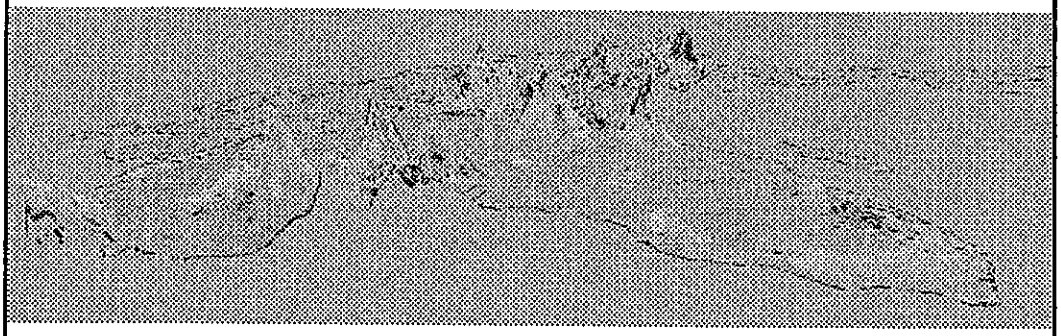
Resources from and collaboration between:

Potential users;

Agencies, institutions, national bodies, commercial entities, farmers

Continuous peer review

Fact or Fiction?



Fly thru – small ruminants,

surface= assigned prevalence (srasprevrclfilt),

palette = production surplus (srsurpfiltrcl)

ERGO An exploratory look at global ruminant production systems, associated movements, and FMD incidence 27th April 2005

Appendix 4

Country Report of Turkey

General Directorate of Protection and Control, Ankara, Turkey

FMD situation and FMD control programme in Turkey

Disease situation

Although the disease is endemic in Anatolia Region, no FMD outbreak has been reported in Thrace Region since June 2001. Two serotypes, O and A, have been circulating in Anatolia Region. FMD type A viruses which were isolated during 2003 and 2004 were classified as A/Iran/96 and A/Iran/99. Outbreaks due to type Asia 1 has not been reported since April 2002 in Turkey.

In 2003 a total of 51 outbreaks were reported of which 35 due to type O and 16 due to type A. In 2004, 75 outbreaks have been reported, 51 due to type O and 23 due to type A and 1 due to types O and A . Detailed figures of FMD outbreaks in 2004 are given Table 1.

Table 1. FMD outbreaks in 2003 and 2004

	2003			2004			
Months	O	A	Total	O	A	O+A	Total
January	2		2	4	1		5
February	3	1	4	7	3		10
March	5	2	7	2	3		5
April	3		3	6	1		7
May	2		2	5	2		7
June	2	2	4	7	2		9
July	2	2	4	4	4		8
August	4	1	5	5	1		6
September	4	3	7	2	5	1	8
October	5	2	7	6	1		7
November	1	2	3	1	1		2
December	2	1	3	1			1
Total	35	16	51	51	23	1	75

	2005		
Months	O	A	Total
January	7	1	8
February	9		9
March	8	2	10
Total	24	3	27

Vaccination programme in 2004

Mass vaccination policy was the main element of the control programme of the disease in 2004. Vaccination programme for 2004 was as follows;

- Trivalent and bivalent vaccines, consisting of O1 Manisa, Aydın 98 (with the homalogue A Iran 96) and Asia 1), produced by FMD Institute were used in the campaigns.
- Two vaccination campaigns, in spring and in autumn, were applied for large ruminants. The target of the vaccination campaigns was the vaccination of at least 80 % of large ruminants.
  - -Spring vaccination campaign, between March-April
  - -Autumn vaccination campaign, between September and October.
- A mass vaccination campaign was applied for small ruminants in Thrace and Marmara Regions in spring.

- Strategic vaccination was carried out in some provinces located in the Black Sea Region.

Spring vaccination campaign was carried out between 15 March and 15 May 2004.

In the framework of the vaccination campaign 87 % of large ruminants and 91% of small ruminants in Thrace Region and 83 % of programmed large and 82 % small ruminants in Anatolia Region were vaccinated respectively. Spring vaccination figures are given in Table 2 and 3 as follows:

Table 2. Vaccination figures for Spring 2004 campaign in Turkey

Region	Vaccination programme of animals		Vaccination			
	Large rum.	Small rum.	Large rum.	%	Small rum.	%
Thrace	347152	550 708	301 595	87	500.920	91
Anatolia	6.313.218	1.549.728	5.271.026	83	1.277.797	82
Total	**6.660.370**	**2.100.436**	**5.572.621**	**84**	**1.778.717**	**85**

Table 3. Vaccination figures for Spring 2004 campaign in Thrace

Province	Vaccination programme of animals		Vaccination			
	Large rum.	Small rum.	Large rum.	%	Small rum.	%
CANAKKALE	9.150	60.000	8.464	93	59.889	100
EDIRNE	127.152	186.188	107.756	85	173.079	93
ISTANBUL	40.900	34.500	40.166	98	32.873	95
KIRKLARELI	63.500	125.200	61.182	96	118.504	95
TEKIRDAG	106.450	144.820	84.027	79	116.575	80
Total	**347.152**	**550.708**	**301.595**	**87**	**500.920**	**91**

Autumn vaccination campaign in 2004

Autumn vaccination campaign was carried out during September and October 2004. Trivalent and bivalent vaccines produced by FMD Institute were used. Although 85.5 % of large ruminants were vaccinated in Thrace Region, 76 % of programmed large ruminants were vaccinated nationwide. Autumn vaccination figures are given in Table 4 and 5 as follows:

Table 4. Vaccination figures for Autumn 2004 campaign in Turkey

Region	Vaccination programme of animals		Vaccination			
	Large rum.	Small rum.	Large rum.	%	Small rum.	%
Total	**6.486.250**		**4.957.328**	**76**		

Table 5. Vaccination figures for Autumn 2004 campaign in Thrace

Province	Vaccination programme of animals		Vaccination			
	Large rum.	Small rum.	Large rum.	%	Small rum.	
CANAKKALE	9.150		8675	95		
EDIRNE	127.152		108414	85,3		
ISTANBUL	40.900		39431	96,4		
KIRKLARELI	63.500		62362	98,2		
TEKIRDAG	106.450		91390	85,9		
Total	**347.152**		**310.272**	**89**		

A serosurvey was carried out following the Spring vaccination campaign.

MAIN TARGETS OF THE CONTROL PROGRAMME FOR 2005 AND 2006

- Trivalent and bivalent vaccines, consisting of O1 Manisa, Aydın 98 (with the homalogue A Iran 96) and Asia 1), produced by FMD Institute will be used in the campaigns.
- Two vaccination campaigns, in spring and in autumn, will be applied for large ruminants. The target of the vaccination campaigns will be the vaccination of all large ruminants (100% coverage).
  - -Spring vaccination campaign, between March-April
  - -Autum vaccination campaign, between September and October
- A mass vaccination campaign will be applied for small ruminants in Thrace and Marmara Regions in spring.

The identification and registration system of bovines will be completed and fully functional by the end of 2006.

The identification and registration system for small ruminants will be initiated starting from Thrace Region.

In order to encourage private veterinarians to take part in vaccination campaigns a subsidisation scheme has been initiated starting from 2005.

The studies to upgrade the Sap Institute will continue in 2005 and 2006. As part of these studies the following equipment has been supplied through an EU project.

- An electricity generator with a capacity of 1500 kW.
- A UPS with a capacity of 1600 kW.
- A virus clarification system.
- A virus concentration system.
- A pure steam generator.
- A double door autoclave.
- A single door autoclave.
- A refrigerated centrifuge.
- Three Class II laminar flow cabinets.
- A vaccine filling machine with a washing and sterilisation tunnel.

Some of these equipment were already received the others will be received within the next few months. In addition to this equipment a new project has been prepared for the construction of a new aseptic filling area, aluminium hydroxide gel preparation area, second stage virus inactivation area, antigen concentration and vaccine formulation area. The details of this project have been discussed with German and Turkish GMP experts and will be finalised and implemented within the next six months. Additional improvements have been agreed with German experts for the vaccine production and vaccine control sections and the preparation of the projects will be initiated as soon as possible. Technical assistance may be required for the preparation of these projects.

THE AIM OF THE CONTROL PROGRAMME FOR YEARS 2007 AND 2009

As part of the eradication programme for FMD in Turkey which is already drafted, a three year which will be supported by EU was prepared. The aim of the programme will be:

- The free status of the Thrace region will be maintained and an application will be made to OIE in order to be officially recognition as a free region with vaccination.
- In Anatolia a vaccination coverage of more than 90% for bovine, sheep and goats and minimize the number of FMD outbreaks.

Vaccination Programme

Turkey will be regionalised as Thrace and Anatolia.

In Thrace Region all bovines will be vaccinated twice annually with a suitable vaccine and all sheep and goats will be vaccinated annually with a suitable vaccine.

In Anatolia the vaccination programme will be the same as Thrace Region.

Every year a serosurvey for the detection of virus circulation in bovine population will be carried out in Thrace and Anatolia. The sample size will be 9600 sera for Thrace and 30.000 for Anatolia excluding the follow up tests.

A similar serosurvey will be designed for sheep and goats in 2009 with the same sample sizes in Thrace and Anatolia.

This programme will be in accordance with the FMD eradication programme which has been drafted and summarised below:

Programme: FMD shall be subject to a countrywide eradication programme based on vaccination against the current FMD strains. The programme is based on a vaccination programme for the entire large and small ruminant population for three years, followed by strategic vaccinations for 5 years.

The FMD eradication programme should be permanently accompanied by a group of epidemiologist who monitor the success and any potential gaps and constraints and report them immediately. Moreover there should be regular review meetings (every 6 – 12 month).

It is assumed to join the EU non vaccination policy app. 10 years after having started the eradication programme.

The eradication programme for the Trace region has started as a mass vaccination programme (two vaccinations/year) accompanied by a serosurveillance programme already. In case of FMD outbreaks in the Trace region, the animals will be stamped out.

Costs: app. 230 MIO EUR, run as a 8 year programme and reducing respective stopping vaccination after programme completion. Costs compared to the present costs (app. 15 MIO costs for stabile endemic phase) of FMD control will significantly drop (app. 2 MIO EUR/year in free phase) after successful completion of the programme. Calculated on a 20 years scenario, the eradication programme (eradication phase and free phase) will provide a better cost benefit relation than the endemic phase (see page 39).

FIELDS OF REFORMS AND ADOPTIONS REQUIRED FOR THE CONTROL OF FMD

1. **Policy:** The present effort of formulating control and eradication strategies for animal diseases and their implementation must be clearly defined and supported by a clear policy of MARA. Veterinary framework act has been drafted and will be in force in the near future.
2. **Administration:**
    a. Restructuring of the Veterinary Service at **headquarter** level to strengthen of the role of headquarter as policy advisor and supervisor of LVUs.

b. Creation of effective **local veterinary units** (LVU). The local veterinary unit may be formed at district level (in provinces with proper infrastructure) or at provincial level.

Reorganisation studies of the MARA is underway and will be finalised in the near future.

3. **Animal ID and movement control:** The cattle ID and movement control system (in line with EU requirements) is precondition to every animal disease control and eradication programme. The animal ID and movement system shall be implemented for the cattle population prior to extend the system to sheep and goats
   An animal identification and registrations system is established in the whole country that:
   a. allows a full traceability of animals and transparency of the life history
   b. protects the illegal animal movements from outside and inside the country
   c. enables to control the progress of vaccination

The identification and registration system of bovines will be completed and fully functional.

The identification and registration system for small ruminants will be initiated starting from Thrace Region.

4. **Insufficient budget for the control of animal diseases**
5. **Market and Trade control:** Animals from eastern and south eastern provinces are traded continuously to western provinces. The biggest markets are in the west of Turkey. It will not be possible to cut off those trading habits. Farmers and traders in all parts of Turkey will suffer losses of income.

   Standardisation of animal transport vehicles and registration of animal dealersa re also need to be solved.
6. **Compensation schemes:** Eradication programmes can not be carried out, if compensation for the animals, which have been detected to be diseased, cannot be granted. The measures as described in the legal provisions can not be applied, because of the missing compensation funds. The lack of compensation funds leads presently to a lack of detection of notifiable animal diseases.
7. **Vaccination policies:** The vaccination coverage has been increased for cattle starting from 2005 and small ruminants will be included in the programme starting from 2007.
8. **Eradication programmes:** *Eradication programme for FMD is drafted.* The enforcement of the eradication programme depends on one hand on the adoption and implementation of the legislation and on the other hand on the reform of other fields.
9. **Contingency plans:** *Contingency plan for FMD is drafted.* The use of the contingency plan through the local veterinary units and headquarters will depend greatly on the reforms to be made.
10. **Productivity of local breeds and small animal units:** An artificial insemination campaign in 14 Eastern and Southeastern Provinces has been initiated this year.
11. **Presence of FMD in neighbouring countries:** FMD continues to be endemic in Eastern neigbours of Turkey and depending on the market prices of meat illegal movements may occur. Therefore control of FMD in these countries is essential for the sustainability of the FMD control programmes in Turkey. Cooperation between Turkey and its neighbours for the control of animal diseases is of importance. Support of EUFMD and other International Organisations (EU; FAO and OIE) is required and should continue with an increasing trend.

Appendix 5

FMD Control in the South Caucasus

Keith Sumption

Key points:

- Buffer zone vaccination was supported in spring 2003, autumn 2004 and spring 2005; confirmed outbreaks of FMD were not been reported in this period, even though the countries neighbour areas which have a high number of reported outbreaks. Circulation of virus in some border areas was suspected by not proven in surveys in 2003.
- The south Caucasus countries remain a route by which exotic infection could transit to Turkey or the Russian Federation.
- The OIE/EUFMD/EC Tripartite group met three times in 2003 and 2004 to discuss the FMD situation; from May 2004 group should act as a Regional Steering Committee for the OIE/FAO GF-TADS.
- At the meeting in Paris on 5 May 2004, support was agreed to resume the buffer zone vaccination in cattle in autumn 2004 and spring 2005, with inclusion of additional supply of vaccine for small ruminants.
- At the same meeting it was decided to prepare a regional FMD control project which would have an operating base in Georgia and a regional co-ordinator.
- Missions conducted by EUFMD consultants and EUFMD/FAO staff have surveyed surveillance and information systems, diagnostic laboratories and current handling and application of vaccines in the three countries.
- Study tours for laboratory staff, workshops in FMD investigation and diagnostic kits were provided in 2004, and a FAO TCP project developed, agreed and implemented.
- Capacity and planning for emergency response is weakly developed and long term effort is required to develop risk based control measures, early identification and effective early response.
- The experience gained has been important in the development of the longer term project, which was prepared in April 2005 with proposed implementation in 1/1/2006, or earlier if agreement is reached.

Key recommendations from mission reports of consultants

- Training of staff in epidemiology and diagnostics, diagnostic facilities and transparency have to be improved to introduce more risk-based vaccination and surveillance schemes.
- An effective epidemiological unit for animal health decision making should be created.
- Effective computerized national animal health information systems should be developed. A web-based regional animal health information system should be established to allow sharing of disease information between Georgia, Armenia and Azerbaijan, possibly including Turkey, Iran and Russia.
- Storage facilities and logistics of vaccination campaigns should be improved as to ensure appropriate vaccine quality at the time of use.
- Baseline sero-surveillance investigations are necessary to assess the FMD situation in the countries. Surveillance and control strategies should be developed and applied for entire countries, preferable the whole region.
- Regional cooperation between the South Caucasus countries, and Turkey and Iran in FMD surveillance and control is necessary.

Recommendations of the 71st Executive Session – FMD control in the south Caucasus

Recommendations

- The long-term objectives, including the regional approach and aims, should be identified and agreed with each country.
- The continuous provision of technical coordinator for surveillance and control EUFMD Commission should support the freedom from FMD disease status identification of needs.

- Further investigation of animal marketing and movements in the border regions was strongly encouraged.
- The Armenian authorities should provide an explanation as to the reason that only 30,000 of the 50,000 doses of vaccine provided by FAO/EC had been supplied to area of Nagorny-Karabakh.
- The FAO workshop in Tbilisi in December had been a defining moment in development of regional veterinary service cooperation and the momentum gained in the last period of 2004 should be continued.
- There is considerable insecurity in the regional political and animal health situation, and EUFMD/OIE/EC actions to stabilise the FMD situation should be strongly supported.
- A Steering Committee meeting for GF-TADS for FMD control in the Caucasus should be organised.
- EUFMD should proceed, in collaboration with OIE and partner organizations to the formulation of a 3 year project for FMD surveillance and control in the South Cacausus.

Actions following the 71st Session

- Trivalent vaccine has been supplied under EC support to each country for the spring campaigns in the buffer-zone; sero-monitoring plan has been proposed to each country and will be supervised and supported by EUFMD.
- FAO TCP support project will organise a workshop to initiate contingency plan development, and provide interim support to diagnostic laboratories.
- A project drafting meeting was held on 11-13 April 2005 in Rome, involving OIE and FAO identified experts, to identify the main outputs required of the project, the activities required and timetable of activities and inputs; design summary is shown below.
- EUFMD will arrange translation and review of the document in each country at the time of the visit of an FAO professional officer (Andriy Roztalnyy) in early May.
- Feedback from these visits will be provided to FAO and OIE, revisions and improvements proposed, and a meeting held during the time of the OIE General Session in May to discuss the proposal further and resolve issues arising.
- A mission to finalise the project document will be planned for July, with the aim of project inception in January 2006.

Design Summary (Draft) (part of project Technical Assistance Framework developed 4/05)
Goal Improved Control of FMD and other TADs in the Southern Caucasus region
Purpose Develop Regional cooperation framework Strengthen national and regional capacity to manage risk of FMD and other major TADs
Outputs
Component A • Regional cooperation framework adopted • National TADS risk management strategies formulated and implemented for FMD control • National FMD surveillance policies developed and implemented • National Emergency management plans revised and tested • National disease information systems upgraded, populated with relevant GIS information, able to cross-talk with Laboratory information and management system (LIMS), and adopted into routine use. (GIS to level of complete coverage of animal population) • National plans for continuing surveillance after project end, including laboratory capacity developed (end of project) including human resources • Regulatory controls reviewed

Component B – Laboratory
• NRLs upgraded to Level 2,
• National capacity for FMD serology, serology for
  • SPs (LPBE/SPCE) for vaccination coverage and epidemiologic investigation/typing
  • NSP ELISA for virus circulation
• upgraded to reach performance indicators for response time and integration with Department of Veterinary Services
• NRL capacity to confirm infection by antigen detection ELISA

Figures provided by Carsten Poetszch, EUFMD Consultant - co-ordination of vaccination and monitoring programme 2004, and Angus Cameron, FAO Consultant under TCPRER/3001.

Figure 1. Location of the buffer zone and high priority national vaccination zones

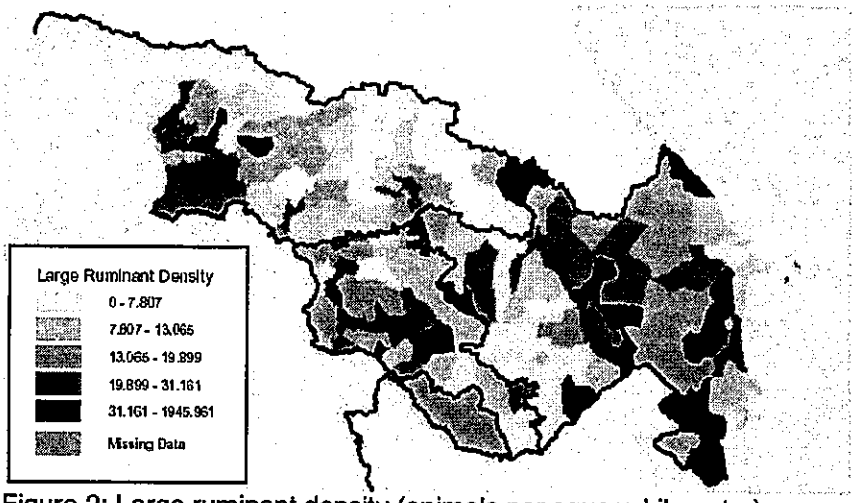


Figure 2: Large ruminant density (animals per square kilometer)

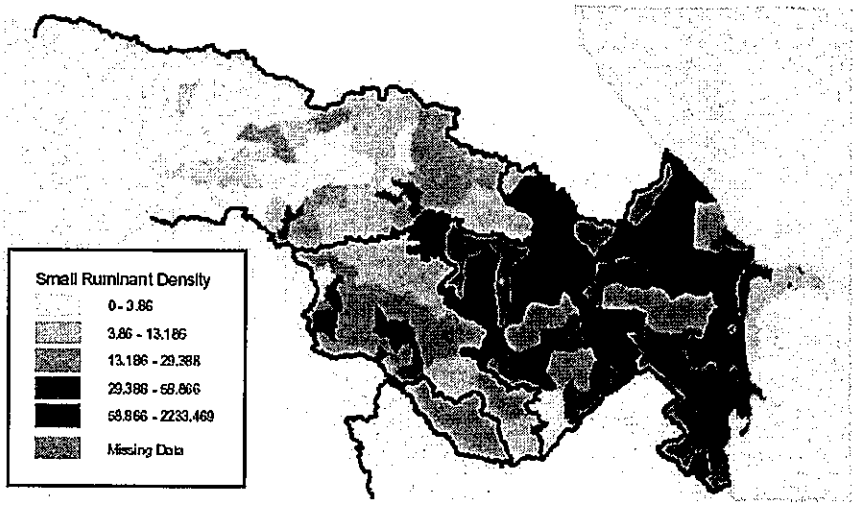


Figure 3: Small ruminant density (animals per square kilometer)

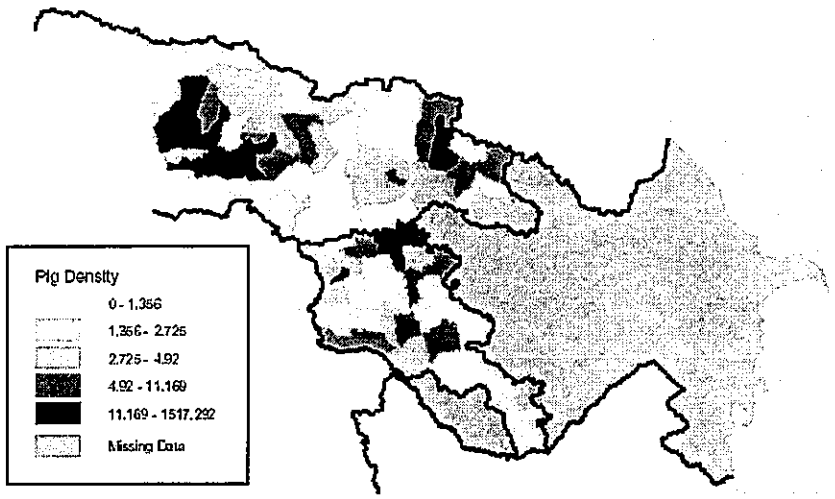


Figure 4: Pig density (animals per square kilometer)

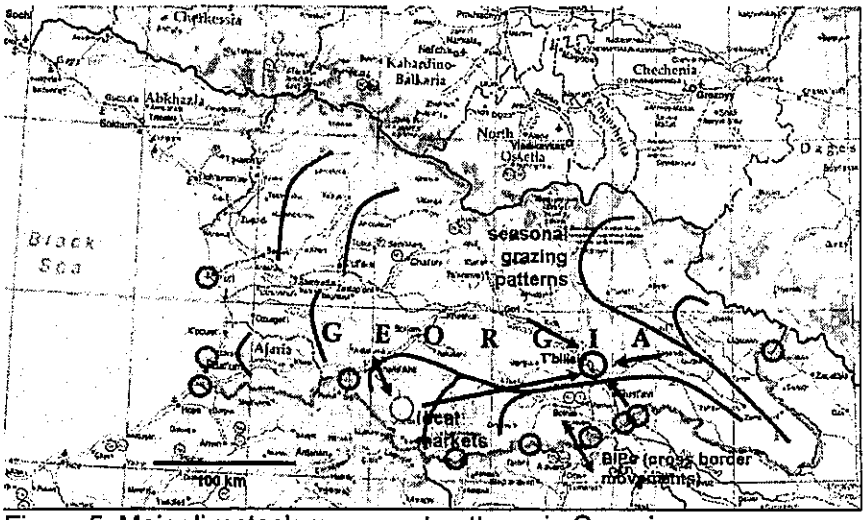


Figure 5. Major livestock movement patterns in Georgia

Appendix 6

Combating Foot-and-Mouth Disease through enhanced and coordinated surveillance activities

Central Asia FMD Surveillance Centre Project, Tehran, Iran

Francis Geiger, EUFMD-FAO

1. Objectives, outputs and capacity building

1.1 Objectives of the project

The main objectives of the project are:

Phase 1:

- Strengthened national and local capacities for active surveillance of FMD, with effective and timely management of FMD risk in Iran.

Phase 2:

- *Establish a regional network for FMD surveillance in Central Asia region based on the Iranian mode, with National Focal Points and Regional Co-ordination Centre in Tehran, able to provide effective and timely information about patterns of FMD transmission and spread, virus types and genetic fingerprint.*

1.2 Outputs of the project

The specific outputs of Phase 1 are expected to be:

- Strengthened capacity for identifying risk of FMD entry and spread for Iran;
- Strengthened system for FMD surveillance and effective control in high risk zones for virus entry, specially in border regions of Iran;
- Specific staff with FMD expertise in use of active surveillance methods in outbreak investigation, in planning control measures and in spatial mapping of disease risk enhanced;
- Strengthened capacity for quarantine activities and develop animal movement mapping;
- Strengthened capacity for sero-monitoring, rapid characterization of the virus, virus identification and typing of field strains, data analysis and interpretation and development of FMD vaccine quality control in the Central Veterinary Laboratory - FMD Virus Diagnosis Unit;
- Revised National Surveillance Programmes and contingency plans including updated surveillance methodologies.

1.3 Capacity building

Technical capability to rapidly identify the emergent FMD virus strain and to identify the most important causes and origins of FMD outbreaks and the routes by which they spread will be enhanced through training in outbreaks investigation, in active surveillance methods and in the development of laboratory skills.

Development of laboratory skills will focus on identification and typing of FMD virus field strains, virus genotyping, serodiagnosis methods and vaccine quality control.
The establishment of sero-diagnostic capacity will enable the monitoring of vaccination performance in the field and identification of possible reasons for vaccine success or failure.
The training of the countries' personnel in planning an implementing surveillance for verification of the disease free status will strengthen the national capability and implement long term progressive control of TAD.

Continuous interaction among the national staff at all levels will promote the concepts of priority of FMD and other exotic disease control and of early reaction in case of outbreaks.

The international co-ordinator will work with the senior government veterinary staff to guide the development of national surveillance plans and the revision of national contingency plans

2. Current context

From time the projects have been written, the most important change are:

- Spatial analysis of livestock and livestock diseases,
- FMD strategy and policy,
- FMD outbreak numbers.

2.1 Spatial analysis of livestock

The main change in animal surveillance is a **GIS programme** initiated in **03/2002** and **spatial analysis of livestock diseases** setting up in the same time.

2.2 FMD strategy and policy

The main change in FMD strategy is a **vaccination policy** (target vaccination program) concerning **intensive bovine production** initiated in **2003** and concerning **nomadic sheep** initiated in **2004.**

2.3 FMD outbreaks numbers

After target vaccination program, **FMD monthly outbreaks** were decreasing from **204** foci in **04/2003** to **24** in **04/2004** (*see Annex 1*).

Last Iranian year, **1383** (March 2004-March 2005), **336 outbreaks** were reported (**187** in cattle and **149** in sheep and goat), major **cattle outbreaks** (*60*) occurring in ***Qom province*** and major **sheep and goat outbreaks** (*68*) occurring in ***Khorasan province*** (*see Annex 2*).

Regarding those elements, we have designed **priority activities** and we have proposed to change the **work plan** as following.

3. Priority activities

3.1 Laboratory activities

Priorities are:
P1: Virus identification and typing
P2: Measurement of immunity level
P3: Vaccine quality control

Training in Europe

T1 - Short Term external training

T1.1 - Training on FMD serological and virological tests
Duty station: specialised European FMD institutions

Serosurveillance methods
Participant: 1 person from FMD Diagnosis Unit of CVL (Central Veterinary Laboratory)
Duration: 2 months

Rapid virus diagnosis
Participant: 1 person from FMD Diagnosis Unit of CVL (Central Veterinary Laboratory)
Duration: 1 month

Typing
Participant: 1 person from FMD Diagnosis Unit of CVL (Central Veterinary Laboratory)
Duration: 1 month

T1.2 - Training on laboratory results analysis and interpretation
Participant: 1 person from Central Veterinary Laboratory
Duration: 2 months
Duty station: specialised European FMD institution

T1.3 - Training on vaccine quality control (Inocuity, Potency and Safety)
Participant: 2 persons from Central Veterinary Laboratory
Duration: 2 months
Duty station: specialised European FMD institution

T2.- Long Term external training

Training on FMD genetic typing and advanced molecular epidemiology
Participants: 1 specialist of FMD Diagnosis Unit of CVL (Central Veterinary Laboratory)
Duration: 1 to 3 periods of 7 months attachment
Duty station: specialised European FMD institution

Workshops in Iran

W1 - Identification of FMD field strains (Elisa, PCR, CFT and cell culture)
Participants: CVL national staff (7 persons)
Duration: 2 weeks (10 working days)
Duty station: Tehran (CVL)
Organisation: CVL Director and IC

W2 - Measurement of immunity level (Elisa, Elisa 3ABC and SN)
Participants: CVL national and provincials (high prevalence area) staff (15 persons)
Duration: 1 week (5 working days)
Duty station: Tehran (CVL)
Leader: CVL Director and IC

3.2 Surveillance activities

Priorities are:
P1: Basic epidemiological knowledge for all veterinarian involved in FMD surveillance (public and private)
P2: Active and Passive surveillance
P3: Data analysis and Mapping

Workshops in Iran

WT1 - Workshop on Active Surveillance and FMD Outbreak Investigation
Participants: official and private veterinarian involved in FMD surveillance (15 persons)
Duration: 2 weeks (10 working days)
Duty station: Tehran and Province
Organisation: AHD and IC

WT2 - Workshop on rapid epidemiological appraisal
Participants: official and private veterinarian involved in FMD surveillance (15 persons)
Duration: 4 weeks (29 working days)
Duty station: Tehran and 3 Provinces
Leader: AHD and and IC

WT3 - Workshop on methods for identification and mapping of animal production, trade and movement relating to disease risk
Participants: official veterinarian involved in FMD surveillance at national level (5 persons)
Duration: 1 week (5 working days)
Duty station: Tehran
Leader: AHD and and IC.

Appendix 7

REPORT ON THE COMMISSION'S ACTIVITIES IN 2003 AND 2004

Keith Sumption

Key Points

1. The activities have followed the recommendations of the 35th Session and can be grouped under four categories:
    i. actions to prevent entry of infection into south-eastern Europe through Thrace region of Turkey, and of infection or exotic virus types into Turkey and the CIS via the south Caucasus;
    ii. actions supporting risk assessment and risk management, mainly through support to countries in high risk areas to submit samples for virus typing;
    iii. actions to address technical constraints to implementing FMD control policy in member countries, mainly through EUFMD Research Group sessions and workshops and supportive technical contracts, and via work on international standards (OIE), with most emphasis on the issues relating to vaccination to live policies;
    iv. actions aimed at improving capacity to respond to FMD emergencies, mainly concerned with diagnostic laboratory contingency planning, capacity and proficiency/standardisation.
2. The Secretariat (Secretary and Clerk), funded by members contributions, have acted to implement decisions of the 35th Session and subsequent Executive Committees. In the period 2003-2004 the Commission has been greatly assisted by an additional Associate Professional Officer (supported by Ireland). Since staff costs are met by the Commission, almost 100% of the external funding (EC and FAO) goes to cover the additional costs of the actions - for example in supply of vaccines, diagnostic kits, workshop costs.
3. Under the Implementing Agreement for 200-4 for financial support from EC for activities of the EUFMD Commission, the staff of the EUFMD Secretariat provided the project management and technical backstopping through two professional officers. These officers are greatly assisted by the Chairman of the Research Group and the other elected technical experts from member countries who provide technical advice, and assist in missions usually without charge, and through contract services with the specialist institutions such as the FAO World Reference Laboratory in the UK. The position of the Commission in relation to the FAO Animal Health Service ensures that activities are co-ordinated and informed by FAO involvement in the wider region, and complement and contribute to goals and outputs of the FAO Regular Programme.
4. The majority of the external funding has been used in country in affected or high risk country situations (Thrace region, and south Caucasus) from two sources, from DG-SANCO of the EC via the EUFMD/FAO Implementing Agreement, being US$1,536,360 in 2003 and 2004[1], and from FAO resources for Technical Cooperation Projects (TCPs, circa US$ 600,000), where the EUFMD Secretary acts as lead Technical Officer[2].
5. Over half (30) of the 59 recommendations have been implemented through activities or actions, and a further 20 can be considered collaborative work in progress with the lead being taken by other organisations.

[1] Financial statements approved by the 69th and 70th Sessions

[2] The FAO projects relating to FMD in Syria and Iraq in this period were serviced by other FAO Animal Health Service officers.

6. In line with recommendations at the 35th Session, the activities have been co-ordinated with partner organisations (OIE, EC, EFSA) to avoid overlap and make the best use of specialist technical experience in the Secretariat and Standing Technical Committee (Research Group) –
    a. Co-ordination of international actions to improve risk assessment for antigen and vaccine banks, working with FAO-WRL and the OIE (ad hoc group on antigen and vaccine banks, 6/2004).
    b. Partnership in research co-ordination, with WRL/EC/OIE in the development of the Co-ordination Action for FMD and CSF laboratories (CA-FMD CSF, to be implemented in 2005).
    c. Specialised technical support to EFSA in the panel on FMD risk to Europe – assessment and management options (10/2004).

7. The major depreciation of the dollar against the euro has had serious financial consequences as the majority of costs have to be met in euro. The impact on the balance of the Trust Fund has been softened by payment of contributions which were in arrears. The financial situation reduced the Executive's flexibility to use EUFMD resources to respond to situations and to implement recommendations.
8. A longer term strategy paper has been developed following recommendation of the Executive, for the activities in the period 2005-8, to be presented at the 36th Session.
9. A revised Agreement between FAO and EC for financing of activities of the EUFMD Commission has been prepared to follow the Agreement signed in 2001 for the period to 31/12/2004. Interim measures to finance activities have been necessary in the period before the new agreement is in place. This aspect highlights the importance of a sufficient and independent financial base for EUFMD actions.

Actions to prevent entry of infection

10. The situation of risk to EUFMD member countries was kept under continual review through the mechanism of Tripartite group meetings and at the 3 meetings of the Executive Committee, resulting in decisions to continue or implement support actions in Thrace region and south Caucasus in the period:
    a. supply vaccine for Thrace in 2003 and sero-surveillance activities in 2004;
    b. support buffer zone vaccination/surveillance support in the Caucasus in 2004;
    c. support field surveillance exercises in Anatolia (Turkey) and formulation of studies to better monitoring of FMD risk situation in eastern Anatolia.
11. The EUFMD actions, under the FAO/EC/OIE Tripartite, have assisted to stabilise the FMD situation at these border regions for Europe. However, the surveillance activities supported by the Commission in Thrace region and the south Caucasus indicate that FMDV entry occurred in the period, but without significant extension in involving neighbouring countries free of infection. The effective use of FMD vaccine in small and large ruminants in Thrace region of Turkey in this period undoubtedly contributed to control the spread of infection.
12. With FAO TCP support, a set of surveillance actions for the early detection of transboundary disease risk (FMD, PPR, sheep and goat pox and bluetongue) were introduced in 2004 into Thrace region of Turkey, complementing actions in Greece and Bulgaria; this action assisted the detection of PPR infection in Thrace and contributed to prevention of entry into Greece and Bulgaria. The westward movement of PPR across Turkey into Thrace highlights the value of the Commission tracking other diseases as indicators of animal movement, and thereby FMD risk.
13. The situation of FMD virus circulation in other risk areas was kept under continual review through the mechanism of the Executive Committee and the Standing Technical Committee meetings. FMDV surveillance information for much of the endemic areas of the world remains in critically short supply, and following recommendations arising from a review by the Standing Technical Committee, the Executive decided to support

small projects to address gaps in information of suitability of the European vaccine banks, especially to counter risk from virus types in the Horn of Africa.

Actions supporting risk assessment and risk management

14. Activities to note in the period 2003-4 have been:
    a. New actions (small projects) to support virus identification and typing in epidemiologic regions considered to pose a significant risk, and thereby to determine the suitability of antigens held in the European vaccine banks holding exists;
    b. New activity, in support of FMD risk assessment by EFSA, mainly through work on models for better identification of FMD distribution and prevalence (10/2004);
    c. Continued reporting to the Executive on changes in patterns of FMD circulation and risk to EUFMD member countries;
    d. Continue support to the FAO WRL, financially and operationally, from the EUFMD Trust Fund;
    e. From the above, it is clear that the need to address the deficiencies in data on both FMD incidence is of high importance for several functions of the Commission. The lack of systematic data on human and financial resources available to veterinary services in endemically affected countries affects identification of policy options for intervention in third countries. The international organisations could be assisted by the EUFMD Commission as a specialised body, to bring FMD information and veterinary resource information together to assist identification of effective policies for countries at different levels of development.

Actions to address technical constraints to implementing FMD control policy

15. In line with recommendations of the 35th Session, activities to address technical issues have increased significantly:
    a. Supporting the implementation of a Research Group workplan developed in 2003;
    b. Supporting resolution of vaccination to live issues, specifically
        i. gaps in NSP test validation through project grants to obtain suitable sera (Israel, Zimbabwe, Hong Kong SAR)
        ii. workshop for NSP test comparison and validation in 2004
        iii. working group on surveillance after emergency vaccination in FMD free countries
    c. Co-ordination of the efforts to increase efficiency of transfer of technical progress into practise, including revision of standards, through:
        i. setting up and steering of a Coordination Action project (with WRL and OIE) to begin in 2005;
        ii. technical advisory inputs of the Secretary and Chairman of the RG to OIE ad hoc groups, the European Food safety Authority (EFSA) panel on FMD, and as as FAO representative to the European Technical Platform for Global Animal Health.
16. The STC met on two occasions and continued its position as the pre-eminent, international forum for review of progress in FMD diagnostics and vaccination issues, with a record attendance of observers at the Open section of the Session in 2004.

Actions aimed at improving capacity to respond to FMD emergencies

17. Activities to support capacity in European countries to control FMD emergencies:
    a. Workshop for EUFMD member countries on contingency planning for FMD diagnostic laboratories attended by delegates from almost all member countries;

b. Addressing issue of lack of diagnostic capacity for post-outbreak surveillance, through development of bio-security standards that assist rapid licensing of regional/decentralised facilities;
c. Updating and continual professional development through wide participation (a record level) of European countries, and from Mediterranean basin, in the Open Session of the Standing Technical Committee, 2004.

Special Events

i. The 50th Anniversary of the foundation of the EUFMD Commission was commemorated in June 2004, through an evening hosted by the Irish Government and attended by representatives of most of the 33 member countries and each of the 6 founding member countries. Commemorative awards were made to 25 individuals whose efforts were seen as outstanding in the control of FMD in Europe and to five institutes to recognise their special contribution to the success.

Member countries

18. The number of member countries remained at 33 of which, since May 2004, 22 are EU members. No new member countries joined the Commission in the 2003-2004 period. The Republic of Ukraine officially declared interest to join the Commission in this period[3].

1. General Situation

The general situation of FMD in the world in 2005 appears similar to that of the early-mid 1990's; a relative calm, with few major incidents in previously free countries. As in the 1990's, the relative lack of headline forming incidents is most likely a very poor guide to true level of virus circulation within many endemically affected countries. Incidents of trans-boundary spread of infection were recorded in this period from South America, sub-saharan Africa, in west, central, south and south-east Asia. Extension of distribution of virus types/topotypes was recorded in this period in South-East Asia, indicating that disease ecology is not stable, and that borders remain relatively porous in several regions of the world.

However, many of these trans-boundary events did not make headline news since they involved countries not officially free of FMD.

In the absence of quantitative risk assessments, there is no reason to consider there is a reduction in risk to Europe in 2005 compared to 2003.

The available official information reported to the OIE on FMDV circulation in most endemic countries is currently so scarce, or for some countries not given at all, that it greatly constrains quantitative risk assessment. This restricts assessment of both risk of virus entry through illegal and legal routes of entry.

Following the 35th Session the Commission has:

- Contributed to the FMD risk assessment work of the European Food Safety Authority (EFSA), particularly addressing the issue of estimated prevalence of infection in potential source countries;
- In support of risk assessment, supported a pilot study aimed at improving identification of distribution and intensity of infection in risk areas (FMD Homelands pilot study);
- Initiated small projects to improve virus submission to the WRL from risk areas where information was considered most deficient;

[3] The Republic of Georgia submitted its article of acceptance of the Constitution in March 2005. The dates of entry into membership will be given in the official response of the Director General of the FAO.

- Supported State sector institutions to collaborate with European laboratories to investigate FMD epidemiology in areas where vaccination is performed (Turkey, Israel, Zimbabwe and Hong Kong SAR).

Given that Turkey and Israel are members of the Commission and that FMD was reported in each country in the period 2003-2004, the risk situation of most immediate concern is that of countries neighbouring to Turkey and Israel.
Of these, the FMD situation in Iran is of most significance given the importance of the country over the past 10 years, and longer, in the transit of FMD from south Asia to the Balkans, and via the trans-Caucasus to Turkey and Russian Federation.
In 2003 the type A-Iran-99 topotype was re-isolated in eastern Turkey after a period of several years' apparent absence, suggesting a re-entry of the topotype from neighbouring countries. Although the type A vaccine used in Turkey provided a measure of control in experimental studies, the spread of the topotype provides a significant reminder of the need to address deficiencies in vaccine application in at risk areas of Turkey, and also the need for earlier warning of movement of virus variants.
In the context of changing policies towards use of vaccination in the emergency response, early detection of antigenic variants from potential medium-high risk source countries is critical. In this respect the threat to Europe of the circulation of type A viruses of Iran-86 antigenic type, against which the type A vaccine used in Turkey is poorly protective is of great concern. For this and other reasons, the situation in Turkey and in Iran and the Caucasus is currently of primary concern for EUFMD.

FMD in the European region
The last reported outbreak ("case") in the devastating type O epidemic in Europe in 2001 occurred on 30/9/01, in England, and the United Kingdom regained its FMD free status with the OIE on 22 January 2002, and the EU member states have been FMD free following this.
The Republic of Turkey reported 76 FMDV outbreaks in 2004, up from 51 in 2003, 48 in 2002, and closer to the level reported in the previous years (88 in 2001 and 110 in 2000). Type Asia-1 was not reported after 4/2002, but of great concern is the pattern of type A infection, where the Iran-99 topotype re-appeared in 2003, and following the upsurge in type A in 2002.
EUFMD with EC support have supplied trivalent vaccine for immediate use in large and small ruminants in Thrace region in spring 2003, and thereafter the stratagy has been to support sero-monitoring of vaccine performance and of virus circulation.
FMD outbreaks have not been reported in Thrace region since 6/2001, and sero-surveillance activities supported by EUFMD/EC indicated that the strategy of twice yearly vaccination in cattle, and once yearly in small ruminants, together with other controls, has succeeded to prevent significant extension of infection entering in this period. The risk of continued incursions of virus was highlighted by the incursion of PPR infection into Thrace for the first recorded time in 2004.
The temporal and-spatial distribution in Anatolia was assessed in a collaborative study by FAO with Government of Turkey and although different trends were detected for types A, O and Asia-1, particular Provinces appeared highly important in the persistence of infection. The nature of animal production and marketing patterns supports high level of seasonal mixing and movement of animals, and may underlie the observation that of hotspots for FMD occurrence. A mission to one of these areas in eastern Anatolia in 9/2004 indicated a high importance to better identify the pattern of local and distant virus transmission in order to define feasible control options in areas affected by multiple virus types.
FAO has introduced GPS devices and GIS system (mapping of circa 40,000 epidemiological units) to the GDPC for outbreak investigation which has been used in Thrace region and in Anatolia.

The **Republics of Georgia, Armenia and Azerbaijan** did not report confirmed cases of FMD in 2003 and 2004 to the OIE. Georgia reported a suspected case in 2004 but this was not

confirmed by ARRIAH from the samples submitted. These countries remain at a high level of risk given the level of reported outbreaks in the bordering Provinces of Iran and the proximity to "hot-spots" of infection in Turkey, as well as the risk of virus entry through activities relating to internal security problems.
Sero-surveillance actions commissioned by EUFMD and undertaken by FGI-ARRIAH (Vladimir) in mid-2003 indicated high levels of recovered animals on both sides of the border between Georgia and Armenia. The results suggested but did not confirm virus circulation since the 2002 outbreaks in this region.

The situation in **Iran**, with over 1000 outbreaks in 2003 and over 600 in 2002 and over 1000 outbreaks in 2001, of types A, O and Asia-1, remains of great concern to the EUFMD Commission; this is one of the highest annual incidence rates of recorded FMD in the world (> 3 cases /1,000 head of cattle per year in last 5 years, and approximately half this in small ruminants). Distribution of infection is also very widespread, and temporo-spatial analyses by FAO indicate an even higher significance of the internal animal movement than is the case in Turkey.
Iran had until 2004 an excellent record of FMD reporting on a monthly basis to OIE, but since this period data by Province and new outbreaks are not given on a monthly basis. These problems highlight the importance of implementing the project proposed in 2003.
The potential spread of Asia-1 outbreaks is of particular concern to the Commission. Enquiries of the Secretariat indicated outbreaks were mainly restricted to the two most eastern Provinces. This information is in line with other findings from central Asia, where Asia-1 was confirmed as having spread to Tajikistan in 2003 (probably from Pakistan via Afghanistan). Unconfirmed reports of FMD occurring in 2003 in Uzbekistan, Kirghizstan and Kazakhstan were also received, and may represent an epidemic extension during 2003 from the reservoir of Asia-1 to the south.
The situation in the central Asian republics is of concern, principally the unclear status of countries with land borders to Afghanistan, Iran and China, and the risk of spread to the Russian Federation.
However, given that the entry to Europe via Iran/Turkey in to the Balkans has recently occurred, the situation in Iran, where a diverse antigenic range of FMD viruses are circulating, has immediate priority for EUFMD member countries. The Iranian veterinary authorities continued to press for a collaborative project with the Commission under EC and it is disappointing to report that the funds requested from the EC to support improved surveillance, made following the 35th Session had not been released by the end of 2004.
In the interim period the Commission supported interaction between the IVO surveillance specialists from the Iranian veterinary organisation, for example to present information to the Open Session of the RESEARCH GROUP in Crete.

In Syria and Iraq, neighbouring countries to Turkey, FAO has continued to be involved in support to animal health services in 2003 and 2004, despite the very significant obstacles. The FAO TCP support to Syria (TCP/SYR/2908) which concluded in 2/2005 has included technical support to establish GLP in FMD laboratory diagnostic procedures. The terminal statement of the TCP recommended measures to address a lack of sample collection in the passive surveillance system. In Iraq, support has broadened to include the restoration of veterinary services through the Government in Baghdad (OSRO/IRQ/406/UDG, implemented 10/2004) in extension to the support given to the three northern Governorates. In both countries surveillance remains very weak and FMD can be considered endemic, and is apparently given relatively low priority by central Government. This poses an obvious challenge for effective intervention.

2. Implementation of the 35th Session recommendations

1. In contrast to the 34th Session, the majority (30) of the 57 recommendations of the 35th Session were directed to the incoming Executive Committee for implementation in the

biennium 2003-4. In the majority of the other recommendations, partner organisations or national veterinary services were expected to respond and the EUFMD Commission through the Secretariat or elected members of committees to support the efforts.

2. As a consequence of above requirements and to efficiently co-ordinate efforts with partners, the Secretariat and member of the Research Group have committed greater amounts of time to work in committee (OIE, EFSA, EUFMD ad hoc and working groups) to address issues of common concern.
3. A table is attached indicating the reports of progress for each recommendation. Of the 59 "action points", there is evidence for about half (30) of these having been undertaken, about one-third (20) have been implemented in the period and are ongoing actions (interim reports of progress) or have implemented only in part, and for the remaining (9), actions have not been undertaken for a variety of reasons.
4. Where the recommendation was directed at member countries, the EUFMD Commission has in some cases (laboratory contingency plans, R30, and marketing authorisations for emergency vaccines, R39) sought to verify if follow up actions have occurred, through a workshop for the former and a questionnaire survey for the latter.
5. Regarding the recommendations for EUFMD activities where the recommendation has not been implemented:
    a. R7 - FMD research inventory. This was first envisaged as a survey to be conducted by the Secretariat, but since there appeared a good opportunity to gain funding for a more extended survey from DG-Research, an ERA-NET proposal (Coordinated by the Chairman of the Research Group) was developed and submitted, unsuccessfully to DG-Research. As a result the research inventory was included as a work package in Co-ordination Action for FMD and CSF laboratories, (Co-ordinator: David Paton, FAO-WRL, Pirbright) which gained approval from DG-Research and will begin in April 2005. The recently launched European Technology Platform for Global Animal Health has also identified the need for such an inventory.
    b. R33 - Annual review of Diagnostic Activity. This was discussed at the 2003 Research Group meeting and it was recommended that this should occur every two years and, following designation of the Community Reference Laboratory (CRL-FMD) for FMD, it was expected this would become an activity of the CRL.
    c. R35 - Survey of serological preparedness. As R33, it was expected this would be reviewed after 2 years at the 2005 Research Group meeting, or taken over by the CRL and reporting to both responsible EC Directorate and to the EUFMD Executive.
    d. R40 - Recommendation is for member countries, and progress should be revealed by the 2005 EUFMD survey.
    e. R44 -Guidelines relating to intentional FMDV introduction (agro-terrorism). No specific action has been taken on this.
    f. R48 - To Research Group – considered in 2003 but not prioritised for action.
    g. R52 - Workshop on QA/QC of FMD diagnostic laboratory testing; not prioritised for action at 2003 Research Group Session.

6. Recommendations from the 34th Session

It should be noted some recommendations of the 2001 (34th) Session had not been acted upon by 2003, but have been in the period since then.

In particular:

- Recommendation 6.4, 34th Session; the Commission's activities in risk assessment have been pronounced working to support import risk analysis in support of EFSA panel on FMD risk.
- Recommendation 1.10, 34th Session; relating to contingency planning for FMD diagnostic capacity for crisis situations, a workshop was organised in April 2003,

attended by around 40 participants from across Europe, with papers developed by Research Group and reviewed as part of the workshop.

However, the Secretariat draws attention to Recommendation 9.2, 34th Session; that the Commission prepares guidelines on the correct protocols for the transport, handling and administration of emergency FMD vaccines has not been specifically addressed by the 35th Session, or by the 36th Session. The 36th Session or the Executive could usefully decide on the value of producing these guidelines. These guidelines could be extended to address the issue of planning for mass deployment of vaccination under timescales expected of emergency campaigns.

3. Specific Activities

1. The **Executive Committee** held three ordinary Sessions, the 69th in Ohrid, FYR of Macedonia, 23 & 24 October 2003, with follow up meeting in Rome on 1st December 2003, the 70th in Dublin, 9-10th June 2004, and the 71st in Rome, 23-24th January 2005. The Reports of the 69th and 70th Sessions, in English and French, were sent to all member countries and are available on the EUFMD website, and the 71st is planned for circulation by the end of March 2005.
2. The **Research Group** of the Standing Technical Committee of the Commission held two Sessions during the biennium; one with restricted participation, held at Gerzensee, Switzerland, 16-19th September 2003, attended by 28 technical experts, and a Session with an Open Section for observers in 2004 in Chania, Crete, 11-15 October 2005, attended by over 130 FMD specialists. The latter is a record attendance at Research Group Session, from almost all of the National FMD laboratories in Europe including the ARRIAH OIE Regional Reference Laboratory, and in addition representatives from FMD reference Laboratories in the Americas, in Africa, and from national reference laboratories in the Middle East and north Africa, Iran, Ethiopia and Kenya, and from India, Hong Kong and Australasia. This again highlights the importance of these meetings for stimulating technical improvements and capacity building in EUFMD member states and in neighbouring (mainly infected) countries in the region. The reports of the two sessions were sent to all European FMD Research Institutes and laboratories and were posted on the EUFMD website. The Chairman of the Research Group was also actively involved in the activities of the Commission, representing the Research Group at internal and external meetings.

3. Three **workshops** were held in the 2003-2004 biennium:
   A workshop on **FMD outbreak investigation** principles and procedures was held in English and Russian in FAO offices in Budapest, March 2004, for senior state officers from western Balkans and CIS countries (three Caucasus countries, Moldova, Russian federation, Tajikistan and Ukraine).
   A joint EUFMD/EC workshop on **FMD Contingency Planning** for FMD Laboratories was held between the 28-30th April 2004, in Cordoba, Spain with 40 participants from 32 countries, including 21 of the 25 EU member states. The report and recommendations were published in the 70th Session report.
   A workshop to **evaluate NSP tests for use in Europe** was held in Brescia, 18-22 March 2004, funded by EUFMD and EC (DG-SANCO and DG-Research/ImproCon), to undertake comparison of OIE reference test, commercially available and in-house assays for detection of antibodies to NSP antigens using panels of bovine and other sera supplied by the participants. Participants were from 8 European NRLs and the PAHO Panaftosa Laboratory.

4, The EUFMD/EC/OIE Tripartite Group for FMD control in the Balkan region

The Group met on 10th October 2003 in Ankara, Turkey, and in November 2005.
The 2003 meeting was important for the:

- review of the information on the EC supplied vaccine in spring 2003 campaign, and the progress of the autumn campaign in Turkish Thrace;
- review of the EUFMD sero-surveillance plan for monitoring of vaccination/presence of recovered animals, implemented by the GDPC in summer 2003;
- Review of use of kits and equipment supplied in 2003 to enable sero-monitoring.

Review implementation of EUFMD expert mission on vaccine quality assurance in June 2003, which had been necessitated by the poor performance in external potency tests of vaccine produced in the SAP Institute.

Arising from the Tripartite group, the 3 countries had in 2003, for the first time as a joint action, proposed a regional Technical Cooperation Project (TCP) to FAO on FMD and other exotic disease surveillance in Thrace Region. The TCP was implemented with the Secretary, EUFMD as lead technical officer, and commenced in October 2003.

The 2004 meeting was important to review and monitor:

- The vaccination campaigns in 2003/4, and especially the serological levels of protection following use of FMD vaccine produced in spring 2004 in Turkey;
- The sero-monitoring for virus circulation, and subsequent investigation of reactors;
- The mission to eastern Anatolia to test draft outbreak investigation procedures/guidelines;
- The PPR situation in Thrace region, and particularly the reports of the EUFMD/FAO emergency mission in October 2004;
- Emergency reporting arrangements for information to neighbouring countries of new disease events;
- Proposed actions for FMD control in Anatolia;
- Regional collaboration in early detection of Blue tongue risk.

As a result the Turkish authorities agreed to develop an emergency action plan for PPR in Thrace region, with creation of a local disease control centre (LDCC) and with the strategy of PPRV eradication from Thrace, with additional measures to prevent re-introduction.
A sero-monitoring plan for 2004 was developed for Thrace with a focus on FMD, which was agreed by the GDPC and has been implemented in early 2005.
The actions described are in line with the principles of the **longer term strategy for FMD control in Turkey** which was agreed by the FAO/OIE/EC Tripartite at the 25th October 2002 meeting, for progressive control that could establish disease free zones in Turkey by 2008, and "the aim for 2008 would be that FMD is no longer endemic in the region, and that epidemics as a result of trans-boundary spread are limited in number, occur only in identified high risk zones and can be rapidly eliminated without extension out of these zones". It is clear there will be a need to monitor progress whether or not EUFMD is required to provide technical or financial support.

5. The OIE/EUFMD-FAO/EC Tripartite Group for FMD control in the Trans-Caucasus countries

The group met on the following occasions:
1st November 2004, in Kiev; 15th March, in Budapest, to review the technical reports of the 2003 buffer zone vaccination, and in May 2004 in Paris.
Following the 1st November meeting, training was provided for laboratory staff from the three countries in early 2004. The meeting in March did not support further vaccination in buffer zone until indications were clearly received that FMD cases would be immediately reported to the OIE and that samples would be submitted in timely manner for virus and vaccine matching; in May 2005 it was decided to reconvene buffer zone vaccination with support from EC through EUFMD, for autumn 2004 and spring 2005.
FAO would at the same time provide a TCP project to assist capacity building in surveillance, and to assist the countries to develop contingency plans. The meeting emphasised the importance of development of a longer term project to follow interim actions in 2004/5, with EUFMD as co-ordinator under the EUFMD/OIE/EC Tripartite. The 70th Executive

Committee modified the draft proposal, and supported immediate efforts to put in place a Regional Technical Co-ordinator. As an interim measure because of financial restrictions, a co-ordinator was recruited for two missions in 2004/2005 (Dr Carsten Pötzsch (FLI, Germany).

6. Activities relating to FMD control in Iran and Central Asia

The exceptional importance of this region as a source of FMDV antigenic variants for Turkey and neighbouring region is well recognised. For example, Asia-1 swept through Iran in 1999 into Turkey and travelled as far as Greece in 2000, and in 2003 Asia-1 extended its distribution into Tajikistan, and unofficial reports indicate into neighbouring countries in central Asia.

In 2003 the EUFMD Commission, following the 35th Session recommendations, made a request for financial support (761,000 US$ in Phase 1) from the EC for a programme of actions aimed at strengthening surveillance in Iran, especially in areas of most concern for early detection of FMDV threats to Turkey. In the subsequent period, it was clear that the parties concerned including the Iranian Veterinary Organisation (IVO) were fully supportive of the need for the programme but the necessary financial guarantee by the EC was not forthcoming. Strong indications were received in late 2004 that funding should be available in 2005. Given the latter, and need for action, the Government of France made good their offer to provide technical assistance to the programme through a veterinary technical officer (Dr Francis Geiger), to be based in Teheran and to work under EUFMD Commission for 3 years. The lack of funding agreement has constrained the working relations between EUFMD and the IVO, and it is clear that Dr Geiger can only work on a temporary basis with the IVO until the work programme is funded by the EC.
In order to maintain communications and relations during this period, surveillance specialists of the IVO were supported to attend EUFMD Research Group meetings (Crete, 2004).

In 2004, FAO implemented a transboundary animal disease surveillance and control project (GTFS/INT/907/ITA) for central Asian countries, with a focus on Afghanistan, funded by Italy (2.8 million US$) This project should provide significant information to assist early warning of disease movement in the region, and there is extensive opportunity for collaboration and mutual benefit with the planned EUFMD actions with Iran.

7. Collaboration with the Office International des Épizooties (OIE)

The Commission has worked closely with the OIE:

- in FMD control through the two Tripartite groups;
- in development of new initiatives in Iran/central Asia;
- Through the participation of the Secretary, and two members of the Research Group in the OIE ad hoc group vaccine and antigen banks, from June 2004 continuing into 2005;
- Through the participation of two members of the RG in the OIE ad hoc group on validation of NSP tests, in 2004;
- Through participation of FAO-WRL in the meetings of the OIE Scientific Committee on Animal Diseases (SCAD);
- The OIE has been invited as observer to all EUFMD Sessions, including Closed Sessions of the RG;
- In the development of a Co-ordination Action for FMD and CSF laboratories, co-ordinated by Dr David Paton in which the EUFMD Commission and OIE are members of the Steering Committee.

The above has enabled several of the recommendations of the 35th Session to be carried forward more expeditiously through participation to OIE ad hoc groups and other common actions.

8. Collaboration with the WRL and other national laboratories

The FAO World Reference Laboratory for FMD continues to play a very important role in the Commission's activities, with the WRL represented at each of the EUFMD Sessions and providing services through a contract with EUFMD and with the FAO regular programme and experts for workshops.

Additional contracts (Letter of Agreement) have been placed with the WRL in 2004 to undertake laboratory services in validation of NSP and other DIVA tests, relating to studies on SAT virus infections. As a condition of the contracts, the WRL was required to keep available the sera for other European laboratories involved in NSP test comparison.

The Secretariat has worked closely with WRL to implement support to NRLs in African and other countries to support delivery of samples for virus typing. The requirements of each situation are different and the process of supporting countries demanding in effort, and the close co-operation of WRL and EUFMD has been important to overcoming obstacles and building trust with the countries concerned.

The Commission also financed the FAO-WRL Phase XVII project, which continued to provide external quality assurance (proficiency test panels) to laboratories of member countries, and continued development of international reference sera - and can be considered to be the pre-eminent international initiative in FMDV diagnostic standardisation.

9. New member countries

No new country has joined in the biennium. Following the 68th Session in Vilnius, the CVOs of the Republics of Estonia, Latvia and Slovakia have been contacted to ascertain their interest in membership of the Commission. The Republic of Latvia has expressed interest but no response has been received from the other states.

The Republic of Ukraine officially indicated an interest to join the Commission in 2004; formal membership cannot begin until submission of the article of agreement to the EUFMD Constitution.

Under the current Constitution of the EUFMD, countries are eligible for membership if they are served by the FAO regional office for Europe and are either members of the FAO, or if not FAO members, they are members of both the OIE and the UN. The table below illustrates the position of non-members states of the EUFMD in the European region. The membership of other European states, whose proximity to FMD infected countries ensures that their role in FMD control will remain significant, is an open question.

Country	*FAO member*	*OIE and UN members**
Armenia	Yes	Yes
Azerbaijan	Yes	Yes
Belarus	No	Yes
Bosnia-Herzegovina	Yes	Yes
Georgia	Yes	Yes
Russian Federation	No	Yes
Moldova	Yes	Yes
Ukraine	Yes	Yes

10. Publications

Official Session reports and Workshop Proceedings are given in the Annex to this report.

11. Missions

Details of mission travel in 2003 and 2004 are given in the Annex to this report.

PUBLICATIONS – 2003/2004

Title	*No. of pages*	*No. of annexes*	*Language*		*Cost of re-prod.* *	*Cost of trans.*
			Eng	*Fr*		
2003						
Report of the 35th Session, Rome 9-11 April 2003	192 E 205 F	18 E	x	x	Nil	US$9,000 *(report & annexes)*
Report of the Session of the Research Group, 16-19 September 2003, Gerzensee, Switzerland	169	25	x		Nil	
Report of the 69th Session of the Executive Committee, 23-24 October 2003, Ohrid, TFYR of Macedonia and Follow-up meeting, Rome, 1 December 2003	83 E 83 F	13	x	x	Nil	$1,500
2004						
Report on the Workshop on contingency planning for FMD laboratory diagnostic activities, 28-30 April 2004, Córdoba, Spain	62	10	x		Nil	
Report on the Workshop on FMD outbreak investigation, 16-19 March 2004, Budapest (Consultant report: Nicholas Taylor)	52	3	x		Nil	
Report of the 70th Session of the Executive Committee, 9-10 June 2004, Dublin, Ireland	84 E 84 F	15	x	x	Nil	$1,500
EUFMD Activities and Achievements 1954-2004	32		x	x	Nil	
Report of the Session of the Research Group, 11-15 October 2004, Chania, Crete (Greece)	491	82	x		Nil	
Book of Abstracts for the Research Group Session	75		x		Nil	
2005						
Report of the 71st Session of the Executive Committee, 24-25 January 2005 - *under preparation*						
* *Reproduction costs covered by AGA Regular Programme funds*						

DUTY TRAVEL – EUFMD SECRETARIAT

2003

DUTY TO:	*DATES:*	*PURPOSE*	*FUNDING*
KEITH SUMPTION			
Denmark UK	15-16 January 17-19 January	Denmark: Discussions with Head of International Epilab on preparation of annex on design of surveillance of FMD; UK: Invitation from Pirbright to meet new Director of institute and discuss 2003 activities	TF
Paris, France	31 January – 5 February	Mtg. on global framework for control of FMD and other TADs and annual FAO/OIE/WHO Tripartite mtg	TF
Paris, France	11-14 February	OIE FMD and other epizootics commission	TF
Brussels, Belgium	18-19 February	Visit EC to discuss EUFMD matters	TF
Strasbourg, France	16-18 March	Attend European FMD technical and policy symposium	TF
Paris, France	18-23 May	Attend 71st OIE General Session	TF
Ankara, Turkey	17-21 June	Mission on vaccine quality control and surveillance	EC TF
London, UK	25-27 June	Review DEFRA FMD research programme at FAO WRL, Pirbright	Insurance only
Anatolia, Turkey	20-30 July	Sero-surveillance mission	EC TF
Gerzensee, Switzerland	15-20 September	Session of the Research Group of the EUFMD	TF
Cairo, Egypt Ankara, Turkey	4-11 October	Cairo: Roundtable on FMD; Ankara: EUFMD/EC/OIE Tripartite on the Balkans	TF
Ohrid, FYR of Macedonia	22-26 October	69th Session of the Executive Committee of the EUFMD	TF
Kiev, Ukraine	31 October – 2 November	EUFMD Tripartite on the Caucasus	TF
DÓNAL SAMMIN			
Copenhagen, Denmark	14-21 June	Attend course on risk assessment	TF + APO funds
Anatolia, Turkey	20-30 July	Sero-surveillance mission	EC TF
Copenhagen, Denmark	9-16 August	Course on disease control and dynamics	APO funds
Gerzensee, Switzerland	14-21 September	Session of the Research Group of the EUFMD	TF
Ankara, Turkey	8-11 October	Tripartite Group meeting	TF
Ohrid, FYR of Macedonia	21-26 October	69th Session of the Executive Committee	TF
Athens, Greece	6-14 December	Workshop on active FMD surveillance	EC TF
EGIZIANA FRAGIOTTA			
Gerzensee, Switzerland	14-21 September	Session of the Research Group of the EUFMD	TF
Ohrid, FYR of Macedonia	21-26 October	69th Session of the Executive Committee	TF

NON-STAFF			
Name/country	**Dates:**	**Location/Purpose:**	**Funding:**
Kris De Clercq (Belgium)	8-14 April	Rome: 35th Session of the EUFMD	TF
Tony Garland (UK)	8-14 April	Rome: Rapporteur at the 35th Session of the EUFMD	TF
Emma Hartnett (UK)	8-9 April	Rome: 35th Session of the EUFMD	TF
Aldo Dekker (Netherlands)	17-21 June	Turkey: Mission on vaccine quality control & surveillance	EC TF
Mustafa Tufan (Turkey)	22-28 July	Anatolia: Sero-surveillance mission	TF
De Clercq (Belgium) Moutou (France) Haas (Germany) Have (Denmark) Dekker (Netherlands) Sanchez (Spain) Paton (UK) Palfi (Hungary) Yadin (Israel) Unal (Turkey) Thurmond (USA) Collins (USA) Greiner (Denmark) Van Loon (Neth.) Gil (Uruguay)	15-21 September	Research Group Members Session of the Research Group Gerzensee, Switzerland 16-19 September Invited experts (observers)	EC TF TF EC TF
Slobodan Cokrevski (Macedonia) Georgi Georgiev (Bulgaria) Mihalis Patakakis (Greece)	8-11 October	Turkey: EUFMD/EC/OIE Tripartite Group meeting	EC TF
Kris De Clercq (Belgium)	22-24 October	Ohrid, TFYR of Macedonia: 69th Session of the Executive Committee as Chairman of Research Group	TF
Slobodan Cokrevski (Macedonia)	30 Nov – 2 December	Rome, Italy: Follow-up meeting to 69th Session of the Executive Committee	TF
Mustafa Tufan (Turkey)	7-13 December	Athens, Greece: To attend workshop on active surveillance training (under TCP/RER/2903)	TF
Lilyana Polihronova (Bulgaria)	7-13 December	Athens, Greece: To attend workshop on active surveillance training (under TCP/RER/2903)	TF

2004

DUTY TO:	DATES:	PURPOSE	FUNDING
KEITH SUMPTION			
Brussels, Belgium	20-23 January	EC to discuss research projects on FMD	TF (re-imbursed by EC DG-Research)
Budapest, Hungary	14-17 March	Tripartite Caucasus	TF
Buenos Aires, Argentina	11-19 April	OIE Conference	TF
Paris, France	4-9 May	OIE meeting on FMD control (5 May)	TF
Cordoba, Spain	27 April – 1 May	Workshop on FMD contingency planning	TF
Paris + UK	4 - 9 May	OIE Meeting on FMD control	TF
Paris	23 - 28 May	72nd OIE General Session	TF
Dublin	8 – 15 June	70th Session of the Executive Committee + Anniversary event	TF
Paris	22-25 June	OIE Ad hoc group meeting	TF
Avila, Spain	27/9 – 1/10	OIE 21st Conference	TF
Berlin	5-6 October	Plan vaccine monitoring - FMD control in the Caucasus	EC TF
Chania, Crete	9-17 October	Closed and Open Session of the Research Group	TF
UK	27 October	To hold discussions between EUFMD and EFSA on EFSA mandate on FMD	EFSA
Turkey Bulgaria	30 Oct – 3 Nov 3 – 5 Nov	*Turkey:* To discuss EC projects under development; *Bulgaria:* Tripartite Group Mtg. on the Balkans	EC TF
Kiev, Ukraine	5 – 9 December ***Postponed***	Tripartite Group Mtg. – Caucasus	TF
Brussels, Belgium	12-16 December	EFSA	TF
DÓNAL SAMMIN (APO)			
Sofia, Bulgaria	10 - 12 March	Workshop on FMD laboratory diagnosis	EC TF
Pirbright, UK	24 - 26 March	Visit Pirbright Laboratory	TF
Harare, Zimbabwe Pirbright, UK	22 April - 5 May 5 - 9 May	Assist with specimen collection from convalescent cattle; UK – return with specimens and assist with cataloguing	APO - TF
Brescia	12 – 15 May	Assist with workshop on NSP tests	EC TF
Dublin	7 – 12 June	70th Session of the Executive Committee + Anniversary event	TF
Turkey	2-6 August	Backstopping TCP/RER/2903	TCP
Anatolia, Turkey	12-25 September	Pilot study implementing revised guidelines on FMD outbreak investigation	TF
Chania, Crete	9-17 October	Closed and Open Session of the Research Group	TF
Edirne, Turkey	22 – 29 October	Unscheduled: Emergency mission to Turkey – PPR outbreak	EC TF
Sofia, Bulgaria	3 – 5 November	Tripartite Group mtg. on the Balkans	EC TF
Brussels, Belgium	9-10 December	Meeting with Alf Füssel, Kris De Clercq	EC TF
Tbilisi, Georgia	12-16	Receive training by participating at	AGA RP

	December	workshop on disease surveillance	(training funds)
SIMONA SANGIOVANNI (Volunteer)			
Budapest, Hungary	14-17 March	Workshop facilitation –FMD outbreak investigation, CIS/Balkans/ Caucasus	TF
Cordoba, Spain	27 April – 1 May	Facilitate Workshop on FMD contingency planning	TF
Brescia	10 – 13 May	Support Workshop on NSP tests	TF
EGIZIANA FRAGIOTTA			
Dublin, Ireland	7-12 June	70th Executive + 50th Anniversary event	TF
Chania, Crete	9-17 October	Closed and Open Session of the Research Group (replaced by Maria Grazia Solari)	TF
NON-STAFF TRAVEL			
Name	**Dates:**	**Location/Purpose:**	**Funding:**
Armenia: M. Khachatryan L. Galstyan T. Gasparyan	 Sofia 23/2-13/3 Sofia 23/2-13/3 Sofia & Budapest 16-19/3	*Sofia:* Training course on FMD laboratory diagnosis *Budapest*: Workshop on FMD laboratory diagnosis	*EC TF*
Georgia: U. Rurua K. Rusidze U. Orkoshneli	 Sofia 23/2-13/3 Sofia 23/2-13/3 Sofia & Budapest 16-19/3	*Sofia:* Training course on FMD laboratory diagnosis *Budapest*: Workshop on FMD laboratory diagnosis	*EC TF*
Nicholas Taylor *UK*	15-20 March	**Budapest:** Workshop on FMD laboratory diagnosis for Caucasus/Balkan/CIS countries	*EC TF*
Kris De Clercq, *Belgium* Aldo Dekker, *Netherlands* Bernd Haas, *Germany* David Paton, *UK* Hagai Yadin, *Israel* Abdulnaci Bulut, *Turkey* Ingrid Bergmann, *Brazil* Viviana Malirat, *Brazil* Erika Neitzert, *Brazil*	9-15 May 12-15 May 12-15 May 12-15May 12-15 May 9-15 May 1-18 May 1-18 May 1-18 May	**Brescia, Italy** Workshop on evaluation of FMDV serodiagnostic tests required to support "vaccinate to live" policy	*EC TF*
Kris De Clercq (Belgium)	8-12 June	**Dublin, Ireland** 70th Session of the Executive Committee and 50th Anniversary Event	*TF*

Yves Cheneau (France) Yves Leforban (France) Paul Capstick (Kenya)	10-12 June 11-13 June 10-12 June	**Dublin, Ireland** 50th Anniversary Event	*TF*
Oliver McDonagh (Ireland)	12/9 – 2/10	**Anatolia,Turkey** Pilot study implementing revised guidelines on FMD outbreak investigation	*TF*
Kris De Clercq (Belgium)	28-29 June	**Paris, France** OIE ad hoc group meeting	*TF*
Research Group members: Kris De Clercq Aldo Dekker Franco De Simone Matthias Greiner Bernd Haas Francois Moutou David Paton José Sanchez Nilay Ünal Hagai Yadin *Invited experts:* Ms Kitman Dyrting (Hong Kong) – *DSA only* Jeffrey Hammond (Australia) – *Ticket only* Abraham Sangula (Kenya) – *DSA only* Abdolahi Darab (Iran) Hassan Vishteh (Iran) Esayas Gelaye (Ethiopia) Mesfin Sahile (Ethiopia) Mansoor MA Al-Qadasi (Yemen) Najib AQ Al-Hammadi (Yemen)	11-15 October	**Chania, Crete (Greece)** Closed and Open Session of the Research Group Closed Session: 10 October Open Session: 11-15 October	EC TF TF EC TF TF TF RADISCON RADISCON RADISCON RADISCON
Carsten Pötzsch Consultant (Germany)	11 October - 6 November	**Georgia, Armenia, Azerbaijan** Consultancy mission on FMD control	EC TF
John Anderson (UK) Mustafa Tufan (Turkey) – *DSA*	24-29 October	**Turkey** Emergency mission – PPR outbreak	EC TF EC TF

only Sirin G Cizmeci (Turkey) – *DSA only*			EC TF
Naci Bulut (Turkey)	9-11 December	**Brussels, Belgium** Discussions on interpretation of Thrace serosurveillance	*9-11 Dec.* EC TF
Carsten Pötzsch (Germany) - Consultant	12-18 December	**Tbilisi, Georgia** Assist in leading FAO regional workshop on serosurveillance strategies	EC TF

Appendix 8

European Commission for the Control of Foot-and-Mouth Disease
(EUFMD)

STRATEGY PAPER FOR PERIOD 2005-8

The General Session of the Commission falling every 2 years, is an important opportunity for setting direction and priority for actions in each forthcoming biennium. A longer planning period was considered by the Executive to be needed for progress in several areas and therefore a general strategy for the next two biennia (4 years) was developed between the 70th and 71st Sessions.
This paper outlines the strategic context and framework for action, indicating those areas where the Commission should act, in concert with partners in its areas of expertise, mandate and strength, and how the outputs should link to those of member countries and European institutions.

Strategic Context

With the cessation of prevention vaccination in EU members and all other EUFMD member states, with the exception of Israel and Turkey at the start of the 1990's, the strategic plan of the Commission was reviewed with a higher emphasis being placed on the prevention of incursions from endemic countries and regions neighbouring to Europe. The 1990s saw significant loss of technical expertise in Europe as the experience of FMD control receded, and countries downsized their research and development programmes. In this context significant progress was made on issues relating to emergency vaccination, but mainly by under funded independent groups, and a number of issues were not resolved by the time of the catastrophic events of 2001. Following these events, the call for change at policy level has been unceasing and the pace of change at international level has increased. A new Council Directive was passed in the EU in 2003 which significantly increases the options available in emergency management relating to use of vaccination. Reformulation of contingency plans to allow for the new options has significantly increased complexity in decision making. The Directive requires countries to establish expert groups, but although European expertise in FMD management was temporarily revived by the 2001 epidemics, the decline in expertise in most EUFMD member countries is likely to continue with reliance on simulation exercises and practise drills replacing direct experience.

One common recommendation of the reviews post-2001 was that actions were required to improve surveillance and better support management of FMD in the infected areas to better inform European "risk managers" including those who manage the strategic vaccine reserves. This requires an effective support to surveillance in these areas which may be geographically a long way from Europe. In the European region, Turkey continues to have a significant burden of two FMD virus types, particularly in eastern Anatolia, and is itself at risk from entry of exotic FMDV from its eastern and southern borders. Managing the risk to southern Balkans will be essential but cannot be the only part of the EUFMD strategy while the infection can enter from other areas.

At the same time, the political situation in Europe continues to undergo profound change, with increasing expectation that the EC will manage the risk associated with a higher and more mobile animal and human traffic, and associated with the land borders with "new neighbours", (Belarus, Ukraine, Russian Federation, Moldova) some of which are not officially free of FMD. The needs of western Balkans (Croatia, Bosnia-Herzegovina, Serbia and Montenegro, Kosovo, FYR of Macedonia, Albania) must remain also at the fore as FMD has entry occurred in this region in 1996, and because of their important livestock populations. The economic development in the Mediterranean basin will also bring challenges and also opportunity for partnership as many of these countries are in the front line with endemic sub-Saharan and near-east regions.

Intentional introduction of FMDV as an agro-terrorism agent remains a cause for concern, and an added reason for increasing European understanding of the viruses circulating in risk-source areas and for supporting biosecurity and other measures in laboratories and vaccine plants in the wider region.
Above all, FMD remains circulating in around 50 countries, with least apparent progress in sub-Saharan Africa and parts of West Asia. The actions proposed should provide increased awareness of the risks and indirectly provide benefit to the countries concerned, and to those seeking to develop control efforts and policy at international level (OIE, FAO, EC Development assistance).

Strategic partnerships

Since the 1960s, when the member countries of the Commission established a Trust Fund to fund actions to counter disease threats of virus entry, EEC member countries paid into Trust Fund 911100/MTF/003/EEC which has been operated in agreement between the Commission of the European Communities (CEC) and the EUFMD. The Commission concluded an agreement with FAO for the period 2001-4 which successfully operated until 31 December 2004.

Under this agreement the staff of the EUFMD Secretariat in FAO, which is financially independent through member country annual contributions, provided the project management and technical backstopping through two professional officers (one provided by Ireland), assisted by a team of 12 elected technical experts from member countries providing technical services, usually without charge, and through contract services with the FAO World Reference Laboratory in the UK. In addition to supporting regional initiatives in disease prevention in Thrace region and the Caucasus, the agreement provided support to scientists from EU countries to undertake technical actions where required to resolve issues of great urgency affecting policy delivery.

The position of the Commission in relation to the FAO Animal Health Service ensures that EUFMD members have a direct line of contact with FAO, and that the Commission benefits from the regional and country offices and project implementation mechanisms of the FAO and UN system. This has assisted EUFMD to address information gaps in the global system from some regions by supporting National Reference Laboratories in some developing countries to collect and submit samples. The two way exchange of information should be continued to overcome the divide between "free" and "endemic" parts and between FMD Reference Laboratories. In this way EUFMD can encourage and enhance global surveillance.

The OIE has been a strategic partner for EUFMD since the 1950s, and the EUFMD benefits from the recently updated FAO-OIE Agreement which has greatly increased the rate of development of joint actions with the OIE.

The network linking FMD scientists in Europe is largely the result of the partnerships over many years between EUFMD Commission and diagnostic, vaccine and quality control laboratories, through the EUFMD research group and related activities. Since the mid 1980s the service they provide to the EUFMD has also given them a level of experience that assists their role in international standard setting at European and OIE levels. Co-ordination and partnerships will be enhanced by the partnership of EUFMD in the steering committee and work of Co-ordination Action for FMD and CSF laboratories (2005-8).

Undoubtedly, linking European expertise to FMD control problems and issues requires to be continued to ensure professional development of European expertise in order that the next generation can contribute at the highest level to meet the needs of a greatly expanded Europe on the world stage.

Programme approach

The strategy for action takes into consideration the importance of continuing partnerships forged over many years, where the close working relations and trust speed the development and implementation of actions, and the need for some new partnerships to better develop actions in less familiar technical areas. It also aims to make best use of the EUFMD/FAO capacity to bridge the divide between free and non-free countries in away that assists in meeting the needs of both.

Key problems to be addressed:

- FMD risk to south-eastern Europe from FMD in Turkey.
- Risk of exotic FMD incursions into Turkey/Russian Federation from West Asia via Caucasus.
- Need for immediate technical assistance and provision and supervision of inputs during FMD control operations when emergencies occur.
- The problem of vaccine selection/bank management because of lack of virus collection in endemic areas, and lack of comparable or timely information exchange between laboratories.
- In free countries, declining number of veterinarians with experience and expertise in FMD control operations and related management areas.
- Diversity in European region in levels of human resources, in proficiency and resources to undertake surveillance and epidemic management.
- Issues constraining selection of "vaccination to live" as a emergency response in countries free without vaccination.

The strategic vision – goal

Consistent with the EUFMD constitution, the strategy is to undertake a programme of actions that will assist member countries, and the EC, to progress towards the goal, or vision, of:

- A Europe free of FMD – the FMD disease-free state achieved and maintained in all Europe

The different levels are indicated in the Table 1.

Purpose of the EUFMD programme

The purposes are those intermediate levels which need to be reached and operating to realistically progress towards the goal.

Achieving these (Table 1) will be very largely the responsibility of the member countries, and so are not described in detail here.

However, if the overall goal is to be met some "Campaign targets" may help to focus efforts of multiple partners around a common target, promoting required actions by the countries concerned and partner organisations.

The strategy envisages the member countries, with support from the Commission and other partners, working towards the following:

1. No occurrence of FMD in officially free countries of Europe in the period of to 2008.
2. Effective management of risk of entry through improved access to information of FMDV circulation in source countries and of epidemiologically significant events.
3. No occurrence of Asia-1 infection in Turkey over the 4 year period.
4. Reduction in incidence of other exotic FMD types entering Turkey over this period.
5. FMD surveillance targets and reporting in Caucausus countries and in Iran (and Iraq, Syria) that meet the requirements of at risk countries for early warning.
6. Incidence of FMD in Thrace region of Turkey reduced to zero in period; targets for surveillance, disease investigation and reporting in Thrace region meet need for early and effective control of incursions.
7. Reduction in distribution of type A and type O FMD in Anatolia – defined by increase in the Provinces/area, and in period/time when virus infection is shown not to be present.

Strategy for action

The strategy focuses on actions to be taken to achieve outcomes which are useful to member states to help them achieve and maintain FMD freedom.

The Commission should focus on delivery in four key categories of action in the period 2005-8:

- Support to FMD control in "traditional risk areas" - threatening south-eastern Europe and Turkey.
- Global FMD observation – virus circulation and risk.
- Coordination of technical studies to address constraints to policy implementation.
- Capacity building across Europe– raising and retaining expertise and competence in the scientific basis of FMD control and in best practises in epidemic management.

The Commission should therefore in the 4 year period develop projects, gain funding and implement projects to enable it to develop useful outputs and outcomes which are applied in member countries and beneficiaries:

1. Improved system for monitoring FMD virus strain circulation operational
2. Technical constraints to preferred European FMD control policies reduced
3. System for professional development in FMD

management/expertise developed
4. FMD risk surveillance and management programmes operating in target countries
5. FMD incursions/emergencies rapidly controlled, where supported by specific Commission decisions

To achieve the above, the Secretariat/FAO should take steps to find funding for the following:

- 1: Implementation of an FMDV observation action, supporting European vaccine management through better identification of risk trends and events, including:
  - support to developing country veterinary services to collect and submit samples;
  - support to information exchange and networking of FMD Reference Laboratories.
- 2: Supported actions to address technical constraints identified by the EUFMD Standing Technical Committee, working with the FAO/EC/OIE Co-ordination structure for FMD and CSF laboratories.
- 3: Implementation of innovative, capacity building action to raise technical competence of key levels of the European epizootic control management.
- 4: Field programme support:
- Support the implementation of comprehensive actions for the surveillance and effective response to FMD in the southern Balkans region (Turkey, Greece, Bulgaria);
- Implementation of a project for early warning of FMD regional risk events, through supported actions with the Islamic Republic of Iran;
- Implementation of a project for the surveillance and effective response to FMD risk in countries of the South Cacausus (Georgia, Armenia, Azerbaijan);
- Identification and formulation of project actions to control risk in other countries neighbouring to Turkey, and in other FMD risk situations, as required by the emerging situation.

Project formulation

Project formulation should be supported technically by the Executive and where required by the Commission or donor, and should involve the beneficiaries at an early stage. Oversight of the programme, and rate and success of funding project support is the responsibility of the Executive. Experience of FAO in project delivery should be used to improve delivery and address sustainability and accountability for inputs, and to ensure ownership of projects at local level.

Monitoring and evaluation

The Secretariat will report progress of the different projects to the Executive, donors and partners.
Monitoring of programme development, delivery and impact will be through the Executive Committee every 6 months, at which EC and OIE are represented.
Regional Steering Committees (RSC, also called Tripartite meetings) should continue to meet every 12 months to enable OIE, EC, donors and countries in the key risk regions (Caucasus/Turkey/Iran) and southern Balkans (Turkey, Greece, Bulgaria) to influence project delivery and assist co-ordination of national and international inputs between donors and countries, and provide feedback to the Executive.
The General Session of the Commission in 2007 can review progress at the mid-point of the 4 year plan.
The 2009 General Session can review the progress over the past 4 years, and establish the strategy for the next years.

Financial Strategy

The strategy from to date can be expressed as:

1. **Enabling funding**, being the contribution of the member states to fund a full-time technical support unit for project development and implementation in the Secretary and Clerk, and supporting core support functions (contract to WRL for services, part funding standing technical committee meetings, specific workshops identified by the Executive): 383,000 USD/yr, 2004-5.
2. **Extra-budgetary funding** for permanent and temporary activities in Turkey, Caucasus, workshops, technical actions in support of FMD control in EU, via DG-SANCO Implementing Agreement – 2.45 million USD, 2001-2004.
3. Contributions of technical officers supplied by member countries – Ireland – Associate professional Officers (APO), 1999-2001, 2003-4.

4. Office space, lighting and other support provided by FAO.

The Future strategy should:

1. Maintain the core functions of the Secretariat as an enabling unit, addressing the decline in members contributions resulting from depreciation of the US$ and inflationary rise in cost, by agreement of new budget for contributions in 2006-7.
2. Renegotiate EC Implementing Agreement to enable emergency actions and improved technical support to FMD programmes - from January 2005.
3. Make greater use of in-house and out-sourced professional support for project development (formulation) and management – HQ or at in-country Duty Station, short-term appointments, full-time or consultants.
4. Strengthen technical and operational support to deliver projects/assist member countries to develop ongoing programmes that contribute to FMD control – the additional technical support to be costed into the project components.
5. Ensure member countries maintain at least one APO in place in each operating year.
6. Open additional funding streams.

Table 1. Strategic actions framework for EUFMD Commission, 2005-

The framework should be read from left to right (and usually from bottom to top) as follows:

If ACTIVITY occurs and the assumptions hold then the OUTPUTS will be achieved; if outputs are taken up and assumptions hold the PURPOSES should be achieved....and so on. In *italics are the activities that would be managed by the Commission if resources are provided.*

Level	*Description*	*Indicators*	*Monitoring and evaluation*	*Assumptions and risks*
Goals	FMD disease free state achieved and maintained in all Europe	OIE report	OIE, EC, EUFMD Gen Session (each 2 years)	
Purpose (countries and region to achieve)	1. Risk of entry known and managed 2. Technical Capacity to rapidly eliminate FMD outbreaks in all member states, and high risk neighbours with preferred policy 3. In non-free European countries, Co-ordinated Programmes to achieve disease free status in place and operational 4. FMD outbreaks in member countries rapidly eliminated	Process in place Numbers of competent experts trained/active Programmes operating Reports confirm freedom –OIE, EUFMD	Members EUFMD General Session (every 2 years) Exec Comm –every 6 months	Effort and progress in non-free countries maintained by Govt commitments Preventive measures maintained at country and regional level FMD situation in risk source states does not significantly deteriorate
Outputs (project to achieve)	1. Improved system for monitoring FMD virus circulation operational 2. Technical constraints to preferred European FMD control policies reduced 3. System for professional development in FMD management/expertise developed 4. FMD risk surveillance and management programmes operating in target countries 5. FMD incursions/ emergencies rapidly controlled, where supported by specific Commission actions	Reports from FMD surveillance system. Policy issues papers from member countries– and Europe wide - e.g. FMD/CSF Coordination Action Advertised /Published training opportunities, Enrolments Programme reports and funding commitments Reports to OIE	Europe wide monitoring ; EC, OIE, EUFMD Gen EUFMD Executive (every 6 months) Regional Steering Committees	In risk reservoir countries baseline levels of virus submission to labs achieved. FMD reference laboratory network functions. Constraints do not change, are correctly identified MC maintain investment in human and other resources to fight emergencies Countries implement and maintain FMD control programmes Effective international co-ordination and support to epidemic management
Activities	*1. Virus observation actions;* *2. Sample submission support* *3. Virus typing– WRL and OIE/FAO RL network* *4. Technical studies and activities* *5. Develop system for CPD in FMD investigation and management* *6. Specific programs - support to implementation of FMD surveillance and risk management in Turkey, Caucasus, Iran* *7. Emergency actions in support of control of FMD incursions/ emergencies*	*Funding commitments at programme and component level.* *Human resource availability;* • *Secretary* • *Full time technical support persons* *Projects initiated in target countries (PMUs operating)* *Inputs: including* *Consultants* *Contracts* *Equipment and expendables*	*Exec. Comm. (every 6 months)* Regional Steering Committees for regional components (once per year)	Funding commitments to 2-4 yrs actions not derailed by FMD emergencies Countries honour their side of the commitment – country specific programmes Complementary actions by other donors progress as planned. European countries maintain resource base enabling the input of the EUFMD Technical Committees members

Note on the Strategic actions framework for EUFMD Commission, 2005-

In the following framework, The Commission has a role based on the constitution:

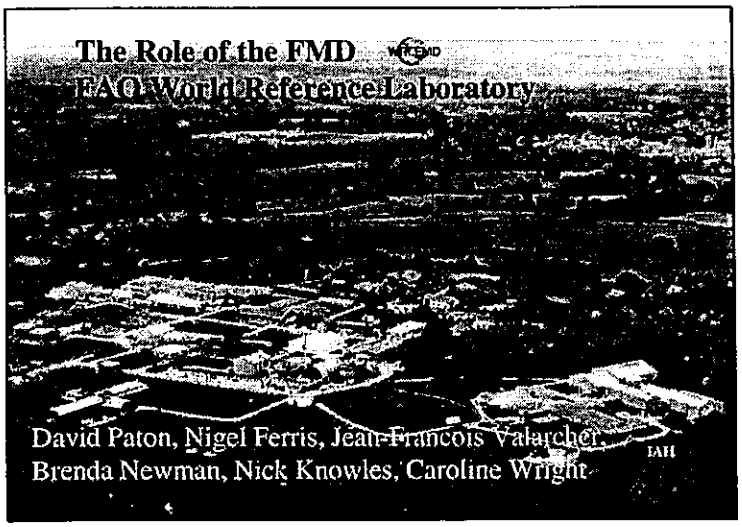
- To monitor the progress towards achieving FMD disease freedom, the highest level objectives.
- Contribute to achieving the purposes through project outputs achieved by activities which are implemented by the Commission and /or project partners, with monitoring and evaluation by the Executive Committee.
- To encourage the take up of project outputs and sustainability of progress by member countries, the EC and international partners (OIE..).

The framework should be read from left to right (and usually from bottom to top) as follows:

If ACTIVITY occurs and the assumptions hold then the OUTPUTS will be achieved; if outputs are taken up and assumptions hold the PURPOSES should be achieved.... and so on.

Activities will be managed to lead to OUTPUTS; but above this level, much is dependant on beneficiaries' subsequent actions.
If these utilise the outputs (which may sustain the systems developed) it should lead to Purposes being met, and so on which should lead towards gaining of the overall Goals.
Since the Commission cannot guarantee that outputs will be taken up, it will be essential that outputs are desired by the countries and agencies, and therefore there should be continuing dialogue to determine if progress will be maintained, if uptake will occur and if not, to identify the reasons.

The strategy therefore recognises that in areas of comparative strength the Commission can play a role to achieve specific outputs of value at country and regional level, and encourage uptake and application by countries to achieve the purposes and progress ultimately towards the Commission's goals.



OVERVIEW:
Activities, Outputs, Constraints, Plans

- Viruses received and characterised in 2003/4
- Patterns of FMD occurrence and information gaps
- Vaccine strain recommendations
- Quality assurance for laboratory testing
- Consultative advice for International Agencies
- Laboratory support for EUFMD initiatives
- The Coordinated action for FMD & CSF
- OIE/FAO network of FMD reference laboratories

WRL Submissions in 2004

- 490 specimens submitted of which 380 originated in 2004 (average of 323-682 submissions per annum for each of previous three decades)
- 23 countries of origin of which 18 provided samples originating in 2004 (average of 27-34 per annum for previous three decades)
  - 2 European countries with SVD
  - 21 in Asia and Africa
  - 11 in sub-Saharan Africa (BVI collaboration)
  - 4 in Middle East
  - 2 in southern Asia
  - 4 in south-east Asia
- In vitro characterisation
  - 182 isolates sequenced (VP1)
  - 54 antigenically characterised by ELISA
  - 57 antigenically characterised by VNT

FMD samples received at FAO WRL FMD in 2003

Country	No. of samples	ELISA/Virus isolation in cell culture								RT-PCR for FMDV			
		FMDV serotypes							SVDV	NVD	Pos	Neg	NT
		O	A	C	SAT1	SAT2	SAT3	Asia 1	(a)	(b)			(c)
AFGHANISTAN	57	8	-	-	-	-	-	-	-	49	16	41	-
BHUTAN	46	7	7	-	-	-	-	-	-	32	35	11	-
BOTSWANA	20	-	-	-	-	-	-	-	-	20	-	18	2
BURUNDI	7	5	-	-	-	-	-	-	-	2	5	2	-
CHINA (HONG KONG)	7	3	-	-	-	-	-	-	-	4	7	-	-
IRAN	41	21	9	-	-	-	-	-	-	11	31	10	-
ITALY	10	-	-	-	-	-	-	-	10	-	10**	-	-
LAOS PDR	35	33	-	-	-	-	-	-	-	2	35	-	-
LEBANON	2	2	-	-	-	-	-	-	-	-	2	-	-
LIBYA	10	-	-	-	-	2	-	-	-	8	1	9	-
NEPAL	6	5	-	-	-	-	-	-	-	1	5	1	-
PAKISTAN	81*	29	8	-	-	-	-	4	-	42	56	25	-
PHILIPPINES	23	9	-	-	-	-	-	-	-	14	23	-	-
PORTUGAL	2	-	-	-	-	-	-	-	2	-	2**	-	-
THAILAND	13	3	10	-	-	-	-	-	-	-	13	-	-
TURKEY	10	4	3	-	-	-	-	-	-	3	9	1	-
UAE	3	3	-	-	-	-	-	-	-	-	3	-	-
VIETNAM	1	1	-	-	-	-	-	-	-	-	1	-	-
TOTAL	374	133	37	-	-	2	-	4	12	188	254	118	2

Country	Sample year	No. of samples	ELISA/Virus isolation in cell culture								RT-PCR for FMDV			
			FMDV serotypes							SVDV	NVD	Pos	Neg	NT
			O	A	C	SAT1	SAT2	SAT3	Asia 1	(a)	(b)	Pos	Neg	(c)
BHUTAN	2002	16	2	1	-	-	-	-	-	-	13	7	9	-
IRAN	2002	4	-	2	-	-	-	-	-	-	2	2	1	1
ISRAEL (PAT)	2002	1	1	-	-	-	-	-	-	-	-	1	-	-
ITALY	2001	1	-	-	-	-	-	-	-	1	-	-	-	1
	2002	37	-	-	-	-	-	-	-	37	-	-	-	37
LEBANON	2002	2	2	-	-	-	-	-	-	-	-	2	-	-
PAKISTAN	2002	23	5	5	-	-	-	-	6	-	7	16	4	3
TURKEY	2002	10	4	3	-	-	-	-	-	-	3	8	2	-
VIETNAM	2002	7	7	-	-	-	-	-	-	-	-	7	-	-
TOTAL		161	21	11	-	-	-	-	6	38	25	43	16	42

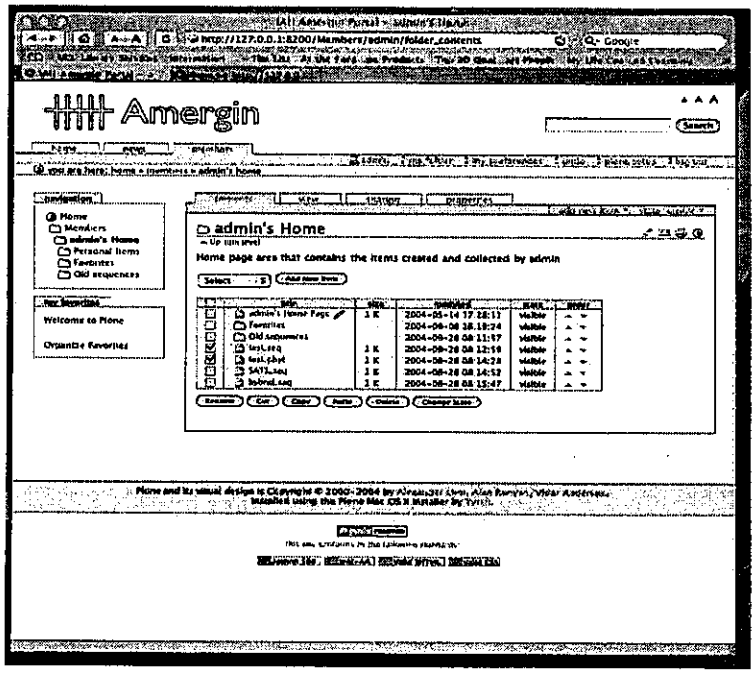
New RT-PCR in real time

FMDV: Foot-and-Mouth Disease virus

(a): swine vesicular disease virus
(b):no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus
(c): Not tested

*two samples from Pakistan contained a mixture of foot-and-mouth disease virus types O and virus type A
**positive by RT-PCR for SVDV but not FMDV genome
UAE: United Arab Emirates

The following samples were additionally received by the OIE/FAO World Reference Laboratory for Foot and Mouth Disease in 2003 :



Outbreaks in 2004/5

- Reported from 48 countries
- In endemic regions in Middle East, Asia, South America and Africa
- None in FMD-free countries not practising vaccination
- In regions without recent known circulation
  - Russia, Mongolia, Brazil, Peru, Columbia

Countries that have reported FMD outbreaks in 2004

(unknown serotype = (?), Pirbright confirmed*)

Benin	(?)
Bhutan	O*
Brazil	O, C
Burkina Faso	(?)
Cambodia	(?)
Chad	(?)
Colombia	A
Ecuador	O
Eritrea	O*
Ethiopia	(?)
Georgia	(?)
Ghana	(?)
Hong Kong	O*
India	O, A, Asia 1
Iran	O*, A*, Asia 1*
Israel	O*
Kenya	O, A, C* SAT 1, 2*
Kuwait	(?)
Lao PDR	O, A
Malaysia	O*, A
Malawi	SAT 2
Mali	(?)
Mongolia	O
Myanmar	O*
Nepal	O, A, Asia 1
Niger	O,SAT 1
Nigeria	(?)
Pakistan	O,A,C,Asia1*
Peru	O
Philippines	O*
Russia	O
Rwanda	O*, SAT 2*
Saudi Arabia	O
Senegal	(?)
South Africa	SAT 2
Sri Lanka	(?)
Sudan	O*
Tajikistan	(?)
Tanzania	O*, SAT 1, 2*
Thailand	O*, A*
Togo	SAT 2
Turkey	O,A
Uganda	O*, SAT1, SAT 2
Venezuela	O,A
Vietnam	O*, A*
Yemen	O*
Zambia	O, SAT 1*, 2, 3
Zimbabwe	SAT 2*

Countries that have reported FMD outbreaks in 2005 (up to 18/04/05)

Afghanistan	Promed mail
Ecuador	O
Hong Kong	Asia 1*
Kenya	SAT 1*
Malaysia	O,A
Myanmar	(?)
Pakistan	(?)
Philippines	O
Uganda	Promed mail
Sudan	O*
Thailand	O,A
Vietnam	O*

Changes in prevailing strains

- Serotype C officially reported in Brazil and Kenya and suspected in Pakistan and Ethiopia
- Asia 1 reported in Iran and Hong Kong
- SATs remained in Africa
- O and then A predominate outside Africa
- Spread of serotype A into Vietnam
- Vaccine strain recommendations unchanged
- A and SATs most problematic
  - further investigations warranted of origins of variant type As appearing in Middle East
  - Vaccine selection for SATs poorly studied

Recommendations from the WRL on FMD virus strains to be included in FMDV antigen banks (2003)

High Priority

O Manisa *(covers panasian topotype)*
O BFS or Campos
A24 Cruzeiro
Asia 1 Shamir
A Iran '96
SAT 2 Saudi Arabia *(or equivalent)*
(not in order of importance)

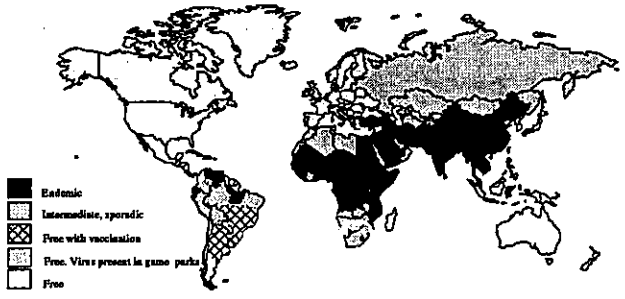
Medium Priority

SAT 2 Zimbabwe
A22 Iraq
Alran 87 or A Saudi Arabia 23/86 *(or equivalent)*
SAT 1 South Africa
A Malaysia 97 *(or Thai equivalent such as A/NPT/TAI/86)*
A Argentina 2001
O Taiwan 97 *(pig-adapted strain or Philippine equivalent)*
A Iran '99 (not in order of importance)

Low Priority

A15 Bangkok related strain
A87 Argentina related strain
A Eritrea 98
C Noville
SAT 2 Kenya
SAT 1 Kenya
SAT 3 Zimbabwe
A Kenya (not in order of importance)

Conjectured Status of FMD 2005

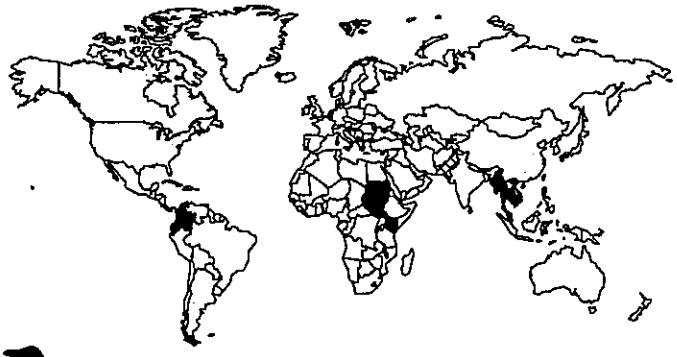


FAO World Reference Laboratory

APRIL 2005

Countries in which FMD was reported, 2004, OIE Handistatus

Countries in which FMD was reported, 2005



Supply of Test Reagents

- Large numbers of test kits supplied internationally
  - 31 countries so far in 2005
  - Mainly antigen detection / serotyping ELISAs

Quality assurance for laboratory testing

- FAO Phase XVIII serological standardisation exercise
  - 22 mainly European, participating laboratories
  - Introduction of solid phase competition ELISA (SPCE)
  - Preparation of secondary standards by national laboratories (based on the reference sera derived from Phase XVII)
  - Use of calibrated tests to examine local negative serum panels and proficiency panels
  - Standardisation of quality control procedures
- Start of QA for virological testing procedures
  - Gerzensee 2003, Research Group recommendation

Conclusions from inter-laboratory comparative serological exercise

- Overall, a high level of consistency in results between labs for both reference sera and proficiency panel using both commercial and other tests
- Sensitivity of "structural protein" tests can be affected by intra-serotype variability, unlike "non-structural protein" tests
- Solid phase competition ELISA:
  - Good results achieved by laboratories and valuable specificity data generated
  - Serotype A and Asia 1 tests behave similarly to previously validated serotype O test

Overview of serological QA work

- Strengths:
  - Provides a regular testing and proficiency exercise
  - Reference sera established for SP tests for serotypes O, A and Asia 1
  - Trial has introduced SPCE methods to a wider circle of labs
- Difficulties
  - Keeping to timetable
  - Producing reference sera overly complex
  - Are reference sera being used other than as a proficiency panel?
- Discussion point:
  - Are structural protein tests going to be increasingly replaced by NSPE for detecting infection in both vaccinated and unvaccinated livestock?

Recommendations for serological standardisation

- Simplify production of reference sera and separate from proficiency testing
- Annual proficiency test with more emphasis on NSPE
- More emphasis in future on improving quality control practices, e.g. trend analysis
- Make available more hyperimmune sera for secondary standards
- More work on SAT strains
- Aim to standardise post-vaccine serology for assessment of protection

Consultative advice for International Agencies

- Attendance and situation report at all EUFMD Executive Committee Meetings
- Participation at all meetings of the EUFMD research group
  - Gerzensee closed session – 3 papers presented
  - Cordoba workshop – model lab contingency plan presented
  - Crete closed session – 3 papers presented
  - Crete open session – 15 papers presented
- Participation at OIE workshops
  - NSP ad hoc working group
  - FMD vaccine and antigen ad hoc working group

Laboratory support for EUFMD initiatives

- Virus characterisation from high risk target areas where information is lacking, e.g. Kenya, Sudan
- Inter-laboratory comparative testing
- Field studies in support of test validation
  - Zimbabwe
  - Hong Kong

Constraints on virus characterisation

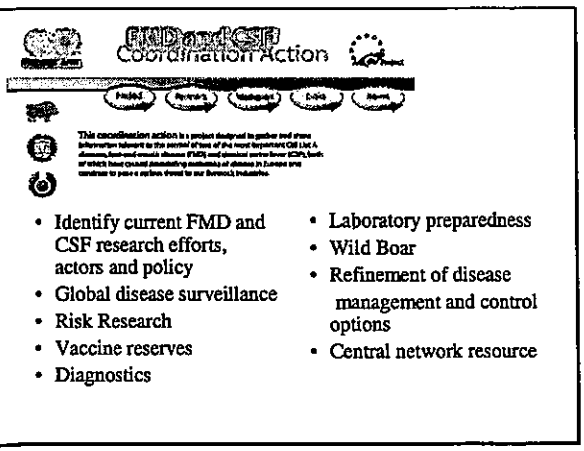
- Constraints on sample submission increase
  - Difficulty
  - Cost
  - Intellectual Property
  - Regionalisation
- Lack of equivalence between outputs of different reference laboratories
  - Vaccine matching
- Need to share and combine outputs of reference labs closer to real-time

Coordination Action on FMD-CSF
Jan 2005 – Dec 2007

- EU FP6 Programme – support for policy oriented research
- FMD/CSF split
- Support and coordination for existing structures and activities
  - Vital to include EUFMD and OIE
- Broaden participation and share tasks
- Stakeholder awareness
- Maturity model
  - What is done
  - What are strengths and weaknesses
  - Consensus opinion on what is needed
  - Action and durability plans
- Outputs
  - More efficient collaboration
  - Position papers
    - State of play
    - Best practice
  - New networks and collaborative agreements to give durability

CA Participants

Participant name	Participant short name	Country
Institute for Animal Health	IAH	United Kingdom
Institute of Virology	TiHo	Germany
Office International des Epizooties	OIE	International
Food and Agriculture Organization	FAO	International
Danish Institute for Food and Veterinary Research	DFVF	Denmark
Centrum voor Onderzoek in Diergeneeskunde en Agrochemie	CODA	Belgium
Veterinary Laboratories Agency	VLA	United Kingdom
Institute of Virology and Immunoprophylaxis	IVI	Switzerland
Centraal Instituut Dierziekte Controle Lelystad	CIDC	Netherlands
Friedrich Loeffler Institute	FLI	Germany
Agence Francaise de Securite Sanitaire des Aliments - Alfort	AFSSA	France



- Identify current FMD and CSF research efforts, actors and policy
- Global disease surveillance
- Risk Research
- Vaccine reserves
- Diagnostics
- Laboratory preparedness
- Wild Boar
- Refinement of disease management and control options
- Central network resource

OIE Ad Hoc Group on Vaccines and Antigen Banks

The Mission statement was adopted as:

"To facilitate information exchange and harmonisation of methods and standards to assist countries in the establishment of vaccine banks, with special emphasis on FMD; including the development of a network of banks for exchange of information on cross- protection of vaccine antigens and to resolve issues relating to potential supply of antigens and vaccines between banks and regions".

The following Terms of reference were agreed upon:

To develop guidelines for International Standards for vaccine banks for proposal as a Chapter of the *Terrestrial Manual*.

To develop guidelines for International standards, specific to FMD antigen and vaccine banks, to be proposed as an additional component within the FMD Chapter 2.1.1 in the *Terrestrial Manual*

To develop guidelines on harmonisation of virus strain characterisation, to provide other information relating to cross-protection against infection with circulating FMD viruses and to assist in the identification and selection of antigens for inclusion in FMD vaccines and antigen banks

To provide advice on future development and operation of a potential vaccine bank network

To provide advice to the OIE on issues relating to networking of the OIE and FAO regional and international FMD Reference Laboratories

Possibility for future financial support for OIE Reference Laboratories

FAO/OIE FMD Reference Laboratory Network

- Pirbright Laboratory of the Institute for Animal Health (FAO, WRL)
- Botswana Vaccine Institute
- Centro Panamericano de Fiebre Aftosa, Brazil
- Federal Governmental Institute, Centre for Animal Health, FGI-ARRIAH, Russia
- Others in due course

Network Objectives

•To gather, generate, analyse and make available laboratory information on the global occurrence and spread of FMD.
•To provide recommendations on vaccine strain selection for implementation of control schemes and for vaccine antigen reserves.
•To offer expertise to OIE, FAO and Member Countries to assist in the control of FMD.
•To identify constraints to the functioning of the network and to propose solutions.

•Secretariat to be provided by WRL and Steering Group by OIE/FAO

Network Actions

- Meet at least annually to review progress and to agree plans of the network.
- Develop processes based on best practices to achieve equivalence in FMD laboratory outputs.
- Collect, characterise (antigenically and genetically), archive and safeguard FMD viruses representing the global diversity of strains.
- Agree a memorandum of understanding for exchange of materials and information and if necessary a materials/information transfer agreement.
- Develop a web-based tool for the network to share and make available laboratory information including vaccine matching results, as close to real time as possible.
- Provide an annual network report to OIE/FAO.
- Facilitate training and scientific exchange on FMD laboratory activities.
- Identify research requirements and where appropriate develop joint research projects, for example on validation of diagnostic methods.
- Maintain a database of FMD laboratory experts and their field of expertise.

Priorities for next two years

- Increase efforts at targeted strain collection and at developing global equivalence in characterisation
- Develop M.O.U. for sample exchange between reference laboratories
- Develop web-based information centre for reference laboratories
- Broaden the scope of inter-laboratory proficiency testing
- Develop links with reference laboratories in S E Asia, China and India
- The CA FMD-CSF

Support Required

- Strain characterisation
- Quality Assurance
- Ad hoc studies
- Ref Lab Network Secretariat
- Web based information tools

Acknowledgements

- FAO FMD WRL Staff
- EUFMD Secretariat
- Our funders
  - UK Department for Environment Food and Rural Affairs
  - FAO's European Commission for the Control of FMD

Appendix 10

Report on the Session of the EUFMD Research Group at Gerzensee, Berne, Switzerland, 16-19 September 2003 and at Crete (Greece) 11-15 October 2004, and the Laboratory Contingency Workshop at Cordoba, Spain, 27-30 April 2004

Kris De Clercq

CLOSED SESSIONS

The Secretary of the EUFMD Commission brought the attention of the meeting to the conclusions and recommendations of the General Session of the Commission's member states in April 2003. The work of the Research Group was recognized as very valuable and to be encouraged, but priorities for activities for the biennium 2003-2005 should be identified at the 2003 Research Group Session, to address the major technical issues identified at the General Session. The programme for this Session was set by the discussion of the General Session and the concern of the member states on these issues.
The RG developed an action plan 2003-2005 and presented the progress at each Executive Committee meeting (see separate paper).

OPEN SESSIONS

Item 1 – Recent findings in molecular epidemiology of FMDV

1. FMDV is still active in many parts of the world and there are significant gaps in our knowledge of the global diversity of the virus, of the likelihood for different viruses to spread and on standardised antigenic information to aid vaccine selection (SAT 2 is of the most concern due to its high degree of antigenic diversity).
2. A better coordination between reference laboratories will improve the global surveillance of FMD.
3. Recent reports of serotype C and SAT3 outbreaks are cause for some concern and the origin of these outbreaks is not yet clarified.
4. More linkages between antigenic and genetic comparisons are needed to improve our ability to predict vaccine coverage.
5. The laboratory and techniques used for confirmation of an outbreak should be recorded in the information system of the OIE (Handistatus II).
6. Information on genetic diversity of FMD viruses should be linked to more studies of the epidemiology of the infection in endemic regions to improve predictions on the risk of the spread of FMD viruses.

Item 2 - Priority setting for FMD vaccine bank: risk assessment/true prevalence

1. An overview of FMDV genotype information available to the WRL was presented. Availability of reference sera for antigenic typing remains an important constraint. Provisional recommendations on FMD virus strains to be included in FMDV antigen banks were made.
2. A ranking of priority locations from which assisted delivery of isolates to WRL is required was obtained by analysis of an expert consultation. Efforts should concentrate initially on targeting resources to countries in sub-Saharan Africa and the horn of Africa.
3. Different spatial-temporal trends for the three types were observed in Turkey, which may permit prediction of future FMD.

Item 3 - Surveillance: for what purpose and how much is enough?

1. Methods to validate, summarize, visualize and distribute global FMD surveillance information should be further developed and refined.
2. Cooperation among national and international bodies on global FMD control and surveillance activities is essential.
3. The GISVET system facilitates national surveillance of transboundary animal diseases (TADs) in Iran, and should assist understanding of spatial and temporal trends in FMD in this country, which may provide insights for wider application.
4. The Executive Committee should consider the proposals from EFSA and the UCDavis-FMD Surveillance and Modelling Laboratory about cooperation or partnership in the proposed joint FMD activities.
5. Sub-national data on livestock density, animal movements, people movements and product movements should be improved.
6. The role of small ruminants and domestic buffalo and wildlife species in the persistence of FMDV in domestic populations should be better addressed.

Item 4 - Transmission and its control

1. The number of infectious animals could influence the speed and intensity of the infection in contact pigs and sheep.
2. Current airborne spread models, although very well validated for spread over long distances, are far less accurate in predicting airborne spread over short distances.
3. Increasing the antigen payload in the vaccine might reduce the local replication and therefore the development of carrier animals.
4. Several vaccination strategies before infection significantly reduced transmission of foot-and-mouth disease virus in co-mingledcalves and pigs.
5. More studies should be done using varying conditions (housing, species etc.) and different strains of virus to provide a better understanding of the epidemiology of FMD and of parameters for modelling.
6. More attention is needed to identify factors that accurately predict between herd transmission.

Item 5 – Virus detection standards and Managing diagnostic demands

1. Australia learned from its simulation exercises that Lab Contingency plans should be constantly reviewed, tested and updated and that NCPs should include guidance to the lab on the capacity to be established for the situation in post-outbreak surveillance.
2. For detecting FMDV in milk, RT-PCR matched closely the results of virus isolation but no positive results could be obtained by PCR or VI in milk before the onset of clinical signs. The primers and probes used have to be monitored very closely.
3. The organisation of complex proficiency trials for PCR can clearly improve laboratory efficiency in diagnosis.
4. The development is encouraged of improved analytical, quantitative and statistical methods to evaluate distribution of laboratory readings from various groups of animals as an alternative to the determination of optimal cut off values for tests.
5. The development of pen-side tests was discussed. It was concluded that pen-side tests could be used to support early detection of infection and rapidly indicate the necessity for additional sampling. Pen-side tests should only be used by official veterinarian in the course of a disease investigation.

Item 5 - Pathobiology & Diagnostics

1. Further studies on mathematical models of early FMDV infection are required to demonstrate the validity of the model.

2. The selective binding of FMDV by integrins could be used in rapid "penside" tests for virus detection.

Item 6 – Sero-diagnosis – improvements and standardisation

1. The Phase XVII and XVIII comparative testing exercise revealed an overall, high level of consistency in results between laboratories for both reference sera and proficiency panel using both NSP and SP tests. These inter-laboratory exercises are an essential part in the collaboration and standardisation between European FMD laboratories.
2. Antigenic variability of type A strains can affect sensitivity of "structural protein" tests that use "heterologous" virus/antigens.
3. Control charts are an essential part of internal quality control and for maintenance of quality accreditation and the mutual recognition of results.
4. An annual round of inter-laboratory proficiency testing is essential for quality accreditation. This should be the core activity of future Phase exercises. An improved proficiency panel is needed for NSPE.
5. The issue of establishing reference sera should be separated from that of proficiency testing and further steps are urgently needed to realise the objective of their production.
6. The purpose and use of reference sera in FMD serodiagnosis needs to be clarified and the development and distribution of reference sera could be simplified by distribution of strong positive and negative sera only.
7. More work needs to be done on the development and validation of tests for the detection of antibodies to SAT serotypes.
8. Different cut-offs need to be identified for the SPCE tests taking account of the purpose of testing as well as the specificity and the sensitivity of the tests.

Item 7 – Optimisation of conventional vaccines

1. Serology could be one of the methods used in vaccine batch release testing. Laboratories and producers are encouraged to make their data and sera available to groups working on correlations between serology and protection. However, tests have to be calibrated to make data from different laboratories comparable.
The correlation between group mean LPBE titers and PD50 values may be strain dependant.
2. The added saponin to double oil emulsion vaccine based on Montanide ISA 206 enhanced significantly the immune response in pigs and cattle.

Item 8 – Regulatory issues affecting FMD vaccine selection and use

1. Following the recent review of EU pharmaceutical legislation, there is currently an opportunity to amend the annexes to directive 2001/82/EC to make specific provision for the unique requirements of FMD vaccines. The Commission was encouraged to make use of this opportunity to promote the authorisation of FMD vaccines in the interests of animal health and consumer protection.
2. Existing vaccine strains of serotypes O, C and Asia 1 generally provide a sufficient spectrum of antigenic coverage that the possible development of new vaccine strains is rarely necessary. In contrast, new variants of type A repeatedly emerge requiring constant surveillance and the possible development of appropriate, new vaccine strains.
3. In the discussion that followed an aspiration was expressed that a system of surveillance, and selection and distribution of vaccine strains, would be set up for FMD that would operate in a similar way to the network of WHO human influenza reference laboratories.

Item 9 – Novel vaccines

Presentations were made on the development of novel FMD vaccines based on: the innate immune defence and improved adjuvants to induce mucosal immunity; a synthetic peptide; a

adenovirus-vectored FMD empty capsid and interferon-alpha; DNA vaccination involving a protein antigen boost; DNA vaccines based on FMDV minigenes; cytokine and Tolllike receptor mRNAs in the nasal-associated lymphoid tissues.

Item 10 - International Issues
The meeting was informed of the new criteria for OIE listed diseases and notification, the procedures for validation and certification of diagnostic assays, the changes in Chapter 2.2.10 on FMD introducing the concept of virus circulation, and the actions implemented by the OIE on the United Nations Sub Committee of Experts on the Transport of Diagnosis Goods (UNSCETDG).

Item 11 - Persistent and subclinical infections – Diagnostic and surveillance issues
1. A paper was presented stating that based on historical data, the risk of transmission of FMDV from carriers after emergency vaccination is smaller than the risk of introduction of FMDV by illegally imported meat. Further it was suggested that the risk of transmission of FMDV from carriers might be of the same magnitude as the risk of import of meat from animal populations in countries using vaccination against FMD.
2. Based on the comparative validation of 6 NSP tests it was concluded that samples from naive animals that scored false positive in one NSP tests often scored correctly in the other NSP tests and this may provide a basis for use of confirmatory tests to increase specificity.
3. Batch-to-batch testing is necessary when using diagnostic kits to ensure consistency of results; this could be organised internationally.

Item 12 – Test development and standardisation
1. Fitness for purpose should be considered when selecting a test for NSP antibody detection.
2. There is a need of confirmatory tests, with equal or better sensitivity and specificity as screening tests. Additional assays to differentiate infection from vaccination such as a multiplex luminex-based assay, IgA and gamma interferon assays are being developed, which have potential for use as confirmatory tests.
3. Panels of sera should be evaluated to validate new NSP tests, and provision should be made by FAO or other international organizations to support laboratories preparing these panels.

Item 13 - Surveillance using DIVA tests (Post-vaccinal and post-outbreak surveillance, and surveillance in endemic regions)
Six papers were presented in which the field application of NSP antibody tests was described: a field study in Zimbabwe, Israel, Bulgaria, Turkey, Greece and South-America. The latter also described the isolation of FMDV type C from Brazil.
1. The ability of NSP tests to detect FMDV infection in vaccinated cattle under field conditions allows prevalence rates in vaccinated populations to be estimated.
2. NSP tests can be used in the serodiagnosis of SAT 1 and SAT 2-type FMD infections, such that they can be considered as serotype-independent serodiagnostic tests.
3. Age stratification should be used as part of the assessment of potential virus circulation in a population following FMD outbreaks or in the determination of the absence of virus circulation.
4. Follow-up epidemiological investigations and additional laboratory tests are indicated where NSP seropositive animals are identified.
5. Sampling strategies, which require the use of validated tests, should be developed that would assist countries in regaining the disease free status after an FMD outbreak and where vaccination has been used.
6. NSP serosurveillance (and follow-up investigation) should be conducted at least on an annual basis in the Thrace region of Turkey and in neighbouring regions of Greece and Bulgaria.
7. Careful consideration should be given to the statistical validity of the sampling regime for the surveillance purpose intended and to subsequent interpretation of the data.

8. New methods for test interpretation that could add confidence to the detection of carrier or previously infected animals, should be evaluated. The potential use of likelihood ratios to express the probability of correct test results was explored. This can assist in difficult decisions, such as slaughter of herds containing test positives.
9. IgA-ELISA could be an alternative for NSP-ELISA.

Item 14 - Regulatory compliance
Serosurveillance strategies that could be used by European countries adopting a vaccinate-to-live policy for controlling future FMD outbreaks were discussed.
1. A difficulty in developing FMD Guidelines has been the lack of definition of an acceptable level of evidence for absence of virus infection in a vaccinated population. Collaboration with countries such as Uruguay, which had conducted significant post-vaccination surveillance could be instructive.
2. Uncertainty remains over: (i) the level of certainty with which freedom from infection must be demonstrated; (ii) how to interpret results from herd-based tests when herds comprise small numbers of animals and (iii) details of how to resolve test specificity problems by retesting and resampling.
3. LCPs should include decision trees to indicate the follow-up tests to be conducted and should make quantitative estimates of follow-up testing.

Item 15 - Critical review of inactivation standards
1. Methods were reviewed for describing the effect of temperature and time upon virus survival in products. In most papers information on inactivation kinetics are missing, which makes it very difficult to compare results. The available data on inactivation of FMDV in milk and milk products should be reviewed in the light of current international trade standards.
2. The risk analysis process relating to meat and milk from vaccinated herds/animals which test negative by NSP tests was reviewed.
3. Funding for a both a risk analysis and for research on the effect of heat treatment should be made available.

Item 16 – Laboratory contingency planning (Cordoba Workshop)
The subject of contingency planning for FMD laboratories arose from difficulties experienced in the crisis situation in 2001. The 35th General Session of the EUFMD Commission in April 2003 recommended that the National Laboratory of each EUFMD member state should develop a contingency plan for diagnostic and serological surveillance. Following receipt of support from the EC (DG-SANCO), a workshop (WS) on contingency planning for FMD laboratory diagnostic activities was held in Cordoba, Spain, and attended by 40 participants from 32 European countries.
The aims of the workshop were principally to engage laboratory managers in the process of developing, reviewing, and implementing technical guidelines relating to contingency planning for diagnostic services and the scaling up of laboratory services in emergency situations.
During the workshop 6 working groups were active on:
WG1. Scaling up of virus diagnostic capacity to level required in FMD emergencies.
WG2. Transportation of samples to and between FMD diagnostic laboratories.
WG3. Scaling up of sero-diagnostic capacity to a level required in and following a foot-and-mouth disease outbreak.
WG4. Biosecurity levels for FMD sero-diagnostic laboratories.
WG5. Development of a model Laboratory Contingency Plan for European national laboratories.
WG6. Guidelines on use of portable diagnostic tests for FMD virus.

Drafts of three guideline papers were reviewed, on structure of model LCPs, on minimum standards for biosecurity for laboratories undertaking FMD serology, and on the transport of specimens to FMD reference laboratories.
The general conclusion and recommendations include within them a timetable for follow up actions by laboratory participants, by the EUFMD Commission, and by the experts of the working groups.

Item 17 - Managing the decision making process in control of FMD and in the priority setting of research and development

1. Recent developments in information systems are relevant to the decision making in risk management process, and to communication of risk management and scientific opinions.
2. Stakeholders could provide a positive contribution to the priority setting process of researchable questions on FMD prevention, surveillance and control.
3. The EUFMD Commission should develop a working group to identify user requirements for information management and options for information management and to address the options for improving knowledge transfer and training of national experts on FMD control, to meet current and future anticipated demand for FMD expertise.
4. The role of the EUFMD Research Group be further considered and developed to help meet the needs of the European member states for a range of competences in their national FMD expert groups.

FAO EUFMD Research Group ACTION PLAN 2003-2005

Kris De Clercq
Chairman Research Group

Action 1: Assisted delivery for samples from third countries.
Output: to collect more samples, possibly containing FMDV, from areas where little is known about and to send them to the FAO WRL. Report to the Executive Committee (Exec. Com.) Session/General Session/Research Group (RG).
Responsible: EUFMD secretariat
Others: FAO WRL
Progress: Despite the relatively slow progress made in establishing agreements, the RG strongly recommended continuation of the efforts. In 2005 RG group to review gaps in sample submissions to reference laboratories
Timing: on schedule.

Action 2: Global FMD surveillance map/models.
Output: animal population/movement maps, maps indicating difference in animal price, FMD risk maps/global risk analysis tools.
Responsible: EUFMD secretariat
Others: FAO WRL/ Prof. Willeberg/ FAO/OIE Working group
Progress: Pilot study done/Collaboration with FAO/Interaction with EFSA/ Ongoing collaboration with M. Thurmond, Davis, US. Liaison with EU DG Research and NATO.
Timing: ongoing, some delay.

Action 3: Vaccine strain selection.
Output: advice on FMDV strain to be integrated in vaccines or antigen banks; put up an network between FAO WRL and OIE Regional Reference Laboratories.
Responsible: FAO WRL
Others: EUFMD secretariat
Progress: EU Coordinated action started January 2005; Agreement proposal for a network adopted by OIE *ad hoc* group on Ag-Vaccine banks; Paper on vaccine strain matching to be included in the FMD chapter of the OIE Manual and scientific paper planned; Network meeting and organisation of meeting with antigen-vaccine bank managers (later with manufacturers) in 2006; In 2005 RG group to review vaccine antigens.
Timing: on schedule.

Action 4: Proficiency test for FMDV detection.
Output: Proficiency panel for virus detection methods (VI, antigen ELISA, RT-PCR).
Responsible: FAO WRL
Others: Kris De Clercq
Progress: pilot study with 5 NRL done, to be analysed and reported to the RG September 2005. Scientific paper to be finished 2005. Costing for extension to other laboratories made and funding to be discussed. Organisation proposal for proficiency test in 2005/2006 is ready.
Timing: on schedule.

Action 5: Proficiency test for detection of antibodies against FMDV.
Output: Phase XVIII and plan for next phase.
Responsible: FAO WRL
Others: Kris De Clercq / Emiliana Brocchi / Aldo Dekker / Bernd Haas
Progress: Phase XVIII concluded and reported to the RG meeting 2004. Proposal for Phase XIX made and presented to Executive Committee January 2005. Proficiency panel of sera will be sent out May 2005 and results will be reported to the RG September 2005.
Timing: on schedule.

Action 6: Comparative evaluation of candidate NSP tests (to differentiate infected from vaccinated animals).
Output: Performance characteristics for different NSP tests.
Responsible: E Brocchi/ Kris De Clercq
Others: Aldo Dekker/ David Paton/ Matthias Greiner/ Donal Sammin/ Hagai Yadin
Progress: Bench workshop with comparison of 6 NSP tests including the OIE and the European index test, May 2004. International community and manufacturers invited. Preliminary results reported to EUFMD/ DG SANCO/ OIE. Follow-up studies in Zimbabwe for cattle and in Hong Kong for pigs done. Scientific papers to be finished.
Timing: some delay.

Action 7: Guidelines on post-vaccinal surveillance (PVS): Vaccine-to-live policy for Europe.
Output: Need for guidelines and between/within herd prevalence estimates in a vaccinated population.
Responsible: David Paton
Others: Kris De Clercq/ Aldo Dekker/ Matthias Greiner
Progress: Guidelines on PVS discussed and to be worked out further; Paper on small herds introduced for publication; Comments on the OIE Code chapter 3.8.7 formulated, discussed with DG SANCO and transferred to OIE. Prevalence estimates and acceptable levels of confidence for PVS to be worked out.
Timing: ongoing.

Action 8: WORKSHOP on contingency planning for National Reference Laboratories.
Output: position papers on the different aspects of contingency plans.
Responsible: EUFMD Secretariat
Others: Kris De Clercq/ José Sanchez-Viscaino
Progress: Workshop organised April 2004 in Cordoba. Attended by NRLs from all over Europe. Several working groups (WG) (see below) produced position papers. WG5 discussed the contingency plan for laboratories as presented at the General Session April 2003 (see report 2003 appendix 11). Reviewed contingency plan for laboratories from the FAO WRL transferred to the EUFMD Secretariat.
Timing: on schedule, need for follow-up.

Action 9: Guidelines for sample transport.
Output: paper to help people in sending samples to other laboratories.
Responsible: Vilmos Palfi

Others: David Paton
Progress: A paper explaining the way to send samples to the FAO WRL and indicating the transport organisations involved, was discussed at Cordoba (WG2), reviewed and adopted. The actions initialised by the OIE were considered essential and supported trough DG SANCO.
Timing: on schedule, need for yearly update.

Action 10: Diagnostic reagents bank.
Output: position paper.
Responsible: Bernd Haas
Others: Kris De Clercq
Progress: A position paper presenting also the information from manufacturers of diagnostic kits was discussed at the Cordoba workshop (WG1). The paper was presented to the Exec. Com. And DG SANCO.
Timing: on schedule, need for follow-up.

Action 11: Guidelines on laboratory sero-diagnostic capacity (scaling-up).
Output: position paper.
Responsible: WG3
Others: Lorena Jemeršic, Dianne Clery, Emiliana Brocchi, Dita Krastina, Ivan Holko, Naci Bulut, Karl Johan Sørensen, Aldo Dekker
Progress: A position paper was produced during the Cordoba workshop (WG3).
Timing: delay, need for follow-up.

Action 12: Biosecurity of laboratories involved in sero-diagnosis.
Output: position paper.
Responsible: EUFMD Secretariat
Others: WG4
Progress: A position paper was produced during the Cordoba workshop (WG4), adopted by the RG, presented to the Exec. Com. and transferred to the OIE ad hoc group on biosecurity. Translation of the paper is ongoing. Paper will be transferred to the Member Countries.
Timing: on schedule.

Action 13: Evaluation of pen-side tests and development of guidelines.
Output: performance characteristics of pen-side tests and guidelines on who could use these tests and the follow-up of the outcome.
Responsible: Nilay Unal
Others: Hagai Yadin / Donal Sammin
Progress: Study on disease outbreak investigation in Turkey with the use of pen-side test. Results presented to the Exec. Com. January 2005. Need for further analysis and investigation.
Timing: delay.

Action 14: Surveillance in endemic area's and buffer zones.
Output: guidelines on and follow-up of surveillance.
Responsible: EUFMD Secretariat

Others: Donal Sammin, David Paton, Kris De Clercq, Nacy Bullut, Sinan Aktas
Progress: Analysis and interpretation of village level data of 2004 (Thrace, Turkey) discussed and follow up plan for 2005 established (December 2004). Discussion on surveillance plan for Anatolia is ongoing.
Timing: on schedule, need for follow-up.

Action 15: Potency test evaluation.
Output: follow-up of vaccines used in vaccine campaigns in Turkey.
Responsible: Nilay Unal
Others: Aldo Dekker
Progress: Results of vaccine use in the field discussed. In detail study of potency tests necessary.
Timing: delay.

Action 16: Study FMDV inactivation kinetics in animal products.
Output: Assessment of D-values and Z-values for heat treatment of milk and pork from FMD-infected animals.
Responsible: Soren Alexanderson
Others: Prof. Willeberg/ Aldo Dekker
Progress: A risk assessment study was performed by EpiLab (Denmark) to inform the experimental group about specific research objectives from a risk assessment point of view. A project proposal for pork products has to be drafted including participation of the pork industry. An initiative for milk products is almost impossible without research support and/or support from the milk-products industry.
Timing: delay.

Action 17: Information management.
Output: Establishing tools for information gathering, dissemination and use for training.
Responsible: EUFMD Secretariat
Others: Kris De Clercq
Progress: A working group has met with AVIS (private company) and worked out a collaboration (March, 2005).
Timing: on schedule, ongoing.

Action 18: Research group meetings.
Output: bringing together the FMD scientific community from the all over the world.
Responsible: EUFMD Secretariat
Others: Kris De Clercq/ Kris De Clercq/ Hagai Yadin
Progress: A closed session is planned at the island of Riems, Germany, 20-23 September 2005. An open meeting is planned in Israel, 17-20 October 2006.
Timing: on schedule.

European FMD Expertise and Technical Capacity

(i) Situation overview

Responses to the Questionnaire on FMD Experience and Interest in In-post Expertise Development for State Veterinary Services in EUFMD Member Countries

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1. INTRODUCTION

In March 2005 a questionnaire was circulated by the Secretariat of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD) to all member countries as a first step in assessing the current situation regarding education and training in the area of emergency preparedness and the requirement and demand for the development of a specific programme of this nature for this most communicable of animal diseases.

This paper reports on the collated results of the questionnaire and draws conclusions from them on the demand for such training; on the topics which might be included; and on some of the means by which the training could be delivered.

2. BACKGROUND AND ANTECEDENTS

2.1. Lessons from the recent epidemics of FMD in Europe

A major lesson learned from the devastating outbreaks of foot-and-mouth disease (FMD) in Europe in 2001 is the vital importance of disease preparedness. This is achieved in part through the provision of contingency plans for both the field and the laboratory. Contingency plans must be routinely practised in simulation exercises and also routinely reviewed to ensure their currency against changes in resource availability, in the emerging global epidemiology of the disease and in the development of new technology.

A second particularly vital part of this preparedness is the availability of experts, specifically trained and experienced in the management of particular diseases such as FMD. It is most important for the expert to have not only relevant and up-to-date theoretical knowledge, but also, wherever possible, practical, first hand experience of the disease and its management.

2.2. Relevant Legislation

Within the European Union the aspect of contingency planning is laid down in the recently revised legislation on the control of FMD ("Community Measures for the control of foot-and-mouth disease". Council Directive 2003/85/EC of 29th September 2003) and specifically addressed in Chapter III [Preventive Measures], Section 12 [Contingency Plans and Real Time Alert Exercises] and Section 13 [Control Centres and Expert Groups] and also in Annex XVII [Criteria and Requirements for Contingency Plans] .

Under Item 78 of Section 13 the Directive specifies the establishment of an Expert Group. The full text of this section is given as Appendix 1 to this paper. In summary however the Directive requires that:

"A permanently operational expert group shall be created, where necessary in collaboration with other Member States, to maintain expertise and assist the relevant authority in qualitative disease preparedness".

Thus there is a specific legal obligation for the creation of an expert group for EU member countries. However, there is also an obvious advantage of having such a group for members of the EUFMD which are not currently members of the EU.

2.3. Historical perspectives on FMD in Europe

At the present time only one of the thirty three EUFMD member countries has active, endemic FMD, namely Turkey. Aside from this, all other countries have been free of the disease for at least four years, the United Kingdom, Ireland, France and the Netherlands having suffered their last incursions in 2001. Outbreaks occurred five years ago in Greece (in 2000) and six years ago in Israel (in 1999). However, of the other 26 member countries, 25 have been free of FMD for between 9 and 51years while Iceland has never recorded the disease. The status of individual countries in this respect is shown in tabular form in Appendix 2.

On the one hand, the long term FMD freedom of the majority of EUFMD countries is highly advantageous for the livestock industries, but on the other hand this freedom has meant that in most member countries the farming community and both private and state veterinarians have had virtually no direct, first hand experience of clinical FMD or of having to deal with an outbreak of the disease for several decades.

3. RESPONSES TO THE QUESTIONNAIRE

Questionnaires were distributed to all 33 members of the commission in March 2005. Replies were received by the deadline from 20 members (61%). By prior agreement, countries are not individually identified within this report of the collected results.

Q 1. State the approximate size of the State Veterinary Service?

Fifteen countries have a complement of more than 200 veterinarians in the State Veterinary Service, three have between 51 and 200, one between 21 and 50 and one less than 20.

Q 2. How many Veterinarians with experience of FMD are there within the State Veterinary Service?

Two State Veterinary Services have more than 50 veterinarians experienced with FMD, four with between 10 and 50, three with between 6-10, six between 1-5 and five with none.

These figures relate to the size of particular veterinary services, the size of the livestock component of their economies and also to the European epidemiology of FMD in recent years. Significantly, eleven countries have very few veterinary personnel experienced with this disease.

Q 3. What is the potential for the rapid mobilisation of other veterinarians with FMD experience within 24-72 hours notice?

Seven countries were able to call up other experienced personnel at short notice, 8 could not do so while 5 were unsure on this point.

The fact that 13 countries either could not readily mobilise reserves, or were unsure as to whether they could, points to a potential weakness in current arrangements.

Q 4. State the willingness to send veterinary staff on short (up to 2 weeks) training courses in countries where practical experience could be gained in clinical diagnosis and surveillance activities.

There was a 100% positive response to this question in that all 20 countries stated that they would be willing to send staff on such courses.

Q 5. What would be the desired number of persons to be sent on short practical training courses in the next three years?

Four countries would wish to send 10 – 50 persons on short practical training courses over the next three years, ten would wish to send 6 -10 persons and six between 1-5 persons.

There is clearly strong support for short, practical training courses although there is also wide variation between the numbers which individual countries would want to have trained in this way. Logistical difficulties may be envisaged in accommodating the attendance of the larger numbers (i.e. up to 50 persons in three years).

Q6. Give the priorities in your country for the development of expertise and competence in managing emergencies such as outbreaks of FMD

Five categories were provisionally offered in the questionnaire as potential groups for training at different levels in respect of qualifications, expertise, competence and responsibility (job type). These were:-

Level 1: Farmers, non-veterinary operators
Level 2: Private veterinarians and temporary veterinary inspectors
Level 3: Area Veterinary Managers (Divisional/ Departmental/ Provincial/ Regional Veterinary Officers)
Level 4: Chief Veterinary Officers and Key Staff at Headquarters
Level 5: National Experts. Members of European Expert Groups

Members were asked to comment on the suitability of the proposed levels.

Seventeen of the 20 countries considered that the five proposed levels were acceptable in principle, one thought that they were not, while two countries were not sure of their position on this point.

Q 7. Give suggestions for alternative groupings for training to those proposed in Q6 above

Fifteen countries offered no comments on the levels proposed in Question 6. Suggestions from the four countries which did offer comments included the following points for consideration:-

(i) Level 1 should be split into two to accommodate (a) farmers and non-veterinary operators and (b) State Veterinary Department technical and administrative staff.
(ii) Doubt was expressed about the need to include farmers in the scheme since "they would not be involved in the management of an outbreak".
(iii) There should be a separation drawn between veterinarians and technical staff who are either working in the field or the laboratory and appropriate training should be arranged for the distinctive requirements of these additional categories
(iv) Level 3 should rather encompass "Regional and District Veterinary Officers and non-veterinary head office staff and management".
(v) Categorisation was suggested according to "experience and engagement rather than by the suggested levels".

The five levels tentatively advanced initially in the questionnaire can readily be modified to accommodate some of these proposals. Indeed, it is likely that considerable refinement would be undertaken as the programme developed. Elements of the programme developed for veterinarians would form the basis of training for non-veterinary technicians and appropriate modification could readily be effected.

There may well have been a misunderstanding due to phraseology concerning the inclusion of the farmer in Level 1. It is not envisaged that the farmer would be directing operations in the management of an outbreak, but there can be no doubt whatsoever that the trained farmer is a key component in the earliest possible identification of FMD and that the cooperation of the farmer is critical for optimal success in the control of the disease. For these reasons the education and training of the farmer to an appropriate level would seem to be an essential component of any national training programme, whether or not it is effected under the auspices of the programme considered in this questionnaire or via other means.

Q 8. Is the training currently provided for Chief Veterinary Officers and Key Staff at Headquarters (Level 4) and National Experts (Level 5) in your country considered to be adequate for those expected to advise at national level?

This type of training was considered adequate by 9 of the 20 countries, inadequate by 3 countries and about to be introduced by 1 country. Seven countries expressed themselves unsure on these matters.

It is important to note that 10 responses indicated that such training was either inadequate or that the respondents were unsure about its adequacy. This result would appear to give a clear endorsement of the need for further investigation in this area and probably also for improved training at these levels.

Q 9. Would your country be willing to allow its national training programme to be used in other countries?

Nine of the 20 countries were willing to allow their training programme to be used in other countries, although in one instance the programme was only available in the national language (i.e. in a language other than English or French). One country would not be willing

to allow their training programme to be used elsewhere and one was unsure in this respect. Nine countries did not reply to this question.

Q 10. What enhancements in training would be of value in your country?

Nine countries identified enhancements in their training, seven did not identify enhancements and in four cases the question was not answered.

Several countries identified common areas for enhancement, these included:-

- Training in the identification of the clinical signs of FMD
- Management of outbreaks of FMD
- Practical field work
- Mass culling of susceptible animals and safe disposal of carcasses
- Public relations and communication with mass media

Q 11. Are there any gaps in the expertise relating to the control of FMD available in your country at national level?

Twelve countries identified gaps in expertise at the national level, three countries reported no gaps and five were unsure as to whether there were or were not gaps in expertise. These latter responses indicate a requirement for deeper investigation.

Q 12. Which areas of expertise are seen as priorities for strengthening at national level?

Nineteen countries specified priority areas of expertise for strengthening at the national level as follows:-

- Clinical diagnosis
- Improved active and passive surveillance
- Routine use of tests for antibodies to non structural proteins
- Supply and application of Geographic Information Systems
- Crisis management at Departmental, Divisional and National levels
- Collection and analysis of epidemiological data
- Application of mathematical models as decision aids
- Centralisation of authority in widespread epidemics
- Modelling of emergency vaccination scenarios
- Field experience in disease control
- Simulation exercises, both at the desk and in the field
- Risk Analysis and Risk Management techniques
- Outcomes analysis for different control strategies
- Disease awareness for farmers and veterinarians
- Communication with mass media
- Workshops, particularly with international participation
- Budgetary provision for disease emergencies

These elements were not themselves ranked for priority. However, a number of key areas were identified for inclusion in any training programme.

One principal mode of training for laboratory technicians would be by organising inter-laboratory secondments.

There were many commonalities in these responses, but special emphasis was evident in the need for experience in the clinical diagnosis of FMD.

Some countries simply stated that ALL areas of expertise needed to be strengthened.

Q 13. At the level of Divisional/Departmental/ Provincial Veterinary Officers having responsibilities in the control of FMD in your country: do you provide training in areas relevant to FMD management?

Fifteen countries regularly provide training courses relevant to the management of FMD at the level of Divisional, Departmental and Provincial Veterinary Officer. Five countries sometimes provide such training.

Q 14. Do you consider that there are gaps in the expertise relating to FMD control available to your service at Regional/Provincial/Divisional levels?

Ten countries considered that gaps do exist in their expertise relating to FMD control at Regional/Provincial/Divisional levels. Five countries considered that gaps sometimes occurred at these levels while five were unsure in this respect.

Q 15. If there are gaps (under Q 14 above) please specify their nature

The gaps identified relating to expertise in FMD control at Regional/Provincial/Divisional levels included the following areas:-

- Lack of clinical experience in the recognition of FMD
- Lack of standardisation of procedures at the different management levels
- Lack of field experience in outbreak control
- Lack of planned cooperation with official organisations outside the State Veterinary Service
- Lack of control of animal movements
- Lack of experience in mass culling and safe disposal of carcasses
- Lack of simulation exercises
- Lack of themed workshops

These elements were not themselves ranked for priority. However, the responses identified important components for inclusion in any training scheme.

Q 16. Which areas of expertise do you recommend as priorities for strengthening at Regional/Provincial/Divisional level?

The areas to which priority was ascribed for the strengthening of expertise at Regional/Provincial/Divisional levels were as follows:-

- Clinical experience of FMD
- Improved disease awareness
- Improved active and passive disease surveillance
- Experience in field control of disease
- Regular field training
- Crisis management at Central and Local Disease Control Centres
- Management and coordination of disease control at central and regional levels
- Control of animal movement
- Culling and disposal of carcasses

- Coordination between veterinary and non-veterinary organisations and participants
- Introduction and use of Information Technology for epidemiology and disease control
- Enhanced rapidity of emergency response
- Risk analysis techniques
- Biosecurity

These elements were not themselves ranked for priority. Once again there were many laboratories advocating items in common for priority treatment, including the need for clinical FMD experience.

Q 17. Please rate the suitability and cost-effectiveness of the following 6 training modes in respect of their usefulness for staff at Levels 3 and 4 (See Q 6 above) on a scale of 1 to 10, where 10 is the most useful

Countries were asked to ascribe scores for their perceived usefulness of six modes of training as follows:-

Training Mode	Average score out of a possible maximum of 10	Range of scores
1. Computer based training	5.15	1 - 8
2. Workshop based training	8.05	2 - 10
3. Correspondence with National Experts	6.35	0 -10
4. Simulation exercises	9.45	6 -10
5. Post graduate courses leading to a qualification (e.g. MSc, PhD)	5.90	0 -10
6. Combinations of the above	7.9	0 - 10

The average scores indicate a ranking preference of :-

First: Simulation Exercises (9.45 / 10),
Second: Workshop Based Training (8.05 / 10)
Third: Correspondence with National Experts (6.35 / 10)
Fourth: Post Graduate Courses (5.90 / 10)
Fifth: Computer Based Courses (5.15 / 10)

However, the spread of responses for all categories was so wide that it is difficult to place too much credence in the simple arithmetic mean values. Further work would be required to define the optimal training mode, including the consideration of comparative cost effectiveness. In this regard one country specifically mentioned the possibility of external co-financing of this type of training.

It is to be noted that combinations of the above modes also scored well at 7.9 / 10, but with the same proviso regarding the width of the spread of scores. The preferred combinations were quite diverse, but some indication of preference may be gleaned form the number of times that a particular mode was included in a combination as follows:-

First: Simulation Exercises (included on 15 occasions)
Second: Workshop Based Training (14)
Third: Correspondence with National Experts (8)
Fourth: Computer Based Courses (6)
Fifth: Post Graduate Courses (1)

It should be noted that computer based training can fulfil very useful applications within a workshop setting.

Q 18. How valuable would it be if the training of officers at level 3 or 4 led to an internationally recognised "Certificate of Competence" in the management of FMD or a similar qualification in the management of FMD or epizootic disease in your country?

RATING OF THE IMPORTANCE OF A POTENTIAL FORMAL QUALIFICATION	SCORE OUT OF A POSSIBLE MAXIMUM OF 20
Essential	2
High	11
Moderate	1
Low	3
Useless	0

On this basis a formal qualification is generally ranked as being of high value, but not essential.

Q 19. If you are interested to progress to the next stage of this exercise, please nominate a contact person in your service

Nineteen of the twenty countries supplied contact details.

Q 20. In which language should training and training materials be provided?

Two of the 20 countries considered it essential to have training and training materials to be in their national language (i.e. in a language other than English or French). Sixteen countries would accept these in English, one requested French, two requested either French or English.

4. GENERAL COMMENTS

There are a number of reasons why training in the management of disease emergencies should be considered beneficial for EUFMD members.

- Firstly: 20 of the 33 members have now indicated that such training would be desirable.

- Secondly: a number of gaps and deficiencies have been clearly identified in existing

training schemes and priority subjects specified for inclusion.

- Thirdly: the majority of EUFMD member countries have been free of FMD for decades and thus lack direct experience of the disease and its management

- Fourthly: the current EU Directive on the control of FMD specifies that member countries must have a contingency plan for FMD and that, as an integral and compulsory part of that plan, the country must maintain an Expert Group, trained and experienced in the control of the disease.

- Fifthly: the adoption of a comprehensive training programme for all EUFMD members incorporating best practice would be of mutual benefit in an integrated, consistent and common approach to the control of FMD across international borders.

- Sixthly: The training programme for FMD could readily be extended to include emergency preparedness for other important animal diseases.

Provided that the need for a common training scheme can be endorsed in principle by the General Session, there will need to be further investigation of the precise requirements for the proposed programme and the detailed consideration of its structure, content, management and finances. One important follow-up will entail the contacting of the 13 EUFMD member countries who have not as yet replied to the questionnaire, since the training course would gain significantly in value if all member states were to be involved. Moreover, a number of the countries that have yet to reply would be expected to bring significant experience, expertise and resources to the programme.

5. ACKNOWLEDGEMENTS

The authors thank Dr K. Sumption, Dr M. Rweyemamu, Prof. J. Hilton and Dr M. Moussaid for their input in the development of the questionnaire and Dr J-F Vallarcher for making the French translation.

APPENDIX 1

Extract from Council Directive 2003/85/EC of 29th September 2003 "Community Measures for the Control of Foot-and-Mouth Disease"
Annex XVII. Article 78. The Expert Group:-

1. Member States shall create a permanently operational expert group, which is composed of epidemiologists, veterinary scientists and virologists in a balanced way, to maintain expertise in order to assist the competent authority in ensuring preparedness against an outbreak of foot-and-mouth disease.

By way of derogation from the first subparagraph, Member States with a limited number of animals of susceptible species may arrange a formalised agreement with other Member States on mutual assistance in regard of the expert group. These arrangements shall be detailed in the contingency plans referred to in Article 72.

2. In case of a suspicion of an outbreak of foot-and-mouth disease the expert group shall at least:

(a) evaluate the clinical picture and the epidemiological situation;

(b) give advice regarding the sampling and analyses needed for diagnosing the foot-and-mouth disease together with the additional actions and measures to be taken.

3. In case of an outbreak of foot-and-mouth the expert group shall at least:

(a) conduct at least in the index case and if necessary on the spot, an evaluation of the clinical picture and an analysis of the epidemiological inquiry in order to collect the necessary data for determining:

(i) the origin of the infection;
(ii) the date of introduction of the infectious agent;
(iii) the possible spread of the disease;

(b) report to the Chief Veterinary Officer and the national disease control centre;

(c) give advice on screening, sampling, test procedures, control and the other measures to be applied and on the strategy to be implemented, including advice on biosecurity measures on holdings or on premises referred to in Article 16, and in relation to emergency vaccination;

(d) follow up and guide the epidemiological inquiry;

(e) supplement the epidemiological data with geographical, meteorological and other necessary information;

(f) analyse the epidemiological data and perform risk assessments at regular intervals;

(g) assist in ensuring that the processing of animal carcasses and animal waste is done with a minimum of detrimental effect on the environment.

APPENDIX 2.

Table showing the history of FMD in EU member countries over the past 50 years

EUFMD MEMBER COUNTRY	YEAR OF LAST FMD OUTBREAK	YEARS OF FREEDOM SINCE THE LAST OUTBREAK OF FMD
Turkey	2005	0
France	2001	4
Holland	2001	4
Ireland	2001	4
United Kingdom	2001	4
Greece	2000	5
Israel	1999	6
Albania	1996	9
Bulgaria	1996	9
Macedonia	1996	9
Montenegro	1996	9
Italy	1993	12
Germany	1988	17
Spain	1986	19
Portugal	1984	21
Denmark	1983	22
Lithuania	1982	23
Austria	1981	24
Switzerland	1980	25
Croatia	1978	27
Malta	1978	27
Belgium	1976	29
Czech Republic	1975	30
Hungary	1973	32
Romania	1973	32
Poland	1971	34
Slovenia	1968	37
Sweden	1966	39
Cyprus	1964	40
Luxembourg	1964	40
Finland	1959	44
Norway	1952	51
Iceland	-----	Not recorded

Source: OIE Handistatus II Database. April 2005.

Issues to be considered in developing a field training initiative

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The questionnaire survey conducted by Garland and Murray [Item 8 (i)] for the 36th General Session of EUFMD highlights the importance that state veterinary services of member countries attach to field training of veterinary staff. All respondents to the questionnaire replied in the affirmative when asked if they *"Would be willing to send [suitably qualified] persons for **short practical training courses** (up to 2 weeks) to countries where FMD is endemic to undertake field investigations of FMD where they would expect to see suspect FMD cases and take part in surveillance activities?"* Respondents particularly emphasised the need for experience in the clinical diagnosis of FMD.

Currently, Turkey is the only EUFMD member country in which FMD may be considered to be endemic and in which outbreaks of clinical disease are regularly reported. The EUFMD Secretariat and the Turkish veterinary authorities organised a pilot study in the Erzurum district of Eastern Anatolia during September 2004, the objective of which was to "field test" newly revised guidelines for FMD outbreak investigation. Veterinarians who were involved in this exercise had an opportunity to:

- Observe field cases of FMD
- Consider differential diagnoses for lesions suggestive of FMD
- Estimate the age of FMD lesions
- Employ rapid "penside" diagnostic tests
- Practice interview techniques to obtain relevant epidemiological information
- Organise a local disease control centre (LDCC)
- Participate in the decision-making process at the LDCC: *interpret clinical, epidemiological and laboratory findings; collate data from different sources; prioritise and co-ordinate follow-up activities*
- Use maps or mapping tools to assist with above
- Implement active surveillance in neighbouring villages to the index village
- Implement biosecurity protocols during field investigations

It has been suggested that a field training programme be established in an FMD-endemic area such as the Erzurum district (*see summary note at end) where field veterinary staff could gain hands-on experience in the above-mentioned areas. However, the following issues will have to be considered and addressed if a training programme were established in an endemic area (such as the Erzurum district) and field veterinarians from other EUFMD member countries were to participate:

Co-ordination of the training programme
Logistical support would be required to run a training programme. EUFMD would be in an ideal position to lend this support as it is essentially a network of national and regional contact-points. The Secretariat could liaise with the Turkish veterinary authorities (GDPC and the Şap Institute) and with the state veterinary services of other member countries.

Fixed costs of running the training programme
External funding would be necessary to cover the costs of local administration, field expenses for local participants, transport, equipment, consumable materials and laboratory testing. This would best be executed by a multinational agency and again EUFMD (with EU support) would be the obvious vehicle by which financial support could be provided for such an initiative.

The costs of travel and subsistence for outsiders participating in the training programme could either be met by their own state veterinary service or might be funded by the EU (through EUFMD).

Confidentiality
The central veterinary authorities would have to be fully briefed on what would be involved in the training programme and would have to be fully in agreement with outside participation. ALL state veterinary services are understandably sensitive about the manner in which animal health and disease data from their jurisdiction is publicised and reported. In the event of them approving a training programme, the Turkish veterinary authorities would most probably (and quite reasonably) seek some assurances from EUFMD and from visiting participants that they respect the confidential nature of any information gleaned during the period of training.

Communication
It is unlikely that any foreign veterinarians participating in the training programme will be able to speak Turkish or that any of the local "players" will be able to speak anything other than Turkish. Foreign veterinarians are very unlikely be able to communicate directly with local veterinarians or with livestock owners thus placing a heavy onus on Ankara-based central veterinary staff (staff-members of GDPC and the Sap Institute, many of whom are proficient in English) to interpret/translate during the course of field investigations. In addition, visiting participants must anticipate differences in the way of doing business and must respect local customs. To avoid any misunderstandings, visitors should be briefed on these matters and should be advised on where to "draw the line" between offering advice and being critical of existing practices.

Incentives for livestock owners/traders
Livestock owners and traders who wish to move, buy or sell cattle may not wish to disclose the presence of disease or details of animal movements to investigative teams and to local veterinary authorities, particularly when movement controls are likely to be imposed. Some thought will have to be given on how to incentivise the local farming community to ensure their whole-hearted co-operation with this initiative.

Sustainability and training "capacity" of the programme
The long-term sustainability of a training programme will require considerable investment of time and resources in building-up trust with the local community. This in turn will require continuity, i.e. the continuous involvement of certain key persons or "team-leaders". The need for local knowledge and the language barrier mean that at least one local veterinarian and one GDPC/Sap Institute staff-member (with proficiency in both English and Turkish) will be required as participants in each investigative team. However, for practical reasons no more than four persons should travel on a field investigation to a village, such that two Turkish participants will be required for every two foreign trainees. Therefore, the availability of suitably qualified Turkish veterinary staff will impose a limit on the number of "trainees" that can be accommodated within a study area at any one point in time. In addition, as each trainee will probably need a minimum stay of two weeks duration to gain any worthwhile experience and as the occurrence of clinical disease is seasonal, a "study area" such as the Erzurum district will only be able to provide training for a relatively small number of outside participants in any given year.

Logistical difficulties which are likely to be encountered
The limited availability of places in the programme will impose a duty on the programme co-ordinator to decide who goes and when. EUFMD (probably with input from the EU, DG-SANCO) would have to prioritise the training needs of member countries. Alternatively, places could be allocated on an entirely random basis by drawing of lots.

Further logistical difficulties will arise because of the need for travel arrangements for foreign participants to be planned well in advance of the training period yet no certainty when and where FMD outbreaks will arise within the "study area".
Increased disease awareness and more stringent application of control measures are to be expected within the study area. This and the ethical obligation on participating veterinarians to contribute to progressive control of FMD within the study area during the course of the training programme should lead to improved FMD control and fewer outbreaks of FMD. Although this would be a very positive outcome it will of course compound the logistical problems described above!
The logistical problem of deciding when and where to travel could be minimised by having a dedicated team of experts based at Ankara who are willing to travel at short notice to outbreak locations anywhere in Turkey. Thus visitors from overseas could travel with this team to the location of the most recent FMD outbreak in Turkey as an alternative to visiting a specific study area.

Relevance to the disease situation that might arise in FMD-free regions?
Disease dynamics will be very different in regions which are FMD-free without vaccination and those where the disease is endemic and mass annual vaccination is practised. In endemic areas, partial protection of animals (due to vaccination and/or previous field exposure to virus) is likely to slow down the rate of transmission of infection and increase the proportion of animals that only become subclinically infected. In addition, systems for identification and registration of individual cattle and for recording animal movements may be inadequate for tracing purposes whilst pre-existing antibody will limit the usefulness of serology as a tool for epidemiological investigation. Therefore the disease situation in an endemic area such as Erzurum will not provide an exact model of what might be expected during a future outbreak of FMD in Western Europe.

Summary note on the Erzurum district of Eastern Anatolia
The Erzurum plain, encompassing the city of Erzurum, lies at an elevation of 1800m and is surrounded by mountains, some of which rise to more than 3000m. The landscape consists entirely of unenclosed grassland dotted with numerous discrete villages. Because of its elevation, the plain is snow-covered from the end of October until the end of April. There is seasonal movement of livestock, mostly young fattening animals, to nearby highland pastures (where they remain from early June until mid September) so that during the relatively short growing season most of the grass in the lower-lying land can be conserved as hay for winter fodder. In September (when animals have returned from the highlands), there is a remarkable density of grazing livestock on the plain, predominantly cattle with relatively few small ruminants and occasional buffalo. FMD is endemic in this region and annual outbreaks are reported to the local veterinary authorities.

From competency to capacity: a possible approach to supporting training in EUFMD Member Countries

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36th General Session of EUFMD 27-29 April 2005, FAO, Rome

Training

- Hard to disagree with the concept
- But what is the goal?
- What is the content?
- How should it be delivered?
- How can its impact be measured?
- Policy crux: is it system or personality driven?

Research Group: Recommendations

Chania, 13-15 October 2004

That the EUFMD Commission establish a Working Group:

- address the options for improving knowledge transfer and training of national experts on FMD control
- identify user requirements for information management
- outline options for information management and communication (interoperability)

This Presentation

- Addresses first recommendation – knowledge transfer and training, from competency-based approach
- Anticipated linkage between approaches to the first task and what might follow
- Introduce the AVIS FMD knowledge base

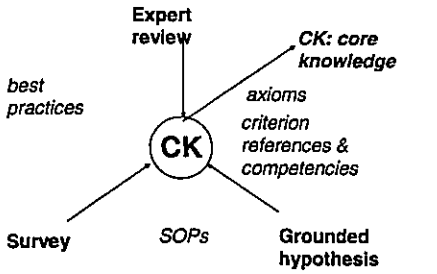
Competency-Based Approach

- ✓ Well-established, internationally recognised method, (eg in clinical research)
- ✓ Strategic, multi-partner, drawing on the sector as a whole
- ✓ Practice-focused

Benefits

- Transparent to policy-makers and public
- Attractive to staff – clear expectations
- System- (not individual-) driven
- Supports performance measurement

The "Triaging" Methodology



Progress

- ✓ Expert review – Chania meeting, Oct 04
- ✓ Survey – March/ April 05
- Policy – this meeting?

Current State of Play

- ✓ Using a powerful theory of knowledge deployment and management as an essential component of an effective prevention, crisis management and progressive control strategy for TADs
- ✓ Validating needs through surveys, expert consultations, SWOT And GAP analysis of existing approaches and resources
- ✓ Requests policy direction from this meeting
- ✓ Planning to use the capacity of ICT to permit affordable, **unmediated access** to expertise and knowledge and transparent data flow **to and from all stakeholders –** whether in **field, farm or office**

Pathway

- ***map*** core knowledge
- ***define*** guide principles (guide principles)
- ***survey*** benchmarks of current best practices
- ***analyse*** job-based competencies
- ***publish*** performance requirements
- ***develop*** draft training programs
- ***test and deploy*** "in situ" training ams
- ***offer*** assessment and certification

"Blended" Training Package

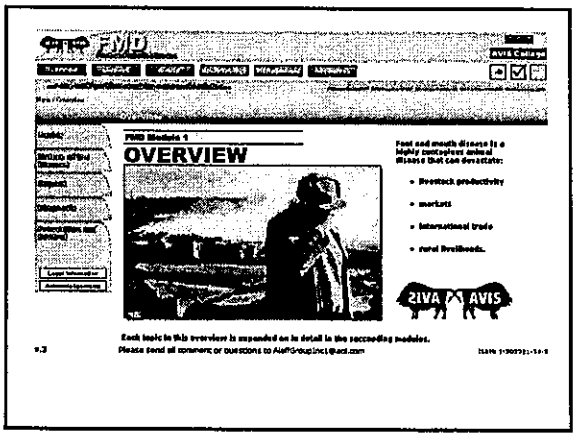
- In person and distance learning (computer and/or paper)
  - Typically 33% in person
    33% online
    33% self-directed
- "Non-negotiable"/ must know content
  - Directed learning
- Advisory content
  - Open learning
- Assessment- multiple choice questions
  - Practical experience
  - Project/ hands-on

AVIS – Brief History

- Started in 1992 as an experimental collaboration, based on a EU "sectoral" approach, of IAH Pirbright, Telos Aleff, FAO, OIE
- 1995 Rinderpest pilot tested world wide, results presented at OIE General Session
- 1999 FMD (first edition) completed
- 2000 AVIS suite adopted by TAIEX office (EU) for accessions countries; in use since
- 2000 GEMP published with FAO
- 2001 FMD web-enabled – 8 million users in Outbreak
- 2002 AVIS College in formation, appoints first staff
- 2004 FMD updated as AVIS FMD 2004; presented at Chania meeting
- 2005 successful field-testing of FMD as training support tool

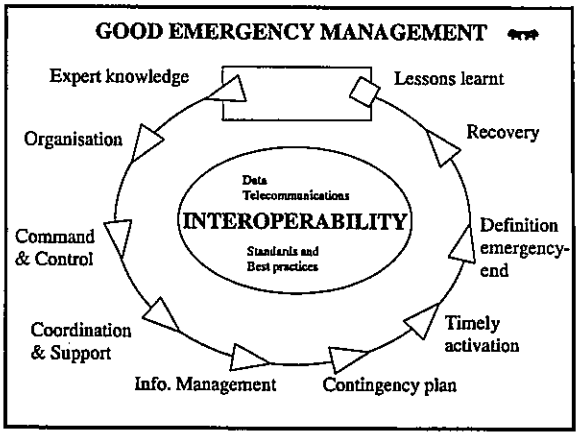
AVIS Programs

- Encyclopaedic and authoritative
- Widely used and tested
- General Editors of international standing: (eg FMD Dr. A Garland, Dr. W Geering, Dr. M Rweyemamu)
- Intense collaboration with centres of excellence, eg IAH Pirbright
- Peer reviewed, with formal sign off (eg Dr. David Mackay for FMD)
- Suited for use as training support tool - On-line, CD/DVD or adapted for in situ use as professional reference tool



Presumed Goal(s)

- Strengthen systemic capacity to prevent and manage the threat of FMD
- Increase the consistency of the response methodology
- Increase consistency of approach
- Sustain vigilance
- Characterise, appraise and respond to risk
- Manage emergencies and crises
- Measure and progressively improve performance



Validation and application of non-structural protein antibody tests in post-vaccination serosurveillance to demonstrate foot-and-mouth disease freedom after use of an emergency vaccinate-to-live policy

DJ Paton[+], E Brocchi[+], A Dekker[+], S Gubbins, M Greiner[+], I Bergmann, D Sammin[++], K De Clercq[+++]

[+] Members of the EUFMD Research Group and members of the working group on NSP validation; [++] Associate Professional Officer (2003-4), EUFMD Commission; [+++] Chairman of the EUFMD Research Group

Conclusions

1. Available tests for detecting FMD infection, including "carrier" animals in vaccinated cattle have been validated.

2. They are not yet fully validated for use in pigs and sheep but work to achieve this is in progress.

3. The tests will detect infection in herds where there has been significant cattle-to-cattle spread, but confirmatory tests are needed to deal with problems of false positive results and to enable small numbers of carrier cattle to be detected with confidence.

4. Sampling and testing regimes and methods of test result interpretation that are best able to determine if infection is present at both the herd and population level are being finalised.

5. No testing regime will guarantee disease freedom (i.e. identify all infected animals) and the required confidence with which freedom from infection must be demonstrated remains to be agreed and incorporated into international guidelines.

Introduction

The new EU Directive on foot-and-mouth disease (FMD) makes provision for the use of the so-called "vaccinate-to-live" policy for the control of FMD in Europe. However, there are uncertainties about how effective this would be in different situations and about how readily FMD-free status could be regained thereafter. According to this approach, spread of the FMD virus from future outbreaks could be controlled by a limited period of "emergency" vaccination of surrounding herds, reducing the need for large-scale pre-emptive culling of at-risk animals. Vaccinated animals may still become subclinically infected with FMD virus following challenge exposure and in the case of ruminants, this infection may persist. In order to rapidly regain the most favoured trading status of FMD-free without vaccination, current trade rules require that all vaccinated animals that are infected should be detected and either killed and destroyed or else slaughtered for consumption under controlled conditions. This can be attempted by testing vaccinated animals for the presence of antibodies to certain non-structural proteins (NSP) of FMD virus, which are induced by FMD infection, but not by vaccination with purified vaccines. The numbers of herds and animals to be sampled and tested to be confident that infection has not been missed will depend upon the expected prevalence of subclinical infection amongst and within herds. This in turn will depend upon the manner in which infection is spread and on how vaccination is applied. The sensitivity of the tests used and the size of the herds will also influence the numbers of samples required to be collected and tested and the certainty of the interpretation. This paper summarises the

issues and uncertainties over use of NSP testing in support of a vaccinate-to-live policy and the results of coordinated efforts to quantify the specificity and sensitivity of NSP ELISAs. It also considers the ways in which the tests can be used and interpreted and the effect that this will have on the confidence with which freedom from infection can be demonstrated.

Diagnostic performance of tests for antibodies to FMDV non-structural proteins

Validation of NSP tests for use to support a vaccinate-to-live policy in Europe has been delayed whilst new tests were developed and because it requires large panels of sera representative of different livestock species that have been vaccinated or vaccinated-and-infected with different serotypes of FMDV. Furthermore, it should be known when the animals have been infected and whether or not they showed signs of disease, supported extensive virus replication and became carriers. To establish test specificity, sera should preferably come from animals that have been vaccinated with equivalent vaccines to those likely to be used in Europe and sampled at least a month after vaccination. To establish sensitivity, sera should come from animals that have been vaccinated and then infected, preferably without showing clinical signs but known to have become carriers.

To address this difficulty, a consortium of laboratories from Europe, Israel, Turkey and South America were assembled under the auspices of the EUFMD and the EU FMD_Improcon project of the European Sixth Framework Research Programme. Each contributed sera from the field and/or experimental animals enabling a panel of several thousand samples to be assembled for testing at a workshop in Brescia during May 2004. A panel of field sera from Zimbabwe was later added and tested. All of the sera were tested in parallel by six different methods, including four commercial assays, one "in-house" test and the OIE index method from PANAFTOSA. The analytical sensitivity of the tests was also compared using reference serum titrations.

An analysis of the results of the workshop will be presented. The main conclusions are that:

1. There is sufficient data to validate the tests for use in cattle, but more samples are needed to establish the sensitivity in sheep and pigs.
2. The specificity of the tests is not affected by a single vaccination with European vaccines. In cattle it ranges from 97% to 98.5% in the different tests, but improves after retesting false-positive samples and may then approach 99%. False-positivity is not observed simultaneously in different assays, i.e. each sample reacting as false-positive in a test is usually negative in all the others.
3. The extent of virus replication correlates with the production of NSP antibodies so that animals that are significant shedders or carriers are more likely to be detected.
4. The sensitivity of all the tests approach 100%, in non-vaccinated and infected cattle collected up to 100 days after experimental infection.
5. In contrast, the sensitivity for detecting vaccinated carriers (cattle in which persistent infection between 28 and 100 days was demonstrated) varies significantly between tests, ranging from 66% for the less sensitive up to 92% for the most sensitive test.
6. Considerable differences in analytical sensitivity of the tests were observed for detection of antibodies in serially diluted reference sera, but did not correlate with the relative diagnostic sensitivity of the tests.
7. The three assays with highest diagnostic sensitivity on experimental sera also show higher detection rates and concordance when applied to field panels. Detection rates recorded for 465 serum samples from vaccinated cattle in infected herds in Israel varied from 15% to 25%. Detection rates recorded for 402 serum samples from five infected herds in Zimbabwe with variable vaccination status ranged from 48% to 67%, suggesting a higher degree of viral circulation. These results from field samples

do not allow one to estimate absolute sensitivity values, but they provide crude estimates of antibody prevalence in different field situations.

8. Overall, NSP tests are at present the most sensitive tool to detect carriers in a single sample. Tests results for infected cattle are highly correlated among all six tests, as proven by the analysis of the conditional dependence; however the extensive comparison enabled us to graduate the sensitivities of tests available in Europe and compare them to the sensitivity of the OIE index test from PANAFTOSA.

Issues of uncertainty/complexity

1. Disease freedom needs to be established at the level of the whole population and not just at that of the individual herds or animals. The relationship between determining the statistical probability of the population being infected or not and the sensitivity and specificity of tests for detecting individual infected animals is complex.

2. Is it important to be able to detect a given prevalence of infection in vaccinated herds or to be able to detect a minimum absolute number of infected animals within each herd?

3. What proportions of herds or flocks will become subclinically infected despite vaccination?

4. Within herds or flocks that become subclinically infected despite vaccination, what proportion of animals will be infected?

5. How significant are subclinically infected vaccinates for the onward spread of disease, especially once more than a month has elapsed (the so-called "carrier" debate)? Should special attention be given to bulls? No system of testing can guarantee to disclose all infected animals so a consensus is needed on what represents an acceptable risk.

6. Is the purpose of testing to detect and cull previously infected animals and herds or only to detect and cull animals that are still carrying virus, i.e. either acutely infected (virus circulation) or persistently infected (carriers)? Unlike EU regulations, OIE trade rules do not seem to require that action is taken against herds where virus has circulated but in which infection is no longer present.

7. How sensitive and specific are NSP ELISAs for the detection of infection in vaccinated animals and how is this affected by a number of factors including?
   - Species of animal and serotype of FMDV
   - Vaccine dose and repetition
   - Route and weight of challenge exposure and interval between vaccination and challenge
   - Extent of virus replication and persistence
   - Interval between challenge exposure and sampling

8. Sensitivity for detecting infected animals can be increased by herd-based approaches but this leads to difficulties with
   - Small herds in which a low design prevalence for detection of infected animals may not be possible to realise.
   - Specificity, since testing large herds may result in a high proportion being scored as false positive. There is therefore a requirement for confirmatory tests.

9. Which are the best tests, what system of sampling, testing, retesting and further investigation will be optimal, what level of confidence will this give and how much testing and retesting will be required?

Effect of test sensitivity and specificity on limits of detecting carrier cattle

Factors to be considered in addition to individual test and overall test regime performance are the size of the herds, the number of animals sampled, the minimum percentage or absolute number of infected animals to be detected and the confidence level required.

With a test of 100% specificity, confirmatory testing is not required. If combined with 95% sensitivity, it is possible to detect a single infected animal with 95% confidence, in any size of herd, but only if every animal is sampled. Even so, it is to be anticipated that 5% of carriers will be missed. The available NSP tests do not provide this level of sensitivity and specificity although their performance may be improved by additional testing with or without resampling and by more sophisticated interpretation, such as weighting of strong positive or clustered test results. Work is in progress to determine the optimal testing regimen possible. Thereafter, the level of infection that can be detected at specified levels of confidence can be established as well as the likely extent of follow-up investigations required.

Finally, herd level sensitivity and specificity must be related to the confidence with which the overall status of the population in question can be determined.

Financial Statement and Report
Budgets and Accounts 2003 and 2004 – proposed Budgets for 2005 and 2006

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

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

The European Commission for the Control of Foot-and-Mouth-Disease is a body established under Article XIV of the Organization's constitution for the purpose of promoting and coordinating national and international action for the control of Foot-and-Mouth Disease in Europe and its final eradication. Its funds are handled as a Trust Fund under financial Regulation 6.7, with the symbol MTF/INT/011/MUL.

FUNDS

The Organization does not maintain separate bank accounts for each Trust Fund, but instead manages and invests Trust Fund monies combined in pooled bank accounts. The balance of funds held by the Organization on behalf of the European Commission for the control of Foot-and-Mouth Disease as at 31 December 2004 amounted to US$168,822.

INCOME AND EXPENDITURE

Contributions to the Commission's Trust Fund amounting to US$489,179 were received from Member countries of the Commission in 2004. Contributions for 2004 amounted to US$348,116, Contributions paid in advance for 2005 amounted to US$1,400 and Contributions received in arrears for earlier years amounted to US$139,663. The Commission's Trust Fund was credited with interest earned during 2004 amounting to US$2,309. Administrative costs for 2004 amounted to US$395,457.

SERVICES PROVIDED BY THE ORGANIZATION

During 2004 the Organization made available without charge the use of accomodation and facilities, to a total estimated value of US$60,000.

David L. Baugh
Chief, AFFCP
Finance Division

STATEMENT 1

MTF/INT/011/MUL - TF number 904200

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

Financial Report as at 31 December 2003

	US$	US$
Balance as at 1 January 2003		214,339
Interest received	1,822	
Contribution from member countries (As per statement 2)	244,621	246,443
Expenditure		
Commission Secretary	166,403	
Consultant	12,152	
Admin. Support Personnel	74,781	
Contracts	70,000	
Duty Travel	46,160	
General Operating Expenses	18,339	
Expendable Equipment	156	
Non-Expendable Equipment	0	
Total Expenditure		-387,991
Balance as at 31 December 2003		72,791

STATEMENT 2

TRUST FUND No. 9042.00 - MTF/INT/011/MUL -
Inter-Regional - European Commission for the Control of Foot-and-Mouth Disease

Status of Contributions as at 31 December 2003
(expressed in US$)

Member Governments	Outstanding 31/12/2002	Contribution due for 2003	Received up to 31/12/2003	Outstanding 31/12/2003
ALBANIA	42.58	2,600.00	2,609.99	32.59
AUSTRIA	8.20	7,800.00	5.20	7,803.00
BELGIUM	7.52	13,000.00	13,007.52	0.00
BULGARIA	0.00	7,800.00	7,792.26	7.74
CYPRUS	0.00	2,600.00	2,600.00	0.00
CROATIA	2,609.00	2,600.00	2,589.00	2,620.00
CZECH REPUBLIC	0.00	7,800.00	7,792.07	7.93
DENMARK	0.00	13,000.00	12,992.11	7.89
FINLAND	7.53	7,800.00	7,799.68	7.85
FRANCE	0.00	26,000.00	0.00	26,000.00
GERMANY	0.00	26,000.00	0.00	26,000.00
GREECE	0.00	7,800.00	7,797.00	3.00
HUNGARY	0.00	7,800.00	15,600.00	-7,800.00
ICELAND	-5,192.48	2,600.00	4.52	-2,597.00
IRELAND	20.00	7,800.00	7,800.00	20.00
ISRAEL	0.00	2,600.00	0.00	2,600.00
ITALY	13,223.19	26,000.00	26,986.61	12,236.58
LITHUANIA	0.00	2,600.00	2,592.21	7.79
LUXEMBOURG	0.00	2,600.00	2,600.00	0.00
MACEDONIA, The Former Yugoslav Rep. of	2,625.00	2,600.00	2,567.33	2,657.67
MALTA	0.00	2,600.00	2,600.00	0.00
NETHERLANDS	0.00	13,000.00	13,000.00	0.00
NORWAY	7,800.00	7,800.00	7,800.00	7,800.00
POLAND	0.00	13,000.00	13,000.00	0.00
PORTUGAL	7,800.00	7,800.00	0.00	15,600.00
ROMANIA	0.00	13,000.00	12,992.15	7.85
SERBIA and MONTENEGRO (ex YUG.)	9,750.00	7,800.00	17,540.00	10.00
SLOVENIA	0.00	2,600.00	2,570.75	29.25
SPAIN	0.00	13,000.00	12,992.27	7.73
SWEDEN	15.00	13,000.00	12,990.00	25.00
SWITZERLAND	0.00	13,000.00	13,000.00	0.00
TURKEY	0.00	13,000.00	13,000.00	0.00
UNITED KINGDOM	26,000.00	26,000.00	0.00	52,000.00
YUGOSLAVIA, Soc. Fed. Rep. of	81,511.30	0.00	0.00	81,511.30
TOTALS	146,226.84	325,000.00	244,620.67	226,606.17

STATEMENT 3

MTF/INT/004/MUL - TF number 909700

FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME

Financial Report as at 31 December 2003

	US$	US$
Balance as at 1 January 2003		40,356
Interest received		447
Expenditure		
Consultancy	0	
Duty travel	0	
Expendable Procurement	0	
Support Costs	0	
Total expenditure		0
Balance as at 31 December 2003		40,803

STATEMENT 4

MTF/INT/003/EEC - TF number 911100

FOOT AND MOUTH DISEASE

Financial Report as at 31 December 2003

	US$	US$
Balance as at 1 January 2003		207,257
Interest received	7,163	
Contribution received	1,309,997	
		1,317,160
Expenditure		
Consultancy	50,041	
Duty Travel	37,081	
Contracts	31,572	
General Operating Expenses	132	
Expendable Equipment	398,670	
Non-Expendable Equipment	-	
Support Costs 6% (on all items except expendable equipment)	7,130	
Less: Total Expenditure		524,626
Balance as at 31 December 2003		999,791

STATEMENT 1

MTF/INT/011/MUL - TF number 904200

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

Financial Report as at 31 December 2004 FINAL

	US$	US$
Balance as at 1 January 2004		72,791
Interest received	2,309	
Contribution from member countries (As per statement 2)	489,179	491,488
Expenditure		
Commission Secretary	192,287	
Consultant	6,652	
Admin. Support Personnel	80,362	
Contracts	50,612	
Duty Travel	60,851	
General Operating Expenses	2,124	
Expendable Equipment	2,569	
Non-Expendable Equipment	0	
Total Expenditure		-395,457
Balance as at 31 December 2004 Final		168,822

STATEMENT 2

TRUST FUND No. 9042.00 - MTF/INT/011/MUL -
Inter-Regional - Euopean Commission for the Control of Foot-and-Mouth Disease

Status of Contributions as at 31 December 2004 Final
(expressed in US$)

Member Governments	Outstanding 31/12/2003	Contribution due for 2004	Received up to 31/12/2004	Outstanding 31/12/2004
ALBANIA	32.59	3,000.00	3,019.59	13.00
AUSTRIA	7,803.00	9,200.00	16,986.69	16.31
BELGIUM	0.00	15,300.00	15,287.01	12.99
BULGARIA	7.74	9,200.00	9,199.52	8.22
CYPRUS	0.00	3,000.00	0.00	3,000.00
CROATIA	2,620.00	3,000.00	3,011.00	2,609.00
CZECH REPUBLIC	7.93	9,200.00	9,207.93	0.00
DENMARK	7.89	15,300.00	15,299.52	8.37
FINLAND	7.85	9,200.00	9,199.35	8.50
FRANCE	26,000.00	30,500.00	56,483.18	16.82
GERMANY	26,000.00	30,500.00	56,491.55	8.45
GREECE	3.00	9,200.00	9,193.00	10.00
HUNGARY	-7,800.00	9,200.00	10,600.00	-9,200.00
ICELAND	-2,597.00	3,000.00	0.00	403.00
IRELAND	20.00	9,200.00	9,200.00	20.00
ISRAEL	2,600.00	3,000.00	5,584.65	15.35
ITALY	12,236.58	30,500.00	41,040.80	1,695.78
LITHUANIA	7.79	3,000.00	3,002.79	5.00
LUXEMBOURG	0.00	3,000.00	3,000.00	0.00
MACEDONIA, The Former Yugoslav Rep. of	2,657.67	3,000.00	24.41	5,633.26
MALTA	0.00	3,000.00	2,986.49	13.51
NETHERLANDS	0.00	15,300.00	15,291.71	8.29
NORWAY	7,800.00	9,200.00	17,000.00	0.00
POLAND	0.00	15,300.00	15,300.00	0.00
PORTUGAL	15,600.00	9,200.00	16,109.85	8,690.15
ROMANIA	7.85	15,300.00	15,294.56	13.29
SERBIA and MONTENEGRO (ex YUG.)	10.00	9,200.00	0.00	9,210.00
SLOVENIA	29.25	3,000.00	2,986.93	42.32
SPAIN	7.73	15,300.00	15,286.86	20.87
SWEDEN	25.00	15,300.00	0.00	15,325.00
SWITZERLAND	0.00	15,300.00	15,291.44	8.56
TURKEY	0.00	15,300.00	15,300.00	0.00
UNITED KINGDOM	52,000.00	30,500.00	82,500.00	0.00
YUGOSLAVIA, Soc. Fed. Rep. of	81,511.30	0.00	0.00	81,511.30
TOTALS	226,606.17	381,700.00	489,178.83	119,127.34

STATEMENT 3

MTF/INT/004/MUL - TF number 909700

FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME

Financial Report as at 31 December 2004 Final

	US$	US$
Balance as at 1 January 2004		40,803
Interest received		429
Expenditure		
Consultancy	0	
Duty travel	0	
Expendable Procurement	0	
Support Costs	0	
Total expenditure		0
Balance as at 31 December 2004 Final		41,232

STATEMENT 4

MTF/INT/003/EEC - TF number 911100

FOOT AND MOUTH DISEASE

Financial Report as at 31 December 2004 Final

	US$	US$
Balance as at 1 January 2004		999,791
Interest received	8,389	
Contribution received	0	
		8,389
Expenditure		
Consultancy	25,659	
Duty Travel	119,497	
Contracts	66,850	
General Operating Expenses	65	
Expendable Equipment	728,101	
Non-Expendable Equipment	-	
Support Costs 6% (on all items except expendable equipment)	12,724	
Less: Total Expenditure		952,896
Balance as at 31 December 2004 Final		55,284

STATEMENT 1

MTF/INT/011/MUL - TF number 904200

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

Financial Report as at 14 April 2005

	US$	US$
Balance as at 1 January 2005		168,822
Interest received	936	
Contribution from member countries (As per statement 2)	146,626	147,562
Expenditure		
Commission Secretary	53,089	
Consultant	1,500	
Admin. Support Personnel	22,096	
Contracts	15,121	
Duty Travel	14,257	
General Operating Expenses	891	
Expendable Equipment	0	
Non-Expendable Equipment	0	
Total Expenditure		-106,954
Balance as at 14 April 2005		209,430

STATEMENT 2

TRUST FUND No. 9042.00 - MTF/INT/011/MUL -
Inter-Regional - Euopean Commission for the Control of Foot-and-Mouth Disease

Status of Contributions as at 18 April 2005
(expressed in US$)

Member Governments	Outstanding 31/12/2004	Contribution due for 2005	Received up to 18/04/2005	Outstanding 18/04/2005
ALBANIA	13.00	3,000.00	0.00	3,013.00
AUSTRIA	16.31	9,200.00	9,216.31	0.00
BELGIUM	12.99	15,300.00	0.00	15,312.99
BULGARIA	8.22	9,200.00	9,194.99	13.23
CYPRUS	3,000.00	3,000.00	3,000.00	3,000.00
CROATIA	2,609.00	3,000.00	0.00	5,609.00
CZECH REPUBLIC	0.00	9,200.00	9,186.97	13.03
DENMARK	8.37	15,300.00	15,286.74	21.63
FINLAND	8.50	9,200.00	9,200.00	8.50
FRANCE	16.82	30,500.00	0.00	30,516.82
GERMANY	8.45	30,500.00	30,503.45	5.00
GREECE	10.00	9,200.00	0.00	9,210.00
HUNGARY	-9,200.00	9,200.00	0.00	0.00
ICELAND	403.00	3,000.00	0.00	3,403.00
IRELAND	20.00	9,200.00	9,200.00	20.00
ISRAEL	15.35	3,000.00	0.00	3,015.35
ITALY	1,695.78	30,500.00	0.00	32,195.78
LITHUANIA	5.00	3,000.00	0.00	3,005.00
LUXEMBOURG	0.00	3,000.00	0.00	3,000.00
MACEDONIA, The Former Yugoslav Rep. of	5,633.26	3,000.00	0.00	8,633.26
MALTA	13.51	3,000.00	2,991.99	21.52
NETHERLANDS	8.29	15,300.00	0.00	15,308.29
NORWAY	0.00	9,200.00	0.00	9,200.00
POLAND	0.00	15,300.00	0.00	15,300.00
PORTUGAL	8,690.15	9,200.00	0.00	17,890.15
ROMANIA	13.29	15,300.00	0.00	15,313.29
SERBIA and MONTENEGRO (ex YUG.)	9,210.00	9,200.00	0.00	18,410.00
SLOVENIA	42.32	3,000.00	3,042.32	0.00
SPAIN	20.87	15,300.00	0.00	15,320.87
SWEDEN	15,325.00	15,300.00	0.00	30,625.00
SWITZERLAND	8.56	15,300.00	15,308.56	0.00
TURKEY	0.00	15,300.00	15,286.98	13.02
UNITED KINGDOM	0.00	30,500.00	30,495.00	5.00
YUGOSLAVIA, Soc. Fed. Rep. of	81,511.30	0.00	0.00	81,511.30
TOTALS	119,127.34	381,700.00	161,913.31	338,914.03

STATEMENT 3

MTF/INT/004/MUL - TF number 909700

FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME

Financial Report as at 14 April 2005

	US$	US$
Balance as at 1 January 2005		41,232
Interest received		184
Expenditure		
Consultancy	0	
Duty travel	0	
Expendable Procurement	0	
Support Costs	0	
Total expenditure		0
Balance as at 14 April 2005		**41,416**

STATEMENT 4

MTF/INT/003/EEC - TF number 911100

FOOT AND MOUTH DISEASE

Financial Report as at 14 April 2005

	US$	US$
Balance as at 1 January 2005		55,284
Interest received	1,323	
Contribution received	0	
		1,323
Expenditure		
Consultancy	-13,652	
Duty Travel	1,930	
Contracts	14,000	
General Operating Expenses	0	
Expendable Equipment	40,151	
Non-Expendable Equipment	-	
Support Costs 6% (on all items except expendable equipment)	-1,776	
Less: Total Expenditure		40,653
Balance as at 14 April 2005		**15,954**

PROPOSAL FOR REVISED BUDGET FOR TRUST FUND No. 904200 - MTF/INT/011/MUL FOR BIENNIUM 2006-2007

Under the Constitution of the EUFMD Commission, the Commission member countries support the work of the Commission through contributions to a Trust Fund administered by FAO from which the Secretariat is supported, together with other operating costs for key actions agreed at the General Session or subsequent Executive Committees.

The budget of the Commission for the forthcoming biennium is prepared by the outgoing Executive Committee for approval by the General Session.

The 71st Executive Committee:

- Approved the financial statements for the year ending 31st December 2004.
- Agreed that the effect of the depreciation of the dollar against the euro should be rectified in the proposed budget for 2006-7.
- Agreed that the annual budget for MTF/INT/011/MUL be proposed as US$ 496,210 for the biennium 2006-7.
- Agreed in principle that FAO, on behalf of the Commission should take steps to abolish the arrears of the former Socialist Federal Republic of Yugoslavia.

The 71st Session based their discussions on the paper produced by the Secretariat which is included below.

1. At the 35th Session, April 2003, the members agreed to contribute a budget of US$381,700 for each year of the biennium 2004-2005.
2. In 2004 the expenditure (US$ 385,573) slightly exceeded the agreed members' contributions (US$381,700). Actual expenditure for 2004, and predicted expenditure for 2005 is shown in Table 1.
3. However, the 26% fall in the value of the dollar against the euro had major impact on the Commission's budget, with a large increase in the cost elements which are borne in euro. These include salaries, which are adjusted to the exchange rate via the post-adjustment. However, despite the cost of this adjustment to the budget, the post-adjustment did not meet the change in exchange rate, being 4% less over the period 2003-2005).
4. The impact of this on the balance of the fund was offset to some extent by the payment by the UK of their outstanding contribution.
5. However, the balanced budget was achieved by a significant reduction in expenditure, and the cuts required prevented the increase agreed at the 35th Session in 2003 in use of contracts to undertake surveillance and other activities from being implemented. The budget approved at the 35th Session anticipated a small surplus in 2004 which would assist with the higher costs in 2005 associated with the EUFMD General Session.
6. However, even with the cuts continued into 2005, the projected expenditure for 2005 is US $410,237 giving a loss over the biennium of circa US$45,000. The losses, if contributions are not revised, would increase to circa US$100,000 for 2006 and 2007, WITHOUT any increase to bring the value of contracts in line with the euro-exchange rate or inflation.
7. As a result of the depreciation of the dollar, members' contributions are actually less than in 2003 despite the agreement to increase the budget by 17% in 2003. (The 2003

budget of US$ 325,000 was equivalent to 313,700 euro, whereas the 2005 budget of US$ 381,700 is equivalent to 291,600 euro at the exchange rate on 11/1/05).

8. Therefore, for those countries whose currency is the euro or whose exchange rate has kept in line with the euro, the contribution by each member state, converted to euro, has fallen considerably (e.g. from 14,766 (Cat 2 member) to 13,324 euro).
9. As agreed at the 35th Session, budget contributions should be reviewed every two years with the expectation that there would be regular and smaller increase in contributions rather than less frequent and larger increases; prior to the 35th Session, the contributions had remained the same since 1993.
10. In preparing the proposed budget, the depreciation of the dollar, plus normal inflationary growth in costs have been taken into consideration.
11. Two budgets for the 2006-7 Session have been prepared for consideration by the Executive.
12. The first budget (euro-equivalent, ZERO growth) illustrates the level of contribution required to **restore the contributions** to the equivalent EURO level at the time of the General Session in 2003. This is achieved with a budget of US$ 482,236, and the scale of contributions indicated in Table 2.
13. The second budget (euro equivalent, plus 4% annual inflation) restores the equivalence to the euro contribution level agreed in 2003, but includes a 4%[1] annual cost increase for 2006 and 2007 for inflationary increases in budget lines. This budget assumes that the services agreed at the 35th Session should be provided and, in contrast to the first budget (and the situation suffered in 2004 with decline in real terms of contributions) fully implemented. The latter is equivalent to an increase (in euro) of 2.9% over the euro-equivalent of the 2004 budget.
14. It must be noted that the proposed increase (in euro), as shown in Table 2, is only 1.45% per year (2.9% over the two year period). This is only half that of the increase of 2.9% per year over the 6 year term of the 1998-2003 budgets.
15. Therefore the proposed budget, for endorsement by the General Session, is shown in Table 1, based on restoring equivalence of the budget to that agreed at the 35th Session, plus 4% inflation. The proposed country contributions are shown in Tables 2 and 3.

Note regarding the Contracts budget line

The 35th Session approved:

- An increase in the budget line for contracts from $35,000 to $65,000 per year.
- An increase in the budget for Collaborative Technical Studies from $11,200 to $13,000 per year.
- An increase in the workshops budget line from $5,000 per year to $12,500 per year.

However, the Secretariat has been constrained from acting on this, and therefore the contracts expenditures has been limited to the existing contracts with the WRL, the value of which were not increased in the period.

The reasons in 2003 for the increase in the contract lines were:

1. It would enable review of this contract with WRL, which has remained constant for a number of years.

2. An increase in the Contracts budget line of US$30,000 would allow the Executive Committee to commission work under contract, in response to questions or situations arising,

[1] Standard figure for 2006 and 2007, used in FAO planning (MSS)

and which are outside the terms of the implementing agreement for use of the EUFMD/EC Trust Fund.

These might include:

a. Contracts to supply FMDV samples to the WRL and FMD epidemiological information from under represented parts of the world.
b. Commissioning of specific reviews, preparation of evidence based guidelines, position papers that will guide EUFMD activities and forward planning.
c. Commission services that improve information provision to members; such as website and information service (as recommended by the Executive Committee, 67th Session), and development of web-site service.
d. Production of a "Jubilee" Compendium of EUFMD Research Group technical papers.

The reasons given in 2003 are considered equally valid in 2005. A sufficient budget line for contracts will enable the Executive and Secretariat to implement actions through letter of agreement, of authors' contracts, on an independent basis, where no other source of funding is available.

Note regarding Country contributions 1998-2003, and proposed contributions 2004-2005

These are shown in Table 2 and 3.

1. The categorisation of countries used for contributions has been that agreed by the 32nd Session, based on ruminant and pig livestock population, and the Member State contribution to FAO. The 32nd Session in 1997 recommended that the Annual proposed that the Categorisation of countries be reviewed every 6 years.
2. No change to the categorisation of countries has been proposed by Members. The increase to contributions below has therefore been made pro rata.

TABLE 1.
EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE (EUFMD)

TRUST FUND 904200 MTF/INT/011/MUL

2006 and 2007 budgets for approval by 71st Executive and by 36th Session

Budget for 2004 is actual expenditure, for 2005 is predicted expenditure.

	2004	*2005*	*2006 (for approval)*	*2007 (for approval)*	*2006*	*2007*
	Real US $	Pred. US $	US $	US $	*Euro*[1]	*Euro*
Secret.	192,287	209,220	217,589	226,292	*166,225*	*172,874*
Temp. Assist.	6,652	6,918	15,600	16,224	*11,917*	*12,394*
Admin assist.	80,362	83,576	86,920	90,396	*66,401*	*69,058*
Contracts	50,612[2]	52,636	85,405	88,821	*65,245*	*67,854*
Duty Travel	50,967	53,006	66,967	69,646	*51,159*	*53,205*
GOE	2,124	2,209	2,791	7,000	*2,132*	*5,348*
Expend equip.	2,569	2,672	3,375	3,510	*2,579*	*2,682*
Non-exp. Equipment	0	2,000	2,000	2,000	*1,528*	*1,528*
	385,573	410,237	480,647	503,890	365,658[2]	383,415

[1] At the exchange rate of 11/1/05 of 1.309 USD/euro;
[2] Compared to budget agreed at 35th Session of 65,000 US$ for 2004;
[3] For comparison, the budget of 381,700 USD for 2004-5, agreed at the 35th Session in 2003 was equivalent to euro 368,401 using the exchange rate in operation when budgets were prepared.

TABLE 2. Proposed revision in relation to historic levels of contribution, expressed in US$ (top) and euro (below), using exchange rate of 1/1/03 and 11/1/05

Contribution *Category*	*$ Annual Contributions 2002 & 2003*	*Annual Contributions 2004-2005*	ZERO-growth *Adjusted to counter dollar depreciation*	4% inflation, PLUS adjusted for US$ depreciation
1	US$ 26000	30500	38,533	39,650
2	13000	15300	19,330	19,890
3	7800	9200	11,623	11,960
4	2600	3000	3,790	3,900
TOTAL (US$)			**482,236**	**496,210**
EURO equivalence		euro at 1/1/03	euro at 11/1/05	
1	euro	29,437	29,437	30,290
2		14,767	14,767	15,195
3		8,879	8,879	9,137
4		2,895	2,895	2,979
TOTAL (euro)		**368,401**		**379,076**

TABLE 3.

MEMBER COUNTRY	LEVEL	$ ANNUAL CONTRIBUTIONS, 2002 & 2003	PROPOSED ANNUAL CONTRIBUTIONS 2004-2005	ANNUAL CONTRIBUTIONS 2006-2007[1]
ALBANIA	4	2,600.00	3,000.00	3,900
AUSTRIA	3	7,800.00	9,200.00	11,960
BELGIUM	2	13,000.00	15,300.00	19,890
BULGARIA	3	7,800.00	9,200.00	11,960
CYPRUS	4	2,600.00	3,000.00	3,900
CROATIA	4	2,600.00	3,000.00	3,900
CZECH REPUBLIC	3	7,800.00	9,200.00	11,960
DENMARK	2	13,000.00	15,300.00	19,890
FINLAND	3	7,800.00	9,200.00	11,960
FRANCE	1	26,000.00	30,500.00	39,650
GERMANY	1	26,000.00	30,500.00	39,650
GREECE	3	7,800.00	9,200.00	11,960
HUNGARY	3	7,800.00	9,200.00	11,960
ICELAND	4	2,600.00	3,000.00	3,900
IRELAND	3	7,800.00	9,200.00	11,960

MEMBER COUNTRY	LEVEL	$ ANNUAL CONTRIBUTIONS, 2002 & 2003	PROPOSED ANNUAL CONTRIBUTIONS 2004-2005	ANNUAL CONTRIBUTIONS 2006-2007[1]
ISRAEL	4	2,600.00	3,000.00	3,900
ITALY	1	26,000.00	30,500.00	39,650
LITHUANIA	4	2,600.00	3,000.00	3,900
LUXEMBOURG	4	2,600.00	3,000.00	3,900
FYR of MACEDONIA	4	2,600.00	3,000.00	3,900
MALTA	4	2,600.00	3,000.00	3,900
NETHERLANDS	2	13,000.00	15,300.00	19,890
NORWAY	3	7,800.00	9,200.00	11,960
POLAND	2	13,000.00	15,300.00	19,890
PORTUGAL	3	7,800.00	9,200.00	11,960
ROMANIA	2	13,000.00	15,300.00	19,890
SERBIA AND MONTENEGRO	3	7,800.00	9,200.00	11,960
SLOVENIA	4	2,600.00	3,000.00	3,900
SPAIN	2	13,000.00	15,300.00	19,890
SWEDEN	2	13,000.00	15,300.00	19,890
SWITZERLAND	2	13,000.00	15,300.00	19,890
TURKEY	2	13,000.00	15,300.00	19,890
UNITED KINGDOM	1	26,000.00	30,500.00	39,650
TOTAL		**325,000.00**	**381,700.00**	**496,210.00**

[1] Based on 4% growth PLUS USD/euro adjustment.

Proposed changes to Rules of Procedure for EUFMD Sessions

The 70th Session of the Executive Committee held in June 2004 considered the issue of attendance of the elected members of the Executive Committee and the threat that this posed to the function of the Executive Committee if the number attending was less than 5 of the elected 8 members. This situation had occurred at the 69th Session in 2003, necessitating a follow-up Session one month later.

The Report of the 71st Session reads as follows:

The Secretary provided a briefing on the discussions held with the Legal Council of FAO on the participation of alternates (deputies) for elected members at Commission Sessions.
Following advice from the Legal Council (appended below), he proposed that a new text be considered by the Executive Committee, with the view to adoption at the General Session, regarding the participation of alternates.

The Executive Committee considered that participation of alternates could assist to maintain quorum at Sessions but could lead to dilution of the profile of the Commission if such persons lack the experience and position for the items under discussion. It was considered essential to limit the use of the option of sending an alternate, without going so far as requiring judgement to be made upon the admission of a proposed deputy.

The Executive Committee recommended that:

1. The alternate to a member of the Executive should be the deputy Chief Veterinary Officer in the national administration of an elected member, or where this position does not exist, the most senior administrator with responsibility for contagious disease control policy.
2. The wording proposed by the Legal Council of FAO be proposed to the EUFMD General Session for adoption at the 36th General Session.
3. That the obligations of members to participate in the Sessions and in the subsequent work of the Commission be made clear to prospective members and the effect of the change in the Rules be reviewed at subsequent Sessions.

Proposed Addition:

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

As amended by the Commission at its Thirty-Second Session (2-4 April 1997) and approved by the Director General of FAO on 7 September 1997

Proposed addition is double underlined

Rule VII - Executive Committee

In accordance with Article X of the Constitution, the Chairman of the Commission shall be the Chairman of the Executive Committee. He shall have, in relation to meetings of the Executive Committee, the same powers and duties as he has in relation to meetings of the Commission. In the absence of the Chairman during a meeting of the Executive Committee or any part thereof, one of the Vice-Chairmen of the Commission shall preside. A Vice-Chairman acting as Chairman shall have the same powers and duties as the Chairman. A majority of the members of the Committee shall constitute a quorum. Decisions of the Committee shall be taken by a majority of the votes cast. Each Member of the Committee shall have one vote. Meetings of the Committee shall be open to Observers when deemed appropriate. The Chairman has the authority to invite Observers, subject to confirmation by the Committee

Under the terms of Article VI.1 and Article X.1 of the Constitution, a delegate who has been selected by the Commission to be one of the members of the Executive Committee and who is not able to attend a session of this Committee may be replaced by an alternate in the sense of Article VI.1 of the Constitution, provided that such alternate furnishes to the Executive Committee a document issued by the competent authority of the Member he represents indicating that such alternate shall replace the delegate not able to attend the session.

Appendix 18

LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS

DELEGATES

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